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State of the Economy

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Geopolitical Risk and Trade and Capital Flows to India

Financial Stocks and Flow of Funds of the Indian Economy 2022-23

Fiscal-Inflation Nexus: Is there a Feedback Loop?

*State of the Economy**

The economic outlook for 2025 is divergent across countries with some loss of speed in the US; weak to modest recoveries in Europe and Japan; more moderate growth profiles in emerging and developing countries alongside a more gradual disinflation relative to advanced economies. In India, there is a conducive quickening of high frequency indicators of economic activity in the second half of 2024-25, bearing out the implicit pick up in real GDP growth for this period in the annual first advance estimates of the NSO. Headline inflation eased for the second successive month in December, although the stickiness in food inflation warrants careful monitoring of second order effects.

Introduction

The world turns a page and looks to the promises that 2025 holds, but perhaps through the humbling lens of the experiences of an eventful 2024. It is the season of forecasting again, and the United Nations (UN) has been first off the block with a 'stable but subdued' outlook for global growth – broadly in line with the outcome for 2023 and the most recent estimates for 2024 (please see Section II).

Disinflation can be expected to continue unevenly, opening up some more *albeit* limited space for monetary policy easing. This would bring welcome relief for households and individuals whose finances and spending power has been severely stretched as they reel under credit card defaults, and

also for lenders who are facing the highest levels of write-offs in 14 years. Together with technological advancements, these developments could lift incomes and boost aggregate demand. The battle against inflation is, however, entering a new phase with fresh upside threats on the horizon – the weaponisation of uncertainty - and the future path of interest rates is becoming hazy.

On the other hand, lack of fiscal space and the enormous debt overhang could clearly keep borrowing costs high as developments in the first half of January 2025 revealed. This could dent investment in new capacities even as supply conditions remain hostage to geopolitical disruptions that seem to be unending (a separate article in this volume of the Bulletin examines geopolitical risks and spillovers).

Slowing productivity growth, ageing pressures and grappling with green transition continue to tilt down the balance of risks over the medium-term for the global economy. A stark carryover from 2024 is going to be the increasing divergence across countries – some loss of speed in the US; weak to modest recoveries in Europe and Japan; more moderate growth profiles in emerging and developing countries alongside a more gradual disinflation relative to advanced economies. Another contending carryover will be the degree of disruption in the global financial architecture. Labour market conditions remain resilient, but youth unemployment poses a challenge, especially among developing countries. On the climate front, record sea temperatures are scrambling weather patterns globally. Besides the naturally occurring *El Nino* and *La Nina* in the Pacific Ocean, the warming of tropical oceans around the world needs to be taken into consideration in climate modelling and forecasting. Weather patterns in 2025 are expected to be out of sync with the anticipated *La Nina* that should set in during the early months of the year. Hence, sea surface temperatures could decline below the *La Nina*

* This article has been prepared by Michael Debabrata Patra, G. V. Nadhanael, Arpita Agarwal, Shreya Kansal, Bajrangi Lal Gupta, Yamini Jhamb, Harendra Behera, Indrajit Roy, Sapna Goel, Arjit Shivhare, Radhika Singh, Prashant Kumar, Sakshi Chauhan, Akash Raj, Debapriya Saha, Amar Josh Dungdung, Shreya Bhan, Subhradip Paul, Suganthi D, Pratibha Kedia, Khushi Sinha, Supriyo Mondal, Yuvraj Kashyap, Sonal Yadav, Ashish Khobragade, Amit Pawar, Shreya Gupta, Asish Thomas George, Samir Ranjan Behera, Vineet Kumar Srivastava, and Rekha Misra. Views expressed in this article are those of the authors and do not represent the views of the Reserve Bank of India.

threshold, given neutral *El Nino* Southern Oscillation (ENSO) and Indian Ocean Dipole (IOD) conditions. All in all, the global economy is shaping up to be anything but ordinary in 2025.¹

Global trade is expected to improve, with volume expansion somewhat higher in 2025 than in the year gone by, although the persistence of geopolitical risks and the looming threats of a more protectionist environment overcast these expectations with high uncertainty. The prospects for financial flows are risk-laden, with the outlook for foreign direct investment (FDI) still subdued and with portfolio flows displaying 'home bias' and high volatility. In some developing countries, domestic drivers are keeping fixed capital formation from sagging under the weight of the global retrenchment of portfolio flows.

The response to the better than anticipated signs of strength in the US labour market in December that was released on January 10 may have brought relief to households and businesses, but it has rattled financial markets worldwide with persisting effects – bond markets across the US, Europe and Asia were hit by volatility, with the biggest sell-off in the UK. The possibility of the shutting out or slowing of further monetary policy easing sent bond yields to 12-month highs, serving as a reminder that borrowing costs will punish the most highly indebted governments. Stocks traded lower after outperforming through 2024. Ahead of the US non-farm payrolls global spillovers, the US dollar had halted briefly on the path of its unrelenting rise that has been undermining currencies across the world. The trigger was the possibility of a watering down of sweeping tariffs threatened on the campaign trail. Following the jobs data, however, the US dollar pared losses and regained strength on its march to

a technical resistance level of 110 for the DXY. As it rallies to go beyond, more pain lies in store for other currencies. The Chinese yuan has tumbled to a 14-month low, providing the other end of the tightrope that emerging market currencies have to teeter on. The euro's losses are being accelerated by technical factors, and US dollar-euro parity is looking more plausible than ever before. Perhaps, the only place that can dethrone the US dollar is the US itself from self-inflicted wounds.

Global corporate debt sales have soared to a record US \$8 trillion on demand from investors to take advantage of the compression in spreads. A steady stream of issuances is expected through 2025, with analysts looking at significant, large scale mergers and acquisitions financed by debt. In another development, the phenomenon of private markets dominating financial activity is drawing worldwide attention.² Estimated as growing by close to 20 per cent from a size of US\$ 13 trillion in mid-2023, these markets are seen as offering better exposure to innovation. Yet, private markets depend substantially on the ability to free-ride on the transparency of information and prices in public markets. The opacity of private markets, illiquid nature of loans and potential maturity mismatches could also lead to a misallocation of resources – in fact, much of the impetus to these markets stems from stricter regulatory requirements on capital and liquidity for banks. Hence, it is believed that private funds pose a potential systemic risk to the broader financial system because of their interrelationship with the regulated segments. The International Monetary Fund (IMF) has argued that there could be inherent deterioration in pricing and non-pricing standards, erosion in underwriting standards and weakened covenants –

¹ "An extraordinary global economy will require extraordinary agility", Financial Times, December 3, 2024.

² It includes venture capital, private equity, private debt, infrastructure, commodities and real estate.

the recipe for the next financial crisis.³ This is echoed by the Organization for Economic Co-operation and Development (OECD) which fears that in the event of a severe shock, a rapid loss of confidence could trigger margin calls on derivatives used by private credit funds, adding further to liquidity pressures from redemptions, carrying risks that distressed funds default with losses for end-investors. Many liquidity management tools by private credit funds have yet to be fully tested in severe scenarios. Close monitoring is hence needed, given significant data gaps about the sector and its often limited prudential or conduct oversight. Greater transparency in regulatory reporting would close data opacities and enable better assessment of and management of risks by end-investors.⁴

The first advance estimates for 2024-25 released by the National Statistics Office (NSO) on January 7 confirmed that India continues to be the fastest growing major economy, although gross domestic product (GDP) growth has moderated to 6.4 per cent from three consecutive years of above 7 per cent growth. This slowdown reflects the effect of a host of unfavourable factors in H1:2024-25, such as the impact of localised excess rainfall on non-farm activity. Private capex is yet to show visible signs of pick-up and with growth in general government capital expenditure moderating too, gross fixed investment in GDP and manufacturing in gross value added (GVA) emerged as the biggest drags on growth. With agriculture and allied activities turning in a reasonable performance on the back of a record *kharif* harvest, and with higher *rabi* sowing, the fortunes of the rural economy have improved.

³ IMF (2024), "The Last Mile: Financial Vulnerabilities and Risks", Global Financial Stability Report, Chapter 2, International Monetary Fund, <https://www.imf.org/en/Publications/GFSR/Issues/2024/04/16/global-financial-stability-report-april-2024#Chapters>.

⁴ The rise of private credit markets: A threat to financial stability?, Ecoscope, OECD, December 16, 2024.

Headline inflation eased for the second successive month in December, driven by winter easing of prices when the earth offers up a rich bounty of fruits and vegetables. Despite the sequential easing, the level of food inflation continues to remain high, with select key products experiencing high double digits inflation.⁵ The stickiness in high food inflation, in an environment of firming rural wages and corporate salary outgoes, warrants careful monitoring of second order effects.

The time is apposite to rekindle the animal spirits, create mass consumer demand and trigger a boom in investment. There is a conducive quickening of high frequency indicators of economic activity in the second half of 2024-25, bearing out the implicit pick up in real GDP growth for this period in the annual first advance estimates of the NSO. There are early indications that corporate India may post a much better revenue and earnings growth in the third quarter *vis-à-vis* that in the first half of 2024-25. According to estimates by various brokerages, the combined net profit of Nifty 50 companies may grow at its fastest rate in three quarters. Banking, finance and insurance companies are again expected to report better earnings. It is also believed that unlisted companies are likely to outpace their listed counterparts with faster revenue growth.

Private final consumption is the brightening spot in the economy, driven by e-commerce and q-commerce among which it is important to foster competition rather than being restrictive. One way to revive the animal spirits may be to provide a consumption boost. The demand for household staples has seen a modest rise in the October-December quarter. The middle class is pinning hopes on relief from food inflation and hence higher disposable incomes, especially the urban segment. The rural segment is likely to continue

⁵ Inflation (y-o-y) in vegetables, and edible oils and fats prices was 26.6 per cent and 14.6 per cent, respectively, which together contributed to 61 per cent of the CPI food inflation of 7.7 per cent.

to record strong volume growth. In the housing space, the mid-income segment and premiumisation are fuelling demand and leading to overall improvement in market health metrics – another growth gear.

An area where animal spirits in India are alive and well is green energy. India's ambitious green bond programme reflects a commitment to mobilise green capital in a larger vision of positioning India as a global climate leader. The renewable energy sector will cross milestones in 2025. Solar power capacity will go past the 100 gigawatt (GW) mark. Wind power capacity will exceed 50 GW. India's nuclear power generation is growing twice as fast as the rest of the world on the trajectory of tripling capacity by 2031-32 from the current level of 8180 MW. Till December 2024, the total renewable energy capacity in India – wind; solar; hybrid; biomass; small hydro; and nuclear – stood at 209.4 GW. The ethanol blending target of 20 per cent blending 10.16 bn/ltr for 2025-26 is within reach, having averaged 14.6 per cent so far.

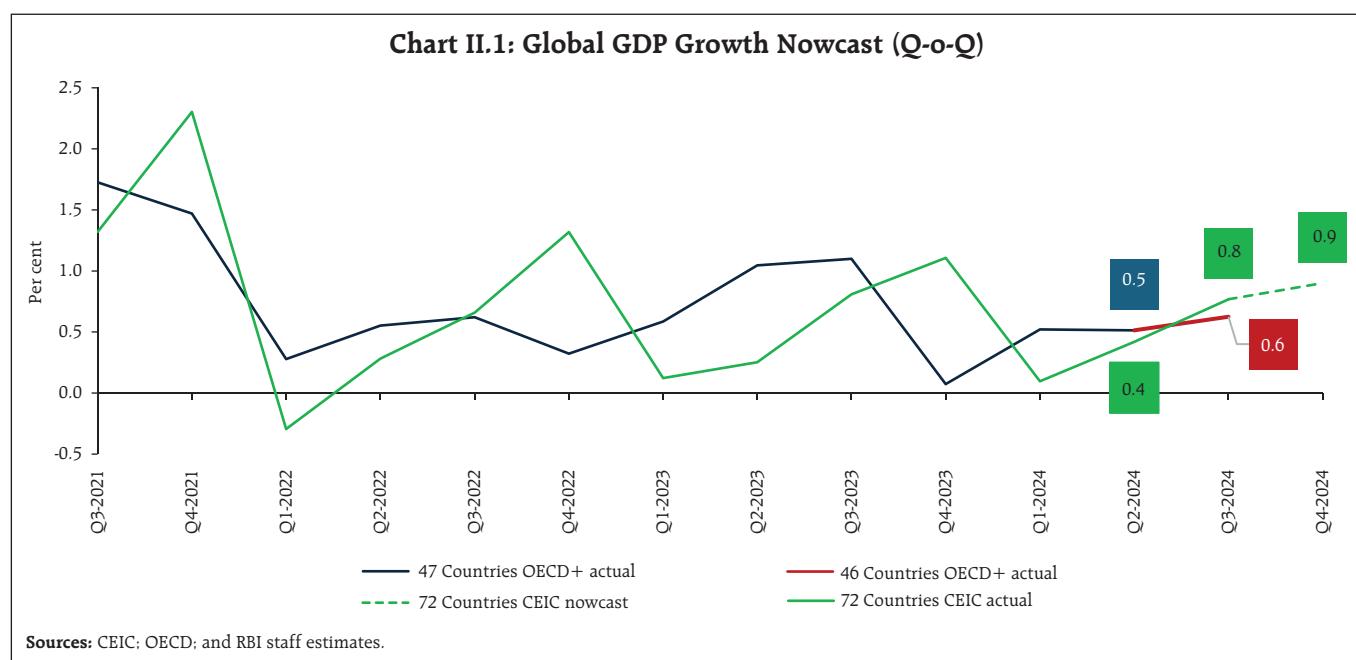
With all these positives, India can look forward to accelerating growth in an environment of price

stability in a greener, cleaner 2025, putting behind us 2024, the warmest year in India since record keeping began. It is in our hands. The time to act is now.

Set against this backdrop, the remainder of the article is structured into four sections. Section II covers the rapidly evolving developments in the global economy. An assessment of domestic macroeconomic conditions is set out in Section III. Section IV encapsulates financial conditions in India, while the last Section sets out concluding remarks.

II. Global Setting

At the close of 2024 and going into 2025 the global economy is being driven by a strong US economy, offsetting the weak Euro area and China. The easing of global inflation is turning out to be uneven; along with trade policy uncertainty and geopolitical risks. Considerable uncertainty is being imparted to the global economic outlook. Our model-based nowcast of global GDP indicates an acceleration in global growth momentum in Q4:2024 in spite of formidable headwinds (Chart II.1).



Global supply chain pressures recorded an uptick in December, inching towards historical average levels (Chart II.2a). Our geopolitical risk indicator recorded a 29-month high in December, driven by escalating tensions in the Middle East (Chart II.2b). Shipping costs, which had moderated during August - October 2024, have started rising again since November 2024, *albeit* a slight decline in mid-December 2024 (Chart II.2c).

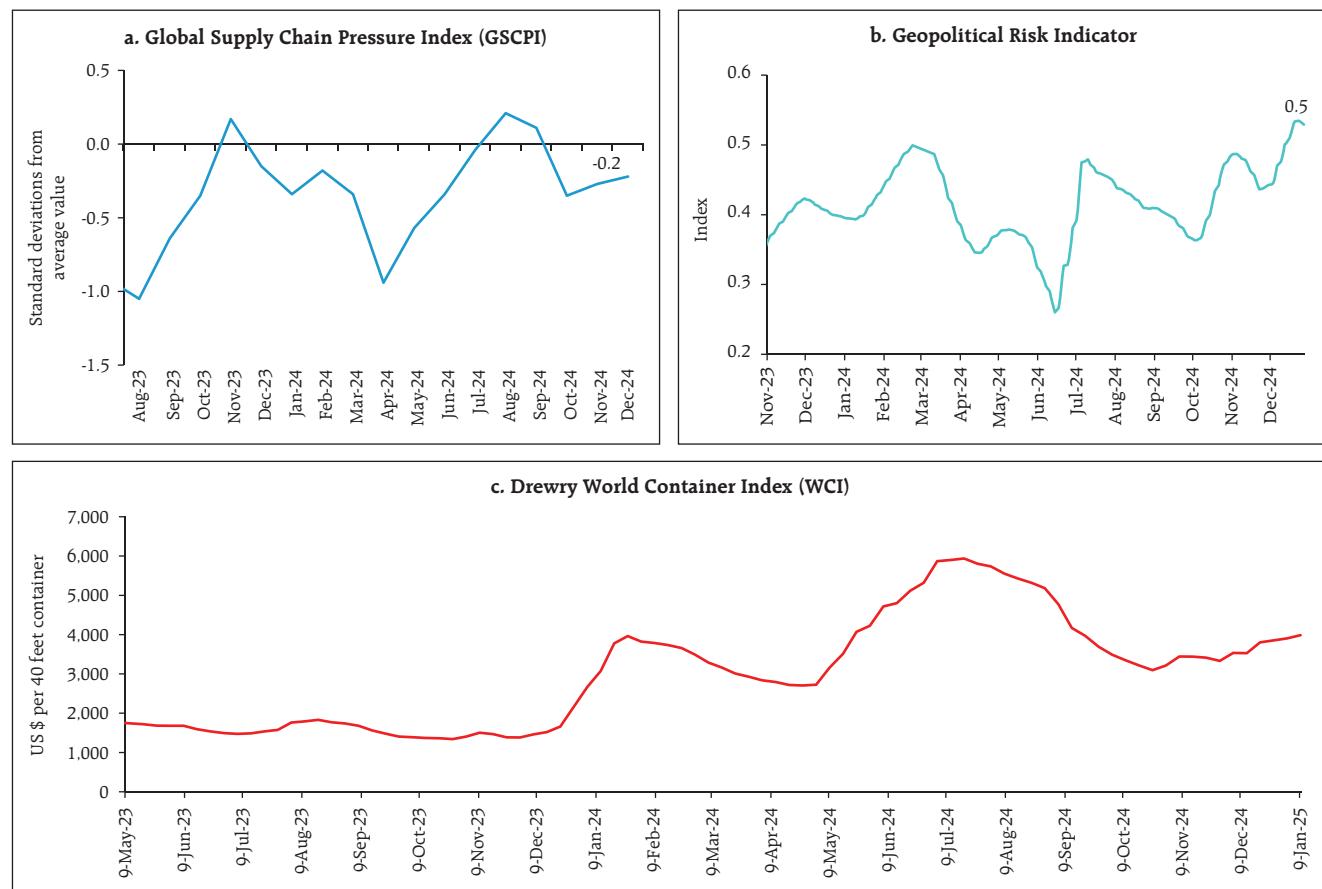
Consumer sentiments improved in the US and the UK, but worsened in Japan, the Euro area and in EMEs in December 2024 (Chart II.3a and II.3b). Financial conditions generally eased in AEs but

among EMEs, they tightened in China and Brazil (Chart II.3c and II.3d).

The global composite purchasing managers' index (PMI) rose to a four-month high in December. An acceleration in services sector activity particularly in financial, business and consumer services offset the weakness in manufacturing on account of the fall in production of intermediate and investment goods (Chart II.4a). Across regions, solid expansions in India and the US contrasted with the contraction in the Euro area (Chart II.4b).

The composite PMI for export orders declined further in December 2024. It has remained in

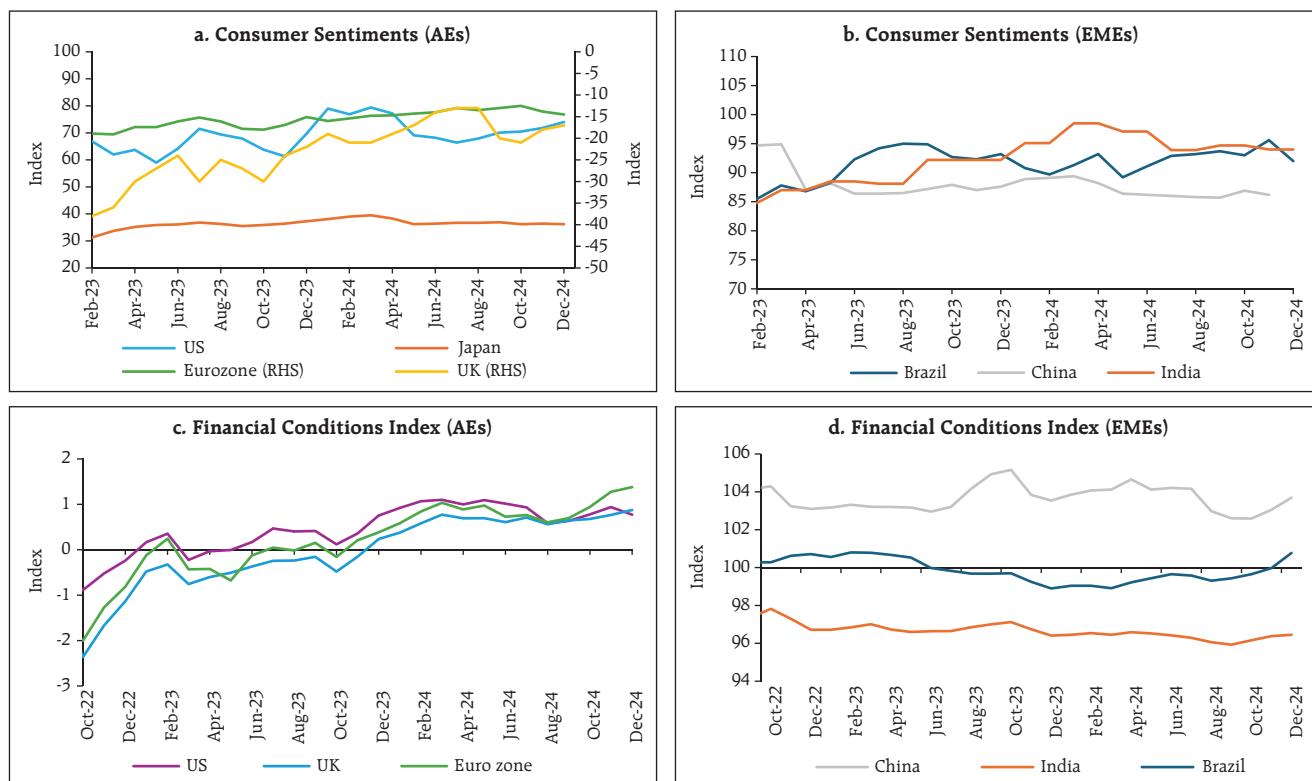
Chart II.2: Trends in Global Supply Chain Pressures and Geopolitical Risks



Notes: 1. GSCPI reflects data on transportation costs and manufacturing indicators.
2. The WCI assessed weekly by Drewry reports actual spot container freight rates for major east west trade routes. The composite represents a weighted average of the 8 shipping routes by volume and is reported in USD per 40-foot container.

Sources: Federal Reserve Bank of New York; BlackRock Investment Institute, December 2024; and Bloomberg.

Chart II.3: Consumer Sentiment and Financial Conditions



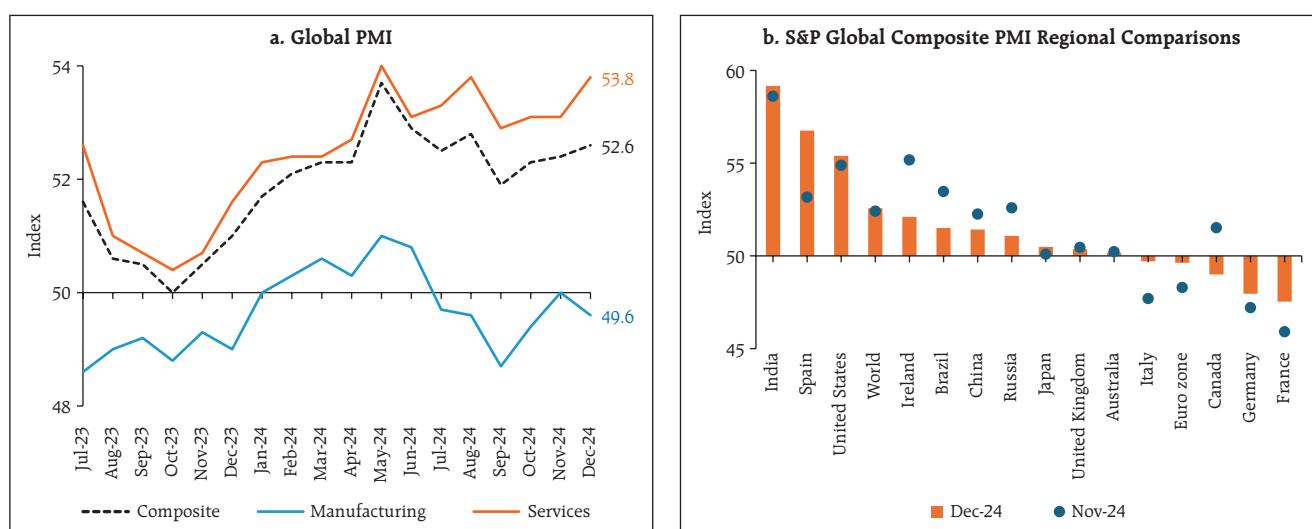
Notes: 1. Japan: A score above 50 indicates consumer optimism, below 50 shows lack of consumer confidence and 50 indicates neutrality. 2. Euro zone and UK: -100 indicate extreme lack of confidence, 0 denotes neutrality while 100 indicates extreme confidence. 3. India and US: Higher the index value, higher is the consumer confidence. 4. For financial condition index (pertaining to EMEs constructed by Goldman Sachs), a reading below 100 is accommodative and *vice versa*. As for the AEs, the index constructed by Bloomberg is a z-score where a positive value indicates accommodative/easy financial conditions and *vice versa*.

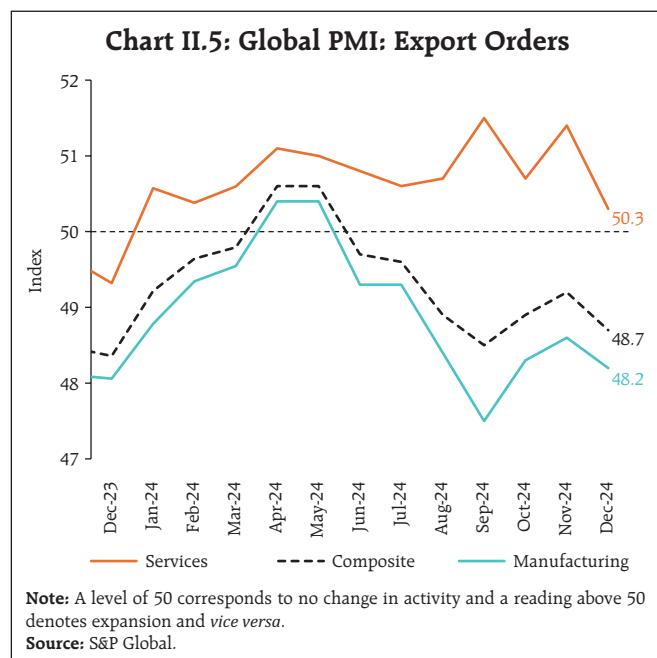
Source: Bloomberg.

contractionary territory since June 2024, with both manufacturing and services export orders recording

a sequential decline (Chart II.5).

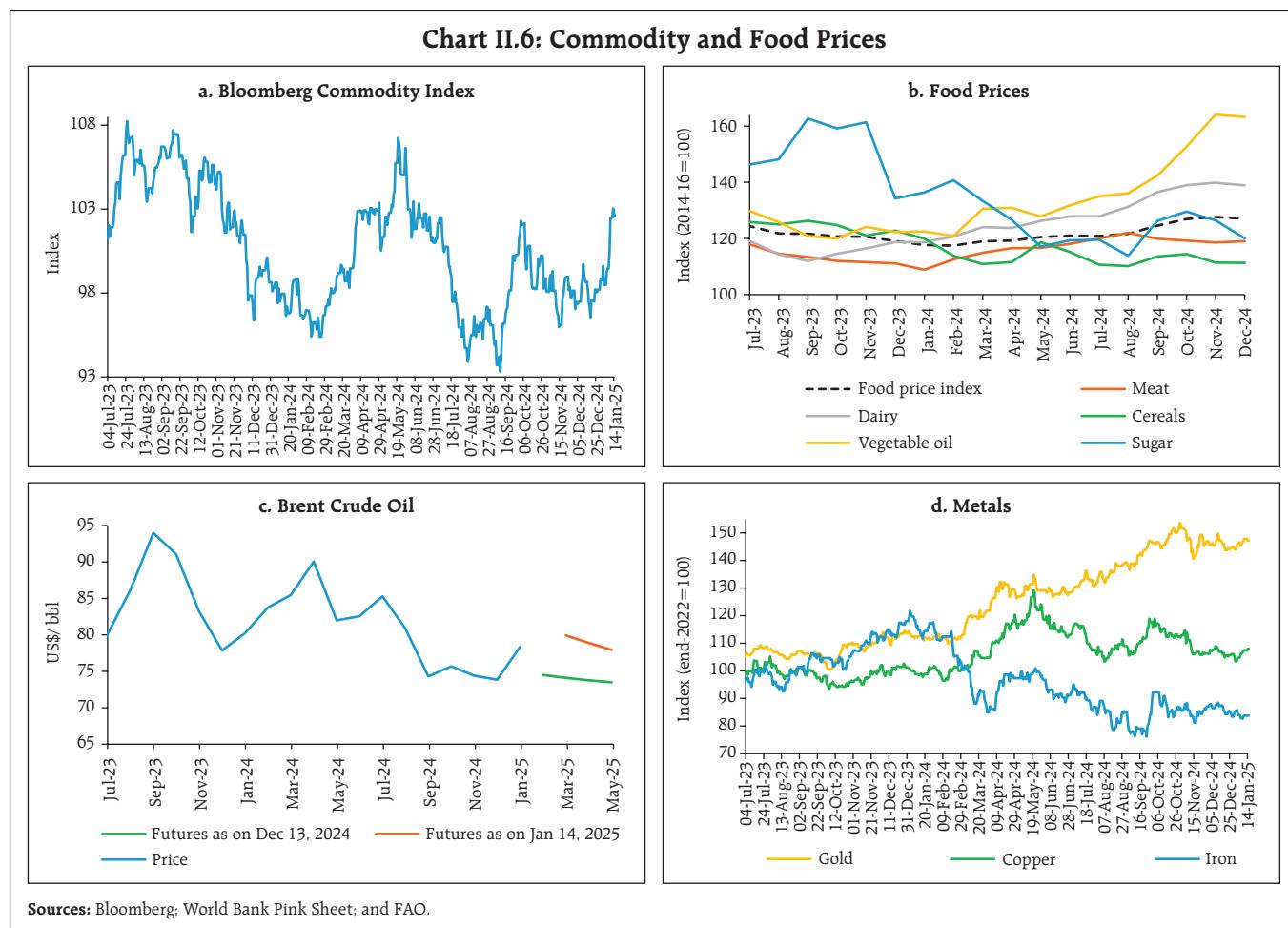
Chart II.4: PMI





Global commodity prices softened in December amidst volatile conditions (Chart II.6a). Food prices

measured by the Food and Agriculture Organization's (FAO) food price index declined by 0.5 per cent in December, primarily driven by decline in the prices of sugar (5.1 per cent), dairy products, vegetable oil, and cereals (Chart II.6b). Crude oil prices fell by 0.8 per cent (m-o-m) in December, reflecting weak Chinese demand and rising global supplies offsetting OPEC *plus* efforts to shore up the market (Chart II.6c). Oil prices increased by 6.1 per cent in January so far (up to 14th), reaching a four-month high following announcement of fresh US sanctions on Russian oil and expectations of stronger economic stimulus by China and higher demand from Europe and the US due to colder weather gained momentum. Metal prices softened in December, driven by sluggish industrial activity in China, the world's

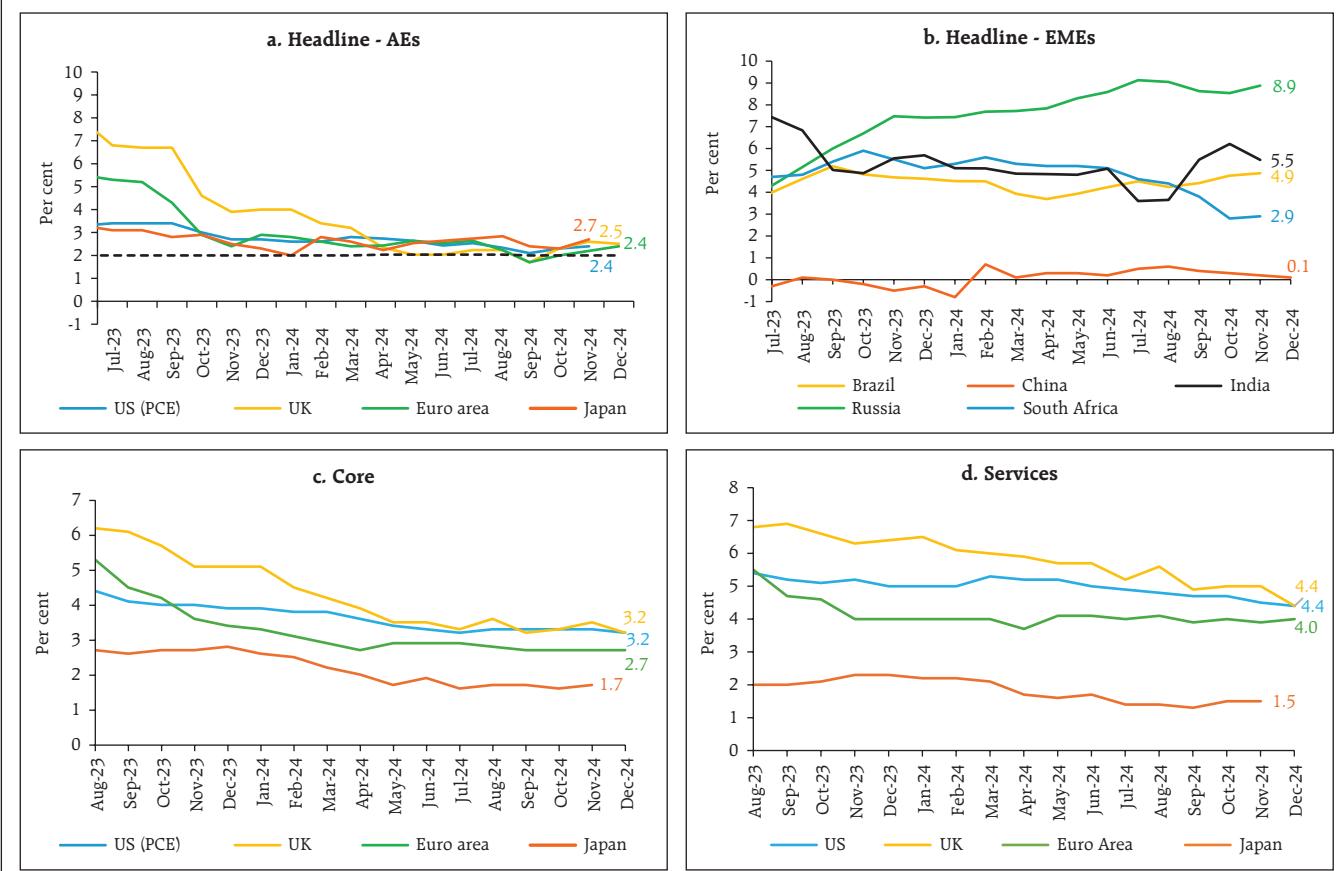


largest consumer of base metals although the trend reversed in January, driven by China's latest efforts to stimulate growth. Gold prices increased in early December, but declined thereafter as rising treasury yields and a strengthening US dollar increased the opportunity cost of gold holdings. In January so far, gold prices have rebounded, supported by a safe-haven and inflation hedge demand (Chart II.6d).

Headline inflation declined over much of 2024 to reach close to targets in most major economies. The pace of its decline has slowed down in recent months, along with uptick in the US to 2.9 per cent (y-o-y) in December from 2.7 per cent in November. Inflation in terms of the personal consumption

expenditure (PCE) deflator also increased to 2.4 per cent in November from 2.3 per cent in October. In the Euro area, headline inflation edged up to 2.4 per cent in December⁶ from 2.2 per cent in November whereas, in the UK, it moderated to 2.5 per cent in December from 2.6 per cent in November. Inflation in Japan increased to 2.7 per cent in November from 2.3 per cent in October (Chart II.7a). Among EMEs, CPI inflation in China weakened further to 0.1 per cent in December, its lowest level since March, and in Brazil, it moderated to 4.8 per cent. Inflation, however, increased in Russia in December and South Africa in November (Chart II.7b). Core inflation moderated in the US and UK in December

Chart II.7: Inflation - AEs and EMEs



Sources: Bloomberg; and OECD.

⁶ According to the flash estimate from Eurostat.

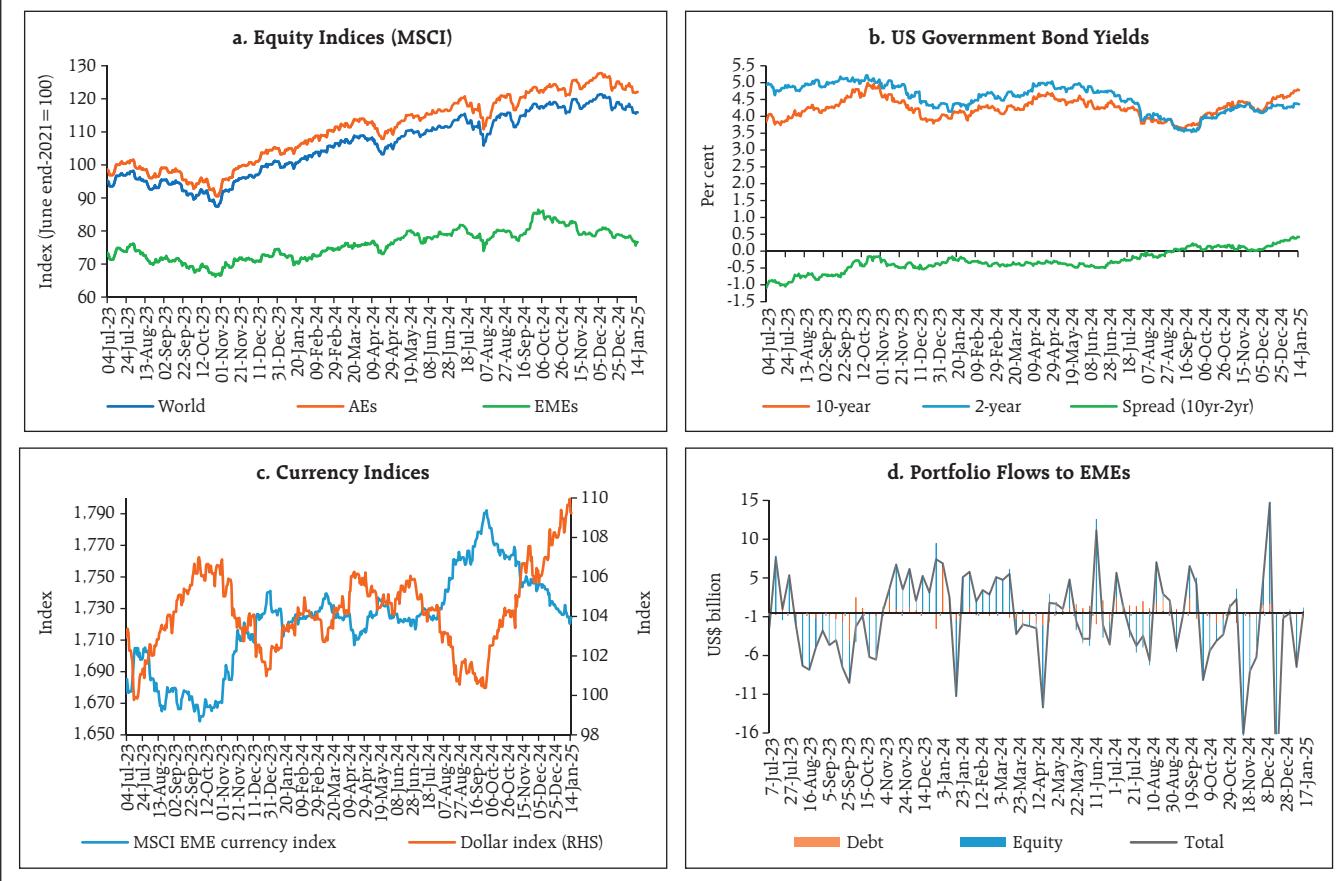
but remained steady in the Euro area (Chart II.7c). While services inflation slowed down in the US and UK in December, it recorded a marginal acceleration in the Euro area (Chart II.7d).

The Morgan Stanley Capital International (MSCI) world equity index fell by 2.5 per cent (m-o-m) in December, mostly on account of declines in equity markets across AEs, particularly the US (Chart II.8a). The decline was primarily driven by the outcome of US Fed's December FOMC meeting, in which a slower than earlier indicated policy rate easing was signalled. The MSCI Emerging Markets Index also retracted by 0.3 per cent in December as fears of potential trade tensions weighed on investor sentiment. In January, the MSCI World Index declined by 0.8 per cent (up to January 14), primarily driven by decline in the US stock

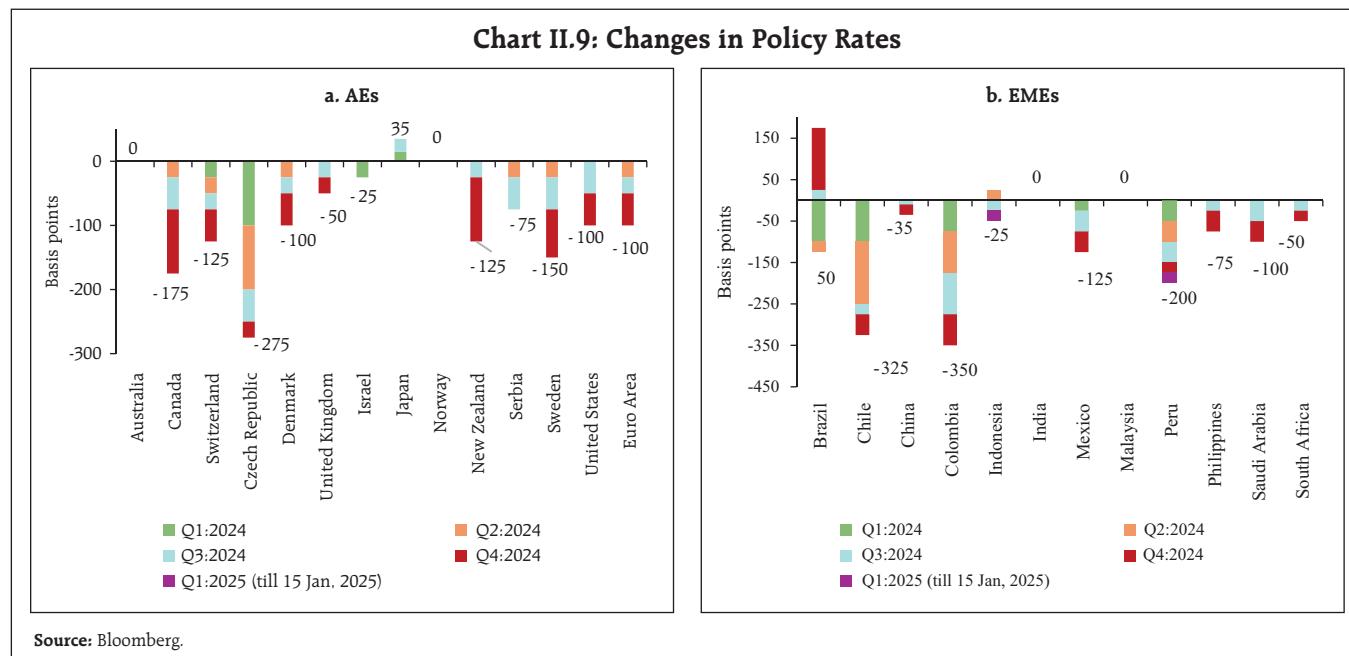
market. Yields on US government securities hardened in December, with the 10-year and 2-year bond yields rising by 40 bps and 9 bps, respectively (Chart II.8b). The increase was driven by the uptick in inflation, as well as strong labour markets in the US. Yields continued to rise in January, supported by incoming data indicating resilience in the US economy.

The US dollar strengthened by 2.6 per cent (m-o-m) in December as a stronger than expected US economy and higher than earlier anticipated policy rates by the end of 2025 boosted demand. In January (up to 14th), it strengthened further by 0.7 per cent. Concomitantly, the MSCI currency index for EMEs declined by around 1.2 per cent in December, mainly due to capital outflows in the equity segment (Chart II.8c and II.8d).

Chart II.8: Global Financial Markets



Sources: Bloomberg; and IIF.



Among AE central banks, Sweden cut its policy rate in December by 25 bps whereas Israel, the Czech Republic, South Korea and Norway kept their policy rates unchanged (Chart II.9a). Among EME central banks, Peru and Indonesia lowered their policy rates by 25 bps each in January 2025 and Colombia, Mexico and Philippines lowered their benchmark rates by the same magnitude in December 2024 (Chart II.9b).

III. Domestic Developments

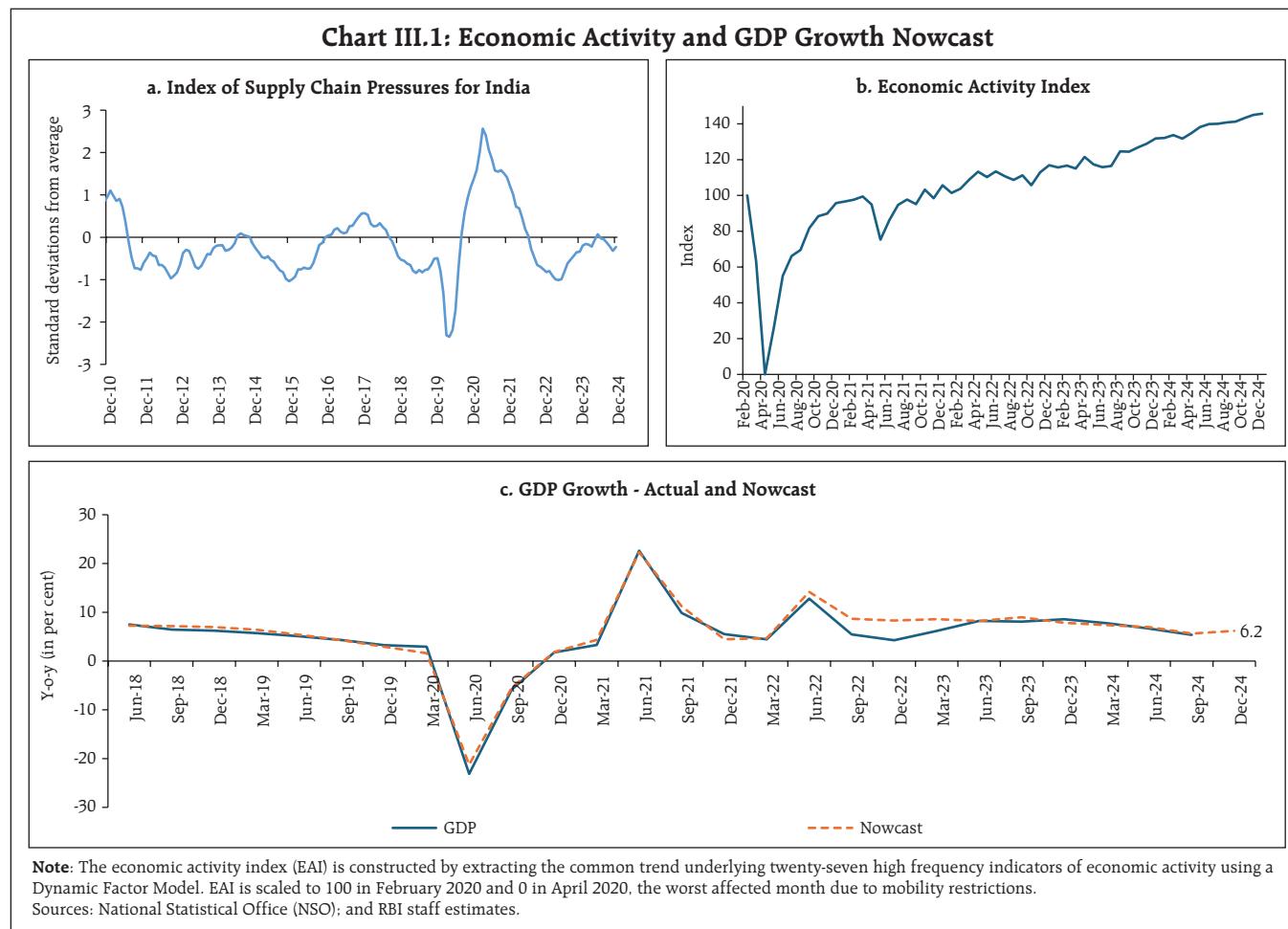
Recent movements in high-frequency indicators point towards a recovery in H2:2024-25 from the slowdown in H1. Supply chain pressures remained below historical average levels, inspite of a marginal uptick in December (Chart III.1a). Based on the economic activity index (EAI)⁷, seasonally adjusted GDP growth nowcast for Q3:2024-25 is placed at 6.2 per cent (Chart III.1b and 1c).

Aggregate Demand

The first advance estimates (FAE) of national income released on January 7, 2025 placed real GDP growth for 2024-25 at 6.4 per cent as compared with 8.2 per cent a year ago. While private and government consumption expenditure hiked up, and net exports contributed positively, investment growth moderated (Chart III.2). In fact, gross fixed capital formation (GFCF) slowed to 6.4 per cent in 2024-25 from 9.0 per cent growth in 2023-24. A decisive factor in this investment slowdown was lower capital expenditure by both the Union⁸ and State Governments. On the external front, India's exports grew by 5.9 per cent in 2024-25 primarily on account of a steady growth in services exports. Imports contracted by 1.3 per cent, and enabled net exports to contribute positively to GDP growth by 1.7 percentage points.

⁷ The index extracts the dynamic common factor underlying 27 monthly indicators representing industry, services, global and miscellaneous activities.

⁸ The Union Government has utilised 46.2 per cent of the budgeted capital expenditure during April-November 2024 as compared with 58.5 per cent utilisation during the same period last year.



High frequency indicators suggest that aggregate demand firmed up in Q3:2024-25. E-way bills rose

on a y-o-y basis in volume terms in December (Chart III.3a), and toll collections recorded strong growth both in volume and value terms (Chart III.3b).

While overall automobile sales declined in December 2024, passenger vehicle sales recorded sound growth (Chart III.4a). Domestic tractor sales showed robust growth in December. Among two-wheelers, scooter sales expanded by 3.2 per cent while motorcycle sales contracted (Chart III.4b). Vehicle registrations recorded a contraction in December owing to declines in non-transport and transport vehicles segments (Chart III.4c). Petroleum consumption expanded by 2.1 per cent (y-o-y) in December, as petrol, aviation turbine fuel (ATF) and

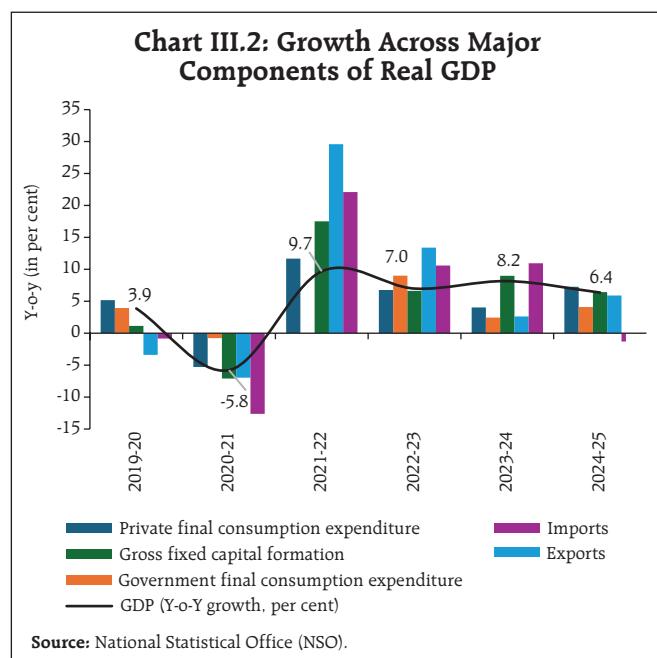
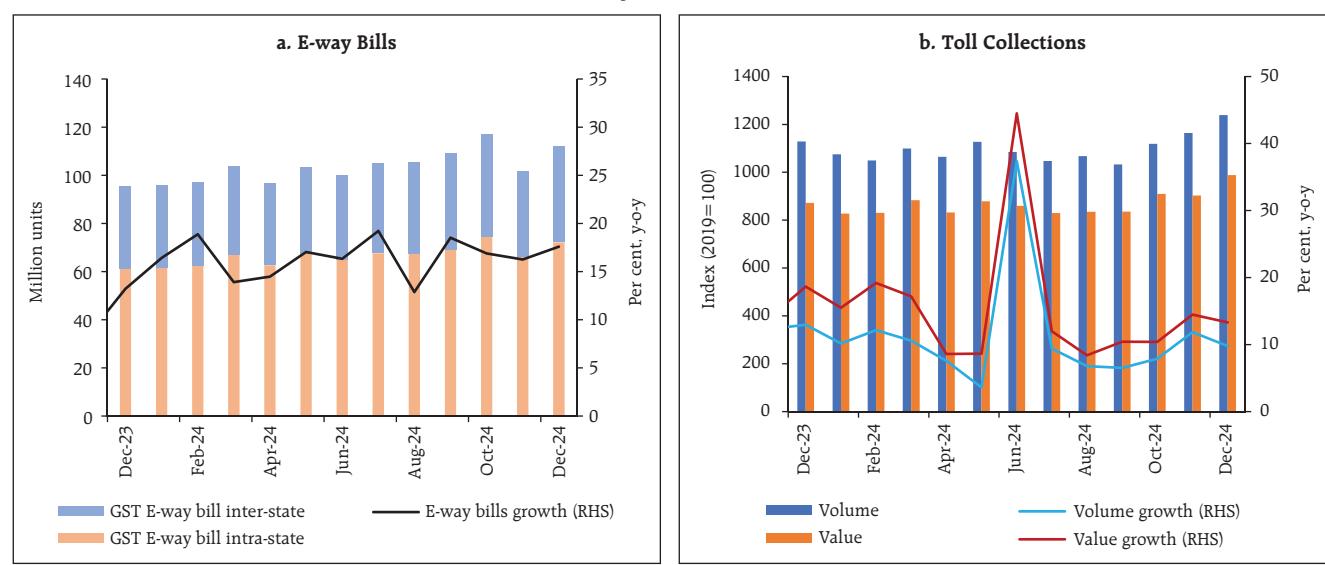


Chart III.3: E-way Bills and Toll Collections

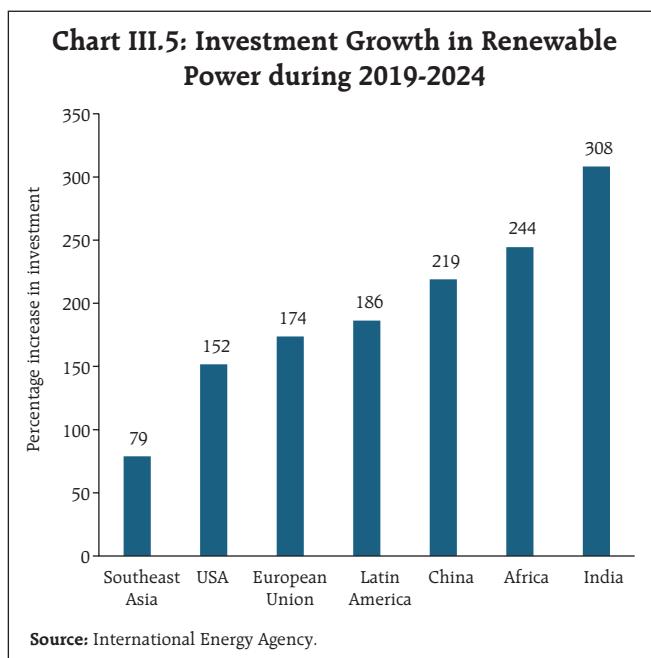
Sources: GSTN; and RBI.

diesel recorded strong growth of 10.8 per cent, 8.7 per cent and 6.0 per cent, respectively⁹ (Chart III.4d).

India's investments in renewable energy is rising faster than other countries (Chart III.5). According

Chart III.4: Automobile Sector Indicators

⁹ The lower growth in overall petroleum consumption can be attributed to decline in naphtha, superior kerosine oil (SKO) and other fuels.



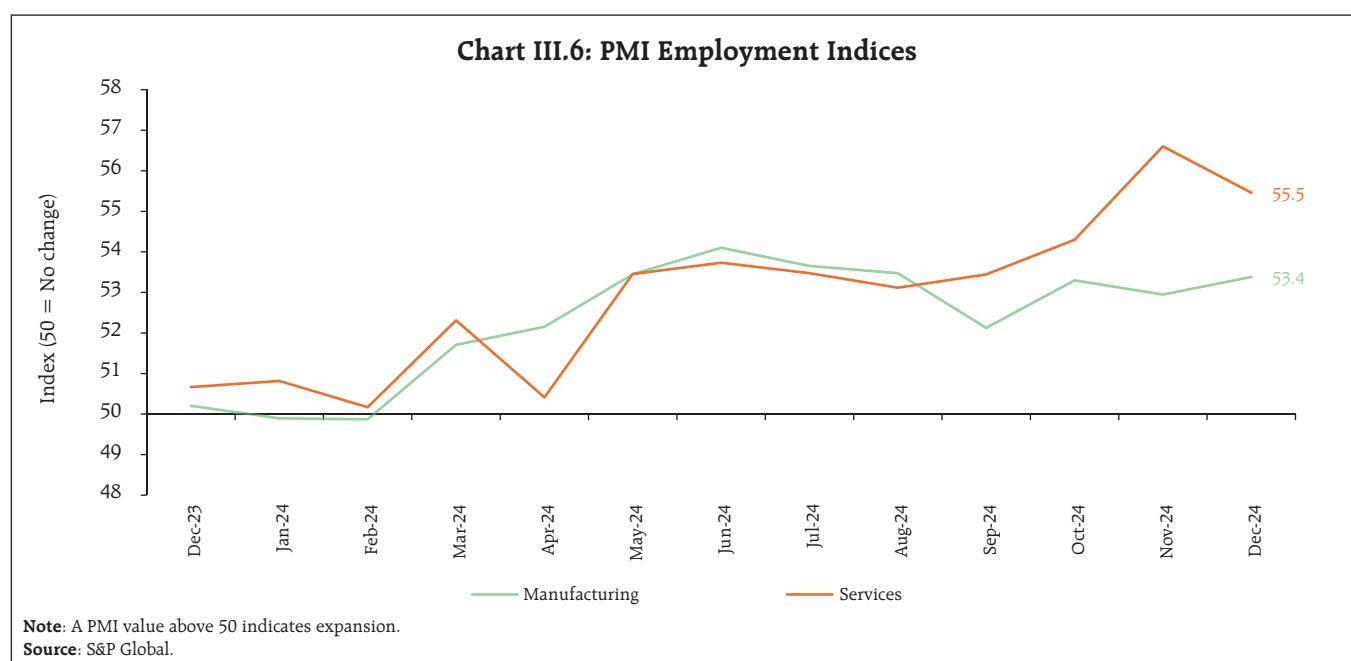
to the International Energy Agency (IEA), India's annual renewable capacity additions are expected to quadruple from 15 GW in 2023 to 62 GW in 2030.

In November 2024, several policy decisions have been undertaken at COP29 held in Baku, Azerbaijan to help countries deliver their climate plans more quickly and cheaply so that faster progress in

reducing global emissions takes place in this decade. It was also agreed to secure efforts to scale up finance to developing countries to US\$1.3 trillion annually from both public and private sources by 2035. India submitted its 4th Biennial Update Report (BUR-4) to the United Nations Framework Convention on Climate Change on 30th December 2024, emphasising initiatives such as the development of a trading mechanism for carbon credits, increased renewable energy capacity, expansion of forest and tree cover and the consequent creation of natural carbon sinks. Progress so being made towards the Nationally Determined Contributions (NDCs) target of reducing emission intensity of GDP by 45 per cent by 2030 from 2005 levels.

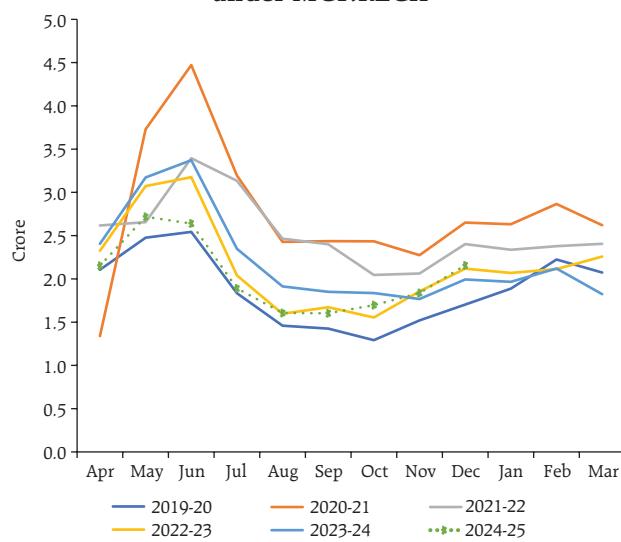
Employment in the organised manufacturing sector expanded to a four-month high in December. The rate of job creation in the services sector witnessed a marginal moderation from a record high registered in November¹⁰ (Chart III.6).

The demand for work under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) rose in December 2024, in line with the



¹⁰ The survey began in 2005.

Chart III.7: Households' Demand for Work under MGNREGA



Source: Ministry of Rural Development.

trend observed in previous years, as a significant part of *rabi* sowing was completed (Chart III.7). The demand for work, however, is expected to fall with the start of *rabi* harvesting season.

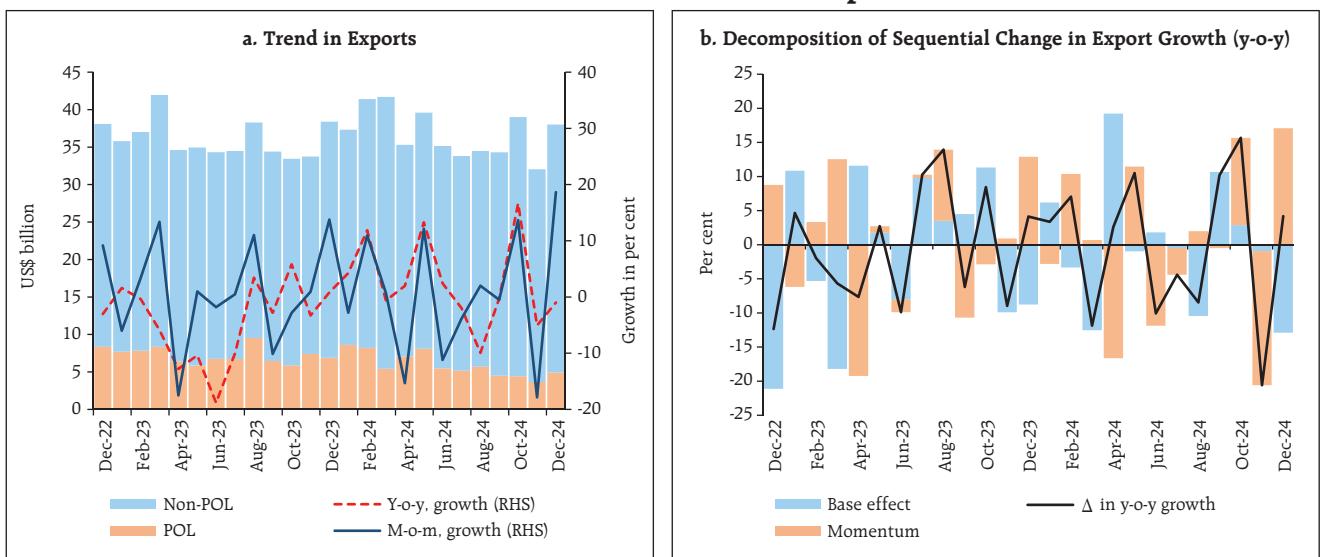
India's merchandise exports at US\$ 38.0 billion contracted by 1.0 per cent (y-o-y) in December 2024 (Chart III.8).

Exports of 6 out of 30 major commodities (accounting for 35.1 per cent of export basket) contracted on y-o-y basis in December. Petroleum products, gems and jewellery, iron ore, chemicals, and oil meals contributed negatively to export growth in the month, while electronic goods, engineering goods, rice, ready-made garments (RMG) of all textiles, and cotton yarn/fabrics contributed positively (Chart III.9). During April-December 2024, India's merchandise exports expanded by 1.6 per cent to US\$ 321.7 billion, primarily led by engineering goods, electronic goods, rice, drugs and pharmaceuticals, and RMG of all textiles, while petroleum products, gems and jewellery, iron ore, ceramic products and glassware, and other cereals dragged exports down.

Exports to 9 out of 20 major destinations contracted in December. During April-December 2024, however, exports to 14 out of 20 major destinations expanded, with the US, the UAE and the Netherlands being the top three export destinations.

Merchandise imports at US\$ 59.9 billion increased by 4.9 per cent (y-o-y) in December (Chart III.10). Out of 30 major commodities, 20 commodities (accounting for 69.9 per cent of import basket) registered an expansion on a y-o-y basis.

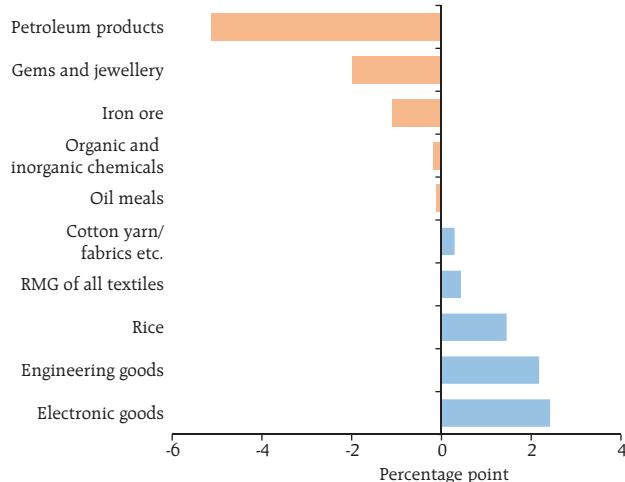
Chart III.8: India's Merchandise Exports



Note: POL: Petroleum, oil and lubricants.

Sources: PIB; DGCIS; and RBI staff estimates.

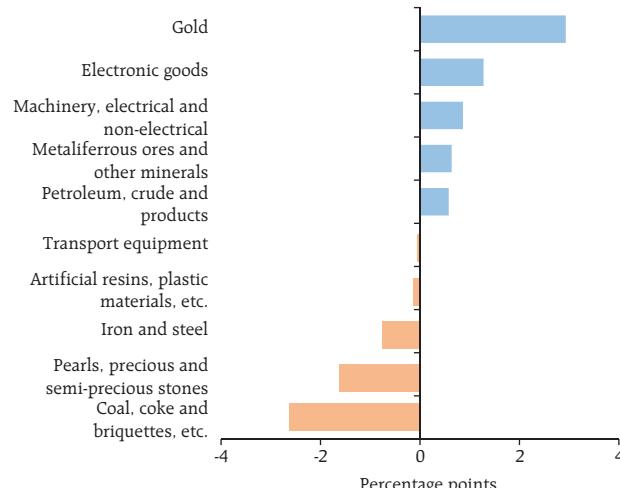
**Chart III.9: India's Merchandise Exports – Relative Contribution
(December 2024 over December 2023)**



Sources: PIB; and RBI staff estimates.

Gold, electronic goods, machinery, metalliferous ores and other minerals, and POL contributed positively to import growth, while coal, coke and briquettes, pearl, precious and semi-precious stones, iron and steel, artificial resins and plastic materials, and transport equipment contributed negatively (Chart III.11). During April-December 2024, India's merchandise imports at US\$ 532.5 billion increased

**Chart III.11: India's Merchandise Imports – Relative Contribution
(December 2024 over December 2023)**

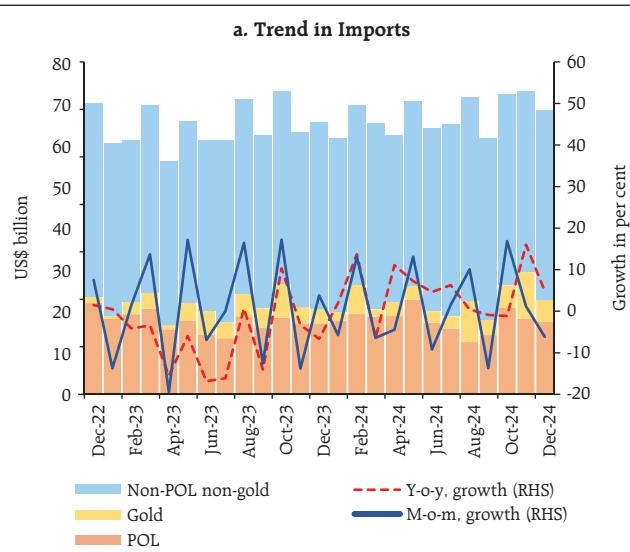


Sources: PIB; and RBI staff estimates.

by 5.2 per cent (y-o-y), mainly led by POL, electronic goods, gold, machinery, and non-ferrous metals, while coal, coke and briquettes, pearls, precious and semi-precious stones, chemical material and products, iron and steel, and fertilisers contributed negatively.

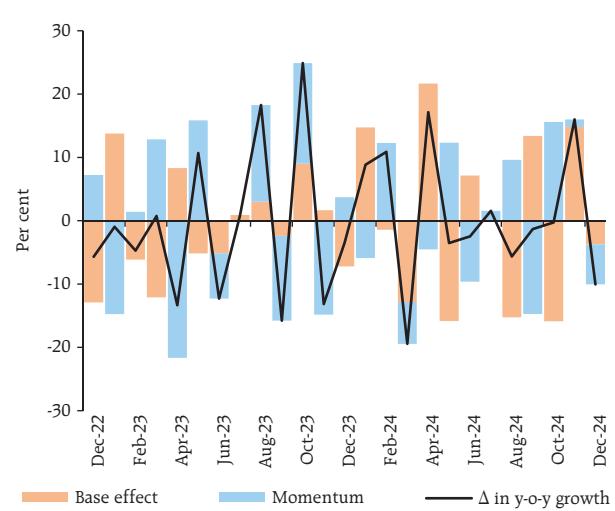
Imports from 14 out of 20 major source countries expanded in December, while imports from 13 major countries expanded during April-December 2024.

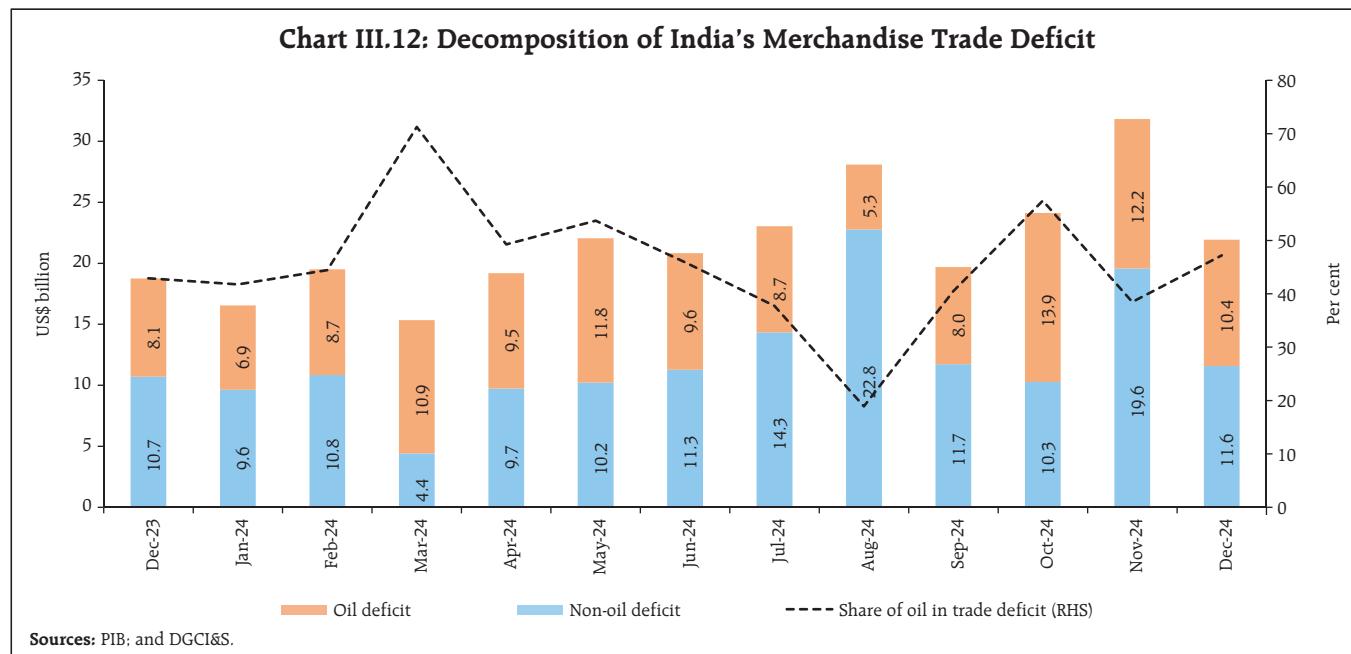
Chart III.10: India's Merchandise Imports



Sources: PIB; DGCIS; and RBI staff estimates.

b. Decomposition of Sequential Change in Import Growth (y-o-y)





The merchandise trade deficit widened to US\$ 21.9 billion in December 2024 from US\$ 18.8 billion in December 2023. Both oil and non-oil deficit widened in December 2024 from the levels recorded a year ago (Chart III.12). With a larger increase in oil deficit, the share of oil in overall trade deficit increased to 47.2 per cent in December 2024 from 42.9 per cent a year ago.

During April-December 2024, India's merchandise trade deficit widened to US\$ 210.8 billion from US\$ 189.7 billion a year ago. Petroleum products were the largest source of the deficit, followed by electronic goods (Chart III.13).

During November 2024, services exports grew by 13.9 per cent (y-o-y) to US\$ 32.0 billion while services imports expanded by 26.0 per cent (y-o-y) to US\$ 17.2 billion (Chart III.14). As a result, net services export

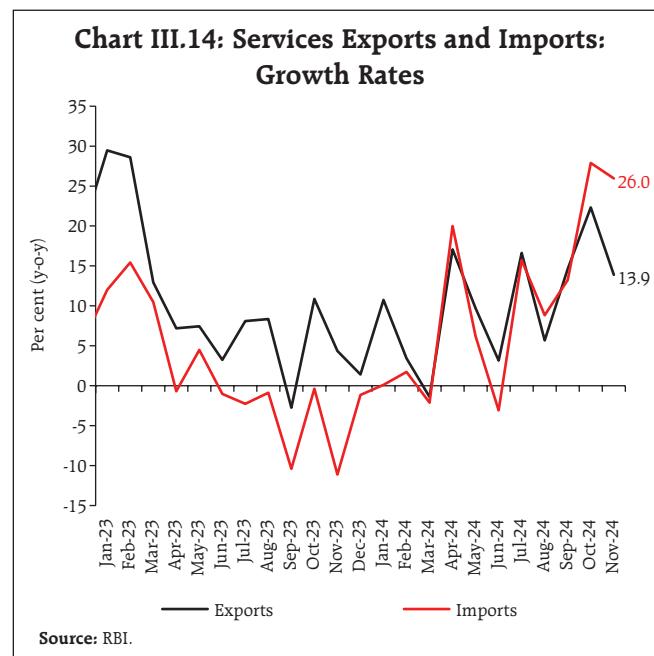
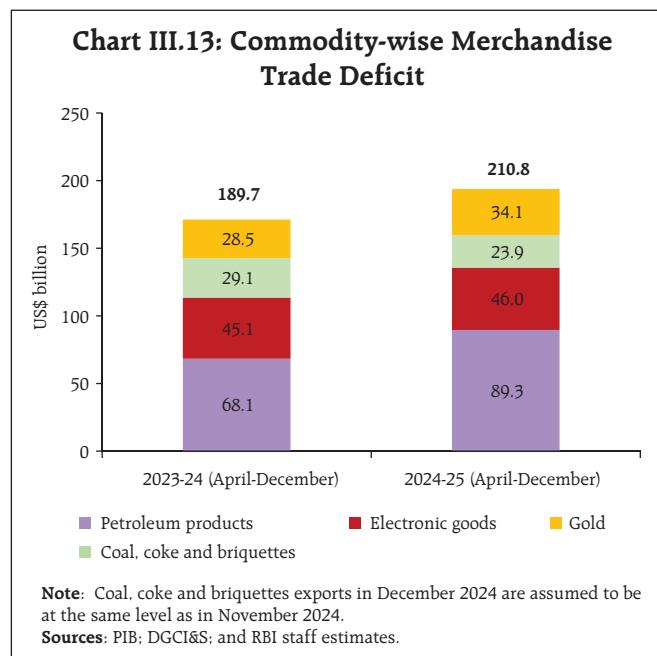
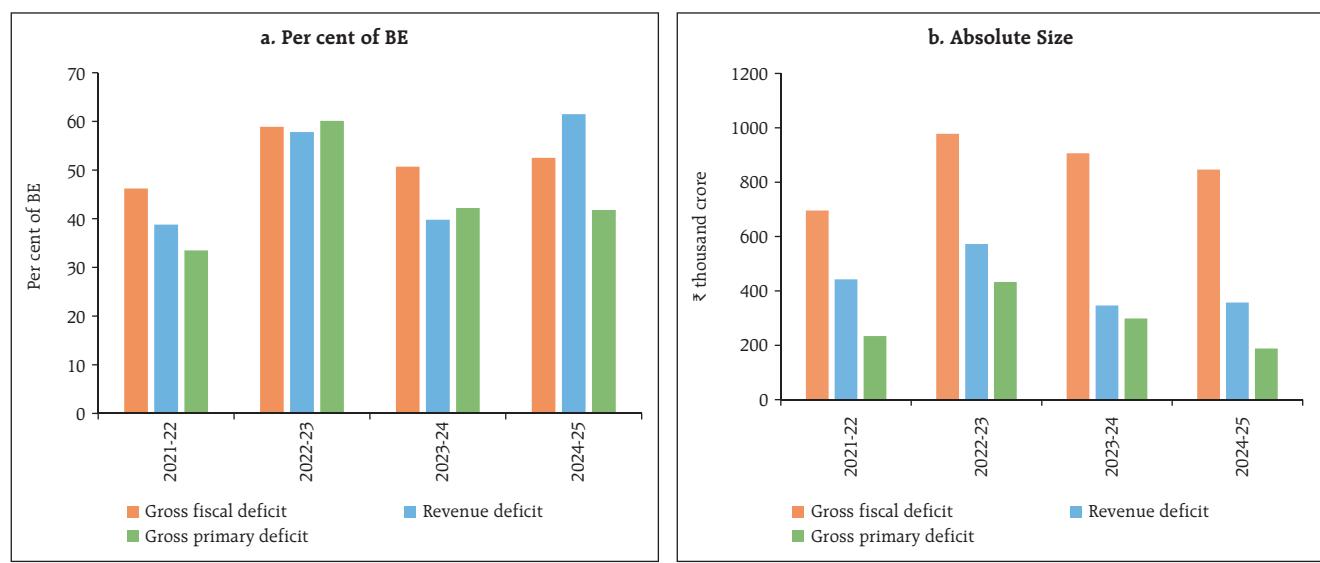


Chart III.15: Budgetary Deficit of Central Government during April-November

Source: CGA.

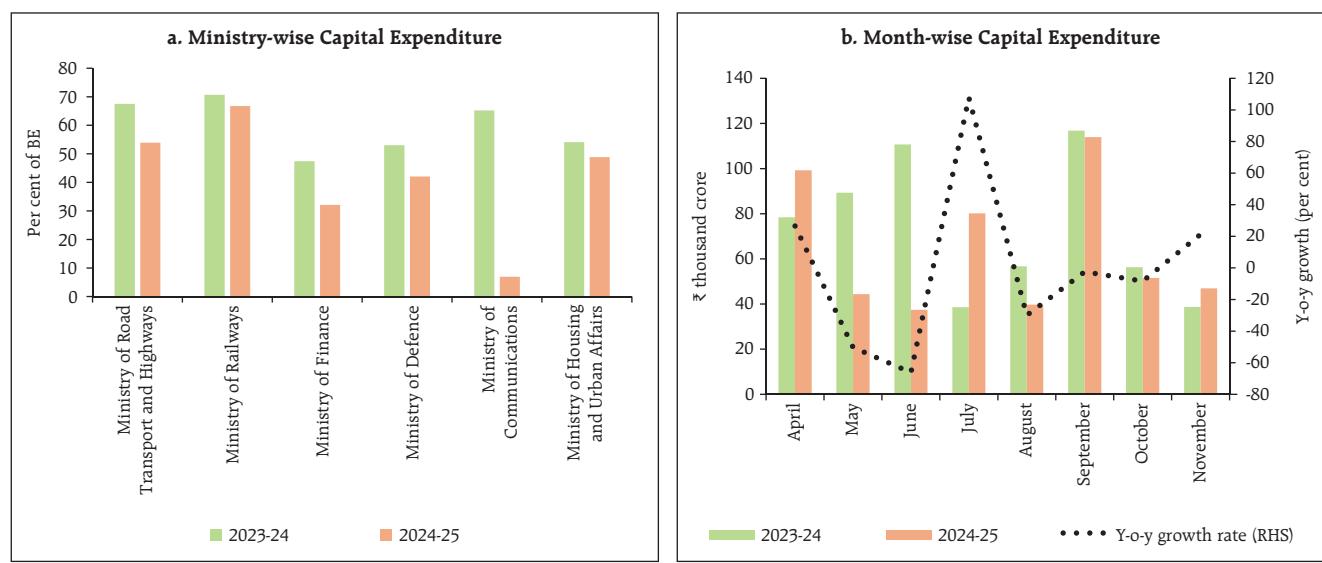
earnings increased by 2.5 per cent (y-o-y) to US\$ 14.8 billion during the month.

According to the Controller General of Accounts (CGA), the gross fiscal deficit (GFD) and revenue deficit [as per cent of the budget estimates (BE)] of the Central government were higher than during the corresponding period of the previous year but the gross primary deficit remained lower (Chart III.15a and b).

Revenue expenditure (RE) recorded a y-o-y growth of 7.8 per cent in April-November 2024 in comparison to 3.6 per cent during the corresponding period of the previous year. Interest payments (IP) registered a growth of 8.3 per cent vis-à-vis 11.5 per cent in the corresponding period of the previous year. Driven by food and petroleum subsidies, the expenditure outgo on major subsidies (MS) also recorded a growth of 15.0 per cent, in comparison to a contraction of 19.4 per cent during the corresponding period of the previous year. Capital expenditure, on

the other hand, moderated during April-November 2024 (Chart III.16a). For the month of November, however, capital expenditure recorded a growth of 21.3 per cent y-o-y (Chart III.16b). Overall, the growth in total expenditure stood at 3.3 per cent during April-November 2024.

Gross tax revenues of the Central Government grew by 10.7 per cent (y-o-y) in April-November 2024, primarily driven by robust growth in income tax (23.5 per cent), goods and services tax (GST) [9.8 per cent], and custom duties (8.7 per cent) [Chart III.17a]. Corporation tax, however, recorded a marginal decline of 0.5 per cent due to the subdued corporate earnings. Non-tax revenue attained 78.3 per cent of BE, attributable to the surplus transfer of ₹2.11 lakh crore from the Reserve Bank (Chart III.17b). On the other hand, non-debt capital receipts contracted by 5.9 per cent due to decline in recovery of loans (9.8 per cent) while disinvestment receipts recorded a marginal increase of 1.4 per cent. Attributable to

Chart III.16: Capital Expenditure

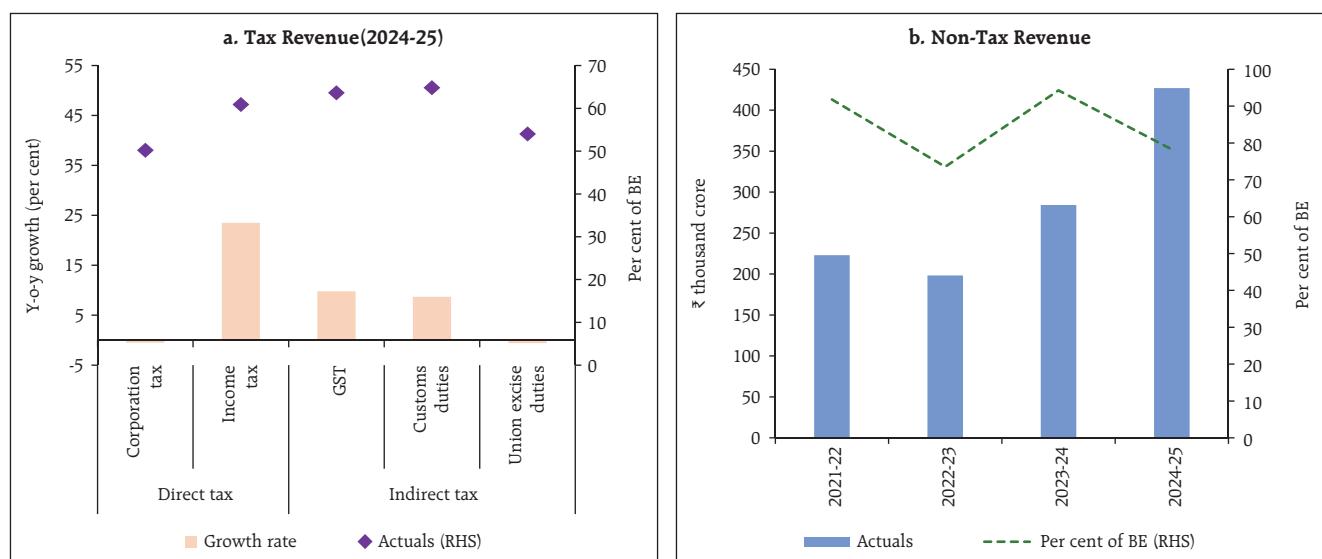
Source: CGA.

higher assignments to States by the Centre¹¹, net tax revenue recorded a marginal increase of 0.5 per cent during April-November 2024. Overall, the total receipts expanded by 8.5 per cent over the corresponding period of the previous year.

GST collections (Centre *plus* States) climbed to ₹1.77 lakh crore in December 2024, taking the

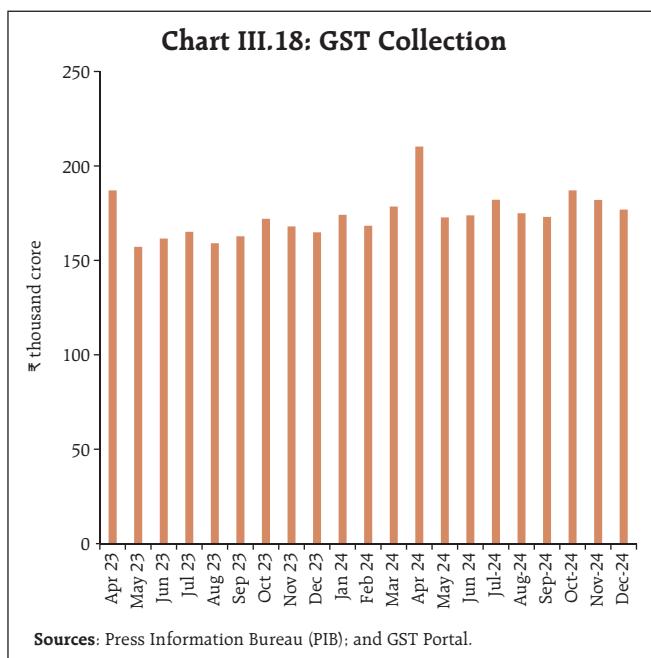
cumulative GST collection for April-December 2024 to ₹16.34 lakh crore (registering a growth of 9.1 per cent over April-December 2023) [Chart III.18].

As per provisional accounts, States' GFD stood at 47.4 per cent of the BE during April-November 2024, lower than last year's level (Table III.1). States' revenue receipts increased by 13.3 per cent, primarily

Chart III.17: Revenue Receipts of the Central Government during April-November

Source: CGA.

¹¹ Assignment to States recorded an expansion of 35.0 per cent during April-November 2024 over the corresponding period of 2023-24.



driven by higher tax revenues, even as non-tax revenue and grants contracted (Chart III.19a). The growth in tax revenue can be attributed to higher devolution from the Centre, growth in States' GST and excise collections, and a turnaround in sales tax/value added tax (VAT). On the expenditure side, growth in revenue expenditure picked up

**Table III.1: States' Fiscal Indicators
(April-November)**

Deficit Indicators	2022-23	2023-24	2024-25
Revenue deficit	21.5	125.9	71.8
Gross fiscal deficit	37.4	55.5	47.4
Primary deficit	19.1	56.3	37.3

Note: Data pertains to 23 States. BE: Budget Estimates.

Source: Comptroller and Auditor General of India.

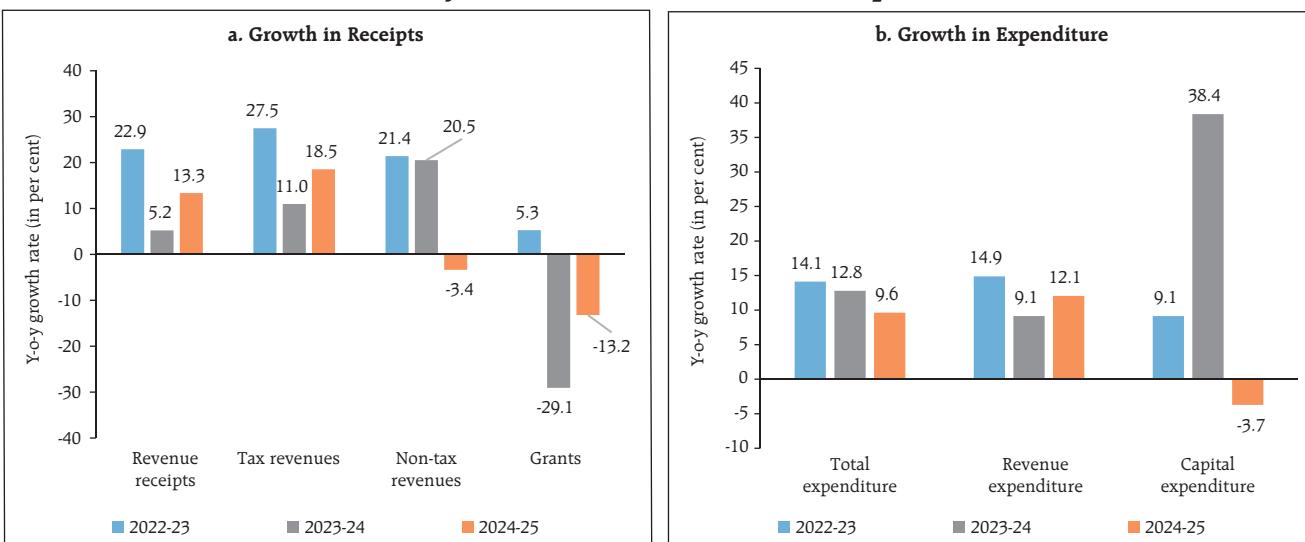
during April-November 2024, while capital expenditure remained lower than last year's level (Chart III.19b).

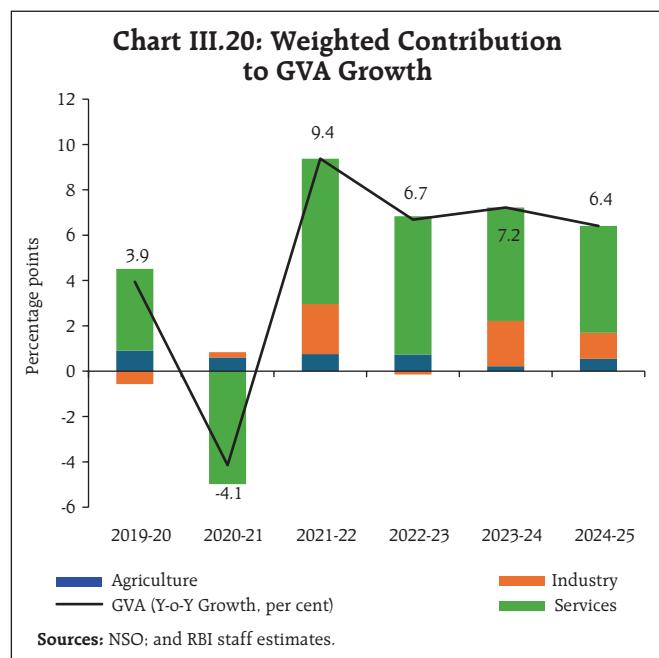
Aggregate Supply

Aggregate supply, measured by real GVA at basic prices, grew by 6.4 per cent in 2024-25, lower than 7.2 per cent in the preceding year. While agriculture and services remained resilient, industrial sector disappointed (Chart III.20).

The growth in agriculture, forestry and fishing increased to 3.8 per cent in 2024-25 from 1.4 per cent a year ago, owing to a higher *kharif* foodgrains production and *rabi* sowing. Industrial GVA growth

Chart III.19: Key Fiscal Performance Indicators (April-November)





subsided to 5.2 per cent, with manufacturing slackening to 5.3 per cent in 2024-25. Increases in input cost pressures and weakening of sales growth weighed on profitability. Growth in mining and quarrying activity decelerated to 2.9 per cent growth due to a contraction in production of crude oil along with a moderation in coal and natural gas production. Growth in electricity, gas water supply and other utility services moderated to 6.8 per cent growth in 2024-25 as the demand was dampened by heavy rainfall and relatively warmer winter along with slowdown in industrial activity. Services sector growth remained resilient at 7.4 per cent in 2024-25. Construction GVA growth remained upbeat at 8.6 per cent but with a moderation over the high base of last year. Reflecting the slowdown in domestic cargo traffic and commercial vehicle sales, trade, hotels, transport, and communication services growth moderated to 5.8 per cent from 6.4 per cent in the preceding year. Financial, real estate and professional services softened to 7.3 per cent in 2024-25. Public administration, defence and other services

(PADO) remained buoyant, aided by expenditure by the Union and the State Governments as well as resilience in other services activity, such as education and health.

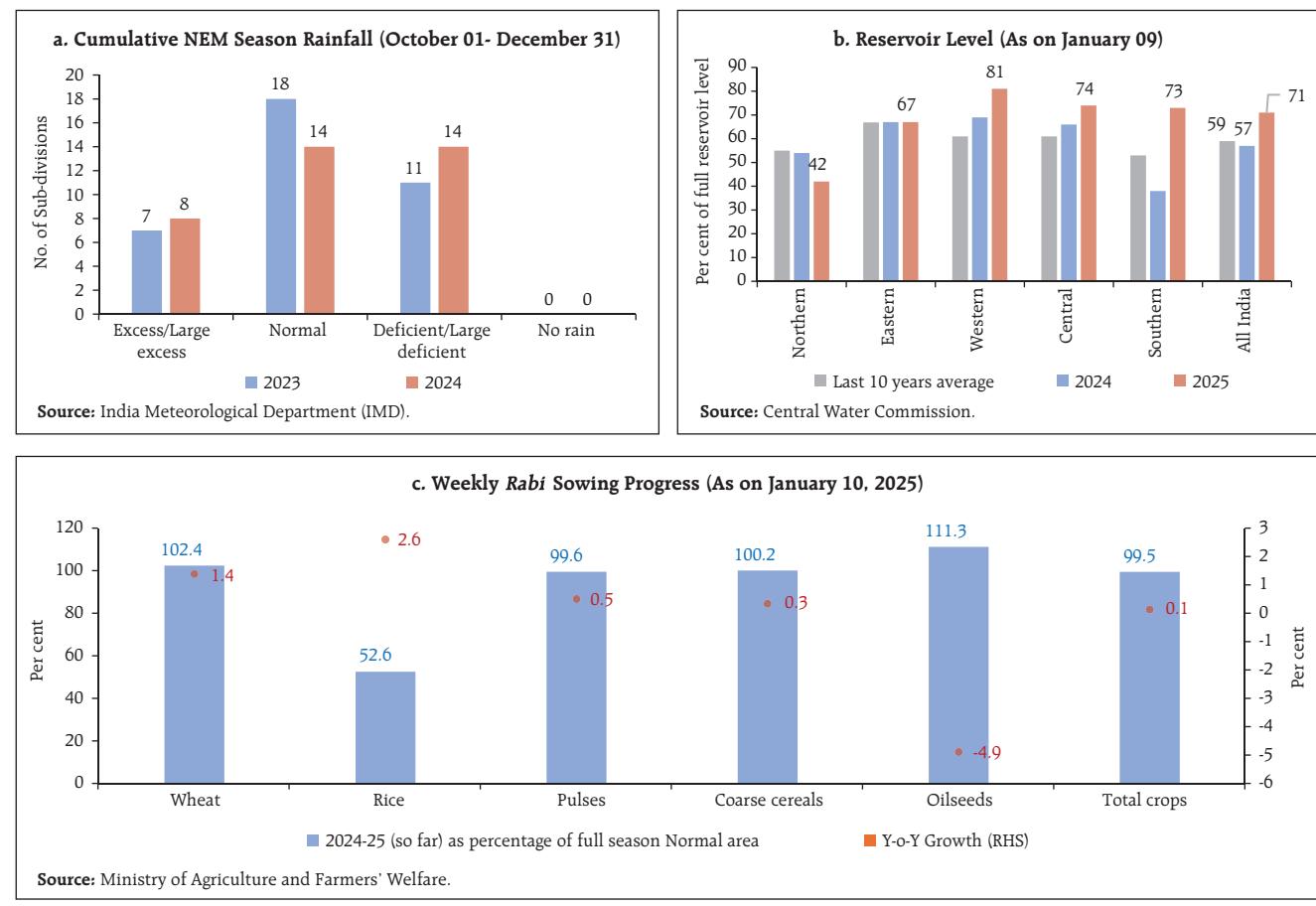
The Northeast monsoon (NEM) season (October 01-December 31, 2024) ended with a total rainfall 3 per cent below the long period average (LPA) as compared with 9 per cent below LPA last year. The Southern peninsula region received above normal rainfall (16 per cent above LPA) while all other regions received rainfall lower than LPA. Also, the number of sub-divisions receiving deficient/large deficient rainfall was higher in 2024 than a year ago (Chart III.21a).

As of January 09, 2025, the all-India reservoir level (based on 155 major reservoirs) was at 71 per cent of total reservoir capacity, which was higher than in the previous year (57 per cent) as well as the decadal average (59 per cent) [Chart III.21b]. The total *rabi* sown area was 0.1 per cent higher than the level a year ago as of January 10, 2025.¹² Acreage among all major crop groups, except oilseeds, was higher than the previous year's levels. The area sown under wheat, which accounts for around half of the full season *rabi* area, was 1.4 per cent higher than in the previous year, with more than 100 per cent of sowing accomplished (Chart III.21c). Measures have been taken by the government to augment wheat supply this year.¹³

As of January 13, 2025 the cumulative rice procurement for the *kharif* marketing season

¹² Based on the data released by Ministry of Agriculture and Farmers' Welfare, sowing at 632.3 lakh hectares covered 99.5 per cent of full season normal area as on January 10, 2025.

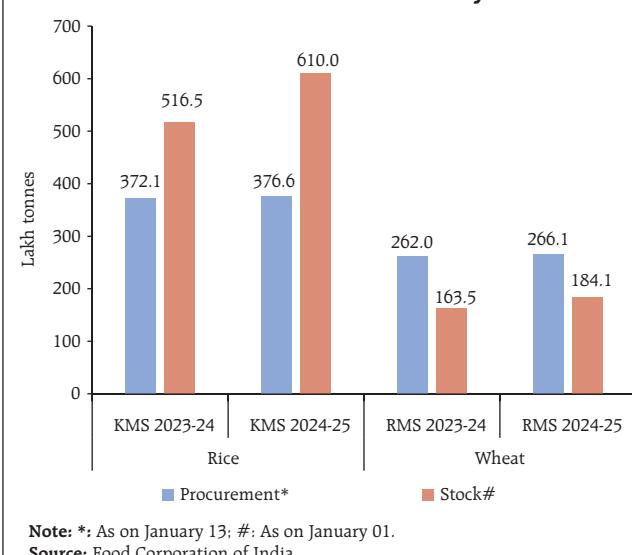
¹³ On November 28, 2024, the Government of India announced the sale of 2.5 million tonnes of wheat through e-auctions under the Open Market Sale Scheme (OMSS) till March. Further, on December 11, 2024, the Government revised down the stock limit for wheat stocking.

Chart III.21: Outlook for Rabi Season

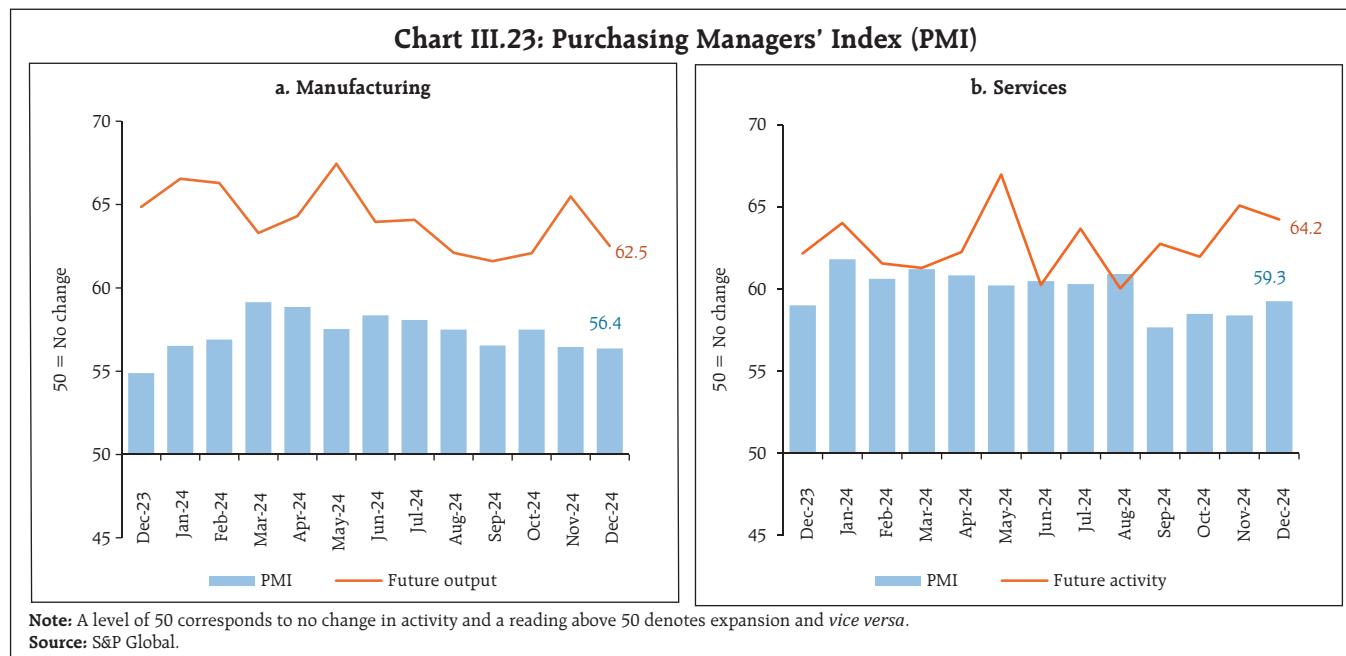
(KMS) 2024-25 was 1.2 per cent higher than in the corresponding period of the previous year (Chart III.22). The buffer stock of rice at 610 lakh tonnes¹⁴ stood at 8.0 times the norm as on January 1, 2025. The wheat stock stood at 184 lakh tonnes, which is marginally higher than the buffer norm.

India's manufacturing PMI experienced a sequential moderation but stayed in expansionary territory in December, supported by external demand (Chart III.23a). The services PMI continued to record robust expansion, driven by strong demand and new business growth (Chart III.23b). Business expectations for both manufacturing and services

remained optimistic, as indicated by future output assessments.

Chart III.22: Procurement and Stocks at the Central Public Distribution System

¹⁴ including unmilled paddy equivalent.



Port traffic increased by 3.4 per cent in December 2024, driven by containerised cargo, other miscellaneous cargo, and petroleum, oil and lubricants (POL) [Chart III.24].

In the construction sector, steel consumption growth moderated to 3.3 per cent (y-o-y) in

December. Cement production grew by 13.0 per cent in November (Chart III.25).

Available high frequency indicators reflect resilient services sector activity in November/December, with most indicators showing improvement in y-o-y growth (Table III.2).

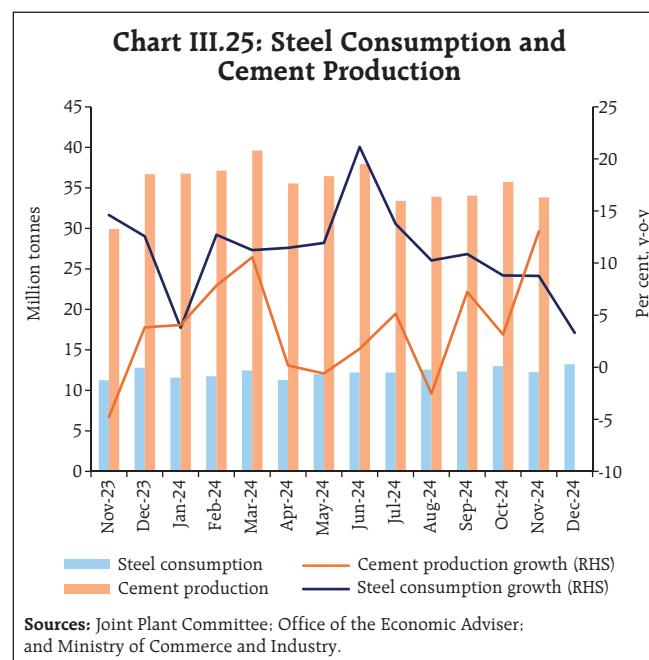
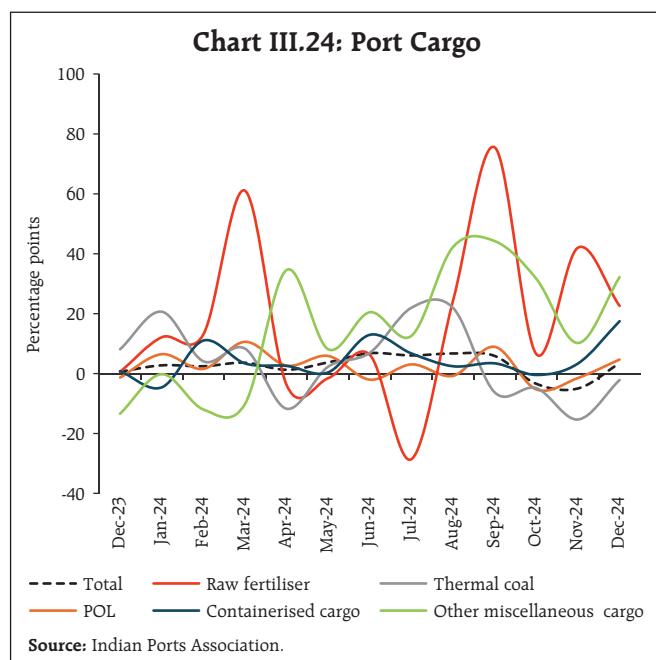


Table III.2: High Frequency Indicators- Services

(y-o-y, per cent)

Sector	Indicator	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Urban demand	Passenger Vehicles Sales	4.2	3.2	13.9	9.5	8.9	1.2	4.3	4.9	-2.0	-1.6	-0.4	1.1	4.4	11.4
Rural demand	Two-Wheeler Sales	31.3	16.0	26.2	34.6	15.3	30.8	10.1	21.3	12.5	9.3	15.8	14.2	-1.1	-8.8
	Three-Wheeler Sales	31.7	30.6	9.5	8.3	4.3	14.5	14.4	12.3	5.1	8.0	6.7	-0.7	-1.3	3.5
	Tractor Sales	6.4	-19.8	-15.3	-30.6	-23.1	-3.0	0.0	3.6	1.6	-5.8	3.7	22.4	-1.3	14.0
Trade, hotels, transport, communication	Commercial Vehicles Sales	3.2		-3.8			3.5			-11.0					
	Railway Freight Traffic	4.3	6.4	6.4	10.1	8.6	1.4	3.7	10.1	4.5	0.0				
	Port Cargo Traffic	16.9	0.6	3.2	2.1	2.7	1.3	3.8	6.8	5.9	6.7	5.8	-3.4	-4.9	3.4
	Domestic Air Cargo Traffic	9.0	8.7	10.0	11.5	8.7	0.3	10.3	10.3	8.8	0.6	14.0	8.9	0.3	
	International Air Cargo Traffic	4.9	12.2	19.3	30.2	22.5	16.2	19.2	19.6	24.4	20.7	20.5	18.4	16.1	
	Domestic Air Passenger Traffic *	8.7	8.1	5.0	5.8	4.7	3.8	5.9	6.9	7.6	6.7	7.4	9.6	13.8	10.9
	International Air Passenger Traffic *	19.8	18.1	17.0	19.3	15.0	16.8	19.6	11.3	8.8	11.1	11.2	10.3	10.7	8.6
	GST E-way Bills (Total)	8.5	13.2	16.4	18.9	13.9	14.5	17.0	16.3	19.2	12.9	18.5	16.9	16.3	17.6
	GST E-way Bills (Intra State)	22.7	14.2	17.9	21.1	15.8	17.3	18.9	16.4	19.0	13.1	19.0	18.3	5.4	17.9
	GST E-way Bills (Inter State)	-16.2	11.4	13.8	15.0	10.7	9.6	13.6	16.3	19.6	12.5	17.7	14.4	44.1	17.1
	Hotel occupancy	-8.6	1.6	2.6	1.8	2.7	-1.4	-2.6	-3.1	3.6	0.7	2.1	-5.3		
	Average revenue per room	15.9	12.8	11.0	7.8	6.7	4.8	1.8	2.8	7.6	5.2	3.5	4.8		
	Tourist Arrivals	16.8	7.8	10.4	15.8	8.0	7.7	0.3	9.0	-1.3	-4.2				
Construction	Steel Consumption	14.6	12.6	11.5	7.0	12.5	9.6	15.9	19.5	14.4	10.0	11.8	8.9	9.5	3.3
	Cement Production	-4.8	3.8	4.1	7.8	10.6	0.2	-0.6	1.8	5.1	-2.5	7.2	3.1	13.0	
PMI Index#	Services	56.9	59.0	61.8	60.6	61.2	60.8	60.2	60.5	60.3	60.9	57.7	58.5	58.4	59.3

<< Contraction ----- Expansion >>

Note: #: Data in levels. *: December 2024 data are based on the monthly average of daily figures. The Heat-map is constructed for each indicator for the period July-2021 till date.

Sources: SIAM; Ministry of Railways; Tractor and Mechanisation Association; Indian Ports Association; Office of Economic Adviser; GSTN; Airports Authority of India; HVS Anarock; Ministry of Tourism; Joint Plant Committee; and IHS Markit.

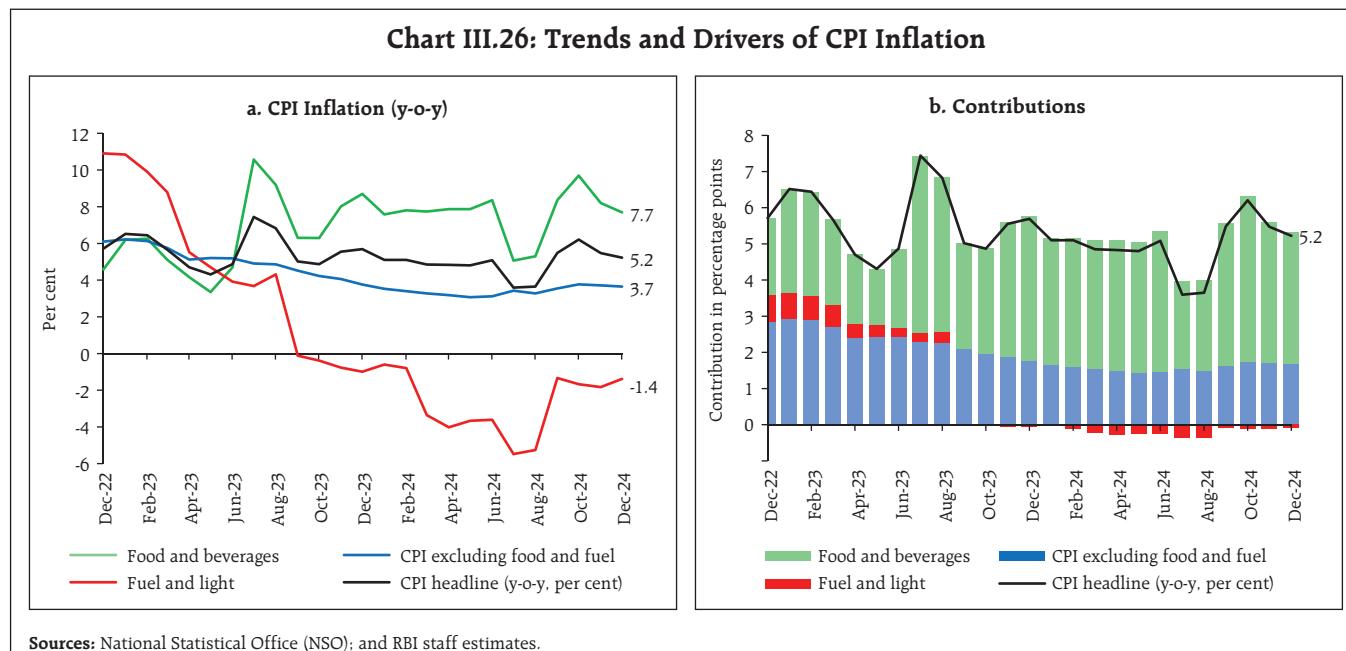
Inflation

Headline inflation, as measured by y-o-y changes in the all-India consumer price index (CPI)¹⁵, eased to a four-month low of 5.2 per cent in December 2024 from 5.5 per cent in November 2024 (Chart III.26). The 30 basis points (bps) decline in inflation was driven by a negative momentum of around 60 bps, which was partially offset by an adverse base effect of around 30 bps. The CPI food recorded a negative momentum of around 120 basis points during the

month while the CPI fuel group recorded a positive momentum of 60 bps. The CPI core (excluding food and fuel) index remained unchanged in December.

Food inflation decelerated to 7.7 per cent in December from 8.2 per cent in November. In terms of sub-groups, a moderation in inflation was observed in respect of cereals, milk, vegetables, pulses and sugar, whereas inflation in respect of meat and fish, eggs, oils and fats, fruits, prepared meals, and non-alcoholic beverages picked up. Deflation in prices of spices persisted (Chart III.27).

¹⁵ As per the provisional data released by the National Statistical Office (NSO) on January 13, 2025.



Fuel and light deflation narrowed to (-)1.4 per cent in December from (-) 1.8 per cent in November on account of a lower rate of deflation in kerosene and LPG prices and a higher rate of inflation in electricity prices.

Core inflation remained steady at 3.7 per cent in December 2024, the same as in November. Among the sub-groups, inflation moderated in case of housing, transport and communication, and personal care and effects sub-groups; it remained steady in respect

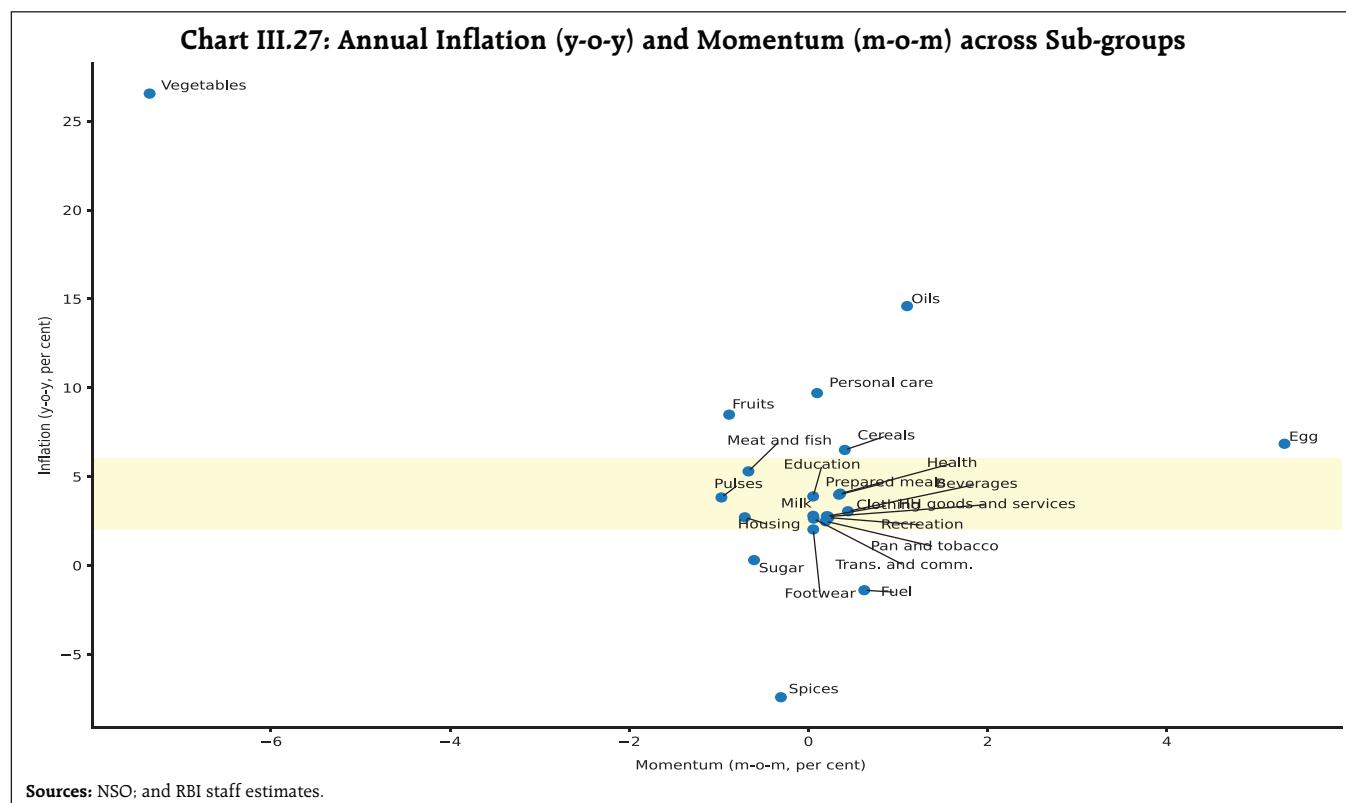
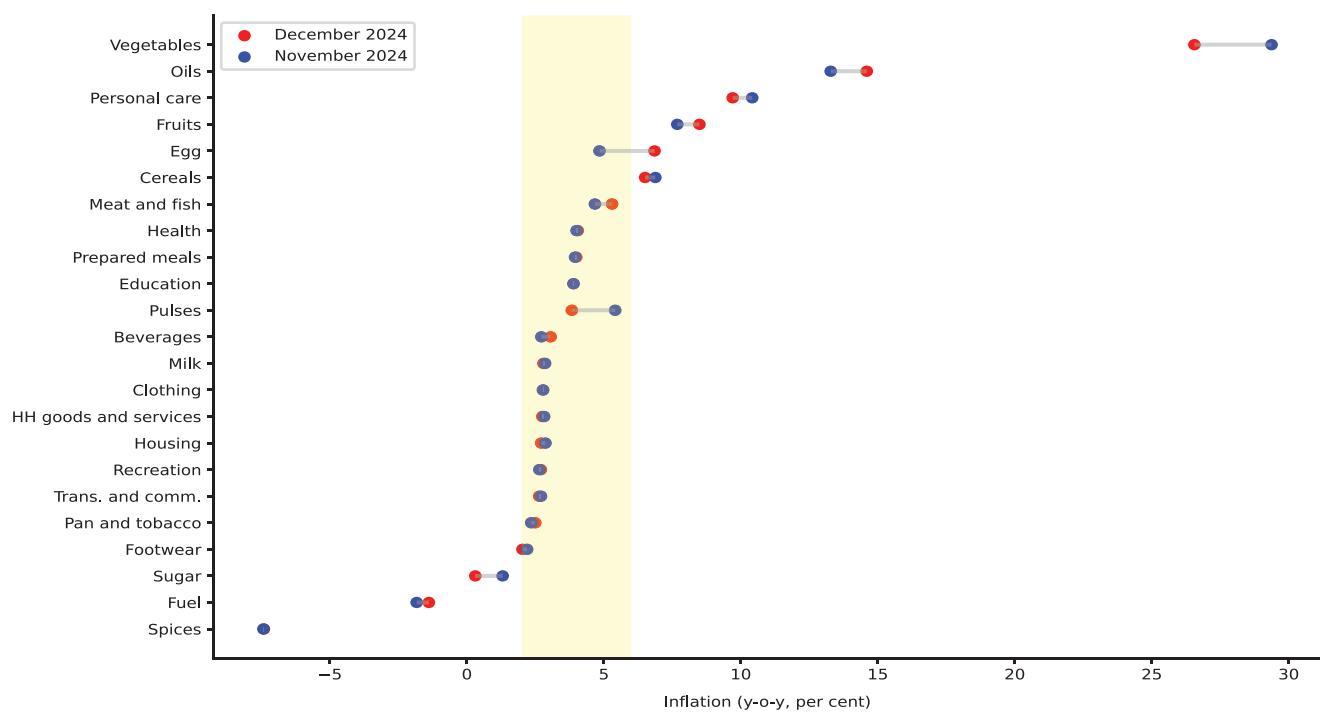


Chart III.28: Annual Inflation across Sub-groups (December 2024 versus November 2024)

Sources: NSO; and RBI staff estimates.

of clothing and footwear, household goods and services, health, and education. Inflation in respect of pan, tobacco and intoxicants, and recreation and amusement, however, registered an increase in inflation (Chart III.28).

In terms of regional distribution, rural inflation stood at 5.76 per cent higher than urban inflation (4.58 per cent) in December 2024. Majority of the states faced inflation less than 6 per cent (Chart III.29).

Chart III.29 : Spatial Distribution of Inflation December 2024 (CPI-Combined, y-o-y), (per cent)

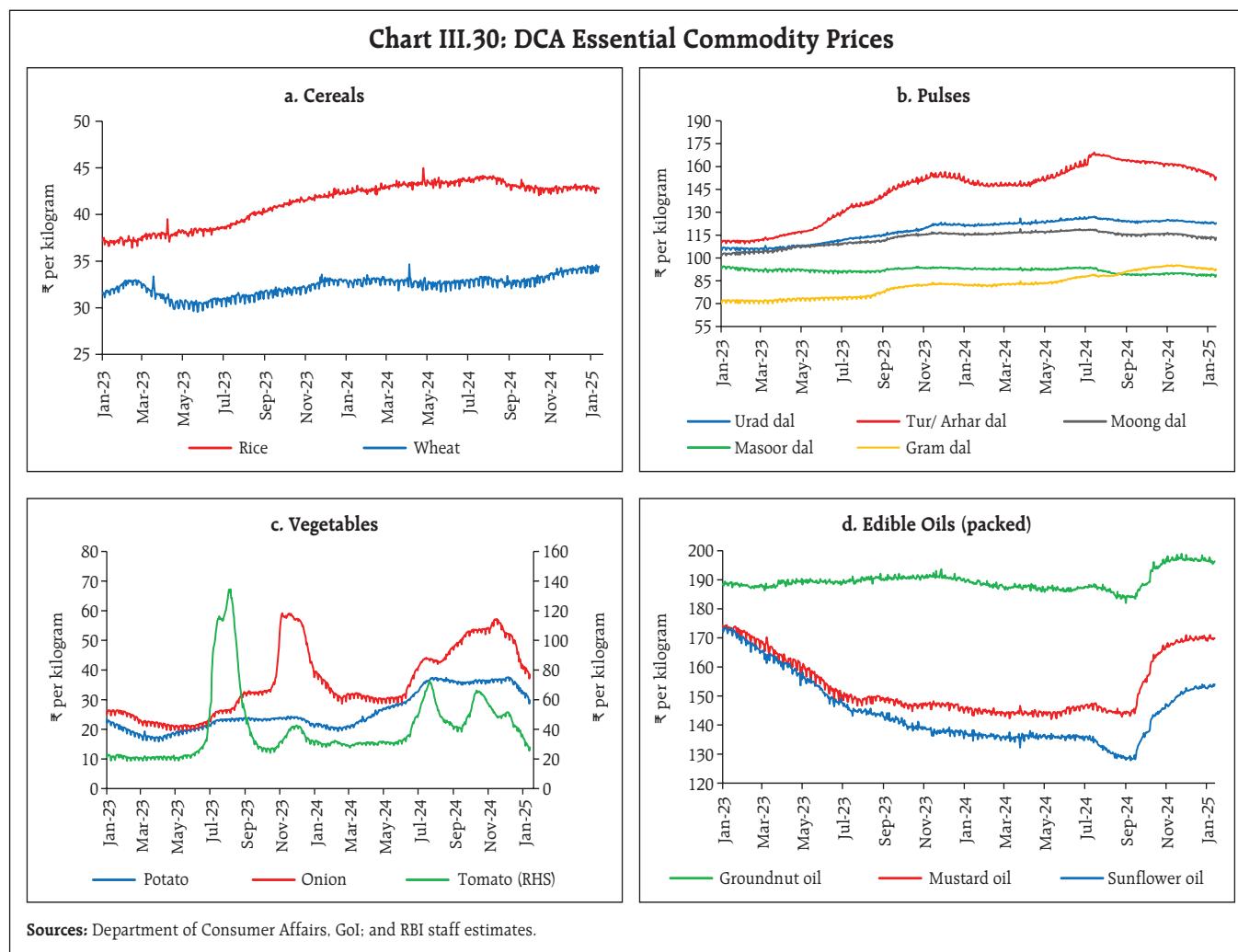
Note: Map is for illustrative purposes only.

Sources: NSO; and RBI Staff estimates.

High frequency food price data for January so far (up to 14th) show a moderation in rice prices, while wheat prices continued to edge up. Edible oil prices continued to witness a broad-based hardening *albeit* at a slower pace, than a month ago. Pulses prices, on the other hand, continued to moderate. Vegetables prices, especially of potato, onion and tomato witnessed a sharp correction (Chart III.30).

Retail selling prices of petrol, diesel and LPG remained unchanged in January thus far (up to 14th) while subsidised kerosene prices decreased (Table III.3).

As per the PMIs, input costs across both manufacturing and services firms increased at



a slower pace in December after a sharp rise in November. Selling price pressures also moderated across manufacturing and services firms in December (Chart III.31).

IV. Financial Conditions

System liquidity turned into deficit since mid-December due to build-up in government cash balances driven by the usual quarter-end advance tax outflows

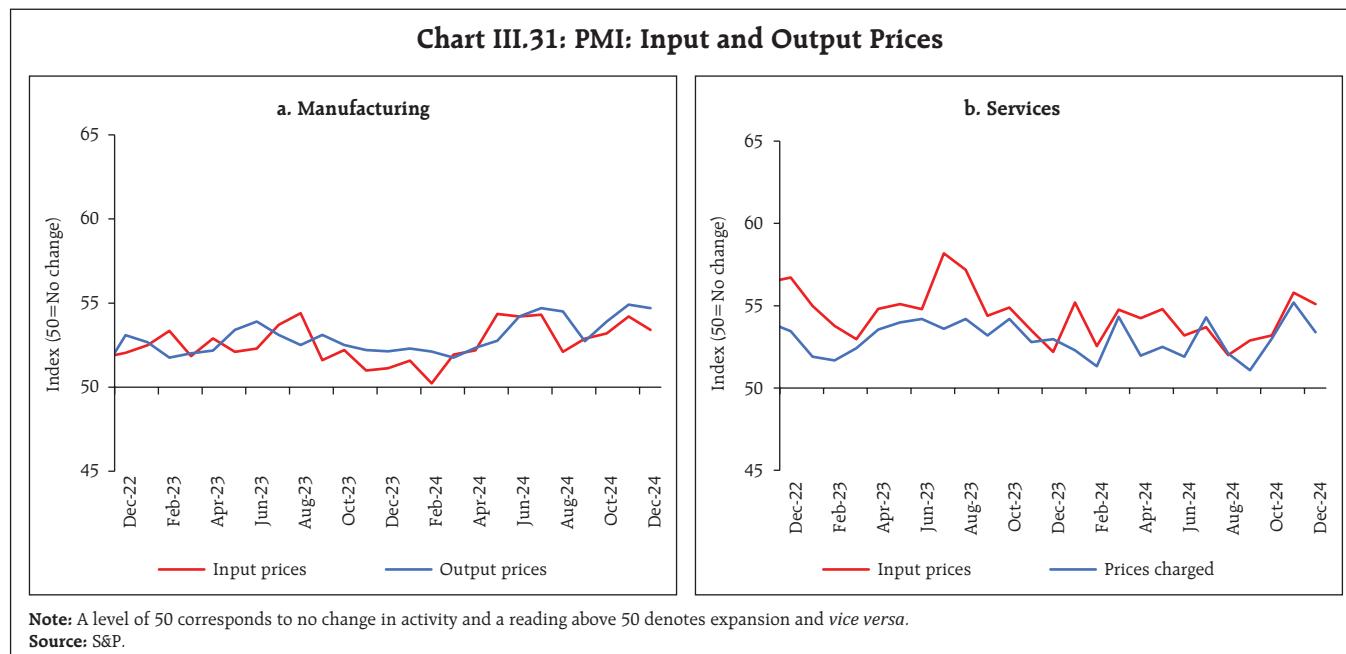
Table III.3: Petroleum Products Prices

Item	Unit	Domestic Prices			Month-over-month (per cent)	
		Jan-24	Dec-24	Jan-25 ^	Dec-24	Jan-25 ^
Petrol	₹/litre	102.92	101.02	101.02	0.0	0.0
Diesel	₹/litre	92.72	90.48	90.48	0.0	0.0
Kerosene (subsidised)	₹/litre	50.50	44.75	43.93	1.8	-1.8
LPG (non-subsidised)	₹/cylinder	913.25	813.25	813.25	0.0	0.0

Notes: 1. ^ : For the period January 1-14, 2025.

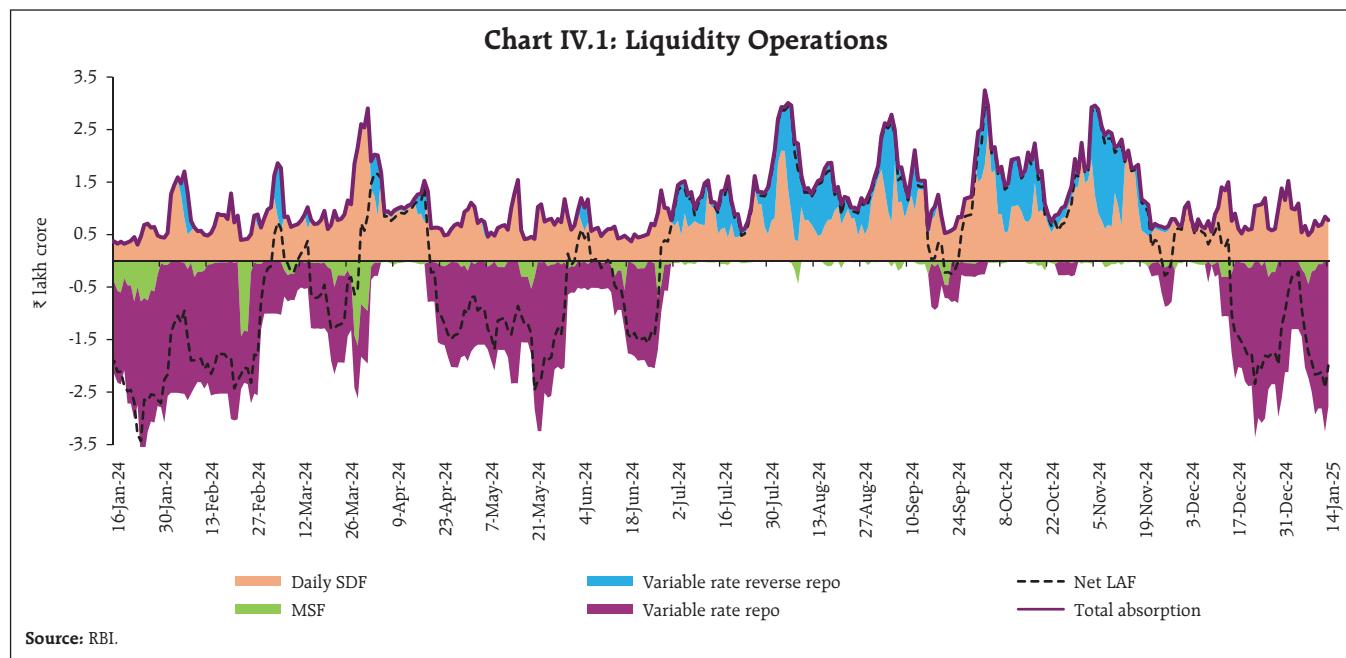
2. Other than kerosene, prices represent the average Indian Oil Corporation Limited (IOCL) prices in four major metros (Delhi, Kolkata, Mumbai and Chennai). For kerosene, prices denote the average of the subsidised prices in Kolkata, Mumbai and Chennai.

Sources: IOCL; Petroleum Planning and Analysis Cell (PPAC); and RBI staff estimates.



and monthly GST payments. The culmination of the last tranche of the unconventional monetary policy measures¹⁶ announced by the Reserve Bank in 2021 to address COVID-19 related disruptions resulted in withdrawal of liquidity by about ₹2,530 crore from the banking system. To address the liquidity tightness,

the Reserve Bank cumulatively injected ₹12.55 lakh crore to the banking system via two main and sixteen fine-tuning variable rate repo (VRR) operations of 1-7 days maturity during December 16, 2024 to January 16, 2025. Further, on a review of current and evolving liquidity conditions, it was also decided to conduct



¹⁶ Outstanding liquidity availed by banks under (i) On Tap Targeted Long Term Repo Operation to ease access to healthcare services and infrastructure, and (ii) Special Long-Term Repo Operations (SLTRO) for small finance banks (SFBs) matured on December 26, 2024.

VRR auctions on all working days in Mumbai with reversal taking place on the next working day until further notice.¹⁷

Overall, the average daily net injection under the liquidity adjustment facility (LAF) stood at ₹1.55 lakh crore during this period in contrast to the average net absorption of ₹0.62 lakh crore recorded during November 16 to December 15, 2024 (Chart IV.1). The pick up in government spending alleviated liquidity tightness towards the end of December and early January.

Despite tighter liquidity conditions, banks' placement of funds under the standing deposit facility (SDF) averaged ₹0.83 lakh crore during December 16, 2024 to January 14, 2025, same as during the previous month. The co-existence of deficit liquidity conditions and funds deployed in the SDF is indicative of skewed distribution of liquidity in the banking system. Furthermore, banks appear to be availing liquidity from the RBI but not onlending to money markets. Banks' daily average recourse to the MSF at ₹0.10 lakh crore during this period included a nearly three-month high access at ₹44,652 crore on a single day (January 8, 2025).

The weighted average call rate (WACR) – the operating target of monetary policy – hovered close to the ceiling of the LAF corridor (MSF rate) during the second half of December and early January with occasional breaches. This is partly attributed to lower lending volumes in the call money market on account of the unwillingness of banks to onlend in uncollateralised lending at the quarter end. In early January, the WACR reverted closer to the policy repo rate as liquidity conditions eased before firming up again in the second week. Overall, the spread of the

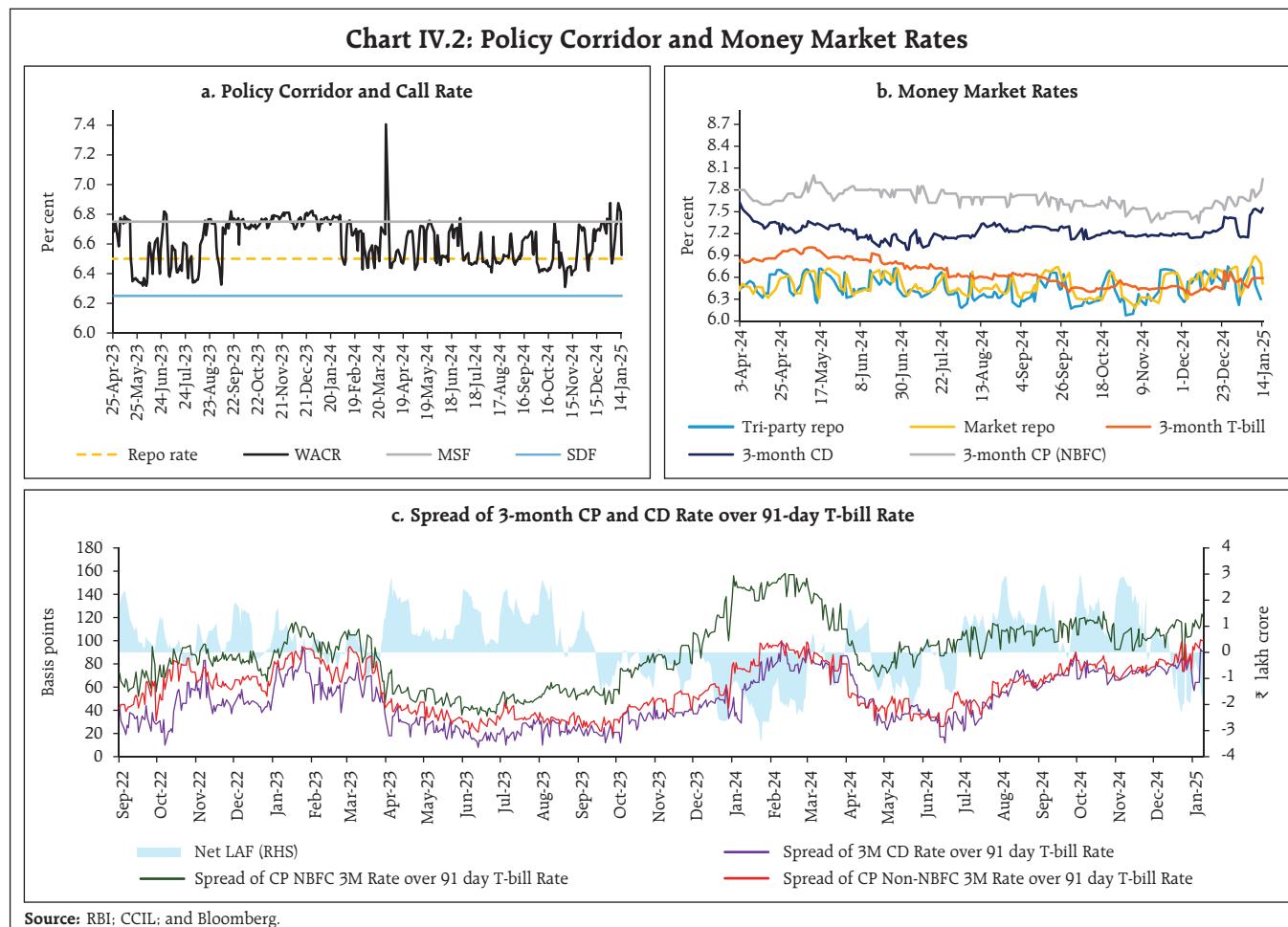
WACR over the policy repo rate averaged 20 bps during December 16 and January 14, 2025, as compared with 10 bps during November 16 – December 15, 2024 (Chart IV.2a).

Across the term money market segment, rates remained elevated, with yields on 3-month treasury bills (T-bills), certificates of deposit (CDs) and 3-month commercial papers (CPs) issued by non-banking financial companies (NBFCs) averaging 6.54 per cent, 7.34 per cent and 7.67 per cent, respectively, during December 16, 2024 - January 14, 2025, up from 6.44 per cent, 7.18 per cent and 7.47 per cent, respectively, during November 16 - December 15, 2024 (Chart IV.2b). The average risk premia in the money market (3-month CP minus 91-day T-bill) remained high at 113 bps during the current period up from 103 bps during November 16 – December 15, 2024.

On a y-o-y basis, however, the spread of 3-month CPs (NBFC) over the 91-day T-bill rate stood at 118 bps during January 2025 (up to January 14), lower than 147 bps a year ago. The spread of the 3-month CD rate over the 91-day T-bill rate stood at 81 bps (up to January 14) compared to 47 bps a year ago as system liquidity conditions turned into deficit after five months of surplus (Chart IV.2c). Although the spreads tend to rise during periods of deficit liquidity, they have declined for CPs.

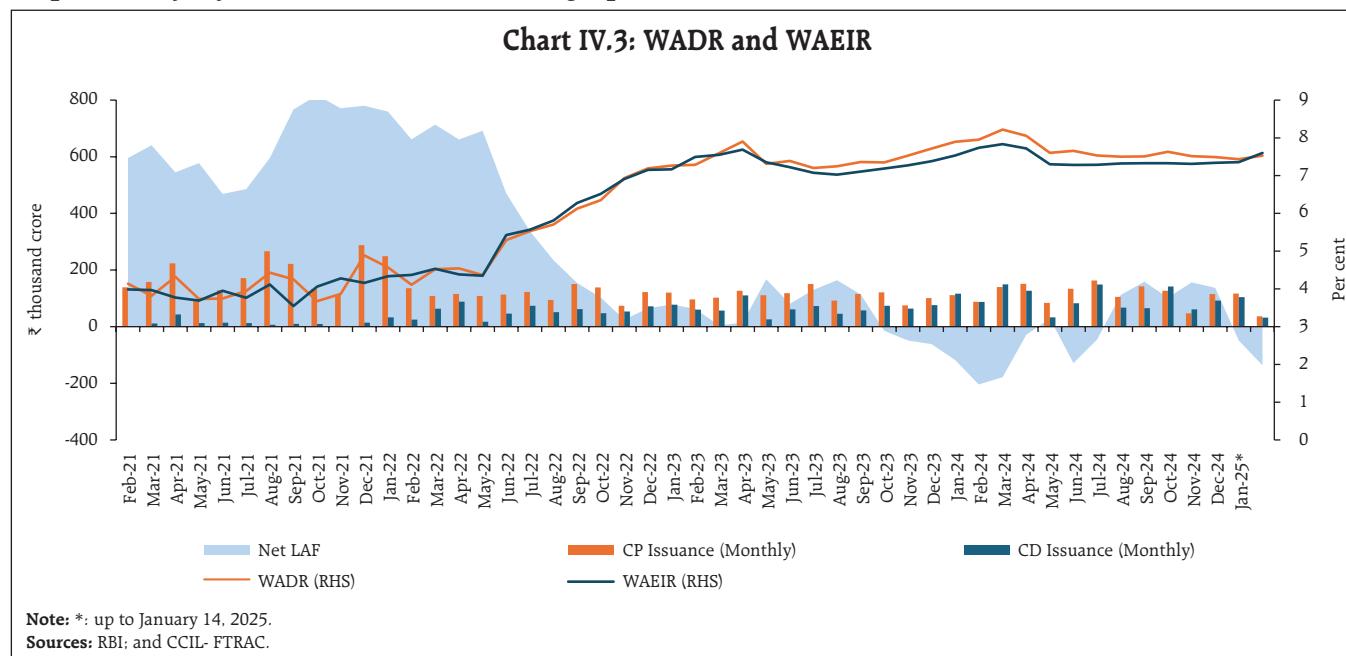
The weighted average discount rate (WADR) of CPs stood at 7.53 per cent in January 2025 (up to January 14), lower than 7.67 per cent during the corresponding period of the previous year (Chart IV.3). Also, the weighted average effective interest rate (WAEIR) of CDs softened to 7.60 per cent (up to January 14) from 7.63 per cent a year ago as the gap between credit and deposit growth narrowed.

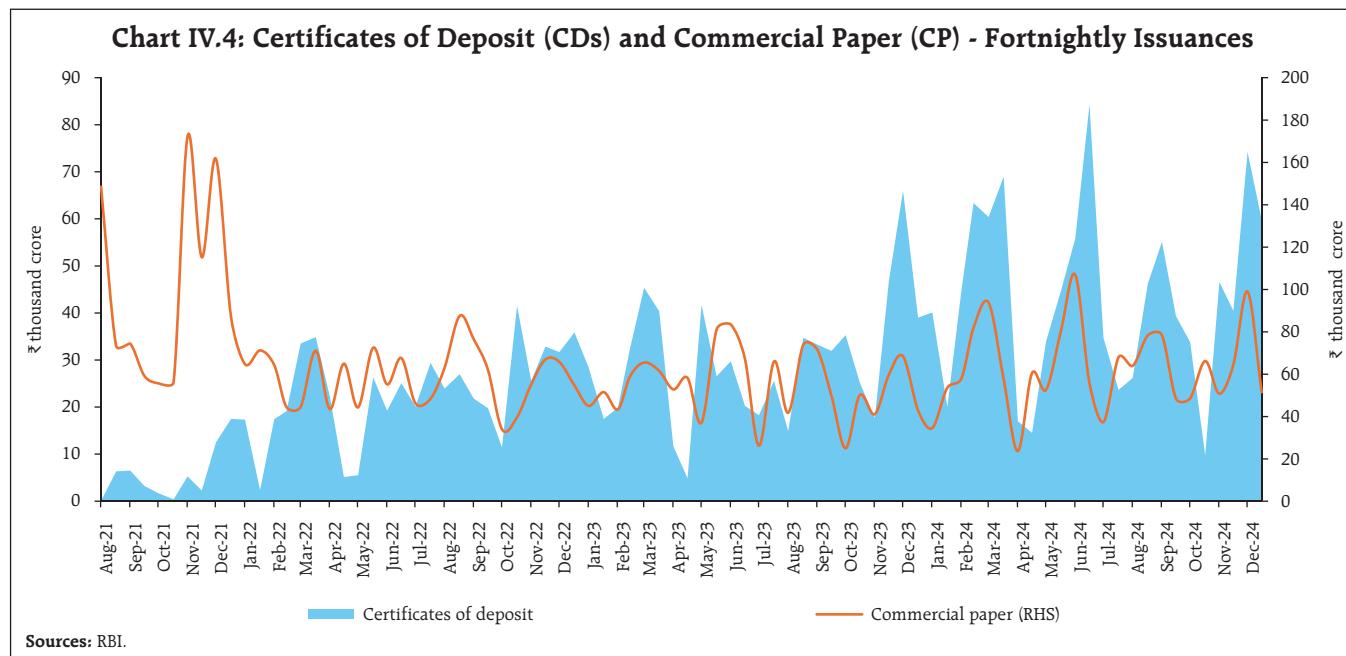
¹⁷ The auction amount will be decided by the Reserve Bank, based on assessment of the liquidity conditions. The first such auction was conducted on January 16, 2025 for an amount of ₹50,000 crore.



In the primary market, issuances of CDs grew by 47 per cent (y-o-y) to ₹8.22 lakh crore during April–

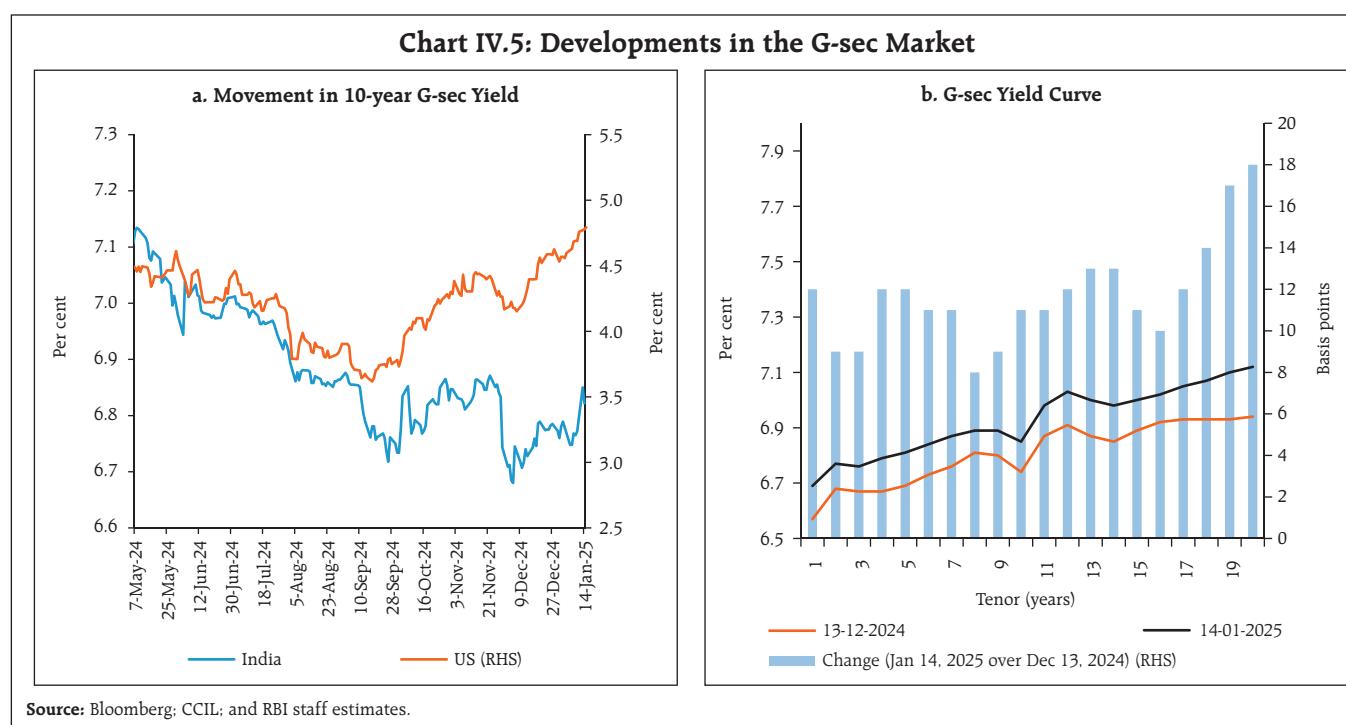
December 2024, significantly higher than ₹5.61 lakh crore in the corresponding period of the previous





year (Chart IV.4). Similarly, CP issuances stood at ₹11.35 lakh crore during 2024–25 (up to December), up from ₹9.96 lakh crore during the corresponding period of the previous year.

The yield on the 10-year G-sec benchmark increased to 6.86 per cent on January 14, 2025, from 6.77 per cent on December 13, 2024. This marginal uptick was driven by a surge in US treasury yields and increasing crude oil prices (Chart IV.5a). The



yield curve shifted upward across the tenor. Between December 16, 2024, and January 14, 2025, the average term spread (10-year G-sec yield minus 91-day T-bills yield) narrowed to 27 bps (Chart IV.5b).

The spread of the 10-year Indian G-sec yield over the 10-year US bond fell to 203 bps as on January 14, 2025 from 324 bps in mid-September and 317 bps a year ago. Domestic bond yields, which had reached a three-year low in early December, increased thereafter in line with hardening US bond yields.

Foreign portfolio investment (FPI) flows to domestic debt instruments recorded outflows in January 2025 (as on January 14th). The volatility of yields in the Indian bond market remains low relative to US treasuries though uncertainty regarding the incoming US administration's stance on tariffs, tax cuts and deregulation persists on global bond markets (Chart IV.6).

Corporate bonds issuances were higher at ₹6.1 lakh crore during 2024-25 (up to November) than ₹5.0 lakh crore a year ago. Corporate bond yields and associated risk premia increased across ratings and

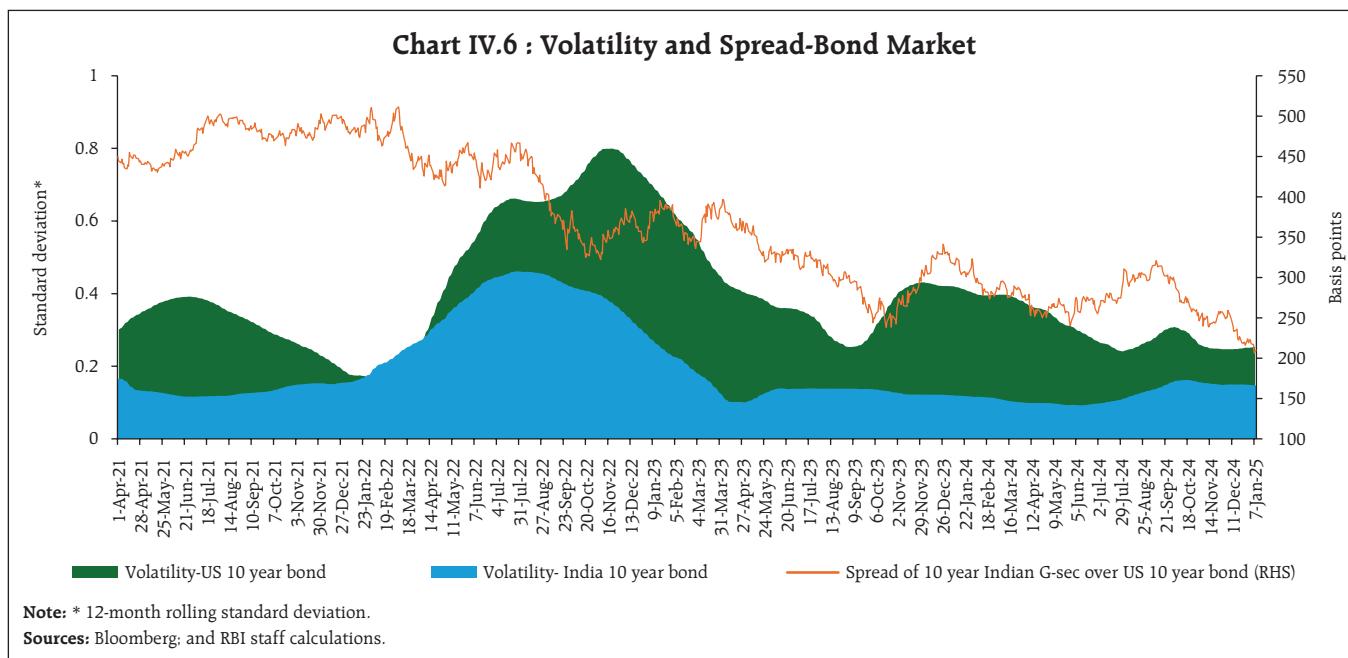
tenor spectrums during December 16, 2024 - January 13, 2025 (Table IV.1).

Reserve money (RM), excluding the first-round impact of change in the cash reserve ratio (CRR), recorded a growth of 7.2 per cent (y-o-y) as on January 10, 2025 (6.3 per cent a year ago) [Chart IV.7]. Growth in currency in circulation (CiC), the largest component of RM, stood at 5.3 per cent (y-o-y) as on January 10, 2025 as compared with 3.9 per cent a year ago.

On the sources side (assets), net foreign assets (NFA) of the Reserve Bank increased by 4.9 per cent (y-o-y) as on January 10, 2025. Gold – a major component of NFA – grew by 49.0 per cent, mainly due to revaluation gains (Chart IV.8). Consequently, the share of gold in NFA increased from 8.1 per cent as at end-October 2023 to 11.2 per cent as on January 10, 2025.

Money supply (M_3) rose by 9.3 per cent (y-o-y) as on December 27, 2024 (11.0 per cent a year ago).¹⁸ Aggregate deposits with banks, accounting for around 86 per cent of M_3 , increased by 9.7 per cent (12.0 per cent a year ago). Scheduled commercial

Chart IV.6 : Volatility and Spread-Bond Market



¹⁸ Excluding the impact of the merger of a non-bank with a bank (with effect from July 1, 2023).

Table IV.1: Financial Markets - Rates and Spread

Instrument	Interest Rates (per cent)			Spread (basis points)		
	Nov 16, 2024 – Dec 15, 2024	Dec 16, 2024 – Jan 13, 2025	Variation	Nov 16, 2024 – Dec 15, 2024	Dec 16, 2024 – Jan 13, 2025	Variation
1	2	3	(4 = 3-2)	5	6	(7 = 6-5)
Corporate Bonds						
(i) AAA (1-year)	7.82	7.89	7	114	115	1
(ii) AAA (3-year)	7.68	7.75	7	88	93	5
(iii) AAA (5-year)	7.60	7.64	4	75	79	4
(iv) AA (3-year)	8.47	8.52	5	167	170	3
(v) BBB- (3-year)	12.12	12.19	7	532	536	4

Note: Yields and spreads are computed as averages for the respective periods.

Sources: FIMMDA; and Bloomberg.

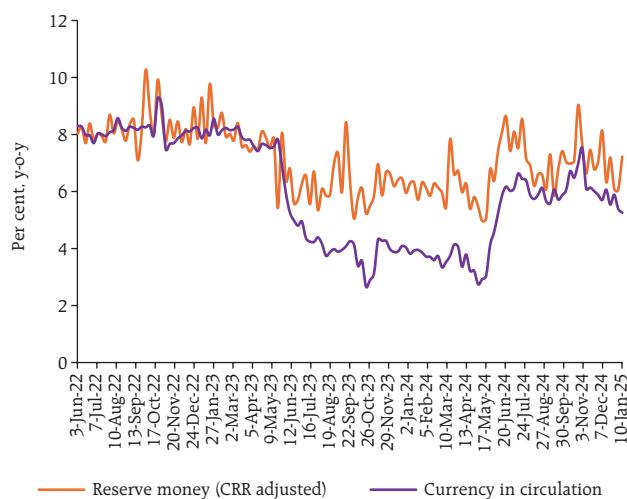
banks' (SCBs') credit growth moderated to 12.4 per cent as on December 27, 2024 from 15.6 per cent a year ago (Chart IV.9).

SCBs' deposit growth (excluding the impact of the merger) stood at 10.2 per cent as on December 27, 2024 (12.6 per cent a year ago) [Chart IV.10].

As on December 27, 2024 the system level incremental credit-deposit ratio stood at 94.4 per cent (Chart IV.11). With the statutory requirements for CRR and statutory liquidity ratio (SLR) at 4.25

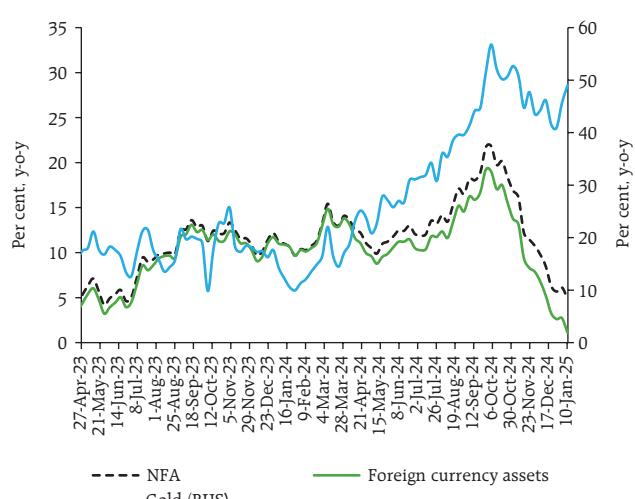
per cent and 18 per cent, respectively, 77 per cent of deposits were available with the banking system for credit expansion as on December 27, 2024.

In response to the 250 basis points (bps) increase in the policy repo rate since May 2022, banks have revised their repo linked external benchmark-based lending rates (EBLRs) up by a similar magnitude. The 1-year median marginal cost of funds-based lending rate (MCLR) increased by 175 bps during May 2022 to December 2024. Consequently, the

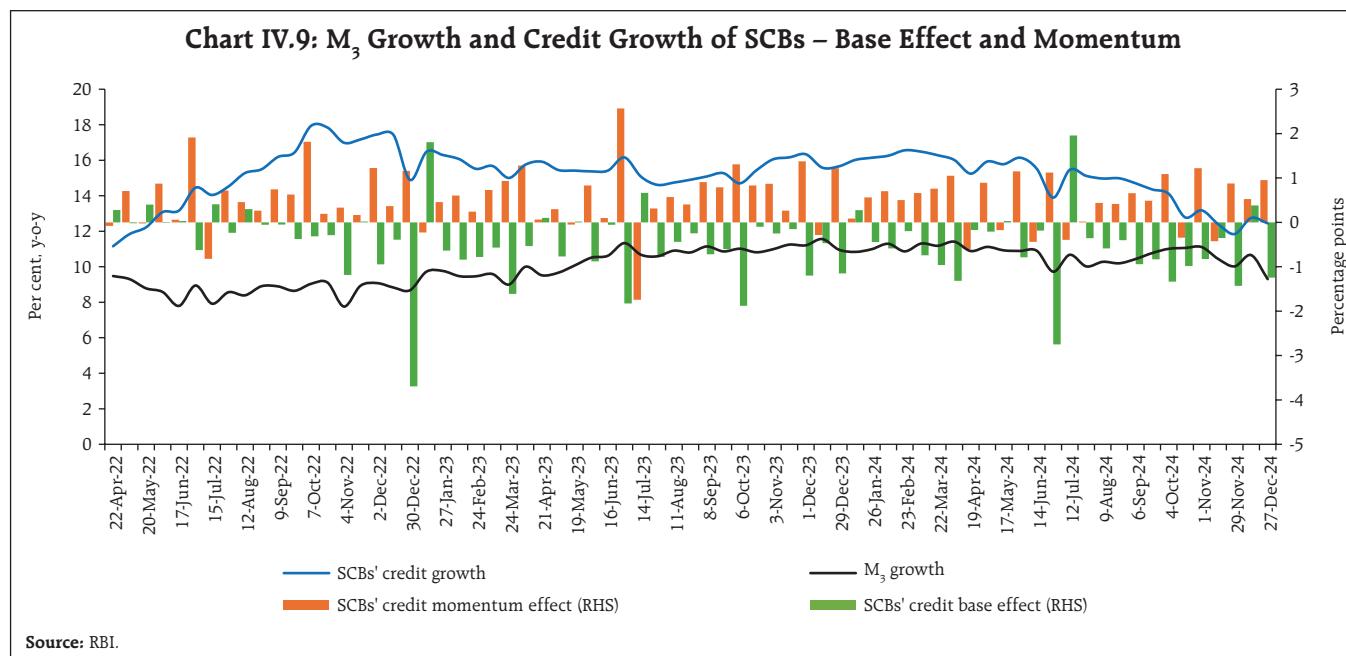
Chart IV.7: Growth in Reserve Money and Currency in Circulation

Note: Latest data for reserve money pertain to January 10, 2025.

Source: RBI.

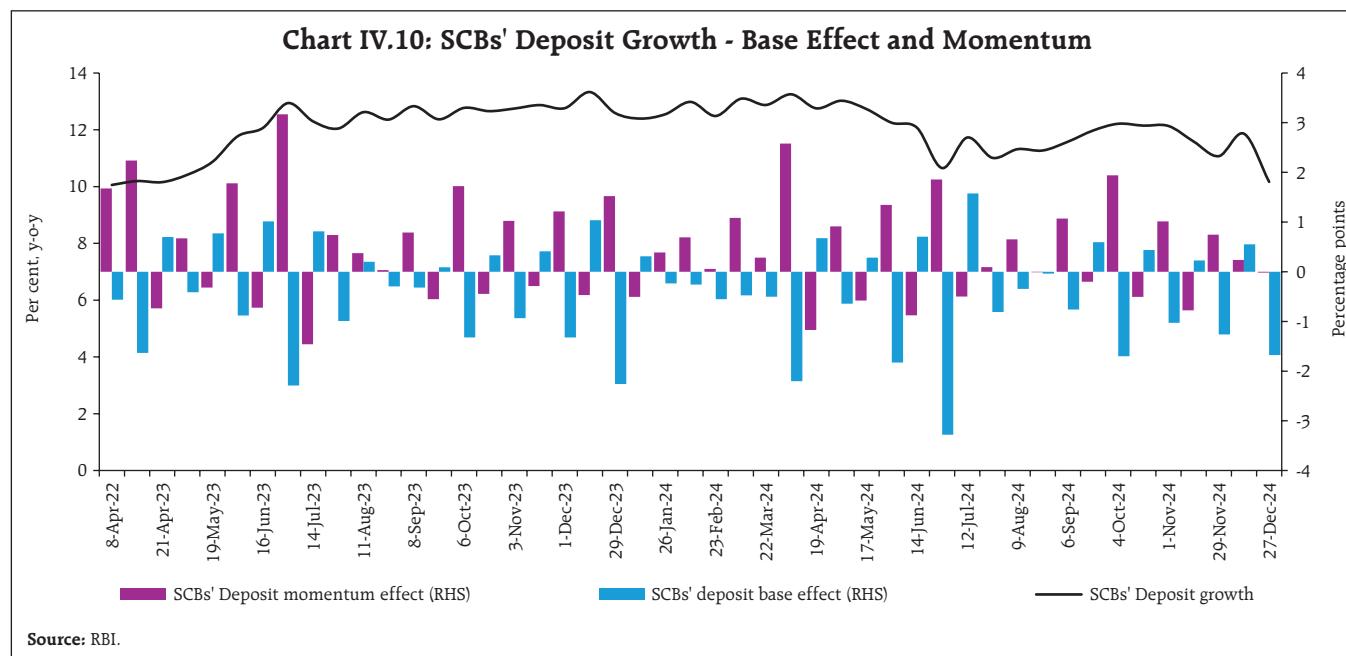
Chart IV.8: RBI's Net Foreign Exchange Assets (NFA) Growth

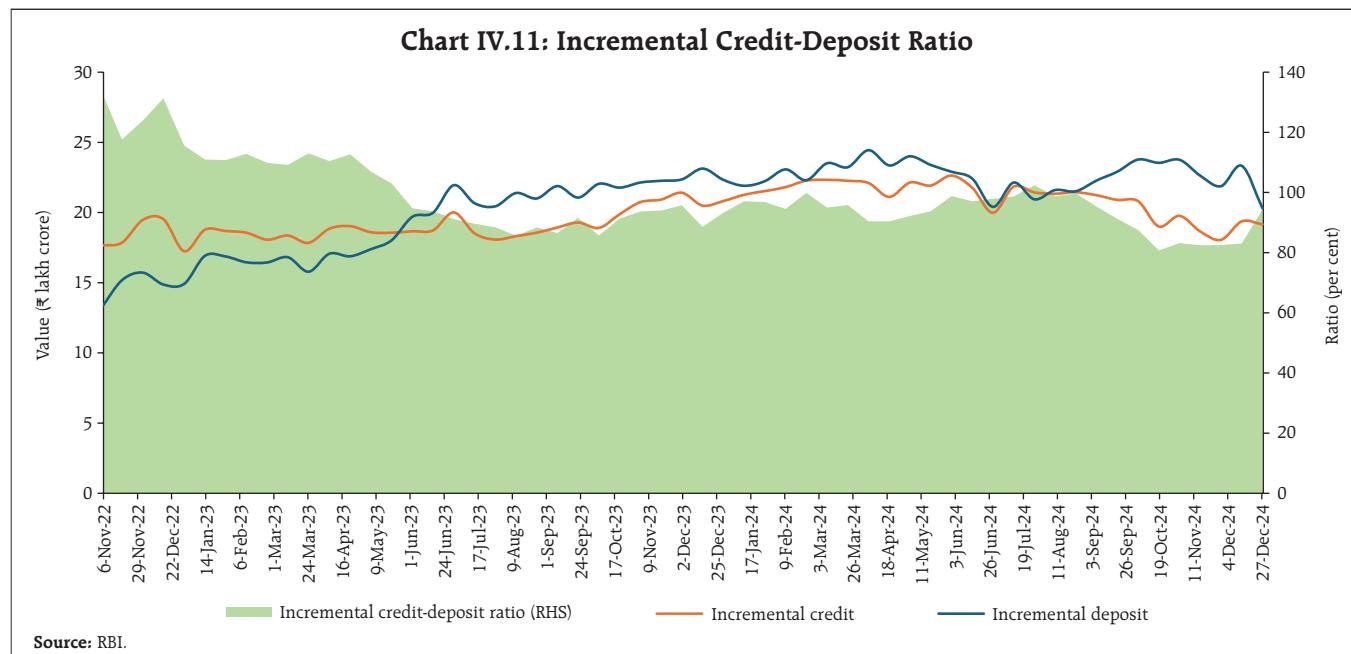
Source: RBI.



weighted average lending rates (WALRs) on fresh and outstanding rupee loans increased by 189 bps and 117 bps, respectively, during May 2022 to November 2024 (Table IV.2). On the deposit side, the weighted average domestic term deposit rates (WADTDRs) on fresh and outstanding deposits increased by 243 bps and 195 bps, respectively, during the same period.

Transmission across bank groups indicates that the increase in the WALR on fresh rupee loans was higher for public sector banks (PSBs) than private sector banks (PVBs). In the case of outstanding loans, however, the transmission for PSBs was lower. For deposits, transmission to WADTDRs in respect of both fresh and outstanding deposits was higher for





PSBs than for PVBs during May 2022 and November 2024 (Chart IV.12).

The Government of India has kept the interest rates on small savings instruments unchanged for Q4:2024-25.¹⁹ With the moderation in average G-sec yields of corresponding maturities, the rates on most of the instruments, except for public provident fund, are above the formula-based rates.

Indian equity markets faced fresh headwinds in the second half of December amidst a global selloff

triggered by changes in the US Fed's monetary policy outlook for 2025. Markets faced fresh turmoil on reports of a new virus outbreak in China. Overall, the BSE Sensex declined by 6.9 per cent since mid-December 2024 to close at 76,500 on January 14, 2025 (Chart IV.13).

For the calendar year 2024 as a whole, the benchmark index recorded an annual gain of 8.2 per cent, making it the ninth consecutive year of positive returns. The benchmark index was outperformed

Table IV.2: Transmission to Banks' Deposit and Lending Rates

(Variation in basis points)

Period	Repo Rate	Term Deposit Rates		Lending Rates			
		WADTDR-Fresh Deposits	WADTDR-Outstanding Deposits	EBLR	1-Yr. MCLR (Median)	WALR - Fresh Rupee Loans	WALR - Outstanding Rupee Loans
Easing Phase Feb 2019 to Mar 2022	-250	-259	-188	-250	-155	-232	-150
Tightening Period May 2022 to Nov* 2024	+250	243	195	250	175	189	117

Notes: Data on EBLR pertain to 32 domestic banks.

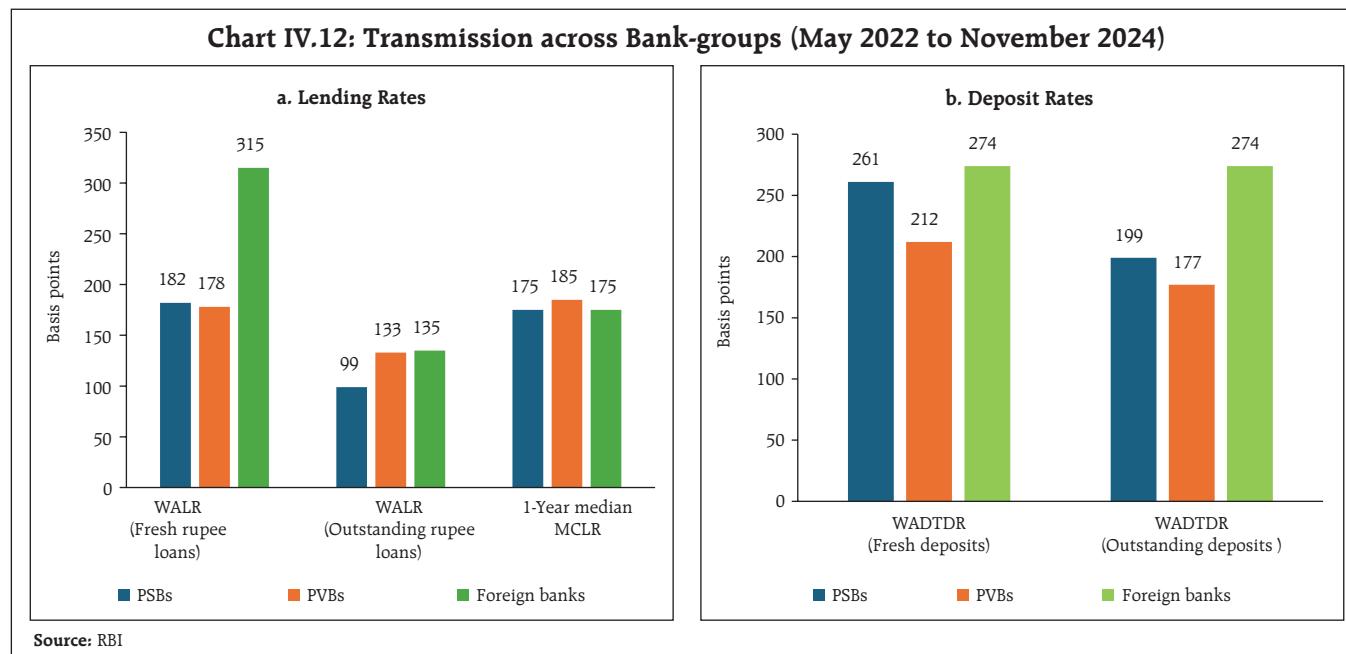
*: Data on EBLR and MCLR pertain to December 2024.

WALR: Weighted Average Lending Rate; **WADTDR:** Weighted Average Domestic Term Deposit Rate;

MCLR: Marginal Cost of Funds-based Lending Rate; **EBLR:** External Benchmark-based Lending Rate.

Source: RBI.

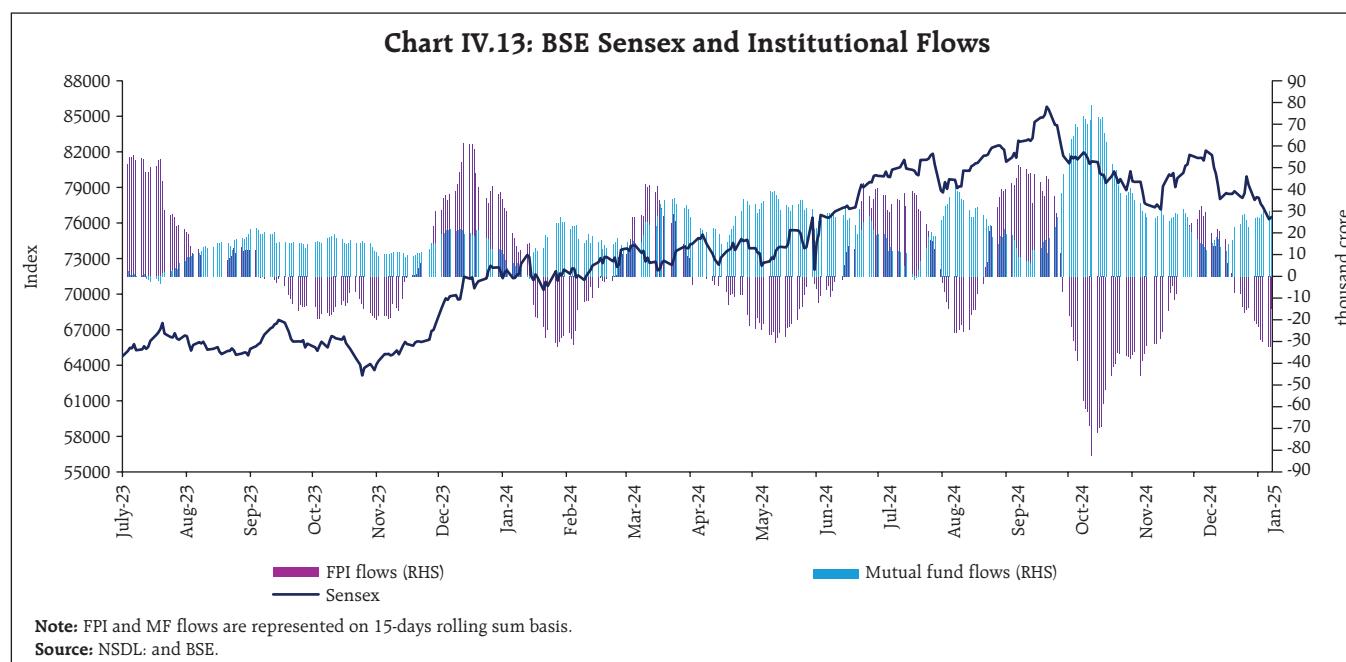
¹⁹ https://dea.gov.in/sites/default/files/RoI_Q4.pdf



with a wide margin as the BSE MidCap and BSE SmallCap gained 26.1 per cent and 29.3 per cent, respectively. Among sectors, healthcare and realty registered the maximum gains (Chart IV.14).

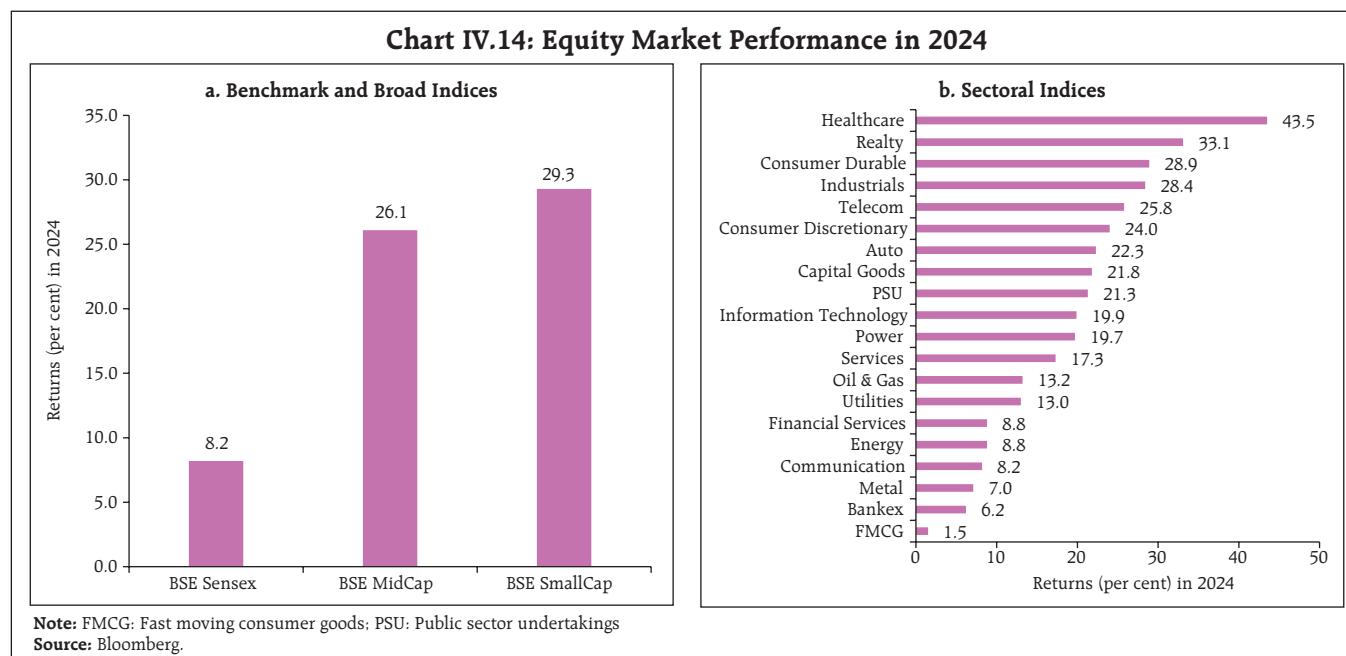
Domestic capital markets deepened further in 2024, marked by a rise in turnover, size, and investor participation (Table IV.3).

Primary markets closed the year strongly, with 34 firms raising ₹26,973 crore through initial public offerings (IPOs) in December 2024.²⁰ India has claimed number one position globally in IPO volumes, listing almost twice as many IPOs as the US and more than two-and-a-half times as many as Europe.²¹



²⁰ As per data from PrimeDatabase.

²¹ https://www.ey.com/en_gl/insights/ipo/trends



Gross inward FDI at US\$ 55.6 billion during April-November 2024 were higher than US\$ 47.2 billion from a year ago. Net FDI, however, declined to US\$ 0.5 billion during April-November 2024 from US\$ 8.5 billion a year ago, reflecting the rise in repatriation and net outward FDI (Chart IV.15). Gross FDI inflows remained concentrated in manufacturing, financial services, electricity and other energy, and retail and communication services sectors, which together accounted for more than 60 per cent of the flows. Source wise, Singapore, Mauritius, the UAE, the Netherlands, and the US account for more than 75 per cent of the flows during the period.

FPI flows turned positive in December 2024 after two months but remained volatile on account of a higher US dollar and treasury/bond yields. Net FPI inflows of US\$ 1.8 billion were recorded in December, with inflows in equity and debt segments taken together (Chart IV.16a). Global uncertainties and elevated domestic valuations resulted in net outflows of US\$ 11.6 billion during Q3:2024-25, offsetting the net inflows of US\$ 20.1 billion recorded during H1:2024-25. Similar trends of muted FPI performance were observed across most peer economies during the current financial year (Chart IV.16b). During January 2025 (up to January 13), FPIs recorded a net outflow of US\$ 3.4 billion.

Table IV.3: Capital Markets in 2024

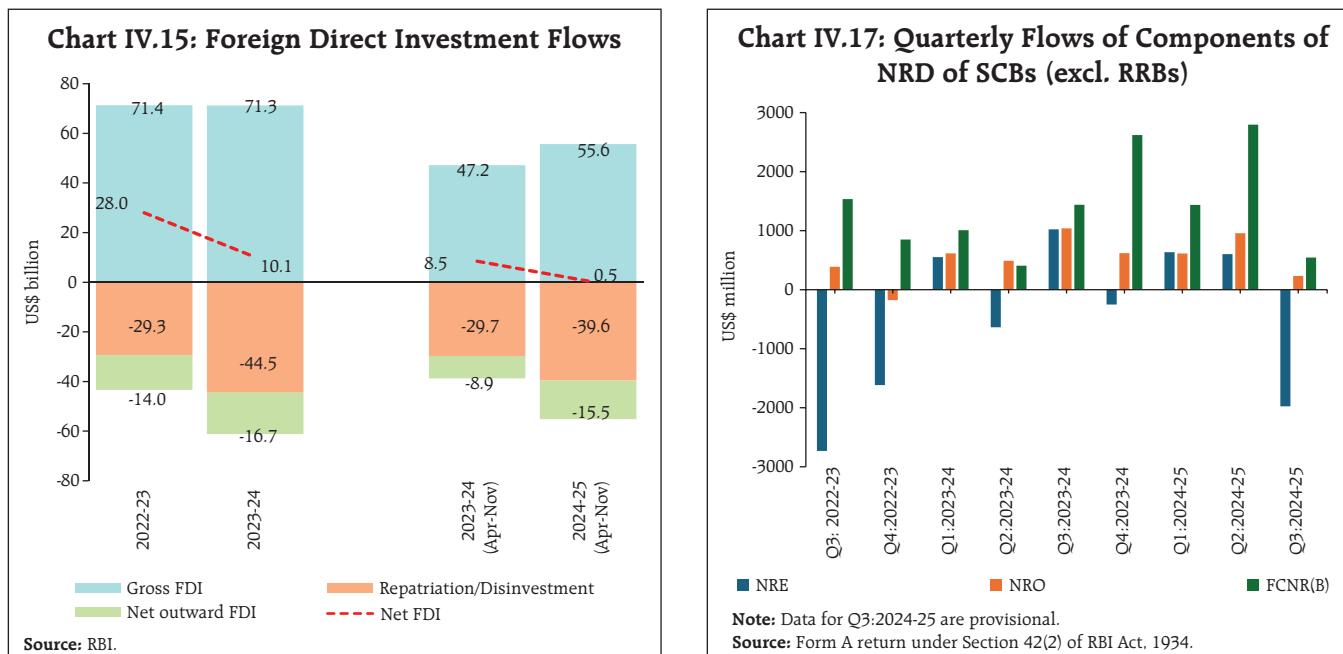
(₹ crore, except demat accounts which is in crore and retail direct accounts)

	2023	2024	Per cent change
Average Monthly SIP Contribution	15,312	22,360	46.0
Number of Demat Accounts (end-period)	13.9	18.5	33.0
Market Capitalisation of BSE (end-period)	3,64,28,846	4,41,95,106	21.3
Asset under Management of Mutual Funds (end-period)	50,77,900	66,93,032	31.8
Equity Derivatives Turnover	7,23,15,81,303	11,56,16,28,457	59.9
Cash Market Turnover	1,75,87,721	3,12,18,920	77.5
Total Accounts opened on RBI's Retail-Direct platform (end-period)	1,09,212#	1,98,615	81.9

Notes: Data is on calendar year basis; #: As of January 1, 2024.

Equity derivatives and cash market turnover pertain to both BSE and NSE combined.

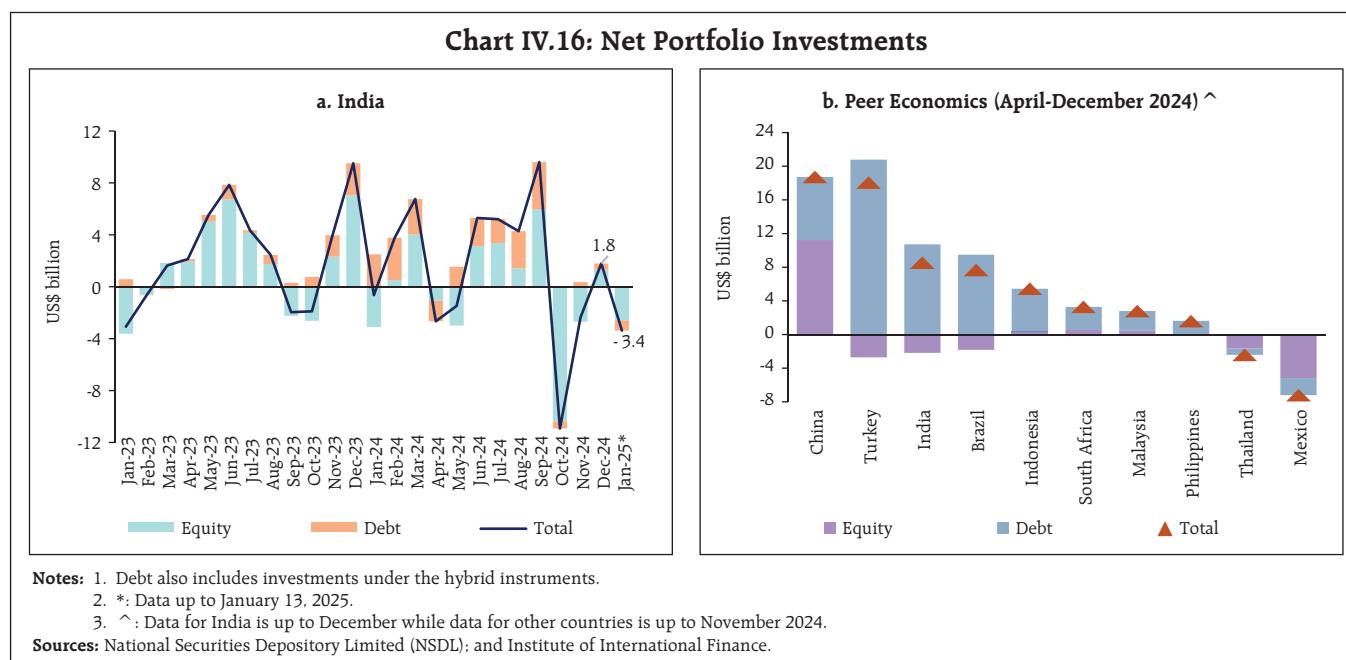
Sources: SEBI, NSE, BSE, AMFI and RBI staff calculations.



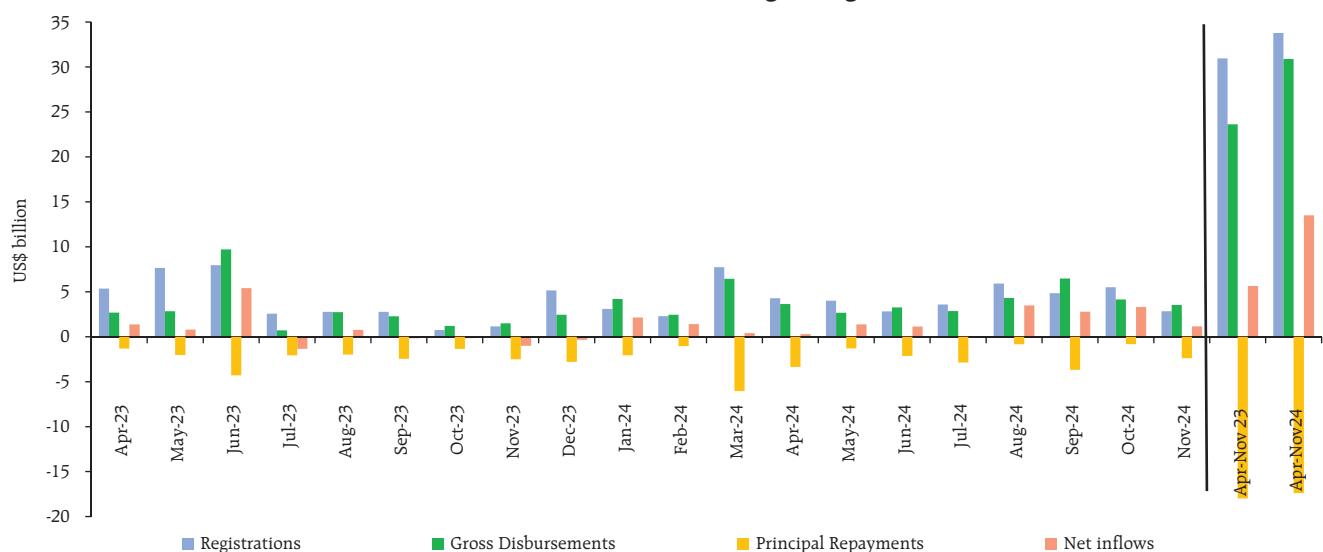
Net inflows under non-resident deposits (NRD) rose to US\$ 12.6 billion during April-November 2024 from US\$ 7.3 billion a year ago. Quarterly data for SCBs (excluding RRBs) showed that robust inflows were recorded in H1:2024-25 in all three accounts namely, Foreign Currency Non-Resident (Banks) [FCNR(B)], Non-Resident (External) Rupee Accounts [NR(E)RA]

and Non-Resident Ordinary (NRO) accounts. The flow of deposits in Non-Resident External Rupee Account (NRE) was negative in the third quarter of 2024-25 (Chart IV.17).²²

On a cumulative basis, external commercial borrowing (ECB) registrations (US\$ 33.8 billion) as well as disbursements (US\$ 30.9 billion) during April



²² Negative flows were recorded for SCBs excluding Regional Rural Banks.

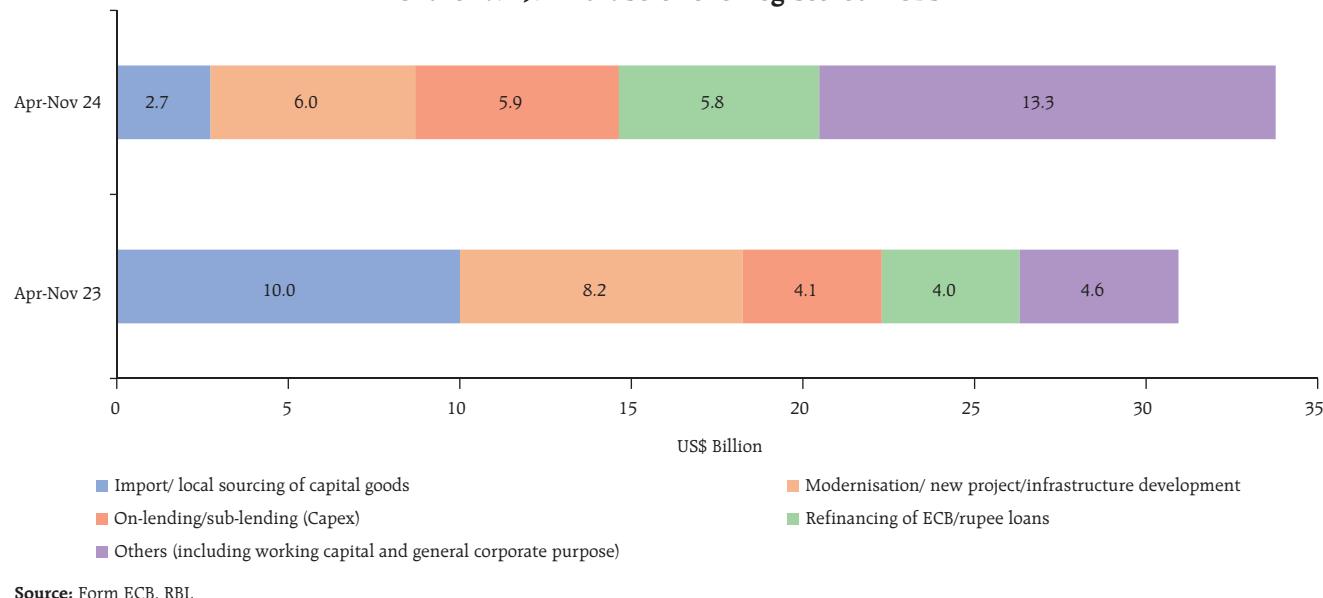
Chart IV.18: External Commercial Borrowings - Registrations and Flows

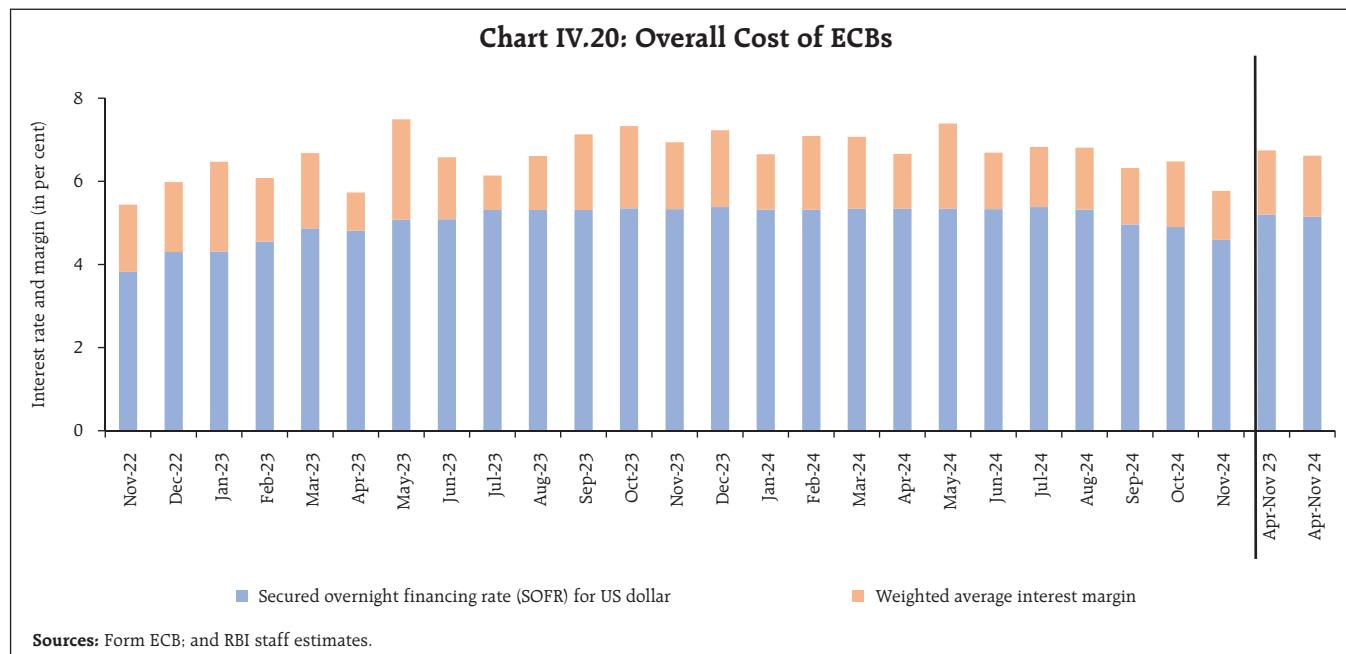
– November 2024 were higher in comparison with the corresponding period last year. Adjusting for ECB outflows on account of principal repayment of US\$ 17.4 billion, net ECB inflows (US\$ 13.5 billion) during the current financial year was more than double than a year ago (US\$ 5.6 billion) [Chart IV.18].

Over 40 per cent of the total ECBs registered during April – November 2024 were related to capital

expenditure, including on-lending and sub-lending (Chart IV.19).

The overall cost of new ECBs raised during November 2024 declined by 71 bps (m-o-m) to 5.8 per cent due to decrease in both global benchmark rates such as Secured Overnight Financing Rate (SOFR) as well as weighted average interest margin (WAIM). The overall cost of ECBs registered during the current

Chart IV.19: End-use of the Registered ECBs



financial year so far (April- November 2024) declined by 12 bps to 6.6 per cent y-o-y (Chart IV.20).

The strengthening US dollar exerted depreciating pressures on EME currencies in December 2024, leading to a depreciation of 0.7 per cent (m-o-m) in the Indian rupee (INR) during December 2024 (Chart IV.21). Nevertheless, the INR remained one of the least volatile major currencies during the month.

The INR depreciated by 0.9 per cent (m-o-m) in terms of the 40-currency real effective exchange rate (REER) in December 2024, majorly on account of negative relative price differentials (Chart IV.22).

India's foreign exchange reserves stood at US\$ 634.6 billion as on January 3, 2025, providing cover for about 11 months of imports or about 90 per cent of external debt outstanding at end-September

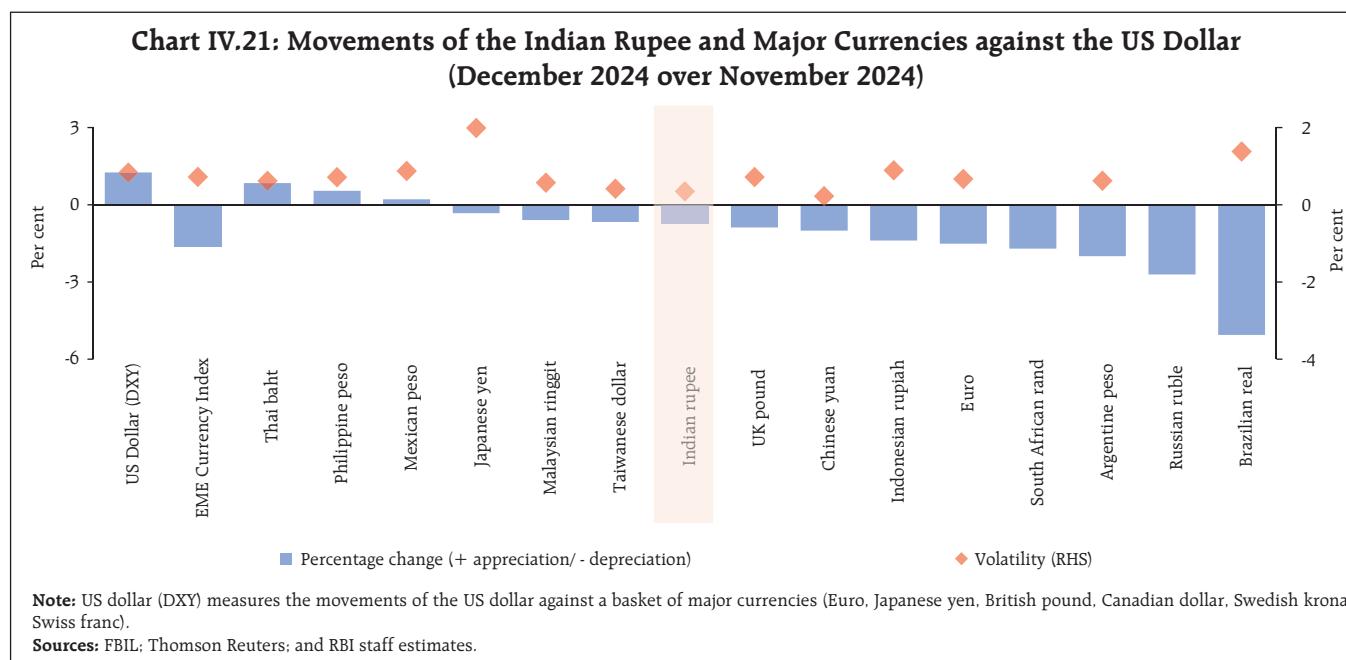
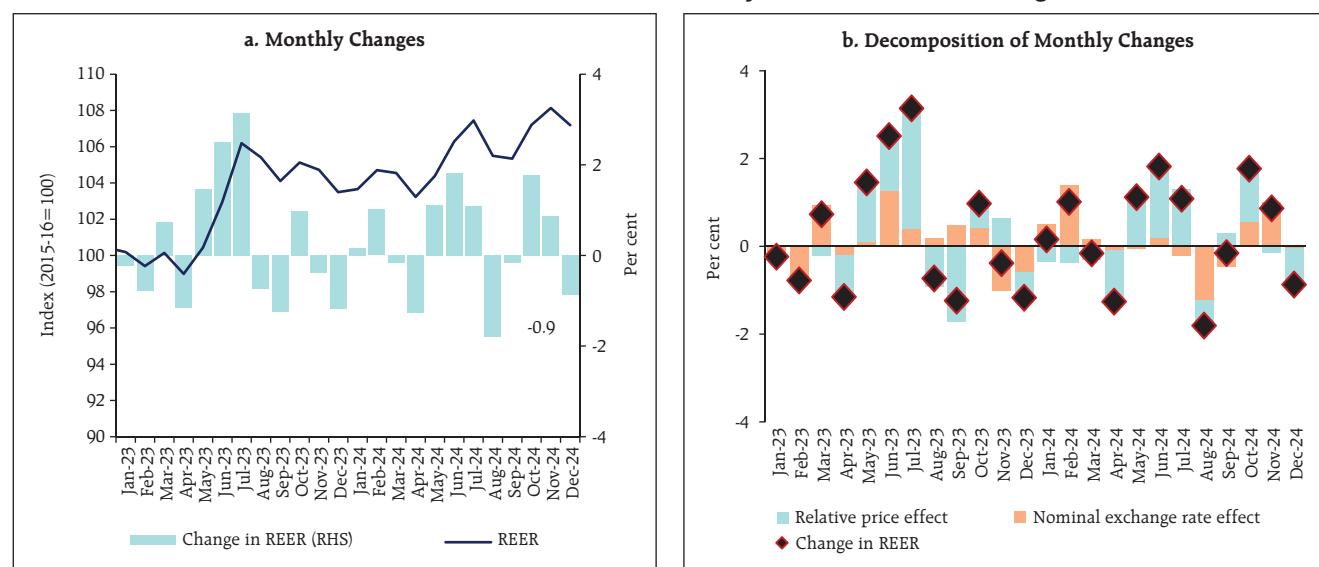


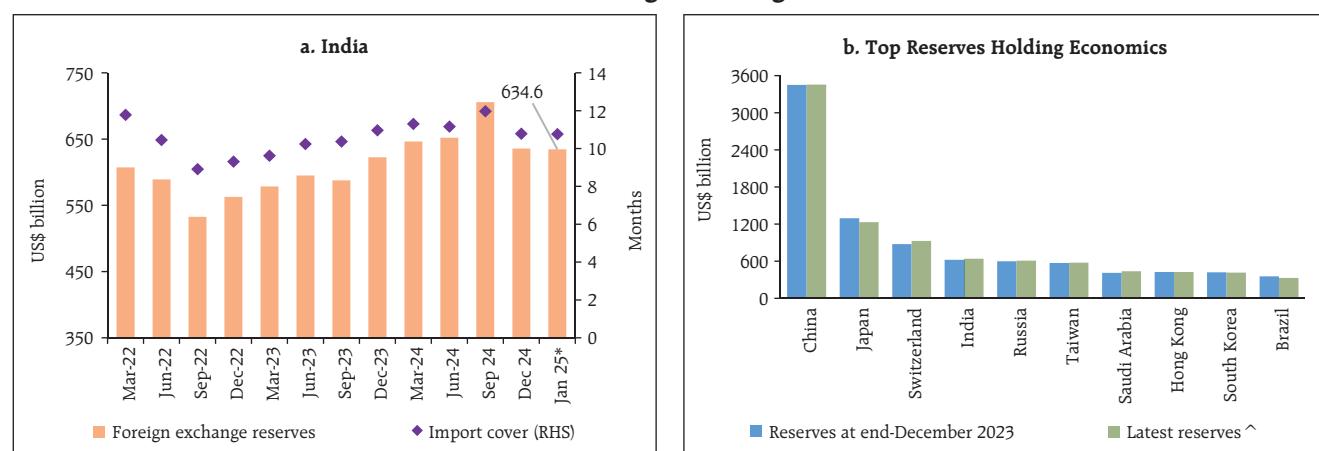
Chart IV.22: Movements in the 40-Currency Real Effective Exchange Rate

Source: RBI.

2024 (Chart IV.23a). India remains the fourth largest foreign exchange reserve holder in the world (Chart IV.23b).

India's current account deficit (CAD) declined to 1.2 per cent of GDP in Q2:2024-25 from 1.3 per cent of GDP a year ago (Q2:2023-24). Robust growth in services exports and remittance receipts cushioned

the effect of a widening merchandise trade deficit on CAD during Q2:2024-25. Net capital inflows exceeded CAD, with strong flows under FPIs, ECBs and non-resident deposits, leading to net accretion of foreign exchange reserves (excluding valuation effects) to the tune of US\$ 18.6 billion in Q2:2024-25 (Chart IV.24).

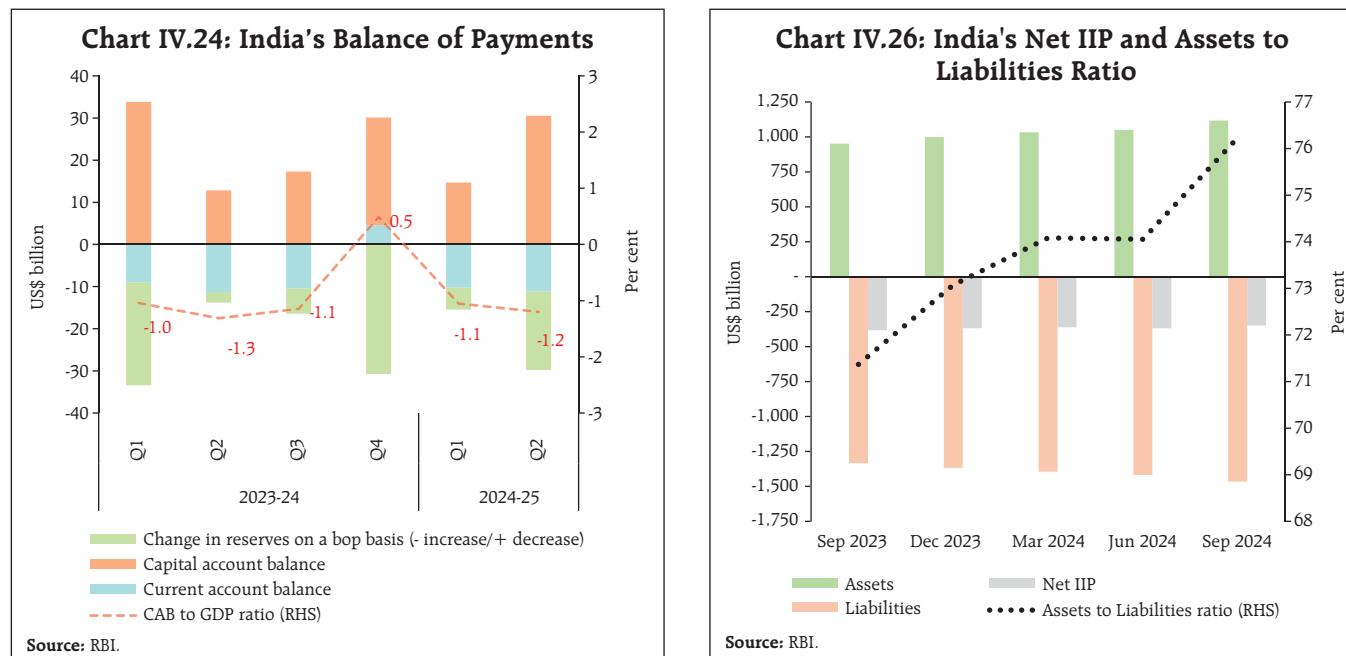
Chart IV.23: Foreign Exchange Reserves

Notes: 1. *: Data for January 3.

2. The import cover data for December 2024 and January 2025 is based on annualised merchandise imports for the quarter ending September 2024 as per the balance of payments statistics.

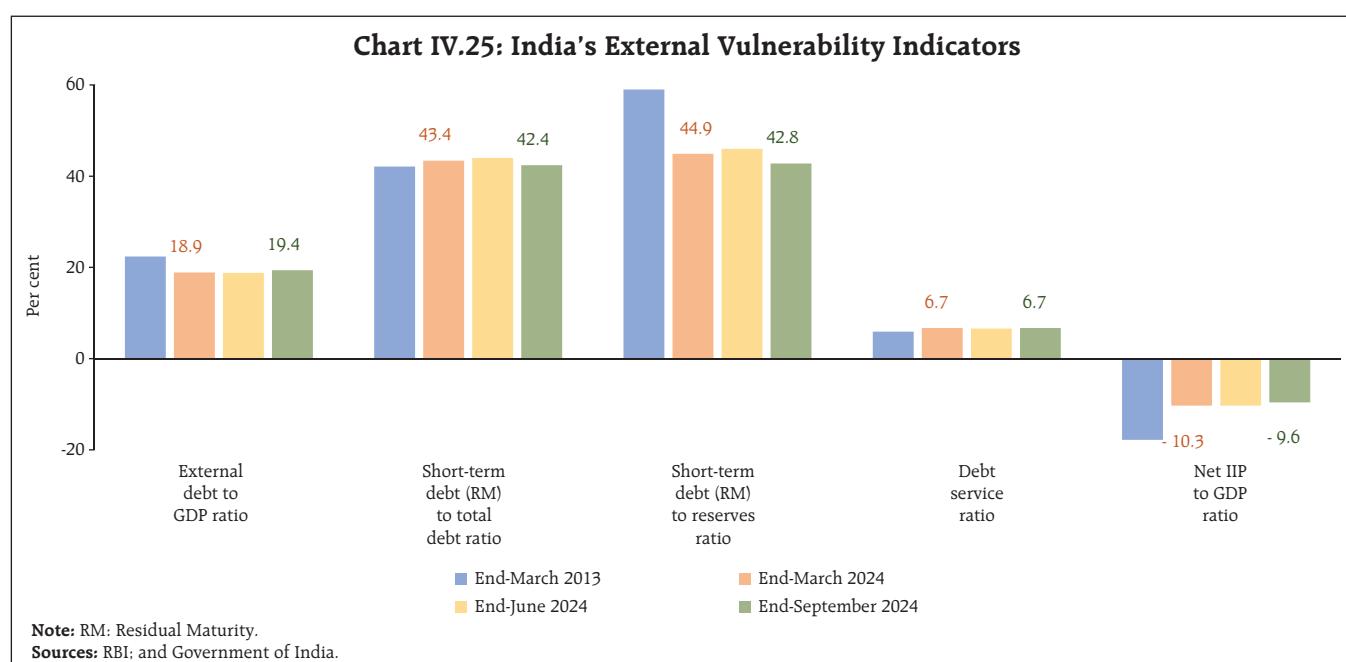
3. ^: Latest reserves for India and Russia is for January 3, 2025, end-November 2024 for Switzerland and Hong Kong, and end-December for other countries.

Sources: RBI; respective central bank websites; and RBI staff estimates.



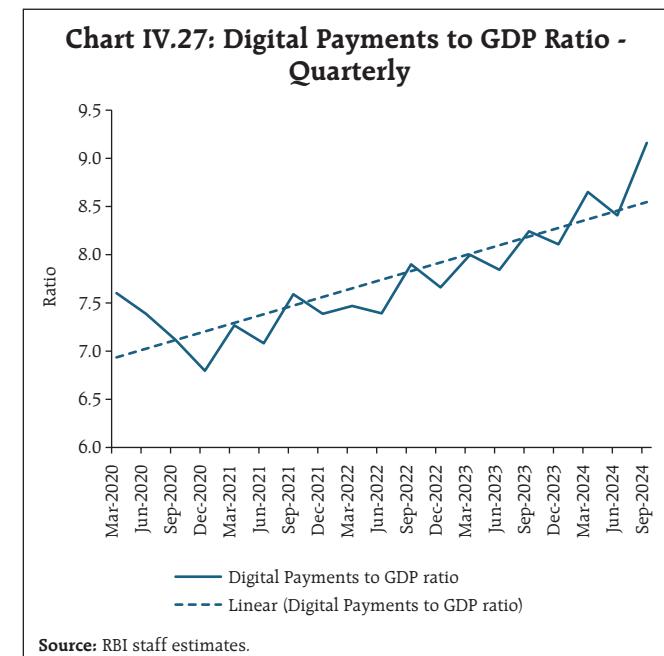
India's external debt stood at 19.4 per cent of GDP at end-September 2024 as compared with 18.9 per cent of GDP at end-March 2024. Other external sustainability indicators recorded an improvement during the same period, emphasising India's external sector resilience (Chart IV.25).

India's net international investment position (IIP) improved by US\$ 19.8 billion during Q2:2024-25 and stood at US\$ (-) 348.5 billion. Furthermore, the ratio of India's international assets to international liabilities improved to 76.2 per cent in September 2024 from 74.1 per cent a quarter ago (Chart IV.26).



Payment Systems

Digital payments have been steadily rising in the past few years, as reflected in the ratio of the value of digital payments to nominal GDP (Chart IV.27). In December 2024, digital transactions continued to grow across payment modes, driven by end year demand (Table IV.4). The growth in transaction values of Real Time Gross Settlement (RTGS) and National Electronic Funds Transfer (NEFT) nearly doubled sequentially. The Unified Payments Interface (UPI) showcased its scalability and reliability with a 100 per cent uptime and processing of 54 crore daily average transactions in December 2024 (up from 39 crore in December 2023). The Bharat Bill Payment System (BBPS) witnessed a massive surge in transactions, predominantly driven by credit cards, direct-to-home (DTH) and electricity bill payments. The volume of credit card bill payments grew nearly 21 times in November 2024 y-o-y. In value terms, it increased by 25 times. Consequently, the share of credit card payments in overall BBPS transactions rose to 62 per cent from 9 per cent in the same period a year ago. The National Electronic Toll Collection (NETC) has shown a consistent decline in the proportion of



dispute volumes under FASTags over the past year. The net chargeback ratio²³ reduced to 0.16 per cent in November 2024 from 0.22 per cent in November 2023²⁴, reflecting improved customer satisfaction with the payment method.

The growing adoption of digital services is also reflected in a 35 per cent rise in non-financial

Table IV.4 : Growth in Select Payment Systems

(y-o-y in per cent)

Payment System Indicators	Transaction Volume				Transaction Value			
	Nov-23	Nov-24	Dec-23	Dec-24	Nov-23	Nov-24	Dec-23	Dec-24
RTGS	6.2	9.6	7.1	13.8	10.6	9.1	15.7	20.6
NEFT	45.7	21.5	37.5	24.5	17.5	5.4	13.0	13.2
UPI	53.7	37.8	53.5	39.2	46.1	23.9	42.2	27.5
IMPS	1.9	-13.6	2.7	-11.6	17.7	4.4	17.2	5.5
NACH	65.9	-9.3	10.9	28.2	27.2	9.9	4.6	27.6
NETC	12.3	11.9	13.0	9.8	14.1	14.5	18.6	13.3
BBPS	29.5	88.8	25.7	95.4	66.7	266.4	77.4	260.0

Note: RTGS: Real Time Gross Settlement, NEFT: National Electronic Funds Transfer, UPI: Unified Payments Interface, IMPS: Immediate Payment Service, NACH: National Automated Clearing House, NETC: National Electronic Toll Collection, BBPS: Bharat Bill Payment System.
Source: RBI.

²³ Net chargeback ratio is computed as the ratio of total chargeback initiated on acquirer banks against their total transactions volume for the month. The aggregate ratio is based on data from 12 acquirer banks.

²⁴ <https://www.npci.org.in/what-we-do/netc-fastag/netc-dispute-statistics>

transactions²⁵, driven primarily by a near doubling of Aadhaar-enabled Payment System (AePS) tokenisation and an increase in BBPS bill requests.²⁶

In December 2024, the Reserve Bank decided to enable UPI payments from/to full-KYC Prepaid Payment Instruments (PPIs) through third-party UPI applications, allowing PPI users to make/receive payments through the mobile application of third-party UPI applications.²⁷ The introduction of the beneficiary bank account name look-up facility for RTGS and NEFT systems is expected to enhance customer experience. This feature allows customers to verify the name of the bank account before initiating a transfer, helping to avoid mistakes and prevent frauds.²⁸

V. Conclusion

The global economic outlook is one of steady growth in 2025 supported by lower but stubborn inflation which will likely taper expectations of the extent of monetary policy easing. Global financial conditions will remain constrained by public debt burdens and the unrelenting strength of the US dollar. Geopolitical tensions, volatile commodity prices, rising economic uncertainties could have a bearing on the trajectory of global growth during 2025.

India's economic growth is poised to rebound as domestic demand regains strength. Rural demand continues to gain momentum, reflecting a resilience in consumption, supported by brighter agricultural prospects. A revival in public capex on infrastructure is likely to stimulate growth in key sectors. Rising input cost pressures in the manufacturing sector, coupled with weather-related exigencies and global headwinds could, however, pose risks to this outlook.

2025 begins and the old order changes, yielding place to new. It will build loftier mansions, as the other departs, bidding *adieu*. The tumult and the clangour dies. The songs of spring are muted now, receding into the far distance in a *morendo*. The falcon's cries get fainter as it turns again and again in widening circles away from the falconer.

But winter has its music too - one last crescendo to rage against the dying of the light. This life we leave behind is like an arch through which the untraveled terrain of the future gleams to be followed like a lodestar and discovered. It shall be sought, to the utmost bounds of human thought and endeavour. "We may not be that strength that once moved earth and heaven, but that which we are, we are; strong in will to strive, to seek, to find, and not to yield."²⁹

²⁵ Non-financial transactions include transactions such as balance inquiry, mini statement, pin change using National Financial Switch Transactions over ATM, AEPS over Micro ATM, e-KYC verification, demographic queries, AEPS tokenisation, and BBPS bill fetch requests.

²⁶ Retail Payment Statistics NPCI, November 2024.

²⁷ RBI Notifications, December 27, 2024.

²⁸ RBI Notifications, December 30, 2024.

²⁹ Alfred Tennyson, Ulysses, in Poems, 1842

Measuring Monetary Policy Communication: The Indian Experience

by Michael Debabrata Patra, Shweta Kumari and Indranil Bhattacharyya ^

Applying natural language processing (NLP) techniques, this article finds that uncertainty induced by the pandemic and the Russia-Ukraine conflict led to longer monetary policy statements by the Governor in which reassurance was provided through confidence building words. While the overall duration of press conferences fluctuated, significant improvement in readability of transcripts was recorded over time. Market volatility on the policy announcement day remained range bound and similar to non-policy days. Intraday volatility appeared to pick up before the start of the Governor's statement, but it tapered off by the time of conclusion of the press conference.

Introduction

Since the turn of this century, central banks have shed their traditional reticence and constructive ambiguity to communicate more openly and clearly about monetary policy goals and strategies. The objective is to manage the public's expectations consistent with the policy stance as also to enhance accountability in the public eye. During the global financial crisis of 2008 and thereafter – especially during and after the pandemic – challenges such as the zero lower bound on interest rates and acute anxiety about the loss of life and livelihood and the recent inflation surge resulted in communication being elevated to the status of an instrument.

[^] The authors are from the Reserve Bank of India. The views expressed in this article are those of the authors and do not represent the views of the Reserve Bank of India. Shweta Kumari expresses her sincere gratitude to Dr. Sandhya Kuruganti and Dr. A R Jayaraman for guidance and acknowledges the technical assistance provided by Lokesh, Navya Singh, Kranti Ingole and Rishabh Salekar.

Monetary policy communication performed the role of an anchor in an ocean of fear and vast unknowns (Patra, 2024).

While the quantity of monetary policy communication has certainly increased, whether or not it has been effective in navigating the surrounding uncertainty and in engaging the public, thereby instilling public understanding, confidence and trust, remains an unsettled question. It has been pointed out that 95 per cent of monetary policy communication is not understood by 95 per cent of the people (Haldane, 2017). It is in this context that evaluating the quality of communication in terms of its clarity, ease of understanding and resonance with the shaping of public expectations assumes importance.

These issues assume relevance in India for a similar rationale. Accordingly, natural language processing (NLP) methodologies are being employed in the Reserve Bank of India since 2022 to assess the efficacy of monetary policy communication by extracting quantitative information from unstructured/semi-structured text heavy sources such as news articles, social media and formal documents. While NLP or text mining is similar to reading, these computer-enabled approaches can process and summarise far more text than a human reader can. Moreover, these tools can also extract meaning from text that is missed by the human eye, including due to 'blind spots' formed by prior beliefs and expectations (Bholat et al., 2015).

The first such effort in the RBI analysed resolutions of the monetary policy committee (MPC) using NLP methodologies during October 2016 to October 2023 which showed that inflation remained central to the discussions. During the pandemic (March 2020 to February 2022); liquidity and its distribution to pandemic hit entities and agents received central focus (RBI, 2024). With the

geopolitical crisis in 2022, inflation returned as the core topic (March 2022 to October 2023). This was complemented by a study that examined the tone of pandemic and post-pandemic monetary policy communication using a customised dictionary and assessing the impact of communication on overnight indexed swap rates (Kumari and Kuruganti, 2024).

This article extends these initial efforts and focuses on the Governor's monetary policy statement and the press conference that immediately follows, which provides a quick assessment of the impact of the statement on the wider public opinion for which the financial market acts as a proxy. It employs text modelling to these statements over the period 2019 to 2024, supplemented by an examination of the impact on financial markets in terms of daily market volatility as well as intraday volatility on the monetary policy day. Intraday market patterns are complemented by the analysis of press conferences in the context of confirmation, reconsideration or reinforcement of policy decisions.

The key findings are that uncertainty induced by the pandemic and the Russia-Ukraine conflict led to longer statements and reassurance was provided through confidence building words. While the overall period of press conferences fluctuated, significant improvement in readability of transcripts was recorded. Market volatility on the policy announcement day remained range bound. Intraday volatility appeared to pick up before the start of Governor's statement, but it tapered down quickly.

As for the rest of the article, Section II undertakes a focused survey of the select literature to draw out the underlying motivation of the article and the rationale underlying the choice of methodology which is presented in Section III. The results are set out in Section IV. Some policy perspectives that emerge from the analysis are given in Section V which concludes the article.

II. Gleanings from the Literature

State-of-the-art text-mining methodologies employed on conventional and unconventional monetary policies during the COVID-19 crisis suggest that central bank communications reflected considerable uncertainty and heterogeneity during the pandemic, over time and across communication types. Moreover, such communications were more reactive than during the global financial crisis (GFC) and the dot-com crisis (Benchimol *et al.*, 2021).

The clarity of central bank communication conditions the attention of journalists and social media users and, in turn, the wider public. The application of language complexity tools as a proxy for communication clarity (or lack of) shows that greater complexity is significantly correlated with lower levels of media coverage (Ferrara and Angino, 2022). Overall, communication clarity is found to be a significant and robust predictor of media engagement.

The hosting of post-policy press conferences has gained legitimacy across major central banks in which monetary policy decisions are explained in detail and journalists are given the opportunity to question top central bank officials. Analysing how financial markets perceive the explanations provided by central banks on monetary policy decisions in these press interactions shows that the information content is closely linked to the nature of the policy decision: the less a decision has been anticipated by the market, the stronger is the reaction to the introductory statement, suggesting that the statement contains relevant explanations for the reasons underlying the decision (Ehrmann and Fratzscher, 2009). Press conferences are found to have a larger effect on financial markets, on average, than the policy decisions. Question and answer (Q&A) sessions in press conferences are found to play a clarificatory role, in particular, during periods of large macroeconomic uncertainty.

Intraday trading data reveal that market volatility is more than three times higher during the press conferences of the current Fed Chair than during press conferences of his two immediate predecessors (Narain and Sangani, 2023). Press conferences since the beginning of Covid-19 are found to be largely responsible for the heightened volatility in the recent period. It is also observed during this period that the market tends to move in the opposite direction during press conferences *vis-a-vis* its movement following the publication of the FOMC statement. In contrast, press conferences during the previous two Fed Chairs tended to reinforce the market's initial reaction to the information released in the FOMC statement. Text analysis of the Q&A portions of the current Fed Chair's press conferences suggest that the choice of language is highly correlated with market movements.

III. Data and Methodology

In India, the MPC's resolutions and minutes are structured communication documents deliberating on the goal variables and strategies. By contrast, the Governor's statements are more flexible in terms of design and content coverage in the assessment of growth and inflation as well as other aspects such as liquidity and financial market conditions, external sector developments, financial stability as well as developmental and regulatory measures. During the period of study (2019 to 2024), 39 statements were delivered in all, with two statements made outside the MPC meeting cycle – one in April 2020 at the outbreak of the pandemic and another in May 2021 at the peak of the second wave. "Footnotes" represent a distinguishing feature of these statements, highlighting data-driven insights.

III.1 Governor's Statements

In pursuance of the central motivation of this article set out in Section I, specific words related to uncertainty and confidence in the Governor's statements have been identified and customised

dictionaries have been developed to capture the subtle nuances of narrative communication. While the uncertainty dictionary is influenced by the widely used uncertain wordlist (Loughran-McDonald, 2011), the confidence dictionary is constructed from the corpus of words found in the Governor's statements. Words such as *uncertain*, *volatile*, *unprecedented* and their variants are identified as words expressing uncertainty. On the contrary, confidence inspiring words include terms such as *watchful*, *calibrate*, *nimble*, *vigilant*, *resolute* and *proactive*.

As the size of statements varied over time, a normalised measure of uncertainty has been computed as the proportion of number of sentences containing uncertainty terms to total number of sentences during a particular period. The confidence index has been similarly derived, as specified below:

$$\text{Uncertainty Index} = \text{UN}_{i|t} = \frac{\sum_{j=1}^m S_{i|t}^j}{\sum_{i=1}^n S_{i|t}} * 100 \quad \dots (1)$$

$$\text{Confidence Index} = \text{CF}_{i|t} = \frac{\sum_{k=1}^p S_{i|t}^k}{\sum_{i=1}^n S_{i|t}} * 100 \quad \dots (2)$$

where,

$S_{i|t}$ is a sentence pertaining to topic "i" in the Governor's statement of period "t"

$S_{i|t}^j$ is a sentence with uncertainty term, pertaining to topic "i" in period "t"

$S_{i|t}^k$ is a sentence with confidence term, pertaining to topic "i" in period "t"

These normalised indices have been used for comparison across the various statements during the study period.

III.2 Press Conferences

The press conferences that follow the Governor's statements provide an avenue to elaborate and emphasise the considerations behind policy decisions, including 'surprises'. The Governor's statement is telecast from 10 am (IST). Two hours later – at around 12 pm (IST) – the press conference

is telecast live comprising (i) the Governor's opening remarks; and (ii) a question-and-answer session.

A key feature of the press conferences is ease of clarity and understanding, as gauged from readability scores of transcripts. Readability indicators are typically based on sentence size, word size and pronunciation aspects. Alternate indices viz., Automated Readability Index (ARI), Flesch-Kincaid grade level (FK) and Gunning-Fog index (GFI) are used for comparability and robustness checks. The indices vary in their computation; however, the interpretation remains similar *i.e.*, lower values of all these indices imply higher readability.

$$\text{ARI} = 4.71 * \left(\frac{\text{total characters}}{\text{total words}} \right) + 0.5 * \left(\frac{\text{total words}}{\text{total sentences}} \right) - 21.43 \quad (3)$$

$$\text{FK} = 11.8 * \left(\frac{\text{total syllables}}{\text{total words}} \right) + 0.39 * \left(\frac{\text{total words}}{\text{total sentences}} \right) - 15.59 \quad (4)$$

$$\text{GFI} = 0.4 \left[\left(\frac{\text{total words}}{\text{total sentences}} \right) + 100 * \left(\frac{\text{total complex words}}{\text{total words}} \right) \right] \quad (5)$$

where a complex word is defined as one with 3 or more syllables.

III.3 Financial Markets Volatility

In the first stage, market volatility on the monetary policy announcement day is examined

vis-à-vis non-monetary policy announcement days of the same month. India VIX of daily frequency is considered as a measure for market volatility. In the second stage, intraday patterns in the stock market are analysed in different time windows in terms of squared returns of the NIFTY 50 index in intervals of 5 minutes, as indicated below.

$$\text{Squared Return} = RT_{t|d} = [100 * (\ln N_{t|d} - \ln N_{t-5|d})]^2 \dots (6)$$

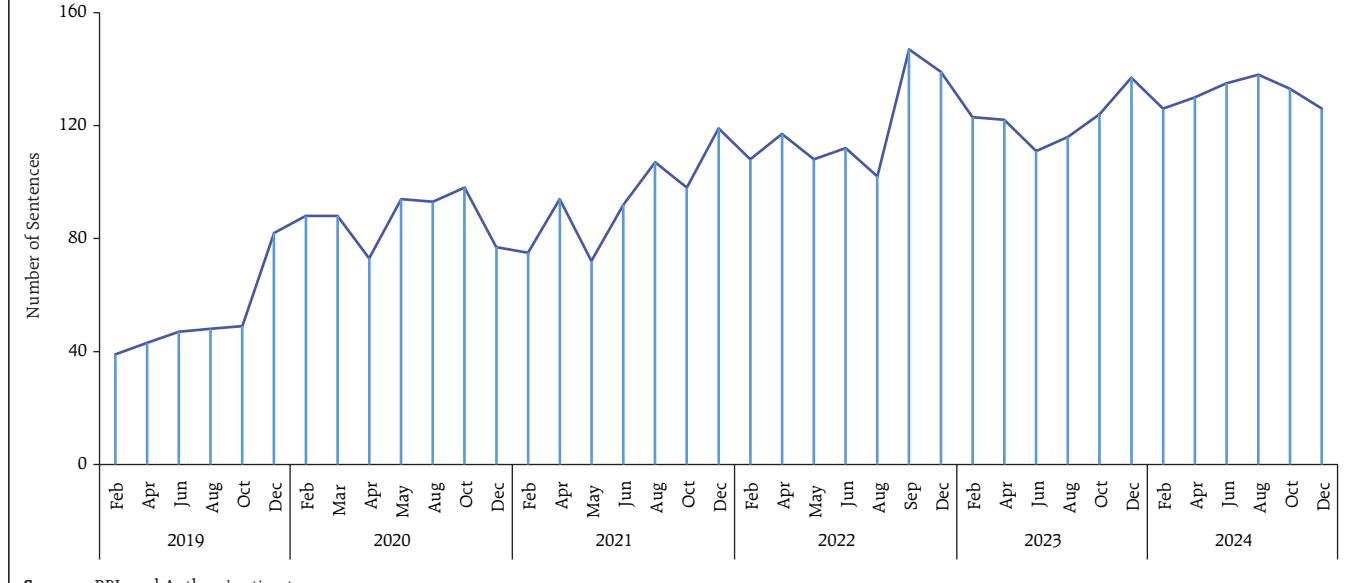
where $N_{t|d}$ indicates NIFTY50 index at minute "t" on monetary policy day "d".

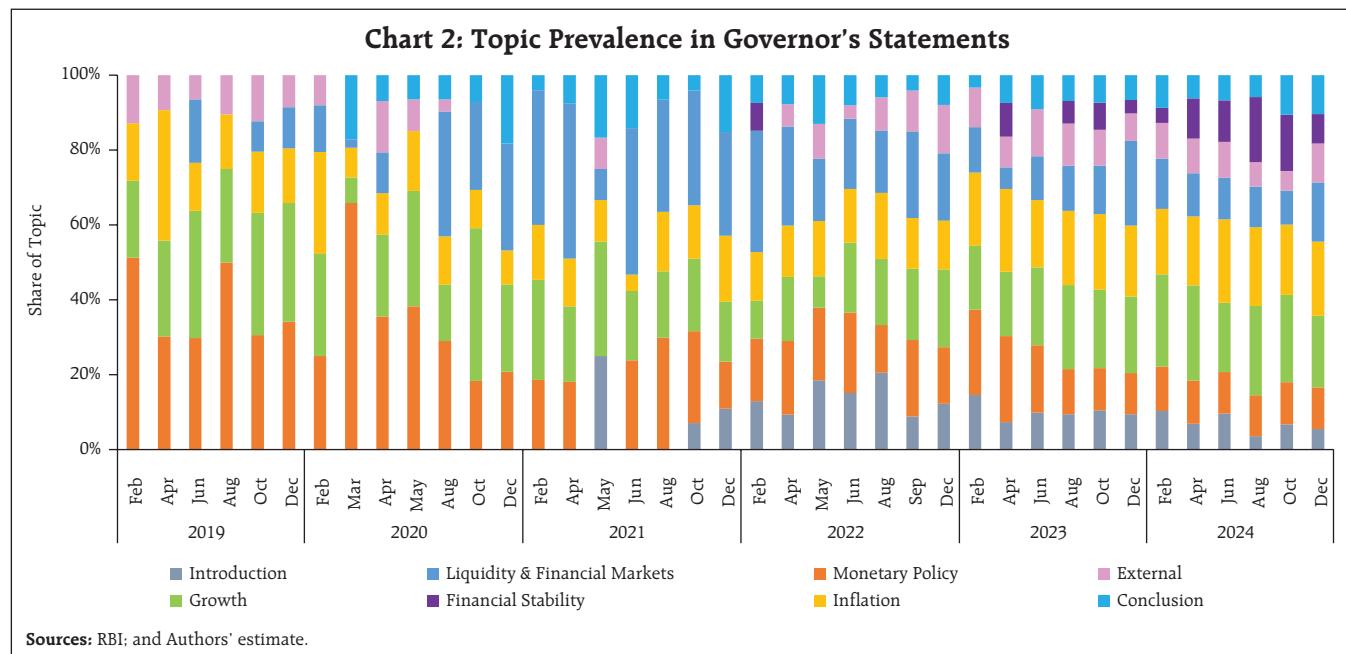
India VIX daily data has been obtained from the website of the National Stock Exchange (NSE), while intraday minute-by-minute tick data has been sourced from Bloomberg. This analysis is carried out for monetary policy days only as the aim is to understand how the policy decisions influence market reactions, and how the press conference adds or reduces volatility.

IV. Empirical Findings

The size of the Governor's statements, measured in terms of number of sentences, varied over the study period (Chart 1). Uncertainty induced by the

Chart 1: Governor's Statement Size





pandemic and the Russia-Ukraine conflict were marked by longer statements, presumably reflecting efforts to explain in detail the evolving scenario and the measures taken to tide over the unprecedented situation.

Along with the size, the coverage and relative emphasis on various topics also shifted to reflect changing circumstances (Chart 2), pointing to adaptations in communication strategy to address emerging challenges.

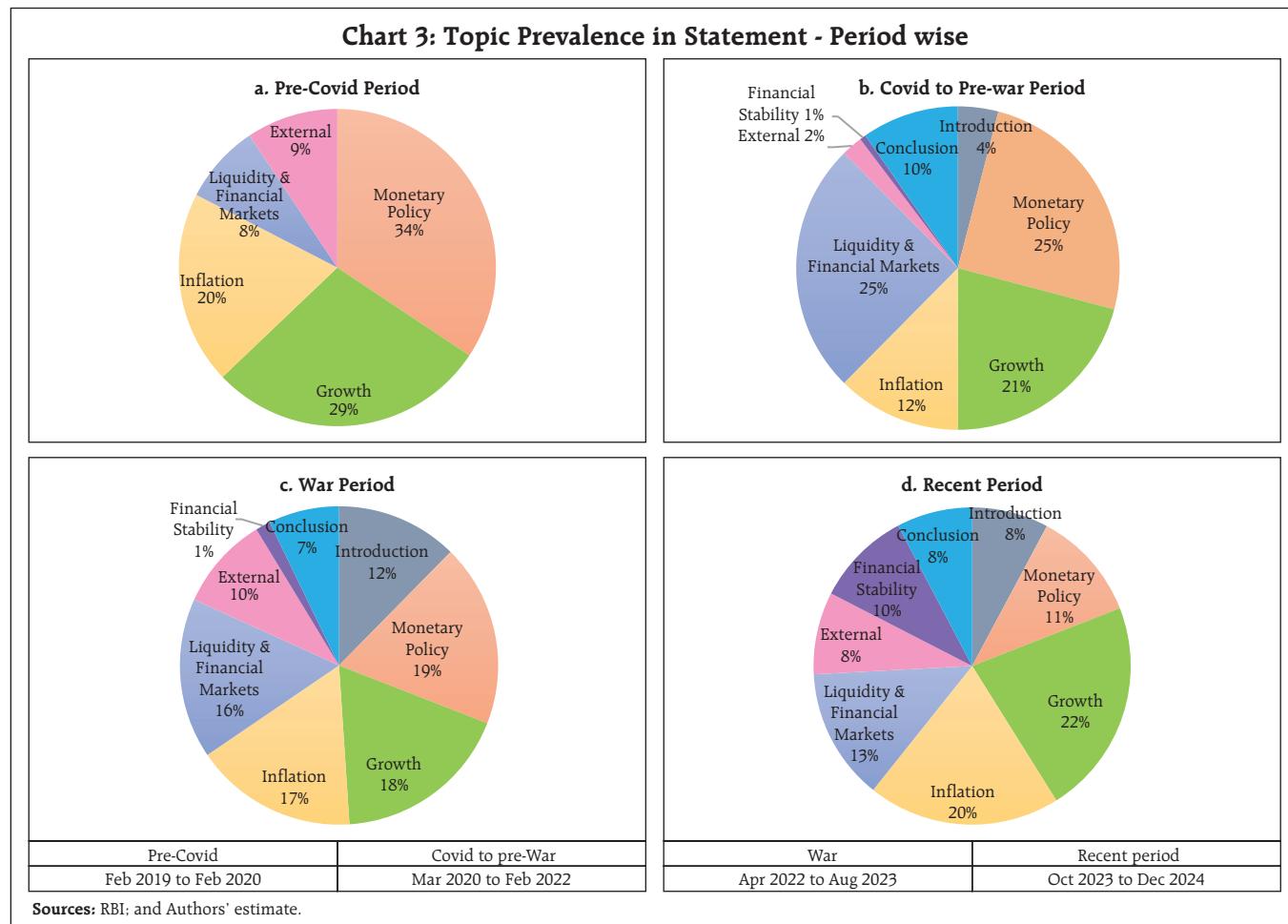
Categorising the study period into different phases yields significant results (Chart 3) (frequently occurring terms within each topic are presented in word clouds in Annex I). "Monetary Policy" emerged as the most discussed topic at the overall level, though its share has reduced in the recent period and more space is being allotted for discussion on other topics. It was followed by "Growth", which occupied considerably larger space than "Inflation" in the Governor's statements, especially prior to April 2022, when multiple waves of the pandemic impacted the economy. This was also reflected in the substantially

higher share of "Liquidity" and "Financial Markets" as a topic during the pandemic. These results are a pointer to the use of communication to complement policy actions.

The Russia-Ukraine conflict in 2022 triggered supply disruptions and inflationary pressures worldwide. This resulted in an increasing focus on "Inflation" as a topic in the statements during that period. A higher share is also evident in the recent period¹, indicating the focus on aligning and keeping inflation within the target band on a durable basis in the face of multiple and overlapping food price shocks, including due to weather events.

New sections were introduced in the statements. One is the "Conclusion" section introduced during the pandemic which subsequently became the hallmark of the statement to reassure the public and markets. A distinct "Introduction" section is a recent feature; in the past, it was overlapping with

¹ Since October 2023, a sub-section "What do these Inflation and Growth Conditions mean for Monetary Policy?" has also been part of statements. It has been clubbed with "Inflation" section, as it deliberates primarily on inflation related aspects.



the "Monetary Policy" section. The "External Sector" started getting mentioned as a separate section from April 2022 after the Russia-Ukraine war started, reflecting increasing global interlinkages and related policy implications. "Financial stability" has been introduced as a new section in the Governor's statement since August 2023 and it has had a fairly good share of the deliberation².

The interplay of uncertainty and confidence and shifts in communication strategy highlight the dynamic relationship between uncertainty, transparency, clarity and reassurance (Chart 4).

² It appeared occasionally in earlier periods, e.g. April 2023 and February 2022.

Mentions of uncertainty terms increased significantly at the start of the pandemic in March 2020 and again during the second wave in April 2021 (Chart 5). Even when pandemic scars started to heal, uncertainty lingered due to the Omicron variant, and again due to financial market volatility, global spillovers and persistent supply bottlenecks, as reflected in higher value of the uncertainty index in February 2022. It continued to remain elevated after the outbreak of the Russia-Ukraine war and further accentuated in April 2023 due to the banking sector turmoil in some advanced economies.

As a response to uncertainty, reassurance was also provided in terms of confidence building words (Chart 5). Accordingly, the confidence index

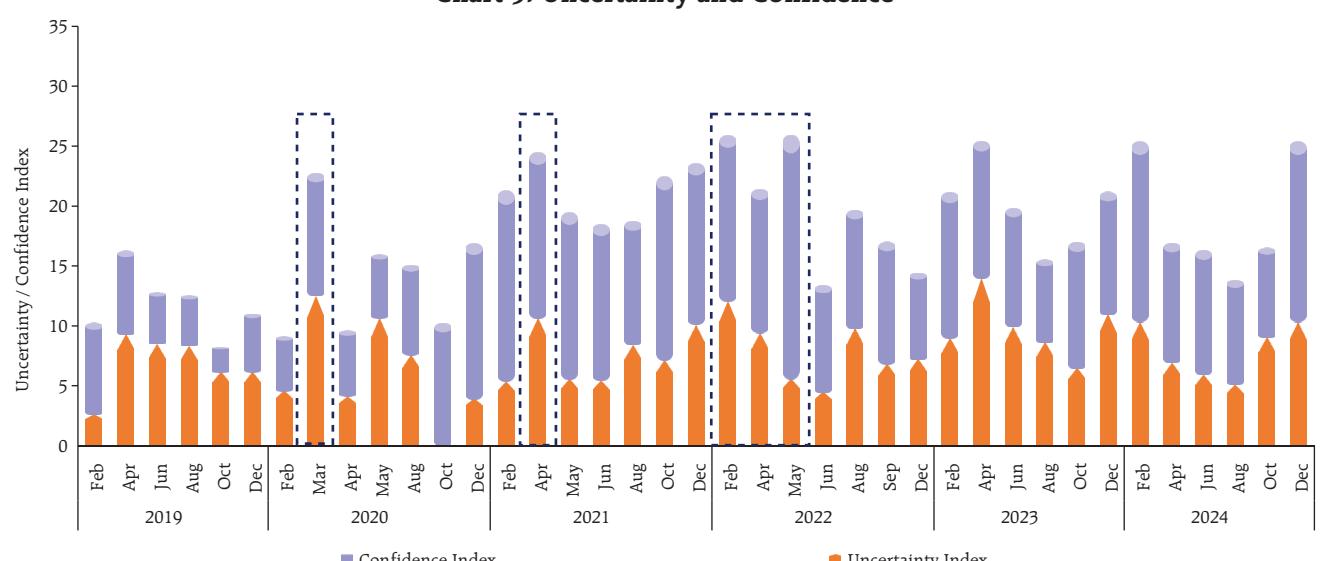
Chart 4: Word Clouds

Sources: RBI; and Authors' estimate.

witnessed a significant increase for the first time in March 2020, and again in 2021. It peaked in May 2022, when an off-cycle MPC meeting was conducted that commenced the rate tightening cycle.

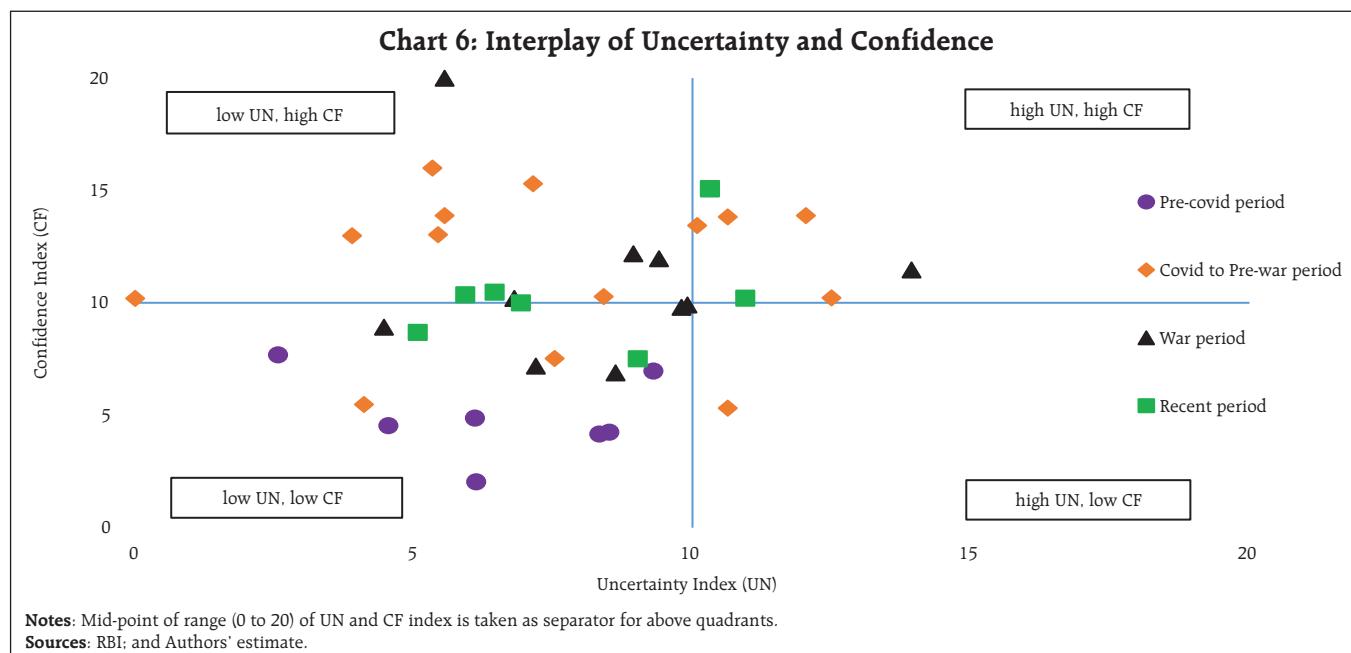
The interplay of uncertainty and confidence index indices differs across periods - while the pre-

covid period witnessed low levels of uncertainty and confidence, the period from the pandemic onset to pre-war witnessed a mix of lower and higher levels of uncertainty but with the confidence index generally remaining high³ (Chart 6). The Russia-Ukraine war period witnessed lower uncertainty (except in April

Chart 5: Uncertainty and Confidence

Sources: RBI; and Authors' estimate.

³ Low uncertainty and confidence are characterised by values ranging 0-10 while values between 10-20 indicate high uncertainty and confidence.

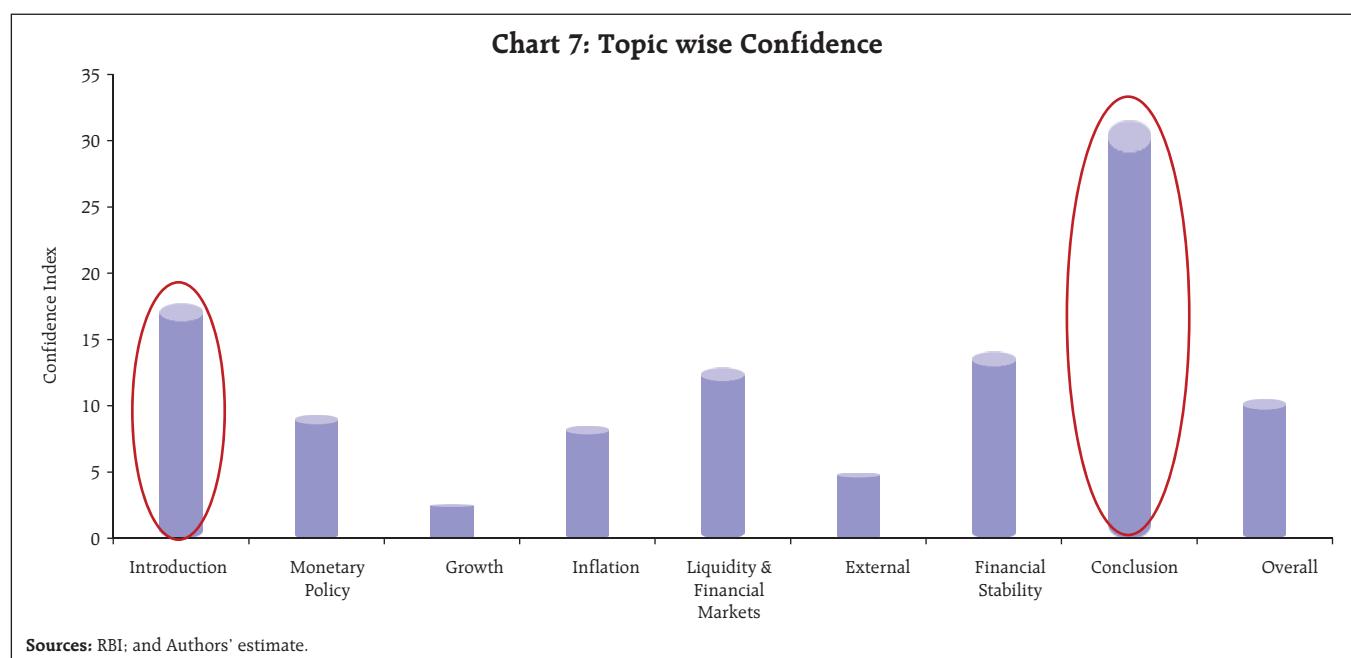


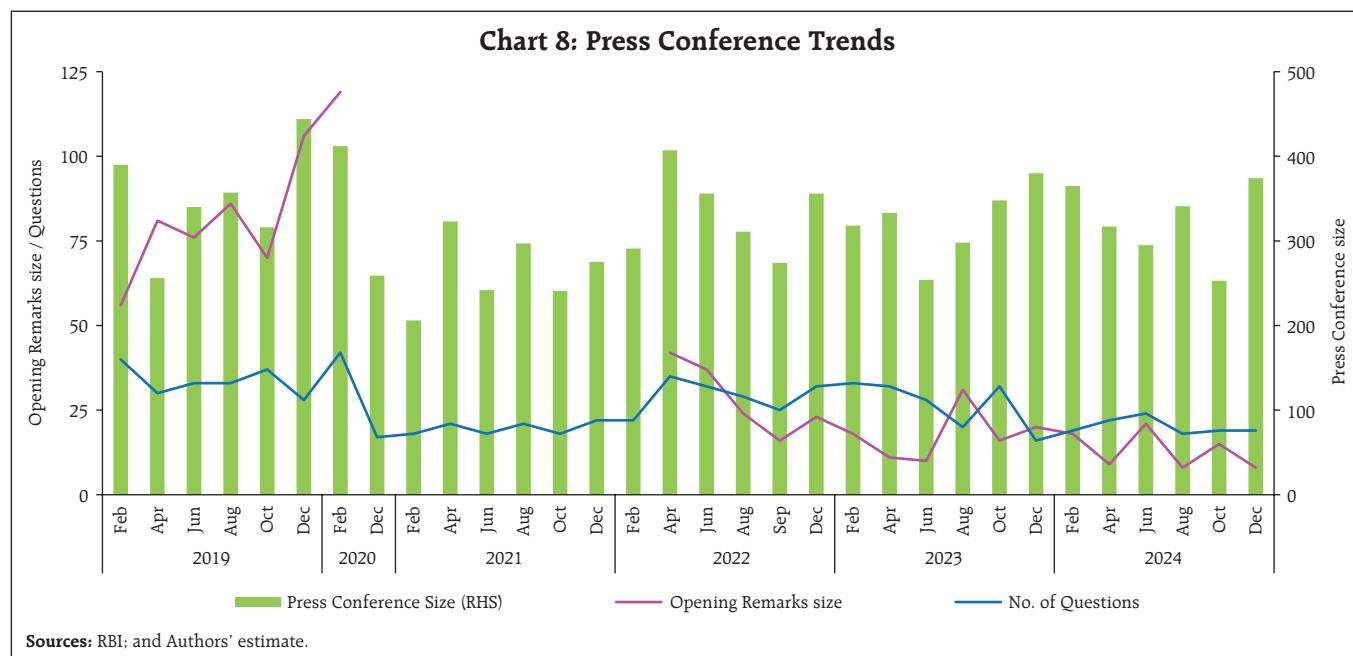
2023), but confidence fluctuated intermittently (with confidence index being at its peak in May 2022).

The inference emanating from these results is that as the Governor's statements are targeted towards the wider public, they have to play a meaningful role in informing and managing expectations. In this context, choice of words matters. In the recent

period, while uncertainty indices have been lower than before, the confidence indices have been in the middle range (values of around 10).

In the "Introduction" and "Conclusion" sections of the statements, the level of the confidence index is found to be higher than other sections (Chart 7), reflecting strategic efforts to manage public expectations.





IV.2 Press Conferences

Press conferences were held after all MPC meetings, except during March to October 2020 owing to the lockdown and social distancing concerns, and also after the off-cycle meeting of May 2022. From December 2020 to February 2022, there were no opening remarks by the Governor. The overall size of the press conferences (number of sentences in transcripts) fluctuated over time, being lower in 2021 and increasing subsequently after introduction of the Governor's opening remarks in April 2022. The number of questions asked also followed a similar pattern (Chart 8).

There appears to be close co-movement between the number of questions, the size of opening remarks and inflation (Table 1 and Chart 9). Questions mostly

related to monetary policy, inflation, growth and macroeconomic conditions⁴.

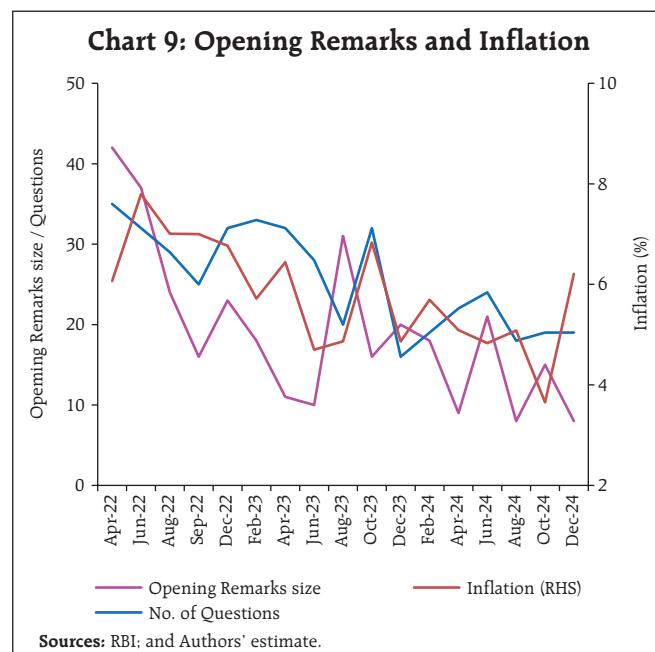


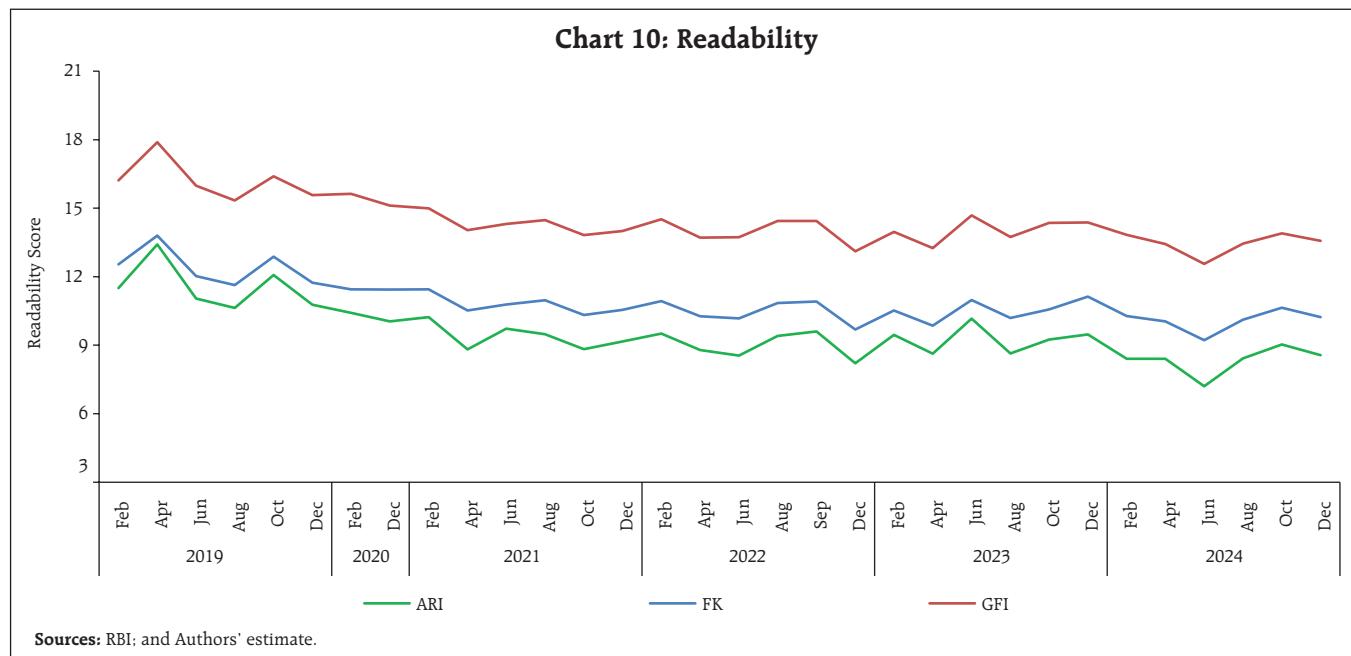
Table 1: Correlation (April 2022 to Dec 2024)

	Opening remarks size	Inflation
Number of questions	0.42*	0.61***

Note: * and *** indicates statistical significance at 10 and 1 per cent level respectively.

Sources: RBI; and Authors' estimate.

⁴ Questions also related to various measures taken by the RBI, such as CBDC in December 2022, ₹2000 denomination withdrawal in June 2023, incremental CRR in August 2023, risk weights in December 2023, Paytm in February 2024, gold movements and bond inclusion in June 2024, and deposit mobilisation in August 2024.

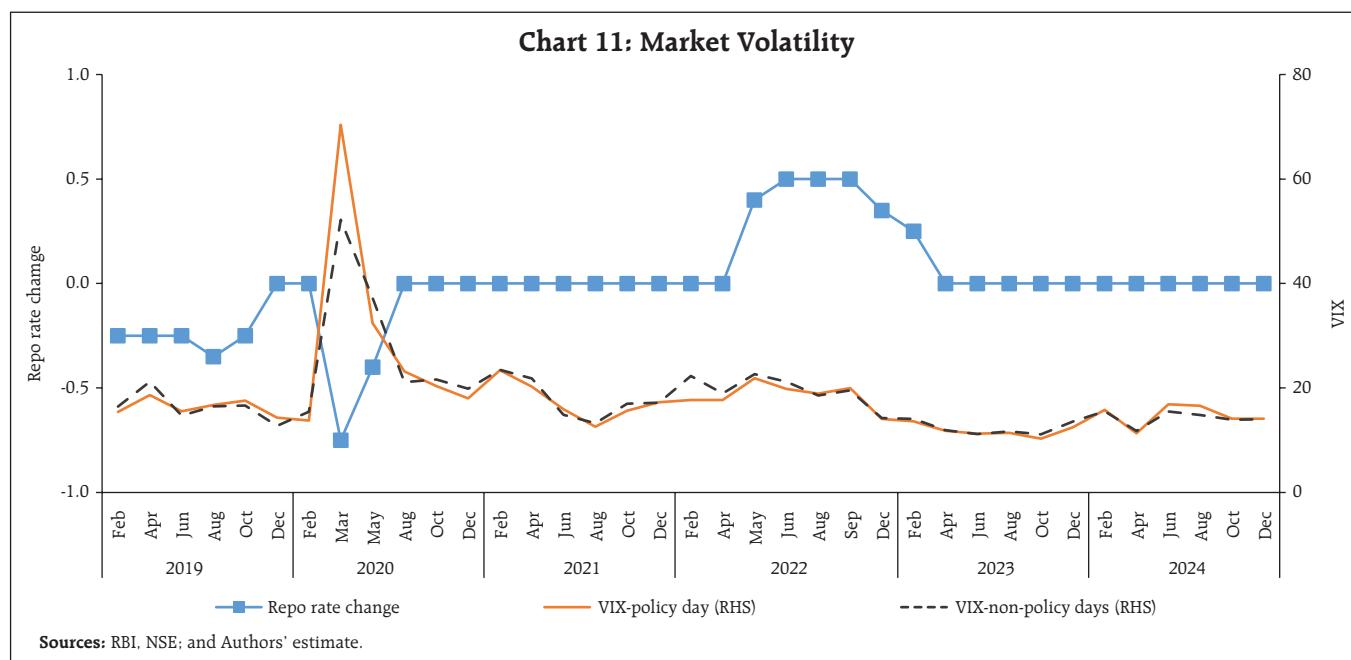


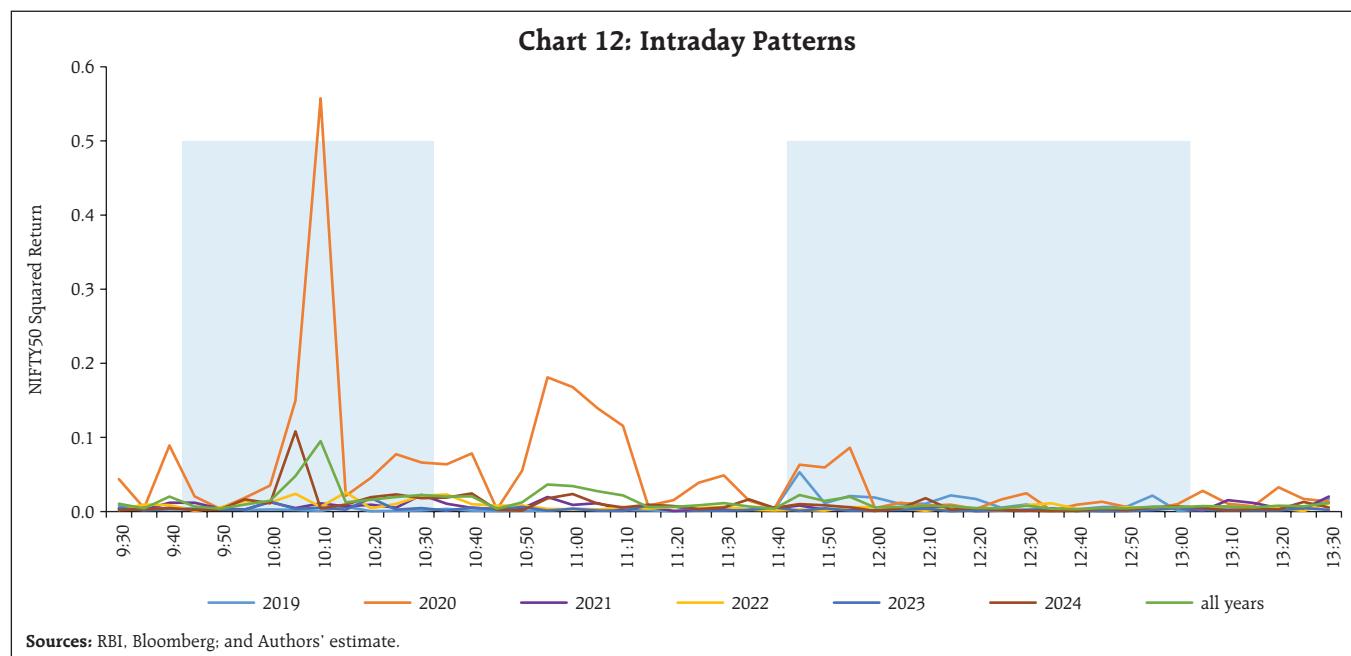
Readability indices trended lower with co-movement of all indices, indicating improvement in readability during the study period (Chart 10).

IV.3 Financial Market Patterns

Market volatility (India VIX) on the policy announcement day remained range bound and similar to non-policy announcement days. It was

exceptionally high, however, on March 27, 2020 and May 22, 2020, when the MPC meetings were held ahead of schedule due to pandemic induced uncertainty and sharp rate reductions were announced (75 bps and 40 bps, respectively) (Chart 11). The VIX reflected a consistent declining pattern in 2022 and 2023, reflecting high level of confidence





in markets even during the policy tightening period of May 2022 to February 2023 (Chart 11).

Intraday volatility patterns are examined using NIFTY50 squared returns at 5-minute intervals from 9:30 am to 1:30 pm to encompass the live coverage of the Governor's statement – 10:00 to 10:30 am and the ensuing press conference – 12:00 to 1:00 pm. It is observed that average volatility was low during the study period. Intraday volatility picks up before the Governor's statement but tapers down quickly and becomes almost negligible by the conclusion of the press conference (Chart 12 and Annex II).

Volatility is more pronounced on days when there is a surprise element, *viz.* either in the direction or quantum of policy rate change, or a surprise event (*e.g.* MPC meeting outside the pre-announced calendar). Several factors may have contributed to keeping market volatility low on a daily and intraday basis – targeted use of confidence conveying words; Governor's opening remarks during press conferences; and fine-tuning of communication strategy to provide assurance and confidence.

V. Conclusion

The efficacy of monetary policy is greatly enhanced when policy authorities, market participants and the wider public share a common set of expectations. In fact, when the intent of policy and the desired objectives are clearly understood, the size of policy decisions can be smaller than otherwise. Indeed, the need for policy action may be obviated. This underscores the critical role communication has come to play in complementing monetary policy and making it effective. Our findings show that it is not enough for communication just to be clear, understandable and engaging. It also involves strategy in adapting communication style to the dynamics of uncertainty, especially in times of black swan events and crises when anxiety becomes overwhelming, and reassurance reinforces the magnitude and duration of policy changes and stance. Meticulously crafted Governor's statements with thoughtfully selected and emphasised words have instilled much-needed confidence in India during adverse and uncertain periods.

The press acts as a communication channel for clarification and reinforcement of policy decisions following the release of the Governor's statement. In this context, continuous evaluation of the traction achieved by monetary policy communication in influencing expectations assumes importance. This is, however, easier said than done as it involves the inexact science of gauging sentiment as revealed in sound bytes, text and social media posts. Traditionally, methodologies fall short when quantification has to be extracted from unstructured / semi-structured information sets. In this milieu, the application and refinement of newer technologies such as NLP, as attempted in this article, become increasingly relevant and exciting.

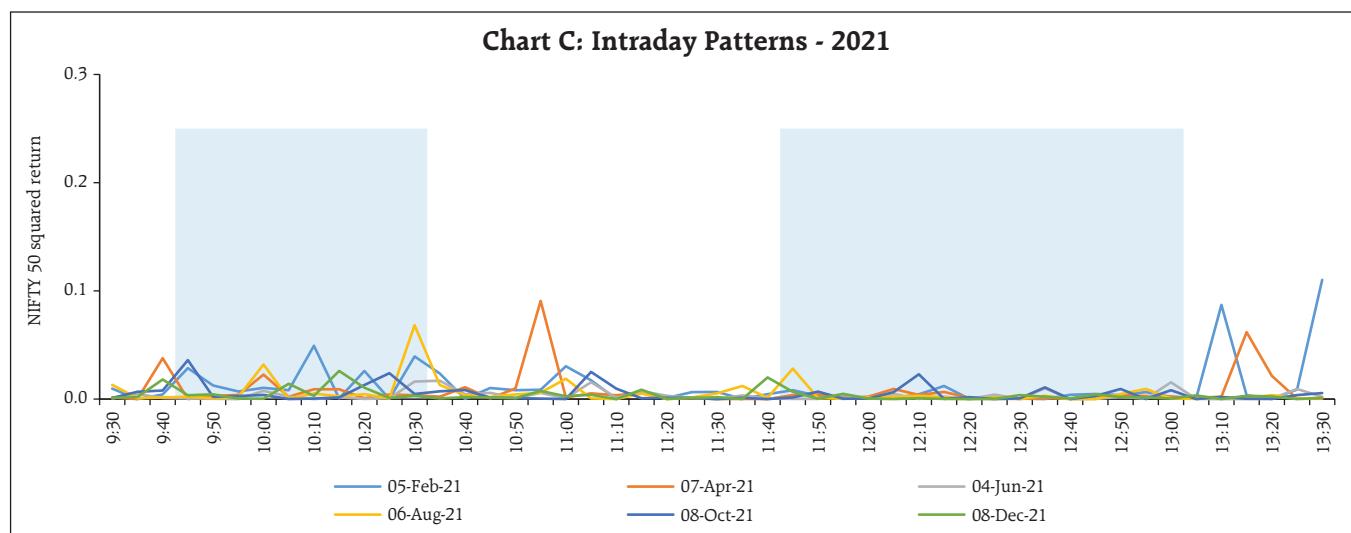
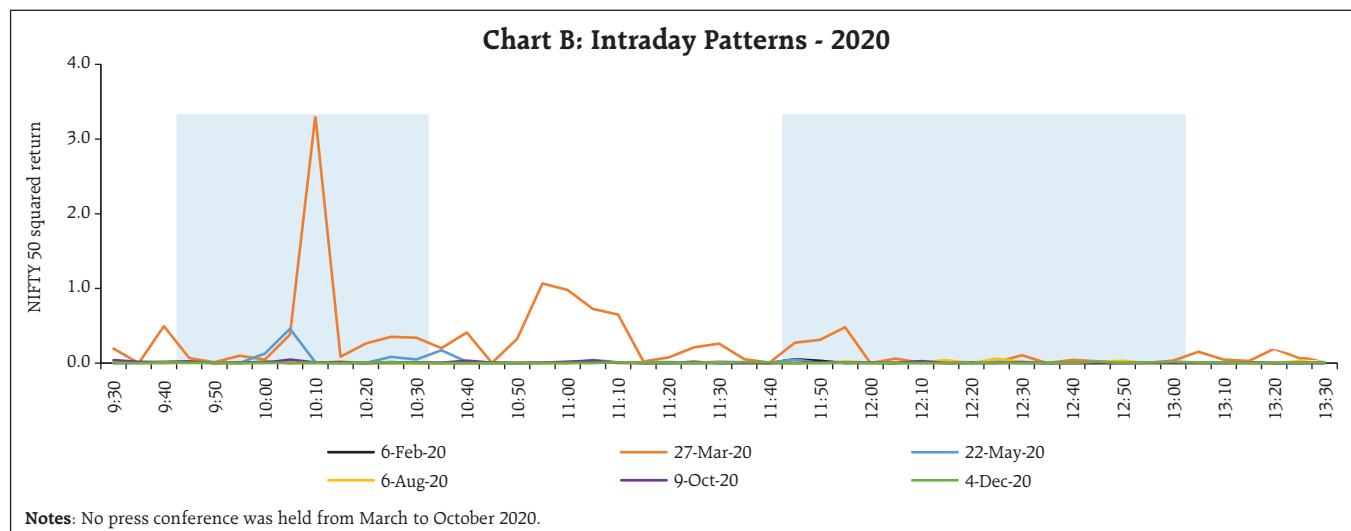
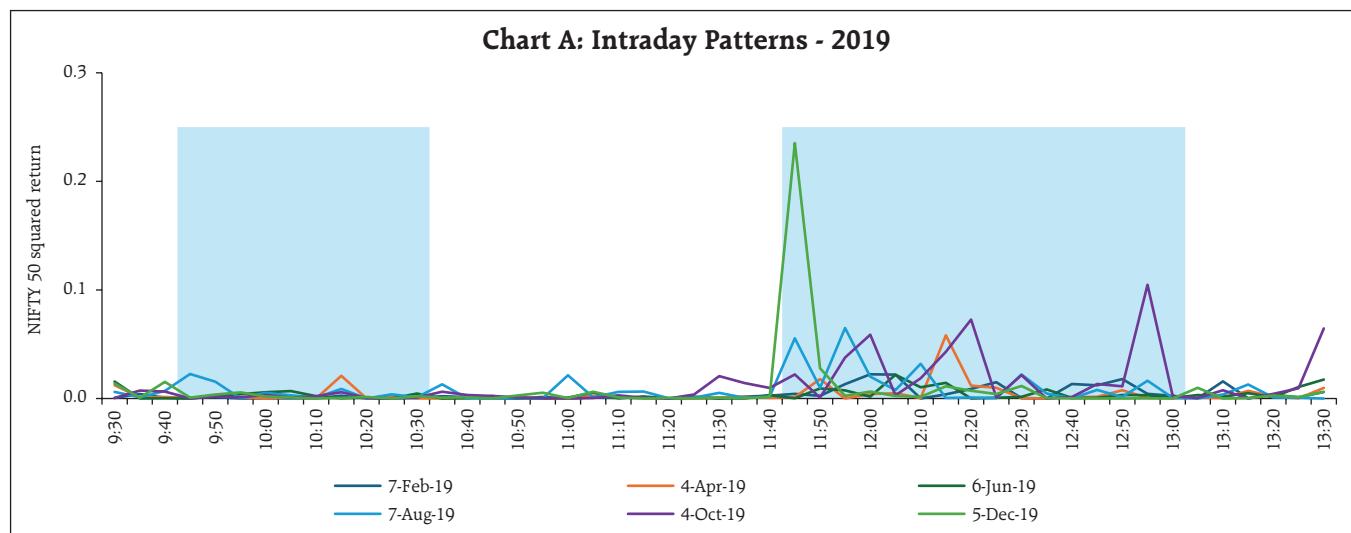
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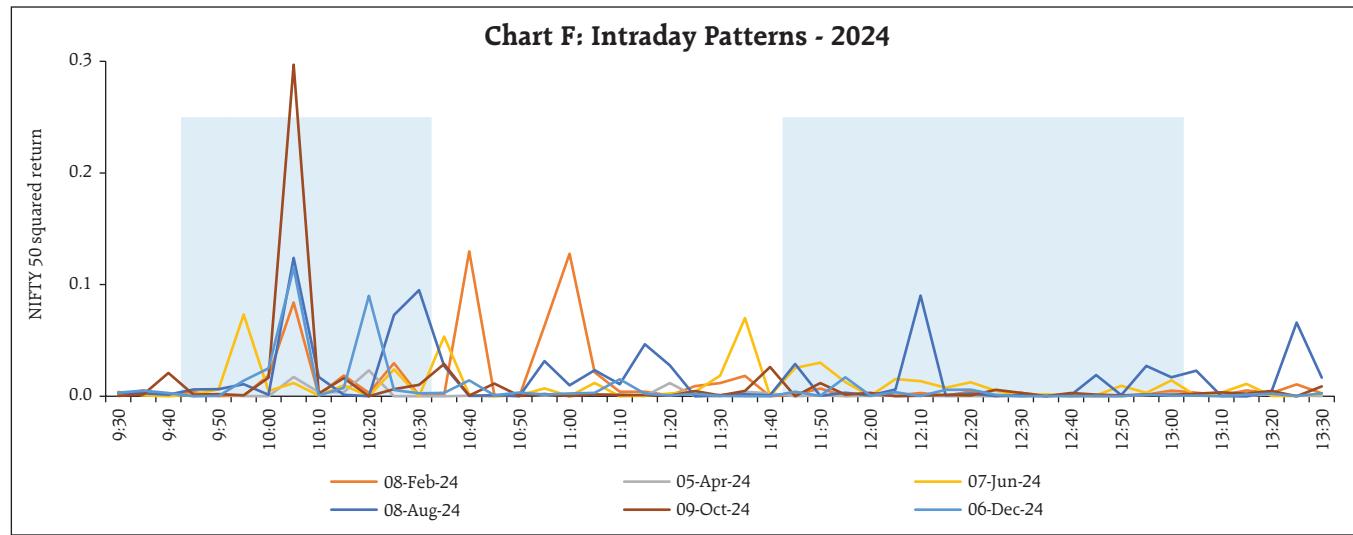
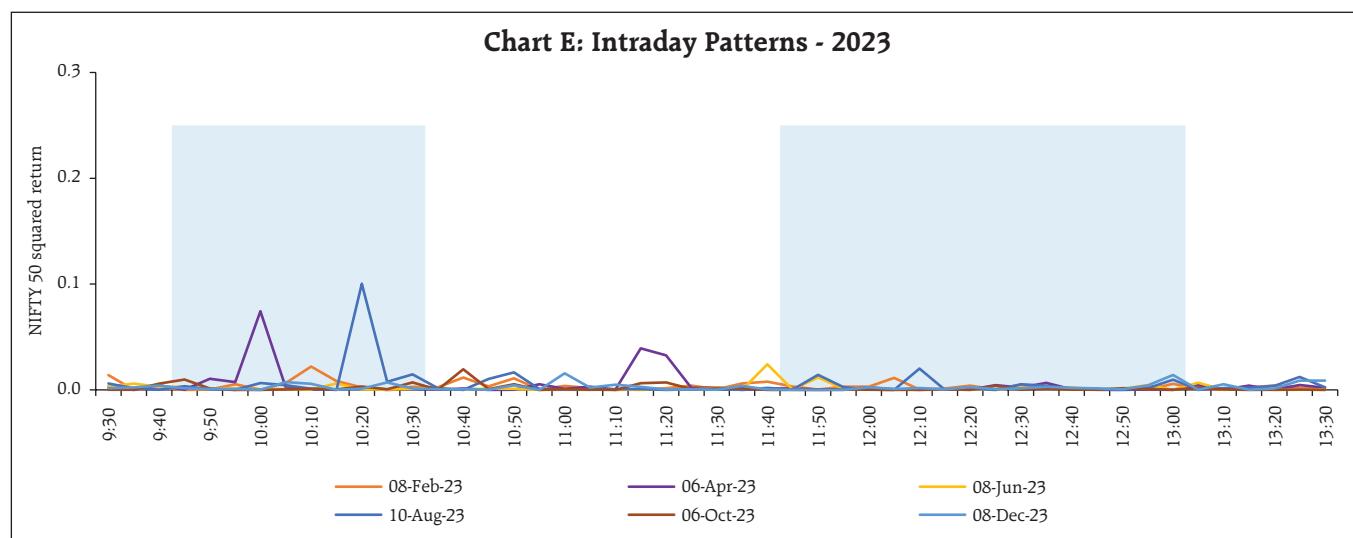
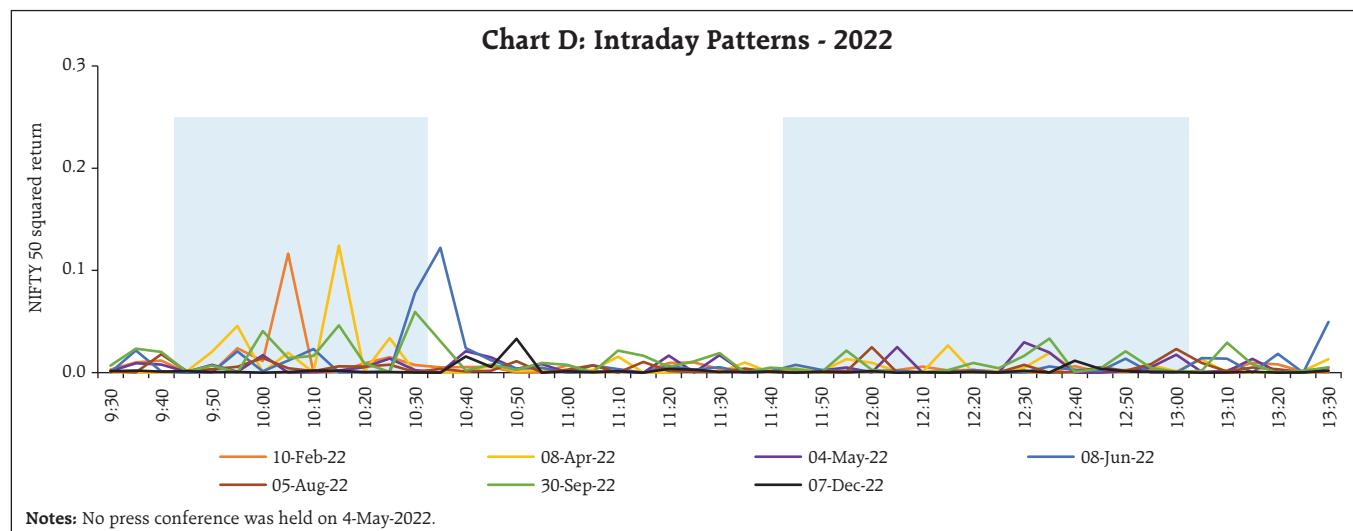
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Annex I: Topic wise Word Clouds⁵

⁵ Word clouds are based on stemmed words, which present root form of a word.

Annex II: Monetary Policy Day wise Intraday Patterns





Foreign Exchange Intervention: Efficacy and Trade-offs in the Indian Experience

by Michael Debabrata Patra, Sunil Kumar,
Joice John and Amarendra Acharya ^

This study investigates the effectiveness of forex interventions undertaken by the Reserve Bank of India (RBI) and finds that the volatility of portfolio flows, induced by global spillovers, is the main source of exchange rate volatility in India. Foreign exchange interventions, both spot and forward, effectively counter capital flows volatility, with symmetric effects of purchases and sales. The impact of gross spot intervention on exchange rate volatility indicates the existence of threshold effects, explaining the "leaning against the wind" phenomenon.

Introduction

Since the latter half of the 1980s when several emerging market economies (EMEs) dismantled barriers to increasingly engage in international trade and finance, either voluntarily or as a part of structural adjustment programs, a steady accumulation of international reserves has given way to a surge since 2004. Global reserve holdings peaked at US \$ 12.9 trillion by 2021, although bouts of high financial market volatility driven by risk-on-risk-off sentiment shifts since then necessitated interventions that have slightly modulated this stock to US \$ 12.7 trillion in September 2024. This phenomenon has quite naturally found resonance with an old stream in the literature dating back to the days of the gold standard that worried about the

motives, costs and benefits of reserve accumulation. This paper, by contrast, deals with the motives, costs and benefits of holding foreign exchange positions from an EME perspective, scarred by the experience with spillovers, which can be quite different from what engaged the older strand.

It is important to note the differences. First, this phenomenon is about EMEs, which currently hold roughly three-fifth of international reserves whereas the older literature focused almost exclusively on advanced economies (AEs). Secondly, AEs have almost stopped intervening in foreign exchange markets; EMEs, on the other hand, intervene regularly and have developed institutional formats for it. Thirdly, these interventions tend to impact the path of the exchange rate more than in AEs because (a) they are not routinely sterilized; (b) the size of interventions are significant relative to the level of market turnover and base money; (c) elaborate reporting requirements confer on central banks in EMEs an information advantage in inferring the aggregate order flow in the market; and (d) prudential regulations and operating practices amplify the information advantage and the size of the intervention relative to the market (Canales-Kriljenko, 2003; Filardo et al., 2022; Linde et al., 2024). For EMEs, foreign exchange rate interventions are umbilically linked to the objective, either explicit or implicit, of mitigating volatility and not the level of the exchange rate or any band around it: in short, not the first moment but the second moment.

Against the above backdrop, this paper evaluates the effectiveness of interventions by the Reserve Bank of India (RBI) in the foreign exchange market in India. In the rest of the paper, Section II extracts lessons from the existing literature. Some stylized facts with respect to intervention in India's foreign exchange market are furnished in Section III. Section IV contains empirical results. Concluding perspectives are set out in Section V.

[^] The authors are from the Reserve Bank of India. The views expressed in this article are those of the authors and do not represent the views of the Reserve Bank of India.

II. Guideposts from the Literature

As advanced economies withdrew from intervening in foreign exchange markets, the empirical literature imbibed the spirit of this retreat and largely focused on issues relating to its effectiveness – does it work or matter? (Obstfeld, 1990; Dominguez and Frenkel, 1993; Dominguez, 1998; Beattie and Fillion, 1999; Sarno and Taylor, 2002; Ito, 2003; Daude *et al.*, 2016; Menkhoff, 2013; Linde *et al.*, 2024); if it does, what is optimal and under what conditions? - an older strand had grudgingly visualized limiting conditions (Boyer, 1978; Buiter, 1979; Roper and Turnovsky, 1980; Jones, 1984; Blanchard *et al.*, 2015); is it essentially the fear of floating? (Calvo and Reinhart, 2002); and is there room for it under an inflation targeting framework? (Domac and Mendoza, 2002; Adler *et al.*, 2021).

The repetitive visitations of crises through the 1990s and 2000s has swung the narrative completely! Modern generations of currency crises seem to be triggered by markets that conduct value at risk assessments of the central bank's balance sheet, including off-balance sheet items, and whenever confidence levels in the central bank's solvency appear likely to be breached, they strike (Blejer and Schumaker, 1998; Zeuli, 2013; Nocetti, 2006). Further, the illiquidity, arising out of short-term foreign currency debt becoming larger than liquid foreign currency assets, has been a cause of many exchange rate crises (Chang and Velasco, 1999). In these low probability high intensity events, fundamentals do not matter and each country stands alone – the implications of a crisis can be global but the responsibility for financial stability is national. Central banks having strong reserve buffers and institutional character generally come out of financial crises with less loss to their credibility (Bordo and Siklos, 2015).

By the 2000s, the emerging market model of foreign exchange interventions had arrived! The benefits of foreign exchange intervention overwhelmed its costs as managing exchange rates and accumulating reserves became preferred policy options, rather than being stigmatized as in the earlier literature. In fact, high liquidity was increasingly seen as able to offset weak fundamentals and ward off contagion (Mulder and Bussier, 1999; Lai, 2002). Accordingly, attention turned to the market microstructure (Dominguez, *et al.* 1993; Vitale, 2011; Ormos and Timotity, 2016); instruments (Evans and Lyons, 2002; Galan *et al.*, 1997; Hooyman, 1994; Hung, 1997; IMF, 1998; Mandeng, 2003; Zapatero *et al.*, 2003); issues in transparency – announcement effects; signal to noise ratios – and the management of unavoidable operational risk (Fratzscher *et al.*, 2019); persistence and asymmetric effect of purchase and sales (Blanchard *et al.*, 2015; Adler *et al.*, 2019) and policy framework resilience (Linde *et al.*, 2024).

We argue in this paper that perhaps the analytics of foreign exchange intervention in an EME context are better informed by the positive findings of consensus/central tendencies in a young but incisive stream in the literature that focuses on coalescing the experiences of the practitioners *i.e.*, central banks themselves, through questionnaire-based surveys. It is also informed by progress under the IMF's Integrated Policy Framework (IPF) which has a case study on India (Linde *et al.*, 2024).

This literature offers an interesting study in comparative statics. The starting point of reference becomes the IMF's 2001 survey on foreign exchange market organization and the work spawned by it (Canales-Kriljenko, *et al.*, 2003; Linde *et al.*, 2024). This survey was perhaps the most extensive, with 91 respondents that together accounted for 85-90 per cent of developing countries' GDP, trade and

reserves. Moreover, such detailed information on foreign exchange operations in a broad range of countries had not been previously available (IMF, 2003). In 2013, the BIS sought the views of central banks about intervention for its annual meeting of Deputy Governors through a survey questionnaire. This survey revisited many of the aspects of intervention identified in the 2004 BIS survey (BIS, 2013), especially the role of interventions in reducing financial and monetary stability risks, in provision of liquidity support to the foreign exchange market and in meeting exchange rate objectives. Studies conducted around it, both within the BIS and by participating central banks, yield useful insights and importantly, provide an update on the 2001 IMF survey on operational aspects of intervention that are the centre of interest of this paper¹. In this spirit, attempts have been to empirically estimate equilibrium exchange rates for India (Patra, et al., 2024)

Definitional Issues

In the emerging market context, the narrow definition of intervention in the mainstream literature – central bank foreign exchange operations targeting the exchange rate² - gives way to a broader format encompassing moderating exchange rate fluctuations and correcting misalignments, addressing disorderly market conditions (an objective blessed by the IMF), accumulating reserves and supplying liquidity to the

foreign exchange market (Canales-Kriljenko et al., 2003). Consequently, operational issues – timing; frequency; amounts; instruments/currency pairs; locations; counterparties – are the main decision drivers for central banks. Another major consideration is that interventions effectively turn into monetary policy operations when not fully sterilized and necessitate calibration with the monetary policy stance³. Also, though thinly advocated, interventions provide breathing space for undertaking deeper macroeconomic adjustments if there are structural imbalances impacting the exchange market.

The microstructure approach (Lyons, 2001; Evans and Lyons, 2002) shines light on this operational view. The balance between buyer-initiated and seller-initiated orders is a measure of the net exchange market pressure. Interventions cause changes in expectations on future exchange rates, triggering modifications in open positions, especially by noise traders chasing trends. The result is a tide of buy/sell orders well in excess of the central bank's initial intervention. Furthermore, market participants may regard these operations as central banks exploiting superior or privy information and order flows generated in response to "impound information into prices" (Lyons, 2001). The microstructure approach also emphasizes the size of intervention relative to market turnover – the larger the intervention, the higher is its impact on the price, thus potentially more effective in emerging markets that have relatively low market turnover and are less liquid, including due to exchange control and other regulations (Canales-Kriljenko et al., 2003). The IMF's quantitative

¹ A freestanding, non-institutional study (Neely, 2001) examined foreign exchange intervention practices of a sample of 22 countries, of which nine were emerging markets, and mainly addressed the effectiveness of intervention. An update is found in a subsequent survey (Neely, 2008) which concluded that the surveyed central banks were not persuaded by most of the common arguments against intervention.

² That exchange rates violate the parity conditions and deviate substantially from fundamentals even in deep and liquid markets, and with reasonable capital mobility, seems to have become a settled position in the literature (Rogoff, 1999; Mark, 2001; Sarno and Taylor, 2002). Moreover, interventions can occur in response to exchange rate changes but also have an effect on exchange rates – the simultaneity problem which is empirically difficult to disentangle

³ It is debatable, however, if fully sterilized interventions are free from this overlap – they may restore base money to initial levels, but open market operations could bid up/down interest rates and alter monetary conditions. Under the signaling channel, interventions are perceived as indicating a change in the future stance of monetary policy (Sarno and Taylor, 2002). This is strengthened by agents regarding assets/currencies as imperfect substitutes, triggering portfolio rebalancing that changes monetary conditions – the portfolio balance channel.

integrated policy framework (IPF) shows that even though India's FX market has been mostly deep, it could become shallow in certain periods, including during the GFC and COVID-19 (Linde *et al.*, 2024).

Operational Priors

The intervention strategy involves as a first step the setting up of management tolerance thresholds.

- (a) *Defining the metric* – which exchange rate measure *i.e.*, nominal/real; effective/bilateral; the extent of movement to be tolerated; and over what specified period. The overwhelming choice among surveyed central banks is a currency pair(s), a tight band in basis points around it that defines authorities' tolerance during a trading day (Goldstein, 2002).
- (b) *Amount and timing* – clearly an area in which the optimal intervention literature fails the practitioner⁴. Determining the amount is usually highly subjective, shaped by trial and error, and suffused with central banks' judgment honed by unique experiences and country-specific circumstances. Central banks also report extensive reliance on assessments of market intelligence, observable market indicators and the level of reserves. In terms of first principles, the size of the intervention is usually a multiple of the typical market order and technically as large as necessary to achieve the exchange rate metric. Size constraints apply less to purchases than to sales, since the former can be financed by printing domestic currency and sterilized to insulate the inflation objective. The timing of

intervention, on the other hand, is typically a function of the central bank's 'scanning' of the presence of misalignment/disorderly conditions. Proximate indicators of market conditions turning disorderly are cited as accelerated changes in the exchange rate potentially driven by one-way bets; widening bid-offer spreads signaling heightened uncertainty; the composition of turnover – a rising ratio of interbank trades relative to customer-related turnover or 'hot potato' trading; volatility measured in several ways, including implied volatility and GARCH, though some tolerance to volatility is warranted if it co-exists with price discovery. Generally, these indicators are viewed in conjunction rather than in isolation. The central bank may set benchmarks for these indicators to enhance its capacity to respond. Considerable discretion is widely practiced on revealing intervention operations, with tactical ambiguity being the revealed preference among emerging markets (Chiu, 2003).

Technical Aspects

Surveys also offer valuable glimpses at various technical issues embedded in implementing the decision to intervene or not. They relate to the choice of markets, onshore or offshore, the intervention currency, choice of counterparties, and administration and governance aspects. A summary of central bank responses is set out below.

- Interventions generally take place in the spot market to benefit from liquid conditions and obtain direct effects on the spot exchange rate; forward markets involve transmission mechanisms that are affected by monetary conditions, whereas using derivatives could result in leveraged net open positions and margin calls can disrupt cash flows.

⁴ Opinion, in fact, veers to the other extreme: "The amount of foreign exchange intervention should not be determined from a policy rule" (Canales-Kriljenko, *et al.*, 2003). This view has been reinforced by the observed demise of rule-based intervention more generally, as demonstrated in the case of Canada in the 1990s and Brazil in the 2000s.

- Onshore markets where the bulk of trading takes place are normally preferred for intervention operations so as to directly impact order flows and exploit market intelligence as well; offshore interventions are undertaken only where the local currency trades significantly or beyond working hours offshore.
- Intervention is generally conducted in the most widely traded currency pair to reduce costs and facilitate settlement. The US dollar was reported as the most favoured intervention currency (AREAER, IMF, 2022)⁵.
- Typically, central banks prefer the wholesale market to the retail cash market for intervention operations to reap economies of scale that work towards reducing transaction costs.
- As regards counterparties, the choice is generally of financial institutions and authorized dealers which (a) are solvent, (b) provide competitive two-way quotes and are market makers, and (c) provide information on market developments.
- Close coordination between the foreign exchange market and money market desks is considered essential, with a clear decision-making hierarchy. The chain of command (it may involve a small committee, or a chief dealer being delegated decisions on amount of intervention subject to thresholds, consistent with the management tolerance limits, provided there are no principal-agent problems), with the front office separated from middle/back offices.

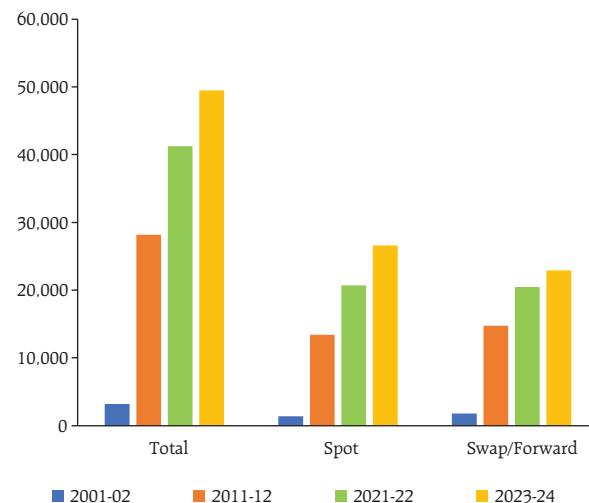
III. Some Stylised Facts

Exchange rate management in India has undergone a major transformation since the

implementation of structural reforms starting 1991. A brief transitional dual exchange rate arrangement instituted in March 1992 was followed by a market determined exchange rate system in March 1993, current account convertibility in August 1994 under Article VIII of the Articles of Agreement of the IMF, development of the forex market from the second half of the 1990s based on recommendations made by Sodhani Committee (1994) and Expert Group on the Foreign Exchange Markets (2005), and a gradual liberalisation of the capital account based on the recommendations of the Committee on Capital Account Convertibility (1997) and Committee on Fuller Capital Account Convertibility (2006). As a result, trading volumes have picked up, adding structure, depth and liquidity to the forex market. Subsequently, the derivatives segment has been deepened by removing segmentation between onshore and offshore markets for the INR. Indian banks have been allowed to undertake non-deliverable derivative contracts with each other as well as with customers. Non-residents have been given access to the INR Non-Deliverable Foreign Exchange Derivative Contract (NDDC) segment, irrespective of purpose. Market makers in India can now deal in forex market on a 24x5 basis. In fact, all regulatory barriers based on residence, entity, product, venue, and type of exposure have been removed to enable every economic entity to hedge its forex risks flexibly and efficiently.

The size of the forex market has increased substantially over the years (chart 1). The RBI's intervention in the foreign exchange market has been two-sided, driven by the objectives of smoothing excessive volatility, irrespective of its source (Table 1&2). It is observed that demand and supply conditions witness abrupt swings because of sudden and excessive movements in foreign

⁵ In 2000, the Reserve Bank of India included the euro as an intervention currency but has not used it in that role since.

Chart 1: Average Daily Forex Turnover (US\$ Million)

Source : RBI.

portfolio investment (FPI). This is corroborated by a strong co-movement between FPI flows and the RBI's interventions (Chart 2).

Table 2: Nature of Monthly Forex Intervention by RBI (Jan 2006 - Sept 2024)

	Net Intervention (Purchase +/ Sales -)	Purchase	Sale
Total Sample Months	225	225	225
Months of Intervention	202	198	180
% Intervention Months	90	88	80
Average Monthly Intervention (US\$ mn)	1569	7160	6115
Max Intervention (US\$ mn)	18633	36650	38770
Min Intervention (US\$ mn)	-20101	25	25

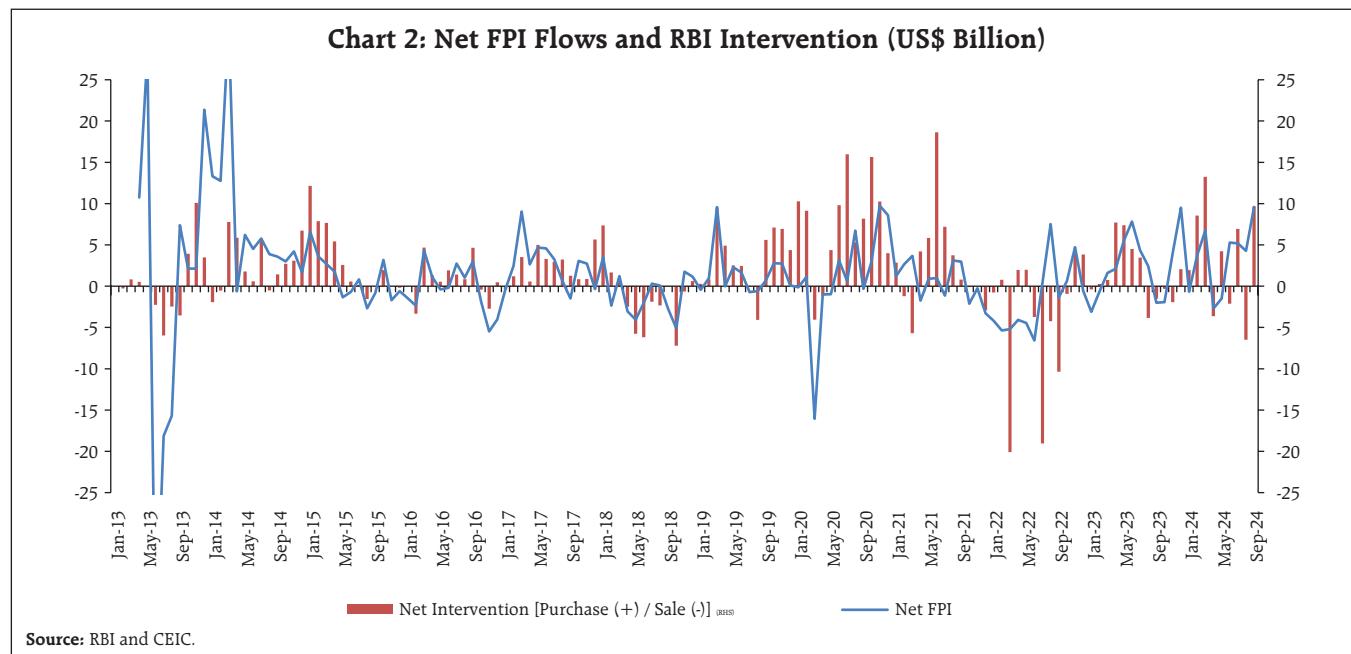
Source: RBI.

Episodes of heightened volatility have been observed during the global financial crisis of 2008-09, the taper tantrums of 2013, the (ILFS) crisis of 2018,

Table 1: Indian Rupee-US Dollar Exchange Rate and RBI's Forex Intervention

Period	Exchange Rate at the end of the Period	Appreciation (-) /Depreciation (+) in per cent during the period	Volatility (Standard Deviation)	Net Forex Intervention (Purchase +/ Sales -) (US\$ Bn)	Forex Purchase (US\$ Bn)	Forex Sales (US\$ Bn)
Jan 2006 -Aug 2008	43.3	-1.64	2.43	110	132	22
Sep 2008 -Oct 2009	46.9	7.78	1.37	-32	15	47
Jan 2010 -Dec 2010	44.8	-3.57	0.94	1.8	3.3	1.5
Jan 2011 -Dec 2011	53.0	15.49	3.11	-13	0	13
Jan 2012-Dec 2012	54.9	3.37	2.47	-11	7	18
Jan 2013 -Dec 2013	61.9	11.40	4.22	4	51	47
Jan 2014-Dec 2014	63.0	1.78	1.20	32	98	66
Jan 2015-Dec 2015	66.2	4.76	1.72	37	84	48
Jan 2016 -Dec 2016	67.9	2.55	0.76	9	78	69
Jan 2017 -Dec 2017	63.8	-6.41	1.10	28	46	18
Jan 2018-Dec 2018	69.6	8.26	3.11	-16	42	58
Jan 2019-Dec 2019	71.4	2.49	1.05	40	60	19
Jan 2020-Dec 2020	73.0	2.26	1.32	88	127	39
Jan 2021-Dec 2021	74.4	1.86	0.86	33	159	126
Jan 2022-Dec 2022	82.7	10.07	2.85	-46	180	226
Jan 2023-Dec 2023	83.2	0.56	0.57	18	185	167
Jan 2024 -Sep 2024	83.8	0.68	0.33	32	150	118

Source: CEIC and RBI.

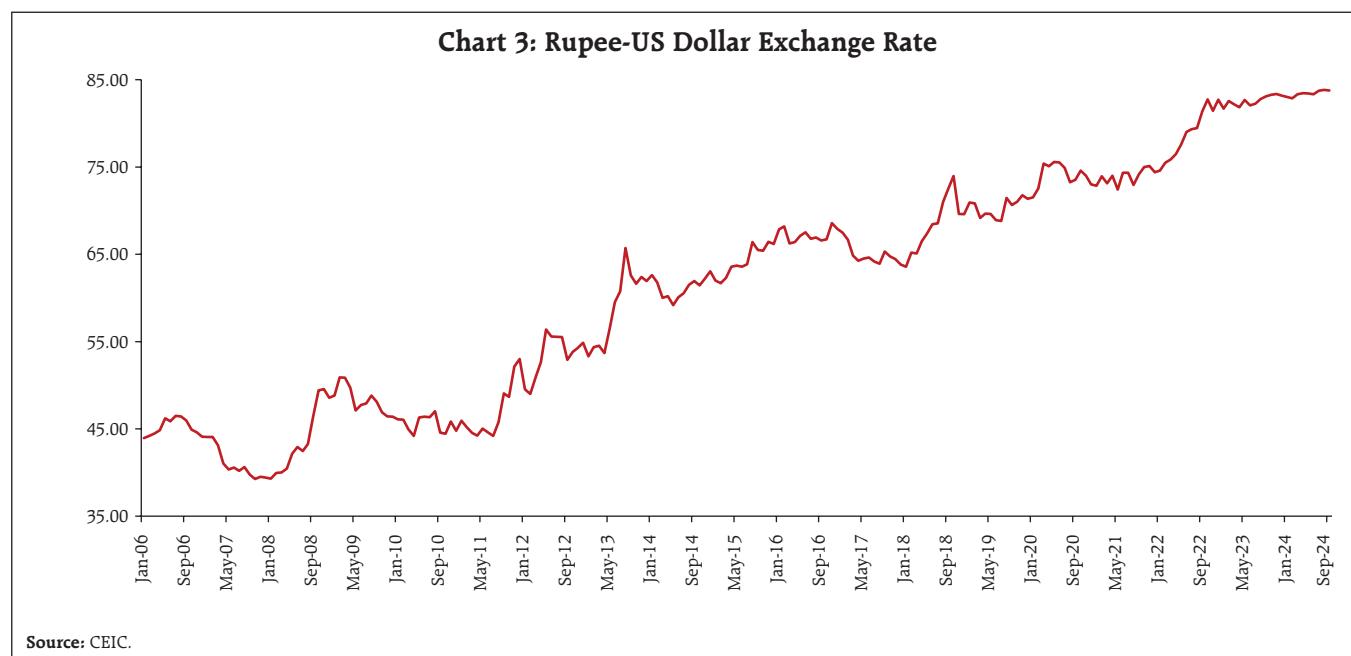


then COVID-19 pandemic, the Russia-Ukraine conflict and more recently, from early 2022 to late 2023 due to spillovers from synchronised monetary tightening around the world, the banking crisis of March 2023, the unwinding of yen-carry trade in August 2024 and fears of recession in September 2024. In the second half of 2024, judicious interventions have ensured that the Indian Rupee (INR) has experienced

less volatility than other major currencies, despite the unrelenting pressure from a surging US dollar (Chart 3) and sustained outward flights of FPIs.

IV. Empirical Results

Since our objective is to investigate the efficacy of RBI's interventions, we carry out two sets of analyses using monthly data from January 2014 till



September 2024. First, we examine the impact of interventions in countering the impact of capital flows in an auto regressive distributed lag (ARDL) model that is specified in terms of the changes in the level of the INR/USD:

$$\text{der}_t = \text{constant} + \beta_0 \text{der}_{t-1} + \beta_1 \text{der}_{t-2} + BX + \varepsilon_t \dots (1)$$

where, der is monthly change in the INR/USD exchange rate (in per cent). A positive value of der is synonymous with depreciation of INR/USD and *vice versa*. Since the exchange rate changes are expected to exhibit persistence due to hysteresis (Baldwin, 1988; Campa, 2004), the lagged values of der are included in (1). X is a vector of explanatory variables controlling for (i) net FPI flows (debt and equity are also examined separately); (ii) an interaction term – *Net FPI x Net interventions* (spot and forward interventions are considered separately, as also spot purchases and sales); (iii) inflation differentials (CPI headline inflation in India *minus* CPI headline inflation in the US), assuming purchasing power parity or PPP; and (iv) the difference between the weighted average call money rate in India and the effective US Fed Fund rate to represent uncovered interest parity (UIP).

In the second stage, the impact of forex interventions on exchange rate volatility is examined. The mean equation in (1) is augmented with volatility equations (2) and (3) – a GARCH model with different specifications (Dominguez, 1993 and Broto, 2013):

$$\varepsilon_t = \varepsilon_t^f h_t^{1/2} \dots (2)$$

$$h_t = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \alpha_2 h_{t-1} + \Gamma Y \dots (3)$$

where, ε_t denotes the error term of the mean equation (1). ε_t is split into a white noise (ε_t^f) component and a time-dependent standard deviation segment ($h_t^{1/2}$). h_t is determined by (a) lagged squared error terms (ARCH), (b) its own lagged values (GARCH), and (c) a set of explanatory variables (Y , i.e., US VIX as a measure of global uncertainty;

gross forex intervention (purchases *plus* sales) in a month, which captures the volume affect; and the nonlinear effects of gross interventions in the form of a squared term.

The results indicate that an increase in net FPI inflows leads to INR appreciation and *vice versa*. Both debt and equity portfolio flows are found to be statistically significant in the same direction. Inflation differentials and interest rate differentials are not statistically significant (Table 3) – neither PPP nor UIP holds in short-run in Indian conditions. The coefficient of the interaction term (*net FPI x net Intervention*)⁶ is positive and statistically significant, opposing the negative and significant impact of net FPI flows term and indicating that forex intervention, both purchases and sales, effectively weaken the impact of capital flows on the exchange rate. These coefficients are also found to be statistically not different from one another⁷, which suggests no asymmetry in the impact of forex purchases and sales on the exchange rate. The coefficient of the interaction term between forward market interventions and net FPI is also positive and statistically significant, indicating that forward market interventions⁸ also reduce the impact of FPI flows on exchange rate changes.

The US VIX has a positive and statistically significant impact on exchange rate volatility, indicating that heightened global uncertainty accentuates exchange rate volatility in India. The impact of the gross spot intervention, on the other hand, is statistically significant and negative,

⁶ The interaction term is supposed to be positive always, as the purchases (+) happens when net inflows (+) occurs and sales (-) happens when net outflows (-) occurs. Hence the results can be interpreted in terms of the absolute size of the intervention.

⁷ Wald test for equality of coefficients of (Net FPI x purchases) and (Net FPI x sales) in Model 3 (Table 3): chi-square p-value = 0.184.

⁸ As against spot market intervention for which the effect on INR/USD is contemporaneous only, forward market intervention is supposed to affect the exchange rate contemporaneously and over a period. The outstanding amount represents the cumulative action taken so far, and the elasticity represents the impact of current and previous actions.

Table 3: Regression Estimates: Dependent Variable is Changes in INR/USD

Exogenous Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Mean Equation					
Inflation differential (-1)	0.023 (0.672)	0.003 (0.965)	0.015 (0.765)	0.049 (0.387)	(-) 0.024 (0.734)	-0.023 (0.748)
Interest rate differential (-1)	0.001 (0.975)	0.017 (0.722)	0.032 (0.448)	(-) 0.020 (0.652)	0.010 (0.830)	0.013 (0.771)
Net FPI inflows	(-) 0.151*** (0.000)		(-) 0.206*** (0.000)	(-) 0.121*** (0.000)	(-) 0.108*** (0.000)	(-) 0.112*** (0.000)
Net FPI inflows (Equity)		(-) 0.119*** (0.002)				
Net FPI inflows (Debt)		(-) 0.209*** (0.002)				
Net FPI x Net Intervention Spot	0.007** (0.023)	0.007** (0.018)				
Net FPI x Spot Purchases [#]			0.005** (0.047)			
Net FPI x Spot Sales [^]			0.008*** (0.001)			
Net FPI x Outstanding Forwards				0.015*** (0.000)		
Constant	0.281 (0.130)	0.276 (0.144)	0.194 (0.259)	0.291* (0.091)	0.433** (0.014)	0.412** (0.020)
AR (-1)	0.030 (0.721)	0.039 (0.670)	(-) 0.027 (0.764)	0.121 (0.220)	(-) 0.009 (0.925)	(-) 0.032 (0.740)
AR (-2)	(-) 0.066 (0.516)	(-) 0.048 (0.668)	(-) 0.091 (0.359)	(-) 0.137 (0.198)	(-) 0.075 (0.436)	(-) 0.099 (0.290)
Volatility Equation						
ARCH (-1)					(-) 0.088* (0.054)	(-) 0.114** (0.017)
ARCH (-2)					0.036 (0.826)	0.073 (0.626)
GARCH (-1)					0.239 (0.388)	0.319** (0.034)
US VIX					0.052** (0.042)	0.050** (0.034)
Gross Intervention Spot					(-) 0.569*** (0.009)	(-) 4.690*** (0.000)
Gross Intervention Spot ^2						0.219*** (0.000)
Constant					4.142** (0.028)	23.318*** (0.000)
Portmanteau test for white noise of residuals (p-value)	0.243	0.166	0.792	0.517	0.486	0.510

Note: p-values in parentheses are based on robust standard errors; *p<0.1, ** p < 0.05, *** p < 0.01; AR: Auto Regressive; ARCH: Auto Regressive Conditional Heteroscedastic; GARCH: Generalized ARCH.

[#]: The interaction term is generated in those months where there are net purchases, otherwise kept zero.

[^]: The interaction term is generated in those months where there are net sales, otherwise kept zero.

Source: Authors' estimates

implying that interventions curb exchange rate volatility, confirming the results from (1) to (4) in Table 3. The relationship is non-linear as shown by the positive and statistically significant impact of the squared term, suggesting the existence of threshold effects and explaining the "leaning against the wind" phenomenon.

V. Conclusion

Several emerging market economies (EMEs) have opted for market-determined exchange rates – broadly classified as managed floats in *de jure* terms – to reap the equilibrating properties of freer exchange rates movements in the context of balance of payments disequilibria. The experience with floating exchange rates the world over has, however, been quite the converse, marked by idiosyncratic movements, overshoots hysteresis and several generations of currency crises, with adverse implications for domestic real economic activity. Hence, EMEs and even several advanced economies (AEs) have employed foreign exchange interventions to curb excessive exchange rate volatility and thereby prevent macroeconomic and financial stability risks from materialising. These interventions assume policy relevance, especially when net international investment positions are negative and when imports are a significant component of consumer prices. In this context, it has been acknowledged that marrying foreign exchange interventions with inflation targeting has significantly strengthened EMEs macroeconomic policy framework (BIS, 2019). This has also led to the recognition of such interventions as a legitimate instrument in the macroeconomic toolkit of EMEs [IMF, 2016; Adler *et al.*, (2016)].

The results of the empirical analysis presented here shows that with the progressive liberalisation of current and capital transactions, the Indian economy has experienced bouts of exchange rate volatility, with destabilising consequences for real activity. It is the volatility of portfolio flows induced

by risk-on-risk-off sentiments, mainly on account of global spillovers, that is the source of exchange rate volatility rather than differentials in inflation or interest rates. Foreign exchange interventions, both spot and forward, effectively counter capital flows volatility, with symmetric effects of purchases and sales. We also detect threshold effects of forex interventions. Throwing sand in the wheels to dampen the exchange rate volatility is more effective than attempts to influence the level of the exchange through large interventions. This finding has important implications for the conduct of exchange rate policy in countries like India.

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A Suite of Approaches for Estimating Equilibrium Exchange Rates for India 2.0

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Completing the full suite of equilibrium exchange rates for India, this paper highlights the role of price differentials, interest rate differentials, social thrift, productivity and the current account balance in determining the Indian rupee's equilibrium value.

Introduction

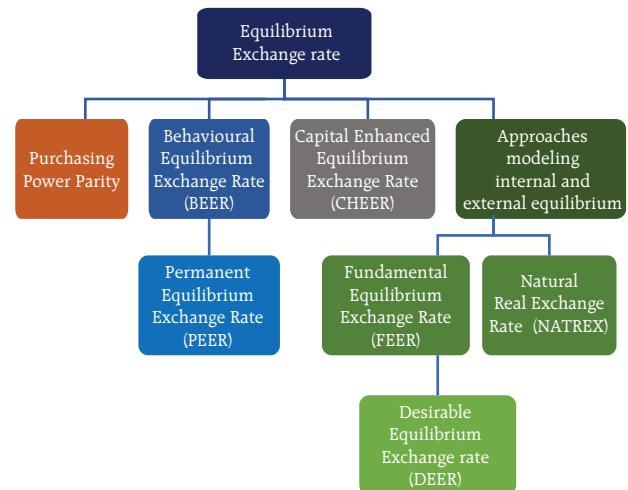
Equilibrium exchange rate models provide guiding frameworks for assessing the "fair value" of the exchange rate, based on economic fundamentals. In this sequel to the November 2024 effort (Patra et al., 2024), we expand the suite of equilibrium exchange rates from the purchasing power parity (PPP), the behavioural equilibrium exchange rate (BEER), the permanent equilibrium exchange rate (PEER) and the fundamental equilibrium exchange rate (FEER) approaches to cover the capital enhanced equilibrium exchange rate (CHEER), the desired equilibrium exchange rate (DEER) and the natural real exchange rate (NATREX) approaches (Annex Table A1).

To recapitulate, while the PPP model links exchange rates to price level differences across countries, the BEER framework relates exchange rate assessment to current fundamentals. The PEER refines BEER by focusing on long-term sustainable

fundamentals. The FEER determines the equilibrium real exchange rate that ensures both internal (full employment and stable prices) and external (sustainable current account balance) equilibrium. A variant of FEER is the DEER, which incorporates optimal policy such as policymakers' current account targets, thereby bringing in a normative perspective. The CHEER integrates interest rate parity conditions with PPP to evaluate the nominal exchange rate behaviour in a short to medium run framework. The NATREX approach emphasises medium to long run exchange rates by accounting for capital and debt dynamics and removing speculative factors, thus providing a broader, time-variant framework (Chart 1).

This article is structured as follows. Select stylised facts specific to the models estimated in this paper are presented in Section II, followed by the description of these alternative approaches in Section III. Methodological details and estimation results are discussed in Section IV and Section V concludes the paper.

Chart 1: A Suite of Models for Estimating Equilibrium Exchange Rates



Source: Authors' compilation.

[^]The authors are from the Reserve Bank of India. The views expressed in this article are those of the authors and do not represent the views of the Reserve Bank of India.

II. Stylised Facts

Uncovered Interest Parity (UIP) and Purchasing Power Parity (PPP) are the starting point for understanding currency valuation and for identifying misalignments. UIP states that with efficient capital markets, the difference in interest rates between two countries will equal the expected relative change in their exchange rates over the same period, ensuring no arbitrage opportunities for investors:

$$S_{t+1}^e = S_t \frac{[1 + i_t]}{[1 + i_t^*]}$$

where i_t and i_t^* are home and foreign nominal interest rates, S_t is the exchange rate at time t, and superscript 'e' denotes expected value (Tanner, 1998). When relative purchasing power parity holds, exchange rates adjust to offset differences in inflation between two countries. If one country has higher inflation, its currency should depreciate relative to the other to maintain the same purchasing power for goods over time. Accordingly, the relative PPP exchange rate is given by:

$$S_t = S_{t-1} \frac{[1 + \pi_t]}{[1 + \pi_t^*]}$$

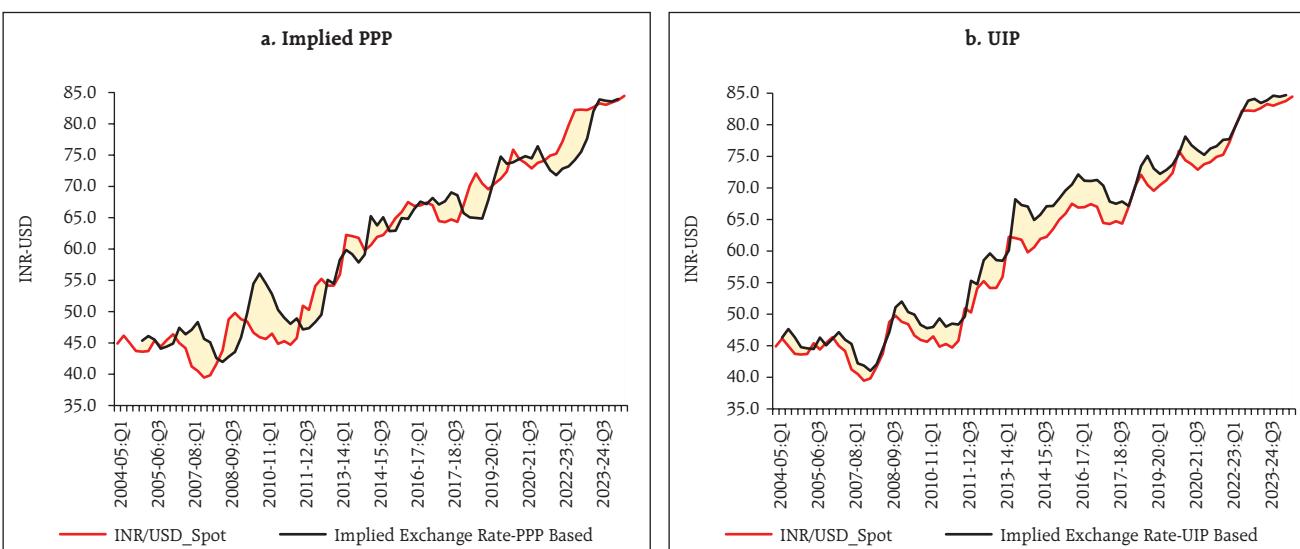
where π_t and π_t^* are home and foreign inflation rates.

The actual INR-USD spot exchange rate deviated substantially from its level implied by PPP and UIP during the global financial crisis (GFC) of 2008-09 and taper tantrum of 2013-14 (Charts 2a and b). Deviations arose from market stress, risk aversion, and capital outflows from emerging markets, including India. This led to widening of interest rate differentials and significant exchange rate volatility. Ahead of the taper tantrum, India's high current account deficit and inflation widened interest rate differentials and worsened UIP deviations. In contrast, recent years have seen significantly lower deviations from UIP, reflecting improved macroeconomic stability. The current account deficit and inflationary pressures eased. Episodes of capital flows enabled India's forex reserves to grow. These developments helped to bring about a closer alignment between interest rate differentials and exchange rate expectations.

III. Model Description

The capital enhanced equilibrium exchange rate (CHEER) model (MacDonald, 2000), is one of

Chart 2: INR-USD Exchange Rate based on Implied PPP and UIP



the popular approaches to estimate the equilibrium nominal exchange rate. It bridges the gap between traditional goods market equilibrium (PPP) and financial market behaviour (UIP) (Juselius, 1990 and 1995; Johansen and Juselius, 1992). This makes CHEER particularly relevant for analysing exchange rate movements driven by interest rate differentials and capital flows. The underlying rationale for the CHEER model is to explain the deviations of nominal exchange rate from its long run equilibrium indicated by the PPP as a result of non-zero interest rate differentials that may be necessary to finance the capital account of an economy's balance of payments (BoP).¹ By jointly analysing UIP and PPP, CHEER offers a comprehensive framework to understand exchange rate dynamics in the context of market integration. It involves the estimation of a cointegrating relationship between relative prices, nominal interest rate differentials and the nominal exchange rate.

The desired equilibrium exchange rate (DEER) emerged from identifying the potential shortcomings of the fundamental equilibrium exchange rate (FEER) approach. The concept of FEER may involve an arbitrary definition of medium-term fundamentals, particularly with regard to the definition of the target current account, sustainable capital flows and optimal fiscal policy. The FEER is inherently normative and is, therefore, tied to some kind of a 'desired' policy trajectory (Williamson, 1994). In the case of DEER, the objective is to obtain an equilibrium real exchange rate aligned with specific policy goals as for instance, the desired path of fiscal policy, sustainable external debt levels or targeted current account balances (Égert, 2003). The distinction of DEER lies in being goal-driven, focusing on what exchange rate policymakers *desire* to achieve rather than optimality considerations. While closely

related to the FEER, DEER's primary advantage is its immediate applicability in policy contexts. Unlike the neutral stance of the FEER model, DEER incorporates normative preferences, allowing policymakers to align currency valuation with strategic macroeconomic objectives. Unlike static models, DEER incorporates hysteresis, acknowledging that prolonged exchange rate misalignments affect net foreign assets and debt servicing costs, necessitating dynamic recalibration. This path-dependent approach makes DEER a powerful tool for assessing misalignments and their implications on macroeconomic stability (Artis and Taylor, 1995). It considers variables like the real effective exchange rate (REER), trade elasticities, domestic and foreign output levels, and target for current account balances to estimate the degree of misalignment between observed exchange rates and policy-driven equilibrium rates.

The NATREX is a long-run equilibrium concept defined as 'the rate that would prevail if speculative and cyclical factors could be removed while unemployment is at its natural rate' (Stein, 1994). The NATREX approach considers exchange rate dynamics as consisting of three components – the deviation of the current (short-term) exchange rate from the medium-term value; the deviation of the medium-term real exchange rate from the long-term equilibrium value; and the long-term equilibrium exchange rate that is determined solely by economic fundamentals, which are defined as productivity and time preference (or "social thrift") at home and abroad. It is the real exchange rate which equates the current account to *ex ante* savings and investment implied by fundamentals relating to productivity and thrift, which are exogenous. It is also consistent with portfolio balance, equating domestic and world real interest rates. The NATREX dynamically evolves with changes in fundamentals, capturing how structural shifts like productivity growth or shifts in savings

¹ CHEER, therefore, supplements the nominal UIP condition but excludes any risk premia with the assumption that the expected value of the nominal exchange rate can be predicted by using relative prices if PPP holds.

patterns influence the real exchange rate trajectory. This makes it a valuable tool for assessing exchange rate misalignments and understanding the factors driving deviations from the long run equilibrium. Unlike models focused on short-term market forces like the PPP, BEER or CHEER, the NATREX integrates structural and dynamic factors into the natural adjustment of an economy towards its long run equilibrium. Additionally, unlike other medium run models like the FEER and DEER, it does not require normative assumptions about underlying variables and allows for a time-varying equilibrium based on exogenous fundamentals. Thus, it has two main components – the long run equilibrium real exchange rate and the medium run dynamics of adjustment towards this equilibrium. It is estimated by identifying a long run cointegrating relationship between the real exchange rate and the fundamentals, with an error correction term included to capture the trajectory of the real exchange rate towards the NATREX.

While CHEER provides the estimated equilibrium nominal exchange rate in the short run and the medium run, DEER provides the equilibrium REER that should prevail in the medium run, while NATREX estimates the long run equilibrium REER. Compared to models like FEER and NATREX, which emphasise optimal policy paths/targets or long run equilibrium respectively, CHEER and DEER are easier to estimate and operationalise. Accordingly, in conjunction with the prequel endeavour of November 2024, we now offer a comprehensive framework for understanding exchange rate dynamics under various alternate models capturing perspectives on different time dynamics.

IV. Empirical Methodology and Results

The following equation is used to estimate the equilibrium NEER and the equilibrium INR-USD nominal exchange rate through the CHEER approach:

$$\text{Nominal exchange rate}_t = \alpha + \beta_1(P_t - P_t^*) + \beta_2(I_t - I_t^*) + \varepsilon_t \quad (1)$$

where the nominal exchange rate is India's 40-currency trade weighted nominal effective exchange rate (NEER) and INR-USD bilateral nominal exchange rate as alternate specifications, α is the intercept term, P_t is the domestic price level represented by India's consumer price index (CPI)², P_t^* is the US CPI, I_t is the interest rate on 10 year Indian treasury bond / 3-month treasury bill rate as alternate specifications, I_t^* is the market yield on 10-year US treasury securities / 3-month treasury bill rate as alternate specifications and ε_t is the error term. Therefore, $P_t - P_t^*$ and $I_t - I_t^*$ indicate the price differential and the long run / short run interest rate differentials at time period t , respectively. While I_t and I_t^* are expressed in percentage form, P_t , P_t^* , NEER and INR-USD exchange rate are transformed into their natural logarithmic forms to stabilise variances for better model specification. All variables, except interest rates, are de-seasonalised by using the standard X-13 ARIMA procedure.

Based on equation (1), the equilibrium nominal exchange rate can be estimated in (2), with the hat symbol signifying the fitted series:

$$\text{Equilibrium nominal exchange rate}_t = \hat{\alpha} + \hat{\beta}_1(P_t - P_t^*) + \hat{\beta}_2(I_t - I_t^*) \quad (2)$$

A suite of vector error correction models (VECMs) are used on quarterly data from 2004-05:Q1 to 2024-25:Q2 (Annex Table A2 provides details of the variables/indicators that have been used for the empirical analysis) in order to determine the equilibrium NEER and the INR-USD bilateral exchange rate using the CHEER approach. In order to check the

² Data on consumer price index-combined (CPI-C) with base year 2012 are available from January 2011. Prior to that, data corresponding to CPI for Industrial Workers (CPI-IW) have been used and re-based to 2012.

time series properties of the variables, standard unit root tests are conducted. All the variables in equation (1), i.e., the NEER, the INR-USD exchange rate, price differential and interest rate differential are found to be integrated of order 1 (Annex Table A3). As per the Johansen-Hendry-Juselius cointegration test, both trace and max-eigenvalue tests indicate the presence of a long run cointegrating relationship among the variables.

Therefore, a VECM is considered to be appropriate for estimating the equilibrium nominal exchange rate under the CHEER approach. The regression coefficients corresponding to the price

differential and the interest rate differential turn out to be statistically significant with the expected signs (Table 1). The results indicate that in the long run, an increase in the price differential between India and the global economy (or the US) leads to a depreciation of the NEER (or the bilateral INR-USD exchange rate) as higher domestic prices would reduce export competitiveness, while an increase in the long term interest rate spread (or the short term interest rate spread) between India and the US leads to an appreciation of the nominal exchange rate on account of net capital inflows to the domestic economy.

Table 1: Results from the Vector Error Correction Model (VECM) for CHEER Approach³

Explanatory Variables	Long Run Coefficients			
	Specification 1: NEER (Long term interest rate differential)	Specification 2: NEER (Short term interest rate differential)	Specification 3: INR-USD (Long term interest rate differential)	Specification 4: INR-USD (Short term interest rate differential)
<i>Constant_t</i>	4.22*** (0.07)	4.28*** (0.03)	4.96*** (0.07)	4.82*** (0.03)
<i>Ln(P_t) – Ln(P_t[*])</i>	-0.48*** (0.04)	-0.49*** (0.03)	0.81*** (0.05)	0.78*** (0.03)
<i>(I_t – I_t[*])</i>	0.02** (0.01)	0.01** (0.004)	-0.05*** (0.01)	-0.02*** (0.004)
<i>ect_t</i>	-0.08** (0.03)	-0.10** (0.04)	-0.17** (0.07)	-0.22*** (0.07)
Post estimation results				
Adjusted R-squared	0.52	0.54	0.18	0.39
F-Statistic	11.80	11.11	3.16	6.55
VEC Residual Portmanteau Tests for Autocorrelations ⁴	Adj. Q-Statistic (lag 2) = 22.88; Prob. = 0.12	Adj. Q-Statistic (lag 2) = 19.88; Prob. = 0.23	Adj. Q-Statistic (lag 3) = 7.40; Prob. = 0.96	Adj. Q-Statistic (lag 3) = 25.22; Prob. = 0.07
VEC Residual Serial Correlation LM Tests ⁵	Rao F- Statistic (Lag 1) = 2.57***; Rao F-Statistic (Lag 2) = 1.10	Rao F- Statistic (Lag 1) = 1.48; Rao F-Statistic (Lag 2) = 1.41	Rao F- Statistic (Lag 1) = 0.47; Rao F-Statistic (Lag 2) = 0.52; Rao F- Statistic (Lag 3) = 0.38;	Rao F- Statistic (Lag 1) = 1.12; Rao F-Statistic (Lag 2) = 0.65; Rao F- Statistic (Lag 3) = 1.92;
VEC Residual Heteroskedasticity Tests (Includes Cross Terms) ⁶	Prob. (χ^2_{114}) = 0.79	Prob. (χ^2_{120}) = 0.08	Prob. (χ^2_{222}) = 0.00	Prob. (χ^2_{228}) = 0.11

Note: ***, **, *: Significant at less than 1 per cent, 5 per cent and 10 per cent level, respectively. Figures in parentheses represent robust standard errors.
Sources: Authors' estimates.

³ Period dummies to control for the impact of global financial crisis of 2007-09 and taper tantrum episode of 2013-14 were used to improve model specifications.

⁴ No residual autocorrelations up to lag h. Test is valid only for lags larger than the VAR lag order.

⁵ Null hypothesis: No serial correlation at lag h.

⁶ Null Hypothesis: Homoscedasticity.

The long run coefficients thus obtained can be used to estimate the equilibrium NEER. In the short run, however, own lags of NEER / INR-USD exchange rate turn out to be statistically significant. The error correction term (ect) is also found to be statistically significant across all model specifications, which indicates that the models are stable. The models also broadly satisfy post-estimation diagnostics. The fitted values of the NEER / INR-USD estimated by using the medium run coefficients represent the long run equilibrium NEER / INR-USD exchange rate under the CHEER approach.

Based on the CHEER approach, the actual NEER and the INR-USD nominal exchange rate have been broadly aligned to their medium run equilibrium levels, barring the period of the taper tantrum (Chart 3).

For the DEER approach, the following econometric model is estimated by relating the current account balance to GDP ratio (CAB) to key macroeconomic variables:

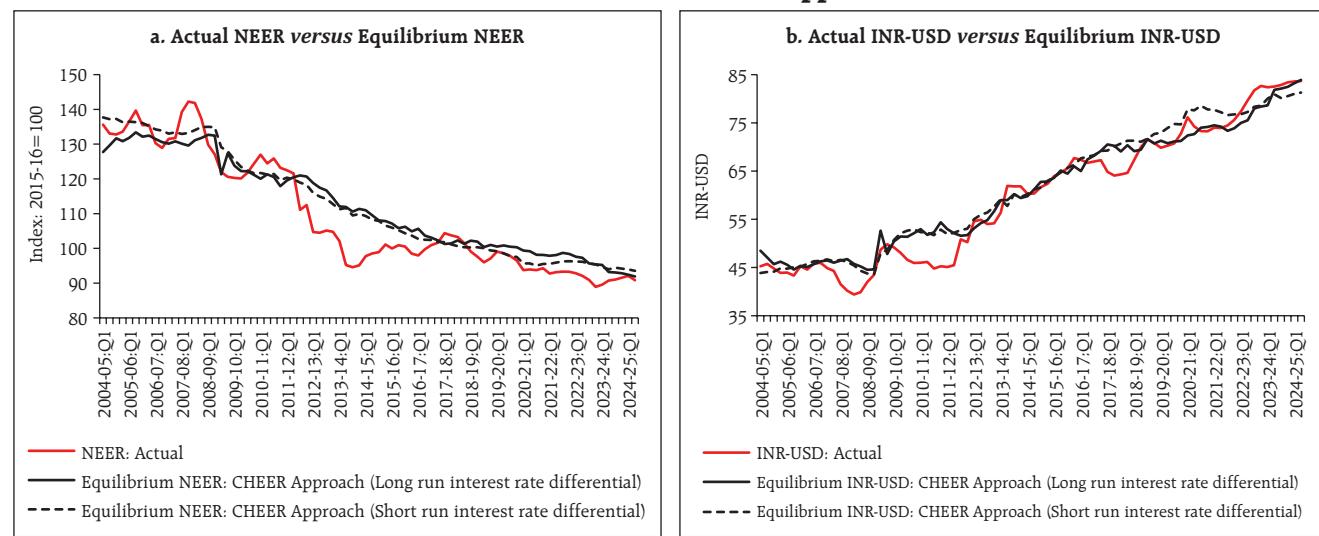
$$\text{CAB}_t = \beta_0 + \beta_1 \ln \text{REER}_t + \beta_2 \ln \text{INGDP}_t + \beta_3 \ln \text{WGDP}_t + \varepsilon_t \quad (3)$$

where β_0 is the intercept, β_1 , β_2 and β_3 represent the long run coefficients from the ARDL model. The calculation provides a measure of the DEER, reflecting the level of REER consistent with sustainable external and internal balances.

The model incorporates the log of the real effective exchange rate ($\ln \text{REER}$), the log of India's real GDP ($\ln \text{INGDP}$), the log of real global GDP proxied by GDP of G20 countries ($\ln \text{WGDP}$) and two dummy variables capturing the GFC and the taper tantrum. All variables have been de-seasonalised by using the standard X-13 ARIMA procedure. The estimation is conducted by using the ARDL approach, which captures both short run dynamics and long run relationships over the sample period from 2004-05:Q1 to 2024-25:Q2.

To calculate the DEER, long run sustainable components of the explanatory variables (REER, CAB, INGDP, and WGDP) are extracted by using the Hodrick-Prescott (HP) filter, which smooths time-

Chart 3: Actual versus Equilibrium NEER and the INR-USD Exchange Rate as Estimated from the CHEER Approach



Sources: Authors' estimates.

series data to isolate trend components. These trend values are substituted into the estimated long run relationship derived from the ARDL model. The equilibrium exchange rate (REER*) is then calculated by solving for $\ln\text{REER}^*$ in equation (3).

The ARDL estimates reveal that $\ln\text{INGDP}$ has a negative and statistically significant effect on CAB with a coefficient of -0.18, indicating that higher domestic GDP worsens the current account balance (Table 2). In contrast, $\ln\text{WGDP}$ exhibits a positive coefficient of 0.12, suggesting that higher global economic activity positively impacts the current account balance. While the rise in domestic GDP would lead to an appreciation, higher global GDP would lead to a depreciation of the equilibrium exchange rate through productivity changes. The coefficient of $\ln\text{REER}$ is 0.20, implying that an increase in the real effective exchange rate has a direct positive effect on the current account balance, owing to the productivity channel in the medium run.

The comparison between the calculated DEER and the observed REER provides insights into the

Table 2: Results from the ARDL Model for DEER Approach

Explanatory variables	Long run coefficients
$\ln(\text{REER}_t)$	0.20*** (0.04)
$\ln(\text{INGDP}_t)$	-0.18*** (0.04)
$\ln(\text{WGDP}_{t-1})$	0.12* (0.03)
Constant_t	-0.42 (0.31)

Post-estimation results
Adjusted R-squared
D-W Statistic
Breusch-Godfrey Serial Correlation LM (4)
ARCH LM (4)

Bounds test result

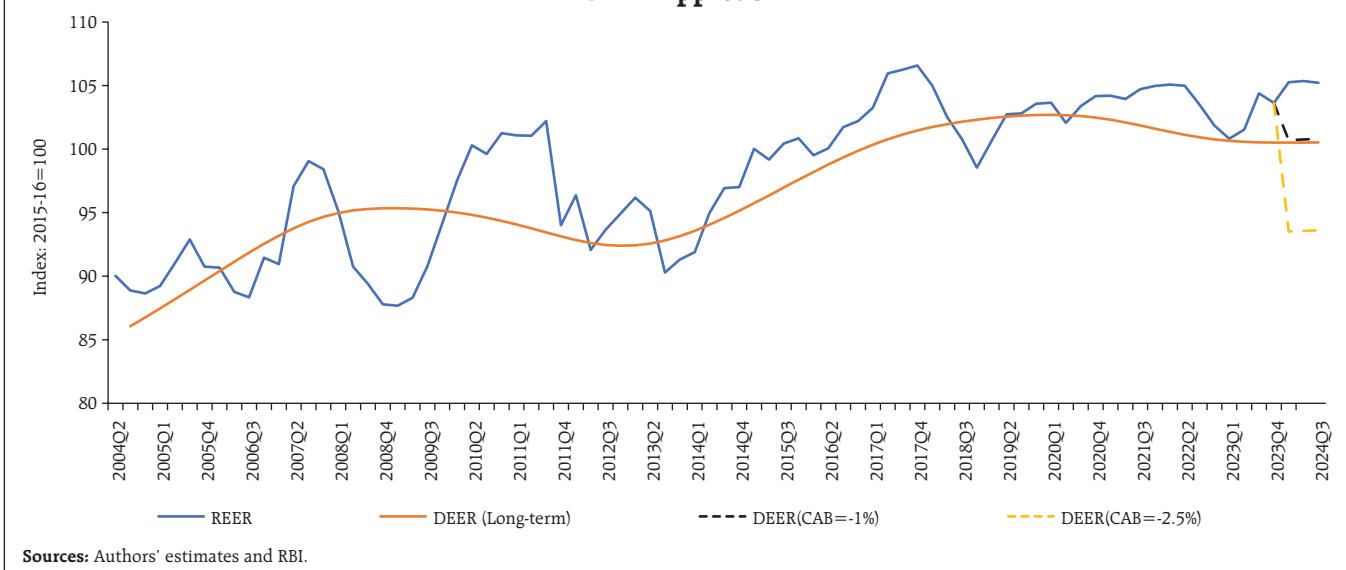
F-statistic = 13.96; 1 per cent Lower Bound = 4.7; Upper Bound = 5.0.

Note: ***, **, *: Significant at less than 1 per cent, 5 per cent and 10 per cent level; Figures in brackets are robust standard errors.

Source: Authors' estimates.

degree of exchange rate misalignment (Chart 4). If the observed REER is higher than the DEER, the Indian rupee is overvalued, which may impair competitiveness. Conversely, if the observed REER is lower than the DEER, the rupee is undervalued.

Chart 4: Actual versus Equilibrium REER as estimated from the DEER Approach



Sources: Authors' estimates and RBI.

potentially boosting export competitiveness. Moreover, we have considered two different targets of CAB as per cent of GDP – (-) 1.0 per cent and (-) 2.5 per cent as alternate desired levels to estimate the DEER. Illustratively, with the current account balance at (-) 1.0 per cent of GDP, the DEER level suggests a depreciation of the real exchange rate to reach its equilibrium level. These results highlight the importance of maintaining an exchange rate close to its equilibrium to support external stability and sustainable growth.

The analysis underscores the critical role of domestic and global economic conditions in determining the equilibrium exchange rate, offering valuable guidance for exchange rate policy and external sector management.

Underlying the NATREX model are four basic functions⁷. The savings function $S(F, \delta)$ specifies savings/GDP (S) as a function of external debt (F ; with $\partial S / \partial F > 0$ as a rise in current savings is necessary to repay higher debt burden in the future) and the social time preference⁸ (δ ; with $\partial \delta / \partial F > 0$ as a stronger preference for current consumption leads to lower current savings). The investment function is given by $I(R; Z_q)$, where R is the real exchange rate ($\partial I / \partial R < 0$ as an appreciation of the exchange rate decreases the q-ratio⁹) and Z_q is a vector of exogenous fundamentals that raise the q-ratio such as labour and capital productivity ($\partial I / \partial Z_q > 0$). Finally, the trade balance function $B(R; Z_b)$ relates the real exchange

rate R ($\partial B / \partial R < 0$ as an appreciation leads to a deterioration of the trade balance) and productivity of the export sector Z_b ($\partial Z_b / \partial R > 0$; Z_b includes both physical productivity and the terms of trade) to the balance of trade. Growth is given by $G(R; Z_q, Z_g)$, where $\partial G / \partial R < 0$ (as appreciation of the real exchange rate reduces investment as explained earlier), $\partial G / \partial Z > 0$ and $\partial G / \partial Z_g > 0$. Z_g is a vector of exogenous variables that signifies fundamental determinants of growth such as improved efficiency, technology transfers through FDI, liberalisation of the economy, wage price flexibility and rule of law. Incorporating these functions, the medium run NATREX is the value of the real exchange rate that solves the following internal–external equilibrium equation where the external debt/GDP ratio F_t is predetermined, r is the world rate of interest and therefore rF_t is the ratio of payments on foreign debt to GDP:

$$B(R_t, Z_b) - rF_t = S(F_t, \delta_t) - I(R_t; Z_q) \quad (4)$$

The left-hand side expression of (4) is an expression for the current account $CA_t(R_t; F_t, Z_b, r)$, and the right-hand side expression is the savings–investment balance $SI_t(\delta, R_t; F_t, Z_q)$. The medium run external debt/GDP equation is given by:

$$dF_t/dt = rF_t - B(R_t, Z_b) - G(R_t; Z_q, Z_g)F_t = I(R_t; Z_q) - S(F_t, \delta) - G(R_t; Z_q, Z_g)F_t \quad (5)$$

The long run NATREX is the medium run real exchange rate at which the debt/GDP ratio has stabilised, i.e., $dF_t/dt = 0$ in equation (5) above which becomes $[r - G(F; Z_q, Z_g)] F = B(R_t; Z_b)$. Hence, at this point the trade balance is sufficiently large to sustain debt repayments adjusted for growth.

Empirically, the long run NATREX at time t is estimated by taking time-preference (δ_t) and technological progress [$Z = f(Z_q, Z_b, Z_g)$] as exogenous in the reduced-form equation:

⁷ For more details refer to Chapter 4 of Stein (2006).

⁸ The social time preference δ is an inverse measure of thrift. It is the rate at which the government and private sector emphasise present consumption over future consumption.

⁹ Tobin's q is the ratio of expected value of the firm (proxied by the present values of its cash flows) to the cost of investment. An investment is undertaken if $q > 0$, i.e., the proposed capital formation increases the value of the firm by more than the cost of the investment. In an open economy that sells output at the world price, an appreciation of the real exchange rate lowers the export earnings of firms, which lowers the q ratio and makes many investments unviable, hence reducing overall investment.

Table 3: Results from the ARDL Model for the NATREX Approach

Explanatory Variables (Dependent Variable: $\ln(\text{REER})_{t-1}$)	Long Run Coefficients
Constant	15.98*** (3.73)
$\ln(\text{Domestic Social Consumption}/\text{GDP})_{t-1} [\delta_t^{\text{domestic}}]$	-0.65** (0.29)
$\ln(\text{Average Foreign Social Consumption}/\text{GDP})_t [\delta_t^{\text{foreign}}]$	-1.29** (0.49)
$\ln(\text{Domestic GDP Per Capita})_{t-1} [Z_t^{\text{domestic}}]$	0.84*** (0.20)
$\ln(\text{Average Foreign GDP Per Capita})_{t-1} [Z_t^{\text{foreign}}]$	-1.98*** (0.59)
$e_{ct,t}$	-0.46*** (0.07)
Post Estimation Results	
Adj. R-squared	0.46
F-Statistic	5.91
D-W Statistic	2.10
Breusch-Godfrey Serial Correlation LM Test ¹⁰	Prob. F(2,61) = 0.64
Breusch-Pagan-Godfrey Heteroskedasticity Test ¹¹	Prob. F(13,63) = 0.63
Bounds Test Result	
F-statistic = 7.85; 5 per cent Lower Bound at sample size 75 = 2.73; Upper Bound = 3.72.	

Note: ***, **, *: Significant at less than 1 per cent, 5 per cent and 10 per cent level. Figures in parentheses are standard errors. All variables are seasonally adjusted.

Source: Authors' estimates.

$$\text{REER}_t = \hat{\alpha} + \hat{\beta}_1 \delta_t^{\text{domestic}} + \hat{\beta}_2 \delta_t^{\text{foreign}} + \hat{\beta}_3 Z_t^{\text{domestic}} + \hat{\beta}_4 Z_t^{\text{foreign}} \quad (6)$$

Equation 6 is estimated by using an ARDL approach using data from 2004-05:Q4 to 2023-24:Q4 (Table 3).

Medium Run Effects

Starting from a state of medium run equilibrium given by equation (4), wherein current account balance equals the savings-investment balance, a rise in time preference ($\delta_t^{\text{domestic}}$) results in ex ante savings falling short of investment at the present exchange

rate. This leads to a rise in external borrowings, thus appreciating the REER in the medium run.

In the case of a rise in domestic productivity (Z_t^{domestic}), the marginal cost of producing tradable goods decreases, thus improving the current account balance. However, this improvement in productivity does not immediately alter domestic savings or investment decisions. Thus, the REER appreciates, reducing the competitiveness of tradables and bringing the current account and capital flows back to balance.

Hence, a rise in either time preference or productivity has the same effect on REER in the medium run – an appreciation. However, they have different long run effects due to the differential impact of these movements on the debt burden.

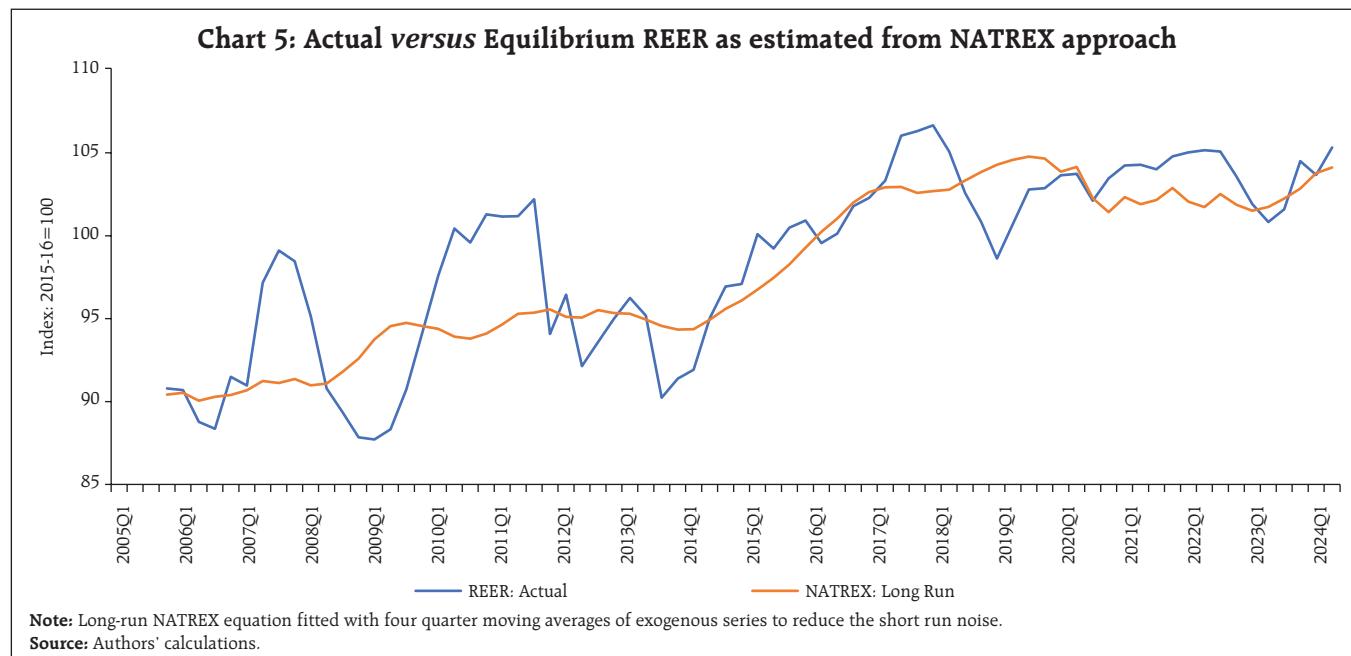
Long Run Effects

With a rise in time preference, which leads to capital inflows to finance consumption, REER appreciates in the medium run. This leads to a rise in foreign debt, thus creating a burden of higher future debt repayments. The associated capital outflows put a depreciating pressure on the REER, thereby improving the current account balance. For the case of India too, the empirical results indicate that a rise in social time preference leads to a depreciation of the REER in the long run.

In contrast to the rise in time preference, a rise in productivity has an opposite impact on REER in the long run. It improves the current account balance and helps reduce foreign debt, thereby appreciating the REER in the long run. This result is empirically confirmed in the case of India as the coefficient of domestic GDP per capita (a proxy for productivity) is positive and statistically significant.

¹⁰ Null hypothesis: No serial correlation up to 2 lags.

¹¹ Null hypothesis: Homoscedasticity.



Misalignment vis-à-vis NATREX

The REER has increased broadly in line with macroeconomic fundamentals under NATREX. Further, in the past financial year, results from the NATREX suggest that the actual REER was fairly aligned to its long run equilibrium (Chart 5).

Overall, the results indicate that in 2023-24, India's REER was somewhat below the level consistent with its medium run fundamentals especially during the second half of 2023-24 (Table 4). India's NEER has also been below its medium-run equilibrium level. The movements of the equilibrium REER obtained in the medium run (based on the DEER approach)

suggest an overvaluation of Indian rupee while the NATREX approach shows the equilibrium REER trending upwards in the long run. Overall, across models, the medium run equilibrium REER is found to be higher than the actual REER, indicating a scope for the appreciation of the actual REER.

V. Concluding Remarks

Equilibrium exchange rates imply consistency with a given set of fundamentals over the medium to long term while acknowledging inherent trade-offs. There is no consensus in the literature on the correct concept of equilibrium exchange rate. Each of the concepts discussed and estimated in this paper and its prequel correspond to a particular policy question. Our objective is to put together the broadest range of indicators in the form of a toolkit that serves as a point of reference for policy discussions. It is important to note that these estimates are sensitive to key parameters, modelling framework and the choices thereof. The overarching point is, however, that any assessment of exchange rate misalignment must be informed by empirical analysis.

Table 4: Degree of REER Misalignment based on the Various Approaches

FY: 2023-24	BEER: Short Run	BEER: Medium Run	PEER	FEER	DEER	NATREX	CHEER (NEER)
Q1	-0.9	3.9	3.8	9.2	-0.9	0.6	5.7
Q2	-1.8	2.0	1.1	7.2	-3.8	-1.7	2.4
Q3	0.7	2.3	1.9	10.5	-3.0	0.1	2.1
Q4	0.01	1.6	0.6	10.3	-4.6	-1.2	1.2

Note: REER Misalignment = Equilibrium REER - Actual REER.

Source: Authors' estimates.

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Annex**Annex Table A1: Summary of Empirical Approaches to Estimating Equilibrium Exchange Rates**

Sl. No.	Name	Theoretical Assumptions	Relevant Time Horizon	Statistical Assumptions on Dependent Variable	Dependent Variable	Estimation Method
1.	Uncovered Interest Parity (UIP)	The expected change in the exchange rate determined by interest differentials	Short run	Stationarity (of change)	Expected change in real or nominal terms	Direct
2.	Purchasing Power Parity (PPP)	Constant Equilibrium Exchange Rate	Long run	Stationary	Real or nominal	Test for stationarity
3.	Capital Enhanced Equilibrium Exchange Rate (CHEER)	PPP plus nominal UIP without risk premia	Short run and medium run (also forecast)	Stationary, with emphasis on speed of convergence	Nominal/Bilateral	Direct
4.	Behavioural Equilibrium Exchange Rate (BEER)	Expected future movements in real exchange rates determined by fundamentals	Short run and medium run (also forecast)	Non-stationary	Real	Direct
5.	Fundamental Equilibrium Exchange Rate (FEER)	Real exchange rate compatible with both internal and external balance	Medium run	Non-stationary	Real	Underlying Balance
6.	Desired Equilibrium Exchange Rate (DEER)	As with FEERs, but the definition of external balance based on targeted policy path	Medium run	Non-stationary	Real	Underlying Balance
7.	Permanent Equilibrium Exchange Rate (PEER)	Same as BEER	Medium / Long run	Non-stationary (Extract permanent component)	Real	Direct
8.	Natural Real Exchange Rates (NATREX)	Same as FEERs, but with the assumptions of portfolio balance and stable external debt to GDP	Long run	Non-stationary	Real	Direct

Source: Driver and Westaway (2004).

Annex Table A2: Variable Description and Data Source

Sl. No.	Variable	Indicator	Description	Data Source
1.	$\ln(\text{REER})_t$	Real effective exchange rate index	40-currency trade-weighted REER	RBI
2.	$\ln(\text{INR-USD})_t$	Exchange rate between India and US	Spot/nominal rate	RBI; Financial Benchmarks India Pvt. Ltd. (FBIL)
3.	$\ln(P_{t,\text{India}})$	Domestic price level	India's consumer price index (CPI)	Ministry of Statistics and Programme Implementation (MoSPI)
4.	$\ln(P_{t,\text{US}}^*)$	Foreign (US) price level	US CPI	St. Louis FRED
5.	$I_{t,\text{India}}$	Domestic interest rate	Interest rate on 10-year Indian treasury bond / 3-month treasury bill rate in alternate model specifications	RBI
6.	$I_{t,\text{US}}^*$	Foreign interest rate	Market yield on 10-year US treasury securities / 3-month treasury bill rate in alternate model specifications	St. Louis FRED and Refinitiv
7.	$\ln\text{INGDP}$	Real GDP of India	Real GDP of India	MoSPI
8.	$\ln\text{WGDP}$	Real global GDP	Proxied by GDP of G20 countries	OECD
9.	DGFC	Dummy variable for Global Financial Crisis period		Authors' calculations
10.	DTAPER	Dummy variable for taper tantrum period		Authors' calculations
11.	$\ln(\text{Domestic time preference})_t$	Domestic Social Consumption/GDP	Ratio of social consumption (Public + Private) to GDP for India	Oxford Economics, CEIC and Authors' calculations
12.	$\ln(\text{Foreign time preference})_t$	Average Foreign Social Consumption/GDP	Average of the ratios of social consumption (Public + Private) to GDP for countries included in foreign sector. Foreign sector includes 16 major trade partners included in the 40 currency REER calculation viz., Australia, Brazil, Ghana, Hong Kong, Indonesia, Japan, Malaysia, Nigeria, Russia, Singapore, South Africa, Republic of Korea, Taiwan, Thailand, the US, and the Eurozone.	Oxford Economics, CEIC and Authors' calculations
13.	$\ln(\text{Domestic productivity})_t$	Average Foreign GDP Per Capita	Average real GDP per capita for countries included in foreign sector. Foreign sector is defined the same as in 12.	Oxford Economics and Authors' calculations

Source: Authors' compilation.

Annex Table A3: Results of the Unit Root Tests

Variables	Augmented Dickey Fuller (ADF) Test Statistic		Phillips–Perron Unit-Root Test Statistic Z(rho)	
	X	ΔX	X	ΔX
$\ln(\text{REER})_t$	-1.439	-6.548***	-1.968	-7.914***
$\ln(\text{INR-USD})_t$	-0.317	-6.948***	-0.172	-6.948***
$(P_t - P_t^*)$	-1.795	-3.269***	-1.584	-6.328***
$(I_t \text{ 10year} - I_t^*, \text{ 10year})$	-1.982	-12.901***	-2.563	-12.976***
$(I_t \text{ 3month} - I_t^*, \text{ 3month})$	-1.065	-8.097***	-1.354	-8.209***
$\ln(\text{GDP})_t$	-2.430	-9.838***	-2.412	-10.541***
$\ln(\text{WGDP})_t$	-0.923	-8.792***	-1.028	-9.011***
$\ln(\text{Domestic time preference})_t$	-1.850	-11.085***	-5.204***	-15.522***
$\ln(\text{Foreign time preference})_t$	-1.514	-6.399***	-1.765	-6.399***
$\ln(\text{Domestic productivity})_t$	-0.612	-12.330***	-0.707	-17.907***
$\ln(\text{Foreign productivity})_t$	-1.058	-8.994***	-1.057	-8.993***

Note: ***, **, and * indicate significance at 1 per cent, 5 per cent, and 10 per cent levels, respectively.

Source: Authors' estimates.

Geopolitical Risk and Trade and Capital Flows to India

by Shesadri Banerjee, Harendra Kumar Behera, Harshita Keshan and Michael Debabrata Patra[^]

In an era of intensifying global tensions, understanding the economic implications of geopolitical risk (GPR) is critical. Our estimates of the impact of GPR on the Indian economy using multivariate time series models indicate that it is transmitted through adjustment of terms of trade and the exchange rate, contracting trade and capital flows by 1.0 and 0.3 percentage points, respectively. Given the relative predominance of the trade channel over the financial channel and consequent pressures on the exchange rate, strategic responses are warranted to bolster resilience against GPR shocks.

Introduction

Geopolitical risks have become the preeminent threat to global stability, reshaping the world's economic landscape and international relations.¹ From the war in Ukraine, the conflict in the Middle East, logistics and shipping disruptions to political spillovers from at least 64 countries going to the polls lately, these crises have dislocated energy markets, shattered supply chains, and imperilled food security, fuelling inflation and accentuating global vulnerabilities. Their pervasive and unpredictable nature has shrouded the trajectory of global growth and stability with heightened uncertainty. Thus, understanding the wider economic implications of geopolitical risk (GPR) assumes importance in the context of interconnectedness between economies

[^] The authors are from the Reserve Bank of India (RBI). The views expressed in this article are those of the authors and do not represent the views of the RBI.

¹ IMF Global Financial Stability Report, April 2023.

propagating and amplifying ripple effects from these exogenous and unpredictable shocks.

India has been no exception to the pervasive influence of GPR. Indian CEOs rank geopolitical factors among the most significant threats to business growth over the next three years (KPMG, 2023). The complexity of policy formulation because of geopolitical factors has also been highlighted (Das, 2023).² Yet, interest in India-specific implications of GPR has been sparse, with a broad preference for considering India within a broader panel focusing on BRICS economies and Asian emerging markets economies, often with a specific emphasis on stock market performance (Balcilar et al., 2018; Kannadhasan and Das, 2020; and Hoque and Zaidi, 2020).³

Our study aims to bridge this gap in the literature by drawing new evidence on the dynamic effects of shocks to the Geopolitical Risk Index (GPRI) on trade and capital flows in respect of the Indian economy⁴ by using various multivariate time series models. The estimation results show that the propagation of the shocks to GPRI for India and the world are dissimilar, both qualitatively and quantitatively, depending on whether the shock to GPRI operates through the trade channel or the financial channel. A one standard deviation shock to the GPRI for India causes a decline in the trade to GDP ratio by 0.9 percentage points and net capital flows by 0.2 percentage points whereas a similar shock to the GPRI for the world contracts trade and capital flows by 1.0 percentage points and 0.3 percentage points, respectively, with a marked difference in the timing of the peak effects.

² "Geopolitical conflicts, geo-economic fragmentations, volatile commodity prices, uncertainty in trajectory of monetary policies and their macro-financial implications, increasing frequency and ferocity of climate shocks, all these prevailing together, present a very complicated or should I say, deadly mix of challenges."

³ To the best of our knowledge, Kumar and Rao (2024) is among the very few attempts to offer India-specific analysis addressing the financial sector implications of GPR.

⁴ We rely on the GPRI developed by Caldara and Iacoviello (2022), a widely recognised tool in research and practice, as evidenced by its extensive citations, cited 2876 times by January 14, 2025.

In Section 2, we present stylised facts that motivate the analysis. Section 3 provides the details of data and sources, model properties and shock identifications. In Section 4, we discuss the results of our analysis. Section 5 concludes the article with some policy perspectives.

II. Stylised Facts

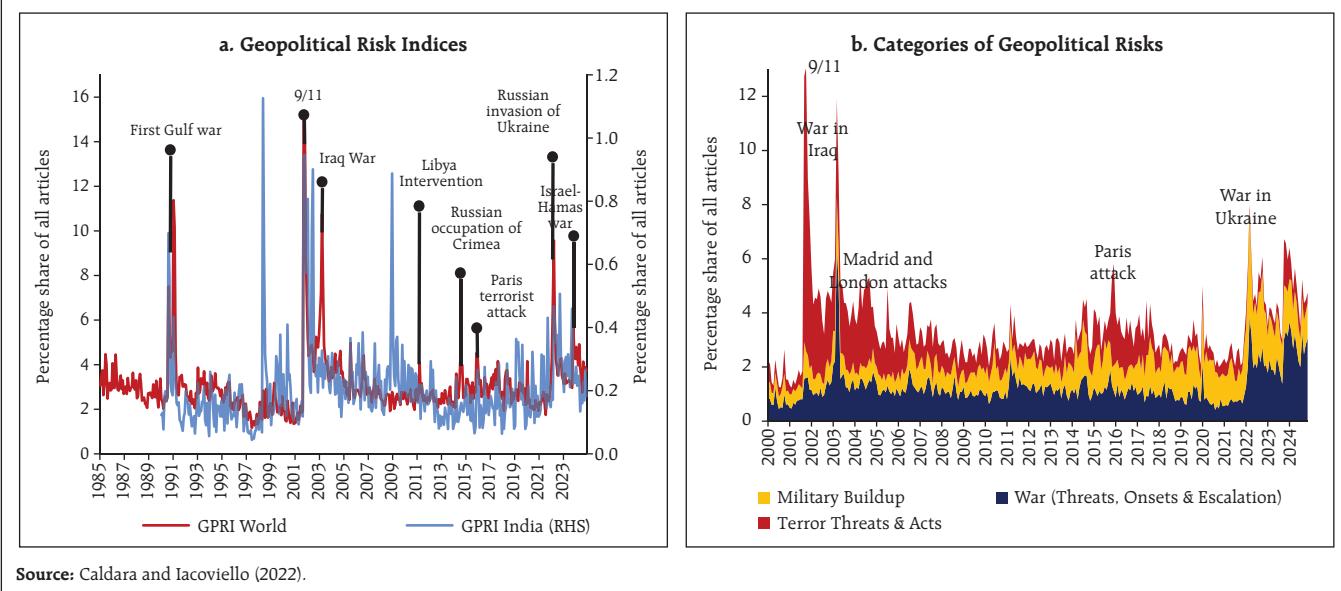
Geopolitics implies a broad realm in international relations, encompassing political instability, tensions and military conflicts between countries, terrorist threats and/or geographical events that can have regional or global impacts (Caldara and Iacoviello 2022). GPR impacts through two channels: the real economy channel, and the financial channel (Gupta *et al.*, 2019; Soltani *et al.*, 2021; Hou *et al.*, 2024; Dieckelmann *et al.*, 2024; and Hodula *et al.*, 2024). The real economy channel includes disruptions to trade, investment, and consumption, often exacerbated by supply chain interruptions while the financial channel operates through heightened uncertainty and increasing risk aversion, causing shifts in investment portfolios and

cross-border capital flows exemplifying a "flight home" effect (Feng *et al.*, 2023) and a shift toward safer assets, or "flight to quality" (Agoraki *et al.*, 2024).

The GPRI captures global risks by analysing geopolitical-related content in 10 major newspapers⁵ from automated text-search results of electronic archives. This media-based approach ensures that the GPR index remains exogenous to the model and captures all the major geopolitical events (Caldara and Iacoviello, 2022) (Chart 1a). Additionally, the dataset includes country-specific indices, representing the percentage of articles meeting the search criteria for 43 economies. For this study, we utilise the GPR Index specific to India and the global benchmark GPR index.

The GPRI registered its first notable surge during the Iraq invasion of Kuwait and the Gulf War, followed by a sharp rise in early 1993 amidst escalating tensions between the United States and Iraq (Chart 1a). After a period of decline, it spiked again in the wake of the 9/11 attacks and the 2003 Iraq invasion. Subsequent peaks are observed during the 2011

Chart 1: Geopolitical Risk and It's Components



⁵ These newspapers include Chicago Tribune, the Daily Telegraph, Financial Times, The Globe and Mail, The Guardian, the Los Angeles Times, The New York Times, USA Today, The Wall Street Journal, and The Washington Post. The index is calculated using a dictionary-based method by counting the number of articles related to adverse geopolitical events in each newspaper for each month (as a share of the total number of news articles).

military intervention in Libya, the 2014 annexation of Crimea by Russia, the 2015 Paris terrorist attacks, the 2017–2018 North Korean crisis, and the onset of the US-China trade war in 2018. More recently, the GPR index has soared following Russia's invasion of Ukraine and the intensification of conflict in the Middle East with the Israel-Hamas war.

The India-specific GPRI spiked independently of the global GPRI with notable instances including 1990 when the insurgency in Kashmir escalated tensions with Pakistan; in 1999 during the Kargil War between India and Pakistan; in 2002 with communal violence in Gujarat; and in 2008 during the devastating Mumbai terrorist attacks. Since 2014, however, co-movement between India's GPR and global GPR has increased, reflecting India's deeper integration into global geopolitics and the amplified interplay between domestic and international factors.

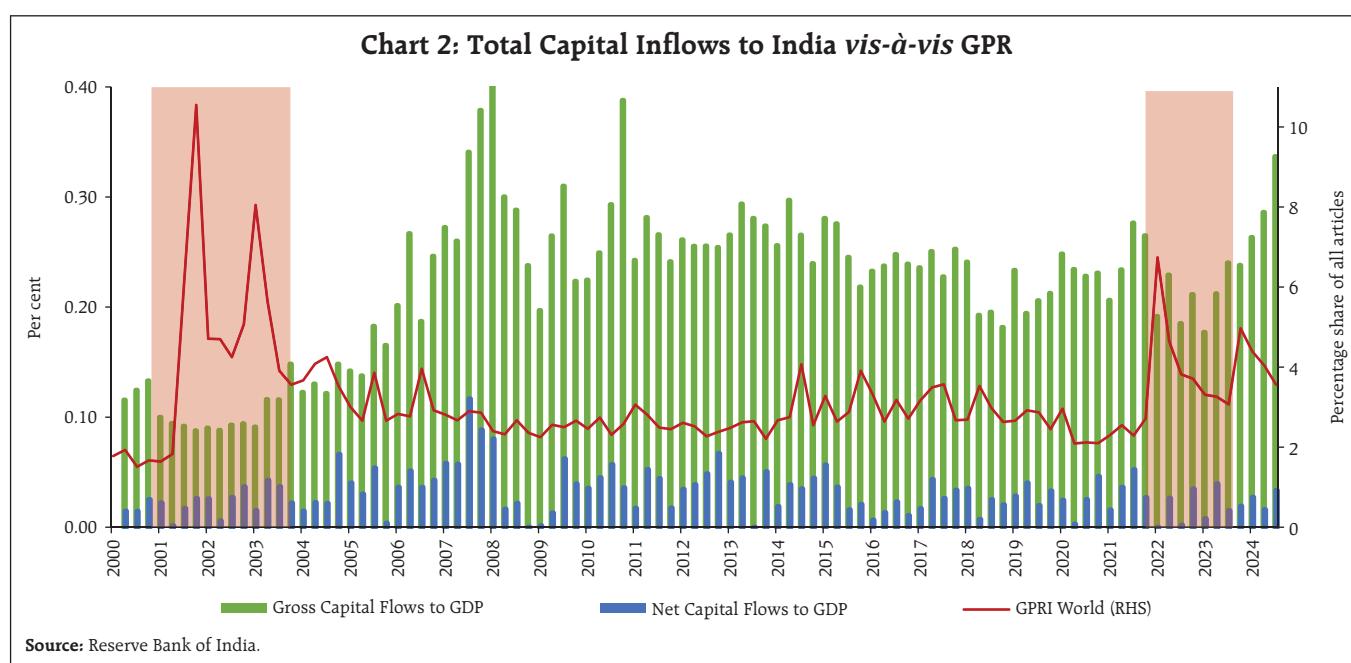
Analysing various components of the GPRI that are consolidated into three overarching categories – military buildups; war (encompassing threats, onsets, and escalations); and terror-related threats and acts (Gopinath, 2024) – shows that the recent surge in the

GPRI can be attributed primarily to war, with a nearly equal contribution from military buildups (Chart 1b).

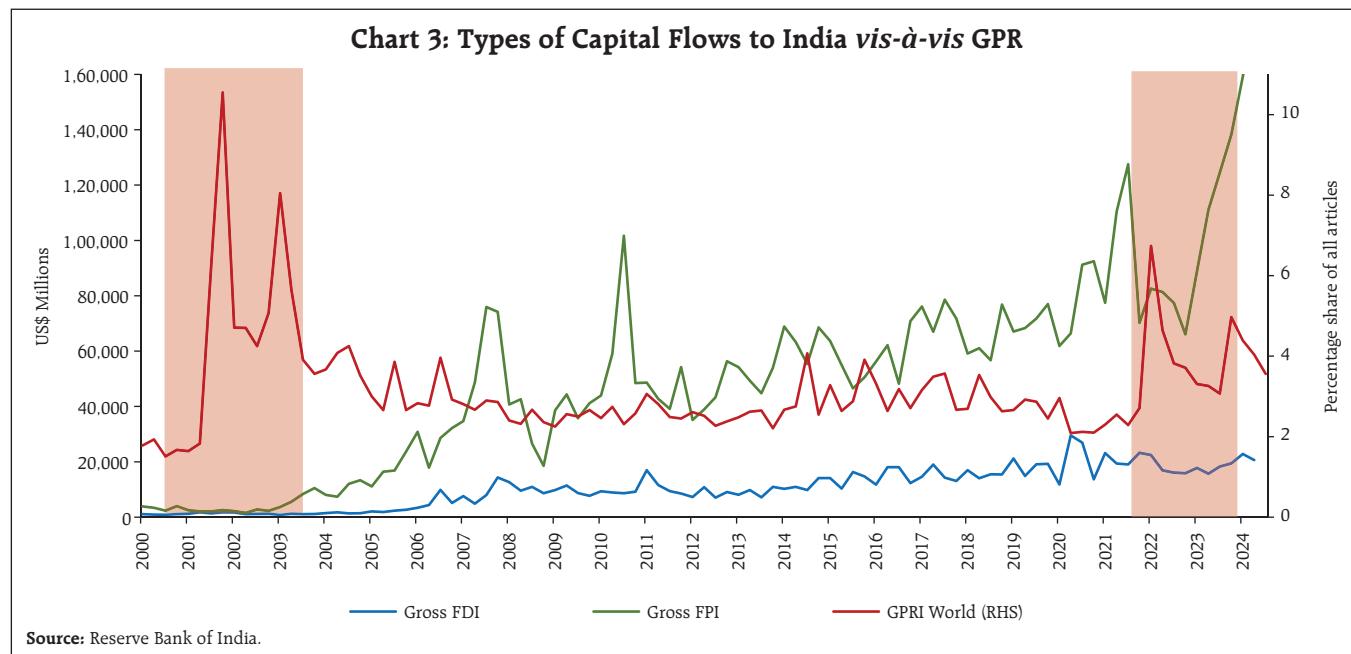
During episodes of heightened geopolitical risk (shaded in red in Chart 2), total capital inflows to India, whether gross or net, decrease relative to the trend, pointing to flight home effects (*a la* Feng et al., 2023).⁶ Moreover, shocks to the GPRI may trigger a flight to quality in which investors shift toward safer assets, including US equities and bonds, during heightened uncertainty (Wang et al., 2023; Agoraki et al., 2024).

Different types of capital flows to India exhibit varying sensitivities to global GPRI, with foreign portfolio investment (FPI) generally more volatile than foreign direct investment (FDI) (Chart 3). This characteristic aligns with flight to safety effects.

To examine the relationship between trade and GPR, we plot their trends. This reveals a decline in India's trade-to-GDP ratio during periods associated with GPR spikes (Chart 4a). GPR significantly contributes to rising trade costs (Hou et al., 2024), as evidenced by the sharp increases in all major shipping cost indicators—the Global Supply Chain Pressure



⁶ Portes et al., (2001) and Giannetti and Laeven (2012) also provide similar insights.



Index (GSCPI), the Baltic Dry Index, and the Drewry World Container Index—in 2022 (Chart 4b). This surge aligns with the onset of the Russia-Ukraine war, as indicated by the shaded red region.

Based on simple correlation analysis for the period 2004Q1 to 2024Q2, several relationships emerge (Table 1). The India-specific GPRI shows a negative correlation with the net capital flow-to-GDP

ratio, indicating that higher domestic geopolitical risks may discourage foreign capital inflows due to increased risk aversion. The global GPRI also exhibits a negative correlation with the net capital flow-to-GDP ratio, suggesting that global geopolitical tensions could lead to capital outflows from India as a broader global risk-off sentiment takes hold. A positive and significant relationship between the global GPRI and

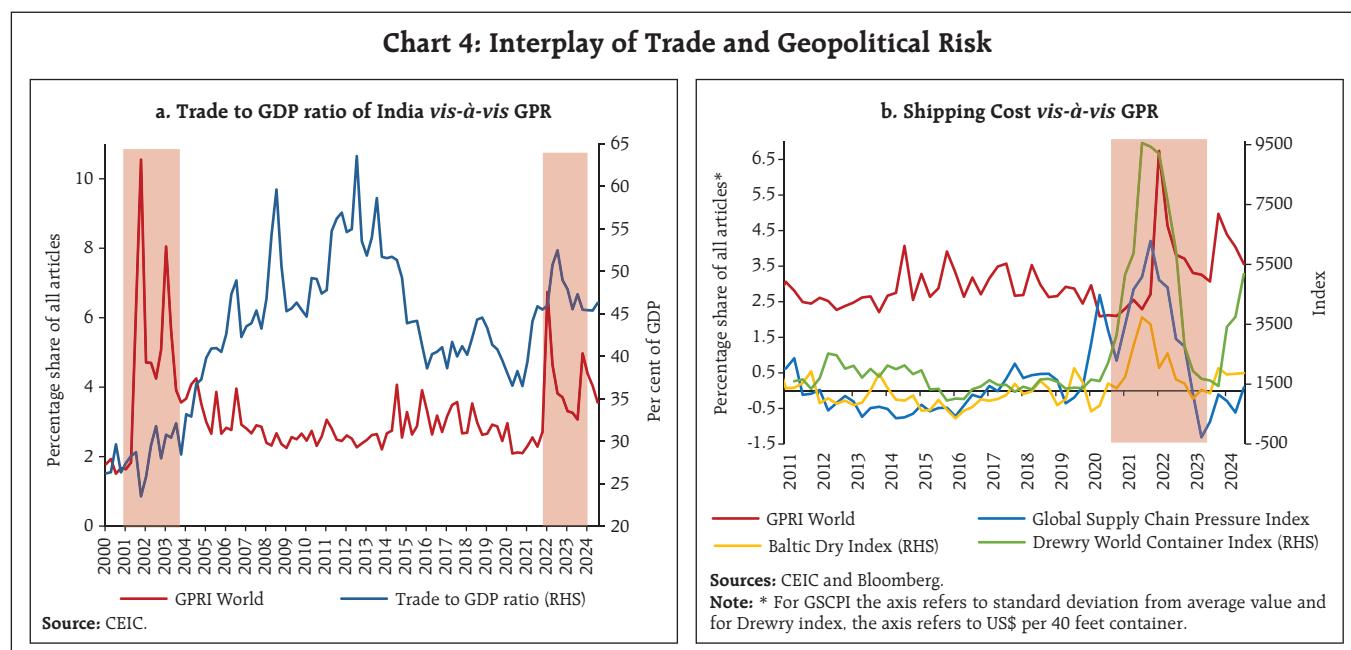


Table1: Key Cross-correlations

Variables	Trade to GDP ratio	Net Capital Flow to GDP ratio	Exchange rate	Terms of Trade	GPRI India	GPRI World
Trade to GDP ratio	1.00					
Net Capital Flow to GDP ratio	0.06	1.00				
Exchange rate	0.39***	-0.49***	1.00			
Terms of Trade	0.06	0.05	-0.03	1.00		
GPRI India	0.05	-0.22*	0.16	-0.01	1.00	
GPRI World	-0.15	-0.20*	-0.16	0.23**	0.29***	1.00

Note: The symbols '*', '**', and '***' indicate the statistical significance of correlation coefficients at the level of 10 per cent, 5 per cent and 1 per cent, respectively.

Source: Authors' estimates.

terms of trade (TOT) highlights how global supply chain disruptions stemming from geopolitical events can affect India's trade dynamics. Additionally, the significant correlation between global GPR and India-specific GPR emphasises the interconnectedness of geopolitical risks, where international events often reverberate within India.

The exchange rate shows an intriguing offsetting relationship with the trade-to-GDP ratio and the net capital flow-to-GDP ratio. Its positive relationship with the trade-to-GDP ratio suggests that higher imports as compared to exports results in a rise in the trade to GDP ratio which leads to currency depreciation while rise in capital inflows could result in appreciation. Building on the insights gained from this correlation analysis, we proceed to more robust statistical methods to identify how shocks to the GPRI impacts its relationships with key economic variables.

III. Methodology

As stated in the introductory section, we use a suite of multivariate time series models to identify the shocks to GPRI for India and the world - an unrestricted Vector Autoregression (VAR) model; a structural VAR (SVAR) model with short-run restrictions; and a structural VAR model with sign-restrictions (SRVAR). In the system of equations, each variable is considered to be driven by its own lagged values, the lagged values of all other variables in the system, and an error term. All the models capture the dynamic relationships

among multiple variables and their responsiveness to exogenous shocks from the GPRI.

The data matrix includes six variables: (i) seasonally adjusted trade volume (*i.e.* sum of exports and imports of goods and services to GDP ratio) (*TGR_D11*), (ii) seasonally adjusted net capital flows to GDP ratio (*NCFGR_D11*), (iii) year on year (y-o-y) changes in the nominal exchange rate (*DELTA_NER_YOY*),⁷ (iv) y-o-y change in terms of trade (*TOT_YOY*),⁸ (v) standardised series of GPRI for India (*GPR_INDIA_SD*) and (vi) standardised series of GPRI for the world (*GPR_WORLD_SD*). First, we consider a positive shock to the GPRI for India and its impact on the rest of the variables *i.e.*, the case of the country-specific shock. Next, we evaluate the shock to the global GPRI. Impulse response functions (IRFs) — play a central role for analysing the impact of GPR shocks. All the model specifications include that three quarter lags best capture temporal variations in the responsiveness of the relevant variables and satisfy the stability condition.⁹ The properties of the IRFs are examined in alternative models and identification schemes which are premised on the methods of generalised impulse responses, short-run identification restrictions and sign-restricted structural identification. Alternative

⁷ Nominal Exchange Rate (NER) is defined as the Indian Rupees per US dollar.

⁸ Terms of trade is defined as the ratio of the import price to export price of goods and services.

⁹ Lag length is selected on the basis of sequential modified LR test criteria.

specifications and identification schemes provide a battery of tests for the IRFs of the shocks of our interest.

The starting point is an unrestricted VAR with generalised IRFs which is an ordering-invariant approach (Pesaran and Shin, 1998; Koop *et al.*, 1996).¹⁰ The SVAR model has short-run restrictions in the recursive factorisation. In the SRVAR model, we impose a positive sign restriction on the impulse response of the relevant GPRI for one quarter to identify a rise in geopolitical risks. In this method, we follow the penalty function approach (Uhlig, 2005).¹¹

IV. Results

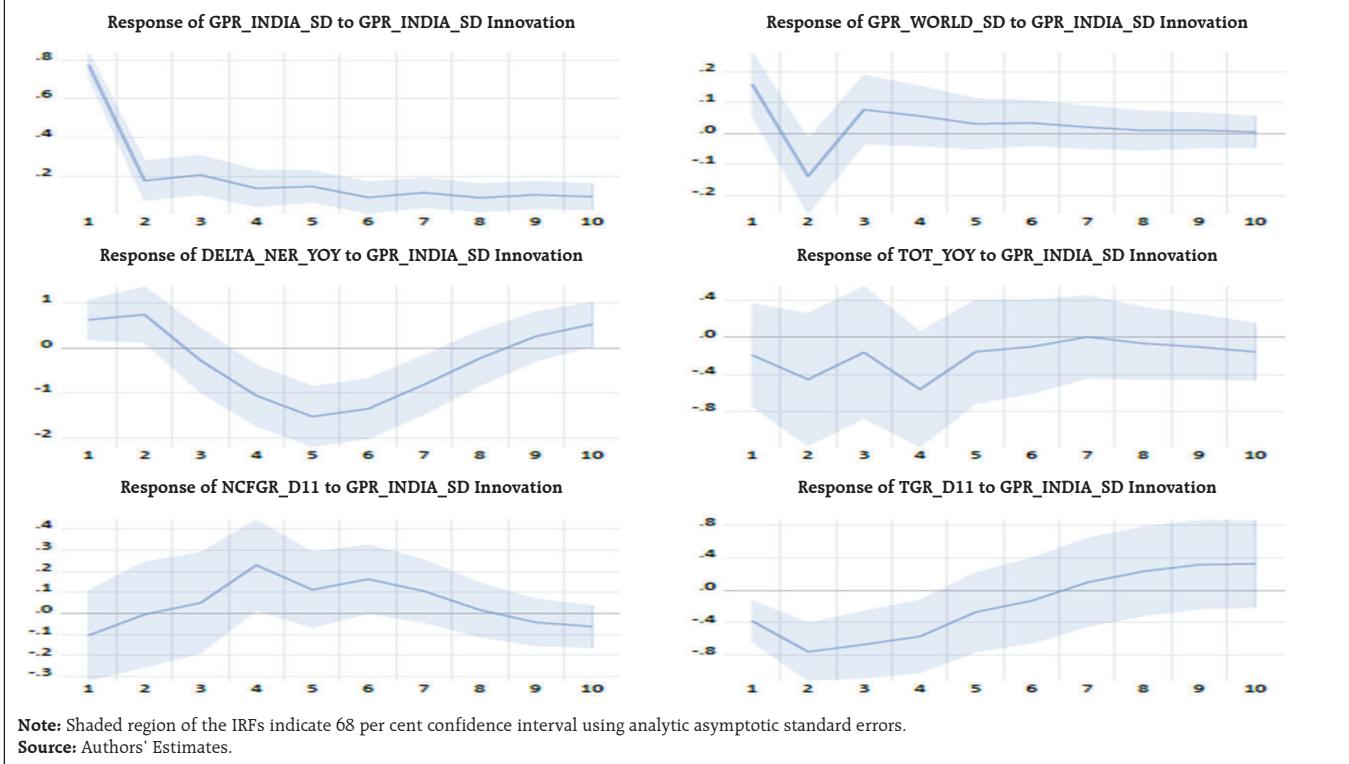
In this section, we analyse the results of the qualitative features of the IRFs and the quantitative impact of the shocks (Chart 5 and 6).

Effects of a Rise in GPRI for India:

The qualitative patterns of the IRFs in response to the positive shock to the GPRI indicate the presence of trade and financial channels and their interplay. A shock to the GPRI for India causes (i) a rise in the index itself and in the global GPRI; (ii) a decline in India's terms of trade; (iii) depreciation of the Indian rupee (INR) on impact; (iv) a drop in capital flows; and (v) contraction in trade flows. Intuitively, a rise in the GPRI increases trading costs with a rise in prices of exports. Trade restrictions such as sanctions or tariffs can reduce export opportunities for India, force the exporters to reroute their trade, cause inefficiency in resource allocation and increase costs of exporting. The INR also depreciates as foreign investors shift their funds from INR-denominated investments to foreign currency-denominated investments (*i.e.* USD)

Chart 5: Effects of a Positive Shock to India GPRI

a: Response to Generalised One S.D. Innovations

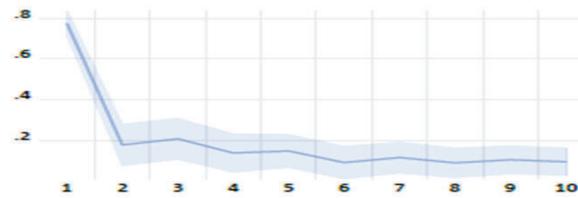


¹⁰ The generalised IRF is used in many studies, such as Boyd *et al.* (2001), Cheung *et al.* (2004), and Huang *et al.* (2008).

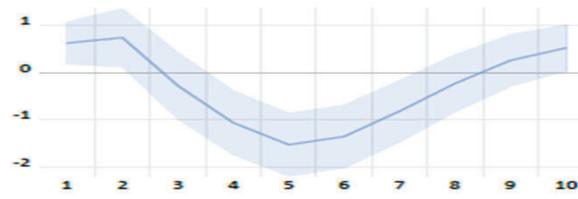
¹¹ Applications of sign-restricted VAR methodology are available in Dedola and Neri (2007), Pappa (2009), Mountford and Uhlig (2009), and Cantelmo and Melina (2018).

b: Response to Structural VAR Innovations

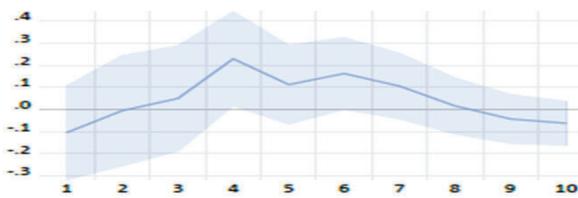
Response of GPR_INDIA_SD to GPR_INDIA_SD Innovation



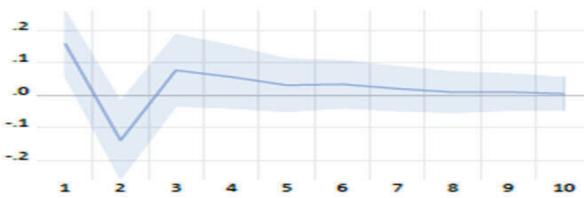
Response of DELTA_NER_YOY to GPR_INDIA_SD Innovation



Response of NCFGR_D11 to GPR_INDIA_SD Innovation



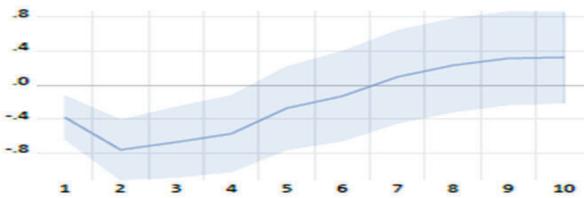
Response of GPR_WORLD_SD to GPR_INDIA_SD Innovation



Response of TOT_YOY to GPR_INDIA_SD Innovation



Response of TGR_D11 to GPR_INDIA_SD Innovation

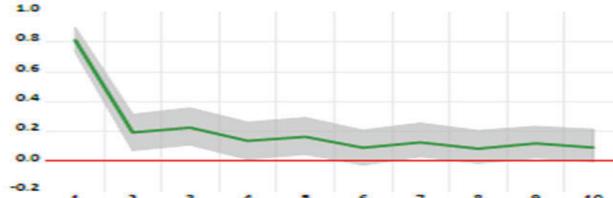


Note: Shaded region of the IRFs indicate 68 per cent confidence interval using analytic asymptotic standard errors.

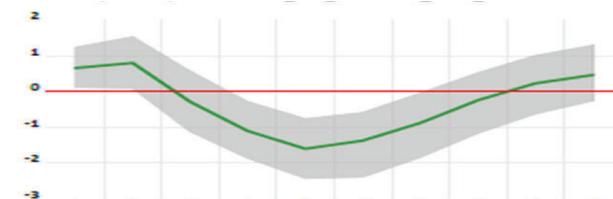
Source: Authors' Estimates.

c: Response to Sign-restricted Structural VAR Innovations

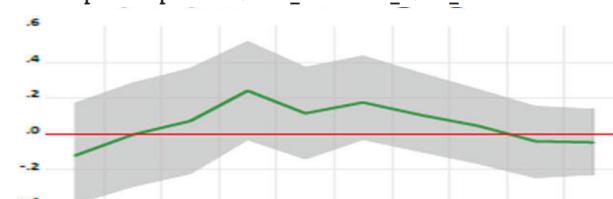
Impulse response of GPR_INDIA_SD to GPR_INDIA_SD Innovation



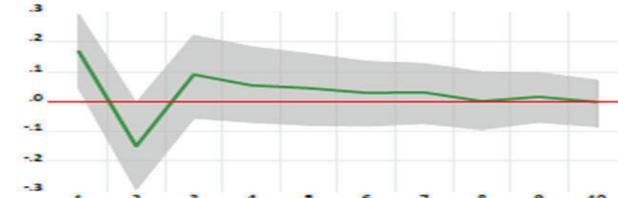
Impulse Response of DELTA_NER_YOY to GPR_INDIA_SD Innovation



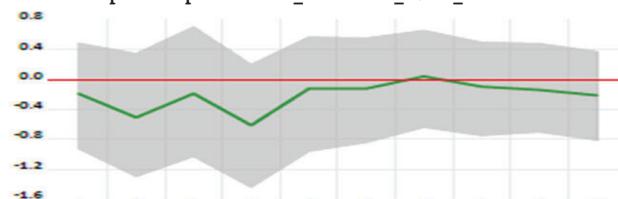
Impulse Response of NCFGR_D11 to GPR_INDIA_SD Innovation



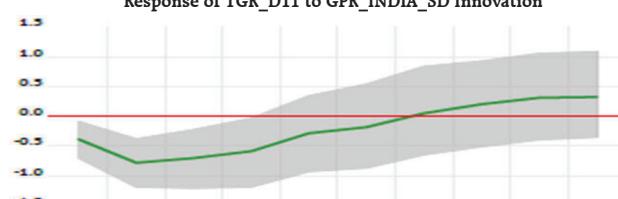
Impulse Response of GPR_WORLD_SD to GPR_INDIA_SD Innovation



Impulse Response of TOT_YOY to GPR_INDIA_SD Innovation



Response of TGR_D11 to GPR_INDIA_SD Innovation

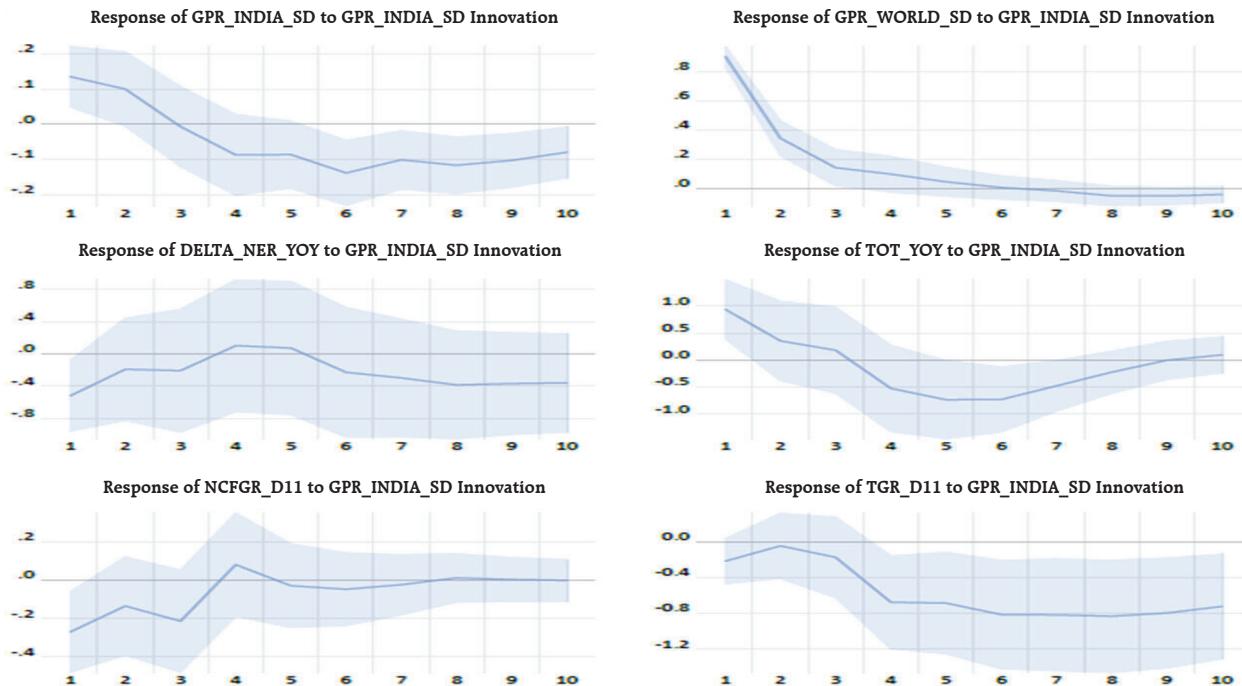


Note: Shaded region of the IRFs indicate 68 per cent confidence interval using analytic asymptotic standard errors.

Source: Authors' Estimates.

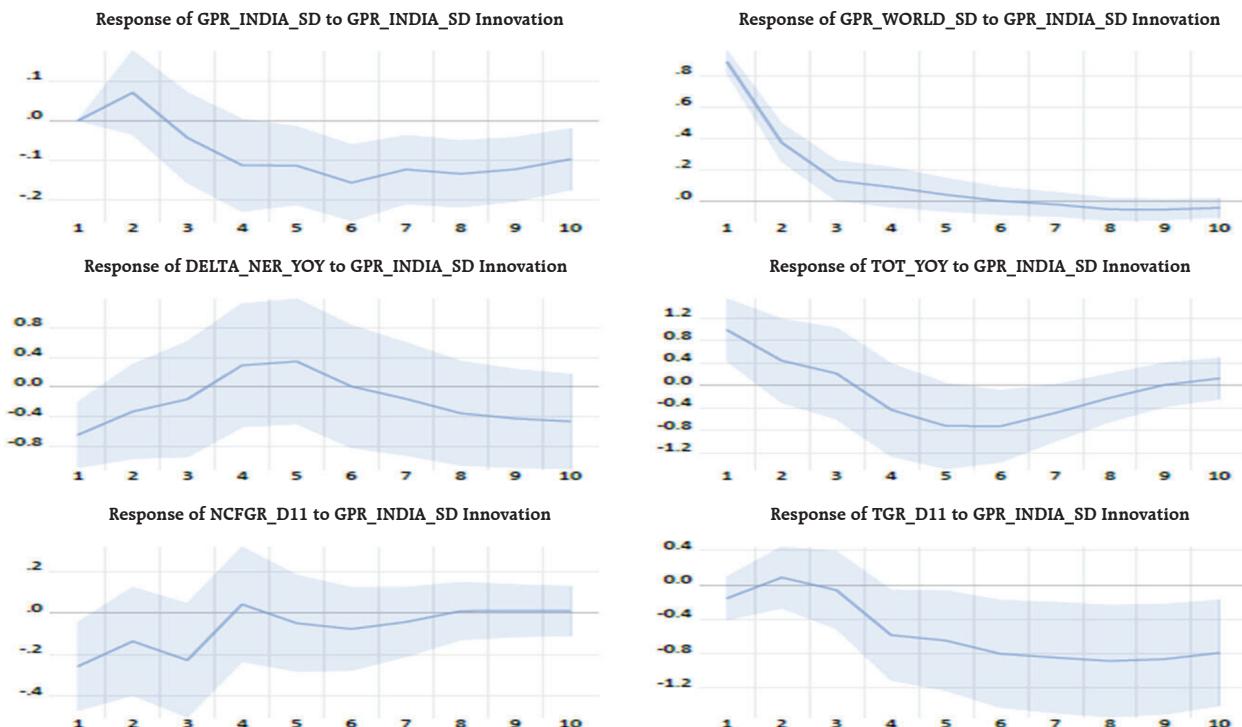
Chart 6: Effects of a Positive Shock to World GPRI

a: Response to Generalised One S.D. Innovations

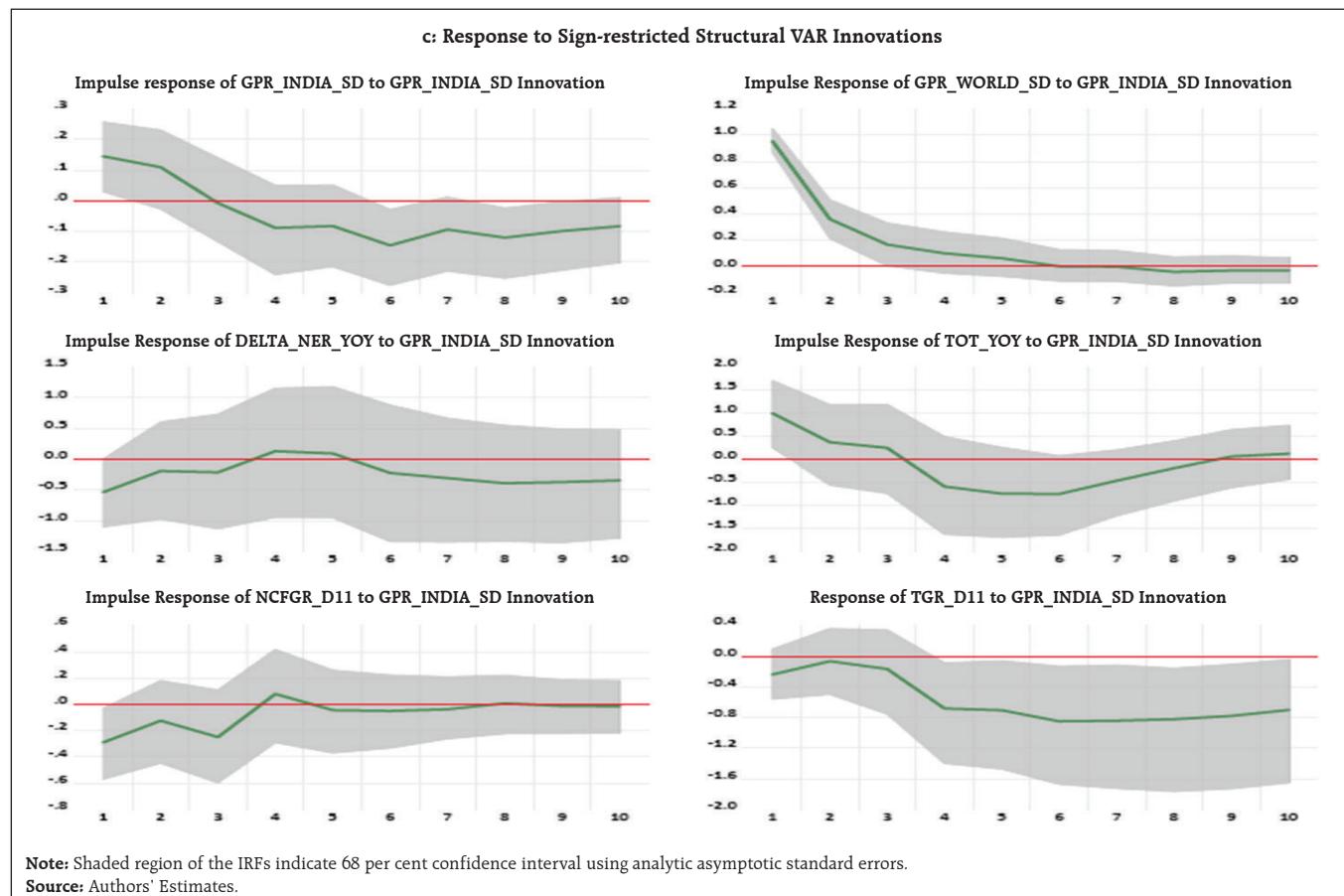


Note: Shaded region of the IRFs indicate 68 per cent confidence interval using analytic asymptotic standard errors.
Source: Authors' Estimates.

b: Response to Structural VAR Innovations



Note: Shaded region of the IRFs indicate 68 per cent confidence interval using analytic asymptotic standard errors.
Source: Authors' Estimates.



to reduce country risk and/or currency risk in their investment portfolio.¹² The effects of the financial channel via the exchange rate, however, is transient and may not influence capital flows lastingly.¹³

The IRFs obtained from the shock to the GPRI for India show that the trade channel is more predominant relative to the financial channel. Capital flows respond sharply, while trade flows contract gradually and recover over a period of 6-7 quarters. These qualitative features remain robust across the alternative identification methods. Considering the mean impulse responses from all three models, it

is found that at the peak, a one standard deviation shock to the GPRI for India causes a decline in trade volume by 0.9 percentage points and capital flows by 0.2 percentage points. The peak effect of contraction appears on impact for the shock to the financial channel, and with a lag of 2 quarters for the trade channel. The timing of contraction is robust irrespective of the models and shock identification strategies.

Effects of a Rise in GPRI for the World

The estimated IRFs obtained from the positive shock to GPRI for the world also indicate the presence of trade and financial channel along with offsetting effects on the exchange rate across modelling strategies. The role of the financial channel turns out to be prominent in the shocks resulting from the GPRI of the world. Comparing peak effects, it is observed

¹² According to Wang et al. (2023), the mechanisms contributing to the "flight home" effect includes the erosion of net financial wealth, liquidity evaporation, and the increase in risk premia. Using the local projection method of Jordà (2005), he demonstrates that GPR results in exchange rate depreciation, increases risk premia, and decreases the value of traded stocks as a percentage of GDP.

¹³ Bedowska-Sójka et al. (2022) document a pathway to hedge geopolitical risk by using different asset classes surrounding the Russian invasion of Ukraine.

that the shock to global GPRI has more pronounced effects than its Indian counterpart.

A positive shock to GPRI at the global level entails (i) spillovers to India; (ii) worsens the terms of trade; (iii) capital outflows and sluggish but prolonged contraction in trade flows. At the peak, a one standard deviation shock leads to contraction of trade volume and capital flows of the magnitudes of 1.0 percentage points and 0.3 percentage points, respectively. The peak effects of the contraction appear with a 6 to 8 quarters lag for the trade to GDP ratio, and on impact for capital flows.

V. Conclusion

Shocks to geopolitical risk are distinct from ordinary shocks, as they are neither transient nor inherently mean-reverting. Instead, they are exogenous in nature, marked by strong persistence and a pronounced hysteretic effects. Moreover, they exert differentiated impacts across nations, contingent on factors such as geographical proximity to the epicentre of the event, political configurations, and economic dependencies. Consequently, each country must prepare differently, tailoring its policy responses to its specific vulnerabilities rather than relying exclusively on multinational strategies and/or multilateral agencies.

Our results show that geopolitical risk is playing an increasingly pervasive role in shaping India's trade and financial dynamics. Distinguishing between India-specific and global GPR shocks, the analysis provides a nuanced understanding of the transmission mechanisms. The results show that the propagation of the shocks to GPRI for India and GPRI for the world are different, both qualitatively and quantitatively, on account of the relative roles of the trade and financial channels. While domestic shocks primarily travel through disruptions in supply chains and export competitiveness, global shocks are propagated through both trade and capital flows, reflecting heightened global risk aversion, trade

restrictions and capital reallocation. Comparing peak effects, it is observed that the shock to global GPRI has more pronounced effects than its Indian counterpart.

Given the relative predominance of the trade channel over the financial channel and their countervailing pressures on the exchange rate, policymakers can envisage strategic responses with a suite of targeted interventions to neutralise these shocks than relying on broad-brush instruments like policy rate adjustments. On the trade front, measures could include diversifying trade sources and participating in larger trade agreements, such as free trade areas (FTAs) and global trade blocs, to bolster resilience. Investments in infrastructure, particularly in enhancing port logistics and connectivity, would position India as an international shipping hub. From the financial channel perspective, building strategic buffers, forging bilateral swap agreements, and engaging with multilateral institutions to bring GPR mitigation strategies are imperative to resolve GPR-induced disruptions. These strategies, combined with a robust safety net, can equip the Indian economy to navigate the complexities of persistent geopolitical risks effectively.

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Financial Stocks and Flow of Funds of the Indian Economy 2022-23

by Suraj S, Ishu Thakur; Mousumi Priyadarshini and Abhishek Nehra ^

The financial resource balance¹ of the domestic economy remained in deficit at 2.5 per cent of GDP in 2022-23 as compared to a deficit of 1.9 per cent in 2021-22. Net financial wealth² of domestic sectors moderated to 24.9 per cent of GDP in 2022-23 from 29.0 per cent in the previous year but remained above the pre-pandemic level of 24.2 per cent in 2019-20. Financial assets and liabilities of other depository corporations experienced the highest growth since 2014-15 as credit demand from households and businesses remained buoyant. Non-financial corporations improved their resource balance amidst moderation in debt-equity ratio of PuNFCs.

Introduction

The financial accounts offer a comprehensive framework for analysing financial transactions and outstanding positions of financial assets and liabilities across institutional sectors³ of the economy. Introduced as the "flow of funds (FoF)" in Copeland's pioneering analysis of money flows (Copeland 1949), financial accounts have evolved significantly, gaining prominence as a critical tool for

assessing financial interconnectedness, uncovering potential vulnerabilities, and ensuring consistency in macroeconomic measures. Structured on from-whom-to-whom⁴ (FWTW) basis, the financial accounts illuminate structural shifts in savings, investments, and indebtedness across sectors, enhancing insights into financing of economic growth, monetary policy transmission and financial intermediation. The relevance of financial accounts amplified, particularly, in the aftermath of the Global Financial Crisis of 2007-09, when the need for monitoring financial flows to identify systemic risks became apparent. Financial accounts compilation, thus, became a crucial part of the G-20 data gap initiative.

In this backdrop, the Reserve Bank of India's financial accounts compilation framework known as the financial stocks and flow of funds (FSF) which presents a [detailed view](#) of sectoral and instrument-wise stocks and flows of financial assets and liabilities. These accounts provide valuable insights into the shifts in domestic savings and borrowings patterns that hold pivotal role in shaping the financial outcomes.

During 2022-23, the demand for credit, particularly from households and corporations, remained robust. The government sector stayed on the path of fiscal consolidation in 2022-23 while the current account deficit (CAD) widened to 2.0 percent of GDP, reflecting higher import costs amidst geo-economic fragmentation and elevated global food, energy, and commodity prices. As macroeconomic and financial developments interact and impact each other, a comprehensive view of the inter-sectoral financial flows can be gauged best by FSF accounts by tracking the changes in resource mobilisation, the sectoral financial resource balance and their

¹ The authors are from the Department of Economic and Policy Research. The authors are thankful to Shri Anand Prakash for his valuable suggestions and guidance. The views expressed in this article are those of the authors and do not represent the views of the Reserve Bank of India.

² Financial resource balance (surplus or deficit) of a sector is measured as the net acquisition of financial assets less net incurrence of liabilities.

³ Net financial wealth (NFW) is the difference between stock of total financial assets and liabilities excluding equity and investment fund shares.

⁴ The institutional sectors include: (i) financial corporations (FCs); (ii) non-financial corporations (NFCs); (iii) general government (GG); (iv) households (HH) including non-profit institutions serving households (NPISHs). Rest of the world (RoW) is considered as a *de facto* sector because it only shows transactions of the domestic economy *vis-à-vis* non-residents and does not account for all the economic activities taking place abroad.

⁴ The "from-whom-to-whom" (FWTW) basis provides a detailed mapping of financial transactions and stocks, identifying the origin (creditor) and recipient (debtor) for each financial instrument, thus clarifying inter-sectoral financial linkages and systemic economic dependencies.

respective net financial wealth (NFW). This article delves into financial trends of the Indian economy during 2022-23, using an FWTW approach. The rest of the article is structured as follows: Section II provides the sectoral and instrument-wise financial flows in the economy during the year under review. An assessment of sectoral financial resource balance is presented in Section III. Section IV illustrates sector-specific financial trends in detail. Section V concludes the article.

II. Financial Flows: Sector and Instrument-wise

In 2022-23, total financial assets of the domestic sectors registered a growth of 9.8 per cent as compared with 9.9 per cent in 2021-22 while liabilities increased by 10.4 per cent as compared with 10.2 per cent in the previous year. Households (HH) and financial corporations (FCs), jointly accounting for over 70 per cent of the total financial assets, remained the primary surplus sectors during 2022-23, catering to the financing needs of the general government (GG) and private non-financial corporations (PvNFCs) [Chart 1 and 2].

While most of the sectors exhibited a deceleration in the growth of their liabilities during 2022-23, the HH sector recorded an acceleration on account of increased borrowings from the banking and non-banking sectors. At the same time, growth in financial asset creation by the HH sector moderated during the year. Public non-financial corporations (PuNFCs), however, registered robust growth in both financial assets and liabilities.

Among financial instruments, currency and deposits, loans and advances, and debt securities together accounted for nearly two-thirds of the total financial assets and liabilities as at end-March 2023. For FCs including the central bank, debt securities and loans and advances constituted almost three-fourths of their total financial assets, while currency and deposits served as their primary sources of liabilities. HH liabilities are predominantly in the form of loans and borrowings, while their financial assets are largely in the form of currency and deposits. Equity and investment funds constituted the major financial assets of RoW, while debt securities continued to dominate their liabilities, subscribed mostly by the central bank (Chart 3).

Chart 1: Institutional Composition of Financial Assets and Liabilities
(as at end-March 2023, in per cent)

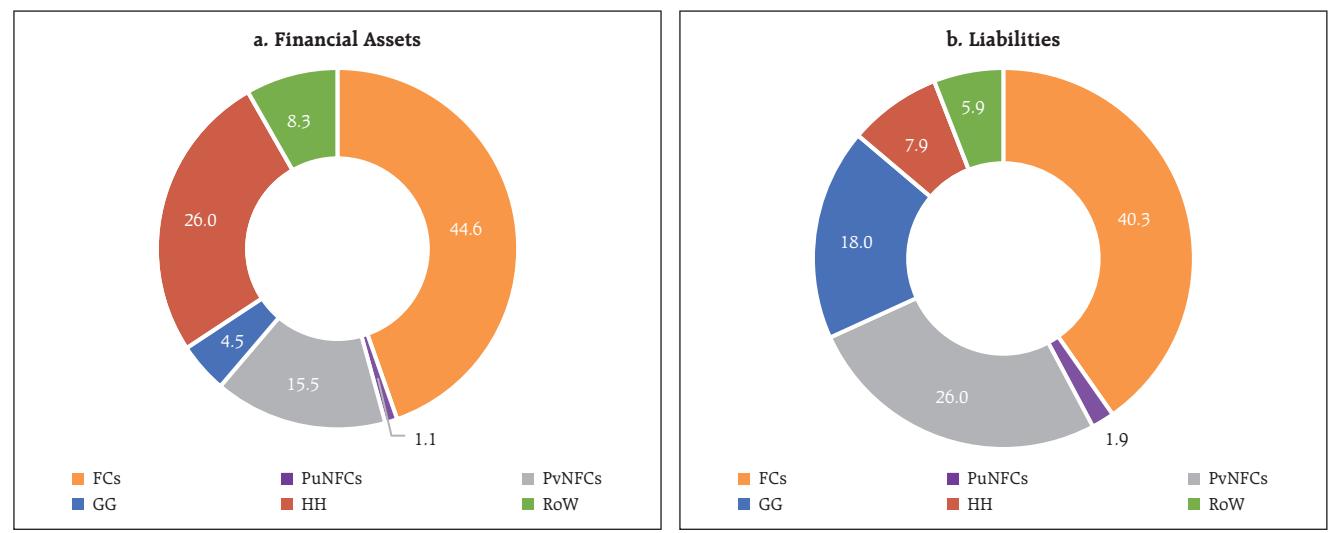
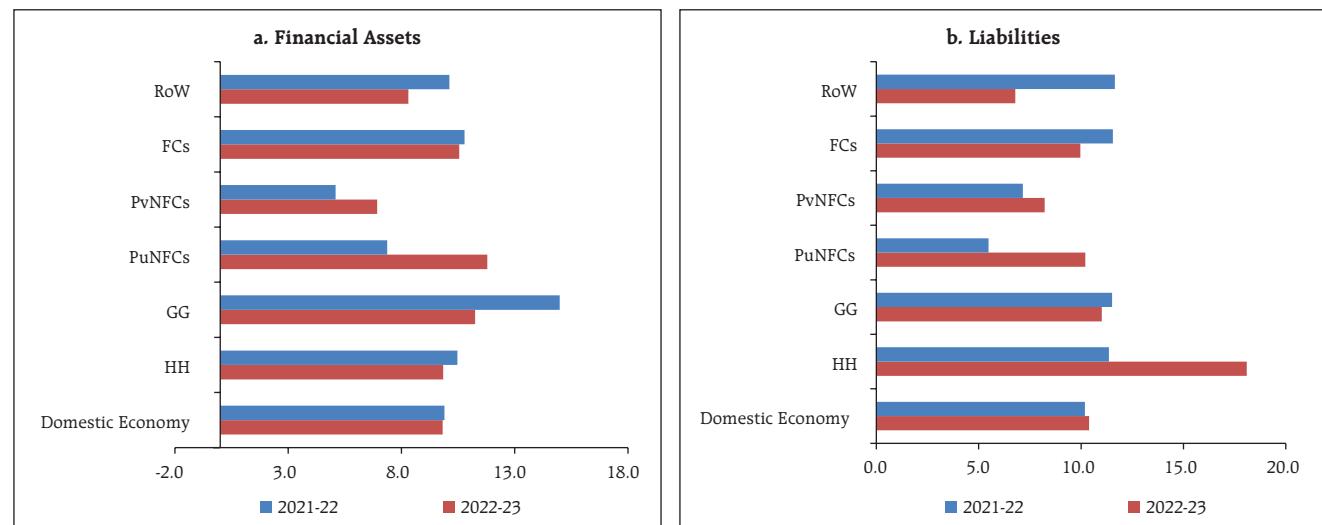


Chart 2: Institution-wise Growth
(Y-o-Y in per cent)



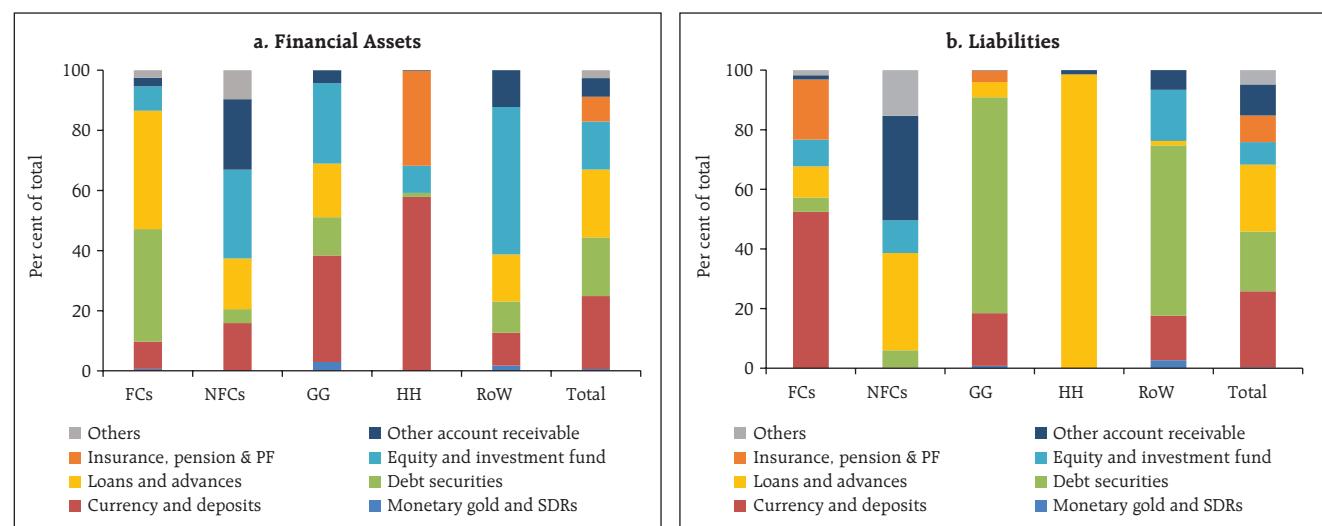
Source: Authors' calculations.

III. Financial Resource Balance

In 2022-23, the financial resource balance of the Indian economy remained in deficit. The deficit increased to 2.5 per cent of GDP from 1.9 per cent in the previous year, driven primarily by the moderation in the surplus of HH (Chart 4).

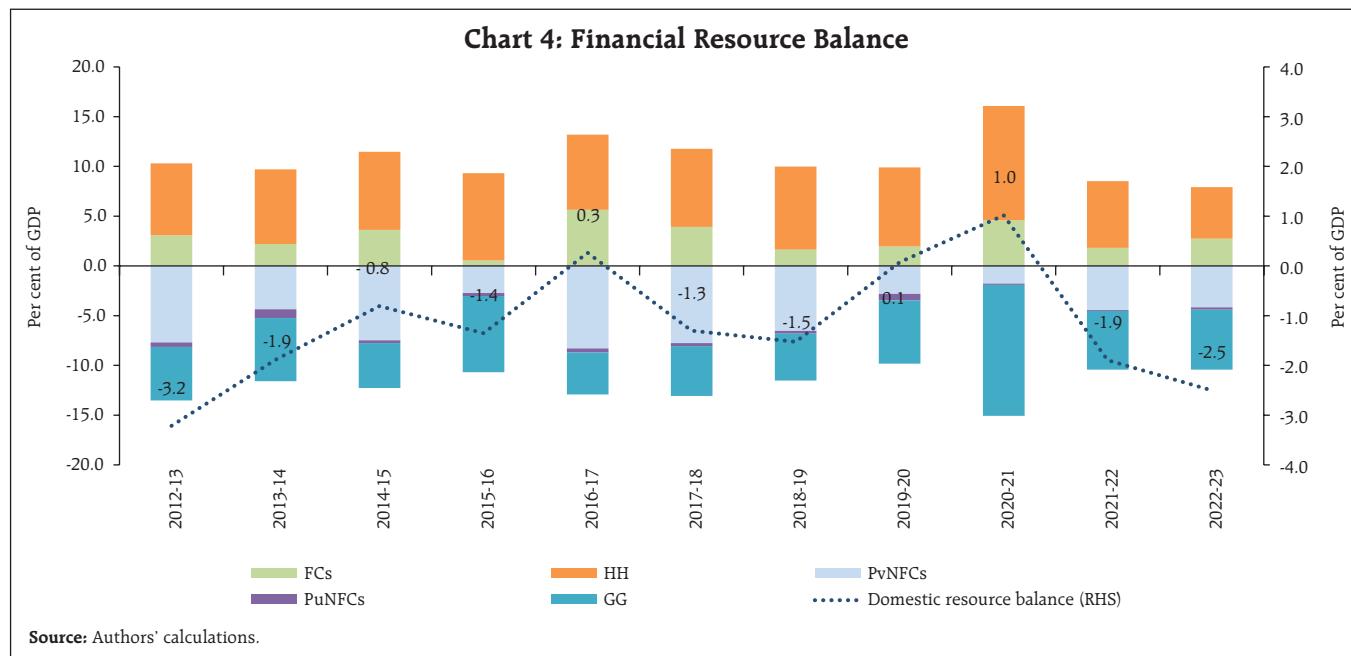
Further, NFW of all domestic sectors moderated to 24.9 per cent of GDP as at end-March 2023 from 29.0 per cent in the previous year⁵. However, the NFW remained above its pre-pandemic level of 24.2 per cent in 2019-20. The moderation in the NFW witnessed across the board in 2022-23 reflects the

Chart 3: Institutional Instrument Holdings
(as at end-March 2023)



Source: Authors' calculations.

⁵ Equity and investment funds and reserves and surplus are excluded from liabilities in the measurement of NFW.



normalization after the pandemic-induced anomaly in 2020-21 (Table 1).

IV. Sectoral Financial Linkages

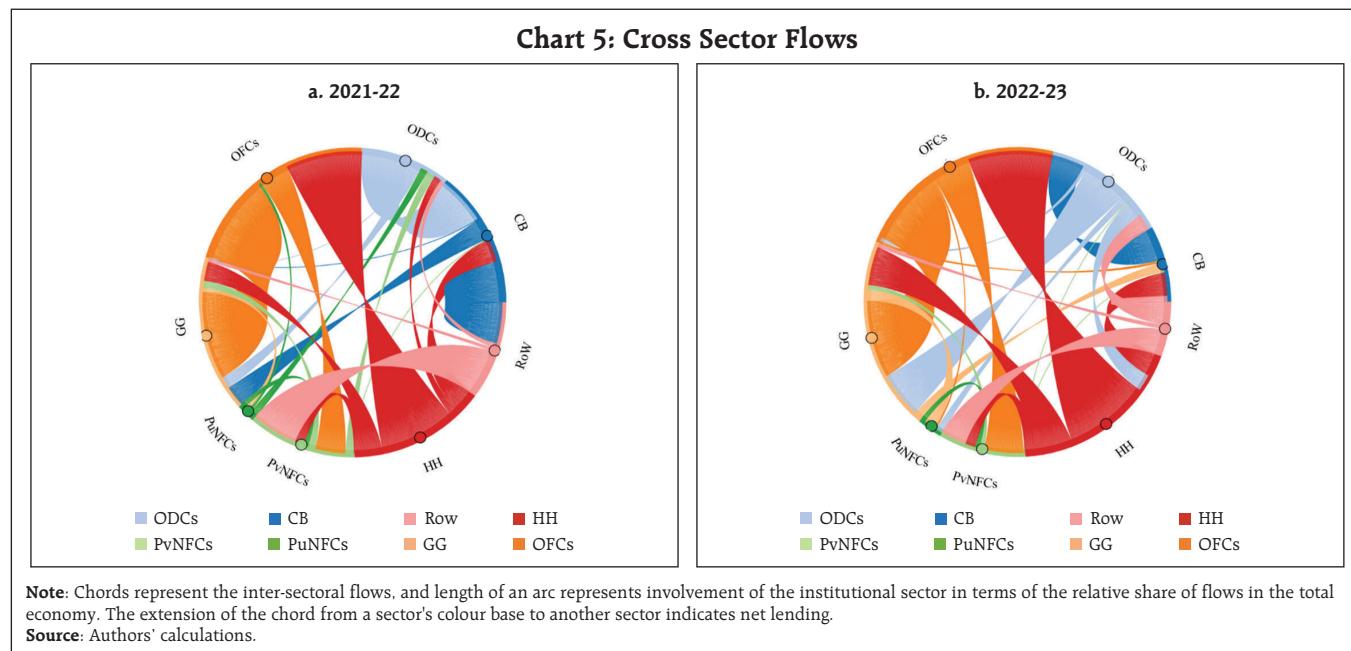
The interlinkages and interdependence among institutional sectors were reflected in the direction and magnitude of the net flows (uses minus sources) [Chart 5]. A shift in the stance of the monetary policy from accommodative to withdrawal of accommodation and the concomitant fall in surplus liquidity in the banking system led to a decline in the parking of surplus funds by ODCs with the

RBI. Consequently, net flows from ODCs to the RBI witnessed a reversal during 2022-23. The trend in net flows from HH to GG, OFCs and RBI remained broadly stable. However, HHs received net inflows from the ODCs during 2022-23, driven by rising credit demand, in contrast to the marginal net outflows witnessed in the previous year. Additionally, the magnitude of flows from ODCs to GG increased, reflecting higher public borrowing requirements. With a sharp increase in loans from ODCs, PuNFCs turned net borrowers of funds in 2022-23, as against being net lenders in the previous year. In contrast to 2021-22, when the GG

Table 1: Sectoral Net Financial Wealth
(per cent of GDP at current market prices)

Sector	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
1. FCs	28.4	28.3	28.9	28.1	30.2	31.7	31.3	33.5	37.9	34.0	33.8
2. NFCs	-20.8	-21.6	-26.7	-26.1	-30.2	-35.1	-37.6	-38.3	-34.8	-34.9	-34.4
2.1 PuNFCs	-1.4	-2.0	-2.0	-2.2	-2.3	-2.2	-2.3	-2.7	-3.0	-2.6	-2.0
2.2 PvNFCs	-19.4	-19.6	-24.7	-23.9	-27.9	-32.8	-35.4	-35.7	-31.8	-32.3	-32.4
3. GG	-49.2	-49.9	-49.5	-52.5	-51.2	-51.1	-50.9	-54.2	-68.1	-63.1	-61.3
4. HH	74.0	74.1	76.4	77.8	79.1	80.6	82.1	83.3	100.5	93.1	86.8
5. Total (1+2+3+4)	32.4	30.9	29.0	27.3	27.9	26.1	24.9	24.2	35.5	29.0	24.9
6. RoW	24.0	24.3	23.9	23.1	21.4	20.8	21.0	19.6	19.0	17.5	17.2

Source: Authors' calculations.



received net inflows of funds from the RBI, a reversal was witnessed in 2022-23, reflecting redemption of the central government debt securities held with RBI. Further details of sectoral flows are discussed in subsequent sections.

IV.1 Financial Corporations

IV.1.1 Central Bank

In 2022-23, growth of financial assets and liabilities of RBI decelerated to 2.5 per cent (8.4 per cent in 2021-22) and (-) 1.6 per cent (10.1 per cent in 2021-22), respectively⁶. On the asset side, foreign currency assets declined, particularly deposits held with foreign institutions⁷, to USD 98.0 billion at end-March 2023 from USD 177.7 billion as at end-March 2022 (RBI, 2022 & 2023). Growth of currency liability of the RBI moderated further to 7.8 per cent in 2022-23 from 9.9 per cent in the previous year

amidst increasing preference for digital payments. The deposit liability of the RBI declined by 23.4 per cent in 2022-23 on account of the earlier noted shift in monetary policy stance.

IV.1.2 Other Depository Corporations

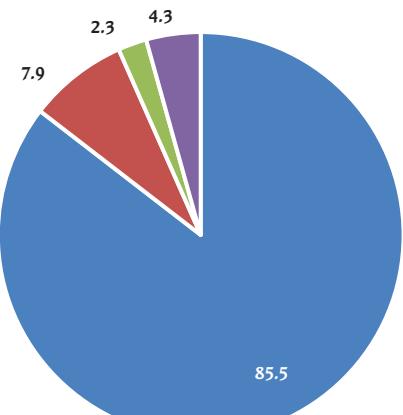
Depository corporations other than the central bank are basically engaged in financial intermediation as their principal activity, mostly funded through deposits or market borrowings. In the Indian financial sector, the scheduled commercial banks (including regional rural banks) are the largest sub-sector of the ODCs with 85.5 per cent share in the total financial assets followed by co-operative banks. The balance sheet of ODCs has witnessed accelerated growth since 2020-21, driven by sustained credit demand. The financial assets and liabilities of ODCs increased by 11.7 per cent and 11.8 per cent, respectively, during 2022-23 - their highest growth since 2014-15 (Chart 6 & 7).

While deposit growth of the ODCs accelerated to 10.4 per cent during 2022-23 from 9.6 per cent in the previous year, borrowings of ODCs through debt securities increased by 25.0 per cent *vis-à-vis* a

⁶ It may be noted that, in FSE, financial liabilities exclude reserve funds while financial assets exclude fixed assets, thereby leading to a divergence in growth rates of financial assets and financial liabilities.

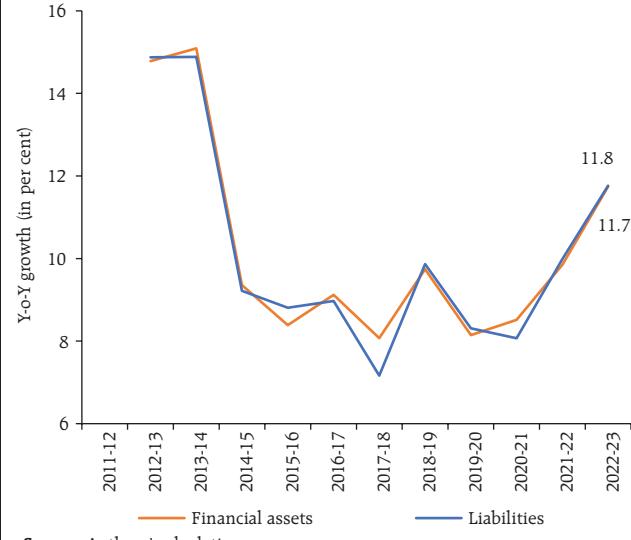
⁷ Deposits held with foreign institutions comprise deposits with foreign central banks, Bank of International Settlement (BIS), International Monetary Fund (IMF), foreign commercial banks as well as external asset managers (EAMs).

**Chart 6: ODCs - Share in Financial Assets
(as at end-March 2023, in per cent)**



Source: Authors' calculations.

Chart 7: ODCs - Growth in Financial Assets and Liabilities



Source: Authors' calculations.

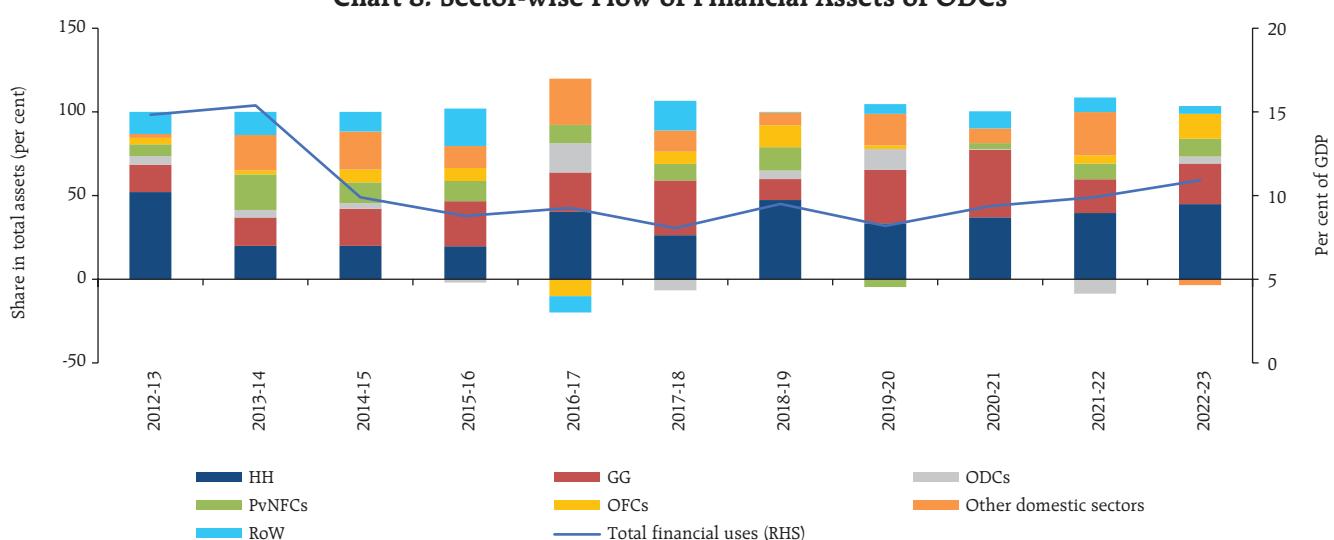
decline of 5.9 per cent in the previous year. HH sector continued to have a major share of fund flows from ODCs in the form of loans and advances. While flow of funds from ODCs to GG, OFCs and PvNFCs increased, flows to RoW witnessed a moderation. A net inflow was witnessed by ODCs from other domestic sectors primarily on account of the decline in deposits with the RBI. (Chart 8).

IV.1.3 Other Financial Corporations

The distribution of the financial assets and liabilities in the OFC sector is dominated by insurance corporations followed by mutual funds and pension and provident funds (Chart 9).

After witnessing two years of double-digit growth on the back of pandemic-induced demand, growth of financial assets and liabilities of the insurance sector

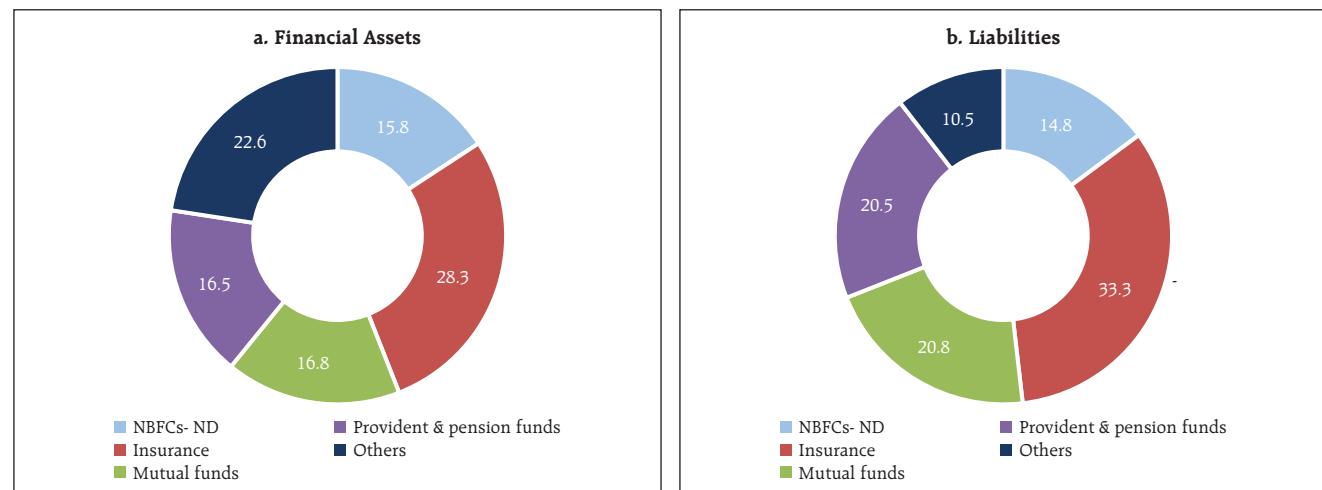
Chart 8: Sector-wise Flow of Financial Assets of ODCs



Note: 'Other domestic sectors' include RBI, PuNFCs and others not elsewhere classified.

Source: Authors' calculations.

Chart 9: Composition of OFCs
(as at end-March 2023, in per cent)



Note: Others include All India Financial Institutions (AIFIs), State Finance Corporations (SFCs), State Industrial Development Corporations (SIDCs) and Housing Finance Companies non deposit taking (HFCs-ND).

Source: Authors' calculations.

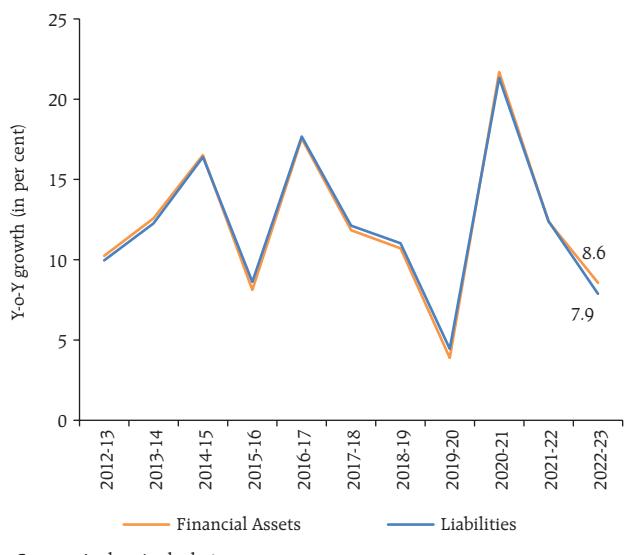
decelerated to 8.6 per cent in 2022-23 (12.4 per cent in 2021-22) and 7.9 per cent (12.4 per cent), respectively (Chart 10).

The annual increase of assets under management (AUM) of mutual funds (MFs) moderated from ₹9.2 lakh crore during the pandemic year (2020-21) to ₹1.9 lakh crore in 2022-23, primarily due to moderation

in asset prices (Chart 11). As at end-March 2023, the AUM of the mutual fund industry stood at ₹39.4 lakh crore with 14.57 crore mutual fund accounts/folios (SEBI 2023).

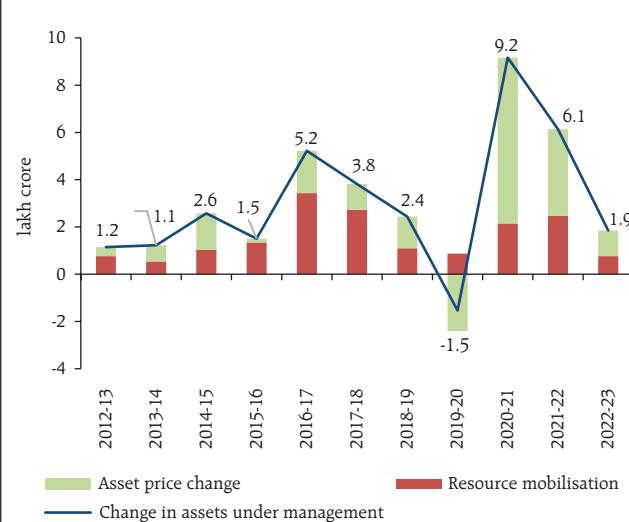
The balance sheet of pension and provident funds (14.4 per cent of GDP) registered an increase of 16.4 per cent in 2022-23 on top of 18.1 per cent rise

Chart 10: Insurance Sector - Growth in Financial Assets and Liabilities



Source: Authors' calculations.

Chart 11: Trends in Mutual Funds



Note: Asset price change is estimated as the difference between the change in AUM and resource mobilisation during the year.

Source: Authors' calculations.

in the previous year. Despite a growing interest in equity investments, government securities remained the dominant asset class, accounting for 50.9 per cent of the total financial assets of pension and provident funds.

IV.2 Non-Financial Corporations

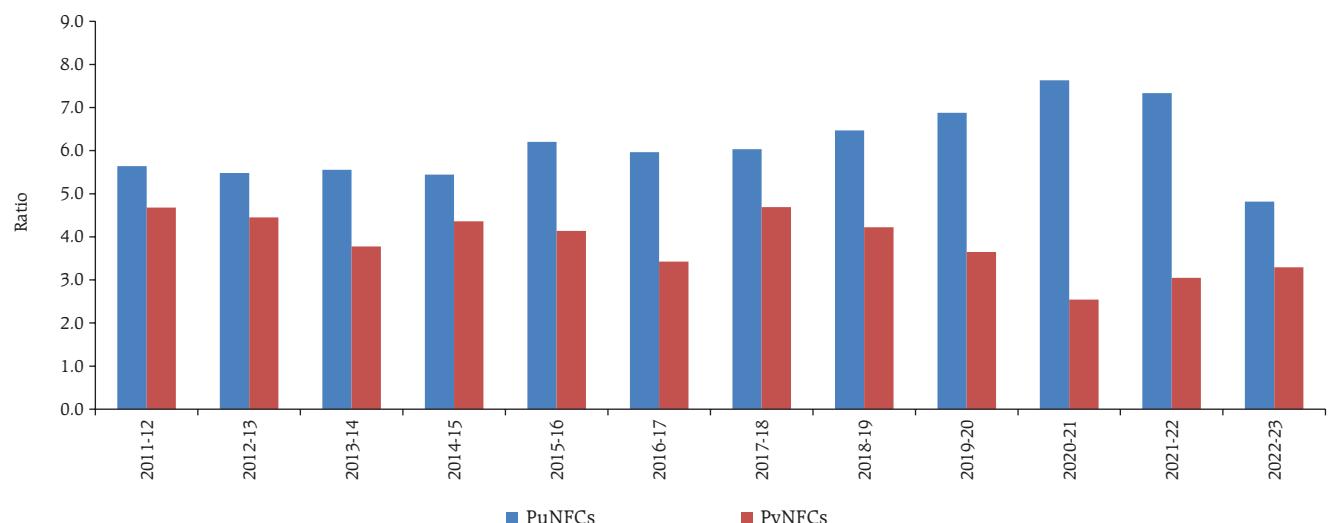
Non-financial corporations (NFCs) [entities primarily engaged in producing goods and non-financial services] include public NFCs (PuNFCs) [such as central public sector enterprises (CPSEs), power companies, and port trusts] and private NFCs (PvNFCs) comprising non-government, non-financial companies. During 2022-23, NFCs reduced their resource deficit to 4.4 per cent of GDP from 4.5 per cent in the previous year. Further, the NFW of NFCs remained negative, although it moderated to (-) 34.4 per cent of GDP in 2022-23 from (-) 34.9 per cent in the previous year. The debt-to-equity (D/E) ratio of PuNFCs fell in 2022-23, with rise in capital infusion particularly in the manufacturing sector. In contrast, the D/E ratio of PvNFCs increased, attributable to increased demand for credit by PvNFCs (Chart 12).

IV.3 General Government

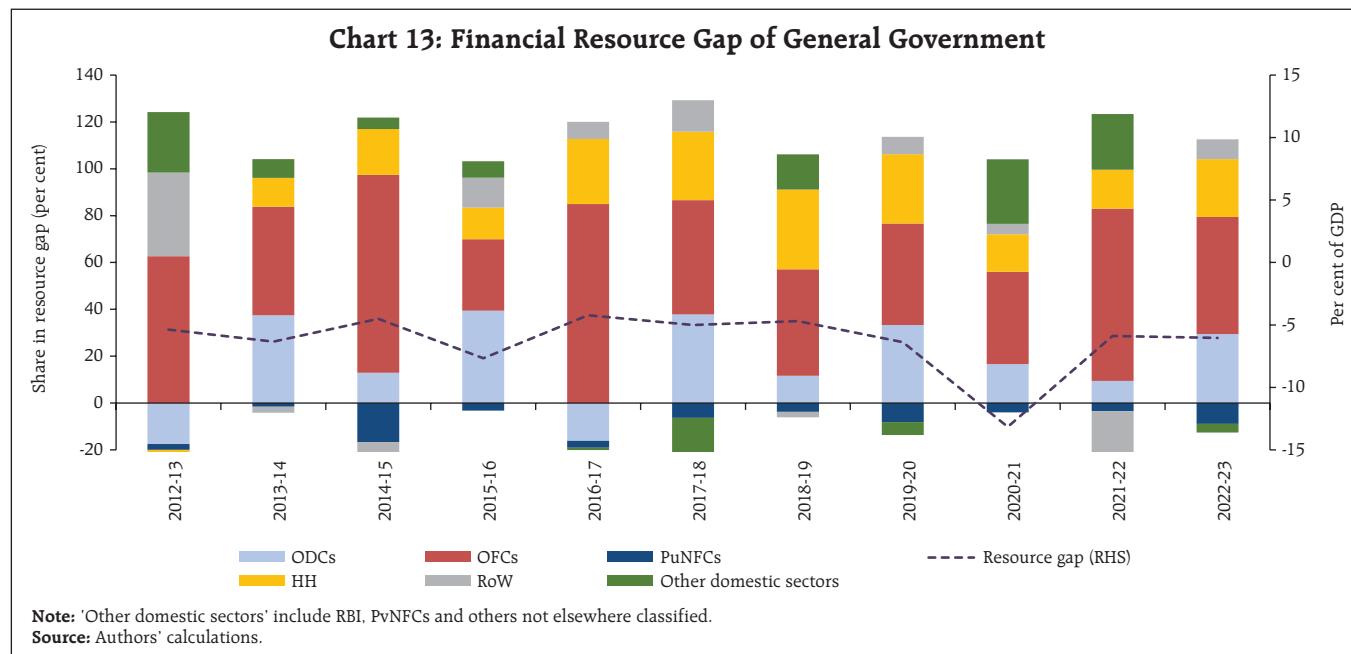
Fiscal consolidation by the Union Government post-pandemic brought the gross fiscal deficit down to 6.4 per cent of GDP in 2022-23 from 6.7 per cent in the previous year, and 9.2 per cent in 2020-21 (GoI 2024). The state governments combined gross fiscal deficit (GFD) was 2.8 per cent of GDP in 2022-23 as compared with 3.4 per cent in the previous year. The financial resource gap of general government⁸ in 2022-23 stood at 6.0 per cent of GDP, as compared with 5.9 per cent in the previous year (Chart 13). General government debt reduced to 84.3 per cent of GDP from 86.8 per cent in 2021-22.

Growth of equity investments in statutory corporations and joint stock companies, comprising the bulk of financial assets of central government, accelerated to 15.5 per cent during 2022-23 (13.5 per cent in 2021-22) with increased capex by the central government. Total loans and advances extended by the central government increased by 9.2 per cent during 2022-23. On the liabilities side, debt securities issued by central government, accounting for 74.0 per cent

Chart 12: Debt to Equity Ratio



⁸ General government accounts in FSF are on non-consolidated basis, i.e., inter-government transactions are not netted out.

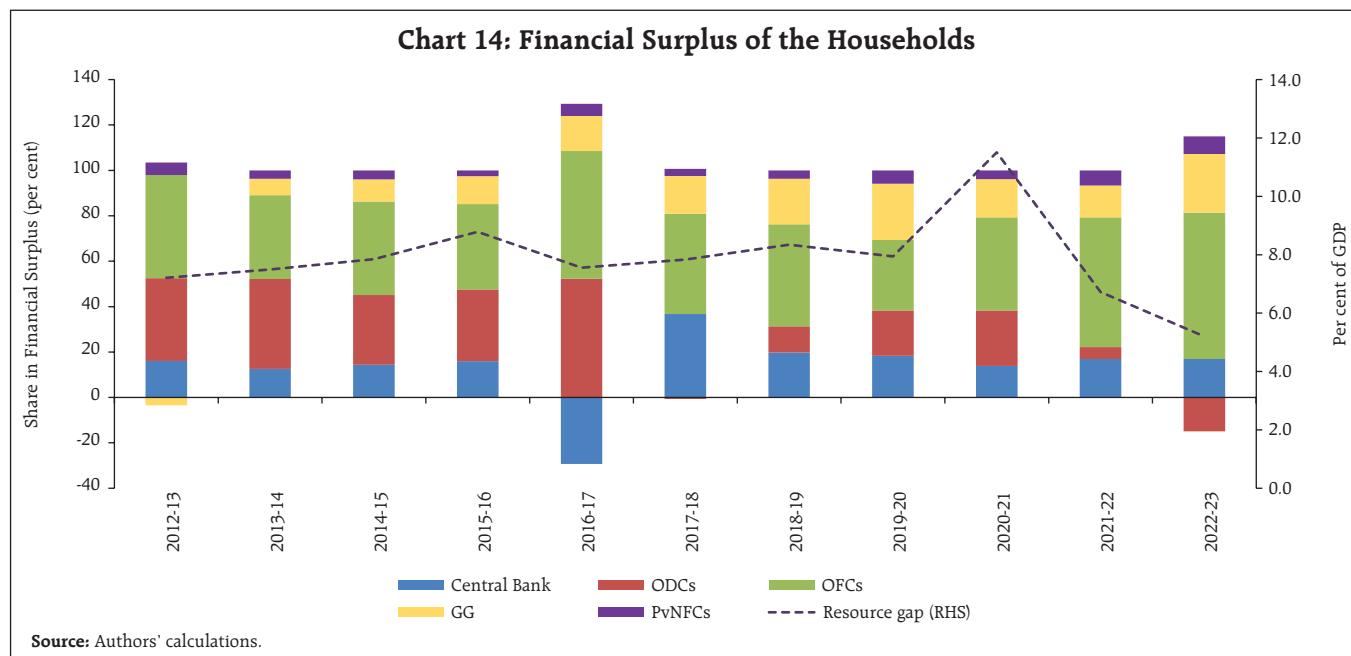


of its total liabilities as at end-March 2023, rose by 11.4 per cent over the previous year.

IV.4 Households (including NPISHs)

During 2022-23, HH net resource balance declined to 5.2 per cent of GDP from 6.7 per cent in 2021-22 and 11.5 per cent in 2020-21, as households continued to drawdown on their excess savings

accumulated during the pandemic year (Chart 14). While the financial assets flows increased marginally to 11.1 per cent of GDP (from 10.6 per cent in 2021-22), liabilities of HH increased by 5.9 per cent of GDP in 2022-23 (from 3.8 per cent in 2021-22), as HH borrowed more, both from banks and non-banking financial companies (NBFCs). With a sizeable part of HH credit being used for real estate, there has been a



compositional shift in total household savings away from financial savings in favour of physical savings (NSO, 2024).

Regarding the financial assets of the HH sector, deposits with banks, non-banks and small saving schemes accounted for the maximum share in total assets. The financial assets of the sector grew by 9.8 per cent in 2022-23 as compared with 10.5 per cent in the previous year. Investment in equities and mutual funds remained robust, attracted by buoyant equity market conditions. In contrast to the general trend of HH allocating their surplus to all the sectors, HH turned net borrowers from the ODCs in 2022-23 on account of robust credit demand. Annual growth of currency holdings of HH, however, has been moderating with increasing preference for digital payments. On the liabilities side, while ODCs remained the primary source of finance, borrowings from both ODCs and OFCs surged. Consequently, household debt as a percentage of GDP increased to 39.4 per cent as at end-March 2023 from 38.1 per cent a year ago. The stock of HH financial assets reduced to 126.2 per cent of GDP at end-March 2023 from 131.2

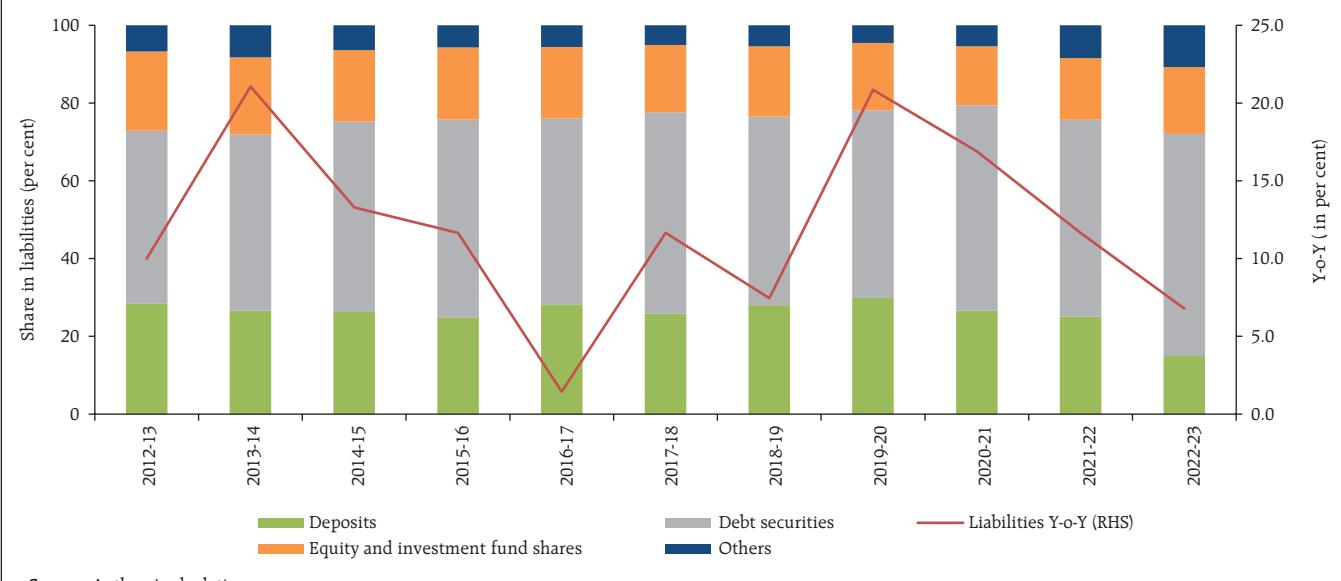
per cent a year ago. Accordingly, their net financial wealth reduced to 86.8 per cent of GDP from 93.1 per cent over the same period, although it was above the pre-pandemic position (83.3 per cent of GDP in 2019-20) [Table 1].

IV.5 Rest of the World

India remained a net borrower from the RoW in 2022-23. With higher merchandise deficit, and higher outgo relating to primary income, the current account deficit widened to 2.0 per cent of GDP from 1.2 per cent in the previous year. On the financing side, net FDI inflows were lower at 0.8 per cent of GDP in 2022-23 (1.2 per cent in the previous year) while portfolio investments witnessed outflows of (-) 0.2 per cent of GDP [(-) 0.5 per cent in the previous year] amidst heightened global uncertainties. Forex reserves declined by US\$ 28.9 billion to US\$ 578.4 billion as at end-March 2023, of which US\$ 19.7 billion decline was due to valuation loss. Consequently, growth of liabilities of the RoW decelerated for the third consecutive year in 2022-23 (Chart 15).

The share of debt securities, which is the main component of RoW's liabilities, however increased

Chart 15: Liabilities of RoW



further during 2022-23, as RBI's foreign currency deposits with foreign central and commercial banks were substituted with debt securities (RBI 2023).

IV.6 Sector and Instrument-wise Heat Maps

The heat maps of sector-wise contribution to the increase in financial assets and liabilities of the domestic sectors are presented in Tables 2 and 3, respectively. Financial assets of the domestic sectors increased by 9.8 per cent during 2022-23. ODCs, HH and OFCs contributed almost 80 per cent of the total change, led by ODCs (28.7 per cent). In terms of instruments, loans and advances contributed the most to the increase in assets, followed by debt securities and deposits. Barring central bank and ODCs, an increase in deposits was seen across all the sectors with maximum contribution by HH. Equity investments

saw an increase across all the institutional sectors. The HH sector, the sole contributor to the insurance, pension and provident funds, witnessed 10.5 per cent increase in the assets invested in this sector (Table 2).

The liabilities of the domestic sectors increased by 10.4 per cent during 2022-23, driven by ODCs, NFCs, and GG. Instrument-wise loans and borrowings remained dominant, however, deposits by ODCs contributed the highest to the change in liabilities, followed by debt securities issued by GG. As noted earlier, deposit liability of the central bank reduced on account of decrease in liquidity surplus in the banking system while deposit liability of RoW reduced due to fall in RBI's foreign currency assets. RoW's liabilities in the form of debt securities increased by 20.4 per cent (Table 3).

Table 2: Heat Map: Financial Assets 2022-23

Financial Assets	Central Bank	ODCs	OFCs	NFCs	GG	HH	Domestic Sectoral Share	RoW
Monetary Gold and SDRs	15.0 (0.5)	-	-	-	6.3 (0.1)	-	12.1 (0.6)	5.5 (1.2)
Currency	19.0 (0.1)	8.2 (2.2)	7.9 (2.3)	-
Deposits	-40.1 (-5.1)	-10.0 (-2.7)	12.6 (1.9)	13.5 (3.5)	12.3 (2.3)	9.6 (13.6)	5.6 (13.6)	8.0 (10.6)
Debt Securities	13.0 (5.2)	10.4 (6.2)	10.1 (8.8)	16.6 (1.3)	-3.3 (-0.3)	19.7 (0.7)	10.6 (21.9)	3.7 (4.8)
Loans and Advances	38.1 (0.8)	16.3 (23.1)	16.8 (7.2)	10.5 (3.0)	9.4 (0.9)	-	15.6 (35.0)	11.2 (20.6)
Equity and Investment Fund	..	20.6 (0.3)	9.2 (3.6)	6.6 (3.4)	15.4 (2.1)	8.7 (2.3)	8.8 (11.8)	5.5 (33.5)
Insurance, Pension & PF	-	..	-	..	-	10.5 (9.6)	10.5 (9.6)	-
Other Account Receivable	32.2 (0.1)	7.9 (0.3)	8.0 (0.8)	10.8 (4.3)	48.8 (0.8)	27.3 (0.2)	11.5 (6.5)	22.3 (29.3)
Others	-	14.0 (1.4)	8.5 (0.2)	-13.3 (-2.8)	..	-	-3.6 (-1.2)	-
Domestic Sectoral Share	2.5 (1.5)	11.7 (28.7)	11.4 (22.6)	7.3 (12.8)	11.3 (5.9)	9.8 (28.6)	9.8 (100)	8.3 (100)

- Notes:**
1. Green and red colours indicate increase and decrease in assets, respectively.
 2. Higher contributions to the changes in value of assets are represented by higher colour concentration.
 3. Figures in the parenthesis show instrument-wise contribution to total change in assets of the domestic economy.
 4. Figures in the parenthesis of RoW show instrument-wise contribution of total change in assets of RoW.
 5. "-" indicates Nil. & ".." indicates Negligible.

Source: Authors' calculations.

Table 3: Heat Map: Liabilities 2022-23

Liabilities	Central Bank	ODCs	OFCs	NFCs	GG	HH	Domestic Sectoral Share	RoW
Monetary Gold and SDRs	-	-	-	-	5.5 (0.1)	-	5.5 (0.1)	6.4 (2.5)
Currency	7.8 (2.2)	-	-	-	-	-	7.8 (2.2)	-
Deposits	-23.4 (-3.6)	10.4 (18.3)	13.5 (0.5)	15.8 (0.1)	13.3 (4.3)	-	8.6 (19.6)	-36.3 (-133.9)
Debt Securities	-	25.0 (1.0)	14.0 (2.1)	2.0 (0.3)	11.0 (14.8)	-	10.7 (18.3)	20.4 (152.1)
Loans and Borrowings	-	14.0 (3.5)	19.0 (3.1)	9.8 (8.7)	12.3 (1.2)	18.0 (14.5)	14.0 (31.0)	47.5 (7.5)
Equity and Investment Fund	--	7.3 (0.2)	5.1 (1.9)	4.4 (1.4)	-	-	4.9 (3.4)	15.6 (36.5)
Insurance, Pension & PF	19.7 (0.1)	--	11.0 (9.1)	-	3.5 (0.3)	-	10.5 (9.5)	-
Other Account Payable	132.1 (0.5)	22.5 (0.8)	8.4 (0.1)	8.6 (8.3)	-28.2 (-0.1)	24.4 (0.3)	9.6 (9.9)	51.3 (35.2)
Others	-	29.6 (1.7)	--	10.3 (4.3)	--	-	12.4 (6.0)	-
Domestic Sectoral Share	-1.6 (-0.7)	11.8 (25.5)	10.8 (16.7)	8.4 (23.2)	11.0 (20.5)	18.1 (14.8)	10.4 (100.0)	6.8 (100.0)

Notes: 1. Red and green colours indicate increase and decrease in liabilities, respectively.

2. Higher contributions to the changes in value of liabilities are represented by higher colour concentration.

3. Figures in the parenthesis show instrument-wise contribution to total change in liabilities of the domestic economy.

4. Figures in the parenthesis of RoW show instrument-wise contribution of total change in liabilities of RoW.

5. "-" indicates Nil. & "--" indicates Negligible.

Source: Authors' calculations.

V. Conclusion

The financial stocks and flows during 2022-23 highlight the continued role of households and financial corporations as surplus sectors in meeting the financing needs of the general government and private non-financial corporations. Financial assets of the domestic sectors increased by 9.8 per cent during 2022-23 while their liabilities increased by 10.4 per cent. The net financial wealth (NFW) of domestic sector moderated to 24.9 percent of GDP at end-March 2023 from 29.0 percent in the previous year mainly on account of higher growth of liabilities *vis-à-vis* financial assets, driven by buoyant credit demand. However, the NFW at end-March 2023 remained above the pre-pandemic level of 24.2 percent in 2019-20.

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Fiscal-Inflation Nexus: Is there a Feedback Loop?

by Harshita Keshan, Garima Wahi and Krishna Mohan Kushwaha ^

The article presents an analysis of the fiscal-inflation nexus, and insights into the evolving dynamics of global public debt in the post-pandemic era. The pandemic triggered unprecedented fiscal expansions and accommodative monetary policies, contributing to a surge in global debt levels and multi-decadal high inflation. Employing a panel vector autoregression (PVAR) framework, the study finds that inflationary surprises can only temporarily reduce real debt burdens while large deficits amplify inflationary pressures.

Introduction

The COVID-19 pandemic, a true black swan event, triggered an unprecedented fiscal and monetary stimulus across the world to support domestic demand and preserve financial stability. Even as such coordinated policy responses prevented market frenzy and supported quick economic recoveries, these responses led to inflated central bank balance sheets and surging public debt levels, contributing to multi-decadal high inflation amidst lingering supply bottlenecks. While the vast quantitative easing (QE) during 2010s after the global financial crisis did not provoke inflation, the unparalleled fiscal stimulus during the pandemic in conjunction with extremely accommodative monetary policies sent inflation soaring globally, raising the question whether inflation is a fiscal phenomenon (The Economist, 2021).

[^] The authors are from the Monetary Policy Department, Reserve Bank of India (RBI). Assistance with data processing from Akash Raghawan is gratefully acknowledged. The views expressed in this article are those of the authors and do not represent the views of the RBI.

As countries modified fiscal targets and activated escape clauses, global public debt surged from 84 per cent of gross domestic product (GDP) in 2019 to near 100 per cent of GDP in 2020. Subsequently, as exceptional fiscal measures came to an end, fiscal deficits corrected in some cases (but still elevated) and nominal GDP posted robust growth, global debt decreased to around 91 per cent of GDP by end-2022. It increased thereafter to around 93 per cent in 2024 and is poised to increase further from burgeoning interest burdens and the slow pace of fiscal consolidation, casting aspersions on debt sustainability (IMF, 2024a).

The multi-decadal high inflation during 2022-2023 and high nominal GDP growth appear to have contributed to eroding the real value of government debt in the post-pandemic period. This well-documented debt-reduction mechanism is effective only when inflation surpasses expectations, as positive inflation surprises boost nominal GDP and tax revenues (Patel and Peralta-Alva, 2024; Garcia-Macia 2023); however, this channel could be transient and unsustainable as repeated inflation surprises can destabilise inflation expectations, depress economic activity, drag down government revenues and exacerbate fiscal deficits and public debt. At the same time, prudent fiscal policy also supports monetary policy in anchoring inflation expectations. Sargent and Wallace (1981) seminal paper illustrates that sustained large government fiscal deficits, even if not financed by central banks, can undermine the effectiveness of monetary policy in curbing inflation.

These intricate fiscal-financial interactions create a dual and dynamic relationship between inflation and debt. While studies which explore inflation and government debt dynamics focus on one side of the relationship at a time, this article tries to evaluate the fiscal-inflation nexus in a comprehensive framework of panel vector autoregression (PVAR). Before delving into the econometric analysis, it is

essential to first examine the emerging trends in global public debt as outlined in the next section. It provides crucial context, offering insights into the distributional dynamics of debt and its evolution, shaped significantly by the pandemic and subsequent policy responses. Section III summarises the nature of work done in this field and the results of these studies. Section IV provides an in-depth discussion of the model employed, the rationale underpinning its selection, and the detailed steps involved in its implementation. Section V presents the results and inferences therefrom with the last section providing concluding remarks.

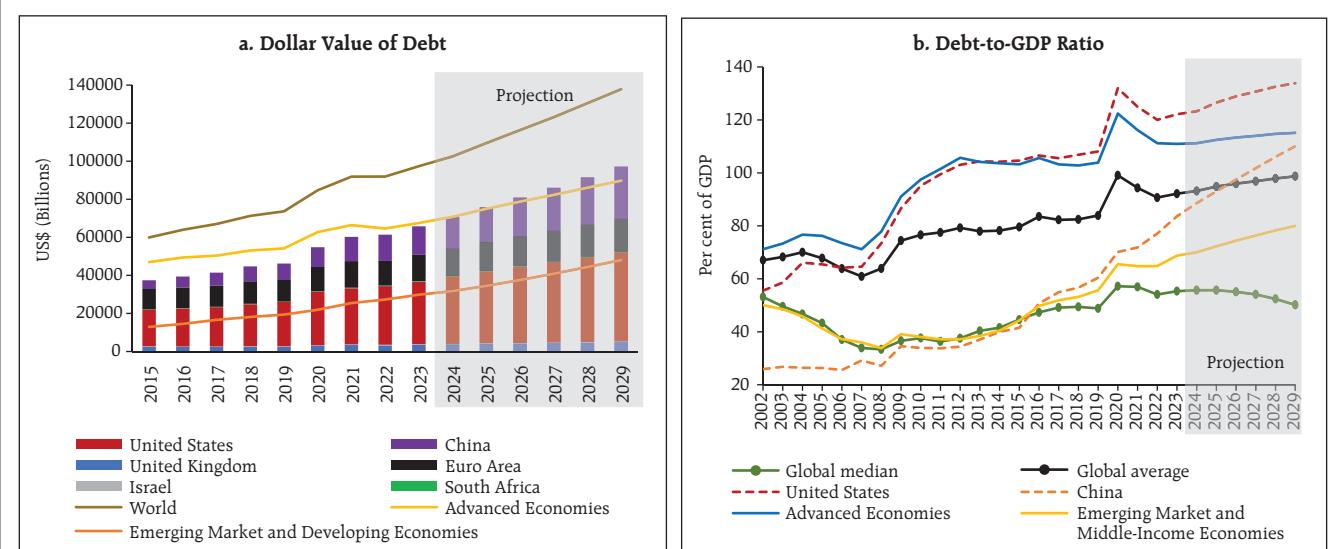
II. Stylised Facts

The pandemic-induced policy response has profoundly influenced global public debt. According to the IMF Fiscal Monitor (October 2024), global public debt is anticipated to surpass \$100 trillion in 2024 – equivalent to 93 per cent of global GDP – and is projected to approach 100 per cent of GDP by 2030. This trajectory underscores the significant fiscal challenges that lie ahead.

Chart 1a vividly depicts the rising trend of global public debt, highlighting its alarming growth trajectory in dollar value terms for the world as a whole and some countries which have particularly large value of debt. Notably, while worsening debt burdens are projected for only one-third of the world's economies, this subset contributes to more than half of total global debt and approximately two-thirds of global GDP, emphasising the concentrated nature of fiscal vulnerabilities (IMF, 2024b).

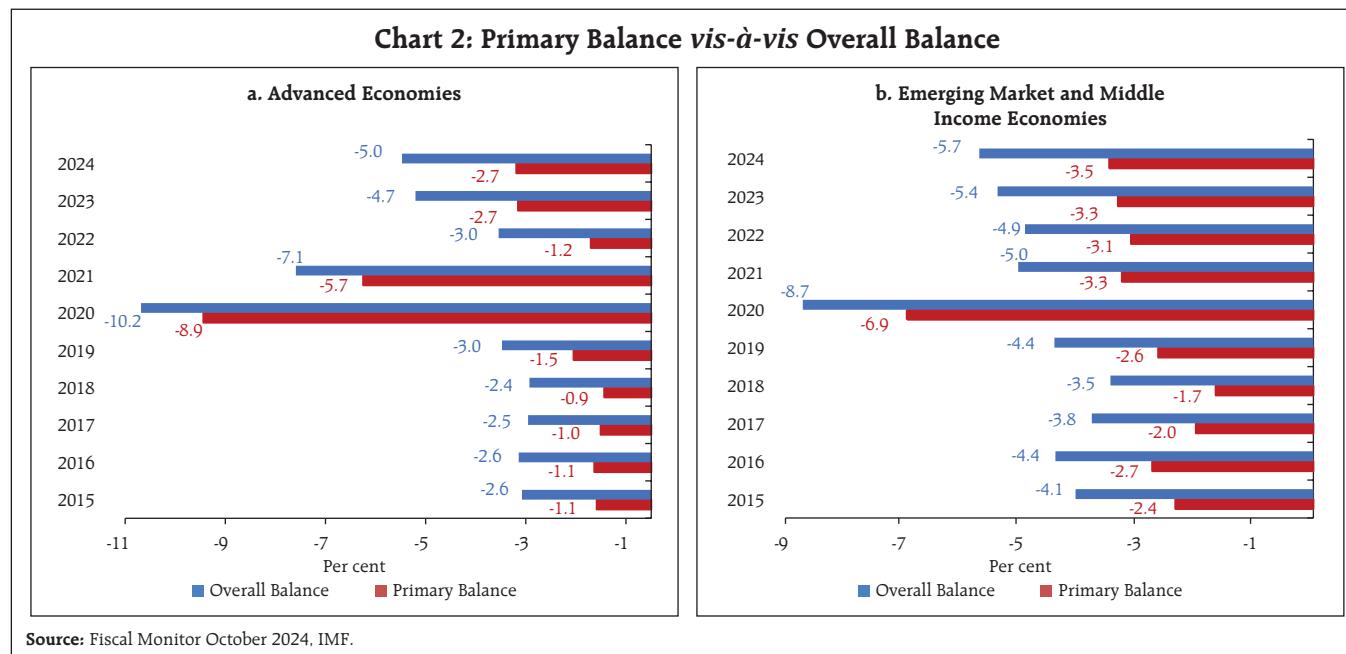
Further insights into the distribution of debt burdens are provided in Chart 1b where debt is examined relative to GDP. The persistently higher mean compared to the median debt-to-GDP signals a positively skewed distribution, indicating that a few highly indebted economies significantly inflate the average. Over time, the divergence between median and mean ratios has widened, signifying an increasingly skewed debt distribution. An analysis of advanced economies (AEs) and emerging markets and middle-income economies (EMMEs) indicates that the average debt-to-GDP ratio for AEs is nearly

Chart 1: Evolution of Global Debt



Sources: WEO October 2024, IMF; and authors' calculations.

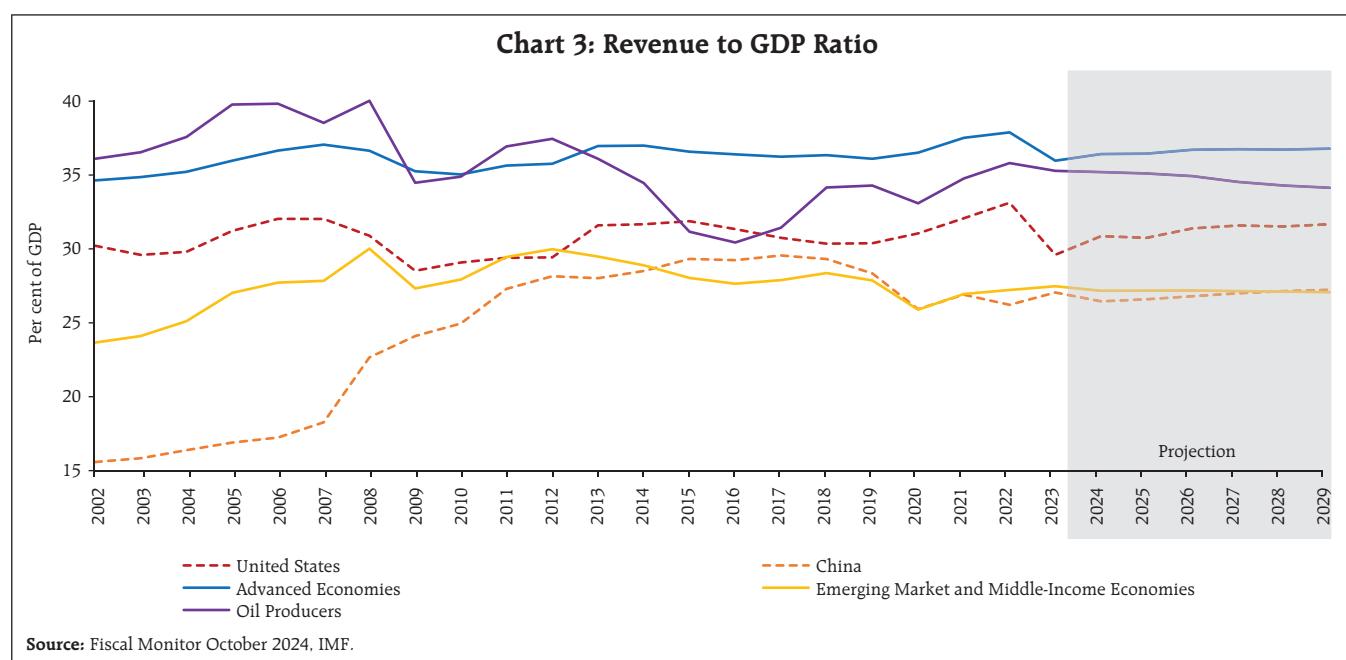
Source: Fiscal Monitor October 2024, IMF.

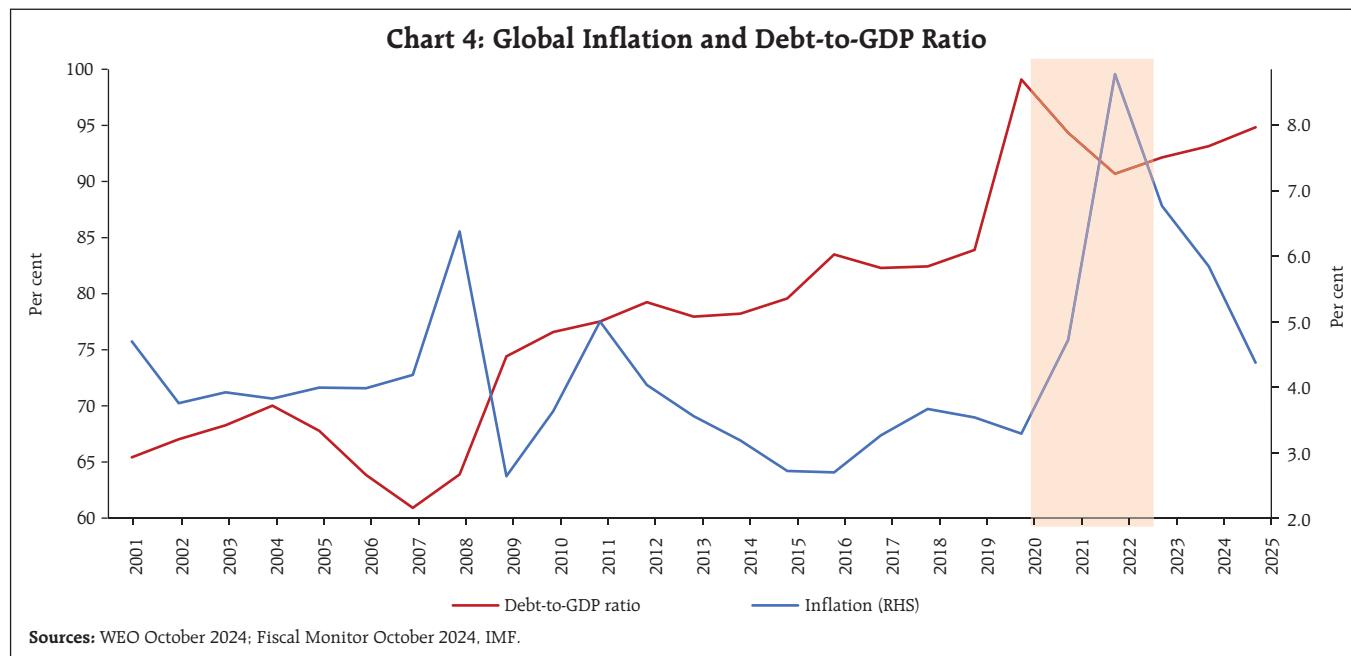


40 percentage points higher than that for EMMEs. Despite a modest increase in global debt-to-GDP ratio, AEs led by the US are expected to maintain their dominant share of global debt, even as the debt levels of EMMEs steadily rise driven by China.

As pandemic-related restrictions eased and economies began to rebound in 2022, resilient growth

and inflationary surprises provided a temporary reprieve for fiscal balances. Chart 2 illustrates how primary deficits returned to pre-pandemic lows by 2022, especially for AEs — reducing by approximately eight percentage points for AEs and four percentage points for EMMEs compared to their 2020 levels. The progress, however, remains wobbly on the overall deficit front owing to rising interest payments. Overall





fiscal deficits are expected to increase marginally till 2024 to 5.2 per cent of GDP, driven by higher interest expenses and continued public spending, before gradually declining during the period 2025–2029. Nevertheless, fiscal deficits are expected to remain above pre-pandemic levels for most countries over the coming years.

In 2022, when inflation spiked, several countries experienced revenue surprises from increased tax buoyancy, and concomitantly, surging nominal GDP levels drove down deficit and debt ratios. On average, AEs witnessed a jump of around 3 per cent in government revenues between 2020 and 2022 while EMMEs revenues increased by around 5 per cent over the same time period (Chart 3). However, for EMMEs with significant foreign currency-denominated debt, fiscal dynamics deteriorated due to currency depreciation and rising interest rates.

The trajectory of inflation steadily increased starting 2020 while debt-to-GDP ratio witnessed a concomitant reduction from its peak, reaching its trough in tandem with the inflation peak in 2022,

highlighting a negative correlation between positive inflation surprises and debt-to-GDP ratios (Chart 4). However, such high inflation-led debt deflation may offer only short-term relief and sustained fiscal consolidation efforts are required for effective debt consolidation. The next section summarises the nature of work done in this field and the results of these studies.

III. Literature Review

An increase in inflation affects the fiscal outlook through various channels (Dynan, 2022). First, higher inflation raises interest cost for the government due to rolling over of debt at higher interest rates. Second, inflation impacts primary balance both positively and negatively. It instantly increases the nominal revenue, especially the ones not indexed to inflation, like taxes above income thresholds; but also raises the spending due to increased expenditure on inflation-indexed benefit programs. Third, inflation also brings about a higher nominal GDP growth, helping the government to bear the burden of higher nominal government debt on the one hand and reducing debt-to-GDP ratio

through the denominator channel on the other. This effect is significant and may overshadow the first and second ones.

The impact of inflation surprises on debt and fiscal balances is also established empirically. Garcia-Macia (2023) finds that as nominal revenues are affected by inflation immediately while primary expenditures take time to adjust, inflation shocks temporarily improve fiscal balances. Inflationary shocks, and not merely inflation, also improve debt dynamics by improving the primary balance and the nominal GDP as denominator. Unexpected inflation has played a significant role in driving the debt-to-GDP ratio during certain periods and in specific countries. GDP shocks have also been influential, accounting for an estimated 40 per cent of the yearly variation in debt-to-GDP ratios for the median advanced economy (Patel and Peralta-Alva, 2024). However, if inflation is caused due to a supply shock, for example, higher energy prices, it can also adversely affect the public finances by moderating consumption and reducing tax revenues (Bankowski *et al.*, 2023).

In the US, debt-to-GDP ratio is determined by contributions from inflation, growth and nominal returns paid on debts of different maturities (Hall and Sargent, 2011). Das and Ghate (2022) find a higher contribution from inflation and growth towards reduction in debt-to-GDP for India during high inflationary and growth years. Several other studies use inflation, GDP growth, and interest rates as drivers of debt to evaluate the evolution of debt-to-GDP ratio (Ando *et al.*, 2025).

On the other side, literature also highlights the potential link between expansionary fiscal policy and inflation. The fiscal theory of the price level (Cochrane, 2021) postulates that when real value of government debt is more than the present value of taxes less spending, it can drive up prices to

restore solvency of public finances. Although some studies establish that public debt is inflationary for countries with large public debt (Kwon, 2009; Romero and Marin, 2017), others find that debt only plays a minor role in the determination of price level (Castro *et al.*, 2003; Harmon, 2012). A few studies also explore the prospect of non-linear impact on inflation, wherein the inflation response varies with the level of debt. (Cevik and Miryugin, 2024; Beirne and Renzhi, 2024). Banerjee *et al.* (2023) also establish that fiscal deficit has a non-linear impact on inflation – greater impact on upside tail risks than on average inflation – and that these effects are significantly larger for Emerging Market and Developing Economies (EMDEs) as compared to AEs. They also find that in inflation targeting regimes, the effect of higher fiscal deficit on inflation weakens sharply. Martin (2015) infers that higher public debt leads to increased inflation in the longer run unless the country imposes a strict inflation target. On the expectations front, evidence indicates that debt surprises can raise long-term inflation expectations in Emerging Market Economies (EMEs) persistently, especially when initial debt and inflation levels are high (Branda-Marques *et al.*, 2024).

In AEs, higher deficits under fiscal-led regime have five times larger effect on inflation *vis-à-vis* monetary-led regime, in addition to raising the likelihood of high inflation (Banerjee *et al.*, 2022). Leeper (1991) demonstrated that active fiscal behaviour leads to lump-sum inflation tax, generating inflation in the next period while Bordo and Levy (2021) find that the association between fiscal deficits and inflation holds during periods of fiscal stress when governments resort to inflation tax. The degree of impact of fiscal deficits on inflation can also depend on prevailing inflationary conditions (Lin and Chu, 2013).

Catao and Terrones (2005), in their study of 107 nations, identify a significant positive relationship between fiscal deficits and inflation in economies experiencing high inflation and in developing countries, however, they also find that this relationship does not hold for low-inflation, advanced economies. Some studies also attempt to assess the bidirectional relationship between fiscal variables and inflation, but by establishing one causality at a time. In Euro area, inflation affects public finances negatively beyond short run while fiscal expansion exacerbates inflationary pressures, necessitating a stronger monetary policy response (Bankowski et al., 2023). According to Bon (2015), in developing countries, public debt seems to increase inflation, while inflation reduces public debt. In another study of nine EU countries, Tiwari et al. (2015) establish a causality from inflation to budget deficits for Belgium and France but find no causality from budget deficits to inflation.

A few studies testing the two-way causality between public debt and inflation in a unified framework (using either VAR or VECM) have typically focused on a single country like the US (Cherif and Hasanov, 2018) and Germany (Nastansky et al., 2014). Overall, the relationship between fiscal deficits and inflation has primarily been explored from one perspective, and often in the context of one country or few large economies. This paper builds upon these studies to investigate two-way relationship between inflation and public debt, across a diverse set of forty-two countries, including both advanced and emerging economies.

IV. Data and Methodology

In order to examine the interplay of fiscal dynamics (debt-to-GDP ratio) with other macroeconomic indicators, including economic

growth, inflation, and policy rates, this study employs a Panel Vector Autoregression (PVAR) framework. The PVAR approach effectively accounts for country-specific heterogeneity while capturing the dynamic interdependencies among multiple endogenous variables. Although VAR models are well-suited for estimating such relationships, their empirical application in macroeconomic studies often encounter challenges related to limited data availability, commonly referred to as the "curse of dimensionality".

In this study, relatively short time series further limits the feasibility of estimating separate VAR models for individual countries. To address this constraint, the analysis focuses on a concise set of variables that represent the core dynamics of key macroeconomic indicators and adopts a panel VAR framework. This pooling of data across countries not only mitigates the limitations of short time series but also enhances estimation reliability by leveraging the cross-sectional dimension of the dataset (Adarov, 2021). The specification takes the following reduced form:

$$y_{i,t} = \alpha + \gamma_i + \beta'y_{i,t-1} + \varepsilon_{i,t}$$

with time index $t = 1, \dots, T$; and country index $i = 1, \dots, N$, where y_i is a vector of five variables for country i : real GDP growth rate, CPI inflation rate (year-on-year), Δ debt-to-GDP ratio, policy rate and oil price inflation; γ_i is a vector of country specific fixed effects; and $\varepsilon_{i,t}$ denotes a vector of reduced form errors.

To account for the substantial cross-sectional heterogeneity, the model incorporates country fixed effects (γ_i) to capture the unobserved, time-invariant characteristics unique to each nation. However, since fixed effects may correlate with the regressors due to the lagged dependent variables, we address this

potential bias using forward mean-differencing, commonly known as the 'Helmert procedure', as outlined by Love and Zicchino (2006). This approach retains the orthogonality between the transformed variables and lagged regressors, allowing lagged regressors to serve as valid instruments for estimating coefficients using the system GMM method. We employ robust standard errors to account for potential heteroskedasticity and serial correlation within the data.

Since the model is estimated in its reduced form, additional structure is imposed on the error variance-covariance matrix to identify structural shocks using a standard Cholesky decomposition, which orthogonalises the reduced-form errors. In this framework, variables listed earlier in the ordering are treated as more exogenous, influencing subsequent variables both contemporaneously and with a lag. The chosen ordering for the Cholesky decomposition is: oil inflation → CPI inflation → GDP growth → debt-to-GDP ratio → policy rate. The primary findings remain robust to different permutations of ordering.

IV.1. Data

This econometric analysis utilises an unbalanced panel dataset comprising a global sample of forty-two countries, including 15 AEs and 27 EMEs, spanning the period 1990–2023 at an annual frequency. The composition of the sample is detailed in Appendix Table A1. The selection of countries is primarily driven by the availability of sufficiently long time series and a substantial number of cross-sectional observations (N), ensuring the feasibility of a robust econometric analysis. The macroeconomic variable datasets, namely GDP, CPI, and debt-to-GDP ratio, are sourced from the IMF's World Economic Outlook Database (October 2024). Oil price data are obtained

Table 1: Descriptive Statistics

Variable	Variation	Mean	Std. Dev.	Min	Max
Δ Debt-to-GDP Ratio	overall	0.25	5.27	-17.91	12.76
	between		1.38	-2.97	5.17
	within		5.08	-18.96	15.29
CPI Inflation	overall	9.96	18.93	-0.92	96.10
	between		9.17	0.59	35.72
	within		16.67	-20.90	92.97
GDP Growth	overall	3.04	3.89	-11.70	9.62
	between		1.41	-0.11	6.18
	within		3.64	-13.56	12.77
Policy Rate	overall	8.27	9.69	-0.17	45.28
	between		6.49	0.80	25.46
	within		7.09	-9.04	43.59
Oil Inflation	overall	7.64	27.92	-47.07	66.53

Source: Authors' estimates.

from the World Bank's Pink Sheet, while policy rate data are retrieved from CEIC. Table 1 presents the descriptive statistics for all variables¹.

V. Empirical Results

We begin by assessing the stationarity of the variables used in Section V.1 and determine the optimal lag length for our model based on the Moment and Model Selection Criteria (MMSC) in Section V.2. Then we test for Granger causality between the primary variables and present the impulse response functions, analysing the response of the key variables to various shocks, providing graphical representations alongside detailed explanations of the observed effects (Sections V.3 and V.4).

V.1. Test for Stationarity

All variables are retained in their original form, except for the debt-to-GDP ratio, which is used in first differences. Stationarity is verified using the Im-Pesaran-Shin, Fisher Augmented Dickey-Fuller, and Fisher Phillips-Perron panel unit root tests, with the results presented in Table 2.

¹ The data has been winsorised at 97 per cent, meaning the top and bottom 1.5 per cent of values are adjusted.

Table 2: Results of the Panel Root Test

	Im-Pesaran-Shin	Fisher Augmented Dickey-Fuller	Fisher Phillips-Perron
Δ Debt-to-GDP Ratio	-14.02***	-12.93***	-19.69***
CPI Inflation	-13.01***	-16.38***	-17.99***
GDP Growth	-17.56***	-18.86***	-24.69***
Policy Rate	-6.31***	-9.09***	-8.84***
Oil Inflation	-19.07***	-30.61***	-26.92***

Note: ***, ** and * denote the level of significance at 1 per cent, 5 per cent and 10 per cent, respectively.

Source: Authors' estimates.

V.2. Model Selection

The selection of the appropriate lag order is critical for a robust panel VAR analysis. Selecting too few lags can omit critical variables, biasing results, while excessive lags risk over-parameterization and reduced degrees of freedom (Boubtane *et al.*, 2012). We use one lag based on the MMSC (Andrews and Lu, 2001), specifically the Modified Bayesian Information Criterion (MBIC) and the Modified Hannan-Quinn Information Criterion (MQIC). The overall coefficient of determination (CD) also supports this choice. The combined results reported in Table 3 validate the selection of a first order PVAR² model, ensuring a balance between explanatory power and parsimony.³

V.3. Granger Causality

Before proceeding further, we examine Granger causality between key variables, particularly the CPI and debt-to-GDP ratio. Table 4 reports the chi-square Wald statistics for testing the null hypothesis that the debt-to-GDP ratio does not Granger cause CPI and *vice versa*, as well as its causal effects on the other three variables. The last row presents the joint probability

² To ensure the GMM model is overidentified, four lags are used as instruments. Overidentification allows the application of various MMSC criteria, which are not applicable in just-identified models.

³ The selected model passes the stability test.

Table 3: Lag Order Selection

Lag	CD	MBIC	MQIC
1	0.95	-334.26	-124.80
2	0.92	-264.33	-124.69
3	0.93	-137.61	-67.79

Source: Authors' estimates.

for all lagged variables in the equation, evaluating whether all lags of all variables can be excluded from each equation in the panel VAR system. The findings indicate bidirectional causality between the debt-to-GDP ratio and CPI at 1 per cent significance level. Furthermore, the joint significance chi-square statistics in the final row confirm that all lagged variables collectively Granger cause each variable in the system.

V.4. Impulse Response Functions

We now proceed with the analysis of the impulse response functions (IRFs) to assess the responses of the debt-to-GDP ratio and CPI to shocks in the corresponding variables within the system. Chart 5 presents IRF plots for debt-to-GDP ratio and CPI. The solid lines in the plots represent the orthogonal IRFs of the respective variables over a ten-year horizon. The shaded areas indicate 95 per cent confidence intervals constructed using 1,000 Monte Carlo simulations based on the fitted reduced form of the panel VAR model.

As shown in Chart 5, a positive shock to the debt-to-GDP ratio has a positive and significant short-term impact on CPI inflation, which diminishes over time. Specifically, the estimates indicate that a one standard deviation shock to debt-to-GDP ratio (3.7 percentage points) can lead to a 120 basis points (bps) rise in CPI inflation in the first period, peaking at 181 bps in the second period. This effect remains significantly positive up to 5 years.

Table 4: Granger Causality Results

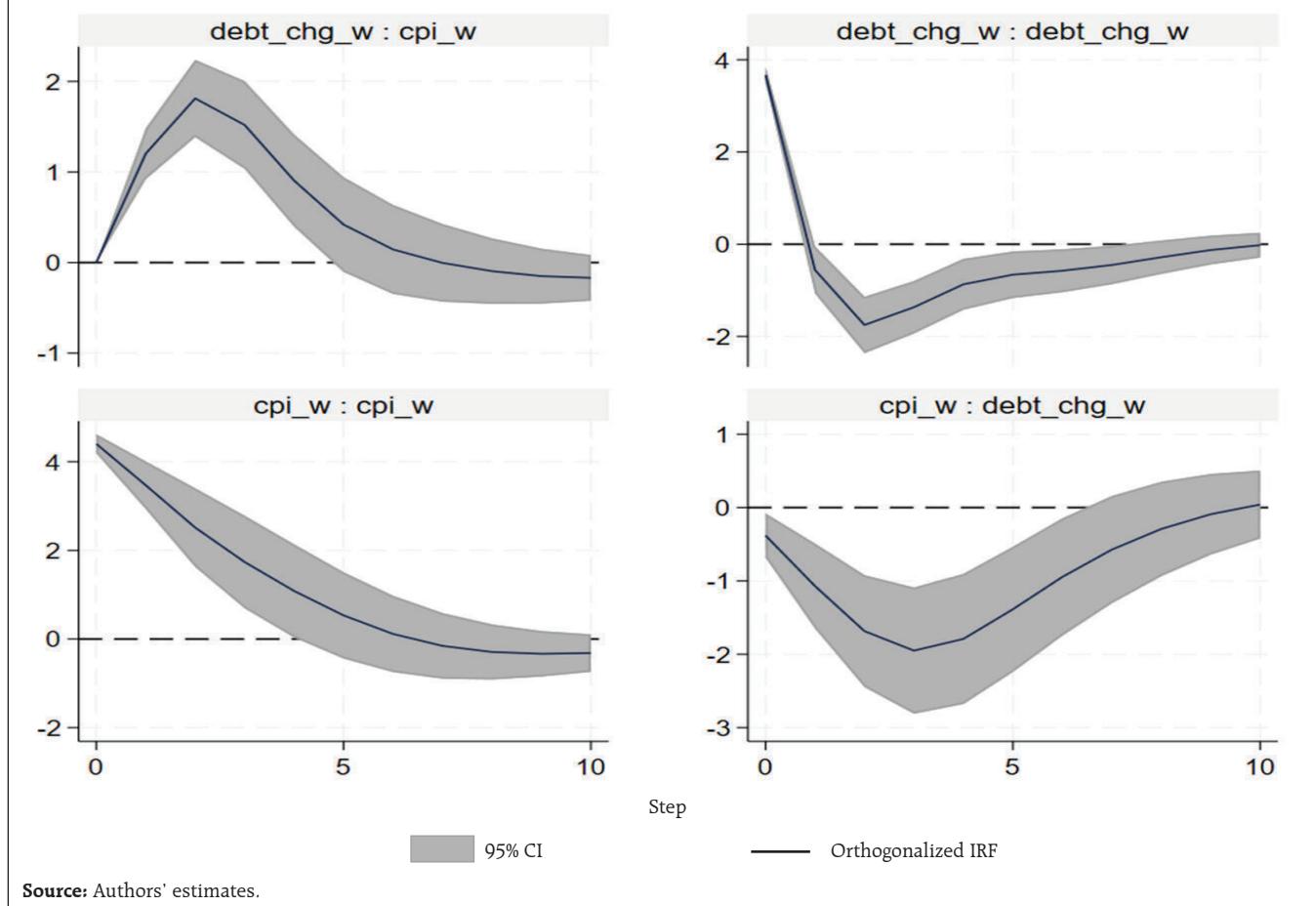
	Δ Debt-to-GDP Ratio	CPI Inflation	GDP Growth	Policy Rate	Oil Inflation
Δ Debt-to-GDP Ratio	-	72.94***	50.03***	0.43	84.58***
CPI Inflation	22.49***	-	23.42***	44.44***	0.29
GDP Growth	84.07***	21.69***	-	17.81***	68.38***
Policy Rate	2.58	5.44**	0.46	-	1.57
Oil Inflation	2.40	18.10***	26.32***	4.02**	-
All	121.99***	113.03***	92.24***	102.95***	96.02***

Note: The table entries represent chi-square statistics for testing the null hypothesis that the excluded variable does not Granger-cause the dependent variable, against the alternative hypothesis that it does. Levels of statistical significance are denoted as follows: *** for 1 per cent, ** for 5 per cent, and * for 10 per cent.

Source: Authors' estimates.

Analysing the other side of the bidirectional relationship, Chart 5 illustrates that higher inflation causes a significant and sharp fall in debt-to-GDP ratio. Specifically, a one standard deviation shock to inflation (4.4 percentage points) can lead to around

38 bps reduction in debt-to-GDP ratio in first year. The impact peaks in the third year and fades by the seventh year, supporting the evidence provided by Garcia-Macia (2023).

Chart 5: Impulse Response Functions

Beyond the primary variables of interest, the interactions among other variables also appear to be on expected lines (Appendix Chart A1). For instance, an increase in the policy rate significantly reduces inflation, demonstrating the effectiveness of monetary policy.

VI. Conclusion

This study analyses the intricate relationship between inflation and public debt, particularly in the context of unprecedented fiscal spending triggered by the COVID-19 pandemic. The findings underscore the inflationary effects of high public debt, emphasising the necessity of fiscal consolidation. While high inflation can temporarily deflate away debt burden, this effect is neither permanent nor sufficient to address long-term fiscal challenges. High inflation can have its own adverse consequences on consumption, investment, and growth (RBI, 2024).

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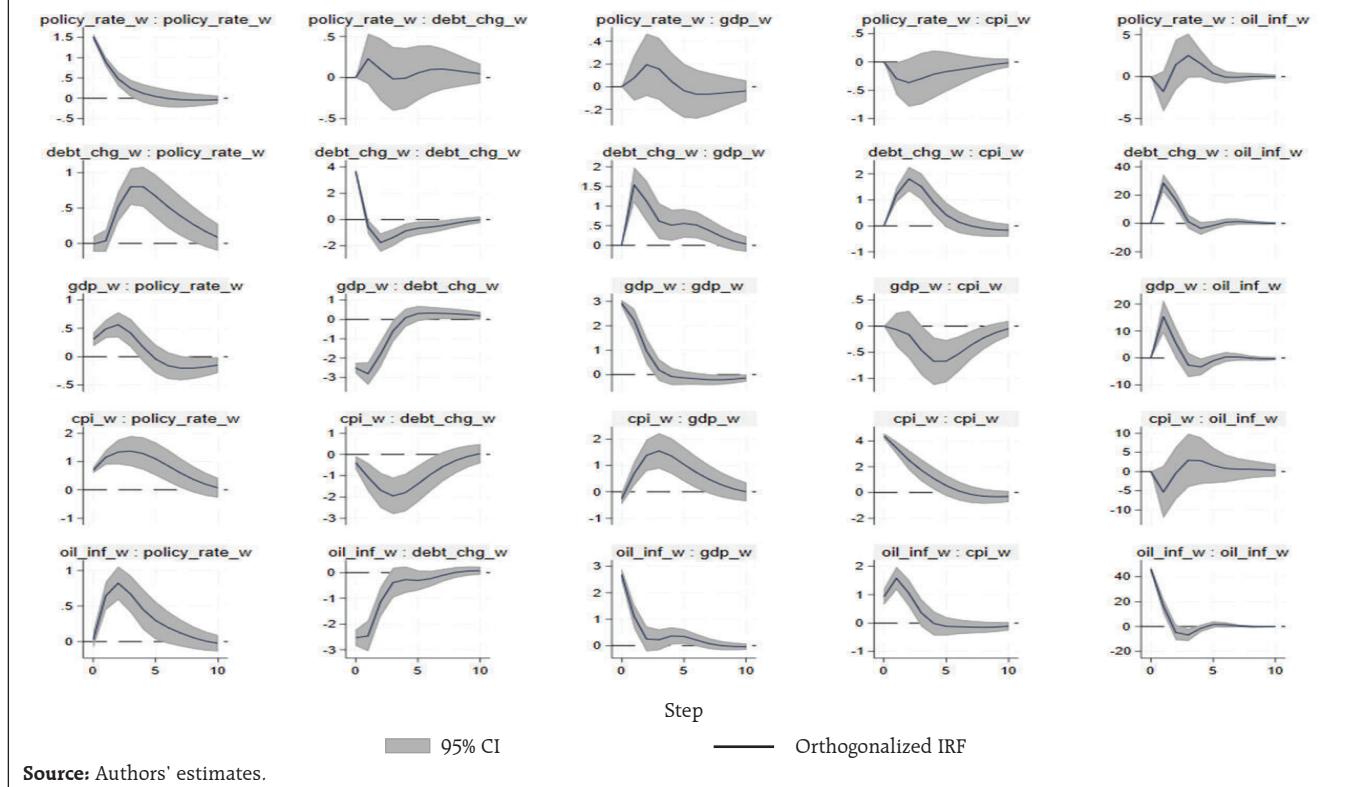
Appendix

Table A1: Sample of Countries

Country name	Classification	Country name	Classification
Australia	AEs	Mongolia	EMEs
Belarus	EMEs	Morocco	EMEs
Brazil	EMEs	New Zealand	AEs
Bulgaria	EMEs	Norway	AEs
Canada	AEs	Pakistan	EMEs
Chile	EMEs	Peru	EMEs
Colombia	EMEs	Philippines	EMEs
Czech Republic	AEs	Poland	EMEs
Denmark	AEs	Romania	EMEs
Ecuador	EMEs	Russia	EMEs
Euro Area	AEs	South Africa	EMEs
Hungary	EMEs	South Korea	AEs
India	EMEs	Sri Lanka	EMEs
Japan	AEs	Sweden	AEs
Jordan	EMEs	Switzerland	AEs
Kosovo	EMEs	Taiwan	AEs
Laos	EMEs	Tajikistan	EMEs

Source: WEO October 2024, IMF.

Chart A1: Complete Impulse Response Function



Source: Authors' estimates.

CURRENT STATISTICS

Select Economic Indicators

Reserve Bank of India

Money and Banking

Prices and Production

Government Accounts and Treasury Bills

Financial Markets

External Sector

Payment and Settlement Systems

Occasional Series

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Notes: .. = Not available.

– = Nil/Negligible.

P = Preliminary/Provisional. PR = Partially Revised.

No. 1: Select Economic Indicators

Item	2023-24	2023-24		2024-25	
		Q1	Q2	Q1	Q2
		1	2	3	4
1 Real Sector (% Change)					
1.1 GVA at Basic Prices	7.2	8.3	7.7	6.8	5.6
1.1.1 Agriculture	1.4	3.7	1.7	2.0	3.5
1.1.2 Industry	9.3	5.0	13.6	7.4	2.1
1.1.3 Services	7.9	10.4	6.9	7.7	7.1
1.1a Final Consumption Expenditure	3.8	4.6	4.1	6.3	5.7
1.1b Gross Fixed Capital Formation	9.0	8.5	11.6	7.5	5.4
	2023-24		2023		2024
			Oct.	Nov.	Oct.
			1	2	3
1.2 Index of Industrial Production	5.9	11.9	2.5	3.7	5.2
2 Money and Banking (% Change)					
2.1 Scheduled Commercial Banks					
2.1.1 Deposits	12.9	12.5	13.5	11.9	11.1
2.1.2 Credit #	(13.5)	(13.2)	(14.2)	(11.5)	(10.7)
2.1.2.1 Non-food Credit #	16.3	15.8	16.7	13.1	11.8
2.1.2.2 Food Credit #	(20.2)	(20.4)	(21.1)	(11.8)	(10.6)
2.1.3 Investment in Govt. Securities	16.3	16.0	16.8	13.1	11.8
2.2 Money Stock Measures	(20.2)	(20.5)	(21.3)	(11.8)	(10.6)
2.2.1 Reserve Money (M0)	11.1	16.8	15.6	9.2	9.5
2.2.2 Broad Money (M3)	(12.8)	(18.9)	(17.7)	(8.1)	(8.4)
3 Ratios (%)					
3.1 Cash Reserve Ratio	4.50	4.50	4.50	4.50	4.50
3.2 Statutory Liquidity Ratio	18.00	18.00	18.00	18.00	18.00
3.3 Cash-Deposit Ratio	5.0	5.2	5.2	5.2	5.1
3.4 Credit-Deposit Ratio	(5.0)	(5.1)	(5.2)	(5.2)	(5.1)
3.5 Incremental Credit-Deposit Ratio #	78.1	76.7	77.2	77.5	77.7
3.6 Investment-Deposit Ratio	(80.3)	(79.2)	(79.6)	(79.4)	(79.5)
3.7 Incremental Investment-Deposit Ratio	95.8	88.7	92.3	69.2	72.8
	(113.4)	(119.5)	(118.8)	(66.2)	(69.8)
4 Interest Rates (%)					
4.1 Policy Repo Rate	29.5	30.4	29.8	29.7	29.6
4.2 Fixed Reverse Repo Rate	(29.8)	(30.8)	(30.2)	(29.9)	(29.7)
4.3 Standing Deposit Facility (SDF) Rate *	25.8	36.1	27.8	32.5	29.9
4.4 Marginal Standing Facility (MSF) Rate	(28.4)	(40.2)	(31.8)	(30.6)	(28.1)
4.5 Bank Rate	6.75	6.75	6.75	6.75	6.75
4.6 Base Rate	6.50	6.50	6.50	6.50	6.50
4.7 MCLR (Overnight)	9.10/10.25	8.95/10.10	8.95/10.10	9.10/10.40	9.10/10.40
4.8 Term Deposit Rate >1 Year	8.00/8.60	7.95/8.45	7.95/8.50	8.15/8.45	8.15/8.45
4.9 Savings Deposit Rate	6.25	6.25	6.25	6.25	6.25
4.10 Call Money Rate (Weighted Average)	6.75	6.75	6.75	6.75	6.75
4.11 91-Day Treasury Bill (Primary) Yield	6.75	6.75	6.75	6.75	6.75
4.12 182-Day Treasury Bill (Primary) Yield	6.75	6.75	6.75	6.75	6.75
4.13 364-Day Treasury Bill (Primary) Yield	6.75	6.75	6.75	6.75	6.75
4.14 10-Year G-Sec Par Yield (FBIL)	6.75	6.75	6.75	6.75	6.75
5 Reference Rate and Forward Premium					
5.1 INR-US\$ Spot Rate (Rs. Per Foreign Currency)	83.37	83.25	83.37	84.08	84.50
5.2 INR-Euro Spot Rate (Rs. Per Foreign Currency)	90.22	87.90	90.93	90.96	89.36
5.3 Forward Premium of US\$ 1-month (%)	1.00	1.02	0.95	1.49	1.94
3-month (%)	1.11	1.33	1.12	1.69	1.98
6-month (%)	1.31	1.71	1.47	2.01	2.18
6 Inflation (%)					
6.1 All India Consumer Price Index	5.4	4.9	5.6	6.2	5.5
6.2 Consumer Price Index for Industrial Workers	5.19	4.5	5.0	4.4	3.9
6.3 Wholesale Price Index	-0.7	-0.3	0.4	2.8	1.9
6.3.1 Primary Articles	3.5	2.3	5.2	8.3	5.5
6.3.2 Fuel and Power	-4.7	-1.6	-4.1	-4.3	-5.8
6.3.3 Manufactured Products	-1.7	-1.1	-0.8	1.8	2.0
7 Foreign Trade (% Change)					
7.1 Imports	-5.3	10.3	-3.3	-1.2	16.0
7.2 Exports	-3.1	5.8	-3.3	16.6	-5.1

Note : Financial Benchmark India Pvt. Ltd. (FBIL) has commenced publication of the G-Sec benchmarks with effect from March 31, 2018 as per RBI circular FMRD.DIRD.7/14.03.025/2017-18 dated March 31, 2018. FBIL has started dissemination of reference rates w.e.f. July 10, 2018.

#: Bank credit growth and related ratios for all fortnights from December 3, 2021 to November 18, 2022 are adjusted for past reporting errors by select scheduled commercial banks (SCBs).

Figures in parentheses include the impact of merger of a non-bank with a bank.

*: As per Press Release No. 2022-2023/41 dated April 08, 2022.

Reserve Bank of India

No. 2: RBI - Liabilities and Assets *

(₹ Crore)

Item	As on the Last Friday/ Friday						
	2023-24	2023	2024				
			Dec.	Nov. 29	Dec. 06	Dec. 13	Dec. 20
	1	2	3	4	5	6	7
1 Issue Department							
1.1 Liabilities							
1.1.1 Notes in Circulation	3482333	3330399	3511550	3527096	3536444	3526597	3525519
1.1.2 Notes held in Banking Department	11	12	14	19	17	14	14
1.1/1.2 Total Liabilities (Total Notes Issued) or Assets	3482344	3330410	3511564	3527114	3536461	3526611	3525533
1.2 Assets							
1.2.1 Gold	162996	151422	200142	200478	204097	197627	200458
1.2.2 Foreign Securities	3318885	3178712	3311092	3326375	3332168	3328651	3324796
1.2.3 Rupee Coin	463	276	330	262	196	333	278
1.2.4 Government of India Rupee Securities	-	-	-	-	-	-	-
2 Banking Department							
2.1 Liabilities							
2.1.1 Deposits	1782333	1660082	1441830	1391433	1461215	1579442	1531773
2.1.1.1 Central Government	101	100	101	101	101	100	100
2.1.1.2 Market Stabilisation Scheme			-	-	-	-	-
2.1.1.3 State Governments	42	43	42	42	42	42	42
2.1.1.4 Scheduled Commercial Banks	1008618	939847	1023815	1033128	986172	986556	939428
2.1.1.5 Scheduled State Co-operative Banks	10092	8036	8311	8510	8764	8016	8496
2.1.1.6 Non-Scheduled State Co-operative Banks	6412	4984	5297	5391	5318	4904	4770
2.1.1.7 Other Banks	48725	48415	50545	50362	50201	47635	47566
2.1.1.8 Others	545400	555420	232464	183352	306732	435390	443606
2.1.1.9 Financial Institution Outside India	162944	103239	121255	110547	103885	96799	87765
2.1.2 Other Liabilities	1804747	1803066	1914051	1941476	1929170	1868966	1905453
2.1/2.2 Total Liabilities or Assets	3587080	3463149	3355881	3332909	3390385	3448408	3437226
2.2 Assets							
2.2.1 Notes and Coins	11	12	14	19	17	14	14
2.2.2 Balances Held Abroad	1480408	1455394	1532888	1500889	1475458	1440376	1433320
2.2.3 Loans and Advances							
2.2.3.1 Central Government	-	-	-	11131	-	-	-
2.2.3.2 State Governments	2300	2579	16465	34432	28744	19820	21841
2.2.3.3 Scheduled Commercial Banks	266021	271352	21293	9846	108704	232376	244697
2.2.3.4 Scheduled State Co-op.Banks	-	-	-	-	-	-	-
2.2.3.5 Industrial Dev. Bank of India	-	-	-	-	-	-	-
2.2.3.6 NABARD	-	-	-	-	-	-	-
2.2.3.7 EXIM Bank	-	-	-	-	-	-	-
2.2.3.8 Others	12398	3167	8428	8209	8209	8459	8459
2.2.3.9 Financial Institution Outside India	162650	105356	120491	110031	103515	96085	87189
2.2.4 Bills Purchased and Discounted							
2.2.4.1 Internal	-	-	-	-	-	-	-
2.2.4.2 Government Treasury Bills	-	-	-	-	-	-	-
2.2.5 Investments	1365425	1359690	1272720	1274243	1274585	1271726	1255979
2.2.6 Other Assets	297868	265598	383580	384111	391154	379553	385727
2.2.6.1 Gold	272028	250726	365807	366421	373036	361210	366385

* Data are provisional.

No. 3: Liquidity Operations by RBI

(₹ Crore)

Date	Liquidity Adjustment Facility						Standing Liquidity Facilities	OMO (Outright)		Net Injection (+)/ Absorption (-) (1+3+5+7+9-2-4-6 -8)		
	Repo	Reverse Repo	Variable Rate Repo	Variable Rate Reverse Repo	MSF	SDF		Sale	Purchase			
								1	2	3	4	5
Nov. 1, 2024	-	-	-	-	4215	181247	-	-	-	-	-	-177032
Nov. 2, 2024	-	-	-	-	1869	102266	-	-	-	-	-	-100397
Nov. 3, 2024	-	-	-	-	1849	98817	-	-	-	-	-	-96968
Nov. 4, 2024	-	-	-	74000	5231	193522	-11	-	-	-	-	-262302
Nov. 5, 2024	-	-	-	70825	1651	126097	-891	-	-	-	-	-196162
Nov. 6, 2024	-	-	-	28265	1503	90713	-	-	-	-	-	-117475
Nov. 7, 2024	-	-	-	154585	1685	77243	-	-	-	-	-	-230143
Nov. 8, 2024	-	-	-	50013	12441	61147	635	-	-	-	-	-98084
Nov. 9, 2024	-	-	-	-	8540	57979	-	-	-	-	-	-49439
Nov. 10, 2024	-	-	-	-	4147	53323	-	-	-	-	-	-49176
Nov. 11, 2024	-	-	-	61960	6627	129417	-	-	-	-	-	-184750
Nov. 12, 2024	-	-	-	29150	3373	103697	-	-	-	-	-	-129474
Nov. 13, 2024	-	-	-	49732	8077	65540	-	-	-	-	-	-107195
Nov. 14, 2024	-	-	-	8405	1659	185021	-	-	-	-	-	-191767
Nov. 15, 2024	-	-	-	-	2124	160722	-	-	-	-	-	-158598
Nov. 16, 2024	-	-	-	-	1073	131150	-	-	-	-	-	-130077
Nov. 17, 2024	-	-	-	-	125	105669	-	-	-	-	-	-105544
Nov. 18, 2024	-	-	-	74200	3512	100351	0	-	-	-	-	-171039
Nov. 19, 2024	-	-	-	22565	3166	57757	-	-	-	-	-	-77156
Nov. 20, 2024	-	-	-	-	2966	50490	-	-	-	-	-	-47524
Nov. 21, 2024	-	-	-	-	11991	47045	302	-	-	-	-	-34752
Nov. 22, 2024	-	-	25001	-	4806	51952	924	-	-	-	-	-21221
Nov. 23, 2024	-	-	-	-	1962	45833	-	-	-	-	-	-43871
Nov. 24, 2024	-	-	-	-	774	42152	-	-	-	-	-	-41378
Nov. 25, 2024	-	-	25005	-	10604	56762	-	-	-	-	-	-21153
Nov. 26, 2024	-	-	25006	-	12413	54115	-	-	-	-	-	-16696
Nov. 27, 2024	-	-	-	-	10049	57321	-	-	-	-	-	-47272
Nov. 28, 2024	-	-	25008	-	2891	71224	-	-	-	-	-	-43325
Nov. 29, 2024	-	-	-	2476	18513	76857	-	-	-	-	-	-60820
Nov. 30, 2024	-	-	-	-	1758	63344	-	-	-	-	-	-61586

No. 4: Sale/ Purchase of U.S. Dollar by the RBI

i) Operations in onshore / offshore OTC segment

ii) Operations in currency futures segment

Item	2023-24	2023	2024		
		Nov.	Oct.	Nov.	
		1	2	3	4
1 Net Purchase/ Sale of Foreign Currency (US \$ Million) (1.1-1.2)		0	0	0	0
1.1 Purchase (+)		7930	1496	2531	3926
1.2 Sale (-)		7930	1496	2531	3926
2 Outstanding Net Currency Futures Sales (-)/ Purchase (+) at the end of month (US \$ Million)		-1080	-2782	-3229	-2968

**No. 4 A : Maturity Breakdown (by Residual Maturity) of
Outstanding Forwards of RBI (US \$ Million)**

Item	As on November 30, 2024		
	Long (+)	Short (-)	Net (1-2)
	1	2	3
1. Upto 1 month	0	32400	-32400
2. More than 1 month and upto 3 months	250	26700	-26450
3. More than 3 months and upto 1 year	0	0	0
4. More than 1 year	0	0	0
Total (1+2+3+4)	250	59100	-58850

No. 5: RBI's Standing Facilities

(₹ Crore)

Item	As on the Last Reporting Friday								
	2023-24		2023		2024				
	Dec. 29		Jul. 26	Aug. 23	Sep. 20	Oct. 18	Nov. 29	Dec. 27	
	1	2	3	4	5	6	7	8	
1 MSF	49906	134232	2021	1818	21731	4216	18513	31127	
2 Export Credit Refinance for Scheduled Banks									
2.1 Limit	-	-	-	-	-	-	-	-	
2.2 Outstanding	-	-	-	-	-	-	-	-	
3 Liquidity Facility for PDs									
3.1 Limit	9900	4900	9900	9900	9900	9900	9900	9900	
3.2 Outstanding	9810	3167	9062	8541	8547	7223	8428	8459	
4 Others									
4.1 Limit	76000	76000	76000	76000	76000	76000	76000	76000	
4.2 Outstanding	-	-	-	-	-	-	-	-	
5 Total Outstanding (1+2.2+3.2+4.2)	59716	137399	11083	10359	30278	11439	26941	39586	

Money and Banking

No. 6: Money Stock Measures

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/ reporting Fridays				
	2023-24	2023	2024		
		Nov. 17	Nov. 01	Nov. 15	Nov. 29
		1	2	3	4
1 Currency with the Public (1.1 + 1.2 + 1.3 – 1.4)	3410276	3254799	3457240	3455882	3444217
1.1 Notes in Circulation	3477795	3323773	3526485	3525876	3510709
1.2 Circulation of Rupee Coin	32689	31196	34437	34437	34676
1.3 Circulation of Small Coins	743	743	743	743	743
1.4 Cash on Hand with Banks	101185	101001	105206	105981	102752
2 Deposit Money of the Public	2681424	2523448	2804840	2755216	2821629
2.1 Demand Deposits with Banks	2586888	2449084	2705139	2657445	2718636
2.2 'Other' Deposits with Reserve Bank	94536	74364	99701	97771	102993
3 M1 (1 + 2)	6091700	5778247	6262080	6211097	6265846
4 Post Office Saving Bank Deposits	195777	213964	200889	200889	200889
5 M2 (3 + 4)	6287477	5992211	6462969	6411986	6466735
6 Time Deposits with Banks	18739918	18028497	20199168	20081105	20182384
	(18848160)	(18156731)	(20270681)	(20151338)	(20251544)
7 M3 (3 + 6)	24831618	23806744	26461248	26292202	26448230
	(24939860)	(23934978)	(26532761)	(26362435)	(26517391)
8 Total Post Office Deposits	1313366	1247555	1379283	1379283	1379283
9 M4 (7 + 8)	26144984	25054299	27840531	27671485	27827513
	(26253226)	(25182533)	(27912044)	(27741718)	(27896674)

Figures in parentheses include the impact of merger of a non-bank with a bank.

No. 7 : Sources of Money Stock (M₃)

(₹ Crore)

Sources	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2023-24	2023	2024		
		Nov. 17	Nov. 01	Nov. 15	Nov. 29
	1	2	3	4	5
1 Net Bank Credit to Government	7512016	7368871	8019784	8052979	8035414
1 Net Bank Credit to Government (Including Merger)	(7603571)	(7475375)	(8073626)	(8104197)	(8086633)
1.1 RBI's net credit to Government (1.1.1–1.1.2)	1193213	1102323	1211153	1308855	1242346
1.1.1 Claims on Government	1370428	1391088	1342399	1308998	1287452
1.1.1.1 Central Government	1363828	1373750	1311105	1280364	1270987
1.1.1.2 State Governments	6600	17338	31294	28634	16465
1.1.2 Government deposits with RBI	177215	288765	131246	143	45106
1.1.2.1 Central Government	177172	288722	131204	101	45064
1.1.2.2 State Governments	42	42	42	43	42
1.2 Other Banks' Credit to Government	6318803	6266548	6808631	6744125	6793069
1.2 Other Banks Credit to Government (Including Merger)	(6410358)	(6373052)	(6862473)	(6795342)	(6844287)
2 Bank Credit to Commercial Sector	16672145	15781445	17728467	17687118	17835267
2 Bank Credit to Commercial Sector (Including Merger)	(17202832)	(16362044)	(18189501)	(18145073)	(18291281)
2.1 RBI's credit to commercial sector	14406	5240	9394	9149	10463
2.2 Other banks' credit to commercial sector	16657739	15776205	17719074	17677970	17824804
2.2 Other banks credit to commercial sector (Including Merger)	(17188426)	(16356804)	(18180108)	(18135925)	(18280818)
2.2.1 Bank credit by commercial banks	15901477	15040209	16976858	16904863	17052942
2.2.1 Bank credit by commercial banks (Including Merger)	(16432164)	(15620807)	(17437892)	(17362818)	(17508956)
2.2.2 Bank credit by co-operative banks	738194	718659	723249	754275	753253
2.2.3 Investments by commercial and co-operative banks in other securities	18068	17337	18966	18832	18610
2.2.3 Investments by commercial and co-operative banks in other securities (Including Merger)	(18068)	(17337)	(18966)	(18832)	(18610)
3 Net Foreign Exchange Assets of Banking Sector (3.1 + 3.2)	5567245	5173904	5949303	5766530	5775605
3.1 RBIs net foreign exchange assets (3.1.1 - 3.1.2)	5240824	4813224	5582596	5399823	5408898
3.1.1 Gross foreign assets	5241083	4813483	5582864	5400090	5409166
3.1.2 Foreign liabilities	259	259	268	268	268
3.2 Other banks' net foreign exchange assets	326421	360680	366707	366707	366707
4 Government's Currency Liabilities to the Public	33432	31939	35180	35180	35419
5 Banking Sector's Net Non-monetary Liabilities	4953219	4549416	5271486	5249605	5233476
5 Banking Sectors Net Non-monetary Liabilities (Including Merger)	(5467219)	(5108284)	(5714849)	(5688545)	(5671548)
5.1 Net non-monetary liabilities of RBI	1789875	1608680	1904309	1817486	1901186
5.2 Net non-monetary liabilities of other banks (residual)	3163344	2940736	3367177	3432118	3332290
5.2 Net non-monetary liabilities of other banks (residual) (Including Merger)	(3677343)	(3499604)	(3810540)	(3871059)	(3770362)
M₃(1+2+3+4–5)	24831618	23806744	26461248	26292202	26448230
M3 (1+2+3+4–5) (Including Merger)	(24939860)	(23934978)	(26532761)	(26362435)	(26517391)

Figures in parentheses include the impact of merger of a non-bank with bank.

No. 8: Monetary Survey

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2023-24	2023	2024		
		Nov. 17	Nov. 01	Nov. 15	Nov. 29
		1	2	3	4
Monetary Aggregates					
NM ₁ (1.1+1.2.1+1.3)	6091700	5778247	6262080	6211097	6265846
NM ₂ (NM ₁ + 1.2.2.1)	14424855	13807006	15228423	15123411	15223357
NM ₂ (NM ₁ + 1.2.2.1) (Including Merger)	(14473564)	(13864712)	(15260604)	(15155015)	(15254479)
NM ₃ (NM ₂ +1.2.2.2 + 1.4 = 2.1 + 2.2 + 2.3 - 2.4 - 2.5)	25387764	24462451	27050741	26933601	27122450
NM ₃ (NM ₂ + 1.2.2.2 + 1.4 = 2.1 + 2.2 + 2.3 - 2.4 - 2.5) (Including Merger)	(25496006)	(24590685)	(27122254)	(27003834)	(27191610)
1 Components					
1.1 Currency with the Public	3410276	3254799	3457240	3455882	3444217
1.2 Aggregate Deposits of Residents	21105009	20290771	22630346	22462586	22624216
1.2 Aggregate Deposits of Residents (Including Merger)	(21213252)	(20419005)	(22701859)	(22532818)	(22693377)
1.2.1 Demand Deposits	2586888	2449084	2705139	2657445	2718636
1.2.2 Time Deposits of Residents	18518121	17841687	19925207	19805141	19905580
1.2.2.1 Time Deposits of Residents (Including Merger)	(18626364)	(17969922)	(19996720)	(19875373)	(19974741)
1.2.2.1.1 Short-term Time Deposits	8333155	8028759	8966343	8912313	8957511
1.2.2.1.2 Short-term Time Deposits (Including Merger)	(8381864)	(8086465)	(8998524)	(8943918)	(8988633)
1.2.2.1.2.1 Certificates of Deposits (CDs)	369399	304261	465018	488811	493598
1.2.2.1.2.2 Long-term Time Deposits	10184967	9812928	10958864	10892827	10948069
1.2.2.2 Long-term Time Deposits (Including Merger)	(10244500)	(9883457)	(10998196)	(10931455)	(10986107)
1.3 'Other' Deposits with RBI	94536	74364	99701	97771	102993
1.4 Call/Term Funding from Financial Institutions	777942	842517	863454	917363	951023
2 Sources					
2.1 Domestic Credit	25295986	24267472	26937791	26924891	27060933
2.1 Domestic Credit (Including Merger)	(25918227)	(24954574)	(27452667)	(27434064)	(27568166)
2.1.1 Net Bank Credit to the Government	7512016	7368871	8019784	8052979	8035414
2.1.1 Net Bank Credit to the Government (Including Merger)	(7603571)	(7475375)	(8073626)	(8104197)	(8086633)
2.1.1.1 Net RBI credit to the Government	1193213	1102323	1211153	1308855	1242346
2.1.1.2 Credit to the Government by the Banking System	6318803	6266548	6808631	6744125	6793069
2.1.1.2 Credit to the Government by the Banking System (Including Merger)	(6410358)	(6373052)	(6862473)	(6795342)	(6844287)
2.1.2 Bank Credit to the Commercial Sector	17783970	16898601	18918008	18871912	19025519
2.1.2 Bank Credit to the Commercial Sector (Including Merger)	(18314656)	(17479199)	(19379042)	(19329867)	(19481533)
2.1.2.1 RBI Credit to the Commercial Sector	14406	5240	9394	9149	10463
2.1.2.2 Credit to the Commercial Sector by the Banking System	17769564	16893361	18908614	18862763	19015056
2.1.2.2 Credit to the Commercial Sector by the Banking System (Including Merger)	(18300250)	(17473959)	(19369648)	(19320718)	(19471070)
2.1.2.2.1 Other Investments (Non-SLR Securities)	1089184	1100497	1179616	1173789	1177017
2.2 Government's Currency Liabilities to the Public	33432	31939	35180	35180	35419
2.3 Net Foreign Exchange Assets of the Banking Sector	5110820	4757422	5391068	5238838	5289237
2.3.1 Net Foreign Exchange Assets of the RBI	5240824	4813224	5582596	5399823	5408898
2.3.2 Net Foreign Currency Assets of the Banking System	-130004	-55802	-191528	-160985	-119661
2.4 Capital Account	3912897	3932436	4352009	4374378	4401596
2.5 Other items (net)	1653576	1220814	1404652	1329869	1299617

Figures in parentheses include the impact of merger of a non-bank with a bank.

No. 9: Liquidity Aggregates

(₹ Crore)

Aggregates	2023-24	2023	2024		
		Nov.	Sep.	Oct.	Nov.
		1	2	3	4
1 NM₃	25387764	24462451	26491792	26808015	27122450
	(25496006)	(24590685)	(26567267)	(26880587)	(27191610)
2 Postal Deposits	729246	702174	728509	732774	732774
3 L₁ (1 + 2)	26117010	25164625	27220301	27540789	27855224
	(26225252)	(25292859)	(27295776)	(27613361)	(27924384)
4 Liabilities of Financial Institutions	85150	67961	68824	68842	66263
4.1 Term Money Borrowings	2375	1214	94	31	26
4.2 Certificates of Deposit	70245	53910	55520	55520	52765
4.3 Term Deposits	12531	12837	13210	13291	13473
5 L₂ (3 + 4)	26202160	25232586	27289125	27609631	27921487
	(26310403)	(25360820)	(27364600)	(27682202)	(27990647)
6 Public Deposits with Non-Banking Financial Companies	102994	..	102994
7 L₃ (5 + 6)	26305155	..	27392119

Note : 1. Figures in the columns might not add up to the total due to rounding off of numbers.

2. Figures in parentheses include the impact of merger of a non-bank with a bank.

No. 10: Reserve Bank of India Survey

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2023-24	2023	2024		
		Nov. 17	Nov. 1	Nov. 15	Nov. 29
		1	2	3	4
1 Components					
1.1 Currency in Circulation	3511461	3355800	3562446	3561863	3546969
1.2 Bankers' Deposits with the RBI	1025449	973005	1056267	1072461	1087967
1.2.1 Scheduled Commercial Banks	956011	910823	991970	1008450	1023815
1.3 'Other' Deposits with the RBI	94536	74364	99701	97771	102993
Reserve Money ($1.1 + 1.2 + 1.3 = 2.1 + 2.2 + 2.3 - 2.4 - 2.5$)	4631446	4403169	4718415	4732094	4737929
2 Sources					
2.1 RBI's Domestic Credit	1147066	1166686	1004948	1114578	1194797
2.1.1 Net RBI credit to the Government	1193213	1102323	1211153	1308855	1242346
2.1.1.1 Net RBI credit to the Central Government (2.1.1.1.1 + 2.1.1.1.2 + 2.1.1.1.3 + 2.1.1.1.4 - 2.1.1.1.5)	1186655	1085027	1179902	1280264	1225923
2.1.1.1.1 Loans and Advances to the Central Government	-	-	-	11817	-
2.1.1.1.2 Investments in Treasury Bills	-	-	-	-	-
2.1.1.1.3 Investments in dated Government Securities	1363369	1373388	1310750	1268291	1270656
2.1.1.1.3.1 Central Government Securities	1363369	1373388	1310750	1268291	1270656
2.1.1.1.4 Rupee Coins	459	361	355	257	330
2.1.1.1.5 Deposits of the Central Government	177172	288722	131204	101	45064
2.1.1.2 Net RBI credit to State Governments	6557	17295	31251	28591	16423
2.1.2 RBI's Claims on Banks	-60553	59123	-215599	-203425	-58011
2.1.2.1 Loans and Advances to Scheduled Commercial Banks	-60553	59123	-215599	-203425	-58011
2.1.3 RBI's Credit to Commercial Sector	14406	5240	9394	9149	10463
2.1.3.1 Loans and Advances to Primary Dealers	9358	3181	7470	7202	8428
2.1.3.2 Loans and Advances to NABARD	-	-	-	-	-
2.2 Government's Currency Liabilities to the Public	33432	31939	35180	35180	35419
2.3 Net Foreign Exchange Assets of the RBI	5240824	4813224	5582596	5399823	5408898
2.3.1 Gold	439319	383413	586521	554921	565949
2.3.2 Foreign Currency Assets	4801522	4429828	4996093	4844919	4842966
2.4 Capital Account	1589134	1652217	1864267	1782617	1812747
2.5 Other Items (net)	200741	-43537	40042	34870	88439

No. 11: Reserve Money - Components and Sources

(₹ Crore)

Item	2023-24	Outstanding as on March 31/last Fridays of the month/Fridays					
		2023	2024				
	Nov. 24	Nov. 1	Nov. 8	Nov. 15	Nov. 22	Nov. 29	
	1	2	3	4	5	6	7
Reserve Money ($1.1 + 1.2 + 1.3 = 2.1 + 2.2 + 2.3 + 2.4 + 2.5 - 2.6$)	4631446	4424556	4718415	4715316	4732094	4724621	4737929
1 Components							
1.1 Currency in Circulation	3511461	3355477	3562446	3566826	3561863	3557204	3546969
1.2 Bankers' Deposits with RBI	1025449	994147	1056267	1049477	1072461	1068554	1087967
1.3 'Other' Deposits with RBI	94536	74932	99701	99013	97771	98863	102993
2 Sources							
2.1 Net Reserve Bank Credit to Government	1193213	1047703	1211153	1252206	1308855	1160737	1242346
2.2 Reserve Bank Credit to Banks	-60553	121081	-215599	-223185	-203425	-27462	-58011
2.3 Reserve Bank Credit to Commercial Sector	14406	5233	9394	9220	9149	10489	10463
2.4 Net Foreign Exchange Assets of RBI	5240824	4839414	5582596	5546606	5399823	5393367	5408898
2.5 Government's Currency Liabilities to the Public	33432	32264	35180	35180	35180	35180	35419
2.6 Net Non-Monetary Liabilities of RBI	1789875	1621139	1904309	1904710	1817486	1847690	1901186

No. 12: Commercial Bank Survey

(₹ Crore)

Item	Outstanding as on last reporting Fridays of the month/ reporting Fridays of the month				
	2023-24	2023	2024		
		Nov. 17	Nov. 1	Nov. 15	Nov. 29
	1	2	3	4	5
1 Components					
1.1 Aggregate Deposits of Residents	20145188 (20253430)	19336816 (19465050)	21682061 (21753574)	21509693 (21579925)	21671501 (21740662)
1.1.1 Demand Deposits	2443853	2307178	2562742	2515558	2576789
1.1.2 Time Deposits of Residents	17701334 (17809577)	17029637 (17157872)	19119320 (19190832)	18994135 (19064368)	19094713 (19163873)
1.1.2.1 Short-term Time Deposits	7965600	7663337	8603694	8547361	8592621
1.1.2.1.1 Certificates of Deposits (CDs)	369399	304261	465018	488811	493598
1.1.2.2 Long-term Time Deposits	9735734	9366301	10515626	10446774	10502092
1.2 Call/Term Funding from Financial Institutions	777942	842517	863454	917363	951023
2 Sources					
2.1 Domestic Credit	23019606 (23641847)	22112029 (22799131)	24661210 (25176086)	24519716 (25028889)	24722187 (25229419)
2.1.1 Credit to the Government	6014054 (6105610)	5962543 (6069047)	6502948 (6556790)	6438179 (6489397)	6487128 (6538347)
2.1.2 Credit to the Commercial Sector	17005551 (17536238)	16149486 (16730084)	18158262 (18619296)	18081537 (18539492)	18235059 (18691073)
2.1.2.1 Bank Credit	15901477 (16432164)	15040209 (15620807)	16976858 (17437892)	16904863 (17362818)	17052942 (17508956)
2.1.2.1.1 Non-food Credit	15878397 (16409083)	14999948 (15580546)	16946803 (17407837)	16859706 (17317661)	17001688 (17457702)
2.1.2.2 Net Credit to Primary Dealers	22904	16921	10188	11267	13498
2.1.2.3 Investments in Other Approved Securities	949	820	563	580	565
2.1.2.4 Other Investments (in non-SLR Securities)	1080222	1091535	1170654	1164827	1168055
2.2 Net Foreign Currency Assets of Commercial Banks (2.2.1-2.2.2-2.2.3)	-130004	-55802	-191528	-160985	-119661
2.2.1 Foreign Currency Assets	241661	246465	263481	294165	339002
2.2.2 Non-resident Foreign Currency Repatriable Fixed Deposits	221796	186810	273961	275964	276804
2.2.3 Overseas Foreign Currency Borrowings	149868	115457	181048	179186	181858
2.3 Net Bank Reserves (2.3.1+2.3.2-2.3.3)	893350	940579	1300525	1305734	1172693
2.3.1 Balances with the RBI	931483	910823	991970	1008450	1023815
2.3.2 Cash in Hand	89433	88879	92956	93859	90867
2.3.3 Loans and Advances from the RBI	127566	59123	-215599	-203425	-58011
2.4 Capital Account	2299592	2256048	2463572	2567591	2564679
2.5 Other items (net) (2.1+2.2+2.3-2.4-1.1-1.2)	560230	561425	761119	669818	588016
2.5.1 Other Demand and Time Liabilities (net of 2.2.3)	787560	771776	769187	761797	839816
2.5.2 Net Inter-Bank Liabilities (other than to PDs)	197781	158168	128113	121915	135044

Figures in parentheses include the impact of merger of a non-bank with a bank.

No. 13: Scheduled Commercial Banks' Investments

(₹ Crore)

Item	As on March 22, 2024	2023		2024		
		Nov. 17	Oct. 18	Nov. 15	Nov. 29	
				3	4	5
		1	2	3	4	5
1 SLR Securities	6106558 (6015003)	6069868 (5963364)	6491008 (6429418)	6489977 (6438759)	6538911 (6487693)	
2 Other Government Securities (Non-SLR)	177136	179418	158905	157450	157432	
3 Commercial Paper	61175	55974	63415	59576	60547	
4 Shares issued by						
4.1 PSUs	8475	9025	14003	13640	13343	
4.2 Private Corporate Sector	77722	83365	96676	96744	96759	
4.3 Others	5624	5500	7515	7482	7503	
5 Bonds/Debentures issued by						
5.1 PSUs	103070	92351	119242	122038	121897	
5.2 Private Corporate Sector	287596	291312	232143	231418	231855	
5.3 Others	124690	110949	148322	150194	155237	
6 Instruments issued by						
6.1 Mutual funds	62499	81106	137472	138166	134778	
6.2 Financial institutions	172340	182535	185401	188121	188704	

Note: Data against column Nos. (1), (2) & (3) are Final and for column Nos. (4) & (5) data are Provisional.

1. Data since July 14, 2023 include the impact of the merger of a non-bank with a bank.
2. Figures in parentheses exclude the impact of the merger.

No. 14: Business in India - All Scheduled Banks and All Scheduled Commercial Banks

(₹ Crore)

Item	As on the Last Reporting Friday (in case of March)/ Last Friday							
	All Scheduled Banks				All Scheduled Commercial Banks			
	2023-24	2023	2024		2023-24	2023	2024	
		Nov.	Oct.	Nov.		Nov.	Oct.	Nov.
	1	2	3	4	5	6	7	8
Number of Reporting Banks	210	210	208	208	137	137	135	135
1 Liabilities to the Banking System	554117	580351	461959	441174	549351	576160	456793	436037
1.1 Demand and Time Deposits from Banks	298452	299509	299445	278500	294471	296162	294684	273722
1.2 Borrowings from Banks	182566	208377	138138	137620	182429	208262	138074	137597
1.3 Other Demand and Time Liabilities	73100	72465	24377	25053	72452	71735	24034	24718
2 Liabilities to Others	22664868	22045232	24168976	24463995	22190597	21597261	23695315	23990163
2.1 Aggregate Deposits	20932067	20223466	22268274	22473475	20475226	19791862	21811286	22017466
	(20823825)	(20096397)	(22196282)	(22404315)	(20366984)	(19664793)	(21739295)	(21948305)
2.1.1 Demand	2492916	2437425	2576598	2625490	2443853	2391662	2527554	2576789
2.1.2 Time	18439151	17786041	19691676	19847985	18031373	17400201	19283733	19440677
2.2 Borrowings	782260	897811	922304	955899	777942	893404	917220	951023
2.3 Other Demand and Time Liabilities	950541	923954	978397	1034621	937428	911995	966808	1021674
3 Borrowings from Reserve Bank	222716	207355	30948	21293	222716	207355	30948	21293
3.1 Against Usance Bills /Promissory Notes	-	-	-	-	-	-	-	-
3.2 Others	222716	207355	30948	21293	222716	207355	30948	21293
4 Cash in Hand and Balances with Reserve Bank	1043272	1044258	1156513	1137407	1020916	1022095	1133410	1114682
4.1 Cash in Hand	91886	92836	93424	93455	89433	90354	90430	90867
4.2 Balances with Reserve Bank	951386	951421	1063089	1043952	931483	931741	1042981	1023815
5 Assets with the Banking System	455057	452124	415954	379362	374474	392008	347173	314491
5.1 Balances with Other Banks	246384	264403	267325	247863	198327	222542	214836	195673
5.1.1 In Current Account	12010	26481	11859	12103	8971	23574	8521	9525
5.1.2 In Other Accounts	234373	237922	255466	235760	189357	198969	206314	186147
5.2 Money at Call and Short Notice	39614	40804	31346	27828	12355	25361	18904	19091
5.3 Advances to Banks	51325	51793	47217	39301	48368	51217	46589	38641
5.4 Other Assets	117734	95123	70066	64369	115424	92887	66845	61086
6 Investment	6256962	6121207	6666871	6691500	6106558	5971730	6514977	6538911
	(6165407)	(6014836)	(6613035)	(6640281)	(6015003)	(5865359)	(6461140)	(6487693)
6.1 Government Securities	6249319	6114549	6657864	6683592	6105610	5970890	6513979	6538347
6.2 Other Approved Securities	7643	6657	9007	7908	949	840	998	565
7 Bank Credit	16866336	16159763	17768822	17959742	16432164	15751806	17315981	17508956
	(16335650)	(15580023)	(17304521)	(17503728)	(15901477)	(15172066)	(16851679)	(17052942)
7a Food Credit	75472	96147	72843	101871	23081	44182	22204	51254
7.1 Loans, Cash-credits and Overdrafts	16565348	15887441	17451631	17646243	16134303	15482411	17002083	17198615
7.2 Inland Bills-Purchased	60471	47263	69489	69789	60467	47254	67977	68351
7.3 Inland Bills-Discounted	199761	185727	209055	206353	197358	183414	207905	205253
7.4 Foreign Bills-Purchased	16662	16384	15841	15424	16412	16157	15597	15186
7.5 Foreign Bills-Discounted	24094	22947	22807	21934	23624	22569	22419	21550

Note: Data in column Nos. (4) & (8) are Provisional

1. Data since July 2023 include the impact of the merger of a non-bank with a bank.

2. Figures in parentheses exclude the impact of the merger.

No. 15: Deployment of Gross Bank Credit by Major Sectors

(₹ Crore)

Sector	Outstanding as on				Growth(%)	
	Mar. 22, 2024	2023	2024		Financial year so far	Y-o-Y
			Nov. 17	Oct. 18	Nov. 29	
	1	2	3	4	%	%
I. Bank Credit (II + III)	16432164	15825456	17238250	17509171	6.6	10.6
	(15901477)	(15247263)	(16772605)	(17053157)	(7.2)	(11.8)
II. Food Credit	23081	41693	18654	51254	122.1	22.9
III. Non-food Credit	16409083	15783763	17219596	17457917	6.4	10.6
	(15878397)	(15205570)	(16753951)	(17001903)	(7.1)	(11.8)
1. Agriculture & Allied Activities	2071251	1927724	2205299	2223467	7.3	15.3
2. Industry (Micro and Small, Medium and Large)	3652804	3529759	3774252	3813094	4.4	8.0
	(3635810)	(3512271)	(3759186)	(3798411)	(4.5)	(8.1)
2.1 Micro and Small	726315	687740	749790	757300	4.3	10.1
2.2 Medium	303998	283701	335822	340525	12.0	20.0
2.3 Large	2622490	2558317	2688640	2715269	3.5	6.1
3. Services	4592227	4297367	4784938	4853884	5.7	13.0
	(4490467)	(4175901)	(4704550)	(4775839)	(6.4)	(14.4)
3.1 Transport Operators	230175	217895	246407	249795	8.5	14.6
3.2 Computer Software	25917	25595	30581	31348	21.0	22.5
3.3 Tourism, Hotels & Restaurants	77513	76146	79732	79088	2.0	3.9
3.4 Shipping	7067	6719	7782	7521	6.4	11.9
3.5 Aviation	43248	39746	46168	46446	7.4	16.9
3.6 Professional Services	167234	154906	186251	184913	10.6	19.4
3.7 Trade	1025752	944579	1079498	1081553	5.4	14.5
3.7.1. Wholesale Trade ¹	538744	490944	571159	568471	5.5	15.8
3.7.2 Retail Trade	487008	453635	508339	513082	5.4	13.1
3.8 Commercial Real Estate	469013	450340	507671	514894	9.8	14.3
	(400470)	(365537)	(452869)	(461690)	(15.3)	(26.3)
3.9 Non-Banking Financial Companies (NBFCs) ² of which,	1548027	1461765	1536655	1575306	1.8	7.8
3.9.1 Housing Finance Companies (HFCs)	325626	304460	321110	322240	-1.0	5.8
3.9.2 Public Financial Institutions (PFIs)	226963	190672	198320	196793	-13.3	3.2
3.10 Other Services ³	998281	919676	1064193	1083020	8.5	17.8
	(978198)	(897036)	(1046715)	(1066187)	(9.0)	(18.9)
4. Personal Loans	5331290	5059824	5647476	5734856	7.6	13.3
	(4919468)	(4618214)	(5278594)	(5372892)	(9.2)	(16.3)
4.1 Consumer Durables	23713	23568	23640	24698	4.2	4.8
4.2 Housing	2718715	2591488	2871845	2908672	7.0	12.2
	(2331935)	(2176908)	(2525138)	(2568430)	(10.1)	(18.0)
4.3 Advances against Fixed Deposits	125239	113944	127533	131221	4.8	15.2
4.4 Advances to Individuals against share & bonds	8492	7775	9060	8274	-2.6	6.4
4.5 Credit Card Outstanding	257016	244668	281392	288997	12.4	18.1
4.6 Education	119380	112045	130309	131629	10.3	17.5
4.7 Vehicle Loans	573398	548802	616405	605587	5.6	10.3
4.8 Loan against gold jewellery ⁴	102562	99063	154282	164556	60.4	66.1
4.9 Other Personal Loans	1402775	1318470	1433009	1471222	4.9	11.6
	(1377966)	(1291942)	(1410905)	(1449564)	(5.2)	(12.2)
5. Priority Sector (Memo)						
(i) Agriculture & Allied Activities ⁵	2081856	1956972	2200460	2210312	6.2	12.9
(ii) Micro & Small Enterprises ⁶	1974191	1872250	2076956	2092196	6.0	11.7
(iii) Medium Enterprises ⁷	490703	460621	557829	556186	13.3	20.7
(iv) Housing	755222	740774	752216	752576	-0.4	1.6
	(660572)	(641710)	(665965)	(667694)	(1.1)	(4.0)
(v) Education Loans	62235	60993	62673	62645	0.7	2.7
(vi) Renewable Energy	5991	2081	7122	7458	24.5	258.4
(vii) Social Infrastructure	2613	6512	1120	1095	-58.1	-83.2
(viii) Export Credit	11774	7749	12094	12668	7.6	63.5
(ix) Others	61336	48858	58045	54682	-10.8	11.9
(x) Weaker Sections including net PSLC- SF/MF	1647778	1531851	1742896	1734996	5.3	13.3

Notes:

- (1) Data are provisional. Bank credit, Food credit and Non-food credit data are based on Section-42 return, which covers all scheduled commercial banks (SCBs), while sectoral non-food credit data are based on sector-wise and industry-wise bank credit (SIBC) return, which covers select banks accounting for about 95 per cent of total non-food credit extended by all SCBs, pertaining to the last reporting Friday of the month. Bank credit, Food credit and Non-food credit given for the period November 17, 2023 pertains to December 1, 2023.
- (2) Data since July 28, 2023 include the impact of the merger of a non-bank with a bank. Figures in parentheses exclude the impact of the merger.
 1. Wholesale trade includes food procurement credit outside the food credit consortium.
 2. NBFCs include HFCs, PFIs, Microfinance Institutions (MFIs), NBFCs engaged in gold loan and others.
 3. "Other Services" include Mutual Fund (MFs), Banking and Finance other than NBFCs and MFs, and other services which are not indicated elsewhere under services.
 4. Since May 2024, a bank has changed the classification of a category of agricultural loan into "Loans against gold jewellery" under retail segment.
 5. "Agriculture and Allied Activities" under the priority sector also include priority sector lending certificates (PSLCs).
 6. "Micro and Small Enterprises" under the priority sector include credit to micro and small enterprises in industry and services sectors and also include PSLCs.
 7. "Medium Enterprises" under the priority sector include credit to medium enterprises in industry and services sectors.

No. 16: Industry-wise Deployment of Gross Bank Credit

(₹ Crore)

Industry	Outstanding as on				Growth(%)	
	Mar. 22, 2024	2023	2024		Financial year so far	Y-o-Y
		Nov. 17	Oct. 18	Nov. 29	2024-25	2024
		1	2	3	4	%
2 Industries (2.1 to 2.19)	3652804 (3635810)	3529759 (3512271)	3774252 (3759186)	3813094 (3798411)	4.4 (4.5)	8.0 (8.1)
2.1 Mining & Quarrying (incl. Coal)	54166	53015	50116	53357	-1.5	0.6
2.2 Food Processing	208864	176193	190283	197552	-5.4	12.1
2.2.1 Sugar	26383	13703	17191	16925	-35.8	23.5
2.2.2 Edible Oils & Vanaspati	19700	19557	17331	20296	3.0	3.8
2.2.3 Tea	5692	6102	6429	6509	14.4	6.7
2.2.4 Others	157089	136831	149332	153822	-2.1	12.4
2.3 Beverage & Tobacco	31136	27201	31286	30182	-3.1	11.0
2.4 Textiles	256048	246083	256840	259458	1.3	5.4
2.4.1 Cotton Textiles	99199	95788	92827	95498	-3.7	-0.3
2.4.2 Jute Textiles	4280	3950	4253	4295	0.4	8.7
2.4.3 Man-Made Textiles	45111	43424	47416	47526	5.4	9.4
2.4.4 Other Textiles	107458	102921	112344	112138	4.4	9.0
2.5 Leather & Leather Products	12588	12035	12639	12519	-0.6	4.0
2.6 Wood & Wood Products	23839	22676	25319	25805	8.2	13.8
2.7 Paper & Paper Products	46426	45387	50089	51174	10.2	12.8
2.8 Petroleum, Coal Products & Nuclear Fuels	132356	133857	152974	144756	9.4	8.1
2.9 Chemicals & Chemical Products	249347	236343	259944	263302	5.6	11.4
2.9.1 Fertiliser	37569	32492	31511	31143	-17.1	-4.2
2.9.2 Drugs & Pharmaceuticals	81036	77535	88499	87569	8.1	12.9
2.9.3 Petro Chemicals	23157	20108	25848	30373	31.2	51.0
2.9.4 Others	107584	106207	114086	114217	6.2	7.5
2.10 Rubber, Plastic & their Products	90420	86666	95674	97032	7.3	12.0
2.11 Glass & Glassware	12090	10985	12483	12517	3.5	13.9
2.12 Cement & Cement Products	59757	60997	60805	61614	3.1	1.0
2.13 Basic Metal & Metal Product	384447	369827	422883	428244	11.4	15.8
2.13.1 Iron & Steel	273803	256005	300263	304598	11.2	19.0
2.13.2 Other Metal & Metal Product	110645	113822	122621	123647	11.8	8.6
2.14 All Engineering	196643	189386	219320	223986	13.9	18.3
2.14.1 Electronics	43175	43257	49889	52123	20.7	20.5
2.14.2 Others	153468	146129	169431	171863	12.0	17.6
2.15 Vehicles, Vehicle Parts & Transport Equipment	113185	108818	113603	113753	0.5	4.5
2.16 Gems & Jewellery	84860	89572	92443	87031	2.6	-2.8
2.17 Construction	133520	128308	138635	142057	6.4	10.7
2.18 Infrastructure	1304096	1292278	1298577	1312607	0.7	1.6
2.18.1 Power	644042	630991	646057	651955	1.2	3.3
2.18.2 Telecommunications	138192	142480	121495	122704	-11.2	-13.9
2.18.3 Roads	318072	317170	325803	333166	4.7	5.0
2.18.4 Airports	7280	7987	8117	8407	15.5	5.3
2.18.5 Ports	6681	7111	5823	6116	-8.5	-14.0
2.18.6 Railways	13062	12138	11230	11376	-12.9	-6.3
2.18.7 Other Infrastructure	176767	174401	180051	178884	1.2	2.6
2.19 Other Industries	259016	240132	290339	296148	14.3	23.3

Note: (1) Data since July 28, 2023 include the impact of the merger of a non-bank with a bank. Figures in parentheses exclude the impact of the merger.

No. 17: State Co-operative Banks Maintaining Accounts with the Reserve Bank of India

(₹ Crore)

Item	Last Reporting Friday (in case of March)/Last Friday/ Reporting Friday								
	2023-24	2024							
		Oct. 27	Aug. 30	Sep. 06	Sep. 20	Sep. 27	Oct. 04	Oct. 18	Oct. 25
	1	2	3	4	5	6	7	8	9
Number of Reporting Banks	33	33	34	34	34	34	34	34	34
1 Aggregate Deposits (2.1.1.2+2.2.1.2)	138788.9	136454.8	133771.9	133484.9	131009.0	133236.7	131961.9	131965.1	132037.8
2 Demand and Time Liabilities									
2.1 Demand Liabilities	30226.7	27401.2	27177.9	28015.9	27871.3	27646.4	26781.0	25419.0	25724.0
2.1.1 Deposits									
2.1.1.1 Inter-Bank	9101.3	6210.8	7554.0	8324.4	8039.9	7743.1	7544.4	7243.0	7210.1
2.1.1.2 Others	15000.4	14768.0	13721.9	13695.0	13761.7	13473.1	13625.5	13121.6	13179.2
2.1.2 Borrowings from Banks	130.0	1254.6				179.9		190.0	639.7
2.1.3 Other Demand Liabilities	5995.0	5167.8	5902.0	5996.5	6069.7	6250.3	5611.1	4864.4	4695.0
2.2 Time Liabilities	198141.8	173252.2	181698.8	181365.2	180677.8	181476.5	176057.8	177986.9	177577.6
2.2.1 Deposits									
2.2.1.1 Inter-Bank	72308.4	49258.2	59084.4	59157.2	59278.4	59406.1	55990.1	56392.3	56169.6
2.2.1.2 Others	123788.5	121686.8	120050.0	119789.9	117247.3	119763.6	118336.4	118843.5	118858.6
2.2.2 Borrowings from Banks	673.6	889.7	1235.0	1123.9	2852.3	1143.3	683.0	1712.2	1460.2
2.2.3 Other Time Liabilities	1371.3	1417.5	1329.4	1294.2	1299.8	1163.5	1048.5	1038.9	1089.2
3 Borrowing from Reserve Bank	0.0						0.0	0.0	0.0
4 Borrowings from a notified bank / Government	95914.5	74228.2	84199.0	84699.7	87192.9	87696.9	87889.0	89225.0	88927.0
4.1 Demand	27317.7	19329.5	23957.2	23942.2	23761.2	23412.8	25815.3	25217.3	24980.3
4.2 Time	68596.8	54898.7	60241.8	60757.5	63431.7	64284.1	62074.0	64007.2	64224.1
5 Cash in Hand and Balances with Reserve Bank	16263.7	11176.0	11195.1	11754.2	12126.7	12368.8	12171.0	12371.3	11411.6
5.1 Cash in Hand	960.0	992.9	699.1	683.4	822.3	780.9	781.6	838.2	818.0
5.2 Balance with Reserve Bank	15303.7	10183.1	10496.0	11070.8	11304.4	11587.9	11389.5	11533.2	10593.6
6 Balances with Other Banks in Current Account	2088.1	1685.7	1607.4	1697.0	1841.0	1658.2	1178.6	1229.3	1135.9
7 Investments in Government Securities	77700.5	73744.2	75232.9	75681.3	73803.6	73488.7	74364.4	73111.6	73805.6
8 Money at Call and Short Notice	34355.3	16653.1	14673.7	14683.1	14879.4	15615.3	17561.1	17854.6	16692.6
9 Bank Credit (10.1+11)	135141.9	123771.7	136830.6	138748.4	138876.6	138973.3	135277.0	135003.0	136490.2
10 Advances									
10.1 Loans, Cash-Credits and Overdrafts	134936.8	123727.6	136641.1	138544.2	138702.8	138795.8	135082.7	134807.4	136282.1
10.2 Due from Banks	142185.2	122092.6	137902.0	139259.2	141899.6	143516.4	139711.1	141859.4	142706.5
11 Bills Purchased and Discounted	205.1	44.1	189.5	204.2	173.8	177.5	194.2	195.6	208.1

Prices and Production

No. 18: Consumer Price Index (Base: 2012=100)

Group/Sub group	2023-24			Rural			Urban			Combined		
	Rural	Urban	Combined	Dec.23	Nov.24	Dec.24 (P)	Dec.23	Nov.24	Dec.24 (P)	Dec.23	Nov.24	Dec.24 (P)
	1	2	3	4	5	6	7	8	9	10	11	12
1 Food and beverages	185.9	192.7	188.4	188.8	206.2	203.9	195.3	212.3	209.4	191.2	208.4	205.9
1.1 Cereals and products	181.4	181.7	181.5	186.2	198.1	198.9	185.6	195.5	196.5	186.0	197.3	198.1
1.2 Meat and fish	213.0	221.3	215.9	208.0	220.9	219.2	217.5	229.8	228.7	211.3	224.0	222.5
1.3 Egg	185.4	189.5	187.0	197.1	199.3	209.8	200.8	204.8	215.7	198.5	201.4	212.1
1.4 Milk and products	181.4	181.5	181.4	182.4	187.1	187.3	182.5	187.8	187.9	182.4	187.4	187.5
1.5 Oils and fats	165.3	158.7	162.9	162.4	186.8	189.0	156.7	172.8	174.5	160.3	181.7	183.7
1.6 Fruits	172.1	179.9	175.7	172.6	190.7	188.8	178.9	193.7	192.3	175.5	192.1	190.4
1.7 Vegetables	183.9	229.9	199.5	188.4	260.0	242.4	234.6	315.4	289.4	204.1	278.8	258.3
1.8 Pulses and products	192.2	196.5	193.7	204.2	214.5	212.4	210.1	219.4	217.4	206.2	216.2	214.1
1.9 Sugar and confectionery	126.2	128.1	126.9	130.2	131.1	130.1	131.4	133.2	132.7	130.6	131.8	131.0
1.10 Spices	238.0	228.4	234.8	249.1	229.9	229.1	238.7	224.4	224.1	245.6	228.1	227.4
1.11 Non-alcoholic beverages	180.7	168.2	175.5	182.0	186.0	186.8	169.2	174.7	175.5	176.7	181.3	182.1
1.12 Prepared meals, snacks, sweets	193.3	200.9	196.8	194.3	200.5	201.1	202.4	210.8	211.7	198.1	205.3	206.0
2 Pan, tobacco and intoxicants	202.0	207.1	203.3	203.1	208.1	208.6	208.4	212.1	212.2	204.5	209.2	209.6
3 Clothing and footwear	192.9	181.5	188.4	194.1	199.0	199.4	182.7	187.4	187.8	189.6	194.4	194.8
3.1 Clothing	193.5	183.5	189.6	194.8	199.9	200.3	184.8	189.6	190.0	190.9	195.8	196.2
3.2 Footwear	189.4	170.2	181.4	190.3	193.4	193.6	171.2	175.5	175.6	182.4	186.0	186.1
4 Housing	--	176.7	176.7	--	--	--	176.9	183.0	181.7	176.9	183.0	181.7
5 Fuel and light	183.0	178.9	181.4	183.1	180.8	182.2	175.5	169.6	170.4	180.2	176.6	177.7
6 Miscellaneous	181.7	173.7	177.8	183.0	190.4	190.8	174.8	181.8	182.0	179.0	186.2	186.5
6.1 Household goods and services	181.5	171.8	176.9	182.5	186.4	186.9	172.7	178.0	178.3	177.9	182.4	182.8
6.2 Health	190.8	185.2	188.7	192.5	199.3	200.2	186.8	194.0	194.5	190.3	197.3	198.0
6.3 Transport and communication	171.1	161.4	166.0	171.8	176.6	176.7	161.9	165.7	165.8	166.6	170.9	171.0
6.4 Recreation and amusement	175.8	171.1	173.2	177.0	181.0	181.5	171.9	176.4	176.7	174.1	178.4	178.8
6.5 Education	184.0	179.1	181.1	185.3	192.0	192.2	180.5	187.8	187.8	182.5	189.5	189.6
6.6 Personal care and effects	186.3	187.4	186.8	188.1	206.0	206.2	189.4	207.7	208.0	188.6	206.7	206.9
General Index (All Groups)	185.6	182.4	184.1	187.6	199.4	198.4	183.6	193.2	192.0	185.7	196.5	195.4

Source: National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India.

P: Provisional

No. 19: Other Consumer Price Indices

Item	Base Year	Linking Factor	2023-24		2023	2024	
			1	2	3	4	5
			3	4	5	6	
1 Consumer Price Index for Industrial Workers	2016	2.88	137.9	139.1	144.5	144.5	
2 Consumer Price Index for Agricultural Labourers	1986-87	5.89	1229	1253	1315	1320	
3 Consumer Price Index for Rural Labourers	1986-87	-	1240	1262	1326	1331	

Source: Labour Bureau, Ministry of Labour and Employment, Government of India.

No. 20: Monthly Average Price of Gold and Silver in Mumbai

Item	2023-24	2023		2024	
		Nov.	Oct.	Nov.	Oct.
				1	2
1 Standard Gold (₹ per 10 grams)		60624	60786	76713	76221
2 Silver (₹ per kilogram)		72243	72222	93352	90230

Source: India Bullion & Jewellers Association Ltd., Mumbai for Gold and Silver prices in Mumbai.

No. 21: Wholesale Price Index

(Base: 2011-12 = 100)

Commodities	Weight	2023-24	2023		2024		
			Dec.	Oct.	Nov.(P)	Dec.(P)	
			1	2	3	4	5
1 ALL COMMODITIES	100.000	151.4	151.8	156.7	156.0	155.4	
1.1 PRIMARY ARTICLES	22.618	183.0	182.8	200.6	197.9	193.8	
1.1.1 FOOD ARTICLES	15.256	191.3	191.2	217.9	214.0	207.4	
1.1.1.1 Food Grains (Cereals+Pulses)	3.462	193.8	200.8	213.4	214.8	213.8	
1.1.1.2 Fruits & Vegetables	3.475	210.2	201.1	291.6	273.2	244.7	
1.1.1.3 Milk	4.440	180.3	181.7	185.6	185.3	185.8	
1.1.1.4 Eggs, Meat & Fish	2.402	172.1	165.7	171.0	173.1	174.7	
1.1.1.5 Condiments & Spices	0.529	235.4	248.1	243.5	244.5	240.2	
1.1.1.6 Other Food Articles	0.948	189.5	196.6	219.3	215.4	213.7	
1.1.2 NON-FOOD ARTICLES	4.119	162.4	162.3	161.9	162.2	166.3	
1.1.2.1 Fibres	0.839	168.0	161.9	160.9	159.0	159.5	
1.1.2.2 Oil Seeds	1.115	185.0	185.3	185.4	185.9	182.8	
1.1.2.3 Other non-food Articles	1.960	134.9	134.1	140.1	138.9	140.8	
1.1.2.4 Floriculture	0.204	279.7	310.0	247.3	270.0	349.3	
1.1.3 MINERALS	0.833	217.7	217.7	229.6	228.5	229.6	
1.1.3.1 Metallic Minerals	0.648	204.2	208.3	219.4	220.1	219.9	
1.1.3.2 Other Minerals	0.185	265.0	250.7	265.3	258.1	263.5	
1.1.4 CRUDE PETROLEUM & NATURAL GAS	2.410	153.6	152.2	147.3	146.1	141.9	
1.2 FUEL & POWER	13.152	152.0	155.8	148.8	147.1	149.9	
1.2.1 COAL	2.138	136.4	136.7	135.5	135.5	135.6	
1.2.1.1 Coking Coal	0.647	143.4	143.4	143.4	143.4	143.4	
1.2.1.2 Non-Coking Coal	1.401	124.8	125.8	125.8	125.8	125.8	
1.2.1.3 Lignite	0.090	267.6	258.1	229.5	229.5	231.2	
1.2.2 MINERAL OILS	7.950	159.0	160.0	153.0	154.0	153.9	
1.2.3 ELECTRICITY	3.064	145.0	158.4	147.4	137.3	149.4	
1.3 MANUFACTURED PRODUCTS	64.231	140.2	140.0	142.9	143.0	143.0	
1.3.1 MANUFACTURE OF FOOD PRODUCTS	9.122	160.5	161.1	175.9	177.3	176.7	
1.3.1.1 Processing and Preserving of meat	0.134	145.3	144.9	154.5	153.2	155.4	
1.3.1.2 Processing and Preserving of fish, Crustaceans, Molluscs and products thereof	0.204	142.9	145.5	149.2	148.9	143.9	
1.3.1.3 Processing and Preserving of fruit and Vegetables	0.138	130.4	130.4	132.9	132.7	133.3	
1.3.1.4 Vegetable and Animal oils and Fats	2.643	145.0	140.8	178.2	182.0	183.7	
1.3.1.5 Dairy products	1.165	179.1	179.7	181.6	182.0	182.0	
1.3.1.6 Grain mill products	2.010	175.6	180.2	188.0	190.2	190.2	
1.3.1.7 Starches and Starch products	0.110	157.1	163.0	172.4	169.5	165.8	
1.3.1.8 Bakery products	0.215	165.4	166.5	170.0	172.8	173.5	
1.3.1.9 Sugar, Molasses & honey	1.163	134.6	138.1	139.0	138.4	136.1	
1.3.1.10 Cocoa, Chocolate and Sugar confectionery	0.175	139.8	141.4	160.5	160.7	166.6	
1.3.1.11 Macaroni, Noodles, Couscous and Similar farinaceous products	0.026	149.9	150.9	155.7	158.1	166.4	
1.3.1.12 Tea & Coffee products	0.371	176.2	173.9	197.7	193.8	180.1	
1.3.1.13 Processed condiments & salt	0.163	192.1	199.1	191.5	190.8	192.7	
1.3.1.14 Processed ready to eat food	0.024	146.3	147.5	152.8	152.6	153.4	
1.3.1.15 Health supplements	0.225	179.1	178.8	189.4	191.5	189.0	
1.3.1.16 Prepared animal feeds	0.356	208.3	210.2	210.2	206.3	202.3	
1.3.2 MANUFACTURE OF BEVERAGES	0.909	131.5	132.0	134.5	134.9	134.6	
1.3.2.1 Wines & spirits	0.408	133.3	134.4	136.5	137.0	137.0	
1.3.2.2 Malt liquors and Malt	0.225	135.6	136.8	138.7	139.2	139.1	
1.3.2.3 Soft drinks; Production of mineral waters and Other bottled waters	0.275	125.5	124.5	128.1	128.5	127.3	
1.3.3 MANUFACTURE OF TOBACCO PRODUCTS	0.514	173.5	172.7	176.0	177.4	177.0	
1.3.3.1 Tobacco products	0.514	173.5	172.7	176.0	177.4	177.0	

No. 21: Wholesale Price Index (Contd.)

(Base: 2011-12 = 100)

Commodities	Weight	2023-24	2023		2024	
			Dec.	Oct.	Nov.(P)	Dec.(P)
			1	2	3	4
1.3.4 MANUFACTURE OF TEXTILES	4.881	134.6	133.7	135.9	135.9	136.9
1.3.4.1 Preparation and Spinning of textile fibres	2.582	120.1	118.7	121.2	120.6	120.7
1.3.4.2 Weaving & Finishing of textiles	1.509	157.5	156.7	157.5	158.4	161.4
1.3.4.3 Knitted and Crocheted fabrics	0.193	120.0	119.7	125.5	123.6	123.5
1.3.4.4 Made-up textile articles, Except apparel	0.299	156.6	157.1	160.4	159.9	161.5
1.3.4.5 Cordage, Rope, Twine and Netting	0.098	139.2	136.8	142.2	143.2	144.4
1.3.4.6 Other textiles	0.201	129.6	130.4	134.6	135.4	134.0
1.3.5 MANUFACTURE OF WEARING APPAREL	0.814	150.8	151.9	153.9	153.8	154.4
1.3.5.1 Manufacture of Wearing Apparel (woven), Except fur Apparel	0.593	148.7	149.0	151.0	151.0	151.6
1.3.5.2 Knitted and Crocheted apparel	0.221	156.6	159.8	161.8	161.5	161.8
1.3.6 MANUFACTURE OF LEATHER AND RELATED PRODUCTS	0.535	124.1	124.1	125.7	125.7	125.6
1.3.6.1 Tanning and Dressing of leather; Dressing and Dyeing of fur	0.142	107.3	106.6	106.5	106.0	108.2
1.3.6.2 Luggage, HandAgs, Saddlery and Harness	0.075	140.9	140.8	144.1	143.8	142.4
1.3.6.3 Footwear	0.318	127.7	127.9	129.9	130.1	129.4
1.3.7 MANUFACTURE OF WOOD AND PRODUCTS OF WOOD AND CORK	0.772	146.6	147.6	148.7	148.4	149.0
1.3.7.1 Saw milling and Planing of wood	0.124	137.8	135.1	142.0	141.9	142.3
1.3.7.2 Veneer sheets; Manufacture of plywood, Laminboard, Particle board and Other panels and Boards	0.493	146.1	148.4	147.6	147.3	148.1
1.3.7.3 Builder's carpentry and Joinery	0.036	206.4	207.3	216.2	214.2	214.6
1.3.7.4 Wooden containers	0.119	139.8	139.8	140.3	139.8	140.0
1.3.8 MANUFACTURE OF PAPER AND PAPER PRODUCTS	1.113	140.3	138.4	139.8	139.0	138.9
1.3.8.1 Pulp, Paper and Paperboard	0.493	147.6	145.6	144.5	143.7	143.1
1.3.8.2 Corrugated paper and Paperboard and Containers of paper and Paperboard	0.314	140.9	140.5	149.3	148.6	148.9
1.3.8.3 Other articles of paper and Paperboard	0.306	128.0	124.7	122.4	121.3	122.0
1.3.9 PRINTING AND REPRODUCTION OF RECORDED MEDIA	0.676	182.3	185.4	186.0	186.7	188.2
1.3.9.1 Printing	0.676	182.3	185.4	186.0	186.7	188.2
1.3.10 MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS	6.465	136.9	135.7	136.3	136.1	136.4
1.3.10.1 Basic chemicals	1.433	139.9	138.2	137.6	138.2	139.3
1.3.10.2 Fertilizers and Nitrogen compounds	1.485	142.8	142.5	142.9	143.2	143.0
1.3.10.3 Plastic and Synthetic rubber in primary form	1.001	132.3	129.0	133.9	133.1	132.8
1.3.10.4 Pesticides and Other agrochemical products	0.454	132.8	132.3	129.3	129.5	128.8
1.3.10.5 Paints, Varnishes and Similar coatings, Printing ink and Mastics	0.491	143.7	144.9	139.8	137.8	139.0
1.3.10.6 Soap and Detergents, Cleaning and Polishing preparations, Perfumes and Toilet preparations	0.612	139.7	138.9	139.5	139.7	140.4
1.3.10.7 Other chemical products	0.692	134.4	133.1	136.1	135.3	134.9
1.3.10.8 Man-made fibres	0.296	103.6	102.3	102.8	102.9	103.9
1.3.11 MANUFACTURE OF PHARMACEUTICALS, MEDICINAL CHEMICAL AND BOTANICAL PRODUCTS	1.993	142.9	143.3	143.5	144.1	144.1
1.3.11.1 Pharmaceuticals, Medicinal chemical and Botanical products	1.993	142.9	143.3	143.5	144.1	144.1
1.3.12 MANUFACTURE OF RUBBER AND PLASTICS PRODUCTS	2.299	127.5	127.5	129.6	128.6	129.1
1.3.12.1 Rubber Tyres and Tubes; Retreading and Rebuilding of Rubber Tyres	0.609	113.7	114.1	116.5	116.8	117.1
1.3.12.2 Other Rubber Products	0.272	107.3	107.3	113.4	112.2	111.9
1.3.12.3 Plastics products	1.418	137.3	137.2	138.2	136.8	137.5
1.3.13 MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS	3.202	134.7	135.4	130.4	130.6	131.3
1.3.13.1 Glass and Glass products	0.295	163.8	164.6	162.5	162.2	163.4
1.3.13.2 Refractory products	0.223	119.7	119.0	118.7	123.6	125.3
1.3.13.3 Clay Building Materials	0.121	123.9	116.4	126.0	127.5	123.3
1.3.13.4 Other Porcelain and Ceramic Products	0.222	122.3	122.7	124.1	124.6	124.6
1.3.13.5 Cement, Lime and Plaster	1.645	137.3	138.9	128.8	128.6	129.5

No. 21: Wholesale Price Index (Contd.)
(Base: 2011-12 = 100)

Commodities	Weight	2023-24	2023		2024			
			Dec.	Oct.	Nov.(P)	Dec.(P)		
			1	2	3	4	5	6
1.3.13.6 Articles of Concrete, Cement and Plaster	0.292	137.7	138.0	138.7	138.9	139.7		
1.3.13.7 Cutting, Shaping and Finishing of Stone	0.234	130.3	132.5	135.6	135.5	135.9		
1.3.13.8 Other Non-Metallic Mineral Products	0.169	102.4	101.8	94.8	93.8	94.2		
1.3.14 MANUFACTURE OF BASIC METALS	9.646	141.0	139.6	139.3	138.6	137.6		
1.3.14.1 Inputs into steel making	1.411	140.3	137.0	134.0	132.2	130.2		
1.3.14.2 Metallic Iron	0.653	153.6	151.1	142.6	139.9	133.4		
1.3.14.3 Mild Steel - Semi Finished Steel	1.274	119.9	117.8	118.0	117.7	116.9		
1.3.14.4 Mild Steel -Long Products	1.081	141.3	139.7	140.0	139.6	139.5		
1.3.14.5 Mild Steel - Flat products	1.144	143.4	142.0	132.5	132.1	129.6		
1.3.14.6 Alloy steel other than Stainless Steel- Shapes	0.067	137.6	135.3	134.6	133.7	132.3		
1.3.14.7 Stainless Steel - Semi Finished	0.924	136.4	132.0	128.3	126.6	129.0		
1.3.14.8 Pipes & tubes	0.205	169.7	170.8	162.8	163.4	162.7		
1.3.14.9 Non-ferrous metals incl. precious metals	1.693	144.8	144.4	157.6	157.9	156.6		
1.3.14.10 Castings	0.925	141.0	144.7	144.8	144.5	146.2		
1.3.14.11 Forgings of steel	0.271	173.3	172.2	172.7	172.8	172.1		
1.3.15 MANUFACTURE OF FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT	3.155	138.6	137.9	135.0	135.3	136.1		
1.3.15.1 Structural Metal Products	1.031	132.3	131.5	129.8	129.6	130.9		
1.3.15.2 Tanks, Reservoirs and Containers of Metal	0.660	157.6	153.6	147.1	147.0	147.6		
1.3.15.3 Steam generators, Except Central Heating Hot Water Boilers	0.145	106.3	105.8	112.5	112.0	112.5		
1.3.15.4 Forging, Pressing, Stamping and Roll-Forming of Metal; Powder Metallurgy	0.383	141.4	144.5	138.3	140.3	140.6		
1.3.15.5 Cutlery, Hand Tools and General Hardware	0.208	108.4	109.1	102.0	102.4	102.4		
1.3.15.6 Other Fabricated Metal Products	0.728	143.8	143.8	143.7	144.3	145.1		
1.3.16 MANUFACTURE OF COMPUTER, ELECTRONIC AND OPTICAL PRODUCTS	2.009	119.3	119.9	121.5	121.2	121.2		
1.3.16.1 Electronic Components	0.402	115.0	114.7	117.1	117.1	118.4		
1.3.16.2 Computers and Peripheral Equipment	0.336	135.3	135.1	135.3	133.6	132.6		
1.3.16.3 Communication Equipment	0.310	136.1	139.4	145.7	145.9	146.2		
1.3.16.4 Consumer Electronics	0.641	103.6	103.9	100.5	100.5	100.0		
1.3.16.5 Measuring, Testing, Navigating and Control equipment	0.181	113.8	113.8	120.9	120.9	121.1		
1.3.16.6 Watches and Clocks	0.076	157.2	159.2	167.7	167.7	167.7		
1.3.16.7 Irradiation, Electromedical and Electrotherapeutic equipment	0.055	108.3	109.6	116.6	115.2	116.5		
1.3.16.8 Optical instruments and Photographic equipment	0.008	103.8	102.2	106.8	108.7	108.7		
1.3.17 MANUFACTURE OF ELECTRICAL EQUIPMENT	2.930	131.4	131.6	133.8	133.8	134.1		
1.3.17.1 Electric motors, Generators, Transformers and Electricity distribution and Control apparatus	1.298	130.1	130.6	131.9	132.8	133.4		
1.3.17.2 Batteries and Accumulators	0.236	137.8	139.1	141.1	141.7	141.3		
1.3.17.3 Fibre optic cables for data transmission or live transmission of images	0.133	123.4	126.0	120.6	116.5	118.0		
1.3.17.4 Other electronic and Electric wires and Cables	0.428	146.1	145.6	155.6	153.8	154.1		
1.3.17.5 Wiring devices, Electric lighting & display equipment	0.263	116.8	117.1	118.9	118.7	117.6		
1.3.17.6 Domestic appliances	0.366	133.8	132.6	131.7	130.7	131.8		
1.3.17.7 Other electrical equipment	0.206	120.9	119.8	123.8	124.9	125.1		
1.3.18 MANUFACTURE OF MACHINERY AND EQUIPMENT	4.789	129.0	129.4	130.8	130.8	130.6		
1.3.18.1 Engines and Turbines, Except aircraft, Vehicle and Two wheeler engines	0.638	128.9	130.9	133.9	133.6	132.5		
1.3.18.2 Fluid power equipment	0.162	131.9	132.4	134.1	134.6	134.7		
1.3.18.3 Other pumps, Compressors, Taps and Valves	0.552	117.4	117.8	118.4	118.6	118.8		
1.3.18.4 Bearings, Gears, Gearing and Driving elements	0.340	127.7	128.8	127.0	127.2	129.0		
1.3.18.5 Ovens, Furnaces and Furnace burners	0.008	83.7	85.0	86.3	87.0	86.9		
1.3.18.6 Lifting and Handling equipment	0.285	128.6	129.5	129.6	130.0	129.9		

No. 21: Wholesale Price Index (Concl'd.)
 (Base: 2011-12 = 100)

Commodities	Weight	2023-24	2023	2024		
			Dec.	Oct.	Nov.(P)	Dec.(P)
	1	2	3	4	5	6
1.3.18.7 Office machinery and Equipment	0.006	130.2	130.2	130.2	130.2	130.2
1.3.18.8 Other general-purpose machinery	0.437	145.2	142.4	146.8	147.1	142.7
1.3.18.9 Agricultural and Forestry machinery	0.833	142.5	143.9	145.3	145.6	145.8
1.3.18.10 Metal-forming machinery and Machine tools	0.224	122.5	123.1	123.1	123.1	123.1
1.3.18.11 Machinery for mining, Quarrying and Construction	0.371	88.6	88.6	89.2	89.5	90.0
1.3.18.12 Machinery for food, Beverage and Tobacco processing	0.228	124.4	123.4	126.1	126.0	126.2
1.3.18.13 Machinery for textile, Apparel and Leather production	0.192	137.2	135.2	141.0	138.2	141.3
1.3.18.14 Other special-purpose machinery	0.468	144.7	144.9	144.3	144.6	144.1
1.3.18.15 Renewable electricity generating equipment	0.046	70.8	70.2	68.6	68.6	68.8
1.3.19 MANUFACTURE OF MOTOR VEHICLES, TRAILERS AND SEMI-TRAILERS	4.969	128.4	128.4	129.5	129.4	129.8
1.3.19.1 Motor vehicles	2.600	128.5	128.7	129.9	129.6	130.5
1.3.19.2 Parts and Accessories for motor vehicles	2.368	128.2	128.0	129.2	129.2	129.1
1.3.20 MANUFACTURE OF OTHER TRANSPORT EQUIPMENT	1.648	143.1	143.7	145.1	145.5	145.8
1.3.20.1 Building of ships and Floating structures	0.117	163.7	163.6	177.9	177.9	177.9
1.3.20.2 Railway locomotives and Rolling stock	0.110	107.4	108.9	108.1	107.8	108.4
1.3.20.3 Motor cycles	1.302	144.7	145.3	146.3	146.9	147.0
1.3.20.4 Bicycles and Invalid carriages	0.117	137.9	137.8	133.3	133.3	135.1
1.3.20.5 Other transport equipment	0.002	159.2	163.1	164.5	162.9	163.7
1.3.21 MANUFACTURE OF FURNITURE	0.727	159.6	159.3	160.9	162.6	161.3
1.3.21.1 Furniture	0.727	159.6	159.3	160.9	162.6	161.3
1.3.22 OTHER MANUFACTURING	1.064	158.2	161.1	184.1	183.8	183.1
1.3.22.1 Jewellery and Related articles	0.996	157.9	161.1	185.6	185.3	184.6
1.3.22.2 Musical instruments	0.001	187.0	179.2	199.7	205.2	200.6
1.3.22.3 Sports goods	0.012	155.2	155.8	168.0	167.8	167.9
1.3.22.4 Games and Toys	0.005	159.6	159.7	162.8	162.4	163.5
1.3.22.5 Medical and Dental instruments and Supplies	0.049	163.1	162.2	158.6	158.6	158.6
2 FOOD INDEX	24.378	179.8	179.9	202.2	200.3	195.9

Source: Office of the Economic Adviser, Ministry of Commerce and Industry, Government of India.

No. 22: Index of Industrial Production (Base:2011-12=100)

Industry	Weight	2022-23	2023-24	April-November		November	
				2023-24	2024-25	2023	2024
		1	2	3	4	5	6
General Index	100.00	138.5	146.7	143.4	149.3	141.1	148.4
1 Sectoral Classification							
1.1 Mining	14.37	119.9	128.9	120.9	124.9	131.3	133.8
1.2 Manufacturing	77.63	137.1	144.7	141.6	147.4	139.3	147.4
1.3 Electricity	7.99	185.2	198.3	201.2	211.9	176.3	184.1
2 Use-Based Classification							
2.1 Primary Goods	34.05	139.2	147.7	144.3	150.0	143.8	147.7
2.2 Capital Goods	8.22	100.3	106.6	103.6	108.2	98.0	106.8
2.3 Intermediate Goods	17.22	149.4	157.3	154.7	161.2	151.3	158.8
2.4 Infrastructure/ Construction Goods	12.34	160.7	176.3	171.7	182.5	164.2	180.6
2.5 Consumer Durables	12.84	114.5	118.6	116.9	127.1	106.5	120.5
2.6 Consumer Non-Durables	15.33	147.7	153.7	149.4	148.6	157.2	158.1

Source : Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India.

Government Accounts and Treasury Bills

No. 23: Union Government Accounts at a Glance

(₹ Crore)

Item	Financial Year	April – November				
		2024-25 (Budget Estimates)	2024-25 (Actuals)	2023-24 (Actuals)	Percentage to Budget Estimates	
					2024-25	2023-24
		1	2	3	4	5
1 Revenue Receipts		3129200	1870455	1720120	59.8	65.3
1.1 Tax Revenue (Net)		2583499	1443435	1435755	55.9	61.6
1.2 Non-Tax Revenue		545701	427020	284365	78.3	94.3
2 Non Debt Capital Receipt		78000	23953	25463	30.7	30.3
2.1 Recovery of Loans		28000	14972	16604	53.5	72.2
2.2 Other Receipts		50000	8981	8859	18.0	14.5
3 Total Receipts (excluding borrowings) (1+2)		3207200	1894408	1745583	59.1	64.3
4 Revenue Expenditure of which :		3709401	2227502	2066522	60.1	59.0
4.1 Interest Payments		1162940	658494	607963	56.6	56.3
5 Capital Expenditure		1111111	513500	585645	46.2	58.5
6 Total Expenditure (4+5)		4820512	2741002	2652167	56.9	58.9
7 Revenue Deficit (4-1)		580201	357047	346402	61.5	39.8
8 Fiscal Deficit (6-3)		1613312	846594	906584	52.5	50.7
9 Gross Primary Deficit (8-4.1)		450372	188100	298621	41.8	42.2

Source: Controller General of Accounts (CGA), Ministry of Finance, Government of India and Union Budget 2024-25.

No. 24: Treasury Bills – Ownership Pattern

(₹ Crore)

Item	2023-24	2023		2024					
		Dec. 1	Oct. 25	Nov. 1	Nov. 8	Nov. 15	Nov. 22	Nov. 29	
		1	2	3	4	5	6	7	8
1 91-day									
1.1 Banks	18054	6954	4445	3961	2949	2891	3054	3848	
1.2 Primary Dealers	22676	26459	7867	12580	7081	8257	9025	9398	
1.3 State Governments	5701	18301	94683	94833	88433	84060	79060	82560	
1.4 Others	88670	82087	84488	79259	83470	81552	81021	78354	
2 182-day									
2.1 Banks	84913	72670	39780	39229	38534	38535	40000	42525	
2.2 Primary Dealers	87779	78845	30680	31156	28255	29947	32689	30551	
2.3 State Governments	4070	12099	13595	12339	11916	12265	12265	11265	
2.4 Others	102311	81685	81040	80115	82711	81018	78212	80824	
3 364-day									
3.1 Banks	91819	94768	82642	76754	74108	77807	78510	75027	
3.2 Primary Dealers	159085	184085	115669	116452	110781	110223	108012	106748	
3.3 State Governments	41487	43204	34600	35195	35587	35837	35829	35933	
3.4 Others	165095	158147	169689	171795	177111	170970	169478	171225	
4 14-day Intermediate									
4.1 Banks									
4.2 Primary Dealers									
4.3 State Governments	318736	118579	162948	120316	101407	153906	190890	188494	
4.4 Others	442	716	547	173	1746	952	1357	551	
Total Treasury Bills (Excluding 14 day Intermediate T Bills) #	871662	859305	759178	753667	740936	733362	727154	728257	

14D intermediate T-Bills are non-marketable unlike 91D, 182D and 364D T-Bills. These bills are ‘intermediate’ by nature as these are liquidated to replenish shortfall in the daily minimum cash balances of State Governments.

Note: Primary Dealers (PDs) include banks undertaking PD business.

No. 25: Auctions of Treasury Bills

(Amount in ₹ Crore)

Date of Auction	Notified Amount	Bids Received				Bids Accepted				Total Issue (6+7)	Cut-off Price (₹)	Implicit Yield at Cut-off Price (per cent)			
		Number	Total Face Value		Number	Total Face Value		Competitive	Non-Competitive						
			Competitive	Non-Competitive		Competitive	Non-Competitive								
		1	2	3	4	5	6	7	8	9	10				
91-day Treasury Bills															
2024-25															
Oct. 30	7000	82	16356	878	51	6972	878	7850	98.40	6.5116					
Nov. 6	7000	105	30332	1373	10	6927	1373	8300	98.42	6.4437					
Nov. 13	7000	114	30298	1911	37	6962	1911	8874	98.42	6.4395					
Nov. 21	7000	108	27212	5436	36	6964	5436	12400	98.42	6.4581					
Nov. 27	7000	93	19172	10028	49	6972	10028	17000	98.41	6.4929					
182-day Treasury Bills															
2024-25															
Oct. 30	6000	71	10555	258	54	5986	258	6244	96.80	6.6404					
Nov. 6	6000	80	15932	1022	45	5978	1022	7000	96.80	6.6280					
Nov. 13	6000	115	19592	1520	46	5980	1520	7500	96.81	6.6188					
Nov. 21	6000	72	10920	1422	52	5978	1422	7400	96.80	6.6501					
Nov. 27	6000	96	20278	1015	38	5985	1015	7000	96.79	6.6599					
364-day Treasury Bills															
2024-25															
Oct. 30	6000	73	21019	694	29	5986	694	6680	93.83	6.5991					
Nov. 6	6000	83	25666	676	25	5970	676	6646	93.83	6.5991					
Nov. 13	6000	76	14515	288	43	5979	288	6267	93.81	6.6145					
Nov. 21	6000	76	16105	113	41	5986	113	6100	93.81	6.6200					
Nov. 27	6000	72	14513	119	41	5994	119	6114	93.78	6.6545					

Financial Markets

No. 26: Daily Call Money Rates

(Per cent per annum)

As on	Range of Rates	Weighted Average Rates
	Borrowings/ Lendings	Borrowings/ Lendings
	1	2
November 04 ,2024	5.10-6.50	6.41
November 05 ,2024	5.10-6.40	6.31
November 06 ,2024	5.10-6.40	6.34
November 07 ,2024	5.10-6.50	6.41
November 08 ,2024	5.10-6.55	6.44
November 11 ,2024	5.10-6.55	6.45
November 12 ,2024	5.10-6.55	6.45
November 13 ,2024	5.10-6.72	6.39
November 14 ,2024	5.10-6.51	6.41
November 16 ,2024	5.50-6.50	6.16
November 18 ,2024	5.10-6.65	6.43
November 19 ,2024	5.10-6.60	6.49
November 21 ,2024	5.10-6.90	6.62
November 22 ,2024	5.10-6.90	6.73
November 25 ,2024	5.50-6.90	6.71
November 26 ,2024	5.10-6.85	6.69
November 27 ,2024	5.10-6.85	6.70
November 28 ,2024	5.10-6.85	6.71
November 29 ,2024	5.50-6.90	6.70
November 30 ,2024	5.50-6.85	6.22
December 02 ,2024	5.10-6.65	6.51
December 03 ,2024	5.10-6.50	6.44
December 04 ,2024	5.10-6.60	6.42
December 05 ,2024	5.10-6.75	6.54
December 06 ,2024	5.50-6.75	6.52
December 07 ,2024	5.50-6.70	6.15
December 09 ,2024	5.50-6.75	6.56
December 10 ,2024	5.50-6.85	6.67
December 11 ,2024	5.50-6.90	6.70
December 12 ,2024	5.50-6.80	6.62
December 13 ,2024	5.50-6.85	6.68

Note: Includes Notice Money.

No. 27: Certificates of Deposit

Item	2023		2024		
	Nov. 17		Oct. 18	Nov. 1	Nov. 15
	1	2	3	4	5
1 Amount Outstanding (₹ Crore)	314547.67	484133.94	465475.31	489838.50	491658.72
1.1 Issued during the fortnight (₹ Crore)	17713.85	33814.44	9730.19	46552.33	40434.94
2 Rate of Interest (per cent)	7.09-7.65	6.93-7.65	7.02-7.83	6.98-7.85	6.98-7.60

No. 28: Commercial Paper

Item	2023		2024			
	Nov. 30		Oct. 15	Oct. 31	Nov. 15	Nov. 30
	1	2	3	4	5	
1 Amount Outstanding (₹ Crore)	394967.95	438134.20	445104.90	448862.80	445122.05	
1.1 Reported during the fortnight (₹ Crore)	59808.25	48517.65	66159.85	50771.85	64504.65	
2 Rate of Interest (per cent)	6.99-14.34	6.95-12.60	6.99-12.53	6.99-13.77	7.00-12.61	

No. 29: Average Daily Turnover in Select Financial Markets

(₹ Crore)

Item	2023-24	2023		2024					
		Dec. 1	Oct. 25	Nov. 1	Nov. 8	Nov. 15	Nov. 22	Nov. 29	
		1	2	3	4	5	6	7	8
1 Call Money	17761	17469	16926	16124	19243	13985	14474	14605	
2 Notice Money	2550	8956	252	1374	439	3706	331	4241	
3 Term Money	871	1768	723	685	1268	780	895	1743	
4 Triparty Repo	601363	740971	682726	781433	768911	837328	707471	939435	
5 Market Repo	574534	620918	497243	567993	587924	601587	493723	585745	
6 Repo in Corporate Bond	1817	675	4146	3420	5481	5371	4588	5114	
7 Forex (US \$ million)	95115	106187	110857	98958	100719	101881	108061	123525	
8 Govt. of India Dated Securities	90992	62592	116577	91164	72479	84826	76147	83490	
9 State Govt. Securities	6102	3580	7471	4998	3756	7151	5307	4154	
10 Treasury Bills									
10.1 91-Day	5378	1293	3130	3709	2108	2983	3669	1988	
10.2 182-Day	6079	4495	4174	6064	3824	3184	3533	3800	
10.3 364-Day	4307	3954	3138	3736	4066	4281	3550	3800	
10.4 Cash Management Bills			0	0	0	0	0	0	
11 Total Govt. Securities (8+9+10)	112858	75915	134490	109670	86232	102424	92206	97232	
11.1 RBI	492	986	7	111	79	1374	15	213	

No. 30: New Capital Issues by Non-Government Public Limited Companies

(Amount in ₹ Crore)

Security & Type of Issue	2023-24		2023-24 (Apr.-Nov.)		2024-25 (Apr.-Nov.) *		Nov. 2023		Nov. 2024 *	
	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount
	1	2	3	4	5	6	7	8	9	10
1 Equity Shares	339	80942	210	47839	320	157899	29	11393	18	36266
1A Premium	328	76319	201	45193	304	134426	29	11073	17	34016
1.1 Public	272	65832	164	41339	227	145106	25	11281	12	35849
1.1.1 Premium	272	62791	164	39905	227	123369	25	10982	12	33699
1.2 Rights	67	15110	46	6500	93	12793	4	112	6	417
1.2.1 Premium	56	13527	37	5289	77	11057	4	91	5	316
2 Preference Shares	-	-	-	-	-	-	-	-	-	-
2.1 Public	-	-	-	-	-	-	-	-	-	-
2.2 Rights	-	-	-	-	-	-	-	-	-	-
3 Bonds & Debentures	44	16342	26	10918	27	5743	1	264	2	218
3.1 Convertible	-	-	-	-	-	-	-	-	-	-
3.1.1 Public	-	-	-	-	-	-	-	-	-	-
3.1.2 Rights	-	-	-	-	-	-	-	-	-	-
3.2 Non-Convertible	44	16342	26	10918	27	5743	1	264	2	218
3.2.1 Public	44	16342	26	10918	27	5743	1	264	2	218
3.2.2 Rights	-	-	-	-	-	-	-	-	-	-
4 Total (1+2+3)	383	97284	236	58757	347	163642	30	11657	20	36483
4.1 Public	316	82174	190	52257	254	150849	26	11545	14	36066
4.2 Rights	67	15110	46	6500	93	12793	4	112	6	417

Note : 1. Since April 2020, monthly data on equity issues is compiled on the basis of their listing date.

2. Figures in the columns might not add up to the total due to rounding off numbers.

Source : Securities and Exchange Board of India.

* : Data is Provisional

External Sector

No. 31: Foreign Trade

Item	Unit	2023-24		2024					
		2023		Nov.	Jul.	Aug.	Sep.	Oct.	Nov.
		1	2	3	4	5	6	7	
1 Exports	₹ Crore	3618952	281096	282606	289305	287578	327712	270298	
	US \$ Million	437072	33746	33807	34484	34314	39000	32039	
1.1 Oil	₹ Crore	696850	61557	43221	47817	37764	37175	30891	
	US \$ Million	84157	7390	5170	5700	4506	4424	3662	
1.2 Non-oil	₹ Crore	2922102	219539	239384	241488	249814	290537	239406	
	US \$ Million	352915	26356	28636	28784	29808	34576	28378	
2 Imports	₹ Crore	5616042	458656	475136	524948	452606	530437	538792	
	US \$ Million	678215	55062	56838	62571	54005	63125	63865	
2.1 Oil	₹ Crore	1480232	124404	115925	92396	104574	153628	134229	
	US \$ Million	178733	14935	13868	11013	12478	18283	15911	
2.2 Non-oil	₹ Crore	4135810	334253	359211	432552	348032	376809	404562	
	US \$ Million	499482	40127	42971	51558	41527	44842	47954	
3 Trade Balance	₹ Crore	-1997090	-177560	-192530	-235643	-165028	-202725	-268494	
	US \$ Million	-241143	-21316	-23031	-28087	-19691	-24125	-31825	
3.1 Oil	₹ Crore	-783382	-62846	-72704	-44579	-66811	-116453	-103338	
	US \$ Million	-94576	-7545	-8697	-5314	-7972	-13859	-12249	
3.2 Non-oil	₹ Crore	-1213708	-114714	-119827	-191064	-98217	-86272	-165156	
	US \$ Million	-146567	-13771	-14334	-22774	-11719	-10267	-19577	

Note: Data in the table are provisional.

Source: Directorate General of Commercial Intelligence and Statistics.

No. 32: Foreign Exchange Reserves

Item	Unit	2024						
		Jan. 05		Nov. 22	Nov. 29	Dec. 06	Dec. 13	Dec. 20
		1	2	3	4	5	6	7
1 Total Reserves	₹ Crore	5133694	5545695	5560661	5546163	5536494	5478951	5476869
	US \$ Million	617303	656582	658091	654857	652869	644391	640279
1.1 Foreign Currency Assets	₹ Crore	4546115	4787282	4806616	4790434	4770775	4732163	4721047
	US \$ Million	546650	566791	568852	565623	562576	556562	551921
1.2 Gold	₹ Crore	394932	570744	565949	566898	577133	558837	566843
	US \$ Million	47489	67573	66979	66936	68056	65726	66268
1.3 SDRs	Volume (Metric Tonnes)	804.68	876.18	876.18	876.18	876.18	876.18	876.18
	SDRs Million	13688	13705	13705	13705	13705	13705	13705
	₹ Crore	152173	151906	152152	152713	152617	152069	152881
	US \$ Million	18298	17985	18007	18031	17997	17885	17873
1.4 Reserve Tranche Position in IMF	₹ Crore	40474	35763	35945	36118	35969	35882	36097
	US \$ Million	4866	4232	4254	4266	4240	4217	4217

* Difference, if any, is due to rounding off.

Note: Exclude investment in foreign currency denominated bonds issued by IIFC (UK), SDRs transferred by Government of India to RBI and foreign currency received under SAARC and ACU currency swap arrangements. Foreign currency assets in US dollar take into account appreciation/depreciation of non-US currencies (such as Euro, Sterling, Yen and Australian Dollar) held in reserves. Foreign exchange holdings are converted into rupees at rupee-US dollar RBI holding rates.

No. 33: Non-Resident Deposits

(US \$ Million)

Scheme	Outstanding					Flows	
	2023-24	2023		2024		2023-24	2024-25
		Nov.	Oct.	Nov. (P)		Apr.-Nov.	Apr.-Nov.(P)
		1	2	3	4	5	6
1 NRI Deposits	151879	144489	162693	162697		7290	12552
1.1 FCNR(B)	25733	21860	31871	32040		2496	6307
1.2 NR(E)RA	98624	96795	100873	100666		2313	3384
1.3 NRO	27522	25834	29949	29992		2480	2860

P: Provisional.

No. 34: Foreign Investment Inflows

(US \$ Million)

Item	2023-24	2023-24	2024-25 (P)	2023	2024 (P)	
		Apr.-Nov.	Apr.-Nov.	Nov.	Oct.	Nov.
		1	2	3	4	5
1.1 Net Foreign Direct Investment (1.1.1-1.1.2)	10129	8502	479	803	-1333	-2629
1.1.1 Direct Investment to India (1.1.1.1-1.1.1.2)	26807	17448	16026	1774	422	-97
1.1.1.1 Gross Inflows/Gross Investments	71279	47193	55645	5090	6778	5373
1.1.1.1.1 Equity	45817	30560	36926	2958	4307	2370
1.1.1.1.1.1 Government (SIA/FIPB)	585	224	600	31	149	72
1.1.1.1.1.2 RBI	31826	19788	25825	1854	3524	1676
1.1.1.1.1.3 Acquisition of shares	12013	9651	9874	952	550	537
1.1.1.1.1.4 Equity capital of unincorporated bodies	1394	897	628	121	85	85
1.1.1.1.2 Reinvested earnings	19768	12717	14877	1718	1996	1996
1.1.1.1.3 Other capital	5694	3917	3842	414	474	1007
1.1.1.2 Repatriation/Disinvestment	44472	29745	39619	3316	6356	5470
1.1.1.2.1 Equity	41334	27476	38012	2924	6234	5088
1.1.1.2.2 Other capital	3137	2269	1608	392	122	382
1.1.2 Foreign Direct Investment by India (1.1.2.1+1.1.2.2+1.1.2.3-1.1.2.4)	16678	8946	15547	971	1755	2532
1.1.2.1 Equity capital	9111	5001	8689	497	841	1020
1.1.2.2 Reinvested Earnings	5786	3857	3992	482	482	482
1.1.2.3 Other Capital	5406	2818	4943	181	614	1230
1.1.2.4 Repatriation/Disinvestment	3624	2730	2077	189	181	200
1.2 Net Portfolio Investment (1.2.1+1.2.2+1.2.3-1.2.4)	44081	23134	7540	4198	-10876	-2379
1.2.1 GDRs/ADRs	-	-	-	-	-	-
1.2.2 FIIs	44626	23605	7341	4084	-10975	-2396
1.2.3 Offshore funds and others	-	-	-	-	-	-
1.2.4 Portfolio investment by India	544	471	-199	-114	-99	-17
1 Foreign Investment Inflows	54210	31636	8019	5001	-12209	-5007

P: Provisional

No. 35: Outward Remittances under the Liberalised Remittance Scheme (LRS) for Resident Individuals

(US \$ Million)

Item	2023-24	2023	2024		
		Nov.	Sep.	Oct.	Nov.
		1	2	3	4
1 Outward Remittances under the LRS	31735.74	1878.67	2758.25	2408.01	1946.43
1.1 Deposit	916.45	25.19	43.00	39.06	40.21
1.2 Purchase of immovable property	242.51	10.31	25.47	24.96	23.53
1.3 Investment in equity/debt	1510.89	41.30	135.08	149.34	85.79
1.4 Gift	3580.27	181.55	221.67	216.30	216.51
1.5 Donations	11.31	0.54	0.87	0.66	0.62
1.6 Travel	17006.27	1180.42	1713.06	1454.66	1113.78
1.7 Maintenance of close relatives	4611.53	206.63	281.24	283.75	276.78
1.8 Medical Treatment	79.62	8.02	7.89	8.49	7.49
1.9 Studies Abroad	3478.65	207.55	320.10	221.18	172.40
1.10 Others	298.23	17.15	9.88	9.62	9.32

**No. 36: Indices of Nominal Effective Exchange Rate (NEER) and
Real Effective Exchange Rate (REER) of the Indian Rupee**

Item	2022-23	2023-24	2023	2024	
			Dec	Nov	Dec
	1	2	3	4	5
40-Currency Basket (Base: 2015-16=100)					
1 Trade-Weighted					
1.1 NEER	91.20	90.73	90.22	91.80	91.76
1.2 REER	102.78	103.70	103.50	108.13	107.20
2 Export-Weighted					
2.1 NEER	93.01	93.11	92.74	94.24	94.09
2.2 REER	101.10	101.21	101.11	104.99	104.00
6-Currency Basket (Trade-weighted)					
1 Base : 2015-16 =100					
1.1 NEER	85.93	83.62	82.88	82.79	82.78
1.2 REER	101.80	101.66	101.62	105.48	104.76
2 Base : 2022-23 =100					
2.1 NEER	100.00	97.31	96.45	96.35	96.33
2.2 REER	100.00	99.86	99.82	103.61	102.91

Note: Data for 2023-24 and 2024-25 so far is provisional.

No. 37: External Commercial Borrowings (ECBs) – Registrations

(Amount in US \$ Million)

Item	2023-24	2023		2024	
		Nov.	Oct.	Nov.	Nov.
		1	2	3	4
1 Automatic Route					
1.1 Number	1188	64	135	82	
1.2 Amount	29461	1146	5029	1398	
2 Approval Route					
2.1 Number	33	0	1	4	
2.2 Amount	19748	0	470	1435	
3 Total (1+2)					
3.1 Number	1221	64	136	86	
3.2 Amount	49209	1146	5499	2833	
4 Weighted Average Maturity (in years)	5.60	4.50	6.70	5.80	
5 Interest Rate (per cent)					
5.1 Weighted Average Margin over alternative reference rate (ARR) for Floating Rate Loans@	1.66	1.61	1.58	1.18	
5.2 Interest rate range for Fixed Rate Loans	0.00-27.00	0.00-11.80	0.00-11.00	0.00-11.00	

Borrower Category

I. Corporate Manufacturing	15836	502	926	1419
II. Corporate-Infrastructure	15916	163	2941	372
a.) Transport	1505	120	200	0
b.) Energy	3513	0	1449	60
c.) Water and Sanitation	33	0	1	0
d.) Communication	6309	0	0	0
e.) Social and Commercial Infrastructure	115	30	63	0
f.) Exploration,Mining and Refinery	2480	5	850	312
g.) Other Sub-Sectors	1961	8	378	0
III. Corporate Service-Sector	1526	87	86	256
IV. Other Entities	1728	0	0	0
a.) units in SEZ	1	0	0	0
b.) SIDBI	0	0	0	0
c.) Exim Bank	1727	0	0	0
V. Banks	0	0	0	0
VI. Financial Institution (Other than NBFC)	20	0	0	0
VII. NBFCs	13361	379	1436	743
a). NBFC- IFC/AFC	7734	103	285	75
b). NBFC-MFI	531	0	120	0
c). NBFC-Others	5096	276	1031	668
VIII. Non-Government Organization (NGO)	0	0	0	0
IX. Micro Finance Institution (MFI)	0	0	0	0
X. Others	822	15	110	43

Note: Based on applications for ECB/Foreign Currency Convertible Bonds (FCCBs) which have been allotted loan registration number during the period.

@ With effect from July 01, 2023, the benchmark rate is changed to Alternative Reference Rate (ARR)

No. 38: India's Overall Balance of Payments

(US\$ Million)

Item	Jul-Sep 2023			Jul-Sep 2024 (P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
Overall Balance Of Payments (1+2+3)	438441	435922	2519	553557	534943	18614
1 Current Account (1.1+ 1.2)	231670	242956	-11286	245671	256854	-11182
1.1 Merchandise	108254	172799	-64544	103967	179285	-75319
1.2 Invisibles (1.2.1+1.2.2+1.2.3)	123416	70158	53258	141705	77568	64137
1.2.1 Services	83352	43411	39940	93493	48943	44550
1.2.1.1 Travel	7482	8662	-1180	7635	9367	-1732
1.2.1.2 Transportation	7054	7277	-223	8792	9188	-396
1.2.1.3 Insurance	828	821	7	902	786	116
1.2.1.4 G.n.i.e.	140	244	-104	147	316	-169
1.2.1.5 Miscellaneous	67848	26408	41440	76017	29287	46730
1.2.1.5.1 Software Services	39570	4333	35237	44164	4539	39624
1.2.1.5.2 Business Services	21472	13673	7799	25176	15548	9628
1.2.1.5.3 Financial Services	2069	1183	887	2190	1265	926
1.2.1.5.4 Communication Services	887	365	522	519	497	21
1.2.2 Transfers	28147	3221	24926	31938	2829	29109
1.2.2.1 Official	23	267	-244	28	265	-237
1.2.2.2 Private	28124	2954	25170	31910	2564	29346
1.2.3 Income	11917	23526	-11608	16274	25796	-9522
1.2.3.1 Investment Income	10158	22609	-12451	14279	24774	-10494
1.2.3.2 Compensation of Employees	1760	917	843	1995	1023	972
2 Capital Account (2.1+2.2+2.3+2.4+2.5)	205807	192966	12841	307885	277368	30518
2.1 Foreign Investment (2.1.1+2.1.2)	128572	124460	4112	203323	185710	17612
2.1.1 Foreign Direct Investment	16586	17420	-834	21214	23452	-2238
2.1.1.1 In India	15722	12686	3036	20666	15622	5044
2.1.1.1.1 Equity	9877	12278	-2401	13847	15016	-1169
2.1.1.1.2 Reinvested Earnings	4740		4740	5559		5559
2.1.1.1.3 Other Capital	1105	409	697	1261	606	655
2.1.1.2 Abroad	864	4734	-3870	548	7830	-7282
2.1.1.2.1 Equity	864	1683	-820	548	4313	-3765
2.1.1.2.2 Reinvested Earnings	0	1446	-1446	0	1514	-1514
2.1.1.2.3 Other Capital	0	1604	-1604	0	2003	-2003
2.1.2 Portfolio Investment	111986	107040	4947	182108	162258	19850
2.1.2.1 In India	111127	105841	5286	181433	161618	19815
2.1.2.1.1 FIIs	111127	105841	5286	181433	161618	19815
2.1.2.1.1.1 Equity	101529	97937	3593	160273	149590	10683
2.1.2.1.1.2 Debt	9598	7905	1693	21160	12028	9132
2.1.2.2 Abroad	0	0	0	0	0	0
2.1.2.2 ADR/GDRs	859	1198	-339	675	640	35
2.2 Loans (2.2.1+2.2.2+2.2.3)	29728	26453	3274	38662	31126	7536
2.2.1 External Assistance	2601	1800	802	3727	1581	2146
2.2.1.1 By India	9	49	-40	8	30	-22
2.2.1.2 To India	2592	1751	842	3720	1551	2168
2.2.2 Commercial Borrowings	7464	10422	-2958	17443	15416	2027
2.2.2.1 By India	2853	3926	-1073	5059	8028	-2969
2.2.2.2 To India	4612	6496	-1884	12384	7388	4996
2.2.3 Short Term to India	19662	14232	5430	17492	14129	3363
2.2.3.1 Buyers' credit & Suppliers' Credit >180 days	17632	14232	3400	14817	14129	688
2.2.3.2 Suppliers' Credit up to 180 days	2030	0	2030	2675	0	2675
2.3 Banking Capital (2.3.1+2.3.2)	34020	29686	4333	52432	46345	6087
2.3.1 Commercial Banks	34020	29614	4405	52112	46345	5767
2.3.1.1 Assets	8673	11210	-2538	17627	18853	-1226
2.3.1.2 Liabilities	25347	18404	6943	34485	27492	6993
2.3.1.2.1 Non-Resident Deposits	21257	18048	3209	28921	22753	6167
2.3.2 Others	0	72	-72	319	0	319
2.4 Rupee Debt Service	0	1	-1	0	2	-2
2.5 Other Capital	13488	12365	1123	13469	14184	-716
3 Errors & Omissions	963	0	963	0	722	-722
4 Monetary Movements (4.1+ 4.2)	0	2519	-2519	0	18614	-18614
4.1 I.M.F.	0	0	0	0	0	0
4.2 Foreign Exchange Reserves (Increase - / Decrease +)	0	2519	-2519	0	18614	-18614

Note: P: Preliminary.

No. 39: India's Overall Balance of Payments

(₹ Crore)

Item	Jul-Sep 2023			Jul-Sep 2024 (P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
Overall Balance Of Payments (1+2+3)	3624220	3603401	20819	4636946	4481027	155919
1 Current Account (1.1+ 1.2)	1915021	2008316	-93295	2057901	2151571	-93670
1.1 Merchandise	894849	1428380	-53531	870890	1501809	-630919
1.2 Invisibles (1.2.1+1.2.2+1.2.3)	1020172	579936	440236	1187011	649762	537249
1.2.1 Services	688997	358846	330151	783157	409979	373178
1.2.1.1 Travel	61845	71601	-9756	63958	78464	-14506
1.2.1.2 Transportation	58311	60151	-1840	73649	76965	-3316
1.2.1.3 Insurance	6842	6785	57	7553	6581	972
1.2.1.4 G.n.i.e.	1154	2018	-863	1228	2643	-1415
1.2.1.5 Miscellaneous	560846	218292	342554	636769	245326	391443
1.2.1.5.1 Software Services	327091	35818	291272	369945	38026	331920
1.2.1.5.2 Business Services	177488	113019	64469	210894	130244	80650
1.2.1.5.3 Financial Services	17106	9777	7329	18349	10595	7754
1.2.1.5.4 Communication Services	7334	3015	4319	4345	4167	177
1.2.2 Transfers	232665	26623	206042	267531	23696	243835
1.2.2.1 Official	189	2206	-2018	232	2218	-1985
1.2.2.2 Private	232476	24416	208060	267298	21478	245821
1.2.3 Income	98510	194468	-95957	136323	216087	-79763
1.2.3.1 Investment Income	83966	186888	-102922	119611	207519	-87908
1.2.3.2 Compensation of Employees	14544	7579	6965	16712	8568	8145
2 Capital Account (2.1+2.2+2.3+2.4+2.5)	1701234	1595084	106150	2579045	2323409	255635
2.1 Foreign Investment (2.1.1+2.1.2)	1062795	1028803	33993	1703161	1555629	147532
2.1.1 Foreign Direct Investment	137100	143996	-6896	177706	196451	-18745
2.1.1.1 In India	129962	104866	25096	173115	130862	42253
2.1.1.1.1 Equity	81644	101488	-19844	115988	125784	-9796
2.1.1.1.2 Reinvested Earnings	39181	0	39181	46563	0	46563
2.1.1.1.3 Other Capital	9137	3378	5759	10564	5078	5486
2.1.1.2 Abroad	7138	39130	-31992	4591	65589	-60998
2.1.1.2.1 Equity	7138	13916	-6778	4591	36128	-31537
2.1.1.2.2 Reinvested Earnings	0	11956	-11956	0	12680	-12680
2.1.1.2.3 Other Capital	0	13258	-13258	0	16780	-16780
2.1.2 Portfolio Investment	925695	884807	40889	1525455	1359178	166277
2.1.2.1 In India	918597	874902	43695	1519799	1353816	165984
2.1.2.1.1 FIIs	918597	874902	43695	1519799	1353816	165984
2.1.2.1.1.1 Equity	839257	809559	29698	1342550	1253064	89486
2.1.2.1.1.2 Debt	79340	65343	13997	177250	100752	76498
2.1.2.1.2 ADR/GDRs	0	0	0	0	0	0
2.1.2.2 Abroad	7099	9905	-2806	5656	5363	293
2.2 Loans (2.2.1+2.2.2+2.2.3)	245733	218667	27066	323859	260732	63127
2.2.1 External Assistance	21502	14877	6626	31222	13242	17979
2.2.1.1 By India	72	404	-331	64	247	-184
2.2.1.2 To India	21430	14473	6957	31158	12995	18163
2.2.2 Commercial Borrowings	61702	86150	-24448	146114	129136	16979
2.2.2.1 By India	23582	32453	-8871	42379	67249	-24870
2.2.2.2 To India	38120	53697	-15577	103735	61887	41849
2.2.3 Short Term to India	162529	117640	44888	146523	118354	28169
2.2.3.1 Buyers' credit & Suppliers' Credit >180 days	145745	117640	28105	124117	118354	5763
2.2.3.2 Suppliers' Credit up to 180 days	16783	0	16783	22406	0	22406
2.3 Banking Capital (2.3.1+2.3.2)	281213	245392	35820	439202	388217	50985
2.3.1 Commercial Banks	281213	244798	36415	436527	388217	48311
2.3.1.1 Assets	71689	92667	-20978	147657	157925	-10268
2.3.1.2 Liabilities	209524	152131	57393	288870	230292	58579
2.3.1.2.1 Non-Resident Deposits	175715	149187	26528	242259	190597	51662
2.3.2 Others	0	594	-594	2675	0	2675
2.4 Rupee Debt Service	0	12	-12	0	15	-15
2.5 Other Capital	111493	102211	9282	112822	118816	-5994
3 Errors & Omissions	7964	0	7964	0	6046	-6046
4 Monetary Movements (4.1+ 4.2)	0	20819	-20819	0	155919	-155919
4.1 I.M.F.	0	0	0	0	0	0
4.2 Foreign Exchange Reserves (Increase - / Decrease +)	0	20819	-20819	0	155919	-155919

Note: P: Preliminary.

No. 40: Standard Presentation of BoP in India as per BPM6

Item	(US\$ Million)					
	Jul-Sep 2023			Jul-Sep 2024 (P)		
	Credit	Debit	Net	Credit	Debit	Net
1 Current Account (1.A+1.B+1.C)	231670	242934	-11264	245671	256828	-11157
1.A Goods and Services (1.A.a+1.A.b)	191606	216210	-24604	197459	228229	-30769
1.A.a Goods (1.A.a.1 to 1.A.a.3)	108254	172799	-64544	103967	179285	-75319
1.A.a.1 General merchandise on a BOP basis	107367	160246	-52879	103981	161701	-57720
1.A.a.2 Net exports of goods under merchanting	888	0	888	-14	0	-14
1.A.a.3 Nonmonetary gold			12553	-12553	17585	-17585
1.A.b Services (1.A.b.1 to 1.A.b.13)	83352	43411	39940	93493	48943	44550
1.A.b.1 Manufacturing services on physical inputs owned by others	283	39	244	276	20	256
1.A.b.2 Maintenance and repair services n.i.e.	56	308	-251	90	263	-172
1.A.b.3 Transport	7054	7277	-223	8792	9188	-396
1.A.b.4 Travel	7482	8662	-1180	7635	9367	-1732
1.A.b.5 Construction	954	677	277	1263	951	312
1.A.b.6 Insurance and pension services	828	821	7	902	786	116
1.A.b.7 Financial services	2069	1183	887	2190	1265	926
1.A.b.8 Charges for the use of intellectual property n.i.e.	422	3341	-2919	448	3877	-3428
1.A.b.9 Telecommunications, computer, and information services	40546	4968	35578	44772	5333	39439
1.A.b.10 Other business services	21472	13673	7799	25176	15548	9628
1.A.b.11 Personal, cultural, and recreational services	1211	2080	-869	1107	1794	-688
1.A.b.12 Government goods and services n.i.e.	140	244	-104	147	316	-169
1.A.b.13 Others n.i.e.	835	140	695	694	237	458
1.B Primary Income (1.B.1 to 1.B.3)	11917	23526	-11608	16274	25796	-9522
1.B.1 Compensation of employees	1760	917	843	1995	1023	972
1.B.2 Investment income	8939	22196	-13257	12849	24336	-11486
1.B.2.1 Direct investment	2322	12281	-9959	2725	13008	-10283
1.B.2.2 Portfolio investment	84	3657	-3573	78	4152	-4074
1.B.2.3 Other investment	520	6040	-5520	1168	6953	-5785
1.B.2.4 Reserve assets	6013	217	5796	8878	223	8655
1.B.3 Other primary income	1219	413	806	1430	438	992
1.C Secondary Income (1.C.1+1.C.2)	28146	3198	24948	31937	2803	29134
1.C.1 Financial corporations, nonfinancial corporations, households, and NPISHs	28124	2954	25170	31910	2564	29346
1.C.1.1 Personal transfers (Current transfers between resident and/non-resident households)	27335	2040	25296	31084	1803	29282
1.C.1.2 Other current transfers	788	914	-126	826	761	64
1.C.2 General government	22	245	-222	27	239	-212
2 Capital Account (2.1+2.2)	151	202	-51	186	192	-6
2.1 Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	9	91	-82	7	68	-61
2.2 Capital transfers	142	110	31	179	124	55
3 Financial Account (3.1 to 3.5)	205657	195305	10352	307700	295815	11885
3.1 Direct Investment (3.1A+3.1B)	16586	17420	-834	21214	23452	-2238
3.1.A Direct Investment in India	15722	12686	3036	20666	15622	5044
3.1.A.1 Equity and investment fund shares	14617	12278	2339	19405	15016	4389
3.1.A.1.1 Equity other than reinvestment of earnings	9877	12278	-2401	13847	15016	-1169
3.1.A.1.2 Reinvestment of earnings	4740		4740	5559		5559
3.1.A.2 Debt instruments	1105	409	697	1261	606	655
3.1.A.2.1 Direct investor in direct investment enterprises	1105	409	697	1261	606	655
3.1.B Direct Investment by India	864	4734	-3870	548	7830	-7282
3.1.B.1 Equity and investment fund shares	864	3130	-2266	548	5827	-5279
3.1.B.1.1 Equity other than reinvestment of earnings	864	1683	-820	548	4313	-3765
3.1.B.1.2 Reinvestment of earnings		1446	-1446		1514	-1514
3.1.B.2 Debt instruments	0	1604	-1604	0	2003	-2003
3.1.B.2.1 Direct investor in direct investment enterprises		1604	-1604		2003	-2003
3.2 Portfolio Investment	111986	107040	4947	182108	162258	19850
3.2.A Portfolio Investment in India	111127	105841	5286	181433	161618	19815
3.2.1 Equity and investment fund shares	101529	97937	3593	160273	149590	10683
3.2.2 Debt securities	9598	7905	1693	21160	12028	9132
3.2.B Portfolio Investment by India	859	1198	-339	675	640	35
3.3 Financial derivatives (other than reserves) and employee stock options	5476	7362	-1887	6359	11892	-5533
3.4 Other investment	71609	60964	10645	98018	79598	18419
3.4.1 Other equity (ADRs/GDRs)	0	0	0	0	0	0
3.4.2 Currency and deposits	21257	18120	3137	29240	22753	6487
3.4.2.1 Central bank (Rupee Debt Movements; NRG)	0	72	-72	319	0	319
3.4.2.2 Deposit-taking corporations, except the central bank (NRI Deposits)	21257	18048	3209	28921	22753	6167
3.4.2.3 General government			0		0	0
3.4.2.4 Other sectors			0		0	0
3.4.3 Loans (External Assistance, ECBs and Banking Capital)	22828	23788	-960	44362	40589	3773
3.4.3.A Loans to India	19967	19813	153	39295	32531	6764
3.4.3.B Loans by India	2862	3975	-1113	5067	8058	-2991
3.4.4 Insurance, pension, and standardized guarantee schemes	144	10	134	47	3	44
3.4.5 Trade credit and advances	19662	14232	5430	17492	14129	3363
3.4.6 Other accounts receivable/payable - other	7718	4814	2903	6877	2124	4753
3.4.7 Special drawing rights	0		0	0	0	0
3.5 Reserve assets	0	2519	-2519	0	18614	-18614
3.5.1 Monetary gold			0		0	0
3.5.2 Special drawing rights n.a.			0		0	0
3.5.3 Reserve position in the IMF n.a.			0		0	0
3.5.4 Other reserve assets (Foreign Currency Assets)	0	2519	-2519	0	18614	-18614
4 Total assets/liabilities	205657	195305	10352	307700	295815	11885
4.1 Equity and investment fund shares	123488	121915	1574	187308	182969	4339
4.2 Debt instruments	74451	66057	8394	113515	92108	21407
4.3 Other financial assets and liabilities	7718	7333	385	6877	20738	-13861
5 Net errors and omissions	963	0	963	0	722	-722

Note: P: Preliminary.

No. 41: Standard Presentation of BoP in India as per BPM6

(₹ Crore)

Item	Jul-Sep 2023			Jul-Sep 2024 (P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
1 Current Account (1.A+1.B+1.C)	1915018	2008132	-93114	2057899	2151355	-93457
1.A Goods and Services (1.A.a+1.A.b)	1583846	1787226	-203380	1654047	1911789	-257742
1.A.a Goods (1.A.a.1 to 1.A.a.3)	894849	1428380	-533531	870890	1501809	-630919
1.A.a.1 General merchandise on a BOP basis	887510	1324618	-437107	871011	1354507	-483496
1.A.a.2 Net exports of goods under merchanting	7339	0	7339	-121	0	-121
1.A.a.3 Nonmonetary gold	0	103763	-103763	0	147303	-147303
1.A.b Services (1.A.b.1 to 1.A.b.13)	688997	358846	330151	783157	409979	373178
1.A.b.1 Manufacturing services on physical inputs owned by others	2339	320	2019	2316	169	2147
1.A.b.2 Maintenance and repair services n.i.e.	465	2544	-2078	755	2199	-1444
1.A.b.3 Transport	58311	60151	-1840	73649	76965	-3316
1.A.b.4 Travel	61845	71601	-9756	63958	78464	-14506
1.A.b.5 Construction	7887	5598	2289	10580	7963	2616
1.A.b.6 Insurance and pension services	6842	6785	57	7553	6581	972
1.A.b.7 Financial services	17106	9777	7329	18349	10595	7754
1.A.b.8 Charges for the use of intellectual property n.i.e.	3485	27618	-24133	3754	32473	-28719
1.A.b.9 Telecommunications, computer, and information services	335161	41064	294097	375037	44672	330366
1.A.b.10 Other business services	177488	113019	64469	210894	130244	80650
1.A.b.11 Personal, cultural, and recreational services	10012	17193	-7180	9269	15029	-5760
1.A.b.12 Government goods and services n.i.e.	1154	2018	-863	1228	2643	-1415
1.A.b.13 Others n.i.e.	6902	1160	5742	5815	1982	3834
1.B Primary Income (1.B.1 to 1.B.3)	98510	194468	-95957	136323	216087	-79763
1.B.1 Compensation of employees	14544	7579	6965	16712	8568	8145
1.B.2 Investment income	73890	183473	-109583	107633	203850	-96217
1.B.2.1 Direct investment	19194	101520	-82327	22828	108966	-86138
1.B.2.2 Portfolio investment	692	30227	-29535	653	34776	-34123
1.B.2.3 Other investment	4298	49928	-45630	9783	58239	-48455
1.B.2.4 Reserve assets	49705	1797	47908	74369	1870	72499
1.B.3 Other primary income	10076	3415	6661	11978	3669	8309
1.C Secondary Income (1.C.1+1.C.2)	232662	26438	206224	267528	23480	244048
1.C.1 Financial corporations, nonfinancial corporations, households, and NPISHs	232476	24416	208060	267298	21478	245821
1.C.1.1 Personal transfers (Current transfers between resident and/non-resident households)	225958	16860	209099	260383	15102	245281
1.C.1.2 Other current transfers	6518	7557	-1039	6915	6376	539
1.C.2 General government	186	2022	-1836	230	2002	-1772
2 Capital Account (2.1+2.2)	1245	1668	-423	1558	1611	-53
2.1 Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	74	755	-680	57	570	-513
2.2 Capital transfers	1170	913	257	1501	1041	460
3 Financial Account (3.1 to 3.5)	1699992	1614420	85572	2577489	2477933	99556
3.1 Direct Investment (3.1A+3.1B)	137100	143996	-6896	177706	196451	-18745
3.1.A Direct Investment in India	129962	104866	25096	173115	130862	42253
3.1.A.1 Equity and investment fund shares	120825	101488	19336	162551	125784	36767
3.1.A.1.1 Equity other than reinvestment of earnings	81644	101488	-19844	115988	125784	-9796
3.1.A.1.2 Reinvestment of earnings	39181	0	39181	46563	0	46563
3.1.A.2 Debt instruments	9137	3378	5759	10564	5078	5486
3.1.A.2.1 Direct investor in direct investment enterprises	9137	3378	5759	10564	5078	5486
3.1.B Direct Investment by India	7138	39130	-31992	4591	65589	-60998
3.1.B.1 Equity and investment fund shares	7138	25872	-18734	4591	48809	-44218
3.1.B.1.1 Equity other than reinvestment of earnings	7138	13916	-6778	4591	36128	-31537
3.1.B.1.2 Reinvestment of earnings	0	11956	-11956	0	12680	-12680
3.1.B.2 Debt instruments	0	13258	-13258	0	16780	-16780
3.1.B.2.1 Direct investor in direct investment enterprises	0	13258	-13258	0	16780	-16780
3.2 Portfolio Investment	925695	884807	40889	1525455	1359178	166277
3.2.A Portfolio Investment in India	918597	874902	43695	1519799	1353816	165984
3.2.1 Equity and investment fund shares	839257	809559	29698	1342550	1253064	89486
3.2.2 Debt securities	79340	65343	13997	177250	100752	76498
3.2.B Portfolio Investment by India	7099	9905	-2806	5656	5363	293
3.3 Financial derivatives (other than reserves) and employee stock options	45263	60858	-15595	53269	99618	-46349
3.4 Other investment	591934	503940	87993	821059	666767	154291
3.4.1 Other equity (ADRs/GDRs)	0	0	0	0	0	0
3.4.2 Currency and deposits	175715	149782	25933	244933	190597	54337
3.4.2.1 Central bank (Rupee Debt Movements; NRG)	0	594	-594	2675	0	2675
3.4.2.2 Deposit-taking corporations, except the central bank (NRI Deposits)	175715	149187	26528	242259	190597	51662
3.4.2.3 General government	0	0	0	0	0	0
3.4.2.4 Other sectors	0	0	0	0	0	0
3.4.3 Loans (External Assistance, ECBs and Banking Capital)	188702	196637	-7935	371605	339998	31607
3.4.3.A Loans to India	165048	163780	1267	329162	272501	56660
3.4.3.B Loans by India	23654	32857	-9202	42443	67497	-25054
3.4.4 Insurance, pension, and standardized guarantee schemes	1194	85	1109	393	25	368
3.4.5 Trade credit and advances	162529	117640	44888	146523	118354	28169
3.4.6 Other accounts receivable/payable - other	63794	39797	23998	57605	17794	39811
3.4.7 Special drawing rights	0	0	0	0	0	0
3.5 Reserve assets	0	20819	-20819	0	155919	-155919
3.5.1 Monetary gold	0	0	0	0	0	0
3.5.2 Special drawing rights n.a.	0	0	0	0	0	0
3.5.3 Reserve position in the IMF n.a.	0	0	0	0	0	0
3.5.4 Other reserve assets (Foreign Currency Assets)	0	20819	-20819	0	155919	-155919
4 Total assets/liabilities	1699992	1614420	85572	2577489	2477933	99556
4.1 Equity and investment fund shares	1020775	1007766	13008	1569010	1532662	36348
4.2 Debt instruments	615423	546038	69385	950874	771559	179316
4.3 Other financial assets and liabilities	63794	60616	3179	57605	173712	-116108
5 Net errors and omissions	7964	0	7964	0	6046	-6046

Note: P: Preliminary.

No. 42: India's International Investment Position

(US\$ Million)

Item	As on Financial Year/Quarter End							
	2023-24		2023		2024			
			Sep.		Jun.		Sep.	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	1	2	3	4	5	6	7	8
1. Direct investment Abroad/in India	242271	542931	232097	528679	246248	552865	253530	555484
1.1 Equity Capital*	153343	511142	146159	497612	156225	520706	161504	523010
1.2 Other Capital	88927	31789	85938	31067	90023	32160	92026	32474
2. Portfolio investment	12162	277038	12096	259358	12103	277140	12306	293649
2.1 Equity	10644	162061	8974	154634	10367	160898	10983	170934
2.2 Debt	1517	114977	3122	104723	1736	116242	1323	122715
3. Other investment	132654	575068	120311	546182	140952	589624	146190	617176
3.1 Trade credit	33450	123662	30854	124733	32865	126576	32428	129931
3.2 Loan	17547	221738	11962	208669	20803	224823	22147	240166
3.3 Currency and Deposits	53519	154787	45711	146166	57747	160628	56105	164076
3.4 Other Assets/Liabilities	28138	74880	31784	66615	29537	77597	35510	83002
4. Reserves	646419		587714		651997		705782	
5. Total Assets/ Liabilities	1033505	1395036	952218	1334219	1051300	1419629	1117808	1466309
6. Net IIP (Assets - Liabilities)	-361531		-382001		-368329		-348501	

Note: * Equity capital includes share of investment funds and reinvested earnings.

Payment and Settlement Systems

No.43: Payment System Indicators

PART I - Payment System Indicators - Payment & Settlement System Statistics

System	Volume (Lakh)				Value (₹ Crore)					
	FY 2023-24	2023		2024		FY 2023-24	2023		2024	
		Nov.	Oct.	Nov.	Nov.		Oct.	Nov.	Nov.	
	1	-2	-1	0	5	2	3	4		
A. Settlement Systems										
Financial Market Infrastructures (FMIs)										
1 CCIL Operated Systems (1.1 to 1.3)	43.04	3.08	3.59	2.61	259206893	21011085	25730864	20592498		
1.1 Govt. Securities Clearing (1.1.1 to 1.1.3)	16.80	1.24	1.69	1.10	170464587	13568124	16664120	13954925		
1.1.1 Outright	9.51	0.64	1.04	0.54	13463848	939382	1626397	847485		
1.1.2 Repo	4.94	0.41	0.41	0.35	76718788	5919154	6573748	5366007		
1.1.3 Tri-party Repo	2.35	0.19	0.23	0.20	80281951	6709589	8463975	7741434		
1.2 Forex Clearing	24.92	1.74	1.74	1.40	80984671	6922315	8046345	5972544		
1.3 Rupee Derivatives @	1.31	0.10	0.16	0.11	7757636	520645	1020399	665029		
B. Payment Systems										
I Financial Market Infrastructures (FMIs)										
1 Credit Transfers - RTGS (1.1 to 1.2)	2700.16	219.20	267.92	240.29	170886670	13591443	17070975	14826882		
1.1 Customer Transactions	2686.04	218.05	266.69	239.16	152406168	12078797	15418778	13504833		
1.2 Interbank Transactions	14.12	1.15	1.23	1.12	18480503	1512645	1652197	1322050		
II Retail										
2 Credit Transfers - Retail (2.1 to 2.6)	1486106.89	128072.73	185187.17	170358.50	67542859	5673303	7358283	6274182		
2.1 AePS (Fund Transfers) @	3.92	0.30	0.31	0.30	261	19	17	14		
2.2 APBS \$	25888.17	3221.01	4021.91	2250.97	390743	47635	69157	32384		
2.3 IMPS	60053.35	4723.84	4668.23	4079.18	6495652	535002	629382	558328		
2.4 NACH Cr \$	16227.27	1380.65	1463.68	1438.33	1525104	142415	157479	147385		
2.5 NEFT	72639.50	6394.01	9183.38	7769.51	39136014	3208491	4152428	3380884		
2.6 UPI @	1311294.68	112352.92	165849.66	154820.21	19995086	1739741	2349821	2155187		
2.6.1 of which USSD @	26.19	2.69	1.64	1.56	352	37	18	16		
3 Debit Transfers and Direct Debits (3.1 to 3.3)	18249.53	1527.84	1871.73	1894.74	1687658	142456	189818	185643		
3.1 BHIM Aadhaar Pay @	193.59	18.82	24.54	19.29	6112	590	773	629		
3.2 NACH Dr \$	16426.49	1376.66	1710.21	1732.94	1678769	141646	188844	184814		
3.3 NETC (linked to bank account) @	1629.45	132.36	136.98	142.51	2777	220	202	200		
4 Card Payments (4.1 to 4.2)	58469.79	4742.56	5762.99	5171.02	2423563	210038	248709	208387		
4.1 Credit Cards (4.1.1 to 4.1.2)	35610.15	2970.90	4332.14	3936.04	1831134	160644	201789	169298		
4.1.1 PoS based \$	18614.08	1583.66	2196.73	2036.02	651911	59015	79293	68233		
4.1.2 Others \$	16996.08	1387.24	2135.41	1900.02	1179223	101629	122496	101065		
4.2 Debit Cards (4.2.1 to 4.2.1)	22859.64	1771.66	1430.85	1234.98	592429	49394	46920	39089		
4.2.1 PoS based \$	16477.95	1301.95	1063.85	919.33	393589	34379	32182	26756		
4.2.2 Others \$	6381.69	469.71	367.00	315.65	198840	15015	14738	12333		
5 Prepaid Payment Instruments (5.1 to 5.2)	78775.40	6510.09	5977.88	5847.81	283048	24248	20419	19214		
5.1 Wallets	63256.69	5308.63	4425.20	4462.09	234353	19853	13074	13130		
5.2 Cards (5.2.1 to 5.2.2)	15518.71	1201.46	1552.68	1385.72	48695	4394	7345	6083		
5.2.1 PoS based \$	8429.87	662.14	718.88	663.27	11247	891	981	915		
5.2.2 Others \$	7088.84	539.32	833.81	722.45	37447	3504	6365	5168		
6 Paper-based Instruments (6.1 to 6.2)	6632.10	525.55	546.98	472.48	7212333	558866	624057	537849		
6.1 CTS (NPCI Managed)	6632.10	525.55	546.98	472.48	7212333	558866	624057	537849		
6.2 Others	0.00	—	—	—	—	—	—	—		
Total - Retail Payments (2+3+4+5+6)	1648233.71	141378.76	199346.75	183744.55	79149461	6608910	8441287	7225275		
Total Payments (1+2+3+4+5+6)	1650933.88	141597.96	199614.67	183984.84	250036131	20200353	25512262	22052158		
Total Digital Payments (1+2+3+4+5)	1644301.78	141072.41	199067.69	183512.36	242823799	19641487	24888205	21514309		

CURRENT STATISTICS

PART II - Payment Modes and Channels

System	Volume (Lakh)				Value (₹ Crore)					
	FY 2023-24	2023		2024		FY 2023-24	2023		2024	
		Nov.	Oct.	Nov.	Nov.		Oct.	Nov.	Nov.	
	1	2	3	4	5	6	7	8		
A. Other Payment Channels										
1 Mobile Payments (mobile app based) (1.1 to 1.2)	1252599.21	108646.12	154874.97	144939.48	30687088	2646783	3532207	3215469		
1.1 Intra-bank \$	83000.56	6927.98	9126.57	8518.56	5676805	478326	657333	598558		
1.2 Inter-bank \$	1169598.65	101718.14	145748.39	136420.92	25010283	2168458	2874874	2616911		
2 Internet Payments (Netbanking / Internet Browser Based) @ (2.1 to 2.2)	45034.98	3622.58	4232.23	3624.01	102117736	8033440	10303412	9002230		
2.1 Intra-bank @	12033.28	988.62	1151.19	1024.09	53247042	4130936	5085518	4483631		
2.2 Inter-bank @	33001.71	2633.96	3081.04	2599.92	48870694	3902504	5217894	4518598		
B. ATMs										
3 Cash Withdrawal at ATMs \$ (3.1 to 3.3)	66440.72	5542.64	5545.04	4760.71	3259388	276530	285506	241717		
3.1 Using Credit Cards \$	95.80	7.89	8.32	7.75	4648	391	444	410		
3.2 Using Debit Cards \$	66001.01	5505.75	5515.23	4734.61	3241538	275032	284076	240471		
3.3 Using Pre-paid Cards \$	343.90	28.99	21.49	18.35	13202	1107	985	837		
4 Cash Withdrawal at PoS \$ (4.1 to 4.2)	15.18	0.75	0.29	0.28	148	7	3	3		
4.1 Using Debit Cards \$	15.06	0.75	0.28	0.27	147	7	3	3		
4.2 Using Pre-paid Cards \$	0.12	0.01	0.01	0.02	1	0	0	0		
5 Cash Withdrawal at Micro ATMs @	11754.95	1079.59	1227.30	898.33	314003	28972	31480	22981		
5.1 AePS @	11754.95	1079.59	1227.30	898.33	314003	28972	31480	22981		

PART III - Payment Infrastructures (Lakh)

System	As on March 2024	2023		2024	
		Nov.		Oct.	Nov.
		1	2	3	4
Payment System Infrastructures					
1 Number of Cards (1.1 to 1.2)	10667.22	10725.71	11017.88	11008.78	
1.1 Credit Cards	1018.03	960.01	1068.90	1072.40	
1.2 Debit Cards	9649.19	9765.69	9948.98	9936.38	
2 Number of PPIs @ (2.1 to 2.2)	16743.63	16944.31	15503.27	15624.08	
2.1 Wallets @	13381.80	13758.21	11439.31	11460.53	
2.2 Cards @	3361.82	3186.10	4063.95	4163.55	
3 Number of ATMs (3.1 to 3.2)	2.58	2.58	2.56	2.55	
3.1 Bank owned ATMs \$	2.23	2.24	2.21	2.20	
3.2 White Label ATMs \$	0.35	0.34	0.35	0.35	
4 Number of Micro ATMs @	17.55	15.87	14.43	14.43	
5 Number of PoS Terminals	89.03	84.32	95.09	96.91	
6 Bharat QR @	62.50	58.74	64.31	63.60	
7 UPI QR *	3434.93	3087.39	6167.67	6260.92	

@: New inclusion w.e.f. November 2019

#: Data reported by Co-operative Banks, LABs and RRBs included with effect from December 2021.

\$: Inclusion separately initiated from November 2019 - would have been part of other items hitherto.

*: New inclusion w.e.f. September 2020; Includes only static UPI QR Code

Note : 1. Data is provisional.

2. ECS (Debit and Credit) has been merged with NACH with effect from January 31, 2020.

3. The data from November 2019 onwards for card payments (Debit/Credit cards) and Prepaid Payment Instruments (PPIs) may not be comparable with earlier months/ periods, as more granular data is being published along with revision in data definitions.

4. Only domestic financial transactions are considered. The new format captures e-commerce transactions; transactions using FASTags, digital bill payments and card-to-card transfer through ATMs, etc. Also, failed transactions, chargebacks, reversals, expired cards/ wallets, are excluded.

Part I-A. Settlement systems

1.1.3: Tri- party Repo under the securities segment has been operationalised from November 05, 2018.

Part I-B. Payments systems

4.1.2: 'Others' includes e-commerce transactions and digital bill payments through ATMs, etc.

4.2.2: 'Others' includes e-commerce transactions, card to card transfers and digital bill payments through ATMs, etc.

5. Available from December 2010

5.1: includes purchase of goods and services and fund transfer through wallets.

5.2.2: includes usage of PPI Cards for online transactions and other transactions.

6.1: Pertain to three grids – Mumbai, New Delhi and Chennai.

6.2: 'Others' comprises of Non-MICR transactions which pertains to clearing houses managed by 21 banks.

Part II-A. Other payment channels

1: Mobile Payments –

o Include transactions done through mobile apps of banks and UPI apps.

o The data from July 2017 includes only individual payments and corporate payments initiated, processed, and authorised using mobile device. Other corporate payments which are not initiated, processed, and authorised using mobile device are excluded.

2: Internet Payments – includes only e-commerce transactions through 'netbanking' and any financial transaction using internet banking website of the bank.

Part II-B. ATMs

3.3 and 4.2: only relates to transactions using bank issued PPIs.

Part III. Payment systems infrastructure

3: Includes ATMs deployed by Scheduled Commercial Banks (SCBs) and White Label ATM Operators (WLAs). WLAs are included from April 2014 onwards.

Occasional Series

No. 44: Small Savings

(₹ Crore)

Scheme		2023-24	2023		2024	
			Oct.	Aug.	Sep.	Oct.
			1	2	3	4
1 Small Savings			Receipts	232460	12669	12130
			Outstanding	1865029	1759706	1940611
1.1 Total Deposits			Receipts	161344	8731	9998
			Outstanding	1298795	1225055	1361210
1.1.1 Post Office Saving Bank Deposits			Receipts	17229	-160	-205
			Outstanding	191692	211136	199017
1.1.2 Sukanya Samriddhi Yojna			Receipts	35174	1594	2005
			Outstanding	157611	101021	169154
1.1.3 National Saving Scheme, 1987			Receipts	0	0	0
			Outstanding	0	0	0
1.1.4 National Saving Scheme, 1992			Receipts	0	0	0
			Outstanding	0	0	0
1.1.5 Monthly Income Scheme			Receipts	26696	1614	1710
			Outstanding	269007	259995	278161
1.1.6 Senior Citizen Scheme 2004			Receipts	38167	2382	2436
			Outstanding	175472	164570	187824
1.1.7 Post Office Time Deposits			Receipts	25341	1762	3052
			Outstanding	305776	293588	322122
1.1.7.1 1 year Time Deposits			Outstanding	140423	132337	152099
1.1.7.2 2 year Time Deposits			Outstanding	11967	10842	13491
1.1.7.3 3 year Time Deposits			Outstanding	8932	8317	9773
1.1.7.4 5 year Time Deposits			Outstanding	144454	142092	146759
1.1.8 Post Office Recurring Deposits			Receipts	18713	1561	1005
			Outstanding	197134	192875	202963
1.1.9 Post Office Cumulative Time Deposits			Receipts	0	0	0
			Outstanding	0	0	0
1.1.10 Other Deposits			Receipts	8	-23	-6
			Outstanding	1754	1530	1617
1.1.11 PM Care for children			Receipts	16	1	1
			Outstanding	349	340	352
1.2 Saving Certificates			Receipts	56069	3756	1788
			Outstanding	418021	400056	431065
1.2.1 National Savings Certificate VIII issue			Receipts	16853	1074	1180
			Outstanding	183905	174881	190261
1.2.2 Indira Vikas Patras			Receipts	0	0	0
			Outstanding	0	0	0
1.2.3 Kisan Vikas Patras			Receipts	0	0	0
			Outstanding	0	0	0
1.2.4 Kisan Vikas Patras - 2014			Receipts	20939	1419	-174
			Outstanding	220560	213406	225184
1.2.5 National Saving Certificate VI issue			Receipts	0	0	0
			Outstanding	0	0	0
1.2.6 National Saving Certificate VII issue			Receipts	0	0	0
			Outstanding	0	0	0
1.2.7 M.S. Certificates			Receipts	18277	1263	782
			Outstanding	18277	12717	22543
1.2.8 Other Certificates			Outstanding	-4721	-948	-6923
1.3 Public Provident Fund			Receipts	15047	182	344
			Outstanding	148213	134595	148336

Note : Data on receipts from April 2017 are net receipts, i.e., gross receipt minus gross payment.

Source: Accountant General, Post and Telegraphs.

No. 45 : Ownership Pattern of Central and State Governments Securities

(Per cent)

Category	Central Government Dated Securities				
	2023		2024		
	Sep.	Dec.	Mar.	Jun.	Sep.
	1	2	3	4	5
(A) Total (in ₹. Crore)	10383607	10538792	10740389	10946860	11271589
1 Commercial Banks	37.96	37.55	37.66	37.52	37.55
2 Co-operative Banks	1.52	1.49	1.47	1.42	1.35
3 Non-Bank PDs	0.66	0.67	0.66	0.70	0.77
4 Insurance Companies	26.05	26.16	25.98	26.11	25.95
5 Mutual Funds	3.02	3.03	2.90	2.87	3.14
6 Provident Funds	4.42	4.57	4.47	4.41	4.25
7 Pension Funds	4.32	4.44	4.52	4.74	4.86
8 Financial Institutions	0.54	0.55	0.55	0.57	0.63
9 Corporates	1.21	1.33	1.35	1.44	1.60
10 Foreign Portfolio Investors	1.61	1.92	2.34	2.34	2.80
11 RBI	13.06	12.54	12.31	11.92	11.16
12 Others	5.64	5.74	5.79	5.97	5.92
12.1 State Governments	2.04	2.07	2.04	2.13	2.19

Category	State Governments Securities				
	2023		2024		
	Sep.	Dec.	Mar.	Jun.	Sep.
	1	2	3	4	5
(B) Total (in ₹. Crore)	5161642	5338587	5646219	5727482	5909490
1 Commercial Banks	33.87	33.90	34.14	33.85	34.39
2 Co-operative Banks	3.60	3.53	3.39	3.38	3.29
3 Non-Bank PDs	0.61	0.63	0.60	0.59	0.60
4 Insurance Companies	26.97	26.64	26.14	25.85	25.56
5 Mutual Funds	1.86	2.00	2.09	2.08	1.93
6 Provident Funds	21.70	22.00	22.35	22.94	23.02
7 Pension Funds	4.82	4.56	4.76	4.87	4.87
8 Financial Institutions	1.65	1.63	1.59	1.58	1.57
9 Corporates	1.87	2.03	2.02	2.03	1.95
10 Foreign Portfolio Investors	0.02	0.03	0.07	0.05	0.04
11 RBI	0.69	0.66	0.63	0.62	0.60
12 Others	2.34	2.37	2.20	2.17	2.18
12.1 State Governments	0.27	0.27	0.25	0.26	0.26

Category	Treasury Bills				
	2023		2024		
	Sep.	Dec.	Mar.	Jun.	Sep.
	1	2	3	4	5
(C) Total (in ₹. Crore)	925317	849151	871662	858193	747242
1 Commercial Banks	56.35	57.18	58.53	47.79	44.74
2 Co-operative Banks	1.20	1.28	1.67	1.49	1.58
3 Non-Bank PDs	0.54	1.70	1.66	2.69	2.28
4 Insurance Companies	5.26	5.50	5.06	5.78	5.26
5 Mutual Funds	12.74	11.21	11.89	14.50	15.06
6 Provident Funds	1.52	0.08	0.15	0.60	0.26
7 Pension Funds	0.01	0.00	0.01	0.00	0.00
8 Financial Institutions	4.10	5.34	7.16	6.56	6.36
9 Corporates	4.00	4.58	4.50	4.79	4.66
10 Foreign Portfolio Investors	0.10	0.07	0.01	0.20	0.15
11 RBI	0.00	0.00	0.00	0.00	0.00
12 Others	14.17	13.06	9.36	15.59	19.65
12.1 State Governments	11.36	9.26	5.88	11.55	14.95

Note:

The table format is revised since monthly Bulletin for the month of June 2023.

Central Government Dated Securities include special securities and Sovereign Gold Bonds.

State Government Securities include special bonds issued under Ujwal DISCOM Assurance Yojana (UDAY).

Bank PDs are clubbed under Commercial Banks.

The category 'Others' comprises State Governments, DICGC, PSUs, Trusts, Foreign Central Banks, HUF/ Individuals etc.

Data since September 2023 includes the impact of the merger of a non-bank with a bank.

No. 46: Combined Receipts and Disbursements of the Central and State Governments

Item	(₹ Crore)					
	2019-20 1	2020-21 2	2021-22 3	2022-23 4	2023-24 RE 5	2024-25 BE 6
1 Total Disbursements	5410887	6353359	7098451	7880522	9110725	9800798
1.1 Developmental	3074492	3823423	4189146	4701611	5514584	5862996
1.1.1 Revenue	2446605	3150221	3255207	3574503	3965270	4195108
1.1.2 Capital	588233	550358	861777	1042159	1453849	1526993
1.1.3 Loans	39654	122844	72163	84949	95464	140895
1.2 Non-Developmental	2253027	2442941	2810388	3069896	3467270	3800321
1.2.1 Revenue	2109629	2271637	2602750	2895864	3266628	3537378
1.2.1.1 Interest Payments	955801	1060602	1226672	1377807	1562660	1711972
1.2.2 Capital	141457	169155	175519	171131	196073	259346
1.2.3 Loans	1941	2148	32119	2902	4569	3597
1.3 Others	83368	86995	98916	109015	128871	137481
2 Total Receipts	5734166	6397162	7156342	7855370	9054999	9650488
2.1 Revenue Receipts	3851563	3688030	4823821	5447913	6379349	7209647
2.1.1 Tax Receipts	3231582	3193390	4160414	4809044	5456913	6142276
2.1.1.1 Taxes on commodities and services	2012578	2076013	2626553	2865550	3248450	3631569
2.1.1.2 Taxes on Income and Property	1216203	1114805	1530636	1939550	2204462	2506181
2.1.1.3 Taxes of Union Territories (Without Legislature)	2800	2572	3225	3943	4001	4526
2.1.2 Non-Tax Receipts	619981	494640	663407	638870	922436	1067371
2.1.2.1 Interest Receipts	31137	33448	35250	42975	49552	57273
2.2 Non-debt Capital Receipts	110094	64994	44077	62716	86733	118239
2.2.1 Recovery of Loans & Advances	59515	16951	27665	15970	55895	45125
2.2.2 Disinvestment proceeds	50578	48044	16412	46746	30839	73114
3 Gross Fiscal Deficit [1 - (2.1 + 2.2)]	1449230	2600335	2230553	2369892	2644642	2472912
3A Sources of Financing: Institution-wise						
3A.1 Domestic Financing	1440548	2530155	2194406	2332768	2619811	2456959
3A.1.1 Net Bank Credit to Government	571872	890012	627255	687904	346483	...
3A.1.1.1 Net RBI Credit to Government	190241	107493	350911	529	-257913	...
3A.1.2 Non-Bank Credit to Government	868676	1640143	1567151	1644864	2273328	...
3A.2 External Financing	8682	70180	36147	37124	24832	15952
3B Sources of Financing: Instrument-wise						
3B.1 Domestic Financing	1440548	2530155	2194406	2332768	2619811	2456959
3B.1.1 Market Borrowings (net)	971378	1696012	1213169	1651076	1962969	1983757
3B.1.2 Small Savings (net)	209232	458801	526693	358764	434151	447511
3B.1.3 State Provident Funds (net)	38280	41273	28100	13880	21386	19857
3B.1.4 Reserve Funds	10411	4545	42153	68803	52385	-33653
3B.1.5 Deposits and Advances	-14227	25682	42203	51989	35819	-10138
3B.1.6 Cash Balances	-323279	-43802	-57891	25152	55726	150310
3B.1.7 Others	548753	347643	399980	163104	57374	-100684
3B.2 External Financing	8682	70180	36147	37124	24832	15952
4 Total Disbursements as per cent of GDP	26.9	32.0	30.1	29.2	30.8	30.0
5 Total Receipts as per cent of GDP	28.5	32.2	30.3	29.1	30.7	29.6
6 Revenue Receipts as per cent of GDP	19.2	18.6	20.4	20.2	21.6	22.1
7 Tax Receipts as per cent of GDP	16.1	16.1	17.6	17.8	18.5	18.8
8 Gross Fiscal Deficit as per cent of GDP	7.2	13.1	9.5	8.8	9.0	7.6

... : Not available; RE: Revised Estimates; BE: Budget Estimates

Source : Budget Documents of Central and State Governments.

Note: GDP data is based on 2011-12 base. GDP for 2024-25 is from Union Budget 2024-25.

Data pertains to all States and Union Territories.

1 & 2: Data are net of repayments of the Central Government (including repayments to the NSSF) and State Governments.

1.3: Represents compensation and assignments by States to local bodies and Panchayati Raj institutions.

2: Data are net of variation in cash balances of the Central and State Governments and includes borrowing receipts of the Central and State Governments.

3A.1.1: Data as per RBI records.

3B.1.1: Borrowings through dated securities.

3B.1.2: Represent net investment in Central and State Governments' special securities by the National Small Savings Fund (NSSF).

This data may vary from previous publications due to adjustments across components with availability of new data.

3B.1.6: Include Ways and Means Advances by the Centre to the State Governments.

3B.1.7: Include Treasury Bills, loans from financial institutions, insurance and pension funds, remittances, cash balance investment account.

No. 47: Financial Accommodation Availed by State Governments under various Facilities

(₹ Crore)

Sr. No	State/Union Territory	During November-2024					
		Special Drawing Facility (SDF)		Ways and Means Advances (WMA)		Overdraft (OD)	
		Average amount availed	Number of days availed	Average amount availed	Number of days availed	Average amount availed	Number of days availed
1	2	3	4	5	6	7	
1	Andhra Pradesh	6257.57	30	1743.94	27	1950.80	2
2	Arunachal Pradesh	-	-	-	-	-	-
3	Assam	-	-	-	-	-	-
4	Bihar	-	-	-	-	-	-
5	Chhattisgarh	-	-	-	-	-	-
6	Goa	-	-	-	-	-	-
7	Gujarat	-	-	-	-	-	-
8	Haryana	861.51	17	2407.00	3	-	-
9	Himachal Pradesh	-	-	398.67	28	457.83	6
10	Jammu & Kashmir UT	-	-	626.34	14	-	-
11	Jharkhand	-	-	-	-	-	-
12	Karnataka	-	-	-	-	-	-
13	Kerala	1554.65	30	1675.80	30	812.17	12
14	Madhya Pradesh	-	-	-	-	-	-
15	Maharashtra	-	-	-	-	-	-
16	Manipur	104.86	30	212.24	30	300.15	10
17	Meghalaya	196.23	28	-	-	-	-
18	Mizoram	-	-	-	-	-	-
19	Nagaland	34.41	6	-	-	-	-
20	Odisha	-	-	-	-	-	-
21	Puducherry	-	-	-	-	-	-
22	Punjab	4288.73	30	451.42	17	-	-
23	Rajasthan	3603.83	26	458.89	14	-	-
24	Tamil Nadu	-	-	-	-	-	-
25	Telangana	4649.23	30	1900.03	23	633.37	11
26	Tripura	-	-	-	-	-	-
27	Uttar Pradesh	-	-	-	-	-	-
28	Uttarakhand	1171.54	28	-	-	-	-
29	West Bengal	-	-	-	-	-	-

- Notes: 1. SDF is availed by State Governments against the collateral of Consolidated Sinking Fund (CSF), Guarantee Redemption Fund (GRF) & Auction Treasury Bills (ATBs) balances and other investments in government securities.
2. WMA is advance by Reserve Bank of India to State Governments for meeting temporary cash mismatches.
3. OD is advanced to State Governments beyond their WMA limits.
4. Average Availed is the total accommodation (SDF/WMA/OD) availed divided by number of days for which accommodation was extended during the month.
5. -Nil.

Source: Reserve Bank of India.

No. 48: Investments by State Governments

(₹ Crore)

Sr. No	State/Union Territory	As on end of November 2024			
		Consolidated Sinking Fund (CSF)	Guarantee Redemption Fund (GRF)	Government Securities	Auction Treasury Bills (ATBs)
		1	2	3	4
1	Andhra Pradesh	11385	1123	0	0
2	Arunachal Pradesh	2708	7	0	5000
3	Assam	8480	89	0	0
4	Bihar	12290	-	0	22000
5	Chhattisgarh	7684	479	0	8387
6	Goa	1033	450	0	0
7	Gujarat	15021	656	0	2000
8	Haryana	2288	1677	0	0
9	Himachal Pradesh	-	-	0	0
10	Jammu & Kashmir UT	19	18	0	0
11	Jharkhand	2368	-	0	1530
12	Karnataka	19982	743	0	61370
13	Kerala	3065	-	0	0
14	Madhya Pradesh	-	1259	0	0
15	Maharashtra	70629	1717	0	0
16	Manipur	68	138	0	0
17	Meghalaya	1251	107	0	0
18	Mizoram	452	62	0	0
19	Nagaland	1855	45	0	0
20	Odisha	17848	2013	115	10433
21	Puducherry	572	-	0	1700
22	Punjab	9026	0	0	0
23	Rajasthan	1291	-	0	8700
24	Tamil Nadu	3378	-	0	3612
25	Telangana	7767	1703	0	0
26	Tripura	1203	26	0	25
27	Uttarakhand	4941	208	0	0
28	Uttar Pradesh	10556	-	0	5000
29	West Bengal	13418	1017	0	0
Total		230578	13538	115	129757

- Notes: 1. CSF and GRF are reserve funds maintained by some State Governments with the Reserve Bank of India.
 2. ATBs include Treasury bills of 91 days, 182 days and 364 days invested by State Governments in the primary market.
 3. - : Not Applicable (not a member of the scheme).

No. 49: Market Borrowings of State Governments

(₹ Crore)

Sr. No.	State	2022-23		2023-24		2024-25					Total amount raised, so far in 2024-25	
						September		October		November		
		Gross Amount Raised	Net Amount Raised	Gross								
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Andhra Pradesh	57478	45814	68400	55330	4000	-1000	6000	4000	4000	2000	54000 36918
2	Arunachal Pradesh	559	389	902	672	-	-	-	400	400	400	254
3	Assam	17100	16105	18500	16000	1750	1750	1500	1000	-	-500	9250 7300
4	Bihar	36800	27467	47612	29910	6000	3922	8000	3000	6000	3000	26000 15922
5	Chhattisgarh	2000	-2287	32000	26213	2000	2000	3000	2300	-	-	6500 3000
6	Goa	1350	500	2550	1560	300	300	200	100	200	100	1050 250
7	Gujarat	43000	28300	30500	11947	-	-1000	1500	-500	3000	1000	9000 1000
8	Haryana	45158	28638	47500	28364	3000	1700	1500	750	4000	3500	25000 18720
9	Himachal Pradesh	14000	11941	8072	5856	700	700	600	200	500	300	5700 3850
10	Jammu & Kashmir UT	8473	5969	16337	13904	-	-	400	-40	400	400	10150 8810
11	Jharkhand	4000	-155	1000	-2505	-	-	-	-	-	-	-
12	Karnataka	36000	26000	81000	63003	3000	1000	20000	18000	4000	1500	27000 16000
13	Kerala	30839	15620	42438	26638	3753	2253	2745	1245	2249	1249	29247 17347
14	Madhya Pradesh	40158	26849	38500	26264	5000	3950	5000	4000	5000	4250	25000 18650
15	Maharashtra	72000	42815	110000	79738	24000	17000	3000	600	-	-2700	67000 44800
16	Manipur	1422	1147	1426	1076	-	-	200	-	-	-	800 540
17	Meghalaya	1753	1356	1364	912	150	-258	197	197	-	-	1247 759
18	Mizoram	1315	1129	901	641	90	40	50	50	80	60	671 541
19	Nagaland	1854	1199	2551	2016	-	-	-	-	-	-150	300 -50
20	Odisha	0	-7500	0	-4658	-	-	-	-500	1000	1000	1000 -500
21	Puducherry	1200	698	1100	475	-	-200	300	300	-	-100	550 150
22	Punjab	45500	33660	42386	29517	2000	1888	3150	3150	387	387	30430 25976
23	Rajasthan	46057	30110	73624	49718	6000	3500	7000	5230	4265	3015	47765 32683
24	Sikkim	1414	1320	1916	1701	-	-	1000	1000	-	-	1000 870
25	Tamil Nadu	87000	65722	113001	75970	9000	7875	8000	3150	9025	5400	67025 43175
26	Telangana	40150	30922	49618	39385	4500	2500	4500	3700	1000	200	37000 29482
27	Tripura	0	-645	0	-550	-	-	-	-	-	-	-
28	Uttar Pradesh	55612	41797	97650	85335	-	-	3000	24	6000	3500	9000 -709
29	Uttarakhand	3200	1450	6300	3800	-	-	500	500	500	500	2400 2400
30	West Bengal	63000	42500	69910	48910	7000	5000	3500	2000	3000	1000	31000 17900
	Grand Total	758392	518829	1007058	717140	82243	52920	84842	53457	55006	29311	525485 346039

- : Nil.

Note: The State of J&K has ceased to exist constitutionally from October 31, 2019 and the liabilities of the State continue to remain as liabilities of the new UT of Jammu and Kashmir.

Source: Reserve Bank of India.

No. 50 (a): Flow of Financial Assets and Liabilities of Households - Instrument-wise

(Amount in ₹ Crore)

Item	2021-22				
	Q1	Q2	Q3	Q4	Annual
Net Financial Assets (I-II)	3,42,813	3,30,490	4,85,203	5,54,816	17,13,322
<i>Per cent of GDP</i>	<i>6.6</i>	<i>5.9</i>	<i>7.7</i>	<i>8.5</i>	<i>7.3</i>
I. Financial Assets	3,63,395	5,25,419	8,16,484	9,07,366	26,12,664
<i>Per cent of GDP</i>	<i>7.0</i>	<i>9.3</i>	<i>13.0</i>	<i>13.9</i>	<i>11.1</i>
<i>of which:</i>					
1. Total Deposits (a)+(b)	(81,064)	2,04,486	4,28,035	2,83,634	8,35,091
(a) Bank Deposits	(1,06,429)	1,97,105	4,22,393	2,70,025	7,83,094
i. Commercial Banks	(1,07,941)	1,95,442	4,18,267	2,62,326	7,68,094
ii. Co-operative Banks	1,512	1,663	4,126	7,699	15,000
(b) Non-Bank Deposits	25,365	7,380	5,642	13,610	51,997
<i>of which:</i>					
Other Financial Institutions (i+ii)	17,555	(435)	(2,178)	5,770	20,712
i. Non-Banking Financial Companies	5,578	(1,371)	73	4,021	8,302
ii. Housing Finance Companies	11,977	936	(2,252)	1,748	12,410
2. Life Insurance Funds	1,15,539	1,28,277	1,04,076	1,38,998	4,86,889
3. Provident and Pension Funds (including PPF)	1,24,971	1,12,810	95,493	2,18,719	5,51,993
4. Currency	1,28,660	(68,631)	62,793	1,46,845	2,69,667
5. Investments	24,884	82,260	69,715	50,926	2,27,785
<i>of which:</i>					
(a) Mutual Funds	14,573	63,151	37,912	44,964	1,60,600
(b) Equity	4,502	13,218	27,808	3,084	48,613
6. Small Savings (excluding PPF)	50,405	66,218	56,372	68,243	2,41,238
II. Financial Liabilities	20,583	1,94,929	3,31,281	3,52,550	8,99,343
<i>Per cent of GDP</i>	<i>0.4</i>	<i>3.5</i>	<i>5.3</i>	<i>5.4</i>	<i>3.8</i>
Loans (Borrowings) from					
1. Financial Corporations (a+b)	20,479	1,94,825	3,31,178	3,52,446	8,98,928
(a) Banking Sector	21,428	1,38,720	2,67,955	2,74,181	7,02,284
<i>of which:</i>					
i. Commercial Banks	26,979	1,40,269	2,65,271	3,37,010	7,69,529
(b) Other Financial Institutions	(949)	56,105	63,223	78,266	1,96,644
i. Non-Banking Financial Companies	(8,708)	30,151	32,177	40,003	93,623
ii. Housing Finance Companies	7,132	24,404	29,495	37,436	98,467
iii. Insurance Corporations	627	1,550	1,551	827	4,554
2. Non-Financial Corporations (Private Corporate Business)	34	34	34	34	135
3. General Government	70	70	70	70	279

No. 50 (a): Flow of Financial Assets and Liabilities of Households - Instrument-wise (Contd.)

(Amount in ₹ Crore)

Item	2022-23				
	Q1	Q2	Q3	Q4	Annual
Net Financial Assets (I-II)	2,89,980	2,99,395	2,96,132	4,54,240	13,39,748
<i>Per cent of GDP</i>	<i>4.5</i>	<i>4.6</i>	<i>4.3</i>	<i>6.4</i>	<i>5.0</i>
I. Financial Assets	5,79,958	6,34,471	7,50,245	9,71,526	29,36,200
<i>Per cent of GDP</i>	<i>8.9</i>	<i>9.8</i>	<i>10.9</i>	<i>13.6</i>	<i>10.9</i>
<i>of which:</i>					
1. Total Deposits (a)+(b)	1,85,429	3,17,361	2,80,233	3,25,853	11,08,876
(a) Bank Deposits	1,63,172	2,99,533	2,56,400	3,07,867	10,26,971
i. Commercial Banks	1,58,613	3,00,565	2,48,460	2,84,968	9,92,606
ii. Co-operative Banks	4,559	(1,032)	7,940	22,899	34,365
(b) Non-Bank Deposits	22,257	17,829	23,833	17,986	81,905
<i>of which:</i>					
Other Financial Institutions (i+ii)	6,505	2,077	8,082	2,234	18,897
i. Non-Banking Financial Companies	4,231	3,267	3,247	3,946	14,690
ii. Housing Finance Companies	2,274	(1,191)	4,835	(1,712)	4,207
2. Life Insurance Funds	73,298	1,51,677	1,67,522	1,56,613	5,49,109
3. Provident and Pension Funds (including PPF)	1,48,915	1,20,367	1,38,584	2,18,709	6,26,575
4. Currency	66,439	(54,579)	76,760	1,48,990	2,37,610
5. Investments	51,503	48,530	49,779	64,151	2,13,962
<i>of which:</i>					
(a) Mutual Funds	35,443	44,484	40,206	58,955	1,79,088
(b) Equity	13,561	1,378	6,434	1,665	23,038
6. Small Savings (excluding PPF)	54,375	51,115	37,368	57,211	2,00,068
II. Financial Liabilities	2,89,978	3,35,076	4,54,113	5,17,285	15,96,452
<i>Per cent of GDP</i>	<i>4.5</i>	<i>5.2</i>	<i>6.6</i>	<i>7.3</i>	<i>5.9</i>
Loans (Borrowings) from					
1. Financial Corporations (a+b)	2,89,781	3,34,880	4,53,917	5,17,089	15,95,667
(a) Banking Sector	2,34,235	2,63,450	3,70,783	3,83,845	12,52,313
<i>of which:</i>					
i. Commercial Banks	2,30,284	2,61,265	3,68,305	3,31,293	11,91,146
(b) Other Financial Institutions	55,546	71,429	83,134	1,33,244	3,43,354
i. Non-Banking Financial Companies	30,532	36,650	55,792	94,565	2,17,539
ii. Housing Finance Companies	22,337	33,031	24,903	36,746	1,17,017
iii. Insurance Corporations	2,678	1,748	2,439	1,933	8,798
2. Non-Financial Corporations (Private Corporate Business)	34	34	34	34	135
3. General Government	163	163	163	163	650

No. 50 (a): Flow of Financial Assets and Liabilities of Households - Instrument-wise (Concl.)

(Amount in ₹ Crore)

Item	2023-24				
	Q1	Q2	Q3	Q4	Annual
Net Financial Assets (I-II)	3,53,093	2,89,675	2,98,111	6,11,366	15,52,245
Per cent of GDP	5.0	4.1	3.9	7.8	5.3
I. Financial Assets	6,74,763	8,15,842	8,08,779	11,32,130	34,31,514
Per cent of GDP	9.6	11.5	10.7	14.5	11.6
of which:					
1. Total Deposits (a)+(b)	2,68,925	4,12,388	2,99,372	4,10,559	13,91,244
(a) Bank Deposits	2,55,249	5,06,208	2,79,872	3,94,573	14,35,902
i. Commercial Banks	2,46,079	5,06,700	2,82,537	3,87,313	14,22,629
ii. Co-operative Banks	9,170	(492)	(2,665)	7,260	13,273
(b) Non-Bank Deposits	13,676	(93,820)	19,499	15,986	(44,658)
of which:					
Other Financial Institutions (i+ii)	(485)	(1,07,982)	5,338	1,825	(1,01,305)
i. Non-Banking Financial Companies	6,119	4,782	4,896	1,943	17,740
ii. Housing Finance Companies	(6,605)	(1,12,764)	442	(118)	(1,19,045)
2. Life Insurance Funds	1,58,358	1,41,413	1,61,192	1,30,036	5,90,999
3. Provident and Pension Funds (including PPF)	1,63,508	1,48,178	1,53,255	2,53,719	7,18,661
4. Currency	(48,636)	(36,701)	56,719	1,46,644	1,18,026
5. Investments	41,409	73,060	79,633	1,08,732	3,02,834
of which:					
(a) Mutual Funds	32,086	55,769	60,135	90,973	2,38,962
(b) Equity	3,757	7,146	9,941	8,236	29,080
6. Small Savings (excluding PPF)	91,198	77,504	58,607	82,441	3,09,751
II. Financial Liabilities	3,21,670	5,26,167	5,10,667	5,20,764	18,79,269
Per cent of GDP	4.6	7.4	6.7	6.7	6.4
Loans (Borrowings) from					
1. Financial Corporations (a+b)	3,21,520	5,26,016	5,10,516	5,20,613	18,78,666
(a) Banking Sector	2,13,606	8,68,874	4,02,647	3,92,330	18,77,458
of which:					
i. Commercial Banks	2,08,027	8,75,654	3,89,898	3,82,558	18,56,136
(b) Other Financial Institutions	1,07,914	(3,42,858)	1,07,869	1,28,283	1,208
i. Non-Banking Financial Companies	81,449	59,684	85,032	1,00,836	3,27,001
ii. Housing Finance Companies	23,784	(4,04,294)	21,233	25,853	(3,33,424)
iii. Insurance Corporations	2,681	1,753	1,604	1,594	7,631
2. Non-Financial Corporations (Private Corporate Business)	34	35	35	35	138
3. General Government	116	116	116	116	465

Notes : 1. Net Financial Savings of households refer to the net financial assets, which are measured as difference of financial asset and liabilities flows.

2. Preliminary estimates for 2023-24 and revised estimates for 2021-22 and 2022-23.

3. The preliminary estimates for 2023-24 will undergo revision with the release of first revised estimates of national income, consumption expenditure, savings, and capital formation, 2023-24 by the National Statistical Office (NSO).

4. Non-bank deposits apart from other financial institutions, comprises state power utilities, co-operative non credit societies etc.

5. Figures in the columns may not add up to the total due to rounding off.

No. 50 (b): Stocks of Financial Assets and Liabilities of Households- Select Indicators

(Amount in ₹ Crore)

Item	Jun-2021	Sep-2021	Dec-2021	Mar-2022
Financial Assets (a+b+c+d+e+f+g+h)	2,33,27,377	2,39,99,280	2,47,08,474	2,54,40,650
<i>Per cent of GDP</i>	110.4	108.9	108.2	107.8
(a) Bank Deposits (i+ii)	1,07,90,832	1,09,87,937	1,14,10,330	1,16,80,355
i. Commercial Banks	99,53,044	1,01,48,486	1,05,66,753	1,08,29,079
ii. Co-operative Banks	8,37,788	8,39,451	8,43,577	8,51,276
(b) Non-Bank Deposits				
<i>of which:</i>				
Other Financial Institutions	2,06,509	2,06,074	2,03,896	2,09,665
i. Non-Banking Financial Companies	67,840	66,469	66,542	70,564
ii. Housing Finance Companies	1,38,669	1,39,605	1,37,353	1,39,102
(c) Life Insurance Funds	49,29,725	51,42,279	52,13,527	53,57,350
(d) Currency	27,42,897	26,74,266	27,37,059	28,83,904
(e) Mutual funds	18,55,000	20,64,364	21,26,112	21,52,141
(f) Public Provident Fund (PPF)	7,57,398	7,62,264	7,67,287	8,34,148
(g) Pension Funds	6,16,517	6,67,379	6,99,173	7,36,592
(h) Small Savings (excluding PPF)	14,28,499	14,94,717	15,51,089	15,86,496
Financial Liabilities (a+b)	77,43,630	79,38,456	82,69,633	86,22,079
<i>Per cent of GDP</i>	36.6	36.0	36.2	36.5
Loans/Borrowings				
(a) Banking Sector	61,80,377	63,19,097	65,87,052	68,61,233
<i> of which:</i>				
i. Commercial Banks	56,47,239	57,87,508	60,52,779	63,89,789
ii. Co-operative Banks	5,31,728	5,30,164	5,32,833	4,69,989
(b) Other Financial Institutions	15,63,253	16,19,358	16,82,581	17,60,847
<i> of which:</i>				
i. Non-Banking Financial Companies	7,36,312	7,66,463	7,98,641	8,38,643
ii. Housing Finance Companies	7,21,510	7,45,914	7,75,408	8,12,845
iii. Insurance Corporations	1,05,431	1,06,981	1,08,532	1,09,359

No. 50 (b): Stocks of Financial Assets and Liabilities of Households- Select Indicators (Contd.)

(Amount in ₹ Crore)

Item	Jun-2022	Sep-2022	Dec-2022	Mar-2023
Financial Assets (a+b+c+d+e+f+g+h)	2,56,21,348	2,64,23,992	2,71,87,716	2,78,44,981
<i>Per cent of GDP</i>	102.8	102.6	103.2	103.3
(a) Bank Deposits (i+ii)	1,18,43,527	1,21,43,060	1,23,99,459	1,27,07,326
i. Commercial Banks	1,09,87,692	1,12,88,257	1,15,36,717	1,18,21,685
ii. Co-operative Banks	8,55,835	8,54,803	8,62,742	8,85,641
(b) Non-Bank Deposits				
<i>of which:</i>				
Other Financial Institutions	2,16,170	2,18,247	2,26,328	2,28,562
i. Non-Banking Financial Companies	74,794	78,061	81,308	85,254
ii. Housing Finance Companies	1,41,376	1,40,185	1,45,020	1,43,308
(c) Life Insurance Funds	53,25,967	55,59,682	57,86,593	57,95,431
(d) Currency	29,50,343	28,95,764	29,72,524	31,21,514
(e) Mutual funds	20,48,097	22,60,210	23,55,316	23,67,793
(f) Public Provident Fund (PPF)	8,51,913	8,58,591	8,64,731	9,39,449
(g) Pension Funds	7,44,459	7,96,454	8,53,412	8,98,343
(h) Small Savings (excluding PPF)	16,40,871	16,91,985	17,29,353	17,86,563
Financial Liabilities (a+b)	89,11,861	92,46,741	97,00,657	1,02,17,746
<i>Per cent of GDP</i>	35.8	35.9	36.8	37.9
Loans/Borrowings				
(a) Banking Sector	70,95,468	73,58,918	77,29,701	81,13,546
<i> of which:</i>				
i. Commercial Banks	66,20,073	68,81,338	72,49,643	75,80,936
ii. Co-operative Banks	4,73,897	4,76,025	4,78,487	5,30,915
(b) Other Financial Institutions	18,16,393	18,87,823	19,70,956	21,04,201
<i> of which:</i>				
i. Non-Banking Financial Companies	8,69,175	9,05,825	9,61,617	10,56,182
ii. Housing Finance Companies	8,35,181	8,68,213	8,93,116	9,29,862
iii. Insurance Corporations	1,12,037	1,13,785	1,16,223	1,18,157

No. 50 (b): Stocks of Financial Assets and Liabilities of Households- Select Indicators (Concl.)

(Amount in ₹ Crore)

Item	Jun-2023	Sep-2023	Dec-2023	Mar-2024
Financial Assets (a+b+c+d+e+f+g+h)	2,87,56,851	2,96,44,299	3,07,47,010	3,19,86,847
<i>Per cent of GDP</i>	104.6	105.4	106.6	108.3
(a) Bank Deposits (i+ii)	1,29,62,575	1,34,68,783	1,37,48,656	1,41,43,228
i. Commercial Banks	1,20,67,764	1,25,74,464	1,28,57,001	1,32,44,314
ii. Co-operative Banks	8,94,811	8,94,319	8,91,655	8,98,914
(b) Non-Bank Deposits				
<i>of which:</i>				
Other Financial Institutions	2,28,077	1,20,095	1,25,432	1,27,257
i. Non-Banking Financial Companies	91,373	96,156	1,01,051	1,02,994
ii. Housing Finance Companies	1,36,703	23,939	24,381	24,263
(c) Life Insurance Funds	60,64,437	62,55,801	65,53,726	67,69,272
(d) Currency	30,72,878	30,36,177	30,92,896	32,39,540
(e) Mutual funds	26,26,046	28,29,859	31,56,299	33,87,208
(f) Public Provident Fund (PPF)	9,55,061	9,60,344	9,64,852	10,51,376
(g) Pension Funds	9,70,016	10,17,975	10,91,276	11,72,651
(h) Small Savings (excluding PPF)	18,77,761	19,55,265	20,13,873	20,96,314
Financial Liabilities (a+b)	1,05,39,266	1,10,65,282	1,15,75,799	1,20,96,412
<i>Per cent of GDP</i>	38.3	39.3	40.2	41.0
Loans/Borrowings				
(a) Banking Sector	83,27,152	91,96,026	95,98,673	99,91,003
<i>of which:</i>				
i. Commercial Banks	77,88,962	86,64,616	90,54,514	94,37,072
ii. Co-operative Banks	5,36,409	5,29,528	5,42,241	5,51,852
(b) Other Financial Institutions	22,12,114	18,69,256	19,77,126	21,05,409
<i>of which:</i>				
i. Non-Banking Financial Companies	11,37,631	11,97,315	12,82,347	13,83,183
ii. Housing Finance Companies	9,53,646	5,49,352	5,70,585	5,96,438
iii. Insurance Corporations	1,20,837	1,22,590	1,24,194	1,25,788

Note: 1. Data as ratios to GDP have been calculated based on the Provisional Estimates of National Income 2023-24, released by NSO on May 31, 2024.

2. Pension funds comprises funds with the National Pension Scheme.

3. Outstanding deposits with Small Savings are sourced from the Controller General of Accounts, Government of India.

4. Non-bank deposits apart from other financial institutions, comprises state power utilities, co-operative non credit societies etc. Data for outstanding deposits are available only for other financial institutions.

5. Figures in the columns may not add up to the total due to rounding off.

Explanatory Notes to the Current Statistics

Table No. 1

- 1.2& 6: Annual data are average of months.
 3.5 & 3.7: Relate to ratios of increments over financial year so far.
 4.1 to 4.4, 4.8, 4.9 & 5: Relate to the last Friday of the month/financial year.
 4.5, 4.6 & 4.7: Relate to five major banks on the last Friday of the month/financial year.
 4.10 to 4.12: Relate to the last auction day of the month/financial year.
 4.13: Relate to last day of the month/ financial year
 7.1&7.2: Relate to Foreign trade in US Dollar.

Table No. 2

- 2.1.2: Include paid-up capital, reserve fund and Long-Term Operations Funds.
 2.2.2: Include cash, fixed deposits and short-term securities/bonds, e.g., issued by IIFC (UK).

Table No. 4

Maturity-wise position of outstanding forward contracts is available at <http://nsdp.rbi.org.in> under "Reserves Template".

Table No. 5

Special refinance facility to Others, i.e. to the EXIM Bank, is closed since March 31, 2013.

Table No. 6

- For scheduled banks, March-end data pertain to the last reporting Friday.
 2.2: Exclude balances held in IMF Account No.1, RBI employees' provident fund, pension fund, gratuity and superannuation fund.

Table Nos. 7 & 11

- 3.1 in Table 7 and 2.4 in Table 11: Include foreign currency denominated bonds issued by IIFC (UK).

Table No. 8

- NM₂ and NM₃ do not include FCNR (B) deposits.
 2.4: Consist of paid-up capital and reserves.
 2.5: includes other demand and time liabilities of the banking system.

Table No. 9

- Financial institutions comprise EXIM Bank, SIDBI, NABARD and NHB.
 L₁ and L₂ are compiled monthly and L₃ quarterly.
 Wherever data are not available, the last available data have been repeated.

Table No. 13

Data against column Nos. (1), (2) & (3) are Final and for column Nos. (4) & (5) data are Provisional.

Table No. 14

Data in column Nos. (4) & (8) are Provisional.

Table No. 17

2.1.1: Exclude reserve fund maintained by co-operative societies with State Co-operative Banks

2.1.2: Exclude borrowings from RBI, SBI, IDBI, NABARD, notified banks and State Governments.

4: Include borrowings from IDBI and NABARD.

Table No. 24

Primary Dealers (PDs) include banks undertaking PD business.

Table No. 30

Exclude private placement and offer for sale.

1: Exclude bonus shares.

2: Include cumulative convertible preference shares and equi-preference shares.

Table No. 32

Exclude investment in foreign currency denominated bonds issued by IIFC (UK), SDRs transferred by Government of India to RBI and foreign currency received under SAARC and ACU currency swap arrangements. Foreign currency assets in US dollar take into account appreciation/depreciation of non-US currencies (such as Euro, Sterling, Yen and Australian Dollar) held in reserves. Foreign exchange holdings are converted into rupees at rupee-US dollar RBI holding rates.

Table No. 34

1.1.1.1.2 & 1.1.1.1.4: Estimates.

1.1.1.2: Estimates for latest months.

'Other capital' pertains to debt transactions between parent and subsidiaries/branches of FDI enterprises.

Data may not tally with the BoP data due to lag in reporting.

Table No. 35

1.10: Include items such as subscription to journals, maintenance of investment abroad, student loan repayments and credit card payments.

Table No. 36

Increase in indices indicates appreciation of rupee and *vice versa*. For 6-Currency index, base year 2021-22 is a moving one, which gets updated every year. REER figures are based on Consumer Price Index (combined). The details on methodology used for compilation of NEER/REER indices are available in December 2005, April 2014 and January 2021 issues of the RBI Bulletin.

Table No. 37

Based on applications for ECB/Foreign Currency Convertible Bonds (FCCBs) which have been allotted loan registration number during the period.

Table Nos. 38, 39, 40 & 41

Explanatory notes on these tables are available in December issue of RBI Bulletin, 2012.

Table No. 43

Part I-A. Settlement systems

1.1.3: Tri- party Repo under the securities segment has been operationalised from November 05, 2018.

Part I-B. Payments systems

4.1.2: 'Others' includes e-commerce transactions and digital bill payments through ATMs, etc.

4.2.2: 'Others' includes e-commerce transactions, card to card transfers and digital bill payments through ATMs, etc.

5: Available from December 2010.

5.1: includes purchase of goods and services and fund transfer through wallets.

5.2.2: includes usage of PPI Cards for online transactions and other transactions.

6.1: Pertain to three grids – Mumbai, New Delhi and Chennai.

6.2: 'Others' comprises of Non-MICR transactions which pertains to clearing houses managed by 21 banks.

Part II-A. Other payment channels

1: Mobile Payments –

- Include transactions done through mobile apps of banks and UPI apps.
- The data from July 2017 includes only individual payments and corporate payments initiated, processed, and authorised using mobile device. Other corporate payments which are not initiated, processed, and authorised using mobile device are excluded.

2: Internet Payments – includes only e-commerce transactions through 'netbanking' and any financial transaction using internet banking website of the bank.

Part II-B. ATMs

3.3 and 4.2: only relates to transactions using bank issued PPIs.

Part III. Payment systems infrastructure

3: Includes ATMs deployed by Scheduled Commercial Banks (SCBs) and White Label ATM Operators (WLAs). WLAs are included from April 2014 onwards.

Table No. 45

(-) represents nil or negligible

The table format is revised since monthly Bulletin for the month of June 2023.

Central Government Dated Securities include special securities and Sovereign Gold Bonds.

State Government Securities include special bonds issued under Ujwal DISCOM Assurance Yojana (UDAY).

Bank PDs are clubbed under Commercial Banks.

The category 'Others' comprises State Governments, DICGC, PSUs, Trusts, Foreign Central Banks, HUF/ Individuals etc.

Data since September 2023 includes the impact of the merger of a non-bank with a bank.

Table No. 46

GDP data is based on 2011-12 base. GDP for 2023-24 is from Union Budget 2023-24.

Data pertains to all States and Union Territories.

1 & 2: Data are net of repayments of the Central Government (including repayments to the NSSF) and State Governments.

1.3: Represents compensation and assignments by States to local bodies and Panchayati Raj institutions.

2: Data are net of variation in cash balances of the Central and State Governments and includes borrowing receipts of the Central and State Governments.

3A.1.1: Data as per RBI records.

3B.1.1: Borrowings through dated securities.

3B.1.2: Represent net investment in Central and State Governments' special securities by the National Small Savings Fund (NSSF).

This data may vary from previous publications due to adjustments across components with availability of new data.

3B.1.6: Include Ways and Means Advances by the Centre to the State Governments.

3B.1.7: Include Treasury Bills, loans from financial institutions, insurance and pension funds, remittances, cash balance investment account.

Table No. 47

SDF is availed by State Governments against the collateral of Consolidated Sinking Fund (CSF), Guarantee Redemption Fund (GRF) & Auction Treasury Bills (ATBs) balances and other investments in government securities.

WMA is advance by Reserve Bank of India to State Governments for meeting temporary cash mismatches.

OD is advanced to State Governments beyond their WMA limits.

Average amount Availed is the total accommodation (SDF/WMA/OD) availed divided by number of days for which accommodation was extended during the month.

- : Nil.

Table No. 48

CSF and GRF are reserve funds maintained by some State Governments with the Reserve Bank of India.

ATBs include Treasury bills of 91 days, 182 days and 364 days invested by State Governments in the primary market.

--: Not Applicable (not a member of the scheme).

The concepts and methodologies for Current Statistics are available in Comprehensive Guide for Current Statistics of the RBI Monthly Bulletin (<https://rbi.org.in/Scripts/PublicationsView.aspx?id=17618>)

Time series data of 'Current Statistics' is available at <https://data.rbi.org.in>.

Detailed explanatory notes are available in the relevant press releases issued by RBI and other publications/releases of the Bank such as **Handbook of Statistics on the Indian Economy**.

Recent Publications of the Reserve Bank of India

Name of Publication	Price	
	India	Abroad
1. Reserve Bank of India Bulletin 2024	₹350 per copy ₹250 per copy (concessional rate*) ₹4,000 (one year subscription) ₹3,000 (one year concessional rate*)	US\$ 15 per copy US\$ 150 (one-year subscription) (inclusive of air mail courier charges)
2. Handbook of Statistics on the Indian States 2023-24	₹550 (Normal) ₹600 (inclusive of postage)	US\$ 24 (inclusive of air mail courier charges)
3. Handbook of Statistics on the Indian Economy 2023-24	₹600 (Normal) ₹650 (inclusive of postage) ₹450 (concessional) ₹500 (concessional with postage)	US\$ 50 (inclusive of air mail courier charges)
4. State Finances - A Study of Budgets of 2024-25	₹600 per copy (over the counter) ₹650 per copy (inclusive of postal charges)	US\$ 24 per copy (inclusive of air mail courier charges)
5. Report on Currency and Finance 2023-24	₹575 per copy (over the counter) ₹625 per copy (inclusive of postal charges)	US\$ 22 per copy (inclusive of air mail courier charges)
6. Reserve Bank of India Occasional Papers Vol. 44, No. 1, 2023	₹200 per copy (over the counter) ₹250 per copy (inclusive of postal charges)	US\$ 18 per copy (inclusive of air mail courier charges)
7. Finances of Panchayati Raj Institutions	₹300 per copy (over the counter) ₹350 per copy (inclusive of postal charges)	US\$ 16 per copy (inclusive of air mail courier charges)
8. Report on Trend and Progress of Banking in India 2022-23	Issued as Supplement to RBI Bulletin January, 2024	
9. Annual Report 2023-24	Issued as Supplement to RBI Bulletin June, 2024	
10. Financial Stability Report, June 2024	Issued as Supplement to RBI Bulletin July, 2024	
11. Monetary Policy Report - April 2024	Included in RBI Bulletin April 2024	
12. Report on Municipal Finances - November 2024	₹300 per copy (over the counter) ₹350 per copy (inclusive of postal charges)	US\$ 16 per copy (inclusive of air mail courier charges)
13. Banking Glossary (English-Hindi)	₹100 per copy (over the counter) ₹150 per copy (inclusive of postal charges)	

Notes

1. Many of the above publications are available at the RBI website (www.rbi.org.in).
 2. Time Series data are available at the Database on Indian Economy (<https://data.rbi.org.in>).
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