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*Role of Audit in the Modern Financial System**

Shaktikanta Das

It gives me great pleasure to be here at the National Academy of Audit and Accounts (NAAA), Shimla today to address the probationers and other officers of the Indian Audit and Accounts Service (IAAS). For the probationers, this is a time when they are embarking upon a journey in the service of the nation as the principal flag bearers of accountability and transparency in public finance and governance.

Civil Services play a pivotal role in the overall progress of a country. They are the steel frame underlying the growth and development of our country. Within Civil Services, the Indian Audit and Accounts Service is responsible for auditing the accounts of the Union and State Governments and Public Sector Organisations. It is also responsible for maintaining and auditing the accounts of the State Governments. The audit mechanism has a crucial role in improving governance and transparency by operating the accountability framework for public expenditure.

In a globally integrated economy, fair and impartial audit is not just a domestic concern, but also an instrument to enhance our reputation and credibility on a global stage. It assumes greater significance during difficult times such as the one we are going through now due to the COVID-19 pandemic. With increasing complexity of financial markets and higher expectations from the public about efficient resource allocation, the role of audit has become even more important. As India aspires to grow faster, the expertise and independence of auditors will have to be leveraged to provide more assurance on financial performance to all stakeholders. We need robust audit for a dynamic and resilient economy.

I have, therefore, chosen the theme of the Role of Audit in the Modern Financial System for my address today. I propose to touch upon the areas relating to role of audit and its importance; the role of the Comptroller and Auditor General (CAG) of India as an institution; RBI's experience with audit as a regulator and supervisor in the financial sector; why audit failures happen and the impact thereof; adoption of modern audit tools; and the changing nature of audit.

Origination of Audit

The early origins of the audit profession can be traced back to medieval Europe. The Pipe Rolls (collection of financial records) maintained by the British Exchequer were some of the earliest written financial records of the audit process of the monarchy's accounts. The earliest surviving Pipe Roll at the National Archives of the United Kingdom covers the financial year 1129-1130[1]. Since then, the profession evolved organically out of the competitive dynamics of free markets. It was, however, the development of limited liability companies during the 19th century in England and America that created a demand for professional accountants and auditors. Prompted by insolvencies and scandals arising out of such limited liability companies, especially Railway Companies, the English Companies Act, 1845 required, for the first time, semi-annual audit of accounts of certain companies by an audit committee composed of shareholders[2].

* Address by Shri Shaktikanta Das, Governor, Reserve Bank of India - October 25, 2021 - at the National Academy of Audit and Accounts (NAAA), Shimla.

[1] https://www.nationalarchives.gov.uk/help-with-your-research/research-guides/medieval-financial-records-pipe-rolls-1130-1300/

[2] Report on Findings and Recommendations of the Committee on Experts on Regulating Audit Firms and Network, October 2018, Ministry of Corporate Affairs

In the Indian context, accounting and auditing have a much longer history. The Arthashastra written by Kautilya had prescribed detailed rules on accounting and auditing of public finances. The Arthashastra refers to *".....the collection and audit of all kinds of revenue" and goes on to say that "..... Accounts shall be submitted in the month of Ashádha .....Those accountants who do not present themselves in time or do not produce their account books along with the net revenue shall be fined ten times the amount due from them*[3]*."*

In much later history, the Office of the Accountant General was established in 1858, which went on to become the Office of the Comptroller and Auditor General. As far as the private sector is concerned, following the developments in Europe, the Indian Companies Act 1866, made it mandatory for joint stock companies to get their accounts verified by an auditor, at least once in a year.

Role and Importance of Audit

As you would be aware, Audit can be defined as an examination of the books of accounts and records of an enterprise to certify that the profit and loss account and the balance sheet are properly drawn up so that it exhibits a true and fair view of the financial state of affairs of the business. To delve into the need for audit, we have to understand that economic decisions are increasingly made based on the available evidence and information.

Inaccurate information may lead to sub-optimal decisions or excess resource allocation, which would be neither in public interest where a public authority is involved, nor in the interest of individual stakeholders. To give an example from the banking sector, if a bank sanctions a loan on the basis of inaccurate and misleading financial statements and the borrower company is ultimately unable to repay, the bank loses both the principal and the interest. Apart from the loss incurred, this could make the bank risk averse and deprive other eligible companies from bank funding. Alternatively, the bank may try to recover this loss by charging higher interest rate to other borrowers, thus resulting in sowing seeds of non-viability in such borrowers, apart from creating a situation of higher interest cost to the society. Eventually at stake would be the safety of depositors' money.

To overcome the problem of unreliable information, an assurance mechanism is required to be developed, which provides independent assurance to the decision-makers about the quality and accuracy of information being provided to them. Such mechanism is provided through the audit mechanism, both internal and external.

Informative, accurate, reliable and analytical audit reports are *sine qua non* for both financial stability and growth. The primary role of auditors is to resolve the Agency problems. Agency problems arise due to information asymmetries between the Agent (Management or the Government Departments/Users of Public Funds) and the Principal (Shareholders, Investors and the Public). To resolve Agency problems, one of the most-widely used tools is to designate auditors to act as the gatekeepers, be it for capital markets or for public funds. Thus, the independence of the auditor and the role of ethics in the profession of auditing are two of the most important aspects which should draw our attention.

In case of the public sector, auditing is a cornerstone of good governance. By providing unbiased and objective assessments of whether public resources are managed responsibly and effectively to achieve the intended results, a fair and impartial audit instils confidence among citizens and stakeholders. As they say, the reports of the public sector auditors should facilitate better oversight, insight, and

[3] Kautilya's Arthashastra Translated into English by R. Shamasastry

foresight. 'Oversight' addresses whether public sector entities are doing what they are supposed to do as per the rules and procedures. 'Insight' assists the decision-makers by providing an independent assessment of public sector programmes, policies, operations and results. 'Foresight' identifies the trends and emerging challenges. Auditors can use tools such as financial audits, performance audits and advisory services to fulfil each of these roles.[4]

Role and Importance of the Institution of The Comptroller and Auditor General (CAG) of India

In a representative democracy such as ours, public institutions function to serve the interest of the citizens, whereby public funds are spent or invested for the "common good". The Comptroller and Auditor General (CAG) of India as the Supreme Audit Institution of the country, serves as the critical link between the citizens and the Parliament on the one hand and the public institutions/departments on the other. It subjects the practical conduct and operations of the public sector to regular and independent examination as well as review. With such immense responsibilities, the audit processes of the CAG through financial, compliance and performance audits of public institutions, do enhance the accountability and legitimacy levels for the use of public funds which are sourced primarily from the taxpayers in the country. Based on the feedback given by the CAG, future decisions on allocation of public funds are taken through timely identification of implementation gaps for course correction or for replication if the outcomes are successful.

Financial Sector Experience and Importance of Auditors

I am sure you would be picking up the ropes of Public Finance and Audit of Government and Public Accounts in your regular induction curriculum. I would, therefore, like to give certain perspectives of the Reserve Bank as a financial sector regulator and supervisor on the audit function in banks, non-banking financial companies (NBFCs) and other financial entities.

Stability and growth of an economy and financial markets are dependent upon trust among stakeholders. One cannot take trust for granted. With greater openness of the economy and faster transmission of information flows, thanks to the advent of technology, it has become paramount to ensure credibility and confidence in the system. Statutory auditors play a vital role in maintaining market confidence on audited financial statements. In banking industry, this public role is particularly relevant for financial stability, given that banks hold public deposits. Audit quality is key to the effectiveness of such public role. In addition, the statutory auditor has a duty to report directly to the supervisor (RBI) on matters of material significance arising from the audit of banks and other regulated entities. For these reasons, RBI as the supervisor of banks and NBFCs has a keen interest in the manner with which statutory auditors perform audits in the regulated entities.

The Reserve Bank's supervision, therefore, specifically focuses on audit quality relating to identification of gaps, assessment of asset quality and the so-called innovative accounting practices, if any, which could have a major impact on the capital base of regulated entities and their viability as a going concern. Audit being the first external line of defence, its failure in Supervised Entities will adversely impact timely identification of major issues and risks.

The responsibility of risk management primarily rests with the Supervised Entities themselves; however, audit too has a critical role to play at the systemic level by examining the appropriateness of existing frameworks for plugging the control gaps and providing assurance to the Board and decision makers.

[4] The Institute of Internal Auditors (January 2012), Supplemental Guidance: The Role of Auditing in Public Sector Governance

Audit Failures and their Impact on the Entity / System

Without generalising, it may be said that problems usually arise when the independence of auditors itself is compromised or the auditors lack competence in performing their role. Compromising the independence of auditors could lead to moral hazard. As such, auditors are subjected to greater scrutiny and regulation so as to increase the reliability of their work.

One of the important roles of audit is to check the so called smart accounting practices, if any, followed by management to overstate profits or understate expenses / liabilities. Let me give a few examples of such smart accounting practices that we have observed.

i. Ind-AS has been implemented for all listed companies (other than banks) in India including Non-Banking Financial Companies (NBFCs) having net worth of more than ₹250 crore. Ind-AS is a principle-based standard as against the previous accounting standards, which were more prescriptive. Within Ind-AS, Ind-AS 109 with Expected Credit Loss approach allows the management to exercise discretion and judgement in determining the provisioning requirement for their financial assets. Such flexibility and forward-looking nature of assessment, however, poses the 'model risk', *i.e.,* the model may rely on incorrect assumptions and may be far away from representing the real-life scenarios. This has been observed in several cases. Hence, auditors are expected to test the models used by the entities, challenge the management and validate the model outputs.

ii. Of late, several instances of related party transactions without following 'arms-length' principle and established transfer pricing mechanism have been observed. There have been instances of diversion of funds and / or transfer of profits to connected parties through various means – intra-group loans on favourable terms, over or under invoicing of transactions, asset transfers without fair valuation, *etc.* Auditors need to identify and thoroughly scrutinise related or connected party transactions to ensure that there is no undue transfer of income or assets.

iii. We have also seen cases of manipulation and misstatement of true nature of financial statements by employing opaque technological means (IT black boxes). Real transactions are camouflaged beneath various layers of IT solutions by a few entities. As such, auditors need to be technologically savvy and be able to 'see-through' the layers of information technology to detect the real nature of hidden transactions.

Such undesirable practices and structures should draw the attention of the auditors. Since RBI, as the supervisor of the financial system, relies and leverages on the work done by auditors, the audit professionals are being sensitised through various fora to improve the quality of their reporting. We are constantly engaged with individual auditors, audit firms and the Institute of Chartered Accountants of India (ICAI) to improve the quality and depth of audit. A lot of work has been done in this area, but lot more needs to be done.

Code of Ethics for Good Governance

A related issue is the importance of having a code of ethics for businesses to ensure that everyone in the institution is clear on the mission, values and guiding principles. Ethical behaviour goes beyond the minimum required by law and regulations. This aspect is closely intertwined with the efficacy and robustness of various assurance mechanisms, including audit. The

management has the responsibility for demonstrating, through its actions, the importance of ethical conduct. While this is relevant for all businesses, it is even more important for financial institutions which hold public trust and depositor's money in fiduciary capacity. The Reserve Bank has been repeatedly emphasising the importance of strong governance framework in banks and NBFCs. Such a framework has to be built on principles of transparency, prudent business strategy, effective risk management and a strong compliance culture. Financial sector entities, the audit community and the financial sector regulators and supervisors have to work together and take proactive steps to ensure good governance and ethical practices to build a strong and resilient financial sector.

Adoption of Modern Audit Tools and Related Issues

In this digital era, the manner of financial accounting and its consolidation has witnessed major transformations. The auditing profession cannot afford to lag in adoption of technology. Adopting technology tools such as Computer Assisted Audit Tools and Techniques (CAATTs) through constant upgradation and integration of new technologies will bring in a lot of efficiency in audits. In parallel, it has to be kept in mind that adoption of such technology tools for auditing cannot replace professional judgment. A holistic approach would, therefore, be always required while integrating technology tools in audit.

Audit of Supervised Entities of RBI

Let me now move to some of the steps taken by the Reserve Bank of India over the past few years to bring about improvement in the audit function in its Supervised Entities.

(i) The Reserve Bank is clear that financial stability, among other things, depends on market confidence which stems from investor / stakeholder confidence. This, in turn, is influenced by the quality of financial reporting. Our aim has been to ensure that banks make full and fair disclosure of all material information in their financial statements. Some of these disclosures mandated by the RBI are as follows:

- disclosures on the composition of regulatory capital so that stakeholders understand the quality of capital;
- details of the quality of advances with provisions held thereon, along with movement in non-performing assets (NPAs);
- details of pending complaints, the major grounds for complaints and their disposal.

(ii) In September 2020, RBI had revised the format for Long Form Audit Report (LFAR) to increase its utility value by enhancing the coverage of the prudential supervisory requirements stated in the Basel Committee on Banking Supervision (BCBS) document on "External Audits of Banks".

(iii) The Risk-Based Internal Audit (RBIA) system in Scheduled Commercial Banks (SCBs), which was introduced in 2002 was further strengthened in January 2021. This was followed by issuance of guidelines for large NBFCs and Urban Co-operative Banks (UCBs) in February 2021 prescribing broad principles for such entities to gradually move towards the RBIA system.

(iv) In April 2021, the RBI has updated the guidelines for Appointment of Statutory Auditors in Commercial Banks, UCBs and NBFCs putting in place ownership-neutral audit regulations for ensuring independence of auditors, avoiding conflict of interest in auditor appointments and improving the quality and standards of audit.

The RBI has also taken several measures to improve governance and risk management in banks and NBFCs. These include issuance of updated guidelines on corporate governance in Scheduled Commercial Banks in April 2021. The role of Chief Risk Officers(CROs) in SCBs has been strengthened and the requirement of CROs in large NBFCs and UCBs has been mandated. Steps have been taken to simplify the complex group structures by implementing the Tapan Ray Committee recommendations relating to Core Investment Companies (CICs). A framework for scale based regulation of NBFCs has been announced on October 22, 2021.

Conclusion

With globalisation and increasing complexity of the financial system, audit as a public good has become vital for a sound, stable and vibrant financial system. Auditors need to update and upgrade skills on constant basis and perform their task in the most effective manner. The profile of tomorrow's auditor will be that of a critical yet constructive challenger, with a clear focus on public interest and quality audits. In essence, there is need to be even more professional, qualified, impartial, value driven, ethical and also display awareness and foresight.

I am sure all of you will act as torch bearers of the supreme legacy of the Civil Service and the institution of CAG and uphold the principles of accountability, transparency, integrity and equity which are essential features of a good Public Servant, by imbibing the motto of the National Academy of Audit and Accounts – लोक हितार्थ सत्यनिष्ठा (commitment to truth for public good).

With this, I conclude and wish you all a very fulfilling career in the Indian Audit and Accounts Service.

*Governance and Prudential Supervision of Financial Institutions: Recent Initiatives**

M K Jain

A very good evening to all the distinguished dignitaries and participants at this annual BFSI Summit organised by the Business Standard. The Summit has over the past few days seen excellent discussions on several topical issues related to the Banking and Financial Sector and generated some very useful insights.

The topic for today's discussion is 'Bank Privatisation: Undoing 1969', which is one of the most widely debated issues for long. The detailed deliberations on the topic are scheduled separately by a panel comprising of eminent personalities. The Reserve Bank's regulatory and supervisory approach has largely been driven by ownership neutral approach with focus on ensuring financial stability and resilience of its financial entities. Banking practices evolved rapidly post liberalisation. The ever-changing financial landscape of the country and advent of Information Technology posed newer challenges for the banks as well as its regulator and supervisor. Banks being the engine of growth for the Indian economy, quickly adopted to this new reality of competitive environment and resorted to various new practices to maintain their bottom line. The adoption of new business models without adequate risk management and weakness in internal controls at times resulted in weak underwriting standards. The adverse developments in a few regulated entities in the past exposed some fault lines, primarily in terms of inadequate governance, inappropriate business model and weak internal assurance functions. RBI, therefore, undertook a review of its approach towards supervision as well as the existing practices in Supervised Entities (SEs) to identify the root causes for these gaps. Accordingly, the supervisory approach was reworked out in recent period to bring more focus on addressing these weaknesses.

In my address today, I would therefore like to talk about the changes in our expectations from financial entities along with the changes we brought about in our supervisory approach. Keeping in mind the overall objective of supervision *i.e.* "Ensuring the safety, soundness and resilience of financial entities, thereby protecting the depositor's interest and maintaining financial stability".

Governance

I would like to begin with the issue of governance. Corporate Governance is the cornerstone for any enterprise, but for banks, it assumes a distinctly different undertone and importance. It is well-known that banks are special in terms of services they render and the segments they touch while rendering these functions. By providing financial intermediation and maturity transformation, payment and settlement services, reducing information asymmetries, and engaging in deposit mobilisation, banks act as catalysts in growth of the economy. Most importantly, they enjoy the privilege of mobilising uncollateralised public deposits and operating with high levels of leverage. The negative externalities of banks and NBFCs are also much higher than those for any non-financial entity due to their inter-connectedness. That's why, globally, banks are regulated and supervised very closely.

It is also well-acknowledged that shareholders are driven by maximisation of the returns on their capital. But in banks, this objective is realised largely through the resources raised from depositors. Hence, as repositories of public resources, banks need to design

* Address by RBI Deputy Governor Shri M. K. Jain at the 2021 edition of annual BFSI Summit hosted by Business Standard. Inputs received from Shri Rohit Jain, Shri Ajay Kumar Choudhary, Dr Pallavi Chavan and Shri Nethaji Bhudevan of the Department of Supervision are gratefully acknowledged.

appropriate governance standards and implement internal controls to be worthy of the public trust. Being highly leveraged entities and with their inter-connectedness, there must be separation between ownership and management so that they operate on professional lines.

Governance reforms have been an area of continued focus for the Reserve Bank. The various regulatory measures including the mandatory listing of private sector banks, composition of the Board and its Committees, guidance on "fit and proper" criteria and on remuneration, separation of chairperson from managing director / chief executive officer have all been driven to improve the corporate governance and internal controls in banks.

Supervisory Initiatives

I shall now highlight the various prudential supervisory initiatives taken by Reserve Bank in recent years. The broad objectives of these can be detailed as follows:

(i) Bringing about a unified and more holistic approach to supervision and improving skill and capacity of supervisory staff.

(ii) Improving the governance practices and internal defenses in supervised entities, including an assessment of business model adopted.

(iii) Identifying early warning signals, increasing the focus on root cause of vulnerabilities and initiating corrective actions, as also refining supervisory processes and communications.

Let me elaborate a little on these areas.

(a) Unification of Supervisory Approach, Building Specialisation, Capacity and Skills in Supervision

In order to ensure a unified and systemic approach, a unified Department of Supervision (DoS) was created bringing all SEs, namely, Scheduled Commercial Banks, NBFCs and UCBs under one umbrella. Unifying the supervisory functions shall reduce the supervisory arbitrage and information asymmetries across SEs and address the complexities arising from their inter-connectedness. This will also help in the holistic understanding of systemic risks. Steps have been taken to improve the supervisory function through better capacity building and skilling of supervisors and for this purpose a separate College of Supervisors (CoS) has been set-up which is conducting extensive training programs in different areas. Supervisory specialisation is also being reinforced by way of creating specialised divisions for risk-based supervision of KYC / AML risk, data analytics, cyber security and IT examinations, among others. A Supervisory Action Framework has also been put in place which provides for graded early supervisory action depending on the frequency and severity of breaches identified.

(b) Strengthening Sound Governance and Internal Controls

i. Emphasis on risk culture

As banks are in the business of taking risks, sound risk culture lies at the heart of every decision that they take. In alignment with global developments, Reserve Bank too has made risk culture and business model analysis as part of its supervisory assessment. The focus has been to ensure that entities put in place a well-defined risk appetite framework, and business decision making is broadly in alignment with their risk appetite and risk bearing capacity.

ii. Strengthening the assurance function

Reserve Bank attaches a lot of importance to the effective functioning of internal assurance functions in its financial entities and has issued revised guidance for concurrent, internal, as well as external audits in banks.

The guidelines are expected to ensure that these audits act as an effective early warning, give greater clarity on supervisory expectations, avoid conflict of interest, provide sufficient authority / resources / independence to these functions, among others.

iii. Compliance function

The compliance function in a bank is an integral part of corporate governance, as it can affect the bank's reputation with its shareholders, customers, employees and the markets (BIS, 2005). The recent guidance by the Reserve Bank on compliance function casts responsibility of the compliance culture and management of compliance risk explicitly upon the Board. The guidance advises banks on laying down a Board-approved compliance policy, well-defined selection process for Chief Compliance Officer (CCO), a fixed tenure to CCOs, and requisite authority. Reserve Bank would expect that the standards of regulatory compliance will see considerable improvement going ahead.

(c) Tools for proactive off-site and on-site supervision

(i) Usage of Data and Analytical tools for offsite supervision

The offsite supervisory data is currently used in a variety of ways to aid in policy formulation, identify incipient stress, ascertain status of borrowers across lenders and check compliance to regulatory stipulations, among others. In addition to Central Repository of Information on large Credits (CRILC) and Central Fraud Registry (CFR), the data capabilities of RBI are in the process of being further upgraded through the revamped data warehouse, *viz.* the Centralised Information Management System (CIMS). It will encompass tools and applications for AI-ML, data visualisation and big data analytics.

As part of the forward-looking assessment of stress, various supervisory tools have been designed to identify vulnerable borrowers who have less 'distance to default' as well as vulnerable banks based on various parameters. Early Warning Systems and supervisory Stress Testing have been made an integral part of prudential supervision. Many Thematic Assessments are also being regularly carried out to identify system-wide issues and assess 'conduct' practices for taking corrective actions. Data dump analysis is also much more extensively used as part of our transaction testing exercise.

For continuous engagement with SEs, a web-based and an end-to-end workflow automation system has been developed. It has various functionalities including inspection, compliance and incident reporting for cyber security, *etc.* with a built-in remediation workflow, time tracking, notifications and alerts, Management Information System (MIS) reports and dashboards. This is being launched shortly.

Cyber-Security

With the proliferation of digital banking, cyber security has become an extremely important area of supervisory concern. To address this concern, the Reserve Bank has developed a model-based framework for assessing cyber risk in banks using various risk indicators, risk incidents, VA/PT, *etc.* Cyber drills are conducted based on hypothetical scenarios. Several Advisories and Alerts are issued on various cyber threats. Measures to build

better awareness of cyber risks in supervised entities are continuing. The Digital Payment Security Control Guidelines were issued recently by RBI to set up a robust governance structure and implement common minimum standards of security controls. While a lot is being done in the cyber security space, but these risks are continuously evolving in the dynamic environment we operate in, and hence there should be constant vigil and continuous enhancements of IT systems.

(ii) On-site Supervisory Processes

Several measures have been taken to improve the rigour and efficacy of on-site processes, including the annual inspection process by adopting a calibrated approach. Focus areas get identified in advance, risk-based scoping is ensured, inspections are completed in time-bound manner, quality review process is strengthened, and supervisory communication is sharper and more focussed with clear outline of time-bound Risk Mitigation Plans (RMPs) to be implemented by the entities, among others. Additionally, direct engagements with the senior management of entities are much more frequent and intense.

Conclusion and the Way Forward

Globally, banking is seeing rapid transformations and questions on the traditional bank model are being raised. Technology players are challenging banks with offerings which provide more convenience, better reach and lower cost to customers. Developments in AI/ML, robotics and chat advisory, digitalisation, Distributed Ledger Technology (DLT), quant computing, cloud arrangements, data analytics, new ways of remote working, etc are giving benefits but also generating new risks. Climate change, KYC / AML, cyber security, virtual currencies as well as increasing reliance on outsourcing are some of the other major challenges that will need to be addressed.

Agile and creative thinking is going to be essential in staying ahead of the digital curve when it comes to the evolution of financial services. Financial institutions would need to experiment with new technologies and tailor their products and services in alignment with business strategy and competitive considerations as well as in compliance with existing laws and regulations. Leveraging on technology will also require enhanced financial investments, building expertise and capacities, proper resource allocation and further strengthening of the operational capabilities.

Lastly, in this ever evolving and challenging environment, ultimately it is the operations of a financial entity in terms of its governance standards, business model, risk culture, and assurance functions that will decide how well it fares in the long-run. Reserve Bank would expect all its supervised entities to give due weightage and consideration to these elements.

With these words, I conclude my address. I thank the organisers for giving me this opportunity.

*Micro finance: Empowering a Billion Dreams**

M. Rajeshwar Rao

At the outset, I would like to thank Sa-Dhan for inviting me to deliver this inaugural address. The theme for this year - 'Revitalising Financial Inclusion' is an important issue at the current juncture. The loss of livelihoods and hardships caused by the pandemic calls for a reinvigorated push towards financial inclusion and micro credit for vulnerable and disadvantaged sections of the society who have been worst affected by the pandemic. There exists a strong case for using microfinance to transform social and economic structures and balance the welfare and profitability paradigm, which I would like to cover in my address.

As we all know, microfinance has emerged as one of most important financial tools to foster financial inclusion. It enables the poor and low-income households to increase their income levels, improve their overall standards of living and thereby come out of poverty. It also has the potential to become a vehicle to achieve national policies that target poverty reduction, women empowerment, assistance to vulnerable groups, and community development.

Evolutionary perspective

The not-for-profit origin of microfinance was built on the idea that it was a social and welfare proposition driven by the objective of improving social welfare by increasing the household income through a community-based approach. While several micro finance models have evolved subsequently across the globe, the search for delivering financial inclusion to the rural households and hinterlands, has evolved through two distinct approaches for developing a micro finance model in India, first - the bank-led approach mainly through Self Help Group (SHG) – Bank Linkage Programme (SHG-BLP), and the second one through the specialised micro finance institutions led model. The recognition of and emphasis on micro finance at a larger scale and beginnings of a formalised structure of micro finance in India can be traced back to the SHG - bank linkage programme (SBLP) which was started as a pilot project in 1992 by National Bank for Agricultural and Rural Development (NABARD). This programme proved to be quite successful over the years. An initiative which began as a simple approach of improving and deepening rural credit has slowly got transformed into an all-inclusive programme for building financial and technological capabilities in rural India.

Over time, the bouquet of services under micro finance fold has expanded from only credit and thrift products to include micro insurance, micro pension, micro remittances, digital payments, amongst others. This development suggests a recognition of the importance of other financial services and the industry orientation, moving from lending to lower-income groups to pursuing the double objectives of social benefits with financial viability. Thus, while serving the underprivileged, microfinance also presents an opportunity for expanding the benefits of financial developments to those at the bottom of the pyramid.

When microfinance activities gained prominence in the 1990s, RBI recognised it as a new paradigm with immense potential and has been very supportive of its growth. When the need for regulating the MFIs was felt in early 2000s, a view was taken that MFIs are significantly different from other financial institutions - both in terms of institutional structure and product portfolio and needed to be regulated differently. Since then, our approach has been to carve out a distinct

* Inaugural Address by Shri M. Rajeshwar Rao, Deputy Governor, Reserve Bank of India - October 27, 2021 at Sa-Dhan National Conference on "Revitalising Financial Inclusion". Assistance provided by Dr. Nitin Jain, Shri Pradeep Kumar, Shri Peshimam Khabeer Ahmed and Shri Anuj Sharma is thankfully acknowledged.

regulatory regime for these institutions in alignment with the specific nuances of the sector without diluting the principles of prudence, financial stability and customer interest.

One key milestone in the evolution of this regulatory framework was the constitution of the committee under the Chairmanship of Shri Y. H. Malegam. Based on the recommendations of this Committee, RBI introduced a comprehensive regulatory framework for NBFC-MFIs in December 2011. The regulations prescribed the eligibility criteria for microfinance loans which was linked to core features of microfinance i.e., lending of small amounts to borrowers belonging to low-income groups without collateral, with flexible repayment schedules. Besides, the regulations laid special emphasis on protection of borrowers and fair practices in lending such as transparency in charges, ceilings on margins and interest rates, non-coercive methods of recovery, measures to contain multiple lending and over-indebtedness.

Indian microfinance sector has witnessed phenomenal growth over past two decades in terms of increase in both - the number of institutions providing micro finance as also the quantum of credit made available to the micro finance customers. Presently, micro credit is delivered through a variety of institutional channels *viz.*, scheduled commercial banks (SCBs), regional rural banks (RRBs), cooperative banks, non-banking financial companies (NBFCs), Section 8 companies and microfinance institutions (MFIs) registered as NBFCs as well as in other forms.

The small finance banks (SFBs) are the latest game in the town. The institutional landscape of the microfinance sector has also changed significantly after licensing of Small Finance Banks. One out of two entities which was granted approval for starting a universal bank in 2014 was an NBFC-MFI, while eight out of ten entities granted approval for starting Small Finance Banks in 2016 were NBFC-MFIs. This, apart from further consolidation in the sector, has led to significant changes in the market dynamics with the share of specialised MFIs standing at a little over 30 per cent as on June 30, 2021 in the overall gross loan portfolio of around ₹2.14 lakh crore in the sector. Thus, micro finance, as a financial activity can no longer said to be a bastion of specialised MFIs.

However, the current regulatory framework, which was put in place with the objective of making credit available to low-income households and to protect borrowers from harsh recovery practices of the lenders, is applicable only to NBFC-MFIs, whereas other lenders, who now have a share of around 70 per cent in the microfinance portfolio are not subjected to similar regulatory conditions. This has created a non-level playing field, posing difficulties for customers and has resulted in emergence of differing practices within the sector. While one would have expected that other lenders would also be guided by the intent of the abovementioned regulations applicable to NBFC-MFIs, that has not happened.

Mostly, there have been three distinct sets of criticisms against micro finance lenders – (i) that they lead their borrowers into debt-trap like situations; (ii) They charge usurious rates of interest often disproportionate to their funding and operational costs; and (iii) they deploy harsh recovery methods leading to distress amongst borrowers. These are issues which need to be critically introspected and addressed by the lenders to prevent recurrence of the crisis episodes.

The emerging dynamics in the microfinance sector as well as the concerns around customer protection therefore call for a review of the regulations so that all the regulated entities engaged in micro finance pursue the goal of customer protection within a well-calibrated and harmonised set-up. As you all may be aware; the Reserve Bank has recently come out with the Consultative Document (CD) on 'Regulation

of Microfinance' seeking feedback from all the stakeholders. I wish to highlight some of the major aspects we are trying to address through this proposed framework.

Over-indebtedness and Multiple Lending

The protection of small borrowers has been enshrined in the NBFC-MFI regulations which do not permit more than two NBFC-MFIs to lend to the same borrower. Besides, there is a regulatory ceiling on the maximum amount that can be lent by an NBFC-MFI to a microfinance borrower. But it is observed that small borrowers are increasingly able to get multiple loans from several lenders well beyond their repayment capacity, contributing to over-indebtedness. The borrowers then end up defaulting on their repayment obligations. Then there are reports of coercive recovery practices by the entities looking to recover their dues. In this entire process what we see is a compromise with the basic tenet of responsible lending with the small and marginal borrowers ending up becoming victims of over-indebtedness.

In the proposed framework, it has therefore been suggested that the regulations should focus on repayment capacity of the borrowers rather than considering only indebtedness or indebtedness from only NBFC-MFIs in isolation. It has been proposed to address the issue of over-indebtedness by prescribing a common definition of microfinance loans which will be uniformly applicable to all lenders and linking loan amount to household income. The proposal is that the payment of interest and repayment of principal for all outstanding loans of the household at any point of time should not be more than 50 per cent of the household income.

Pricing of Micro finance Loans

Over the years, modifications in the regulatory instructions and clarifications governing loan pricing for MFIs have evolved in sync with changing circumstances. Following the recommendations of Malegam Committee, the guidelines issued in December 2011 prescribed a uniform margin cap (12 per cent for smaller NBFC-MFIs with portfolio of Rs. 100 crore and less and 10 per cent for others) along with a cap of 26 per cent on individual loans. Later, in 2012, the fixed interest rate ceiling of 26 per cent was removed while in April 2014 an additional criterion was introduced where in the lending rate was fixed at a multiple (2.75 times) of the average base rate of five largest commercial banks.

The regulatory ceiling on interest rate is applicable only to NBFC-MFIs. The prescription of a ceiling on lending rate for NBFC-MFIs has had an unintended consequence of not allowing competition to play out. There is a concern that the current guidelines, while prescribing an interest rate ceiling for only NBFC-MFIs, are effectively acting as a benchmark for other lenders as well. It is generally observed that interest rates of other lenders in micro finance segment also hover around this ceiling despite comparatively lower cost of funds. Even among NBFC-MFIs, increasing size of the operations leading to greater economy of scale has not resulted in any perceptible decline in their lending rates. As a result, it is the borrowers who may be getting deprived of the benefits of enhanced competition, monetary policy impulses as well as economies of scale.

While banks (including SFBs) have been advised to benchmark all new floating rate personal or retail loans to an external benchmark w.e.f. October 1, 2019, benchmark-based pricing has not been introduced for NBFCs, including NBFC-MFIs, yet. In view of the substantial divergence between the financing and operational costs among the lenders operating in the micro finance space, mandating any specific benchmark or any spread over a benchmark is unlikely to remove the constraints observed in the current system. Therefore, under the revised framework, it is proposed to do away with the prescribed ceiling and mandate all lenders to have a board approved

policy on all-inclusive interest rate charged to the micro finance borrowers. The lenders would also have to make available a simplified factsheet on pricing of micro finance loans to the borrowers along with the disclosure of minimum, maximum, and average interest rates charged by them. The intention is to enable the market mechanism to come into play with the expectation that it will bring the lending rates downwards for the entire microfinance sector and empower the customer through transparent disclosures.

Customer Protection Measures

Now, let me dwell briefly upon one other critical aspect of customer protection that the Reserve Bank is looking to strengthen through the proposed changes. The inability/ difficulty of a borrower to repay his loan may be caused by several reasons such as unforeseen/ unavoidable adverse circumstances, natural calamities, over-indebtedness, *etc.* A cap on the loan repayment obligation of a household as a percentage of the household income is expected to address the inability of the microfinance borrowers to repay the loan.

Further, in this case borrowers often lack the type of collateral preferred by the lenders and whatever little collateral they have for pledging may be of little value for the lenders even while it might be highly valued by the borrower. Even if lenders take such collateral, it is more for inducing repayments rather than to recover losses. Therefore, it has been proposed to extend the collateral free nature of microfinance loans, as applicable to NBFC-MFIs, to all lenders in the micro finance space.

Way forward

I am sure everyone present here shares my concerns outlined above and appreciates the fact that negative consequences of over-indebtedness, harsh recovery practices and adverse outcomes arising from harassment of customers will adversely impact the MFI ecosystem. From society's perspective, there are economic and social implications. While chasing higher asset growth and returns, lenders should not throw caution to the winds. Any slip-up through adverse actions of the MFIs may undo the tremendous progress achieved over the decades and the Sector can ill-afford to do that.

The roots and origin of micro finance should not be forgotten and sacrificed at the altar of bottom-line growth. There is no denying the fact that self-sufficiency and financial sustainability are the objectives that the lenders need to pursue. However, prioritisation of profitability at the expense of social and welfare goals of the micro finance may not be an optimal outcome. Lenders need to remain cognizant of the fact that the balance sheet growth should not be built by compromising on the prudent conduct.

Micro finance in my view, at its core, should focus on understanding the needs of the customer first and offer them adequate levels of support through appropriate financial products. The customers of micro finance institutions often have lower level of financial awareness and literacy and are often too desperate to turn away any source of credit. Therefore, they need to be treated with care and empathy and should not be considered as a mere data points for investor presentations. The lenders in the micro finance space should not try to mimic the strategies of mainstream finance as those serving the micro borrowers have a greater need to balance the social objectives with their lending operations. Strong corporate governance could play a critical role in balancing seemingly exclusive but potentially complementary objectives of growth and social welfare from a long-term perspective.

As microfinance industry serves lower strata of the society and micro and small businesses, it has its own set of operational challenges and costs. Technology should help the industry to overcome

this challenge. Microfinance lenders who are early adopters of technology are using customer data for designing tailored financial products, automating the processes for customer on-boarding, improving the credit monitoring process by getting early warning signs of stress in loan portfolio and enabling digital modes of loan and other payments. A few entities are designing apps that are vernacular and aid customer interaction through voice and chat conversations, thereby making them customer-friendly, intuitive, and easy to use. Technology is thus serving to counter the key issues of high operating cost, credit risk and customer service.

The local connect and community-oriented approach through physical interaction has been the hallmark of micro finance sector. However, in the digital era, many micro finance lenders are also entering into partnership with fintech firms for delivery of services and sourcing of customers. While we encourage the use of technology, let me reiterate that the customer protection should not be compromised in the process and customer should get the similar experience in digital mode, if not better. The other areas of immediate focus for the sector include revamping of the risk management systems, improving the skills of the field level staff and institution of an effective grievance redressal system.

Concluding thoughts

For most of us, it is hard to imagine a life without financial services, but billions of people around the world do not have to imagine it but live through it every day. Unless we work to uplift this vast section of the society by bringing them into the formal financial fold, a billion aspirations may remain unfulfilled. Micro finance has come of age in India. It has developed into an important financial delivery mechanism. It has particularly helped women to become owners of assets, have an increased say in decision making and lead dignified lives. In current landscape, it is possible to expedite financial inclusion process by leveraging the flexibility provided by the multiple tech-led models for delivering a wide range of financial services. I am confident that the conference will throw up ideas which will enable the vibrant growth of the industry, while managing the challenges and addressing some of the key concerns which I have tried to highlight. From the regulatory side, we would look to foster the growth of the sector guided by the ultimate objective of financial inclusion and customer protection while providing a level playing field.

Let me conclude by wishing you all a very productive set of discussions over the course of the conference.

Thank you.

Chasing the Horizon *

M. Rajeshwar Rao

Ladies and Gentlemen!

It's a pleasure to be with you this morning. Let me thank Mr. Chandrajit Banerjee, Director General, CII for extending this kind invitation to me for delivering this inaugural talk at the summit organised by CII. NBFC sector has received wide ranging attention for past few years for various reasons. As an important cog of the financial system, it holds immense potential with its ability to reach out to vast cross-section of the population and diverse geographies and my focus today is going to be outlining a path for achieving this potential.

As many of you might recall, almost a year back in the National E-Summit on Non-Banking Financial Companies organised by ASSOCHAM, I dwelt upon how the regulations for NBFC sector might shape up in future. The year has passed by and I would like to think we have made significant progress in many of those areas. One important point that we had highlighted back then was the principle of proportionality for regulating the non-banking financial entities. The idea was to calibrate the degree of regulatory prescriptions based on the systemic importance of NBFCs and the contagion risk they pose to other entities in the financial system. To give shape to our principle of proportionality idea, we came out with the Discussion Paper on Revised Regulatory Framework for NBFCs- A Scale-Based Approach in January this year for stakeholder comments. We have received and examined these comments internally and I plan to discuss on the approach a bit later in my talk.

In today's talk, I would like to focus on three key aspects. First, the uniqueness of non-banking financial sector and its importance in the overall scheme of things for development of the country; second, discuss a bit on the Scale Based Regulations as the way forward for regulatory landscape of NBFC sector. Finally, a few asks from the sector, you may call them asks, suggestions or regulatory expectations or by some other name, essentially these are the issues which I believe the industry needs to pay more attention to.

Non-Banking Finance Companies (NBFCs) ecosystem in our country is a place of immense diversity and may I add, complexity as well. There are 9651 NBFCs across twelve different categories focussed on a diverse set of products, customer segments, and geographies. As on March 31, 2021, NBFC sector (including HFCs) has assets worth more than ₹54 lakh crore, equivalent to about 25% of the asset size of the banking sector. Therefore, there can be no doubt regarding its significance and role within the financial system in meeting the credit needs of a large segment of the society. Over the last five years the NBFC sector assets have grown at cumulative average growth rate of 17.91 per cent. However, one needs to understand whether it is a demand-side pull or supply-side push which is contributing to growth of NBFC sector. This distinction becomes important as it has significant implications for the efficiency of the sector. Conventional wisdom tells us that growth consequential to demand-side pull factors translates into increased efficiency and better services to the customers. Supply driven growth could, on the other hand, arise out of entry by entrepreneurs who would like to enter financial services industries but are unable to meet the scale and stringent norms meant for banks.

The preamble to the Reserve Bank of India Act, 1934, enjoins on the Bank, to operate the currency and the credit system of the country to its advantage. Thus,

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* Remarks delivered by Shri M. Rajeshwar Rao, Deputy Governor, Reserve Bank of India at the virtual CII NBFC Summit on Role of NBFCs in Achieving $5 trillion Economy - October 22, 2021. The inputs provided by Shri Chandan Kumar and Pradeep Kumar are gratefully acknowledged.

promotion of an efficient financial intermediation system, which facilitates adequate credit flow to every segment of the society, more so to the financially disadvantaged population is an embedded goal for us at the Reserve Bank. Non-banking financial sector assumes an important role in the process as it is a valuable source of financing for many firms, micro and small units as well as individuals and small business, facilitating competition and diversity among credit providers. Further, niche NFBCs fulfil the unmet and exclusive credit needs of various segments such as infrastructure, factoring, leasing, *etc.* NBFC- MFIs reach out to the underprivileged sections of the society. Along with banking, which is the primary channel of financial intermediation, NBFCs have been increasingly playing a significant complementary role in financial intermediation and provision of last mile delivery of financial services.

Non-banking financial entities, by their regulatory design, enjoy freedom to undertake a wider spectrum of activities as compared to banks for which the permissible activities are enshrined in the statute itself. This freedom, coupled with a light touch regulatory prescription, gives them a greater risk-taking capacity to engage in financial intermediation in the segments which are often underserved by other players. Hence, even with large universal banking's reach across the country, the NBFC sector has the ability to create a space for itself with customised services with a local feel.

Apart from furthering the financial inclusion agenda, the added advantage of a well-functioning NBFC sector is that it can promote resilience in the financial system by being innovative and agile in offering tailored financial products and solutions as a supplemental source of credit alongside banks. It has to be noted that many recent financial sector credit delivery innovations, for example micro-credit and sachetisation of credit, were popularised by non-banking financial entities. This capability and freedom to innovate spurs competitive advantage in the financial services sector with the ultimate beneficiary in the process being the customer.

However, the reputation of non-banking financial sector has been dented in recent times by failure of certain entities due to idiosyncratic factors. The challenge therefore is to restore trust in the sector by ensuring that few entities or activities do not generate vulnerabilities which go undetected and create shocks and give rise to systemic risk through their interlinkages with the financial system. Forestalling and where necessary, decisively resolving such episodes becomes a key focus of our regulatory and supervisory efforts.

Scale Based Regulatory Approach

Before we discuss further, it would be interesting to make an assessment as to where the Indian NBFC sector stands with respect to significance, activity and regulation as compared to global jurisdictions. The Global monitoring report on NBFI by Financial Stability Board (FSB) classifies non-banking financial activities into five economic functions, (i) collective investment vehicles, (ii) loan companies which depend on short-term funding, (iii) market intermediaries, (iv) entities which engage in facilitation of credit creation (such as credit insurance companies, financial guarantors) and (v) entities undertaking securitisation-based credit intermediation. Globally, the collective investment vehicles are the most dominant category of the non-banking financial activity and account for 73 per cent of the global NBFI sector. In the global context, the second function of NBFIs *i.e.*, loan companies depending on short-term funding is a small segment constituting just around 7 per cent of the total NBFI sector, but in India the non-banking sector is largely into direct credit intermediation.

The regulatory challenge in India is thus different with the focus on designing prudential regulations specifically meant for lending activities of NBFCs

without compromising on their operational flexibility.

Before I talk about SBR, let me step back a bit to give a historical perspective on regulation of NBFC sector in India. While the powers for regulation and Registration of Non-Banking Financial Institutions receiving deposits and Financial Institutions was vested in RBI by the insertion of Chapter III B to the RBI act in 1963, it was only in the late nineties that some semblance of structured regulation commenced. However, the general premise for regulation at that time was based on the fact that the sector would cater to niche activities and geographies. It would make its presence felt in remote and inaccessible areas of the country where formal financial services were difficult to reach, complementing the existing banking sector. This was coupled with an implicit assumption that the sector would mostly function on a lower scale and not pose any tangible risks to the financial system. Hence, taking into account their unique business model, vast reach and operations on lower scale, their regulations were placed on a different pedestal. The arbitrage in favour of NBFCs was by design and not by default.

Over the years, the NBFC sector has evolved in terms of its size, operations, technological sophistication with entry into newer areas of financial services and products. To keep pace with the same, regulations have also evolved to address various accompanying risks and concerns. Reserve Bank had introduced an element of differential regulation way back in 2006 when regulatory framework for systematically important NBFCs was strengthened. Further in 2014, a revised regulatory framework was announced and many of the regulatory parameters with regard to net owned fund, prudential requirements and corporate governance standards were strengthened. It may not be out of place to say that the regulatory framework for NBFCs has remained a work in progress and it continues to be so. The fundamental premise has, however, been to allow operational flexibility to NBFCs and help them grow and develop expertise.

Now, the non-banking sector has grown significantly and several NBFCs match the size of the largest Urban Cooperative Bank or the largest Regional Rural Bank. In fact, few of them are as big as some of the new generation private sector banks. Further, they have become more and more interconnected with the financial system. NBFCs are the largest net borrowers of funds from the financial system and banks provide a substantial part of the funding to NBFCs and HFCs. Therefore, failure of any large NBFC or HFC may translate into a risk to its lenders with the potential to create a contagion. Failure of any large and deeply interconnected NBFC can also cause disruption to the operations of the small and mid-sized NBFCs through a domino effect by limiting their ability to raise funds. Liquidity stress in the sector triggered by failure of a large CIC broke the myth that NBFCs do not pose any systemic risk to the financial system.

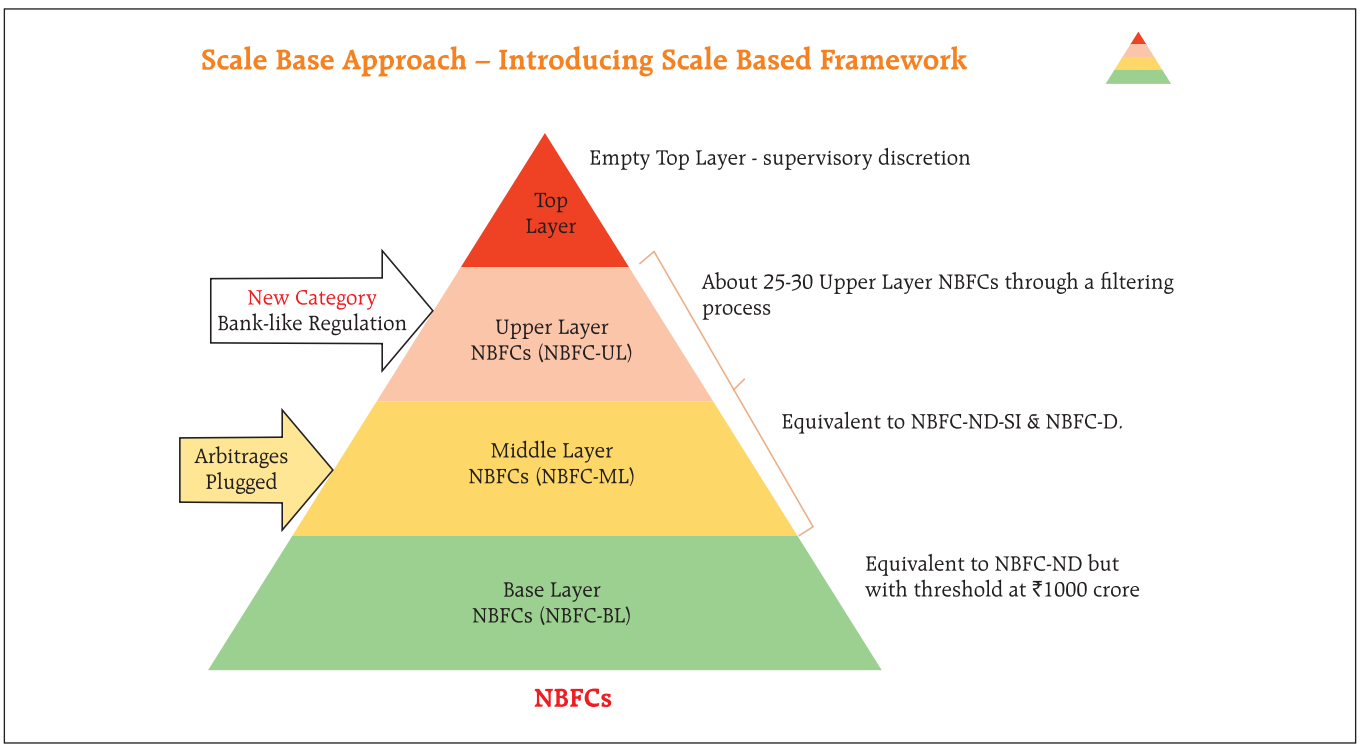
While we are aware that differential regulation in the NBFC sector is required to allow it to bridge the gap in last mile connectivity and exhibit dynamism, this premise remains valid till the time their scale of operations is low. As and when they attain the size and complexity which poses risk for the financial system, the case becomes stronger for greater regulatory oversight. It is in this background that we have conceptualised the scale based regulatory framework aligning it with the changing risk profile of NBFCs while addressing systemic risk issues. A scale-based regulatory framework, proportionate to the systemic significance of NBFCs, may be optimal approach where the level of regulation and supervision will be a function of the size, activity, and riskiness of NBFCs. As regulations would be proportional to the scale of NBFCs, it would not impose undue costs on the Regulated Entities (REs). While certain arbitrages that could potentially have adverse impact would be minimised, the fundamental premise of allowing operational flexibility to NBFCs in conducting their business would not be diluted.

Under the proposed scale-based framework, NBFCs would be categorised into four layers - Base Layer, Middle Layer, Upper Layer, and a possible Top Layer. Base Layer will broadly be equivalent to existing non-deposit taking non-systemically important NBFCs (NBFC-NDs), NBFCs without public funds and customer interface and certain NBFCs undertaking specific activities. It is proposed to mostly continue with the 'light touch regulation' and focus is not to burden such entities with higher level of prudential regulations but increase transparency by way of greater disclosures and improved governance standards.

Middle Layer will, broadly, be equivalent to existing deposit taking NBFCs and systemically important non-deposit taking NBFCs (NBFC-NDSI). In the middle layer, we had proposed to plug the areas of arbitrage between banks and NBFCs where it is felt continuance of the arbitrage would be detrimental to orderly growth in the sector and may contribute to marginal risk to financial system. NBFC - Upper Layer was conceived of as a new category of NBFCs in which a chosen few, around 25-30 systemically significant NBFCs, would be specifically identified by the RBI through certain objective criteria and will be subjected to enhanced regulatory rigour. The NBFCs in this layer would be identified by way of a scoring methodology based on size, interconnectedness, complexity, and supervisory inputs. The idea is to introduce prudential regulations and intensive supervision for such entities proportionate to their systemic significance. Further, to enhance transparency and disclosure, it is also proposed that NBFCs-UL would have to mandatorily list in a stock exchange within a given time frame.

There is also a top layer envisaged in the pyramidical structure of SBR. Ideally, this layer would remain empty, and an Institution would be slotted into this layer at the discretion of the supervisor if he is of the opinion that the entity is contributing significantly to systemic risk. Such entities in Top Layer would be required to comply with significantly higher and bespoke regulatory / supervisory requirements.

SBR Framework – Pictographic Representation



RBI's regulatory approach towards non-banking financial sector has been dynamic and has evolved with passage of time with the regulatory initiatives and structures built over the years. There has been a consistent and conscious understanding that a "one size fits all" approach is not suitable for NBFC sector, which are a diverse set of financial intermediaries, with different business models, serve heterogenous group of customers and are exposed to different risks. As I have enunciated earlier also, the overarching goal of the Reserve Bank is to ensure that risks to financial stability are minimised and contained, be it from a sector or an entity.

Regulatory Expectations

Let me now turn to what we envisage as four key cornerstones which I feel not only NBFCs, but every financial entity needs to adopt to become a resilient, customer centric and responsible organisation contributing to economic growth of the country.

Responsible financial Innovation

The non-banking financial space has been a hotbed of financial innovation. The inherent structure of NBFCs as an agile force makes them capable of and likely to experiment with innovative technologies and devise newer ways, methods, and vehicles to deliver financial products and services to every nook and corner of the country. The NBFCs have been in the forefront in the adoption of innovative fintech based products and services which are transforming the ways of carrying out credit intermediation and extending financial services. As an enabling regulator, the Reserve Bank has also been on the forefront of creating an environment for growth of digital technology. Peer to Peer (P2P) lending, Account Aggregator (AA) and digital-only NBFCs are cases in point where the regulations are helping the segment and entities to grow in a systematic and orderly manner.

However, point of caution here is that the innovation should not be at the cost of prudence and should not be designed to cut corners around regulatory, prudential and disclosure requirements. Responsible financial innovation should always have customer at its centre and should be aimed at creating positive impact on the financial ecosystem and the society. One should therefore consider the impact of new ideas on the financial fabric at the conceptualisation stage itself. This is somewhat similar to the concept of evaluating the impact of business on the environment or greening the financial system but applies to every new innovative idea floated by buzzing entrepreneurial energy of financial entities.

Accountable Conduct

Second point which I wish to highlight is the imperative need for accountable conduct by financial entities. On the digital finance front, the pandemic gave us several new learning points. During the pandemic there was surge in digital credit delivery, with lenders either lending through their own balance sheet and in-house digital modes or using third party apps to onboard customers. While the benefits accruing from digital financial services is not a point of debate, the business conduct issues, and governance standards adopted by such digital lenders have shaken the trust reposed in digital means of finance in India. We were and are inundated with the complaints of harsh recovery practices, breach of data privacy, increasing fraudulent transactions, cybercrime, excessive interest rates and harassment.

Responding quickly to such complaints, RBI on June 24, 2020 came out with a circular reiterating that banks and NBFCs must adhere to fair practices and outsourcing guidelines for loans sourced over proprietary digital platforms or third-party apps under an outsourcing arrangement. Unfortunately, such developments spurred by purely commercial considerations have dented the credibility of the whole system which flourishes and thrives on trust.

My ask here is that we should not compromise on the ethos of the finance for mercurial or ephemeral gains. These gains would anyway accrue to the Institutions over the long term if and when it is built on an edifice of trust and mutual benefit.

Responsible Governance

Governance as a regulatory theme has engaged our attention for quite some time now. Governance requirements for NBFCs have been less rigorous as compared to banks. Under SBR, some steps to institute an enhanced governance framework for NBFCs in the Middle and Upper Layers have been suggested. These changes pertain to key managerial personnel, appointment and qualification of independent directors, constitution of board committees, compensation guidelines and disclosures. However, while governance structures within an entity can be enforced through legislation or regulations, responsible governance practices cannot. These need to be built by developing appropriate governance culture and traditions. All of us would agree that the governance is more of a cultural issue than a regulatory issue. Therefore, I urge all of you to create a culture of responsible governance in your respective organisations where every employee feels responsible towards the customer, organisation, and society. Good governance is key to long-term resilience, efficiency and might I add, survival of the entities.

Centrality of the Customer

The natural transition from these discussions is protection of the customers. This in my view is non-negotiable and I have taken every opportunity to voice my concerns on this issue. To us at RBI, any regulatory move has always, the larger public interest as its core theme and we have been doing our best having regard to public interest in general for the financial system. Putting in place an elaborate grievance redressal machinery, an RBI Ombudsman scheme, Fair Practices Code, *etc.* are pointers in this direction. More recently, the Scheme for Internal Ombudsman has been extended to NBFCs on a selective basis. The IO at the apex of the NBFC's internal grievance redressal mechanism, shall independently review the resolution provided by the NBFC in the case of wholly or partially rejected complaints.

However, regulatory measures alone may not suffice. Protecting customers against unfair, deceptive, or fraudulent practices has to become top priority of every entity and permeate the organisation culturally and become a part of its ethos. Customer service would mean, amongst many other things, that a customer has similar pre-sale and post-sale experience, she/he is not disadvantaged *vis-à-vis* another customer because he or she approached the financial entity through a different delivery channel, and he or she has a right to hassle-free exit from the contractual obligation. This issue has been deliberated often enough and it's time to act now.

Conclusion

Let me conclude by saying that non-banking financial sector is at an inflexion point right now. From here the entities which put interest of the customer above everything else, are responsible while innovating and have strong governance culture, will thrive while others will fade with the passage of time. The Reserve Bank has been carrying out calibrated modifications and adjustments to mould the NBFC regulations in the changing business environment. However, many a times when I think of the regulations in non-banking segment, I am reminded of the metaphoric man of Stephane Crane[1] who is pursuing the horizon, determined to achieve its vision.

Thank you.

[1] "I saw a man pursuing the horizon" - a poem by Stephen Crane

*India's Capital Account Management – An assessment**

T Rabi Sankar

In the previous FEDAI Annual Day address in November 2020, Governor Shri Shaktikanta Das had observed that CAC will continue to be approached "as a process rather than an event". What I will do in this address is to expand on that theme and bring into focus some of the important issues on which, in my opinion, further public debate is warranted, to continue along this process of capital account convertibility.

What is capital account convertibility?

The balance of payments (BOP) of a country records all economic transactions of a country (that is, of its individuals, businesses and governments) with the rest of the world during a defined period, usually one year. These transactions are broadly divided into two heads – current account and capital account. The current account covers exports and imports of goods and services, factor income and unilateral transfers. The capital account records the net change in foreign assets and liabilities held by a country. Convertibility refers to the ability to convert domestic currency into foreign currencies and vice versa to make payments for balance of payments transactions. Current account convertibility is the ability or freedom to convert domestic currency for current account transactions while capital account convertibility is the ability or freedom to convert domestic currency for capital account transactions. The Tarapore Committee (2006), for instance, defined capital account convertibility as the "freedom to convert local financial assets into foreign financial assets and vice versa."

The degree of BOP convertibility of a country usually depends on the level of its economic development and degree of maturity of its financial markets. Therefore, advanced economies (AEs) are almost fully convertible while emerging market economies (EMEs) are convertible to different degrees.

Why is capital account convertibility important?

Free capital mobility, or internationalisation of capital markets, is commonly recognised as an engine of global growth. Specifically, benefits of internationalisation of capital markets are well accepted, in terms of broadening the investor base for recipient country financial assets, improved liquidity in financial markets and positive pressures for market infrastructure and market practices. International capital markets, by enabling access to a global savings pool and to different currencies, can potentially reduce borrowing costs, facilitate better risk allocation and enhance global liquidity (OECD, 2017)[1].

What are the risks of free capital mobility and how are these risks managed?

The various currency and banking crises experienced over the last few decades have simultaneously highlighted the costs and risks of internationalisation such as exposure to global shocks, credit and asset bubbles, exchange rate volatility associated with sudden exit of capital and higher refinancing risk. Increased globalisation has brought to the fore the vulnerability to contagion effects. While it was argued that such risks are the short-term pains needed to reap long-term gains (Kaminsky and others, 2008)[2], there is now a wider acceptance that benefits of internationalisation are not an unmixed blessing

* Speech delivered by Deputy Governor Shri T Rabi Sankar on the Fifth Foreign Exchange Dealers' Association of India (FEDAI) Annual Day on October 14th, 2021. It was delivered via virtual platform.

[1] OECD (2017), Open and Orderly Capital Movements: Interventions from the 2016 OECD High-Level Seminar.

[2] Kaminsky Graciela Laura and Sergio L. Schmukler: Short-Run Pain, Long-Run Gain: Financial Liberalisation and Stock Market Cycles, review of Finance, 2008

and that there is a nuanced trade-off between growth and crisis risk. Such awareness has led to policy focus on three fronts.

a. First, that benefits of internationalisation presupposes sound macroeconomic fundamentals, a well developed financial system and a sound market infrastructure, including efficient markets for funding and risk transfer.

b. Second, that countries need to develop appropriate tools to deal with the risks of internationalisation, in particular, tools to manage the volume and composition of capital inflows and macro prudential tools.

c. And third, that different types of capital flows carry different risks – some are riskier than others. The agreed hierarchy of capital flows is that foreign direct investment is the least risky, followed by equity investment, followed by debt capital. While FDI is seen to contribute to long-run growth, portfolio equity gives a shorter run boost. Debt flows, while necessary, are susceptible to be volatile. Understandably, the focus of capital flow regulations, and macro-prudential regulations, has been debt flows.

Capital flow measures are effective insofar as they lead to safer external liability structures, by reducing dependence on foreign borrowing and could be particularly effective during sudden-stop episodes. They work essentially by avoiding risky flows or containing short-term debt or controlling currency exposure of domestic borrowers. Especially for economies where capital flows are relatively large, or the exposure of banking systems is significant, these measures could be more effective than macro prudential tools.

Macro prudential measures target systemic stability issues and tend to be capital based or liquidity based or borrower based. Capital based measures like counter cyclical capital buffers or higher-than-standard capital requirements or calibration of capital risk weights intended to change incentives for certain types of funding are commonly used. Liquidity Coverage Ratio or Net Stable Funding Ratio can be used to manage exposure to short-term flows. Similarly, credit or asset bubbles can be controlled using Loan-to-Value ratio or Debt Service-to-Income ratios.

There is extensive global discussion on the choice and effectiveness of these tools to deal with specific vulnerabilities. There is reasonable consensus that none of these measures is undesirable in itself. There is also broad agreement on the sequencing of these measures. That the first line of defence against risks of capital flows are prudent macroeconomic policies and a strong institutional base. External borrowing should be controlled until corporate governance and supervisory standards are robust.

Not all emerging economies, however, may have this choice, and may be constrained to depend on capital flows, either to meet their investment needs or to develop financial markets. For many of these countries, the required development of policy and markets has to happen simultaneously with dependence on foreign capital. Often, there is only a limited choice on the type of capital that flows in, leading to dependence on risky debt capital. Managing these flows with a not-so-efficient domestic institutional base requires policy flexibility. Usually, managing the spillover risks of global capital involves a combination of these and macro prudential measures. Building up reserves has been an acceptable course, especially after the Asian crisis. Having some control on the amount of debt capital as well as on its nature is another defence. Long-term debt flows could be preferred to short-term flows, stable investors (pension or insurance funds, reserve portfolios) could be preferred to flighty investors such as carry traders, arbitrage traders *etc.* In a sense capital flow measures may really be used to compensate for lack of strong

macro-fundamentals and adjustment mechanisms (Fratzscher, 2012)[3].

Thus, capital flows are useful, and in case of many EMEs, even necessary. The choice is in how to manage the attendant risks. Effective management of these risks, especially those associated with debt flows, requires a diversified policy tool-kit. Which of these is used is basically a function of the degree of development of the economy and markets of the country.

Capital flow management in India

External sector liberalisation started in India with the economic liberalisation process that commenced in the early nineties – moving to a floating exchange rate regime and freeing up current account transactions. The enactment of the Foreign Exchange Management Act, 1999 codified this arrangement with relatively free current account transactions (except for a negative list) and controlled capital account transactions. Liberalisation in this context basically meant gradually freeing up capital account transactions. Over the last two decades, FDI has become more or less unrestricted except (i) for some sectoral caps and (ii) restrictions in a few socially sensitive (*e.g.*, gambling) or volatile (*e.g.*, real estate) or strategic (*e.g.*, atomic energy) sectors.

The policy regime for foreign portfolio investments in India commenced in 1992 when Foreign Institutional Investors (FIIs, or, since January 2014, FPIs) were allowed to invest in domestic financial instruments, basically equity. FPIs were given access to corporate debt markets in 1995 and to G-secs in 1997. Thus, the FPI regime has followed the standard process of liberalising equity flows first and then gradually freeing up debt capital. Apart from sectoral caps to regulate control, portfolio flows into equities in India are virtually unrestricted. Access to debt markets - sovereign and corporate - is subject to macro caps and other macroprudential limits. These are designed to safeguard the domestic economy from excessively speculative hot money flows.

There is an effort to liberalise FPI debt flows further with the introduction of the Fully Accessible Route (FAR) which places no limit on non-resident investment in specified benchmark securities. Since over time, virtually all securities will fall under the FAR category, the move is unambiguously towards an eventual unfettered access for non-residents into Government securities. Efforts to get India included under global bond indexes and the complementary move towards placing G-secs under global custodians, once implemented, will encourage debt flows in future.

The first comprehensive guidelines on External Commercial Borrowing (ECB) were issued by Government, in July 1999. It has been liberalised over time. Currently, ECB by corporates, while more open than portfolio flows, seeks to enable medium to long-term debt (minimum tenor) only healthy corporates to borrow (through cost ceilings) subject to an overall soft limit. A few "end uses" – real estate, capital market, equity - are not permitted.

Chart 1 (see Annex for all charts) shows that the actual flows of capital have been broadly in the desirable direction with direct investments (FDI flows) outstripping portfolio investments (FPI flows) and equity flows (FDI plus FPI equity[4]) outstripping debt flows (FPI Debt plus ECB). The gradual liberalisation of capital inflows has been consistent with the realisation of the preferred composition of capital inflows.

The focus on capital outflows has understandably been far less given that India's priority is to attract

[3] Fratzscher, Marcel: Capital Controls and Foreign Exchange Policy, Working Paper Series, European Central bank, February 2012.

[4] FPI flows into equity over the 15-year period (2006-07 to 2020-21) accounts for 73% of total FPI inflows, while flows into debt account for the remaining 27%.

foreign capital to fund its savings gap. There is basically one channel – Overseas Direct Investment (ODI). The Liberalised Remittance Scheme (LRS) for individuals, while it is open for both current and capital account transactions, is largely (more than 90%) in current account transactions like travel, studies *etc.*

Issues for wider debate

While the progress so far can be considered to have moved broadly along the desirable direction, there are some issues which require a wider debate as there are no standard answers. We will discuss some of these issues below.

a. With the Fully Accessible Route, as discussed above, over time the entire G-sec issuance would be eligible for non-resident investment. While experience of other countries suggest that non-residents are unlikely to hold a major portion of outstanding stock, substantial debt holdings might make India vulnerable to the risk of sudden reversals. Since this channel was permitted in the context of inclusion of India's G-secs in global bond indices, there is a natural safety mechanism as index investors are unlikely to indulge in sudden reversals. It may need to be considered, from a macroprudential perspective, whether FAR should be linked to index inclusion.

b. As the LRS Scheme has operated for some time, there may be a need to review it keeping in mind the changing requirements such as higher education for the youth, requirement of start-ups *etc.* There might even be a case for reviewing whether the limit can remain uniform or can be linked to some economic variable for individuals.

c. A key aspect of currency convertibility is integration of financial markets. Over time, it is essential that two markets – onshore and offshore - for domestic currency or interest rates cannot exist with efficiency. With increased convertibility, these markets need to be linked. An effort has already commenced in the interest rate derivative segment. Allowing Indian banks access to NDF markets for the Rupee is also consistent with this objective. As G-secs get held by global custodians and traded abroad more and more non-residents get to hold Rupee assets and take Rupee exposure. These measures are already seeing the desired results - for instance, NDF-onshore spreads have substantially narrowed after allowing Indian banks into the NDF space (Chart 2, see Annex). We need to now consider whether India is ready to allow such non-residents to hold Rupee accounts. This will be an important early step in internationalisation of the Rupee and, therefore, needs to be carefully considered. Further, there is a need to consider a proper mechanism for information flow so that exchange and interest rate management can continue to be effective in an environment of larger offshore transactions.

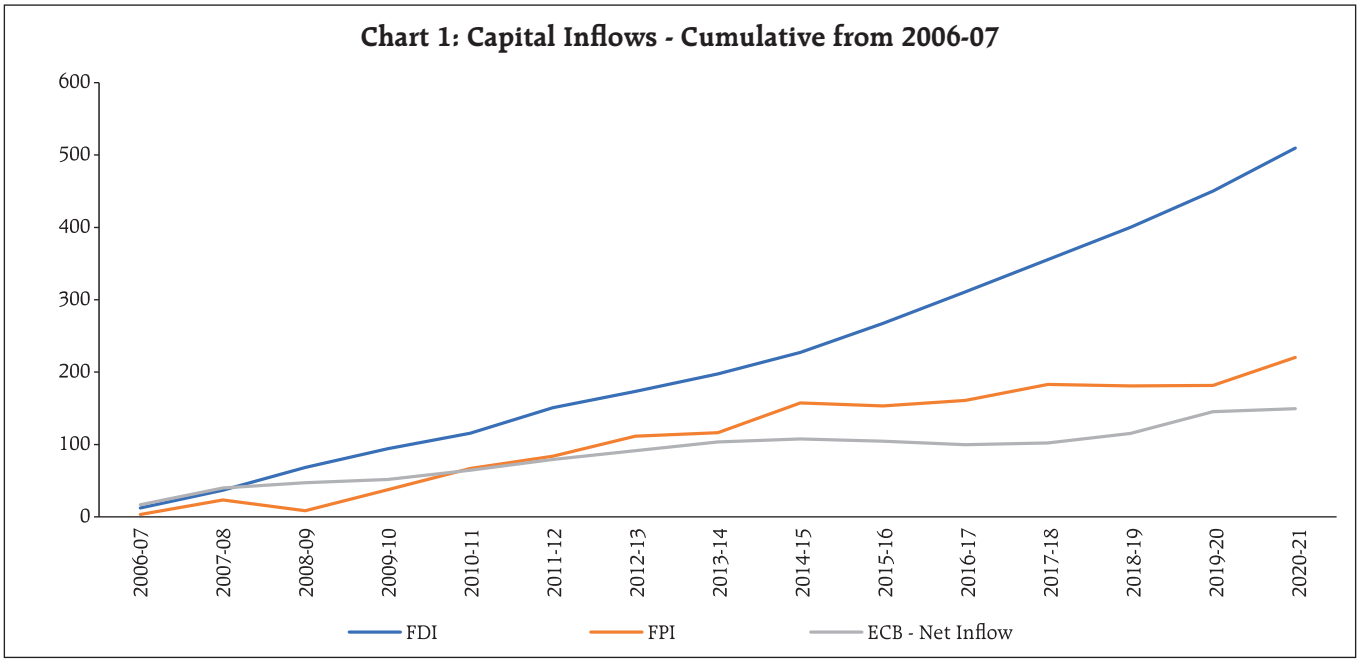
d. As onshore and offshore financial markets get integrated, it should be ensured that price discovery in the domestic markets is efficient lest flows move to the offshore segment. Take the case of the Rupee exchange rate. It is market-determined with fairly tight bid-ask spreads in the interbank market. Major corporates also seem to benefit from tight pricing. Yet many entities, especially SMEs, small exporters, individuals, *etc.*, are prone to over-pricing. Do processing charges and market risk for warehousing odd lot positions justify these spreads? An effective way is to shift price discovery for the retail forex users to a platform. While such a platform

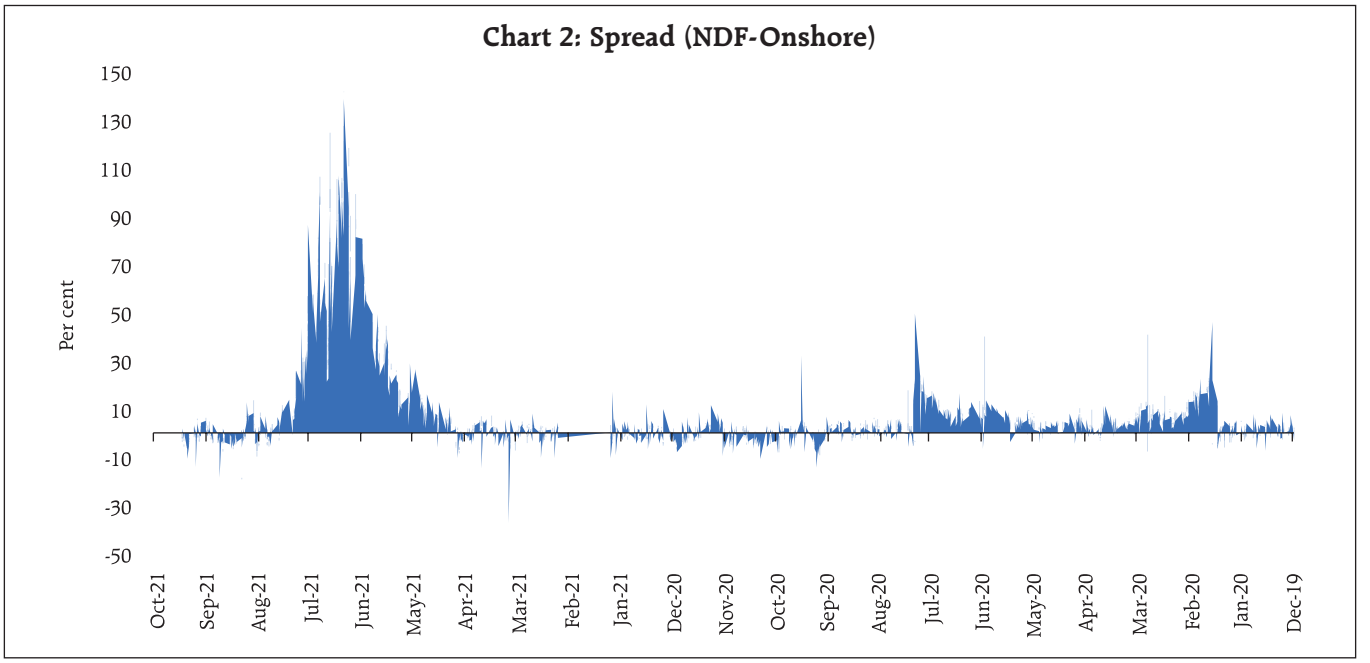
(FX Retail) has been developed, it appears that banks do not find it in their interest to navigate customers to use that platform. In this age of technology, it may not really be possible to shun superior technology for any length of time. There should be a debate on the use of the platform and banks should make an effort to give it a fair trial.

Conclusion

India has come a long way in achieving increasing levels of convertibility on the capital account. It has broadly achieved the desired outcome for the policy choices it has made, in terms of achieving a stable composition of foreign capital inflow. At the same time, India is on the cusp of some fundamental shifts in this space with increased market integration in the offing and freer non-resident access to debt on the table. The rate of change in capital convertibility will only increase with each of these and similar measures. With that comes the responsibility to ensure that such flows are managed effectively with the right combination of capital flow measures, macro-prudential measures and market intervention. All of us need to consider deeply the issues I have highlighted above and arrive at effective solutions. Market participants, particularly banks, will have to prepare themselves to manage the business process changes and the global risks associated with capital convertibility. The regulator's job is somewhat different. As someone once said, the job of a regulator is like the gas regulator in the kitchen - it cannot ensure the quality of the dish, but it can prevent the kitchen from blowing up. The quality of the dish – that is, the efficiency with which investment needs of the country are met - is up to how well Authorised Dealers and other intermediaries adjust to the increasingly fuller capital account convertibility.

Annex - Charts





ARTICLES

*State of the Economy**

The global economic outlook remains shrouded in uncertainty, with headwinds from multiple fronts. In India, the recovery gained strength, though the speed and pace of improvement remains uneven across different sectors of the economy. Indicators of aggregate demand posit a brighter near-term outlook than before. On the supply side, the Rabi season has set in early on a positive note on the back of a record Kharif harvest and manufacturing is showing improvement in overall operating conditions, while services are in strong expansion mode. Overall monetary and credit conditions stay conducive for a durable economic recovery to take root.

Introduction

Since the last print of this article in October 2021, the economy is gradually healing amidst an uncertain and volatile global environment, battered by supply chain and logistics disruptions, inflation shocks and geo-political tensions. Incoming high frequency indicators show that the recovery is taking hold in several spheres, though some others are still lagging behind. With the gradual uptick in confidence, mobility indicators have edged up. The job market is exhibiting signs of ebullience on the back of uptick in business optimism and faster pace of vaccination. India's merchandise exports have staged a smart turnaround, with surging double digit growth for the eighth consecutive month in a row. Collections under the goods and services tax (GST) have marked their second highest level in October since its introduction on the back of better tax administration and ongoing economic recovery. The issuance of e-way bills has been the highest in their history, which bodes well for GST collections going forward. After exhibiting moderation in the month of September 2021, power consumption has registered an uptick despite supply side constraints. The headline manufacturing purchasing managers' index (PMI) recorded expansion for the fourth consecutive month in October with anticipation of an improvement in demand conditions. The services sector is convalescing with the headline PMI rising to a decadal high in the same month. With attractive offers by developers amidst the festival season, property registrations have also surged. Supported by the decadal low interest rates, softening inflation and a modest current account surplus, the Indian economy is poised to regain the ground lost to the pandemic and re-emerge as among the fastest growing countries in the world.

Set against this backdrop, the remainder of the article is structured into five sections. Section II sketches the rapidly evolving developments in the global economy. The evolution of the domestic economy is laid out in Section III. Section IV evaluates the domestic financial conditions, while the last Section sets out concluding remarks.

II. Global Setting

Global economic activity is shedding momentum with supply chain disruptions turning more protracted than previously anticipated. Lockdowns, labour shortages, disruptions to logistics networks, and capacity constraints have resulted in big increases in freight costs and delivery times. As shown by the IHS Markit suppliers' delivery times index, delivery times in the US and the European Union (EU) have hit record highs since late 2020 (Chart 1).

Supply constraints across sectors and economies have exacerbated the surge in energy prices and inflation risks, propelling more central banks to resort to policy normalisation, even as the global recovery remains uneven and frail. In addition, a widening vaccine divide amidst slow inoculation rates has

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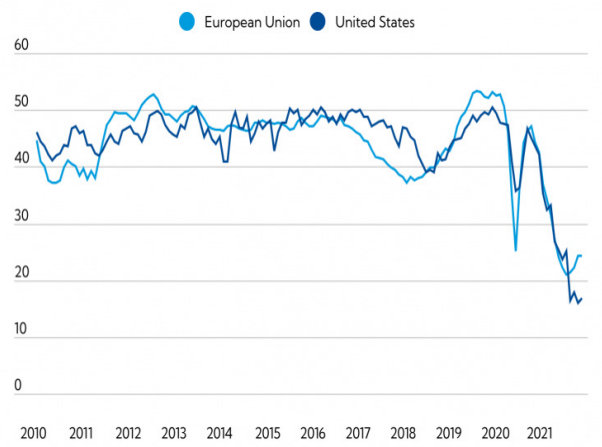
Chart 1: Suppliers' Delivery Times Index



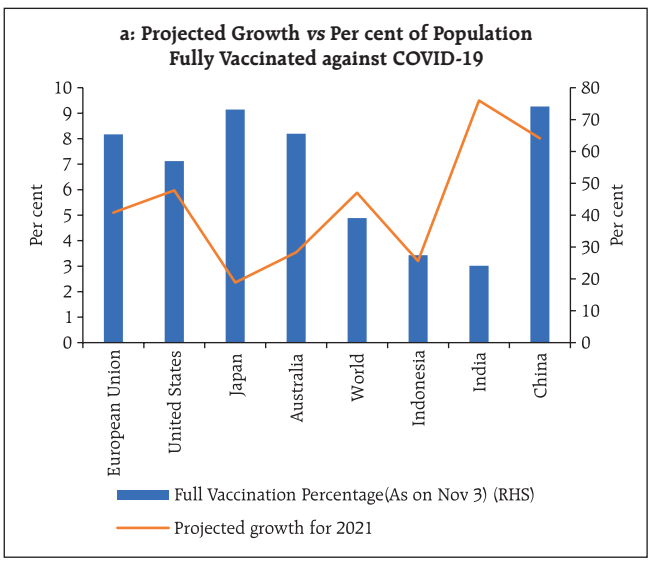
Note: Readings above 50 indicate faster delivery times, readings at 50 signal no change, and readings below 50 indicate slower delivery times compared with those of the prior month.
Source: IHS Markit.

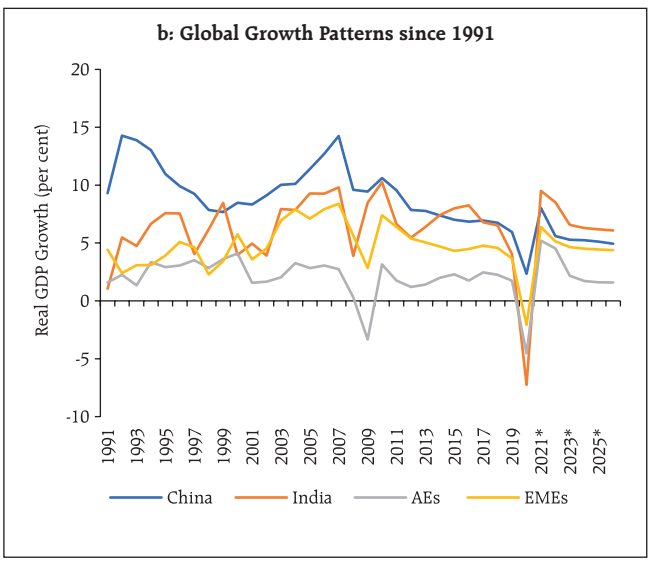
kept most developing countries on the back foot, accentuating the risks of a delayed turnaround in the global economy (Chart 2a). With this prolonged health crisis, most emerging market economies (EMEs) will likely bear lasting scars of the pandemic, undermining their growth rates which were already exhibiting a downtrend following the rebound from the global financial crisis (Chart 2b).

US GDP growth nosedived to 2.0 per cent (q-o-q, SAAR[1]) in Q3:2021 from 6.7 per cent in Q2. Resurgence in infections together with supply shortages weighed heavily on consumption and production activity, while fall in government assistance payout, residential fixed investment and exports added further to the downside. For China, growth momentum lost its pace in Q3, with the economy expanding at 4.9 per cent (y-o-y) *vis-a-vis* 7.9 per cent in Q2 as factory activity took a major hit amidst multiple headwinds. The Euro area, unlike its peers, sustained the recovery in Q3, growing by 9.1 per cent (q-o-q, SAAR) on top of 8.7 per cent in Q2, primarily on the back of strong domestic demand and exports.

The global composite PMI accelerated to a three-month high in October with stronger upturn in services sector offsetting weaker expansion in manufacturing activity. Services activity strengthened across business, consumers and financial categories, underpinned by strong new order intakes. Growth in manufacturing, on the other hand, remained

Chart 2: Real GDP Growth

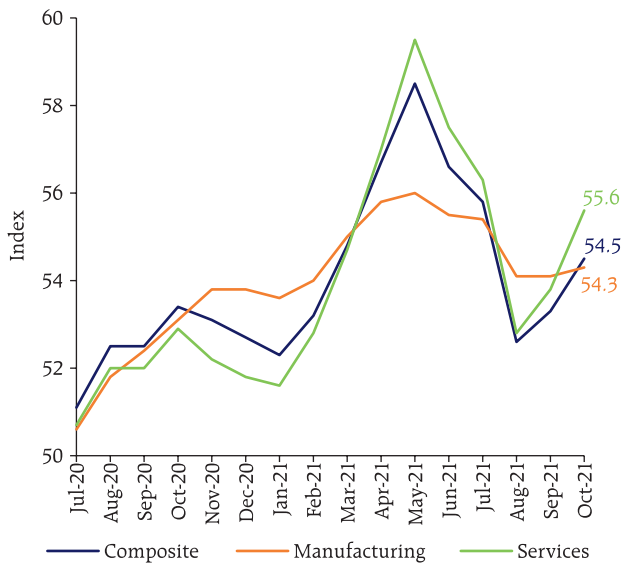




Sources: IMF; and Our World in Data.

[1] Quarter on quarter, seasonally adjusted annualised rate.

Chart 3: Global PMIs



Source: IHS Markit.

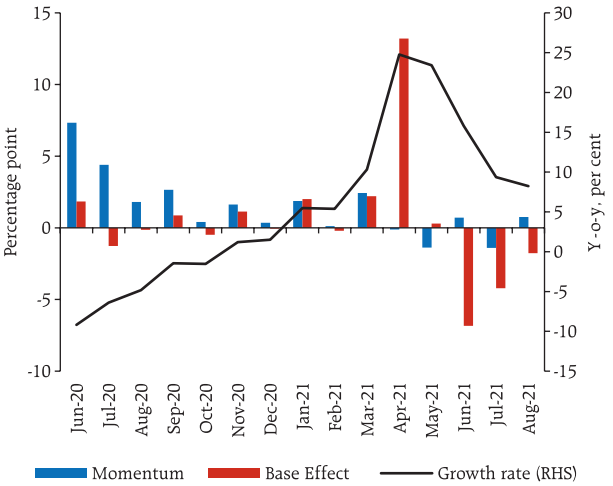
subdued amidst substantial input shortages, rising cost inflation and stalling export trade (Chart 3).

The United Nations Conference on Trade and Development (UNCTAD) in its October release, highlighted that the global trade exhibited a strong recovery in H1:2021, surpassing its pre-pandemic level of 2019 and is likely to sustain the growth in H2:2021. Accordingly, it projects the global trade value in 2021 to be about 20 per cent and 28 per cent higher than what was recorded in 2019 and 2020, respectively. The trade recovery, however, remains uneven with smaller economies struggling to catch up with the pace of exports growth in their larger counterparts. On average, goods exports of smaller economies are still 25 per cent below pre-pandemic levels. Granular data for monthly merchandise trade volume indicate that y-o-y growth decelerated for the fourth consecutive month in August, *albeit* at a slower pace, as monthly momentum turned positive post its decline in July (Chart 4a). The Baltic Dry Index, a measure of shipping charges for dry bulk commodities, scaled a 13-year high in early October, before sliding sharply by almost 50 per cent in November so far, following losses in large and medium-sized vessel segments (Chart 4b).

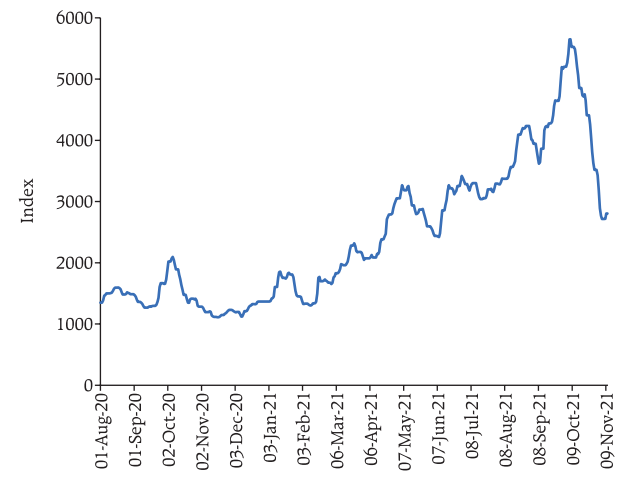
The Bloomberg commodity price index maintained its uptrend in October, primarily mirroring soaring energy prices before exhibiting some corrections in November so far (Chart 5a). The World Bank's October edition of the Commodity Markets Outlook estimated average energy prices in 2021 to be 80 per cent higher than in 2020, and to remain elevated through at least

Chart 4: World Trade and Shipping Costs

a: World Trade Growth



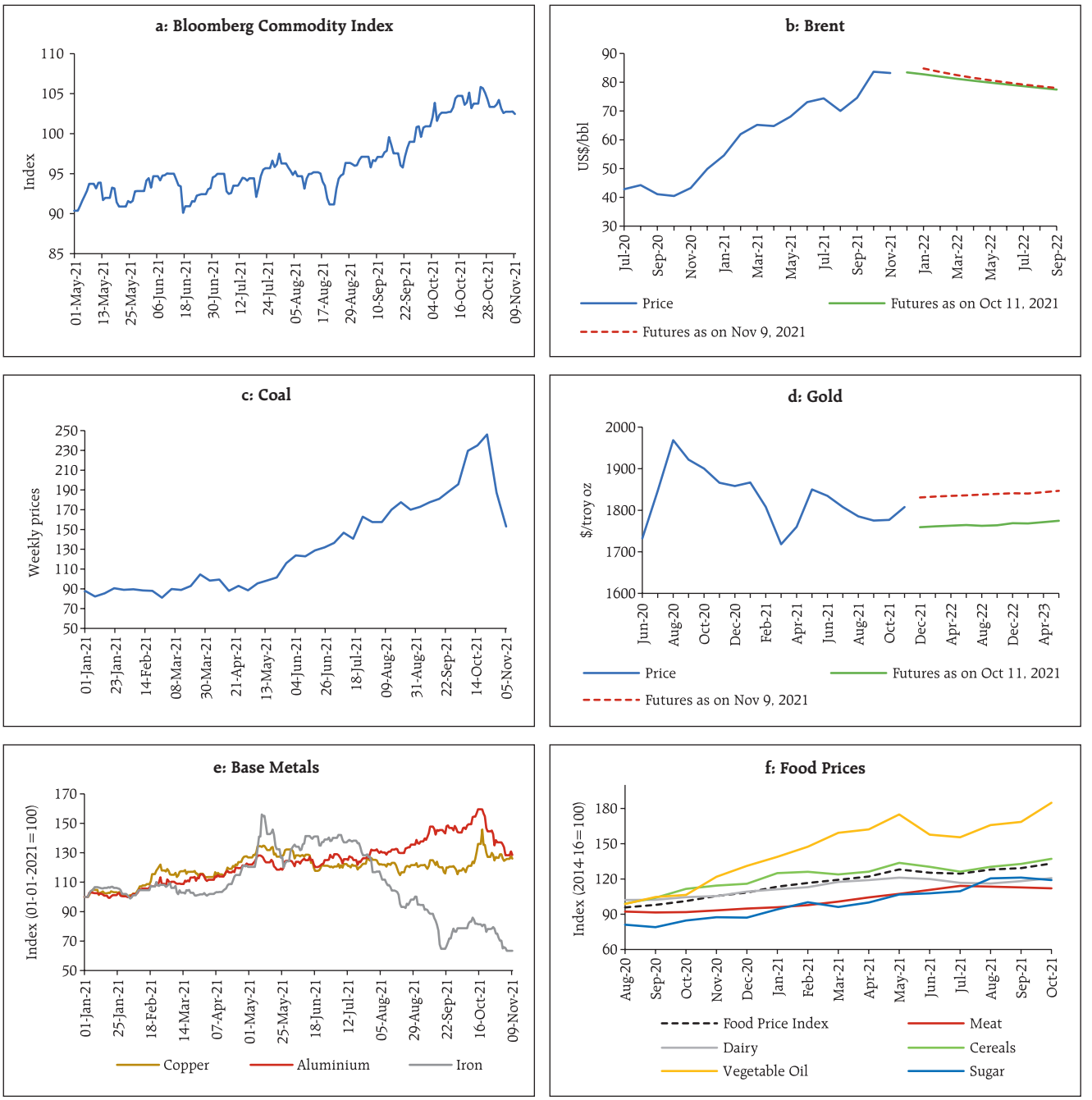
b: Baltic Dry Index



Sources: CPB Netherlands; and Bloomberg.

the first half of 2022. Spurred by robust demand recovery and the early onset of winter, Brent crude oil price [nearly] hit a three-year high in October as persistent shortfall in supply amidst surging demand kept the oil market tight (Chart 5b). With the Organization of the Petroleum Exporting Countries (OPEC) plus sticking to its plan of gradual, monthly production increases of 400,000 barrels per day, crude prices extended gains in November. Also driving up the prices is a switch to crude oil from natural gas and coal for power generation as prices of the latter skyrocketed in recent months due to worsening

Chart 5: Commodity and Food Prices



Sources: Bloomberg; World Bank Pink Sheet; and FAO.

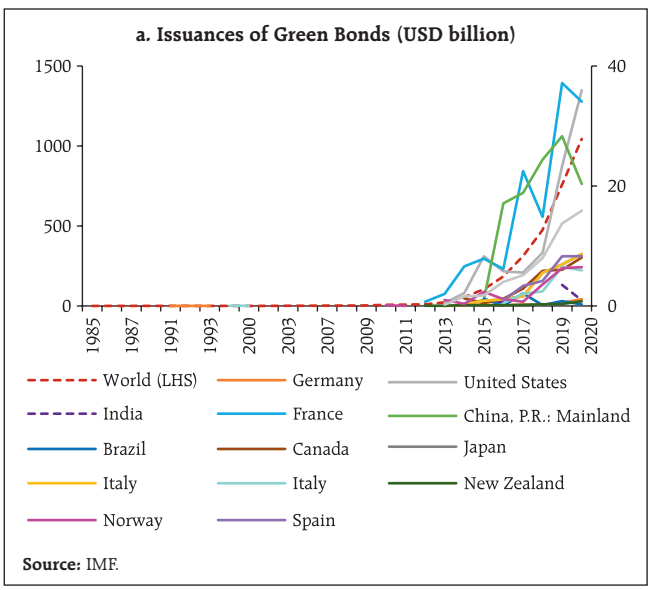
supply crunch in Europe and Asia (Chart 5c). Coal and gas price rally, however, cooled off since end-October amidst improving supply conditions. Gold prices firmed up since October, though with sporadic instances of corrections, recouping its September losses mostly on safe haven demand (Chart 5d). Base metal prices, on the other hand, traded lower since mid-October on easing demand and supply worries following the signs of China's slowdown and its intervention to limit coal price rally (Chart 5e). Food price index rose for the third consecutive month in October, marking its highest level since July 2011, primarily led by scaling vegetable oil and cereal prices (Chart 5f).

The surge in energy prices is emblematic partly of supply chain disruptions and partly of structural bottlenecks. Surging energy prices have caused a spike in inflation in many countries, though many consider it transient as supply adjusts to the demand when economies open up fully. This has ignited a spate of sell-offs in equities, particularly in the EU as inflation fears are on the rise, pushing bond yields higher. Extreme volatility in energy markets may persist unless investment in clean power is tripled in the next decade. As per the latest estimate by the International Energy Agency (IEA, World Energy Outlook, October 2021), investment in oil and gas is aligned with the target for net zero emissions by 2050 but spending on renewable power is only a third of the future requirement. In this backdrop, green finance instruments have a key role to play in mobilising private capital to tackle climate change. Accordingly, issuance of green bonds has been picking up across jurisdictions (Chart 6).

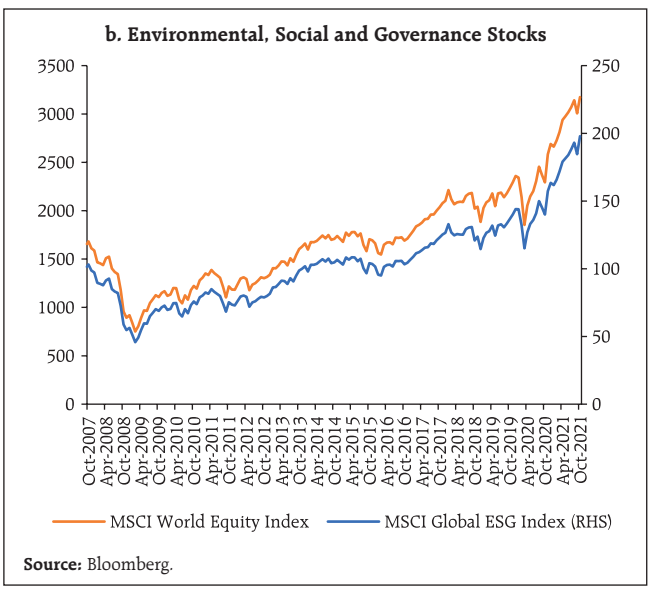
Inflation continues to ratchet up across advanced and some emerging market economies. Mirroring the multi-decade high inflation prints in some of the major constituent economies, headline inflation in the Euro area shot up to 4.1 per cent in October, driven by high energy costs and tax hikes.

In the US, CPI inflation jumped to a 31-year high of 6.2 per cent in October, while Fed's preferred measure of inflation [measured by the personal consumption expenditure (PCE) price index data] continued to rule at a 30-year high and edging up to 4.4 per cent in September, as energy and food prices continue to spiral. In the UK, however, inflation eased marginally to 3.1 per cent in September mainly due to a favourable base effect (Chart 7a). Among major BRICS economies, inflation in Russia continued its upward

Chart 6: Green Financing Over the Years

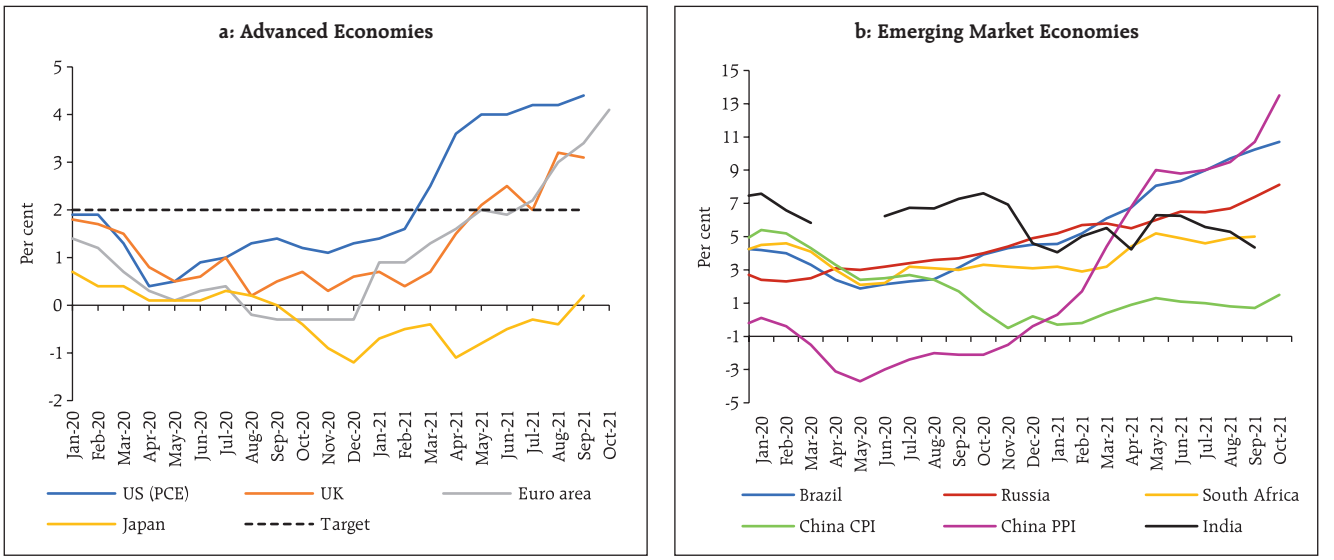


Source: IMF.



Source: Bloomberg.

Chart 7: Inflation



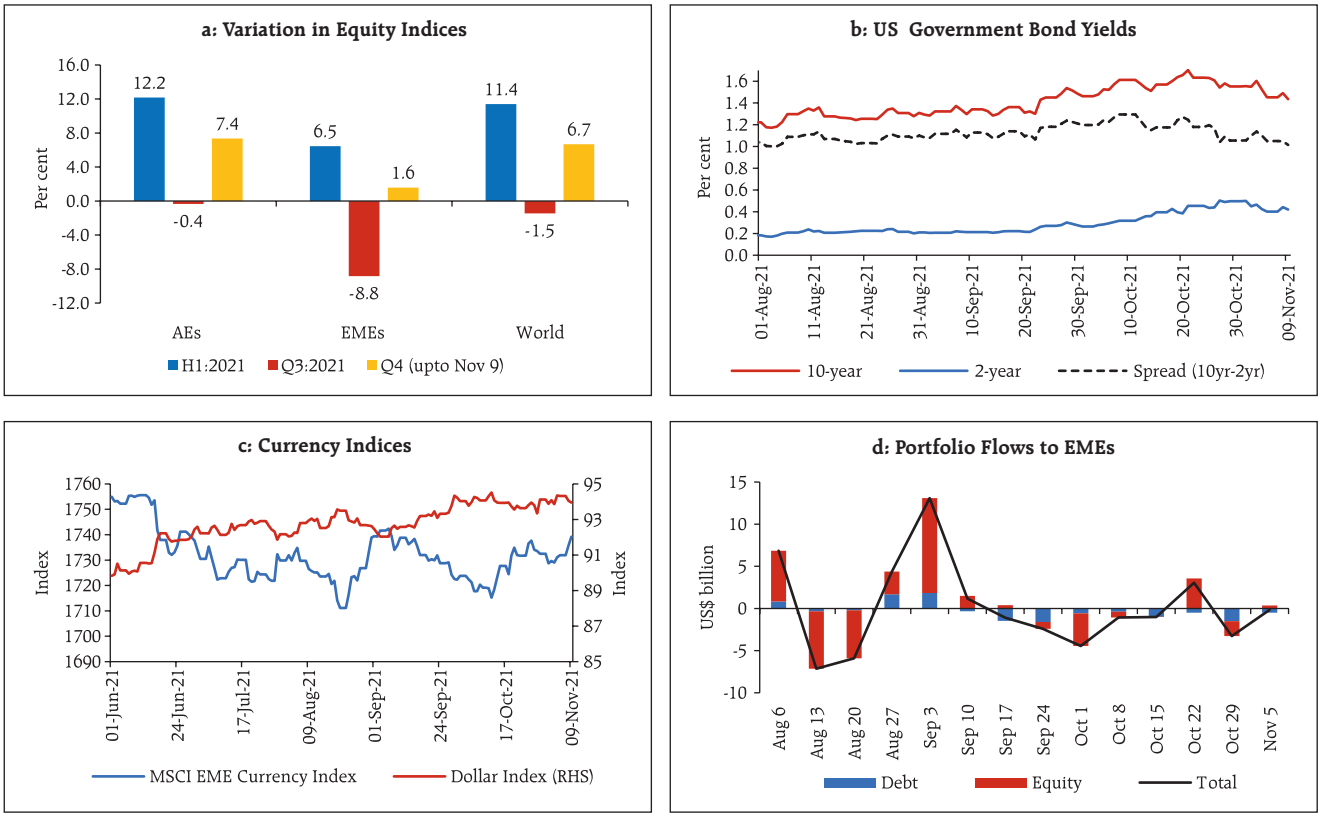
Source: Bloomberg.

trajectory, climbing to 8.1 per cent in October, its highest level since January 2016. In Brazil, inflation inched up further to 10.7 per cent in October, staying in double digits for second consecutive month. In China, consumer price inflation, after easing for four successive months, increased to 1.5 per cent in October primarily due to rising cost of non-food items, while producer price inflation continued to mount, hitting a 26 year high amidst soaring raw material costs (Chart 7b).

Financial markets remained on tenterhooks amidst heightened uncertainty and accentuated risks. Following a weak start, stock markets in advanced economies (AEs) regained momentum through the rest of October posting net gains for the month which extended into November so far. (Chart 8a). Underpinned by upbeat corporate earnings results, the US S&P 500 rallied hitting fresh peaks in November. EME stock indices, on the other hand, continued to lag, primarily reflecting China's slowdown and other country-specific factors. The US 10-year bond yields hit a high of 1.7 per cent in mid-October before retreating subsequently. Short-term yields, however, being more sensitive to interest rate expectations, leaped faster, flattening the yield curve across most economies (Chart 8b). The US dollar remained largely range-bound amidst mixed incoming data for the economy (Chart 8c). EME currencies strengthened since the latter part of October in part due to renewed capital inflows (Chart 8d).

On the policy front, a distinct shift towards unwinding of pandemic-led stimulus is taking hold as inflation worries are rumbling more clearly than before (Chart 9a). The US Fed, in its November meeting, announced the tapering of its asset purchases at a pace of US$ 15 billion per month beginning mid-November. From the current pace of monthly purchase of US$ 80 billion of Treasury securities and US$ 40 billion of agency mortgage-backed securities (MBS), the taper will be of US$ 10 billion in Treasury securities and US$ 5 billion in agency MBS. The Bank of Canada in its October meeting left its policy rate unchanged but ended its weekly bond-buying programme of C$ 2 billion. The Reserve Bank of Australia also dumped its policy of yield curve control as a signal to act against a post-pandemic surge in prices. The Monetary Authority of Singapore tightened its monetary policy by allowing the Singapore dollar (S$), in nominal

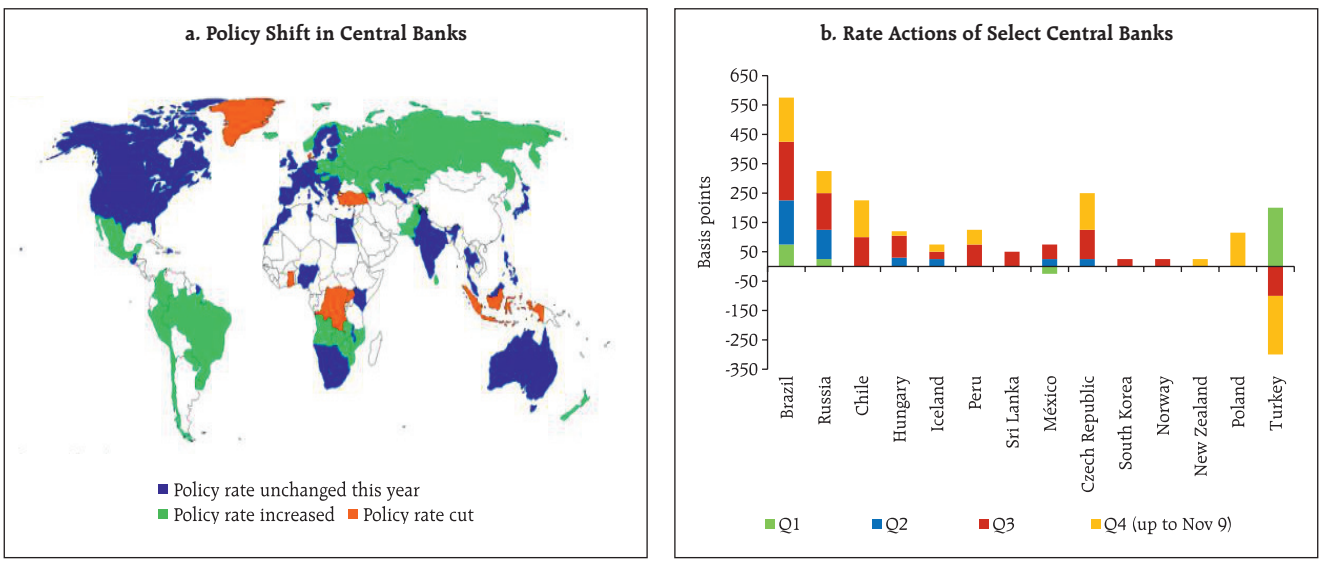
Chart 8: Financial Markets



Sources: Bloomberg; and Institute of International Finance (IIF).

effective terms, to appreciate mildly, while the Czech Republic effected its fourth rate hike at a much higher magnitude of 125 basis points (bps) (Chart 9b). The European Central Bank (ECB), on the other hand, held on to its accommodative policy stance in October, while continuing with asset purchases at a moderately

Chart 9: Monetary Policy



Sources: Bloomberg; and Central bank websites.

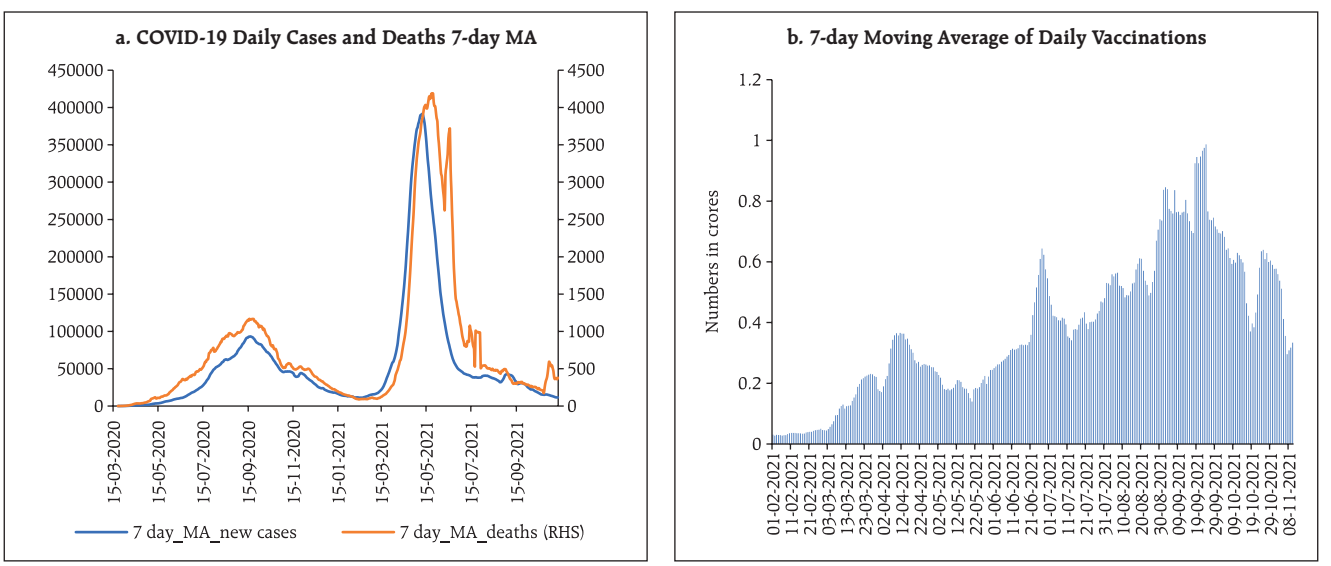
lower pace in Q4 than Q2 and Q3, as was decided in its September meeting. The Bank of England too, kept its policy rate and asset purchase programme unchanged in its November meeting, confounding market expectations of a rate hike. Among the EMEs, Brazil remains the most hawkish central bank, raising its policy rate for the sixth time since March and at a much higher magnitude of 150 bps – the highest hike in almost 20 years – taking the total cumulative increase in 2021 to 575 bps. Russia too, effected its sixth consecutive rate hike but at a lesser magnitude of 75 bps, for a cumulative increase of 325 bps in 2021. Among other EMEs, Hungary raised rates by 15 bps, its fifth consecutive hike in 2021, while Chile effected its third consecutive rate hike at a higher magnitude of 125 bps in October. Poland increased rate for the second consecutive month in November by 75 bps. In a sharp departure, Turkey cut its policy rate by 200 bps, its second rate cut in a row, which took the total cumulative rate change for the year to (-)100 bps.

Global economic outlook remains shrouded in uncertainty with headwinds stemming from multiple fronts corralling together at a time when many economies are still struggling and are at nascent stage of their recovery. Growing likelihood of policy normalisation by major central banks to quell fast rising inflation may tighten financial conditions and stutter the ongoing growth impulses.

III. Domestic Developments

India stands resolute in its quest for speedy revival, though the speed and pace of recovery remains uneven across different sectors of the economy. The outlook remains overcast by the future course of pandemic and global supply disruptions. The domestic situation seems to have brightened on the back of considerable dip in fresh infections and rapid progress in inoculations. An important milestone was struck on October 21, 2021 as the total number of vaccines administered crossed the 100-crore mark. With over 31 per cent of the adult population fully vaccinated, the 7-day moving average (MA) for vaccination by the close of October stood well above 60 lakhs. The 7-day moving average of daily new cases plummeted to 11,491 on November 10, 2021 from 19,938 a month ago. The active cases comprise just 0.41 per cent of total infections, the lowest ever since March 2020, while the national COVID-19 recovery rate was marked at 98.25 per cent (Chart 10a and 10b).

Chart 10: COVID-19 Cases and Vaccinations

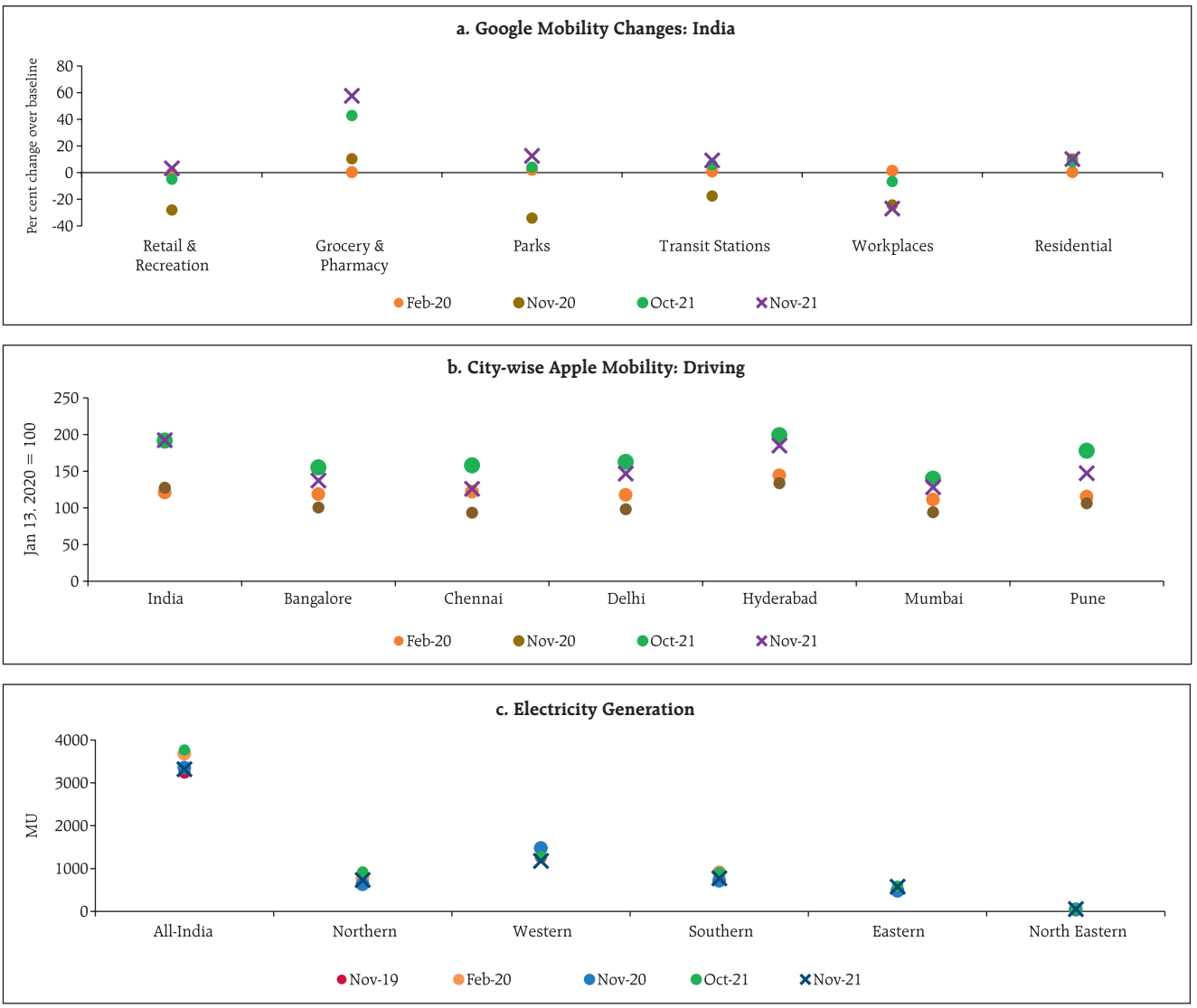


Source: Ministry of Health and Family Welfare (MoH&FW).

With the onset of the festival season, Google and Apple mobility indices recorded a marked improvement during October-November. Google mobility index for retail and recreation activities normalised for the first time since the onset of the pandemic, and mobility around grocery and pharmacy, parks and transit stations surged beyond the pre-pandemic baseline. Apple mobility index, also remained elevated propelled by an increase in activity across all major cities (Chart 11a and 11b).

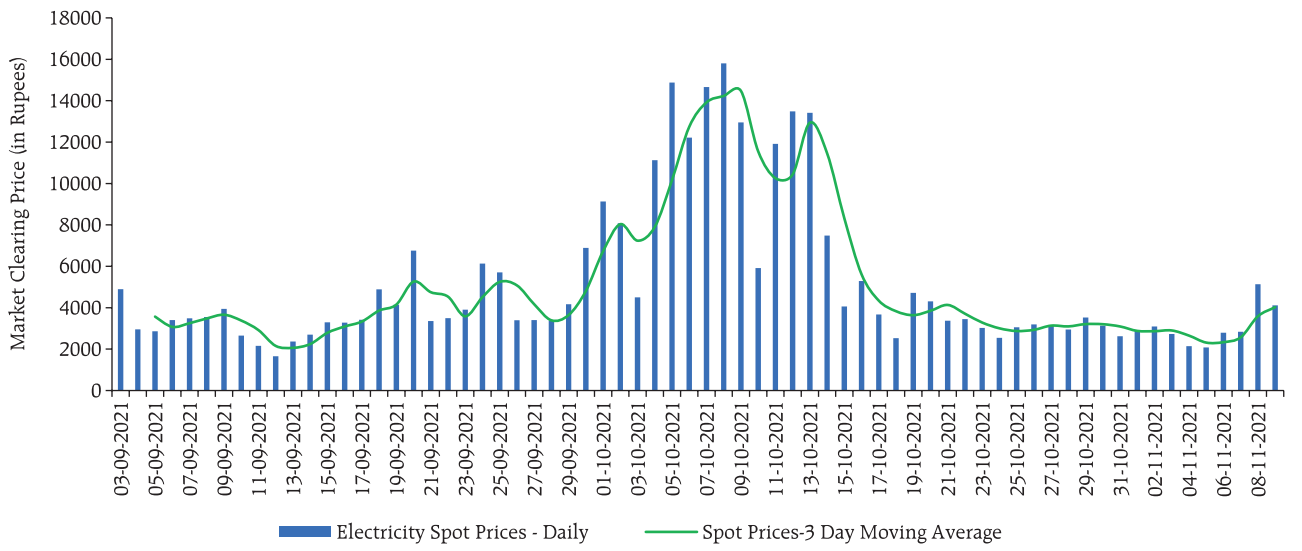
Electricity generation in the first ten days of November remained comparable to those recorded a year ago as well as over pre-pandemic November 2019 (Chart 11c). According to the Central Electricity Authority, the coal stocks at thermal power plants in the country have improved to seven days (November 8, 2021) as compared with four days a fortnight ago. The average daily stock at these plants has increased to 13.28 million tonnes as compared with 7.3 million tonnes on October 10, 2021. This has led to a softening

Chart 11: Impact of the Second Wave of COVID-19 on Economic Activity



Sources: Google; CEIC; and POSOCO.

Chart 12: Electricity Spot Prices



Source: India Energy Exchange (IEX).

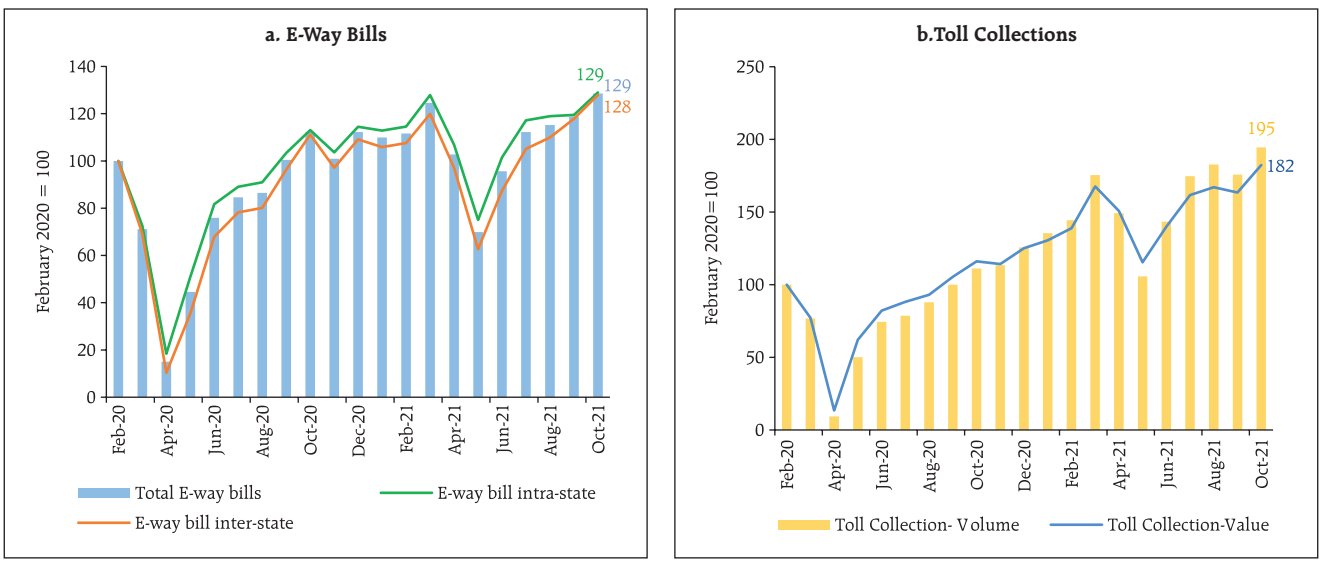
of electricity spot prices on the India Energy Exchange (IEX) (Chart 12).

Aggregate Demand

The indicators of aggregate demand posit an improvement in several spheres. Mirroring the improved economic activity and movement of goods transport, the E-way bill generation in October 2021 surpassed the pre-pandemic levels of February 2020 and posted a sequential improvement (Chart 13a). Mimicking the above trend, toll collections were up sharply by 75.1 per cent y-o-y in October 2021 (Chart 13b).

The outcome of improved mobility - both passenger and goods - was reflected in a surge in fuel consumption in October. The consumption of petrol

Chart 13: E-way Bills and Toll Collections



Sources: GSTN; Reserve Bank of India; and RBI staff estimates.

touched the pre-pandemic levels, while aviation turbine fuel (ATF) and diesel consumption exhibited sequential improvement (Chart 14a).

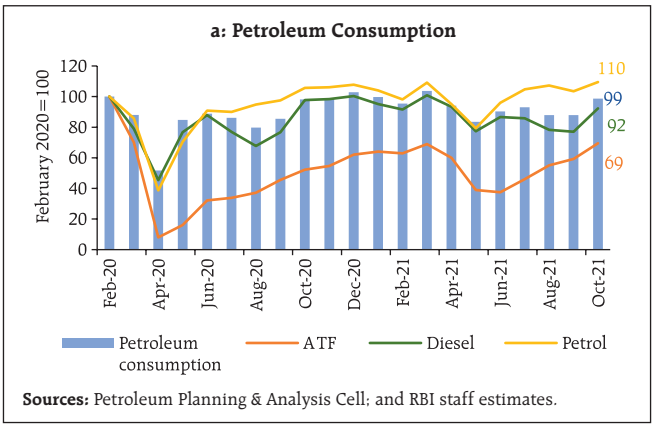
The global supply disruptions weighed on the domestic automobile sector, which continues to reel under supply shortages of semiconductor chips in October. The supply bottlenecks thwarted festival season sales, and in sync, retail sales of motor vehicles and vehicle registrations moderated. The decline in registrations was led by non-transport vehicles even as demand for transport vehicles improved on a y-o-y basis (Chart 14c). Within the vehicles segment, tractor sales remained the lone bright spot with a robust growth of 8.2 per cent (over October 2019) in October. Sales of two-wheelers and motorcycles remained buoyant on a sequential basis (Chart 14d).

Turning to the services sector, railways freight traffic registered a growth of 8.4 per cent y-o-y on top of a high base of 15.4 per cent growth recorded a year ago (Chart 15a). Notwithstanding shipping hurdles and container shortages globally, port traffic manifested a sequential improvement in October (Chart 15b).

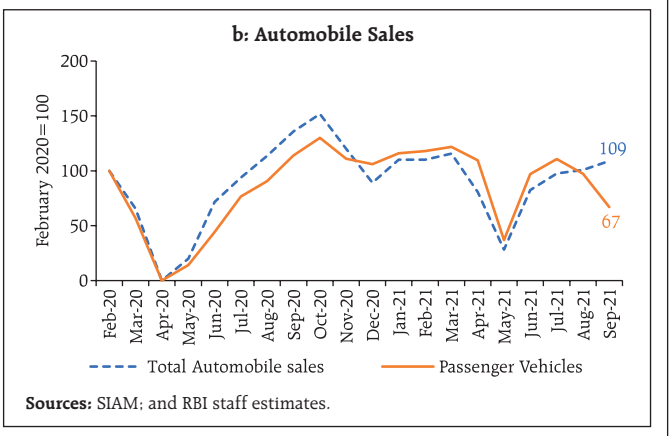
The construction sector is yet to catch up with its February 2020 levels as both steel consumption and cement production trailed below the baseline. Over the corresponding pre-pandemic month in 2019, however, cement production posted a robust growth while steel consumption growth stayed modest (Chart 16).

The aviation sector - both passenger and cargo traffic - has picked up since August 2021, with the cargo segment outperforming passenger traffic.

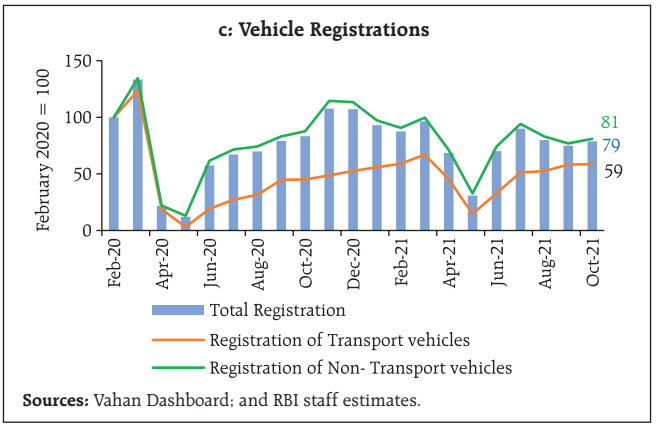
Chart 14: Transport Sector Indicators



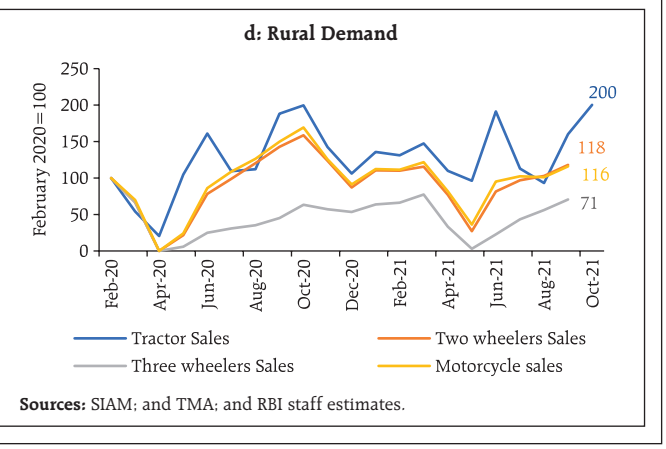
Sources: Petroleum Planning & Analysis Cell; and RBI staff estimates.



Sources: SIAM; and RBI staff estimates.

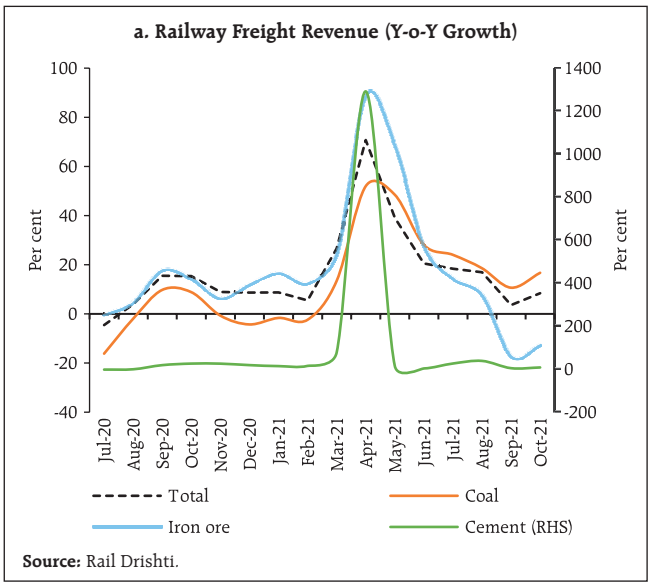


Sources: Vahan Dashboard; and RBI staff estimates.

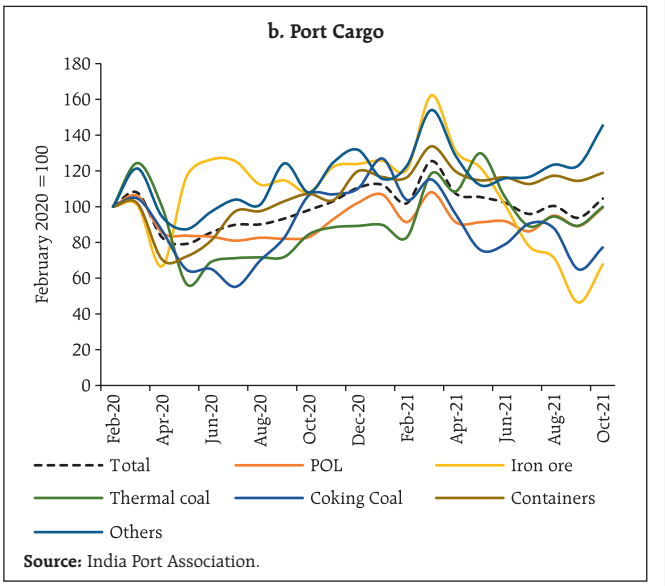


Sources: SIAM; and TMA; and RBI staff estimates.

Chart 15: Railway and Air Traffic



Source: Rail Drishti.

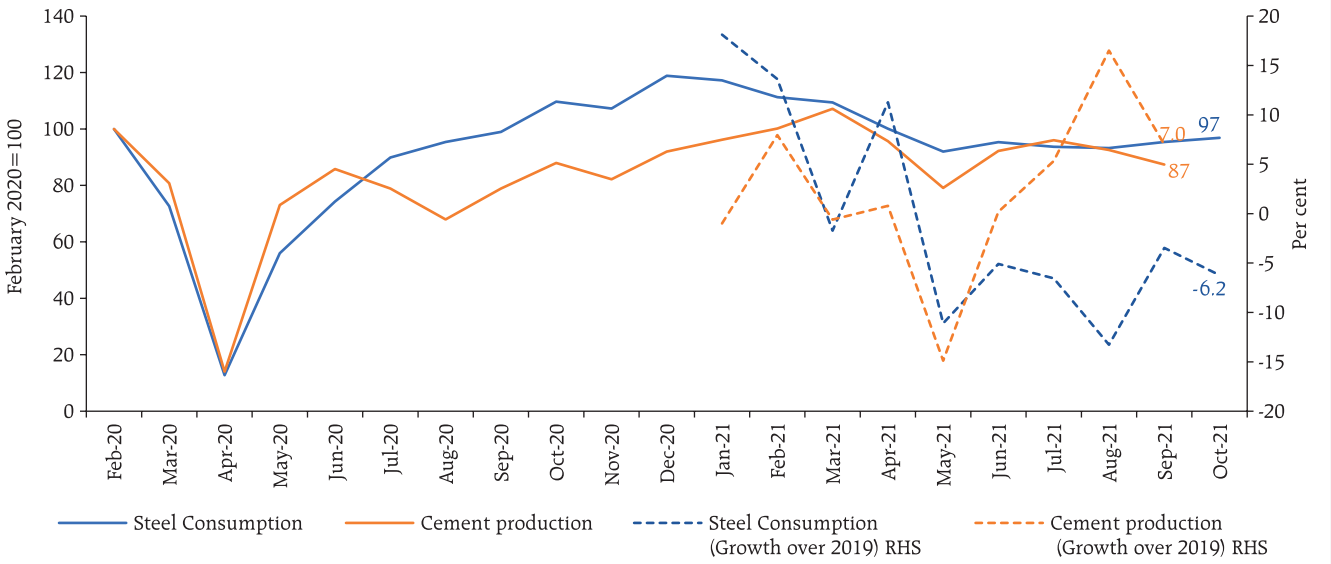


Source: India Port Association.

In November, daily domestic airport footfalls[2], averaged 5.5 lakh per day during the first nine days, an increase of 18.3 per cent over the corresponding period in October. International airport footfalls also improved by 8.9 per cent m-o-m. Riding on the back of the festival season, sales of fast-moving consumer goods (FMCG) surged through October 2021.

As per the household survey of the Centre for Monitoring Indian Economy (CMIE), labour participation rate stayed resilient at 40.41 per cent in October, marginally moderating from 40.66 per cent in September (12 month high). Unemployment rate worsened marginally to 7.8 per cent from 6.9 per cent a month ago (Chart 17).

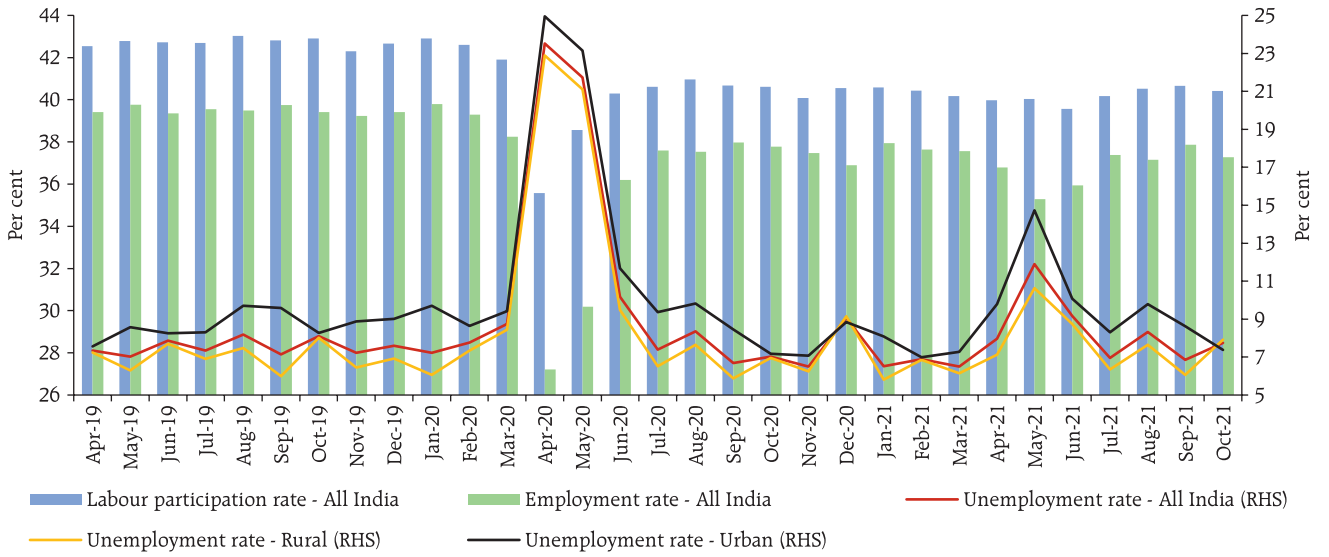
Chart 16: Construction Sector Indicators



Sources: Joint Plant Committee; and Office of the Economic Advisor, Ministry of Commerce and Industry.

[2] Includes both departing and arriving passengers.

Chart 17: Employment, Unemployment and Labour Participation Rates



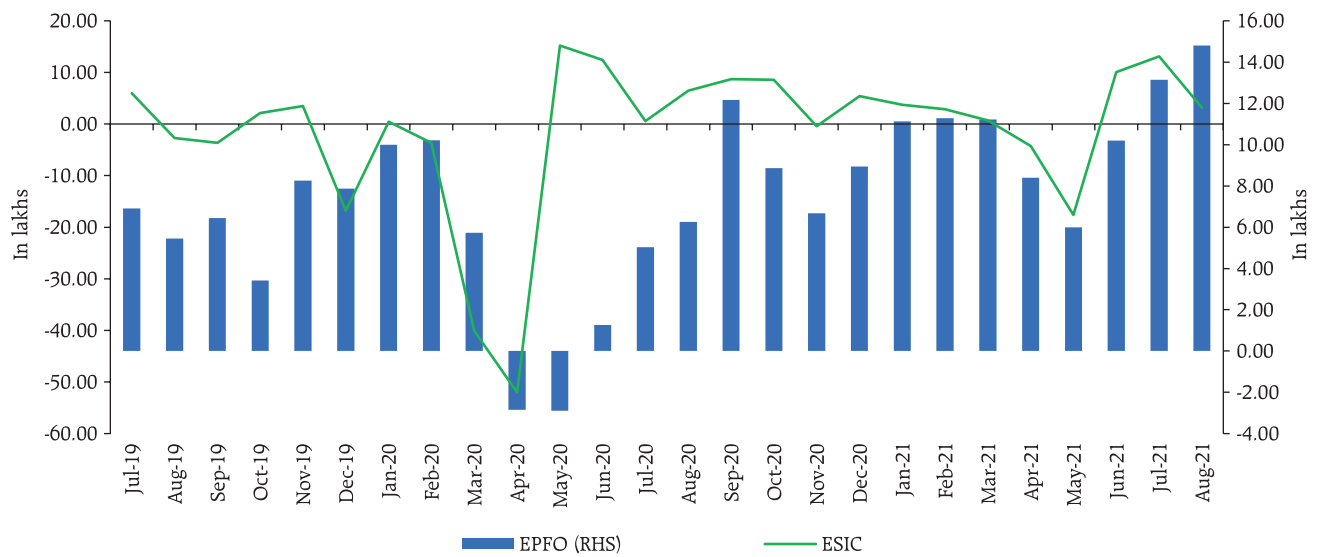
Source: CMIE.

Organised sector labour market data, as captured by the Employees' Provident Fund Organisation (EPFO) and the Employees' State Insurance Corporation (ESIC), present a mixed picture (Chart 18).

As per CMIE's employment statistics, the labour market recovery is almost complete with the number of workers employed in September-October approaching the levels seen in 2019 (Chart 19).

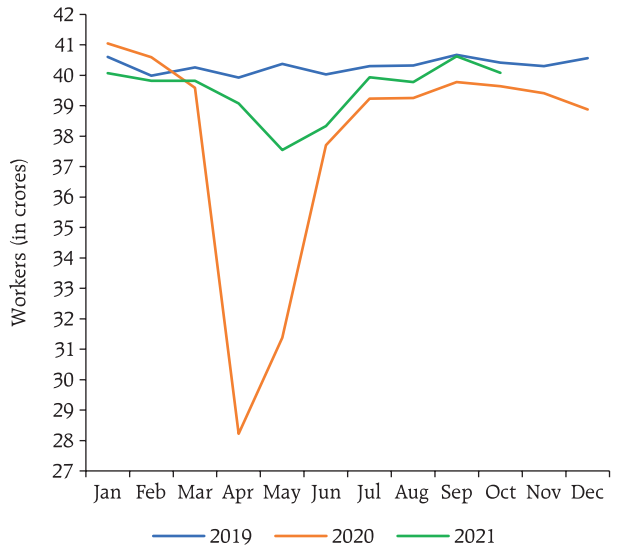
The employment segment of the PMI released by the IHS Markit portrays a mixed picture across manufacturing and services sectors. Employment in the manufacturing sector contracted marginally,

Chart 18: Jobs in Organised Sector



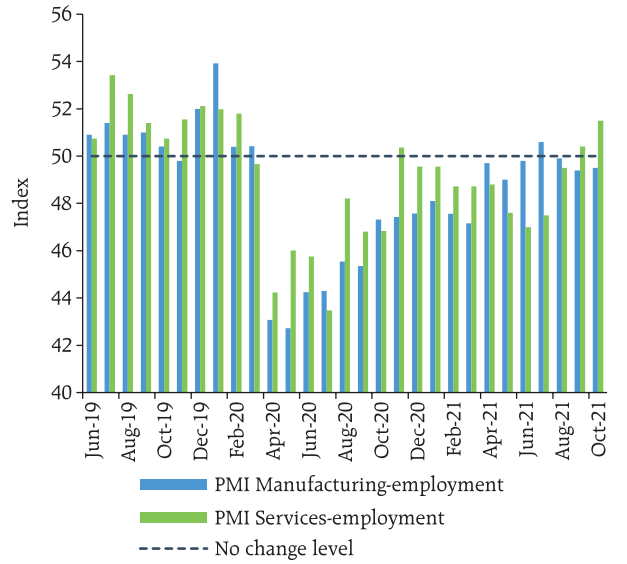
Sources: Ministry of Labour and Employment (MoL&E); and CMIE.

Chart 19: Number of Workers in Employment



Source: CMIE.

Chart 20: PMI Employment Indices



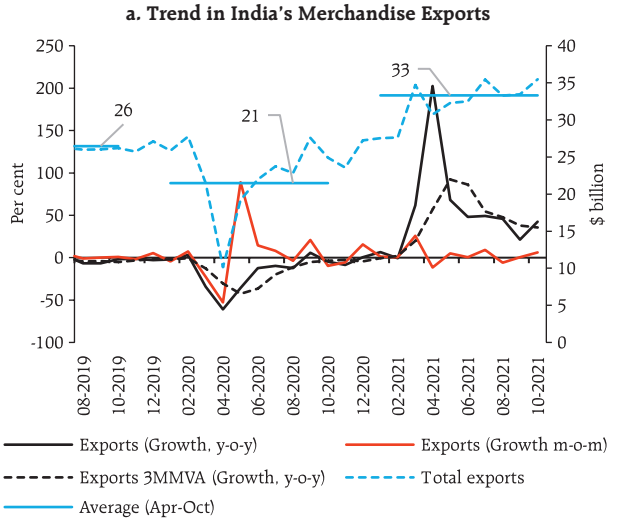
Source: IHS Markit.

while that in the services sector strengthened further to 51.5 in October 2021 from 50.4 in September (Chart 20).

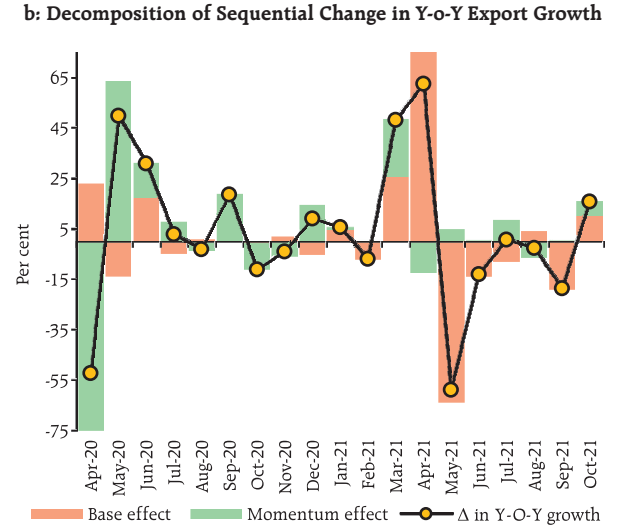
India's merchandise exports of US$ 35.5 billion posted a sharp rebound by 42.3 per cent y-o-y in October 2021. During April-October 2021, merchandise exports were 54.5 per cent higher over the same period a year ago and 25.5 per cent higher over the pre-COVID period (Chart 21a and 21b).

Chart 21: India's Merchandise Exports – October 2021

a. Trend in India's Merchandise Exports

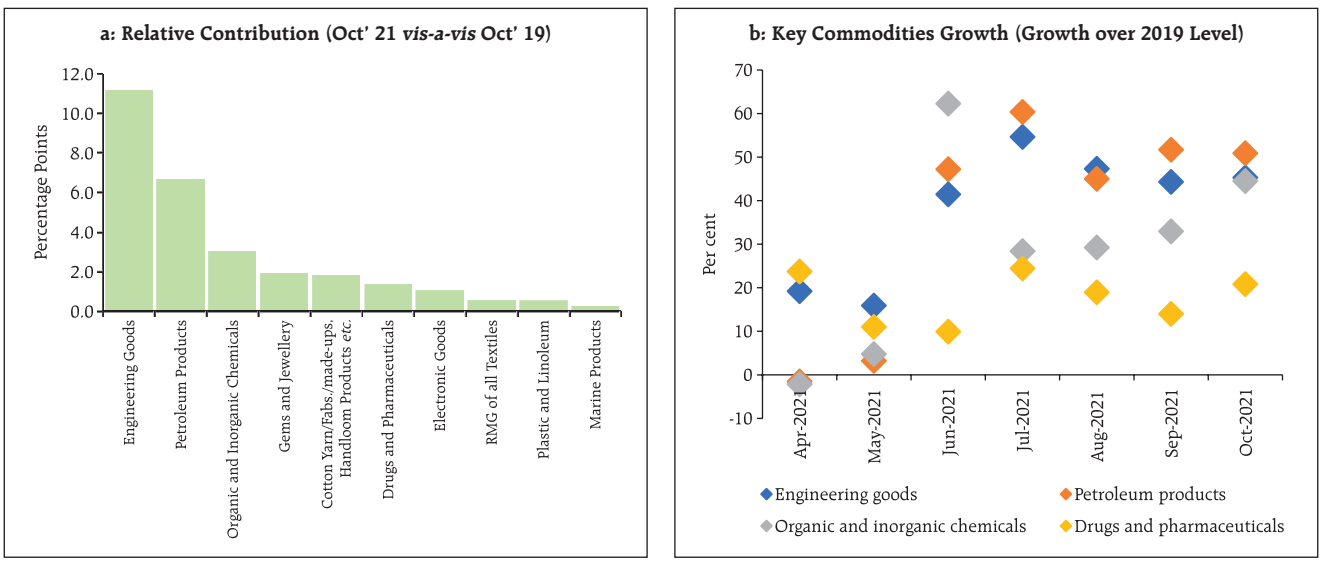


b: Decomposition of Sequential Change in Y-o-Y Export Growth



Sources: PIB; DGCI&S; and RBI staff estimates.

Chart 22: Merchandise Exports (Relative Contribution and Performance of Key Commodities)



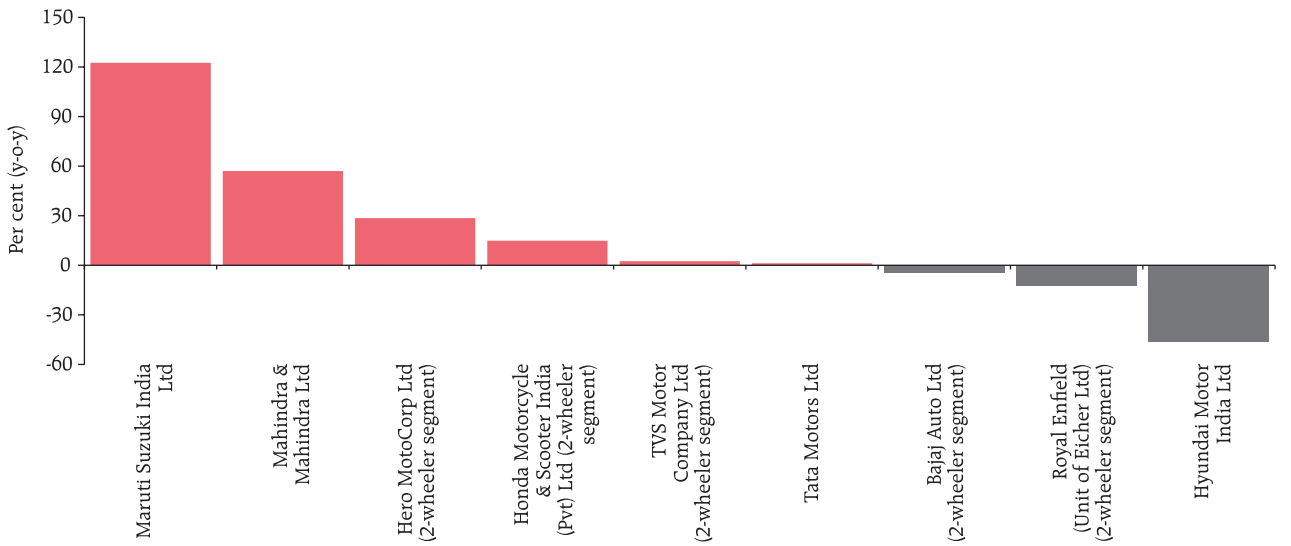
Sources: PIB; DGCI&S; and Authors' own calculations.

Export growth remained broad-based as all ten major commodity groups accounting for more than 80 per cent of exports recorded an expansion above their pre-COVID levels (Chart 22a). The buoyant external demand for engineering goods, petroleum products and chemicals bolstered export growth (Chart 22b).

Engineering goods exports crossed the US$ 9 billion mark for the fifth consecutive month in October 2021, supported by record exports of automotive products (Chart 23).

India resumed the supply of COVID-19 vaccines to Nepal, Bangladesh, Myanmar and Iran and plans to

Chart 23: Growth in Export of Automotives (October 2021)



Sources: Company and Media Releases.

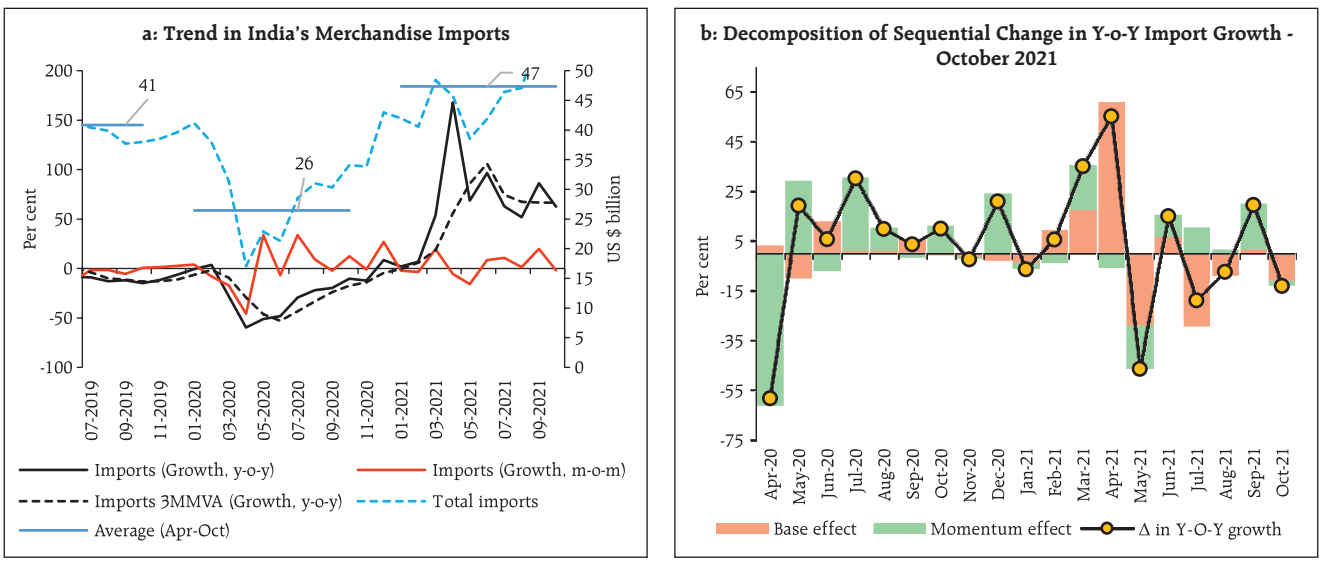
supply 20 million doses to the GAVI[3] and the COVAX alliance by year-end. At G20 summit, India announced to supply 5 billion COVID vaccine doses by 2022. Thus, pharma exports are slated to receive a major boost.

The UNCTAD, in its latest estimates, pegged export value in ocean-based industries[4] at US$ 2.5 trillion. The time is opportune for India to expand its marine exports. At present, marine exports constitute only around 2 per cent of India's total exports. With the natural competitive advantage of having one of the longest coastlines suitable for fishing, India needs to seize the opportunity in the ocean economy. Moreover, India's marine exports have shown strong growth momentum in October. India's textile exports have recorded double-digit growth for the last two months over the pre-pandemic level. As per the Confederation of Indian Industry (CII)'s analysis, textile industry is set to grow to US$ 65 billion by 2026 from US$ 36 billion in 2019. The Government's approval to set up seven mega integrated textile region and apparel parks (PM-MITRA) in the next five years bodes well for textiles exports.

India's merchandise imports remained above US$ 55 billion for the second consecutive month, reflecting a strong underlying momentum in domestic economic activity (Chart 24a and 24b). Merchandise imports were 78.7 per cent higher in April-October 2021 over a year ago and 15.8 per cent higher than the pre-pandemic level. Robust import demand was powered by petroleum products, gold, electronic products and coal (Chart 25). All ten major commodity groups comprising more than three-fourth of imports recorded an expansion over the pre-COVID level, reflecting broad-based uptick in domestic demand.

The record imports of electronic goods for the second consecutive month reflects strong domestic demand, driven by ongoing mega sales organised by major e-commerce companies amidst the festival season. The purchase of coal, coke and briquettes has increased significantly from its pre-COVID level,

Chart 24: India's Merchandise Imports – October 2021

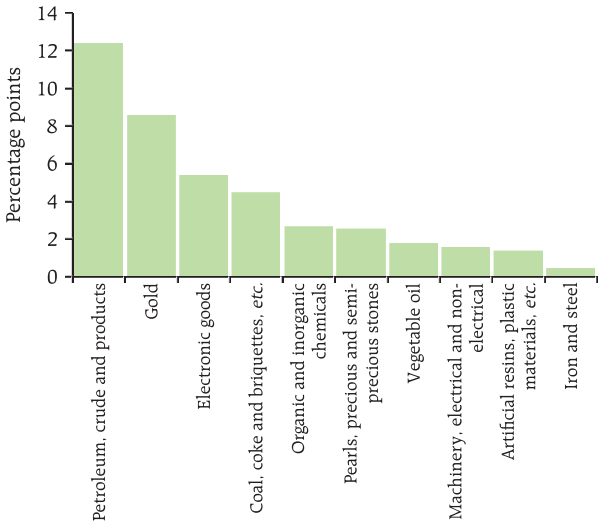


Sources: PIB; DGCI&S; and Authors' calculations.

[3] Gavi is an international organisation – a global vaccine alliance, bringing together public and private sectors with the shared goal of saving lives and protecting people's health by increasing equitable and sustainable use of vaccines.

[4] Ocean-based industries include shipping, fishing, offshore wind, and marine biotechnology.

Chart 25: India's Merchandise Imports – Relative Contributions (Oct 21 *vis-a-vis* Oct 19)



Source: PIB; DGCI&S; and RBI staff estimates.

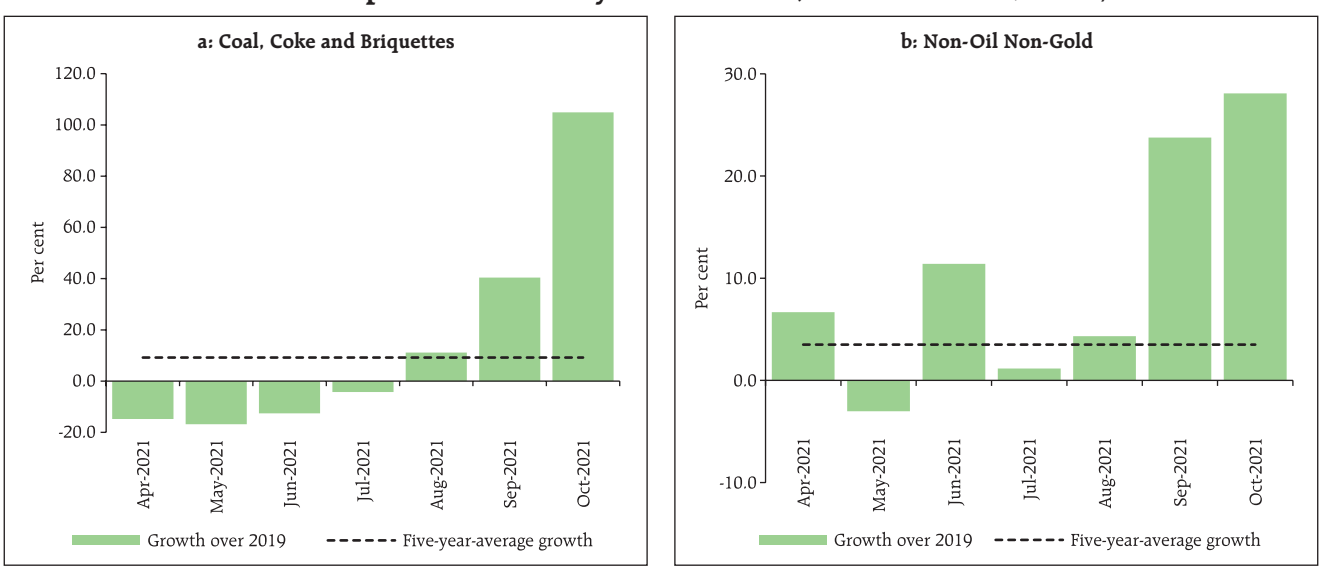
given the low level of domestic coal-stock positions (Chart 26a). The non-oil non-gold imports exhibited a resounding growth for the fifth consecutive month (Chart 26b).

India's services exports recorded double digit growth for the seventh consecutive month in September 2021, largely driven by stronger revenues of major IT companies securing large overseas deals amidst robust global demand for their digital transformation offerings and core software services. Provisional data suggest that net services exports at US$ 8.5 billion in September 2021 were 17.8 per cent up from the level a year ago.

Fiscal position for H1:2021-22 indicates that buoyant tax revenues helped to contain the Centre's fiscal deficit at 35.0 per cent of budget estimates (BE), even while incurring higher expenditure (Chart 27). Tax revenues improved across the board, with direct taxes marking a growth of 83.7 per cent over 2020-21 and indirect taxes rising by 48.4 per cent during the period (Chart 28).[5] On the disinvestment front, receipts have improved *vis-à-vis* 2020-21, but are still short of 2019-20 levels. Although only 5.2 per cent of the budgeted disinvestment target of ₹1.75 lakh crore has been achieved so far, the sale of Air India has marked a turning point in the disinvestment programme of the government.

The GST collections (Centre *plus* states) hit a growth of 23.7 per cent y-o-y to reach ₹1.3 lakh crore

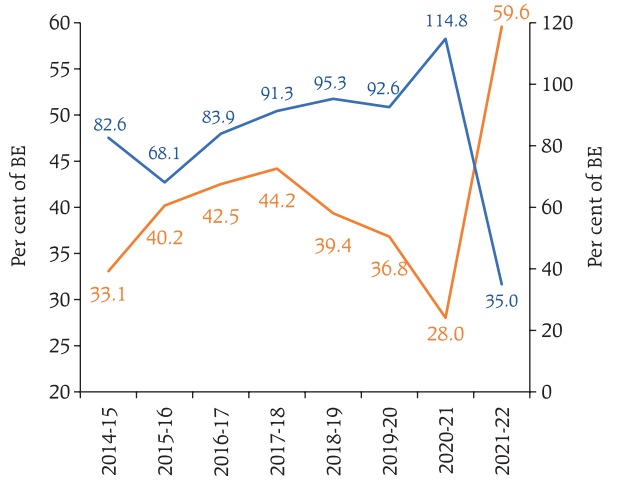
Chart 26: Import Growth in Key Commodities (Growth over 2019 Level)



Sources: PIB; DGCI&S; and RBI staff estimates.

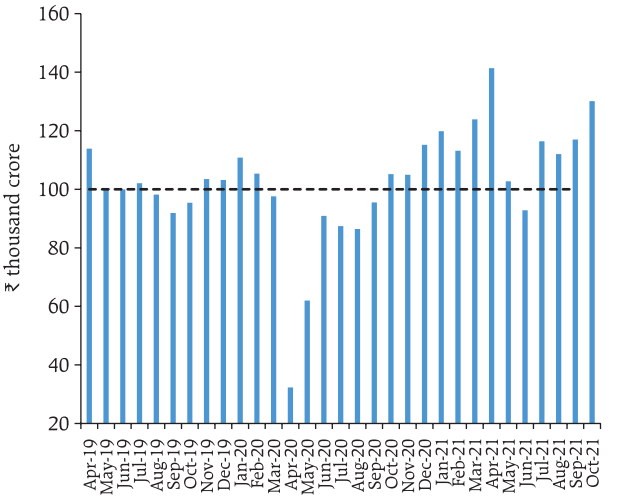
5 Over 2019-20, direct and indirect taxes recorded an increase of 27.1 per cent and 30.5 per cent, respectively.

Chart 27: Financial Position during April-September



Sources: Union Budget Documents; and Controller General of Accounts (CGA).

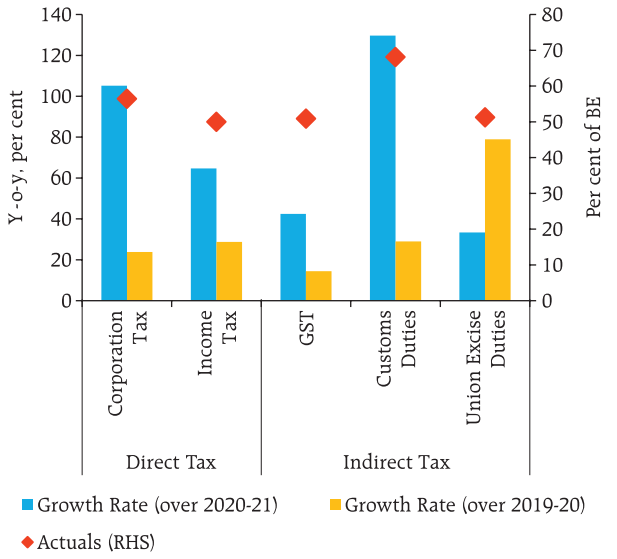
Chart 29: GST Collections



Sources: PIB; Union budget documents; and CGA.

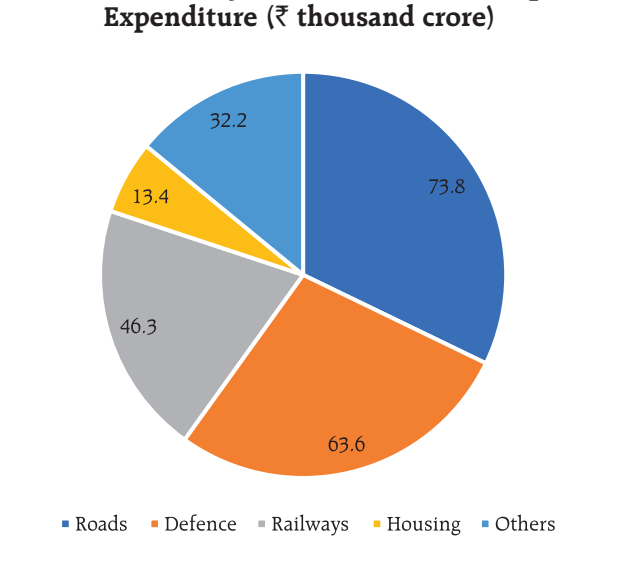
in October, the second highest since the introduction of GST (Chart 29). During the month, revenues from import of goods were 39 per cent higher and the revenues from domestic transactions (including import of services) were 19 per cent higher compared with a year ago. The comfortable revenue position of the government has enabled it to incur higher expenditure – both capital and revenue expenditure accelerated by 38.3 per cent and 6.3 per cent over 2020-21, respectively.[6] The growth in capital expenditure was led by the Ministry of Road Transport and Highways, which has exhausted 68.2 per cent of its budgeted capital expenditure for 2021-22 (Chart 30).

Chart 28: Tax Revenue during April-September



Sources: Union Budget Documents; and Controller General of Accounts (CGA).

Chart 30: Ministry-wise Breakdown of Capital Expenditure (₹ thousand crore)



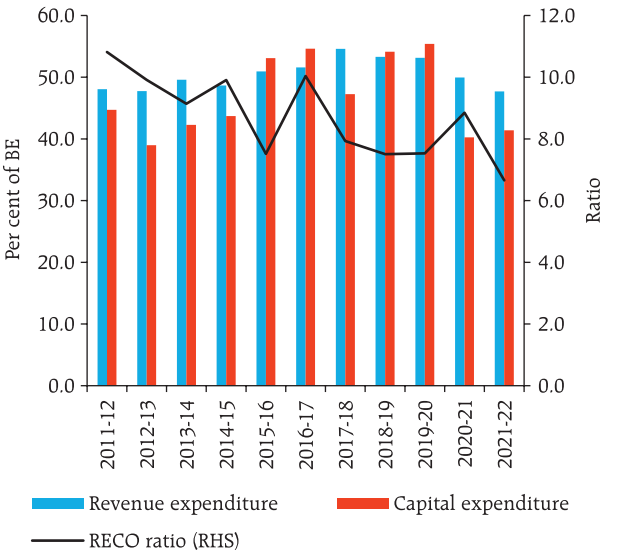
Sources: PIB; Union budget documents; and CGA.

[6] Growth of 22.3 per cent and 7.3 per cent over 2019-20, respectively.

The upbeat fiscal scenario has also enabled the Centre to slash excise duty on fuel.

The quality of expenditure has improved, with the revenue expenditure to capital outlay ratio (RECO) showing a marked improvement in H1:2021-22 relative to its trend level (Chart 31). States' capital expenditure has also surged during April-August, spurred by an impressive growth in tax revenues. States' revenue position is expected to improve further with the release of ₹44,000 crore on October 28 by the Centre, under the back-to-back loan facility *in lieu* of GST compensation cess. With this, the Centre has transferred the entire amount of ₹1.59 lakh crore that was to be released to states in 2021-22 on a back-to-back loan basis, without resorting to additional borrowing. Combined with the compensation based on actual cess collection (estimated at more than ₹1 lakh crore for 2021-22), the total GST compensation to states is expected to be around ₹2.59 lakh crore in 2021-22.

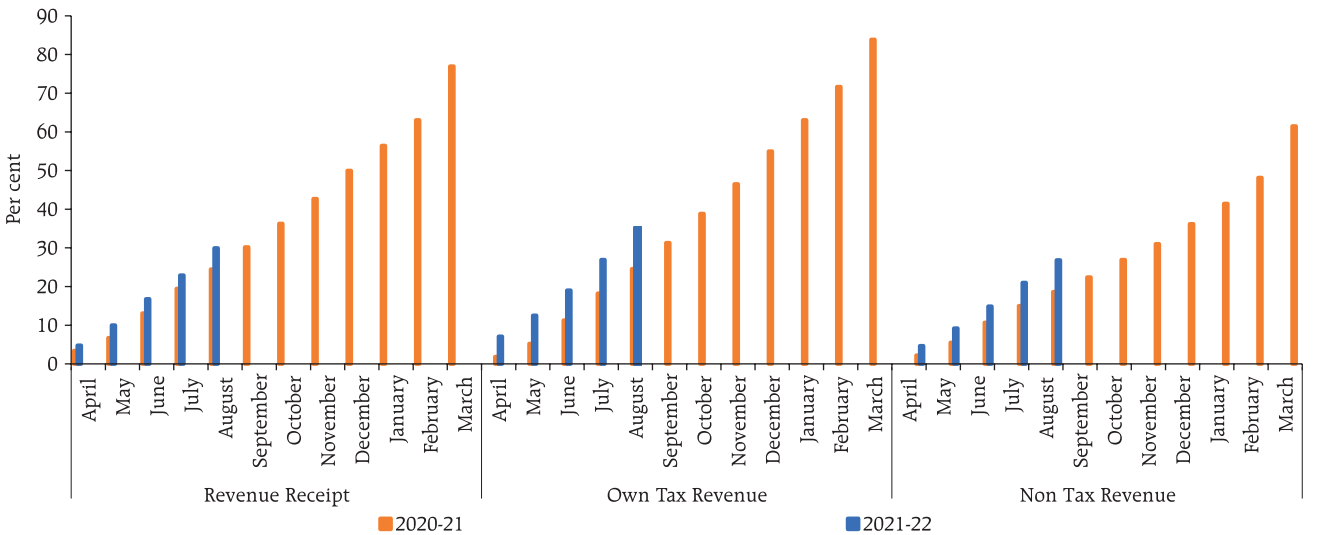
Chart 31: Quality of Expenditure in H1



Sources: Union Budget Documents; and CGA.

During April-August 2021, there has been a robust growth in both own tax revenue and own non-tax revenue receipts of the states as compared with the same period a year ago (Chart 32).[7] As the Central

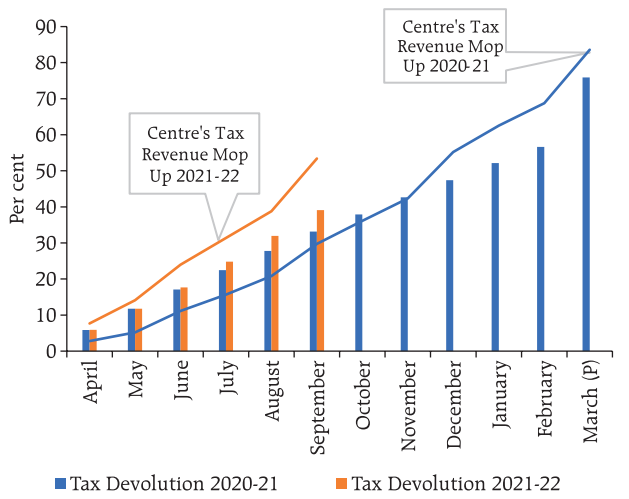
Chart 32: States' Cumulative Revenue Collection (per cent of BE)



Note: Data for August 2021-22 is based on 25 states.
Source: Comptroller and Auditor General of India.

[7] Average share of own tax revenue of the states in their total revenue receipts is around 46.2 per cent, while the devolution of taxes from Centre to states is around 26.4 per cent in the last 5 years (2016-17 to 2020-21).

Chart 33: Centre's Tax Revenue Mop up and Cumulative Tax Devolution to States (per cent of BE) : 2021-22 *vs* 2020-21



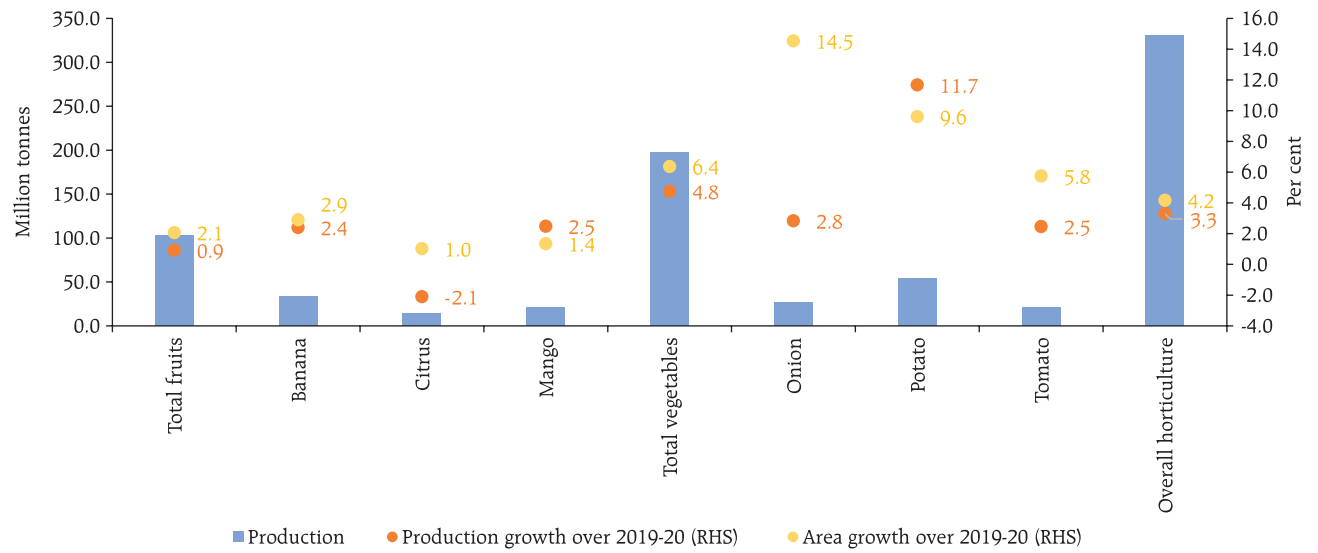
Source: Controller General of Accounts.

government is comfortably placed to achieve its tax revenue collection target for 2021-22 (Chart 33), it is expected that the higher mop-up of the central government tax revenue will translate into higher tax devolution to states in H2:2021-22.[8] This may cushion states' fiscal position and conveniently place them towards achieving their budgeted fiscal deficit target. Following the Central government's reduction in excise duties, the majority of the states and UTs have also reduced their value added tax (VAT) in the range of ₹1.8 to ₹10.0 per litre in petrol and ₹2.0 to ₹7.0 per litre in diesel. Overall, the decrease in petrol and diesel prices may positively impact consumption and private investment.

Aggregate Supply

Record horticulture crops production[9] during 2020-21 is expected to bolster the availability of vegetables and fruits. Total horticultural crop production at 331.1 million tonnes (with recent upward revision of 0.4 per cent over the 2nd AE for 2020-21), marked a growth of 3.3 per cent over the final estimates (FE) of 2019-20 (Chart 34). The record production in horticulture crops was led by an increase in area under cultivation by 4.2 per cent over 2019-20. Component wise, the area under onion has exhibited the highest growth of 14.5 per cent, followed by potato and tomato. Vegetable production

Chart 34: Horticulture Crop Production during 2020-21

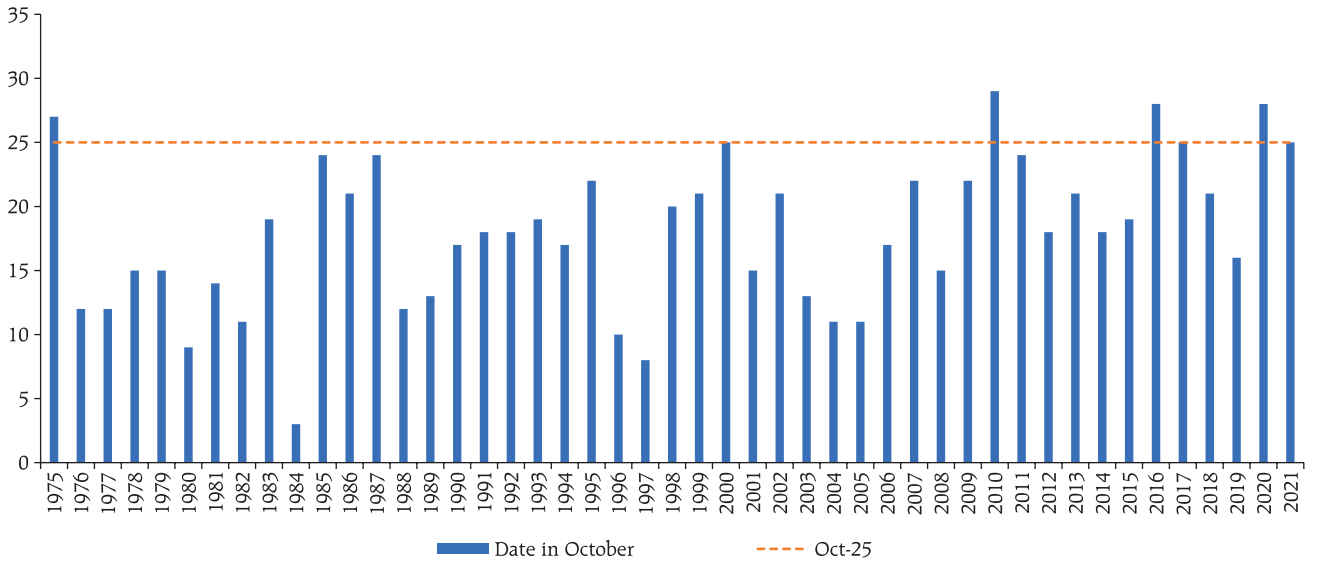


Source: Ministry of Agriculture and Farmers' Welfare.

[8] The Fifteenth Finance Commission has set the tax devolution to states at 41 per cent of the total divisible pool.

[9] As per the Third Advance Estimate (3rd AE) of Horticulture Production for 2020-21 released by the Department of Agriculture, Cooperation and Farmers Welfare on October 29, 2021.

Chart 35: Gradual Shift in the Date of Withdrawal of South West Monsoon



Source: India Meteorological Department.

expanded by 4.8 per cent over 2019-20 (FE), led by a sharp increase in production of all the three key vegetables – potato (11.7 per cent), onion (2.8 per cent) and tomato (2.5 percent). The production of fruits also increased by 0.9 per cent.

The south-west monsoon (SWM) this year withdrew from the entire country on October 25,2021 the – 7th most delayed monsoon withdrawal since 1975 (Chart 35). Interestingly, five[10] out of these seven years of late withdrawal were in the recent decade.

Simultaneously, with the setting in of north easterly winds in the lower tropospheric levels, the north-east monsoon (NEM) also commenced with 29 per cent higher rainfall over its long period average (LPA) as on November 9, 2021 (Chart 36a). The delayed withdrawal of the SWM created congenial soil moisture and reservoir water storage conditions, enabling the early start of *rabi* sowing this year. The *rabi* crop acreage[11] stood at 91.6 lakh hectares as on November 5, 2021, up by 6.3 per cent over its level a year ago on account of higher sowing of oilseeds (mainly rapeseeds and mustard) (Chart 36b). Early start of *rabi* sowing also seems to explain in part the fall in work demanded under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) by 17.4 per cent y-o-y and 16.9 per cent on m-o-m basis in October 2021 (Chart 36c).

In the industrial sector, the headline manufacturing PMI improved to 55.9 in October from 53.7 a month ago, pointing to the strongest improvement in overall operating conditions since February. An improvement in demand and uptick in global sales led firms to scale up production and employ more inputs. PMI services rose sharply to 58.4 in October, from 55.2 in September, signalling the strongest rate of expansion in ten and a half years, on the back of surge in new business. Moreover, Business Expectations Index (BEI) for services that had entered into the contraction zone in July 2021 for the first time in a year, reverted strongly in September-October (Chart 37).

[10] *Viz.*, 2010, 2016, 2017, 2020 and 2021.

[11] As per the Ministry of Agriculture and Farmers' Welfare.

Chart 36a: Cumulative Spatial Rainfall - 36 Met Sub-Divisions (Oct 01- Nov 09)

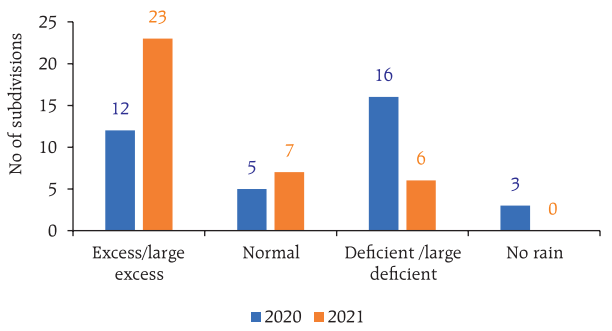


Chart 36b: Progress in *Rabi* Sowing (as on Nov 05)

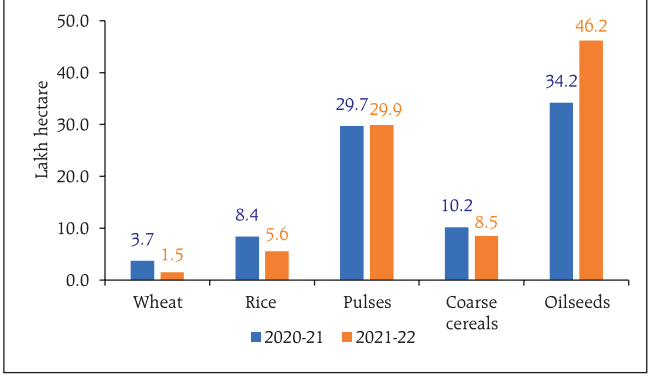
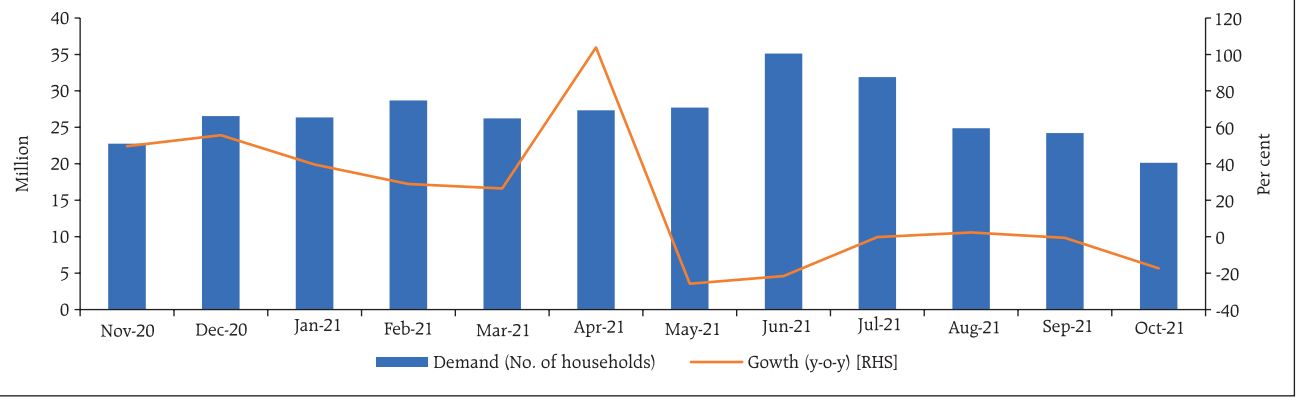


Chart 36c: Demand Pattern for Employment under the MGNREGS

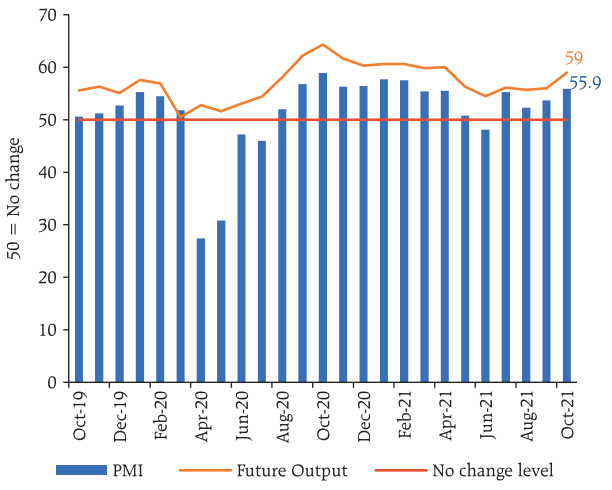


Sources: India Meteorological Department, Ministry of Agriculture and Farmers' Welfare, and Ministry of Rural Development.

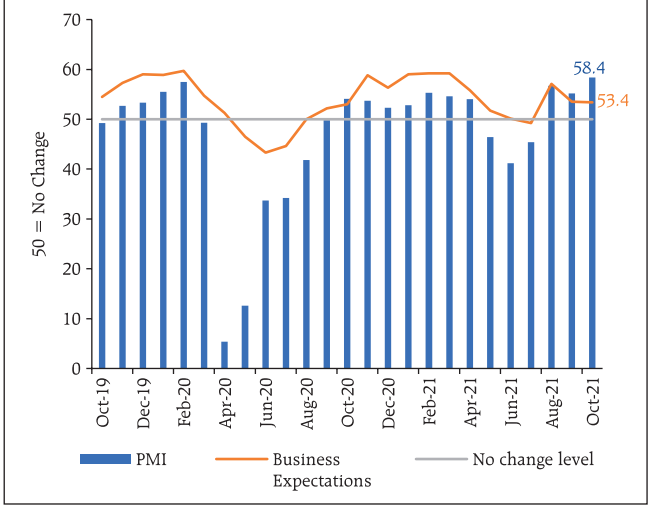
The services sector recorded a strong growth y-o-y as indicated by an improvement in trade, hotels, transport, communication and issuance of e-way bills (Table 1).

Chart 37: Purchasing Managers' Index

a. PMI Manufacturing



b. PMI Services



Source: IHS Markit.

Table 1: High Frequency Indicators - Services

High Frequency Indicators- Services Growth (y-o-y, per cent)									Growth over 2019					
Sectors	Indicators	May-21	Jun-21	Q1: 2021-22	Jul-21	Aug-21	Sep-21	Oct-21	May 21/ May 19	Jun 21/ Jun 19	Jul 21/ Jul 19	Aug 21/ Aug 19	Sep 21/ Sep 19	Oct 21/ Oct 20
Urban Demand	Passenger Vehicles Sales	162.5	119.3	317.7	44.7	7.6	-41.2		-61.2	10.6	39.1	22.8	-25.6	
Rural Demand	Two Wheelers Sales	26.1	4.0	85.9	-2.1	-14.6	-17.4		-79.6	-36.0	-17.1	-12.1	-7.7	
	Three Wheelers Sales	-48.7	-8.8	91.0	40.5	59.7	53.8		-97.6	-81.9	-67.9	-60.5	-56.0	
	Tractor Sales	-8.0	18.9	38.9	3.3	-17.0	-14.8	0.4	-4.3	45.5	43.1	45.0	9.3	8.2
Trade, hotels, transport, communication	Commercial Vehicles Sales	234.4		234.4	24.5				-49.2		0.6			
	Railway Freight Traffic	39.1	20.5	40.5	18.4	16.9	3.6	8.4	9.5	11.2	13.0	21.5	19.7	25.1
	Port Cargo Traffic	33.1	19.3	27.2	6.7	11.5	0.5	6.3	2.2	2.0	-7.2	-0.1	-1.4	5.3
	Domestic Air Cargo Traffic	285.7	43.0	201.9	41.3	35.7	10.1		-34.2	-25.6	-17.2	-13.1	-11.8	
	International Air Cargo Traffic	116.8	46.9	118.6	31.5	25.8	18.1		-9.4	-5.6	-8.0	-5.5	2.0	
	Domestic Air Passenger Traffic	608.7	53.8	366.8	140.7	132.6	76.5		-82.9	-74.3	-58.1	-43.8	-38.4	
	International Air Passenger Traffic	343.3	31.2	328.0	45.9	119.2	155.9		-91.2	-90.8	-86.1	-77.5	-68.9	
	GST E-way Bills (Total)	56.8	25.9	97.9	32.7	33.3	18.3	14.5	-26.3	9.9	23.0	28.6	29.6	39.0
	GST E-way Bills (Intra State)	47.1	24.3	87.5	31.6	30.8	15.6	14.1	-20.6	14.5	26.5	32.7	33.0	40.7
	GST E-way Bills (Inter State)	76.5	28.8	117.4	34.4	37.2	22.3	15.1	-34.4	3.2	17.9	22.9	25.0	36.7
	Tourist Arrivals	253.5	242.2	952.7					-97.8	-96.0				
Construction	Steel Consumption	64.3	28.3	100.9	4.2	-2.2	-3.6	-11.9	-11.1	-5.1	-6.6	-13.3	-3.5	-6.2
	Cement Production	8.3	7.5	54.5	21.7	36.3	10.8		-14.9	0.2	5.3	16.5	7.0	
PMI Index	Manufacturing	50.8	48.1	51.5	55.3	52.3	53.7	55.9						
	Services	46.4	41.2	47.2	45.4	56.7	55.2	58.4						

Sources: CMIE; CEIC data; IHS Markit; SIAM; Airports Authority of India; and Joint Plant Committee.

Inflation

Headline CPI inflation (year-on-year) for the month of October 2021 edged up to 4.5 per cent from 4.3 per cent a month ago, as per the data released by the National Statistical Office (NSO) on November 12, 2021 (Chart 38). In spite of favourable base effects, a steep rise in price momentum (month-on-month change in prices in the current month) by 141 bps more than offset favourable base effects (month-on-month change in prices a year ago) of 128 bps, resulting in headline inflation increasing by 13 bps between September and October. Food prices drove the sharp pick-up in overall CPI price momentum.

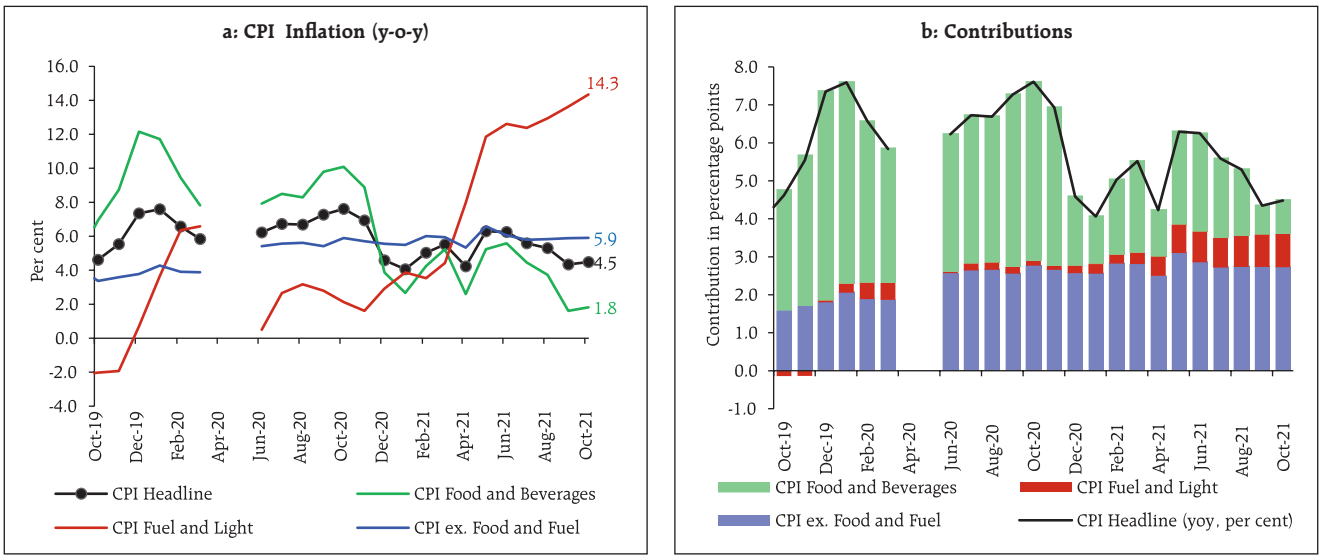
Among constituents, food and beverages inflation increased to 1.8 per cent in October from 1.6 per cent in September. Even though the large favourable base effects of 204 bps could have resulted in a substantial decline in food inflation, a spike in vegetable prices pushed up food inflation by 21 bps in October. Prices of cereals moved out of deflation. On the other hand, eggs prices moved into deflation and a softening of inflation was observed in meat and fish, pulses, spices and non-alcoholic beverages. Edible oils inflation, in spite of some moderation, remained elevated. Food (with a weight of 45.86 per cent in the CPI basket) contributed only 19 per cent of headline inflation in October (Chart 38b).

Fuel inflation edged up further by 72 bps in October to scale an all-time high inflation rate of 14.3 per cent (in the 2012=100 base year series) (Chart 38a). Increase in LPG and kerosene prices primarily led the pick-up. CPI fuel (weight of 6.84 per cent in the CPI basket) contributed around 20 per cent of headline inflation in October (Chart 38b).

CPI inflation excluding food and fuel[12] or core inflation remained elevated at 5.9 per cent in October (Chart 38a). While inflation in clothing and footwear, household goods and services, transport

[12] CPI excluding food and fuel is worked out by eliminating the groups 'food and beverages' and 'fuel and light' from the headline CPI

Chart 38: CPI Inflation



Note: CPI inflation for April-May 2021 were computed based on imputed CPI indices for April-May 2020.
Sources: National Statistical Office (NSO); and RBI staff estimates.

and communication and personal care and effects sub-groups increased, inflation in recreation and amusement, and health registered moderation.

High frequency food price data from the Ministry of Consumer Affairs, Food and Public Distribution (Department of Consumer Affairs) for November so far (November 1-12, 2021) showed an uptick in cereal prices. In case of pulses, *masoor* and *moong* prices registered increases, but the price of *tur* declined. Edible oils prices witnessed mixed movements, with prices of refined edible oils (like sunflower oil) registering a decline. Among key vegetables, prices of tomatoes and onions have seen sharp increases in November so far, with tomato prices inching up higher than levels a year ago (Chart 39).

On November 3, 2021 the Central Government announced reduction in excise duties on petrol and diesel by ₹5 per litre and ₹10 per litre, respectively. On November 4, 2021 the average pump prices for petrol in four major metros declined to ₹105.01 per litre (from ₹110.76 per litre on November 3, 2021) and for diesel to ₹90.51 per litre (from ₹102.30 per litre on November 3, 2021). In November so far (November 1-12, 2021), 25 State Governments and UTs have also reduced VATs on petrol and diesel – in the range of around ₹10 per litre to ₹3 per litre in case of petrol and in the range of around ₹9.5 per litre to ₹2 per litre in case of diesel. While kerosene price edged up sharply, LPG prices were kept unchanged in the first half of November (Table 2).

Input costs pressures, as reflected in the PMIs, increased across manufacturing and services in

Table 2: Petroleum Product Prices

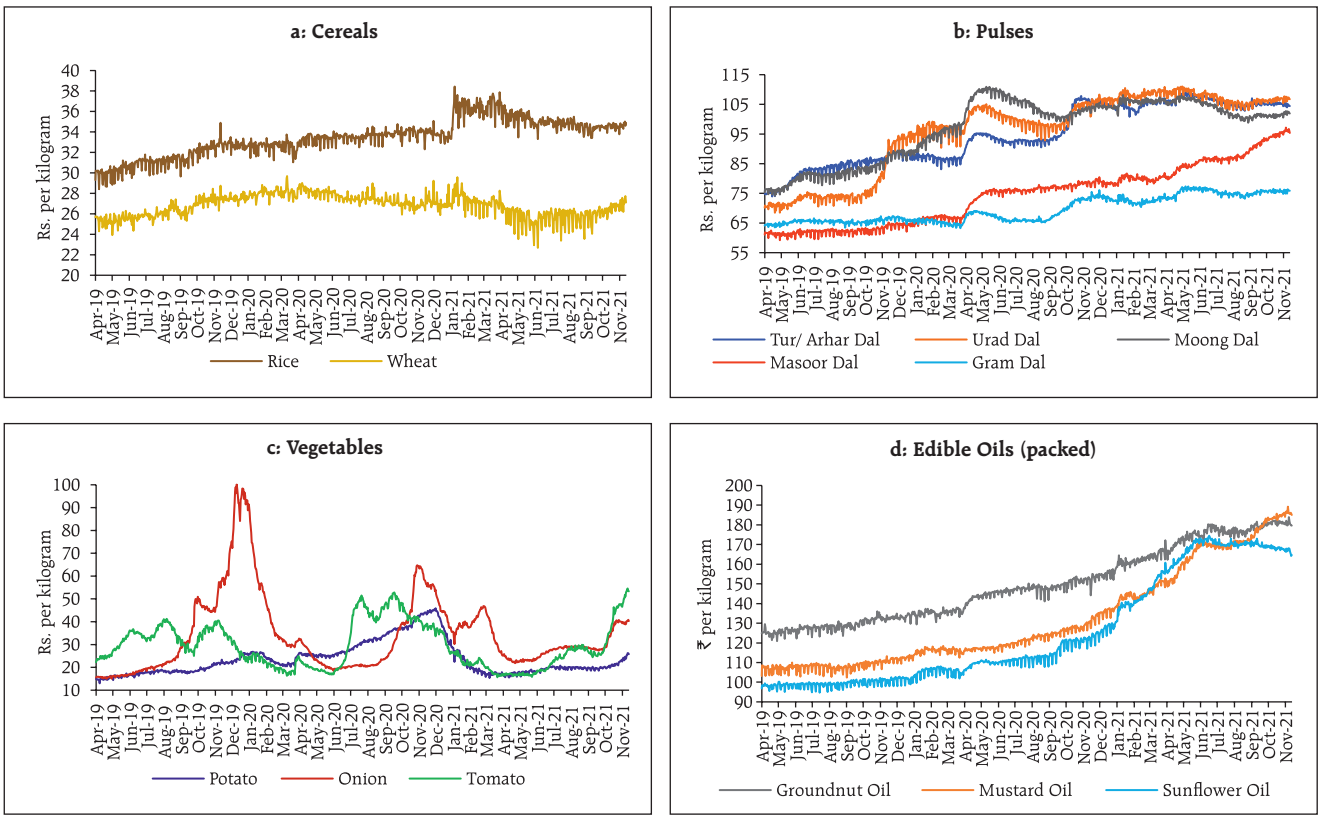
Item	Unit	Domestic Prices			Month-over-month (per cent)	
		Nov-20	Oct-21	Nov-21^	Oct-21	Nov-21
Petrol	₹/litre	84.13	106.37	106.42	4.0	0.0
Diesel	₹/litre	74.73	97.92	93.46	5.7	-4.6
Kerosene (subsidised)	₹/litre	22.17	34.56	39.51	4.2	14.3
LPG (non-subsidised)	₹/cylinder	604.63	910.13	910.13	1.7	0.0

^: For the period November 1-12, 2021.

Note: 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 subsidized prices in Kolkata, Mumbai and Chennai.

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

Chart 39: DCA Essential Commodity Prices



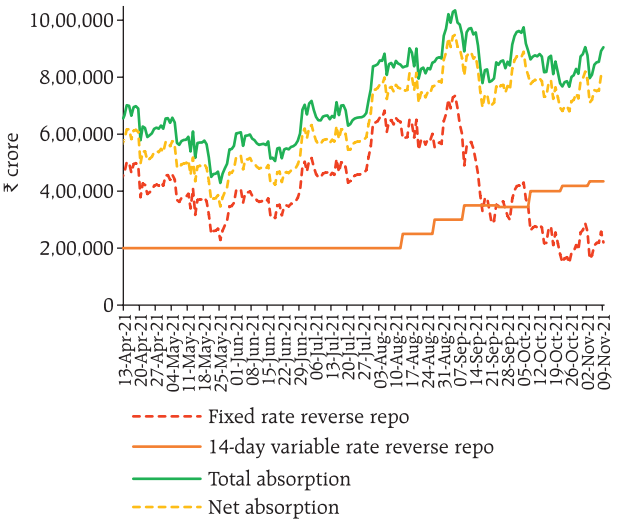
Sources: Department of Consumer Affairs, GoI; and RBI staff estimates.

October, with cost conditions turning more adverse in manufacturing. The number of services firms that increased selling prices rose in October. Manufacturing firms, on the other hand, registered muted output price increases.

IV. Financial Conditions

System liquidity remained in large surplus, though average daily net absorption under the liquidity adjustment facility (LAF) moderated from ₹8.1 lakh crore in the first half to ₹7.5 lakh crore in the second half of October 2021 through November 2021 (up to November 10). Amongst the drivers of liquidity, moderation resulted mainly from the build-up of government cash balances and step up in currency in circulation in the wake of the festival season. As the Reserve Bank stepped up liquidity absorption through the variable rate reverse repo (VRRR) auctions (both main and fine-tuning operations), the amount absorbed under the fixed rate repo declined (Chart 40).

Chart 40: Surplus Liquidity - Absorption under LAF



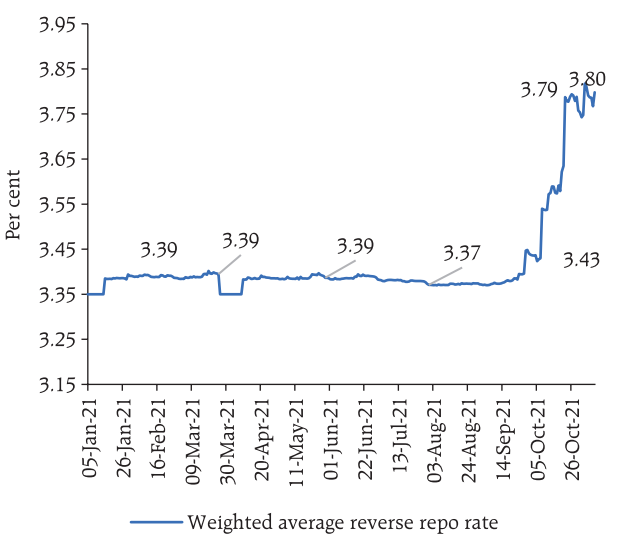
Source: RBI.

Higher cut-offs in the VRRR auctions amidst moderation in surplus liquidity nudged the trajectory of money market rates upwards. The cut-offs for main VRRR auction on October 8, October 22 and November 3 for the enhanced amount of ₹4.0 lakh crore, ₹4.5 lakh crore and ₹5 lakh crore were placed at 3.99 per cent, while the weighted average rate on the accepted bids in these auctions inched up to 3.65 per cent, 3.91 and 3.95 per cent, respectively. Similarly, under the fine-tuning operations conducted on October 20, 26, November 2 and 9, the cut-off rates were placed at 3.95 per cent, 3.99 per cent and 3.95 per cent each, respectively. In its October 8 policy, the Reserve Bank had announced the possibility of complementing the 14-day VRRR with the 28-day VRRR. Accordingly, the Reserve Bank conducted the first 28-day VRRR auction of the year on November 2. This auction elicited warm response as reflected in the bid-cover ratio of 3.4 with the cut-off rate and the weighted average rate standing at 3.97 per cent and 3.95 per cent, respectively. As a result, the weighted average reverse repo rate (for both fixed and variable rate reverse repos) firmed up and stood at 3.80 per cent on November 9, 2021 (Chart 41).

Rates in the overnight segment – the weighted average call rate (WACR), the tri-party repo rate and the market repo rate – hovered around the reverse repo rate with sporadic instances of hardening. In the outer term money market segment, 3-month T-bill rate, certificates of deposit (CDs) and commercial paper - NBFCs (CP-NBFCs) rates hardened in sync with the weighted average reverse repo rate, with their spreads over the reverse repo rate ruling at 17 bps, 27 bps and 81 bps, respectively, during the latter part of October and first half of November (Chart 42).

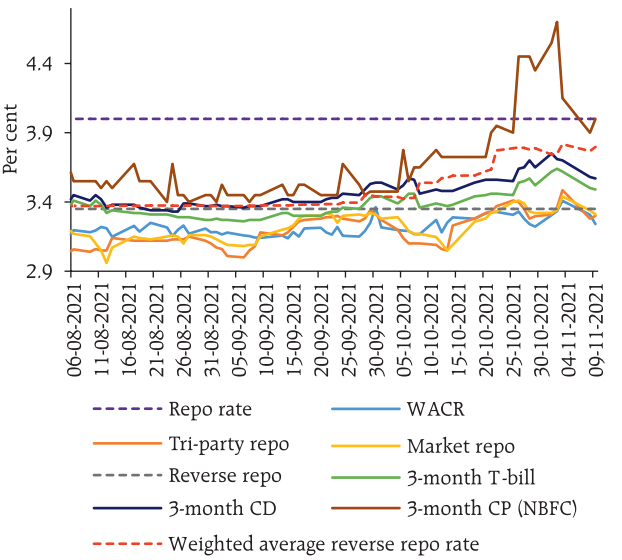
Bond yields extended their hardening bias in October, however, yields trended lower in November in line with softening of the US treasury yields (Chart 43). Positive domestic developments like excise duty cuts with its softening impact on inflation too fuelled the rally in bond market. The 10-year G-sec yield closed at 6.34 per cent on November 10, softening from a peak of 6.39 per cent at end-October. Mirroring the momentum in G-sec yields, corporate bond yields too softened in early November after showing a hardening bias in October 2021 (Chart 44).

Chart 41: Weighted Average Reverse Repo rate



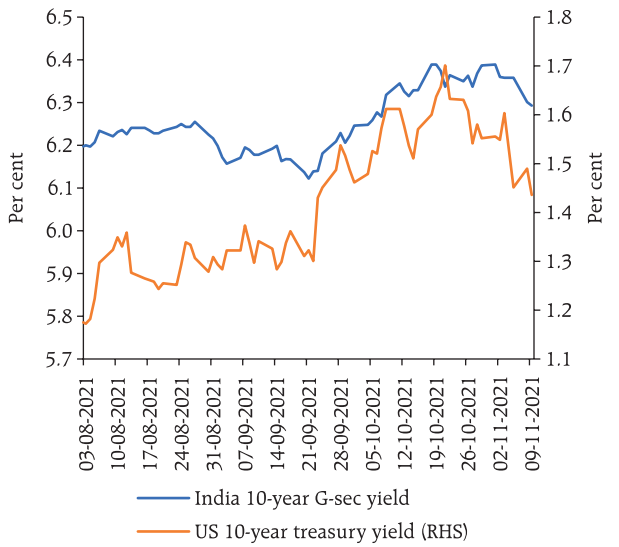
Source: RBI and staff estimates.

Chart 42: Policy Corridor and Money Market Rates



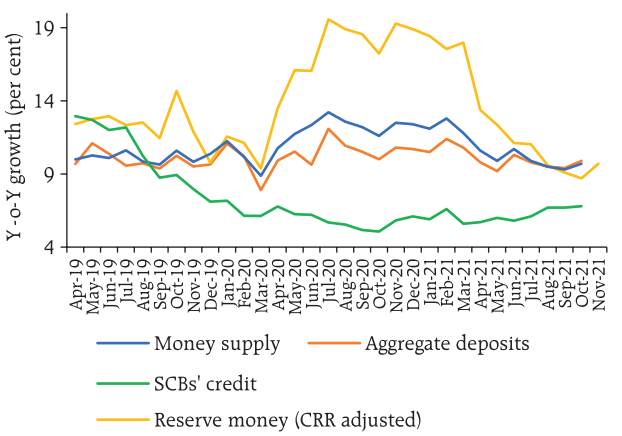
Source: RBI and Bloomberg.

Chart 43: Movement in 10 year yield



Source: Bloomberg.

Chart 45: Monetary and Credit Aggregates

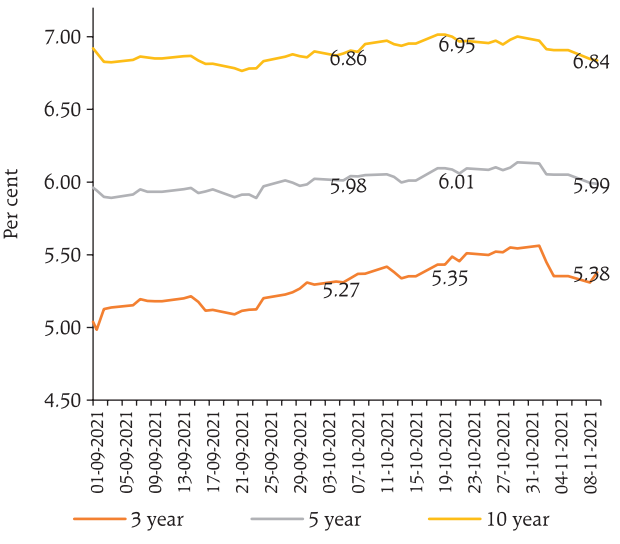


Note: 1. Data pertain to last reporting Friday of every month for money supply, aggregate deposits and SCBs' credit; and last Friday of every month for reserve money.
2. For November, however, reserve money data as on November 5, 2021 are included.

Source: RBI.

The overall monetary and credit conditions remained conducive in support of the economic recovery. Reserve money (RM), excluding the first-round impact of the cash reserve ratio (CRR) restoration, expanded by 9.7 per cent y-o-y as on November 5, 2021 (17.8 per cent a year ago) with currency in circulation - the largest component of RM - growing at a similar pace (20.3 per cent a year ago) (Chart 45). On the other hand, money supply (M3) grew by 9.7 per cent as on October 22, 2021 (11.6 per cent a year ago) on the back of a robust deposit mobilisation by banks. The aggregate deposits increased by 9.9 per cent, while the growth in scheduled commercial banks' (SCBs') credit to the commercial sector accelerated to 6.8 per cent (5.2 per cent a year ago).

Chart 44: AAA-rated Corporate Bond Yields



Source: Bloomberg.

In the credit segment of financial markets, transmission to lending and deposit rates has shown consistent improvement ever since the introduction of the external benchmark system in October 2019. The transmission improved significantly post March 2020 owing to abundant surplus liquidity. The median term deposit rate on fresh deposits[13] moderated by 154 bps through March 2020 to October 2021 (Table 3).

The asymmetry, however, persists in transmission to deposit rates across tenors with maximum pass-through discernible for shorter tenor deposits of up to 1 year maturity (181 bps) and the least for longer tenor

[13] representing average card rates across all tenors

Table 3: Transmission from the Repo Rate to Banks' Deposit and Lending Rates

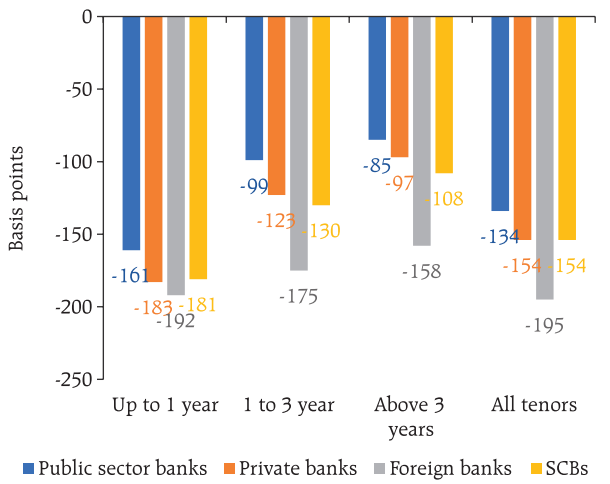
(Variation in basis points)

Period	Repo Rate	Term Deposit Rates		Lending Rates		
		Median TDR (Fresh Deposits)	WADTDR (Outstanding Deposits)	1 - Year Median MCLR	WALR (Outstanding Rupee Loans)	WALR (Fresh Rupee Loans)
Feb 2019 - Sept 2019	-110	-9	-7	-30	2	-43
Oct 2019 – Oct 2021*	-140	-186	-177	-135	-126	-162
Mar 2020 - Oct 2021*	-115	-154	-138	-105	-108	-132
Feb 2019 – Oct 2021*	-250	-213	-184	-155	-124	-205

*: Latest data on WALRs and WADTDR pertain to September 2021.
WALR: Weighted average lending rate;
WADTDR: Weighted average domestic term deposit rate;
MCLR: Marginal cost of funds-based lending rate; TDR: Term deposit rate.
Source: RBI.

deposits of maturity above 3 years (108 bps). Across domestic banks, private banks have exhibited higher pass-through to term deposit rates compared to their public sector counterparts (Chart 46).

Chart 46: Maturity wise Transmission to the Median Term Deposit Rate (March 2020 to October 2021)



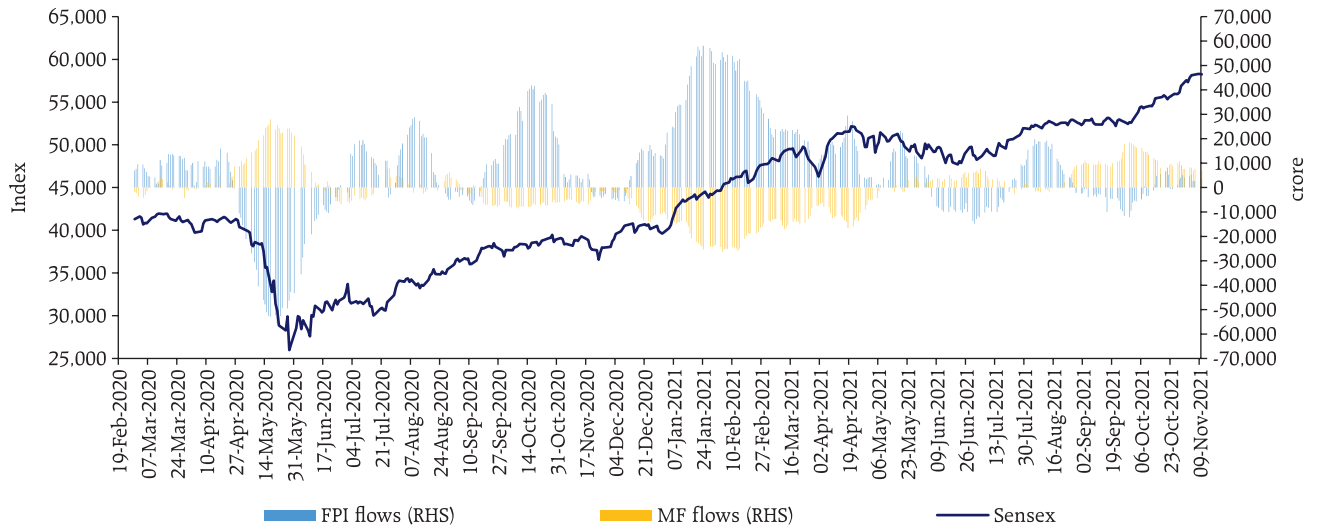
Sources: RBI; and RBI staff estimates.

Through March 2020 to October 2021, the one-year median marginal cost of funds-based lending rate (MCLR) of SCBs softened cumulatively by 105 bps. The reduction in the cost of funds for SCBs bodes well for overall transmission to lending rates. Consequently, weighted average lending rates on new loans extended by SCBs eased across sectors like agriculture, industry, commercial real estate, micro small and medium enterprises (MSMEs) and personal loans such as housing and vehicles. The interest rates on housing loans – personal as well as commercial – continue to stay at historical lows, which augurs well for the revival of the housing sector with its attendant backward and forward linkages with the Indian economy[14]. Consequently, the low interest rates have facilitated the households to reduce their burden of loan servicing.

The Indian equity markets scaled record highs multiple times during the first half of October 2021, buoyed by strengthening signs of recovery in economic activity, strong demand outlook ahead of the festive season and the Reserve Bank's announcement of *status quo* in its policy repo rate alongside continued accommodative stance of monetary policy (Chart 47). The markets, however, pared some of the gains in the second half of the month amidst accelerated profit bookings following mixed Q2 corporate earnings results and concerns over stretched valuations. Furthermore, weak global cues such as elevated commodity prices and contagion risks of the corporate debt crisis in China also dampened market sentiments. Overall, the BSE Sensex gained 0.3 per cent in October. Markets started on a positive note

[14] The significant reduction in interest rates on personal housing loans and loans to commercial real estate sector augurs well for the economy, as these sectors have extensive backward and forward linkages and are employment intensive (Governor's Monetary Policy Statement, August 6, 2021).

Chart 47: BSE Sensex and Institutional Flows

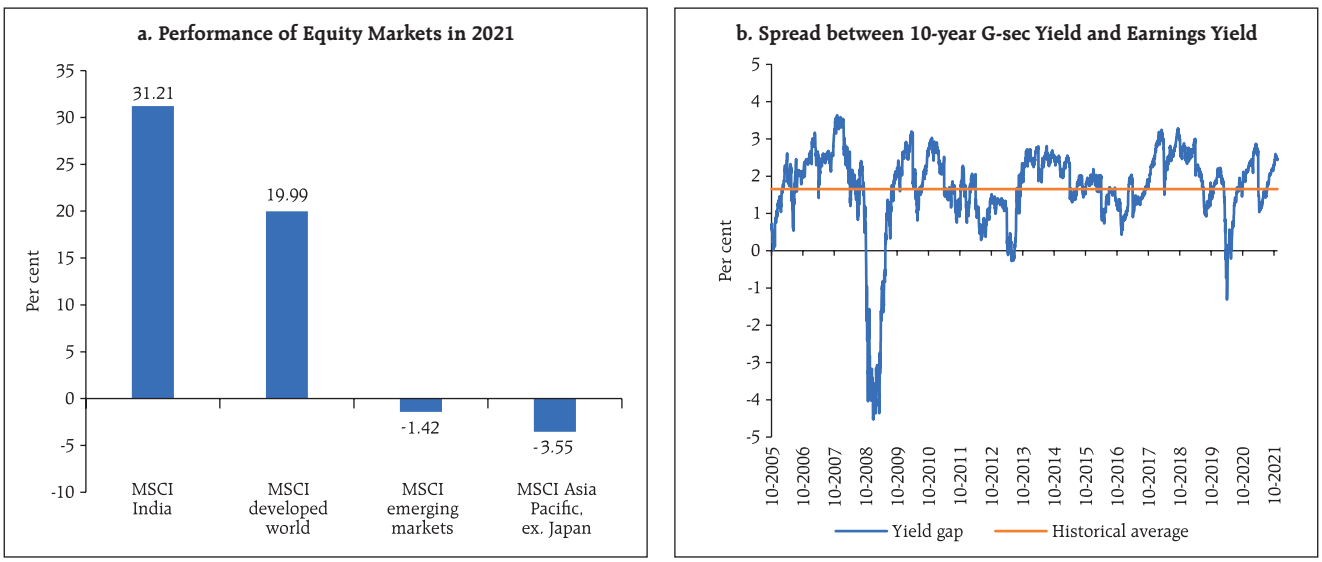


Note: FPI and MF investments are represented on 15 days rolling sum basis.
Sources: Bloomberg; NSDL; and SEBI.

in November buoyed by signals of rapidly improving economic outlook following expansion of India's manufacturing and services PMI and increase in GST collections for October 2021. The BSE Sensex has gained 1.8 per cent in November so far (up to 10th).

The Indian equity market has outperformed major equity indices in 2021 so far (up to 9th) (Chart 48a). The spectacular gains have raised concerns over overstretched valuations with a number of global financial service firms turning cautious on Indian equities. Traditional valuation metrics like price-to-book value ratio, price-to-earnings ratio and market-capitalisation to GDP ratio stayed above their historical averages. The yield gap (difference between 10-year G-sec yield and 12-month forward earnings yield of BSE Sensex) at 2.47 per cent has far outstripped

Chart 48: Traditional Valuations Metrics



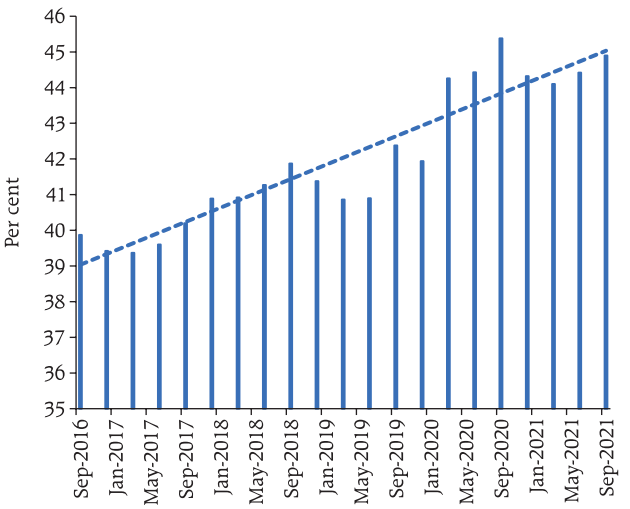
Source: Bloomberg.

its historical long-term average of 1.65 per cent, (Chart 48b).

Despite widespread concerns over valuations, it is noteworthy that the percentage holding of private promoters in companies listed on NSE increased by nearly 50 basis points to 44.90 per cent at end-September 2021 from 44.42 per cent at end-June 2021 (Chart 49). Empirical research shows a positive relationship between promoter ownership and firm value (Kumar *et al.*)[15]. Steadily increasing promoters' shareholding reflects confidence on the part of the promoters about their business prospects and comfort with ongoing valuations.

While domestic economic indicators are improving, concerns over uneven global growth, elevated commodity prices, supply disruptions and fears of withdrawal of monetary support in major AEs over inflationary concerns have imparted volatility in portfolio flows.

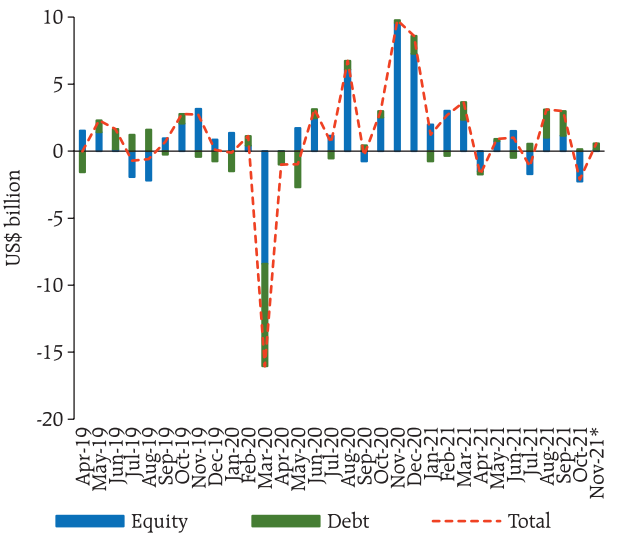
Chart 49: Promoter Ownership by Value



Note: Dotted line is the trendline.
Source: Prime Database.

[15] Kumar, Naveen, and J. P. Singh. "Effect of board size and promoter ownership on firm value: some empirical findings from India." *Corporate Governance: The international journal of business in society* (2013).

Chart 50: Net Foreign Portfolio Investment



*: Up to 11th.
Source: National Securities Depository Limited (NSDL).

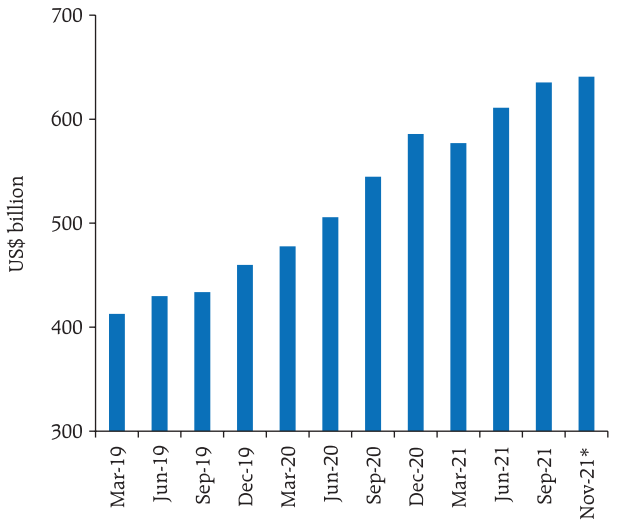
Foreign portfolio investors (FPIs) turned net sellers in the domestic equity market in October (Chart 50), though they remained net purchasers in the debt market in contrast to their EME peers.

Net disbursements of external commercial borrowings (ECB) to India remained strong in September 2021. While ECB net inflows, including inter-company borrowings, were of the order of US$ 6.4 billion during April-September 2021 as compared with net outflows of US$ 1.7 billion a year ago, net disbursements excluding repayments and inter-company borrowings amounted to US$ 3.8 billion as against net repayment of US$ 4.3 billion a year ago.

Foreign exchange reserves stood at US$ 640.9 billion on November 5, 2021 (Chart 51), providing a cover equivalent to 14 months of imports projected for 2021-22.

Scaling back of pandemic-related stimulus programme amidst uncertainty over persistent inflationary pressures in AEs, particularly the US, have reignited some fears of taper tantrum. However, major EMEs are better prepared this time to face any external shocks due to low current account deficits,

Chart 51: Foreign Exchange Reserves



*: As on November 5.
Source: RBI.

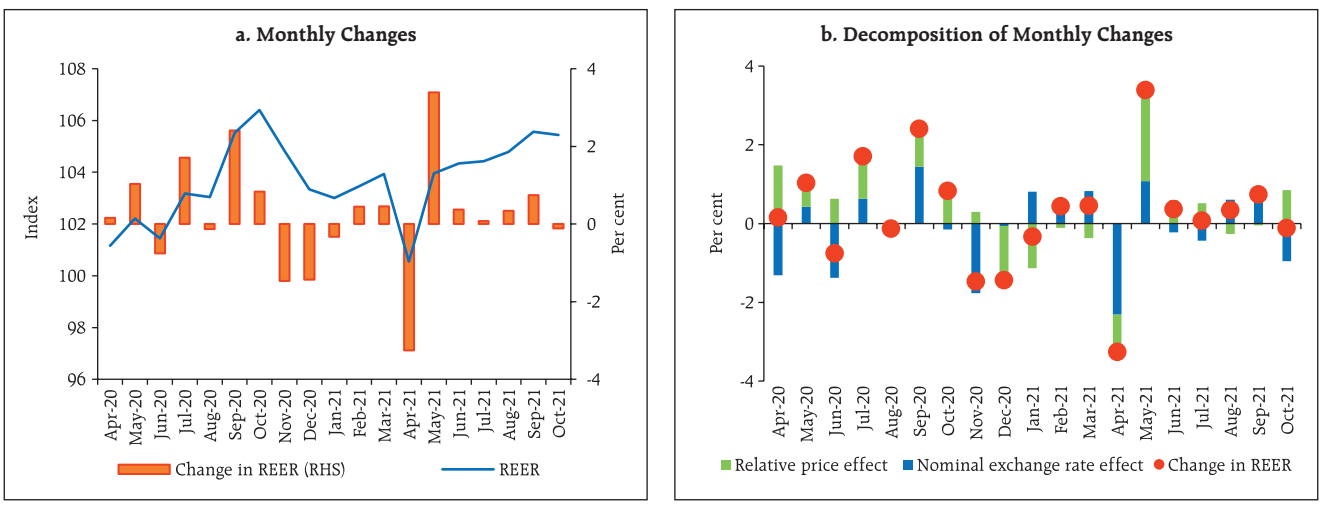
and external financing requirements, and higher foreign exchange reserves (Annex 1).

The Indian rupee (INR) depreciated against the US dollar in October by 1.8 per cent (m-o-m), amidst net sell-off in the equity market and concerns over rising crude oil prices. This was reflected in the movement of the INR in terms of the 40-currency real effective exchange rate (REER) index, which depreciated by 0.1 per cent over its level a month ago (Chart 52a and 52b).

Payment Systems

Riding on the back of the festival season, digital transaction value through the Real Time Gross Settlement (RTGS) system stepped up in October, with y-o-y growth accelerating over the previous month. On the retail side too, transaction values and volumes through all major payment systems demonstrated robust growth (Table 4), mirroring online festival season sales. Early figures for November also corroborate growth of transactions over the same period last year. A recent report suggests that Indian shoppers may have been transacting digitally more frequently during this festival season than a year ago[16]. The Reserve Bank proposed an increase in the per-transaction limit for the Immediate Payment Service (IMPS) from ₹2 lakh to ₹5 lakh on October

Chart 52: Monthly Movements in 40-Currency Real Effective Exchange Rate (REER)
(Base: 2015-16 = 100)



Note: Figures for October 2021 are provisional.
Source: RBI.

[16] https://indianexpress.com/article/technology/tech-news-technology/indian-consumers-prefer-digital-payments-over-cash-but-failed-transactions-worry-users-study-7589966/

Table 4: Growth Rates in Select Payment Systems

Payment System	Transaction Volume Growth (Y-o-Y, per cent)				Transaction Value Growth (Y-o-Y, per cent)			
	Sep-2020	Sep-2021	Oct-2020	Oct-2021	Sep-2020	Sep-2021	Oct-2020	Oct-2021
RTGS	13.7	34.2	7.2	33.2	-14.4	16.7	-18.4	19.3
NEFT	13.9	36.1	13.9	29.4	19.5	11.7	20.1	10.8
UPI	88.5	103.1	80.4	103.6	103.8	99.0	101.8	99.8
IMPS	37.0	37.7	34.6	35.0	35.3	30.3	29.1	35.0
NACH	7.4	-8.6	-21.6	31.6	5.2	19.1	-12.2	22.0
NETC	279.4	75.9	289.0	75.1	194.5	55.1	204.1	57.1
BBPS	111.3	156.8	88.3	155.6	107.0	206.7	75.9	165.8

Source: RBI.

8, 2021. This mode exhibited robust m-o-m growth in October, hitting an all-time high of more than 43 crore transactions, worth a total of ₹3.7 lakh crore. The National Electronic Toll Collection (NETC) system also posted record figures since its inception, pointing at a return to normalcy in road traffic movement. The Unified Payments Interface (UPI) scaled a new high, with transaction values at ₹7.7 lakh crore in October (₹6.5 lakh crore a month ago), with almost 100 per cent growth (y-o-y). UPI transaction volumes surpassed 421 crore, mirroring similar growth in their values. Overall, the growth momentum in digital transactions over the past few months indicates that the economy is gradually shaking off the shackles of the second wave of the pandemic.

For enhanced financial inclusion through digital modes, the Reserve Bank had launched a pilot on offline digital payments in 2020, under which small transactions up to ₹200 could be made in offline mode. Such offline payments allow the receiver to accept payments without an internet connection, up to a certain cumulative threshold. Once an internet connection is established, the transactions are reconciled with the payment system operator. Ascertaining the success and safety of this pilot, the Reserve Bank has decided to release a nationwide framework for implementing offline retail digital payments, which can work through cards, wallets and mobile devices. Another major initiative towards digital financial inclusion has been the Reserve Bank's announcement to deploy geo-tagging technology on existing payment acceptance infrastructure, which can help in targeting areas with inadequate infrastructure for focussed policy action under the Payments Infrastructure Development Fund (PIDF) scheme. On the innovation front, the Reserve Bank has proposed the theme "Prevention and Mitigation of Financial Frauds" as the fourth cohort of the Regulatory Sandbox[17]. This will enable the use of technology to cut down the lag between the occurrence and detection of frauds, strengthen the fraud governance structure and minimise response time to address fraudulent activities.

V. Conclusion

As set out in foregoing sections, the Indian economy is clearly differentiating itself from the global situation, which is marred by supply disruptions, stubborn inflation and surges of infections in various parts of the world. The global economic outlook remains clouded by uncertainty with headwinds from multiple fronts at a time when many economies are still struggling with nascent recoveries. There is a risk of faster policy normalisation by major central banks leading to tightening of financial conditions and stifling of growth impulses. Domestically, there have been several positives on the COVID-19 front, in terms of reduced infections and faster vaccinations. Mobility is rapidly improving, the job market is recouping and overall economic activity is on the cusp of a strengthening revival. Overall monetary and credit conditions stay conducive for a durable economic recovery to take root.

[17] *https://rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=52368*

Annex 1: Review of EME Preparedness against External Shocks

The start of withdrawal of monetary policy stimulus by the US Federal Reserve in November 2021 has led to concerns on turbulence in global financial and currency markets. Going forward, however, major EMEs are better prepared to face any external shocks due to low current account deficits and external financing requirements. Moreover, the capital inflows into EMEs in recent years have been nowhere close to as large as in the years before the 2013 tantrum. With the exception of Turkey, the fragile five's gross external financing needs as a proportion of foreign reserves have fallen substantially. India's potential external funding needs are expected to remain modest due to low current account deficit and short-term external debt to be serviced in next 12 months. In 2021 (up to September), the REER of the Indian rupee has appreciated against a basket of 40 currencies, owing to both appreciation in nominal terms and higher domestic inflation differential *vis-à-vis* trading partners. In most of other EMEs, barring Thailand, REER of domestic currencies has also moved in a narrow range during this period. High inflation in several AEs, particularly the US and the UK, has led to an appreciation of their currencies in real effective terms (Table 1).

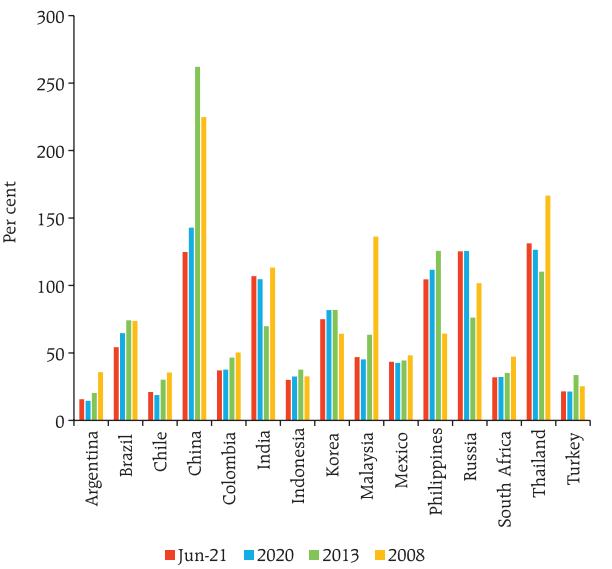
Table 1: Movements in NEER and REER

(y-o-y, per cent; average)

Country/ Area	NEER			REER		
	GFC	Taper Tantrum	COVID Pandemic	GFC	Taper Tantrum	COVID Pandemic
Major AEs						
Canada	-2.1	-2.9	2.2	-3.2	-3.7	1.7
Euro Area	2.5	5.6	3.5	1.0	4.7	2.1
Japan	11.8	-21.3	-1.2	8.7	-22.6	-3.1
UK	-12.0	-3.5	1.9	-12.1	-2.7	1.4
US	0.4	0.5	-1.6	-0.5	-0.1	-1.1
EMEs						
India	-5.5	-6.1	-2.9	-3.6	-0.5	0.5
Brazil	0.6	-7.2	-14.5	2.0	-4.1	-14.1
China	8.0	6.6	3.0	8.8	7.4	2.6
Indonesia	-9.5	-5.9	-2.8	-4.1	-1.3	-2.5
South Africa	-12.2	-15.9	-2.2	-6.5	-12.7	-0.3
Thailand	-3.4	5.5	-2.5	-3.6	5.4	-4.1
Turkey	-4.1	-7.9	-20.6	0.9	-2.6	-10.4

GFC (post-Lehman Brothers Collapse): Oct. 2007–Jun. 2009.
Taper Tantrum: May 2013–Sep. 2013.
COVID Pandemic: Mar. 2020–Sep. 2021.
Source: Calculations are based on data sourced from BIS and RBI (for India).

Chart 1: Foreign Exchange Reserves to External Debt Ratio



Sources: World Bank; IMF; RBI; and RBI staff calculations.

Reserve Cover of External Debt

Sudden stop may induce exchange rate adjustment *via* capital flows, mainly debt flows. Higher share of external debt in total external liabilities is found to be associated with probability of external crisis across economies (IMF, 2020). The reserve cover of external debt in India, Russia, Malaysia and Thailand which was above 100 per cent during the global financial crisis (GFC) recorded a sharp decline in 2013 (Chart 1). However, the reserve cover of external debt for India and Russia at end-June 2021 crossed 100 per cent. Higher reserve cover of external debt accompanied by a comfortable current account position during 2021-22 so far provides cushion against any potential impact of global shock.

Reference:

International Monetary Fund (2020), *External Sector Report: Global Imbalances and the COVID-19 Crisis*, Washington, DC, August.

*Is the Phillips Curve in India Dead, Inert and Stirring to Life or Alive and Well?**

The Phillips curve postulates that unemployment can be lowered (output can be increased) but only at the cost of higher wages (inflation) or conversely, wage growth (inflation) can be lowered only at the cost of higher unemployment (lower output). The conduct of monetary policy hinges around this exploitable trade-off. Our results indicate that the Phillips curve is alive in India but recovering from a period of flattening over the past 6 years. The Phillips curve is convex, flattening with low and negative output gaps and steepening when the output gap is positive and high.

In 1958, Alban William Housego Phillips detected a strong negative association between the money wage rate and the unemployment rate in the UK. His published work was to become one of the most widely cited ever in the economics profession[1]. What started out as an 'empirical regularity' without theoretical moorings was to become the most famous curve in the post-World War II period – the Phillips curve – as extraordinary as the man himself for whom a short historical tribute would be befitting[2].

Born in New Zealand into a farming family which could not afford to keep him in school, Phillips started working as an apprentice electrician at the age of 15. In 1937, still aged only 23 and wanting to explore the world, he boarded a Japanese ship to Shanghai, which was diverted to Yokohama because war broke out while it was at sea. From Japan, he made his way through Korea, Manchuria and crossed Russia on the Trans-Siberian railway, travelling on through Poland and Germany. He settled down in London where he graduated from the Institute of Electrical Engineers in 1938. When World War II broke out, he enlisted in the Royal Air Force and was sent as a flight Lieutenant to Singapore. In 1942, when Japanese forces captured Singapore, he boarded the last ship out of there. Attacked by Japanese fighter planes, it limped into Java where he was captured and spent the next three years as a prisoner of war. In 1945, he was repatriated to his family in New Zealand, emaciated, addicted to nicotine and deeply scarred. He chose to return to London and enroll at the London School of Economics to study sociology. There, he developed a hydraulic machine model of the UK economy, with the flow of liquid representing money[3]. The head of the department of economics, Sir Lionel Robbins, who would give the world the so-called 'scarcity' definition of economics[4], found him to be 'a wild man from New Zealand waving blueprints in one hand and queer shaped pieces of Perspex in the other' and handed him to a junior colleague, James Meade, who would become his lifelong friend. The electrical engineer became an economist, the hydraulic machine gave way to systems of differential equations, application of dynamic control theory to macroeconomics and computer-based policy simulations. In 1958, he found that by grouping data on inflation and unemployment from 1861 to 1957 into sub-periods, he could observe an apparently robust relationship between the rates of change of money, wages and unemployment. The paper was published that year in *Economica* while he had proceeded on leave to the University

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1 The web page of *Economica* refers to it as "the most heavily cited macroeconomics title of the 20th century (Sleeman, 2011).

2 This historical profile draws heavily on Bollard (2011).

3 The Monetary National Income Analogue Computer or MONIAC was a hydraulic machine made of transparent plastic pipes and tanks fastened to a wooden board. It used coloured water to represent the stocks and flows of an IS-LM model (Barr, 2000).

4 "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses", *An Essay on the Nature and Significance of Economic Science*, 1932.

of Melbourne and he was astounded on his return to find the outpouring of interest in his work. The rest, as it is said, is history.

In its original form, the Phillips curve identifies an inverse correlation between unemployment and wage growth with powerful policy implications – unemployment can be lowered (output can be increased) but only at the cost of higher wages (inflation) or conversely, wage growth (inflation)[5] can be lowered only at the cost of higher unemployment (lower output)[6]. Phillips postulated that this negative relationship should be highly non-linear due to downward wage rigidity – workers would be reluctant 'to offer their services at less than the prevailing rates when the demand for labour is low and unemployment is high' (Phillips, 1958). This implies that the policy maker's ability to generate employment by lowering the wage rate slows after a point and then stops.

In the closing years of the 1950s and in the 1960s, the Phillips curve[7] appealed widely as empirical research turned in evidence of the existence of a negative correlation between inflation and unemployment in data for the US economy (Samuelson and Solow, 1960) and in numerous other developed countries. This opened up a range of exciting possibilities for policy intervention. It seemed to suggest that the policymaker has a menu of options from which she could select a preferred combination of unemployment and inflation. The term Phillips curve or PC proliferated in macroeconomic discussions and became the springboard for large-scale macroeconometric models that were in fashion in those days.

From the late 1960s, however, there have been several assassination attempts. In 1968, Milton Friedman's Presidential address to the American Economic Association challenged the PC. In his view that has come to be known as the monetary policy invariance hypothesis (Hall and Sargent, 2018), monetary policy had no ability to choose the unemployment rate or the interest rate because both have natural rates, the former determined by the structural characteristics of the labour market, including market imperfections, and the latter by factors such as demographics and the state of financial intermediation and technology[8]. The only variable that monetary policy can influence is the rate of inflation – "inflation is always and everywhere a monetary phenomenon" (Friedman, 1970). By creating unanticipated inflation through bursts of unplanned money creation, it can lower real wages temporarily below the natural rate and boost employment, but soon people will see through the increase in inflation and not be fooled. They will adjust their inflation expectations and demand higher nominal wages to account for inflation and the wage rate will gravitate to its natural rate. Thus at most, monetary policy can induce transitory deviations of the real interest rate and the unemployment from their natural rates. There is no trade-off between unemployment and inflation in the long run and hence, no role for monetary policy beyond avoiding unpleasant inflation surprises.

Friedman brought in the role of expectations – people extrapolated recent behaviour in a fixed way to form expectations about the future. Influential work in the early 1970s employed rational expectations to produce a striking clarification and strengthening of the monetary policy invariance hypothesis (Lucas, 1972a; 1973). Based on the available information, people form expectations about future prices and quantities, and based on these expectations they act to maximize their expected lifetime utility. Accordingly, they can

5 The inflation rate is equal to the growth rate of wages minus the long run growth rate of productivity (assumed to be constant).

6 The regression line fitted by Phillips for the period 1861-1913 for the UK was: $w_t = - 0.90 + 9.64\ U_t^{-1.39}$ where w_t is the rate of change of the nominal wage rate and U_t is the unemployment rate.

7 Christened by Samuelson and Solow (1960).

8 Phelps (1967; 1968) is credited with co-discovering the natural rate hypothesis.

anticipate any systematic policy actions and build them into their wage negotiations, thus negating the purpose of these policies. Anticipated monetary policy cannot change real GDP in a predictable manner; this can only happen *via* price surprises referred to earlier.

These declarations of war were well-timed – in the 1970s, the correlation between inflation and unemployment turned out to be positive – not negative – and the PC was consigned to the "wreckage… of that remarkable intellectual event called the Keynesian revolution" (Lucas and Sargent, 1978). Proponents of the PC had to reconcile with the absence of a long-run trade off and had to be content with an uneasy short-run trade-off subject to the longer-run adjustment to the natural rate of unemployment. Meanwhile, however, the invariance hypothesis was rejected empirically in view of little or no effects of monetary surprises on output and also because it was inconsistent with serial correlation of output and inflation persistence. Moreover, the Friedman-Phelps-Lucas position could not be developed into a systematic and symmetric explanation of output and price behaviour (Gordon, 2011).

The PC survived these assaults of long run neutrality on short run exploitable trade-offs. The Volcker disinflation was followed by the re-emergence of a negative correlation between inflation and unemployment, reinforcing the rehabilitation of the PC in the 1970s by two strands of influential work. One is the 'triangle model' (Gordon 1975; Phelps, 1978) in which the inflation process is explained by inertia (lagged inflation representing backward-looking expectations formation and accommodating the Friedman-Lucas critique), demand reflected in the employment or output gap, and supply shocks that are explicitly modelled rather than being suppressed into the error term as in the second strand. While the triangle model seems to provide a coherent explanation of the phenomenon of stagflation, the Volcker disinflation was faster than suggested by forecasts from an expectation augmented PC with wage rigidity. Furthermore, the Fed's monetary policy is credited to have become more credible from the late 1970s, resulting in lower sacrifices of output for every unit disinflation than what the triangle model would have predicted.

The second strand resuscitated the PC and pitched it into the centre stage of the academic discourse on monetary policy as well as its operational conduct. It was termed as the new Keynesian revolution but was, in fact, a synthesis that incorporated the new classical (Lucas, 1972b) emphasis on rational expectations and market clearing. It differs from the first strand in the absence of backward-looking inflation inertia. Ahead of its advent, seminal work in the area of real business cycles distinguished between rules and discretion in conducting monetary policy (Kydland and Prescott, 1977; Barro and Gordon, 1983). It was shown that policy makers who reassess their response to inflation in each time period end up delivering higher inflation relative to those that adhere to a rule which holds across time periods. This phenomenon of 'time inconsistency' spawned a profusion in the literature on proximate solutions, including appointing a conservative central banker who places a large weight on inflation stabilisation relative to employment stabilisation (Rogoff, 1985); writing an optimal contract for the central banker that ties incentives to realised inflation (Walsh, 1995) and conducting rule-based monetary policy (Taylor, 1993; McCallum, 1987) which eventually led up to the formalised institution of inflation targeting as a monetary policy framework. The moot point that emerged from the identification of time inconsistency is that attempts to conduct monetary policy without knowledge of the position of the PC can lead to policy choices that yield persistently high inflation outcomes. Credibility is key – doubts among economic agents about the policy maker's commitment to low and stable inflation can increase the output losses of reducing inflation, *i.e.*, the sacrifice ratio.

Over the 1980s and 1990s, the new Keynesian PC or NKPC became the central element of the workhorse model that is employed widely by modern central banks to evaluate the conduct of monetary policy and assess the outcomes *versus* goals. An important feature of the NKPC is its micro-foundations. Monopolistically competitive firms have control over their own prices due to product differentiation. They are, however, constrained in the setting of prices by frictions and so they change their prices only infrequently, having in the earlier adjustment set the price equal to the weighted average desired price set by all firms. As a consequence of this friction, monetary policy actions that seek to increase or reduce inflation will have short-run effects on output (employment). The main differences of the NKPC from the triangle model are (1) expectations are explicitly forward-looking; and (2) supply shocks are not explicitly taken into account and are instead suppressed into the error term. In real life, the NKPC fits the data poorly because of the phenomenon of inflation persistence in the form of dependence on the past. Accordingly, the hybrid NKPC has emerged as the more credible formulation in which the inflation expectations are both forward and backward looking (Gali and Gertler, 1999; Gali *et al.*, 2005). Recent research has focused on time-varying properties of the NKPC and its non-linearities.

From the late 1990s right upto the global financial crisis (GFC of 2007-08), global economic activity expanded continuously without any parallel acceleration in inflation. Also, the GFC did not produce the sharp disinflation that was widely expected - termed as the missing (dis) inflation (Coibion and Gorodnichenko, 2015). Also missing has been the reinflation that was expected since the 2010s (Constancio, 2015). The relative insensitivity of inflation to changes in employment or wider economic activity during these recent decades, backed by empirical estimates that the PC has flattened considerably during this period, has led many economists to suggest that the PC has either disappeared or is hibernating (Hazell, Herreno, Nakamura and Steinsson, 2021; Hooper, Mishkin and Sufi, 2020). An animated debate has ensued, dividing the profession under two views: the PC is dead (Summers, 2017; McLeay and Tenreyro, 2019; Gagnon and Collins, 2019; Ratner and Sim, 2020) and the PC is alive and well (Gordon, 2013; Ciccarelli, *et al.*, 2017; Hindrayanto, Samarina and Stanga, 2019; Reinbold and Wen, 2020; Alexius, Lundholm and Nielsen, 2020; Jorgensen and Lansing, 2021). There is a consensus though, that the answer is empirical and country-specific, and it has to be sought for a wider objective assessment of the role of monetary policy.

For India, the PC has stood the test of time, right up to early 2020 before the pandemic struck, providing a rationale for monetary policy in its stabilising counter-cyclical role. In the most recent experience, as the Indian economy enjoyed one of the longest expansions in recent history during 2012-16, inflation rose to an average of 7.5 per cent. In the period 2017-20, there was a cyclical downturn which was associated with inflation easing to an average of 3.9 per cent. And then came the pandemic! Even as the country locked down and people went into isolation, inflation surged in 2020-21 and the first quarter of 2021-22, breaching the upper tolerance band set under the flexible inflation targeting framework. In particular, core inflation, which is perceived to be demand-driven and amenable to monetary policy action, is high and persistent. Headline inflation has eased more recently but widespread concerns remain that the Reserve Bank of India (RBI) will be forced to reverse its pandemic-fighting accommodative stance and tighten monetary policy sooner than later (Bhattacharya, 2021). Is there sizable slack in the economy induced by the pandemic, as high frequency indicators suggest? Or has the pandemic changed all that, pushing down potential output along with actual output, begging the question – what is the state of the

output gap? Has the relationship between slack and inflation broken down? This seems to be corroborated by large forecast errors in inflation projections. These questions are best responded to by estimating the PC for India by including the period of the pandemic. We also investigate the time varying properties of the PC to examine if it is the ongoing recession that has flattened the slope of the PC, rather than pronouncing it as missing in action.

The rest of the paper is organised into four sections. Section II sets out the methodology and the data to estimate the output gap and linear Phillips curve and discusses the results. Section III and Section IV present time-varying and convexity properties of the Phillips curve in India, respectively. Section V concludes the article and offers some policy perspectives.

II. Palpating for the Phillips Curve in India

The Indian economy was into a downturn when the pandemic struck. By 2019-20, real GDP growth had slowed to its lowest rate in the history of the national accounts based to 2011-12 and a negative output gap – with potential output measured by a combination of statistical filters - had opened up by the second quarter of the year. In 2020-21, the year of the pandemic's first wave, GDP had declined by 24.4 per cent in the first quarter, and for the year as a whole, it contracted by 7.3 per cent, one of the steepest in the world. The suddenness, severity and scale of the first wave brought the economy to a halt under one of the strictest lockdowns anywhere. Supply disruptions and demand compression became indistinguishable and standard methodologies for estimating potential output failed because of extreme values and end-sample problems. The impact of the second wave of the pandemic on the economic activity was not as severe – in Q1:2021-22, GDP was 9 per cent below its level in the corresponding quarter of 2019-20 – and containment measures were localised with wider adaptation to pandemic protocols. On the other hand, supply and logistics disruptions brought in their train price pressures as supply-demand imbalances flared up, margins were increased to recoup lost incomes and taxes were levied on fuel consumption. While food and fuel prices suffered one-off spikes, core inflation acquired persistence and a generalised character. With core inflation unresponsive to the contraction in the economy, the exploitable trade-off between aggregate demand and core inflation broke down, leaving the conduct of monetary policy in no-man's land and the very existence of the Phillips curve came into question.

In these challenging circumstances, we sought to check the pulse of the Phillips curve by following the empirical literature into estimating a hybrid one in the new Keynesian tradition. While the canonical new Keynesian model is purely forward-looking, *i.e.*, it incorporates only people's expectations about future inflation, it does not fit the data well – evidently, people's expectations formation is adaptive for a number of reasons such as indexation of wages and the fact that the average human being is probably not perfectly farsighted or 'Ricardian' as economists are prone to label them. Accordingly, the pragmatic approach is to incorporate both backward-looking and forward-looking expectations into the Phillips curve. Supply shocks are suppressed into the error term.

The key issue is to estimate the output gap, which has been shown to be proportional to marginal cost - the main driver of inflation – under frictionless conditions such as flexible wages and prices (Woodford, 2001; Neiss and Nelson, 2001; Gali, 2002). We use a semi-structural multivariate filter approach to decompose observed output into its trend and cyclical components (Alichi, *et al.*, 2017). The decomposition involves the simultaneous estimation of an aggregate demand or IS curve, an aggregate supply curve represented by the Phillips curve and a monetary policy reaction function that describes the central bank's response to deviations of output from

its potential and inflation from its target. This system of equations is based on the view that inflation possesses vital information regarding evolving demand and supply conditions. This approach also enables a structural explanation of the evolution of the output gap by extracting information about the output gap that is latent in monetary policy actions as well as in their interactions with changes in aggregate demand and supply (Alichi, *et al.*, 2017).

Dissecting actual output (y_t) into potential output (y_t^*) and the output gap ($\hat{y}_t$) is achieved through a set of equations as follows[9]:

$$y_t = \hat{y}_t + y_t^* + \text{Shk}_{lock,t} \quad ...(1)$$

$$y_t^* = y_{t-1}^* + G_t^* \quad ...(2)$$

$$G_t^* = (1-\theta)\, G_{t-1}^* + \theta\, G^{ss} + \in_{G,t} \quad ...(3)$$

$$\text{Shk}_{lock,t} = \text{Shk}_{lock,t-1} + \in_{lock,t} \quad ...(4)$$

where, $\hat{y}_t$ is the difference between the actual and potential output (both are in logarithms terms). Potential output (y_t^*) can be represented as the sum of one period lagged potential output (y_{t-1}^*) and the growth of potential output (G_t^*), which is modelled as a linear combination of lagged G_t^* and steady state growth (G^{ss}) or the rate of growth of full capacity output. Th lockdown shock ($\text{Shk}_{lock,t}$) in equation (1) is proxied by the COVID Stringency Index (Hale *et al.*, 2021)[10]. It takes the value zero up to Q1:2020 and the stringency index dissipates from Q3:2020 as the lock down measures are gradually withdrawn.

In equation (5), aggregate demand represented by the output gap (or $\hat{y}_t$) depends on its own lag and the real interest rate gap ($r_t - r_t^*$) in which r_t is the real short term interest rate obtained as the difference between the nominal policy interest rate (i_t) and expected inflation ($r_t = i_t - E_t\pi_{t+1}$), and r_t^* is the natural rate of interest[11].

$$\hat{y}_t = \delta_1\, \hat{y}_{t-1} - \delta_2\, (r_t - r_t^*) + \in_{y,t} \quad ...(5)$$

Representing aggregate supply, a standard backward-looking Phillips curve represents the association between the inflation gap ($\pi_t - \pi^*$) and output gap ($\hat{y}_t$) in equation (6). Here, π_t and π^* denote headline inflation and the inflation target, respectively.

$$\pi_t - \pi^* = \lambda_1(\pi_{t-1} - \pi^*) + \lambda_2\, \hat{y}_t + \in_{\pi,t} \quad ...(6)$$

The monetary policy reaction function is modelled as a forward-looking Taylor-type rule consistent with the flexible inflation targeting (FIT) framework. The policy rate is modelled as a function of three quarter ahead deviation of year-on-year inflation projections from the target ($\pi 4_{t+3} - \pi^*$) and the output gap (Benes, *et al.*, 2016). The monetary policy rule is augmented with an interest rate smoothing parameter, reflecting the calibrated approach of central banks in the conduct of monetary policy, euphemistically referred to as baby steps[12].

$$i_t = \gamma_1 i_{t-1} + (1-\gamma_1)\,[(r_t^* + \pi^*) + \gamma_2\,(\pi 4_{t+3} - \pi^*) + \gamma_3\, \hat{y}\,] + \in_{i,t} \quad ...(7)$$

We use quarterly time series from Q1:2000 to Q1:2021. Output (y_t) is measured in terms of real gross domestic product (GDP) at market prices. π_t is the quarter-on-quarter seasonally adjusted annualized consumer price index – Combined (CPI-C) inflation and i_t is the policy repo rate.

We estimate the system of equations (1-7) in a Bayesian framework[13] with relatively weak priors

[9] This framework ensures the potential output as the sustainable level of output consistent with inflation close to its target.

[10] The stringency index is a composite measure based on nine response indicators including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 with a higher score indicates a stricter response (i.e. 100 = strictest response). If policies vary at the subnational level, the index is shown as the response level of the strictest sub-region.

[11] The natural rate of interest, sometimes called the neutral rate of interest is the interest rate that supports the economy at full employment/ maximum output while keeping inflation constant.

[12] Empirical work in the Indian context is found in Patra and Kapur, 2012; Bhattacharya and Patnaik, 2014; Anand *et al.*, 2014)

[13] In Bayesian methods, conclusions about a parameter or about unobserved data are made in terms of probability statements that are conditional on the observed value of the dependent measure. They involve deriving the posterior probability as a consequence of two antecedents: a prior probability and a likelihood function derived from a statistical model for the observed data.

(*i.e.*, we allow the parameters to vary in a wide range as we are less confident of the value of the parameters *a priori*). The steady states are solved by applying a Newton-type algorithm[14,15]. We assume that all parameters follow normal distributions and standard deviations of the shocks follow inverse gamma distributions, following the literature. The posterior distributions of the parameters are simulated by using the adaptive random walk Metropolis (ARWM)[16] posterior simulator with 1,00,000 draws (Table 1).

The slope coefficient (λ_2) of the linear Phillips curve is estimated at 0.18 with a 95 per cent credible interval, indicating that the slope has 95 per cent probability of falling within 0.06 and 0.34.

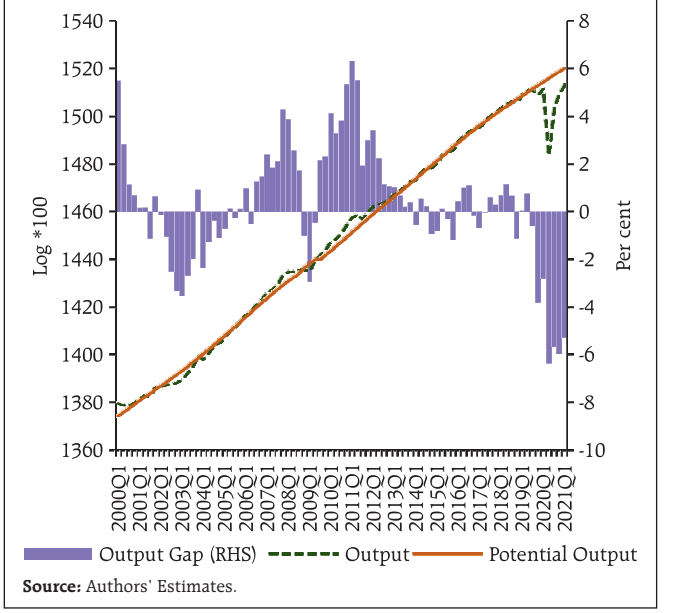
Table 1: Posterior Estimates of Model Coefficients

Parameter	Mean	Standard Deviation	95 Per cent Lower Credible Interval[17]	95 Per cent Upper Credible Interval[17]
θ	0.11	0.06	0.03	0.26
ρ	0.32	0.08	0.15	0.47
δ_1	0.61	0.06	0.47	0.69
δ_2	0.08	0.03	0.05	0.15
λ_1	0.44	0.12	0.22	0.70
λ_2	0.18	0.08	0.06	0.34
γ_1	0.97	0.01	0.94	0.99
γ_2	1.16	0.41	0.53	1.94
γ_3	0.51	0.15	0.24	0.78

The output gap and potential output estimates are obtained by using a multivariate Kalman filter in a two-step approach. First, we estimate and filter out potential output and the output gap from the data on GDP for the period Q1:2000 to Q1:2020 (pre-COVID period). In the second step, we use these filtered output gap and potential output estimates as observed variables and re-estimate the model for the full sample. The estimated potential output[18] moves closely with actual output, with intermittent deviations (Chart 1). During the pandemic period, however, actual GDP deviated significantly from its potential, mainly reflecting the effects of the lockdown, and resulted in a negative output gap of about 4-6 per cent per quarter during Q2:2020 through Q1:2021.

The slope parameter (λ_1) represents the average estimates for the full sample period obtained from a linear Phillips curve. It is, however, unable to capture non-linearities (nominal wage and price rigidities) and time variations (structural shifts). In the subsequent two sections, therefore, we examine (a) how the Phillips curve has evolved over time and (b) how the

Chart 1: Output Gap and Potential Output



Source: Authors' Estimates.

[14] This is an iterative method for solving general non-linear equations to obtain the optimal parameters. It starts with an initial estimate, extracts a sequence of error corrections to rewrite the basic equations in terms of remaining error, and then solve for a new correction, till the desired level of accuracy is attained.

[15] Generalized Schur decomposition is employed to solve a multivariate linear rational expectations model. Generalized Schur decomposition, named after Mathematician Issai Schur, is a method of matrix decomposition to obtain the eigenvalues in a numerically reliable manner. It has the advantage of treating infinite and finite unstable eigenvalues in a unified way and therefore, its use has a high degree of computational efficiency.

[16] Adaptive random-walk Metropolis (ARWM) – an alternative to Markov chain Monte Carlo (MCMC) method – for Metropolis-Hastings algorithm to get the convergence in reasonable amount of time, by adapting continuously to the target distribution.

[17] Credible intervals" in a Bayesian inference are used to describe the uncertainty of the parameters, instead of "confidence intervals" in the classical approach. The 95 per cent credible interval corresponds to the 2.5 per cent and 97.5 per cent quantiles of the posterior distribution.

[18] Potential output is assumed to be driven by medium to long term supply conditions and hence, the temporary supply disruptions is expected to have negligible effect on it.

state of the economy is conditioning the Phillips curve relationship.

III. Time-varying Phillips Curve Estimates

A time-varying parameter formulation enables us to track whether the structure of the Phillips curve has undergone a change during the sample period (Q1:2000 to Q1:2021). We estimate the following hybrid formulation of the Phillips curve in a time-varying parameter regression framework with stochastic volatility (TVP-SV) (Stock and Watson, 2007; Cogley, Primiceri and Sargent, 2010):

$$\pi_t = \rho_t * \underbrace{\pi_{t-1}}_{\substack{Backward\\ looking\\ term}} + (1-\rho_t) * \underbrace{\pi_t^T}_{\substack{Expectations\\ represented\ by\\ time\ varying\ trend}} + \alpha_t * \underbrace{OG_t}_{Output\ gap} + \varepsilon_t^{\pi} \quad \ldots(8)$$

where the time-varying coefficient α_t, the sensitivity of inflation to the output gap, is the parameter of our interest. Inflation expectations are model consistent inflation trend estimates which are assumed to follow a random walk process[19] with time-varying volatility[20]:

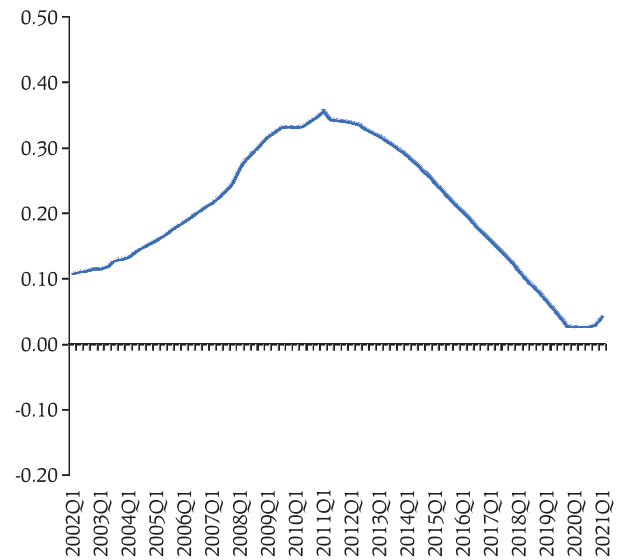
$$\pi_t^T = \pi_{t-1}^T + \varepsilon_t^{\pi^T} \quad \ldots(9)$$
$$\text{and } \varepsilon_t^{\pi} \sim N(0, \sigma_t^{\pi}); \ \varepsilon_t^{\pi} \sim N(0, \sigma_t^{\pi^T})$$

The error terms in (8) and (9) follow normal distributions, and $(\sigma_t^{\pi})^2$ and $(\sigma_t^{\pi^T})^2$ evolve as independent geometric random walks.

The time varying parameters are estimated by using the Bayesian Markov Chain Monte Carlo (MCMC) method. The convergence diagnostics are found to be satisfactory (Annex Chart 1 and Table 1).

The estimated time-varying output gap coefficient has seen a steady decline in the past 6 years, roughly coinciding with the RBI's *de facto* adoption of the FIT regime (Chart 2). Inflation persistence has declined over this period and the sensitivity of inflation to inflation expectations has increased, as reflected in a rise in the value of the $(1-\rho_t)$ parameter. In fact, the relationship between the time varying coefficients of the output gap and inflation expectations shows a strong and statistically significant negative correlation (- 0.69, p-value = 0.00). Another interesting result is the positive and statistically significant relationship between the coefficient of the output gap and the output gap itself (0.65, p-value = 0.00) implying that a rise in output gap increases its sensitivity to inflation. This suggests convexity of the Phillips curve in India to which we now turn.

Chart 2: Time-varying Slope of the Phillips Curve



Source: Authors' Estimates.

IV. Convexity of Phillips Curve

Following the empirical literature, an exponential formulation for the output gap term is used to estimate a convex Phillips curve (Benes, *et al.*, 2016) in the specification given below.

$$\pi_t = \rho * \underbrace{\pi_{t-1}}_{\substack{Backward\\ looking\\ term}} + (1-\rho) * \underbrace{\pi_t^T}_{\substack{Expectations\\ represented\ by\\ time\ varying\ trend}} + \alpha_1 * \underbrace{e^{(\alpha_2 * OG_{t-1})}}_{\substack{Output\ gap\\ (non-linear)}} + \beta * \underbrace{\Delta OIL_t}_{\substack{Change\ in\\ crude\ oil\ prices}} + \varepsilon_t^{\pi} \quad \ldots(10)$$

[19] A random walk refers to any process in which there is no observable pattern or trend, i.e., where the movements of an object, or the values taken by a certain variable, are completely random. The best example of a random walk is that of a drunk person walking home from a bar on a Saturday night.

Table 2: Regression Estimates (Convex Phillips Curve)

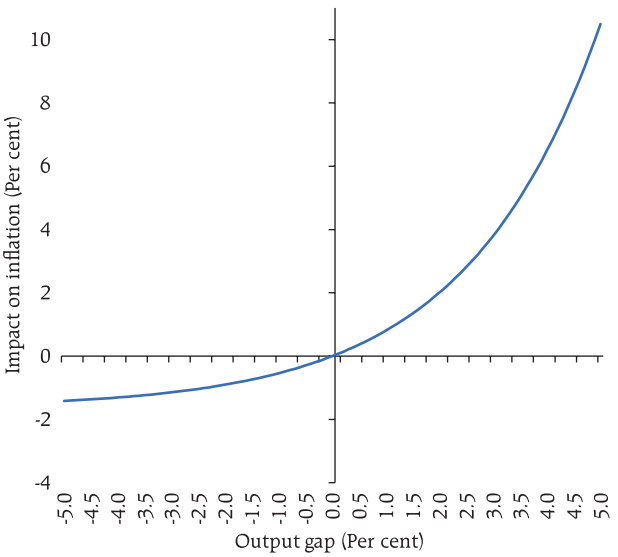
	Coeff.	SE	t	p-value
$(1-\rho)$	0.84	0.11	7.68	0.00
α_1	1.48	0.86	1.72	0.09
α_2	0.50	0.14	3.66	0.00
β	0.00	0.01	0.74	0.46

Diagnostics:
Portmanteau test for white noise for residuals p-value = 0.64
Adj R-squared = 0.83

The change in crude oil prices is used to control for volatile supply side shocks. The formulation in equation (10) is estimated by using non-linear least squares (NLLS).

Statistically significant α values (α_1 and α_2) provide evidence of the convexity of the Phillips curve in India (Table 2). This indicates that with low and negative output gaps, the Phillips curve flattens as inflation becomes less sensitive to aggregate demand. When the output gap is positive and high, inflation responds more strongly to demand and the Phillips curve steepens (Chart 3). The residuals are found to be white noise, validating the results.

Chart 3: Estimated Convex Phillips Curve



Source: Authors' Estimates.

V. Conclusion

The conduct of monetary policy hinges around the premise that there exists an exploitable trade-off between economic activity, measured by output or employment, and inflation. The Phillips curve embodies that trade-off, although the debate about its existence has a history that is as old as the curve itself. In the years following the global financial crisis, the world has been saddled with sizable amounts of slack in activity, irrespective of jurisdiction, and the coincident long phase of low and even negative inflation has obscured the Phillips curve from our view, even to the point that some have questioned its existence. The answer, as we said when we began this exploration, is to be found by soiling one's hands with country-specific data.

Our results indicate that the Phillips curve is alive in India but recovering from a period of flattening lasting more than six years, *i.e.*, from 2014. Seen linearly, inflation is sensitive to the output gap and this finding is statistically significant, confirming the existence of the Phillips curve in India. Relaxing time invariance, however, the plot thickens, and a steady decline in the coefficient on the output gap becomes evident. The inflation process in India has become increasingly sensitive to forward-looking expectations. The slope of the Phillips curve has been declining with the anchoring of inflation expectations. This phenomenon coincides with the institution of inflation targeting *de facto* and *de jure* from 2016. Inflation persistence has also declined over this period. Our results also point to threshold effects – as the output gap becomes positive, inflation becomes increasingly sensitive to it.

Under current macroeconomic conditions, still weak demand conditions are flattening the Phillips curve in India, providing some manoeuvring room for monetary policy to support the recovery without being hemmed in by demand-driven inflation concerns.

There is need for vigilance, however, as the curve steepens with the output gap closing and moving into positive territory, causing upside risks on the inflation front to rise.

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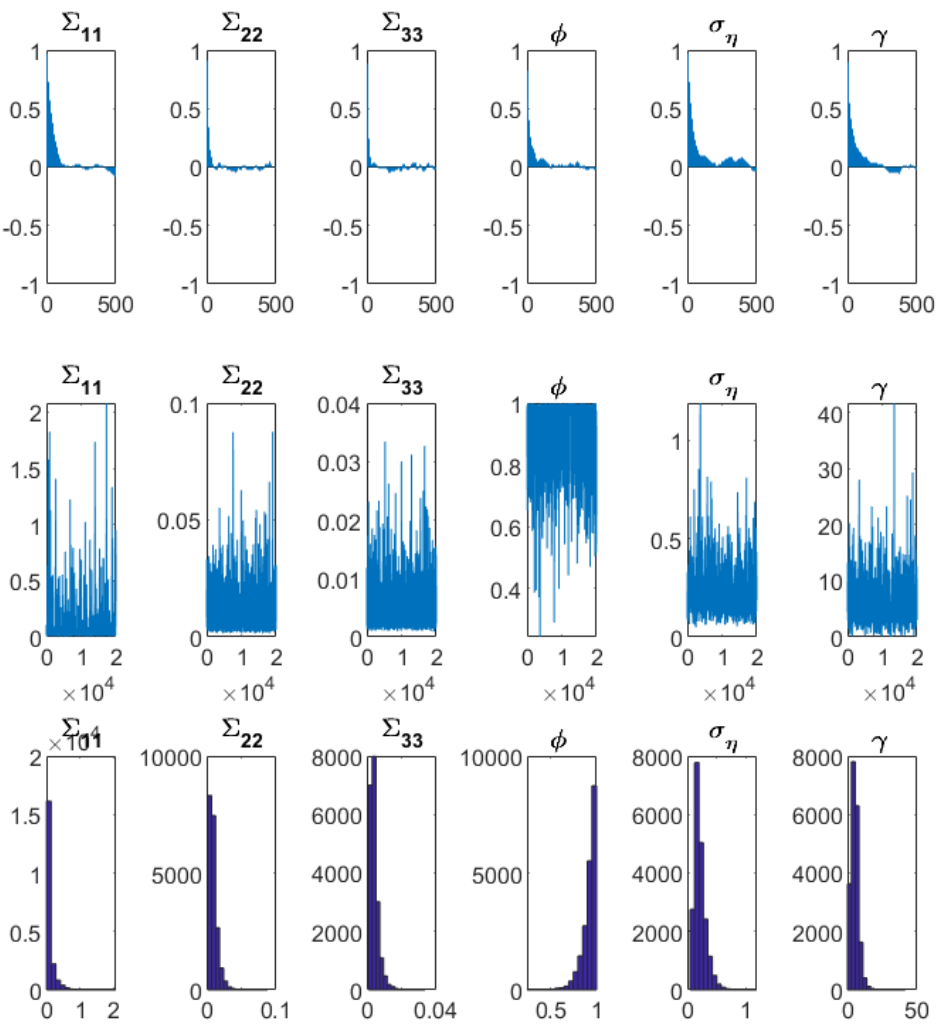
Annex

Annex Chart 1: Sample autocorrelations, Sample paths, and Posterior densities of Time Varying Parameter Regression



Source: Authors' Estimates.

Annex Table 1: Time Varying Parameter Estimation Results

Parameter	Mean	Stdev	95%U	95%L	Geweke
Sig11	0.0974	0.1467	0.0082	0.5065	0.278
Sig22	0.0097	0.0063	0.0029	0.0258	0.764
Sig33	0.0044	0.0026	0.0016	0.0112	0.939
phi	0.9174	0.0791	0.7115	0.9965	0.240
siget	0.2187	0.1023	0.0895	0.4753	0.401
gamma	5.2718	2.9323	0.3796	11.6540	0.527

TVP regression with stochastic volatility; Iteration: 20000

*Uncertainty and Disagreement among Professional Macroeconomic Forecasters**

The forecasts of output growth and price inflation for 2019-20 and 2020-21 in the Reserve Bank's bimonthly survey of professional forecasters (SPF) reflected unprecedentedly high uncertainty in the wake of the Covid-19 pandemic. The SPF panellists revised down their output growth trajectory over successive rounds of the survey and rapidly evolving demand and supply conditions guided the changes in quarterly inflation forecast path. Fluctuations in short-term forecasts stabilised after the gradual easing of the pandemic related restrictions. Even though disagreement in forecasts is not a proxy for uncertainty, empirical analysis suggests that forecasters differ more in uncertain times.

Introduction

Inflation expectations of economic agents have different perceived real interest rates which are interlinked with consumption and investment decisions, which are central to determining the real effects of central banks' policy actions. The channels of monetary policy transmission are influenced by the assessment and prognosis of the factors which affect consumption, saving, investment and other financial decisions of households, firms and financial markets. Forward looking monetary policy formulation, therefore, uses forecast of major economic indicators (*e.g.,* output growth, price inflation) to supplement its continuous gauge of state of the economy in the overall policy matrix.

The Reserve Bank's forward-looking surveys of households, firms and professionals in the financial sector provide useful inputs about their perception of the economy, where professional forecasters[1] are generally more informed about global and domestic economic developments and are also well-equipped with econometric forecasting tools.

Forecasts of twenty-five macroeconomic indicators[2] covering national accounts aggregates, inflation, money and banking, public finance and external sector are collected in the survey[3]. In addition to the point forecasts, the questionnaire also includes expected probability distributions of annual output growth (current and next financial years) and quarterly CPI[4] based headline inflation (for current and next three quarters). Respondents provide expected probabilities for a given set of intervals for output growth and inflation and these probability distributions help in assessing forecast uncertainty.

This article presents an analysis of the SPF forecasts for the years 2019-20 and 2020-21 for the survey rounds conducted during March 2019 to March 2021, wherein the number of responses ranged between 25 and 41. The remainder of the article is divided into four sections. Section II discusses the revisions in median forecast of select macroeconomic indicators, while measures of uncertainty and disagreement are presented in Section III. Section IV presents the association between the disagreement and uncertainty of forecasts. The final section V concludes with some key takeaways.

* This article is prepared by Sanjib Bordoloi, Rajesh Kavediya, Sayoni Roy and Avijit Kumar Dutta of the Department of Statistics and Information Management, Reserve Bank of India. The views expressed are those of the authors and do not necessarily represent the views of the Reserve Bank of India.

1 SPF commenced in Q2:2007-08 with quarterly frequency, which was changed to bi-monthly in 2014-15. Its questionnaire has broadly retained its character, though some amendments have been made to meet changing requirements. The survey collects quantitative forecast of economic indicators at annual frequency for two financial years (current year and next year) and quarterly forecasts for five quarters (current quarter and the next four quarters).

2 Economic growth forecast is collected for both gross value added (GVA) and gross domestic product (GDP) and inflation forecast is collected for both consumer price index (CPI) and wholesale price index (WPI).

3 The survey results are summarised in terms of median of the responses received.

4 CPI is measured by CPI Combined

II. Forecast Revisions

Even before the onset of the novel coronavirus (Covid-19) pandemic, the Indian economy was witnessing moderation in GDP growth. Subsequently, generating reliable forecasts became a challenge due to the unprecedented massive global economic disruption brought on by the pandemic, but incoming data on high frequency macroeconomic indicators resulted in professional forecasters revising down their forecasts trajectory over successive rounds of the survey.

II.1 Annual Forecasts for 2019-20

Forecasters successively revised down the forecasts of GDP and GVA growth for 2019-20 by 230 basis points each during seven rounds of the survey conducted during March 2019 to March 2020, driven by weak global growth and trade coupled with specific domestic factors such as downturn in automobile sector, real estate sectors, distress among micro, small and medium enterprises (MSMEs), and contraction in merchandise export and import (RBI, 2020b). The revision in forecast of gross domestic saving rate[5] for 2019-20 was, however, moderate (Table 1).

CPI based headline inflation forecast path for 2019-20 was revised down during May-September 2019 surveys, broadly in line with the softening of inflation in the 'fuel and light' and 'CPI excluding food and beverages and fuel and light and pan, tobacco and intoxicants' groups (referred to as CPI core inflation in remainder of this article). This coincided with the decline in price of the Indian crude oil basket from US$ 70.0 per barrel in May 2019 to US$ 61.7 per barrel in September 2019. An extended south-west monsoon and unseasonal rain during October-November 2019 (the kharif harvesting season) led to rise in food prices, mostly driven by onion prices (RBI, 2020a). With food inflation continuing at elevated level for the subsequent months, headline inflation forecast path was revised up from 3.5 per cent in September 2019 to 4.8 per cent in March 2020, which turned out to be the realised CPI headline inflation for 2019-20. Forecasters' initial projection of CPI core inflation gradually moderated on the back of softening of crude oil prices and weakening domestic demand from 4.9 per cent in March 2019 survey round to 4.0 per cent in the surveys conducted since November 2019, which was the realised print.

Though the path of food inflation for WPI and CPI moved in tandem, softening in the inflation of WPI for fuel and power and WPI for non-food manufactured products (NFMP), led to downward revision in the WPI headline inflation forecast path. Muted prices in textiles, leather, paper, chemicals, rubber, metals, computers and electrical equipment led to successive downward revision in forecast path of WPI NFMP inflation for 2019-20 from 2.5 per cent in May 2019 survey round to -0.4 per cent in January 2020, which turned out to be the final official estimate. Forecast of central government gross fiscal deficit (GFD, as per cent of GDP at current market prices) for 2019-20 remained around the budget estimate during the surveys conducted up to September 2019 but was gradually revised up to 3.8 per cent in January 2020 survey round. As per the provisional accounts, the realised GFD of the central government turned out to be higher at 4.6 per cent, which partly reflected the fiscal support measures towards the end of the year in wake of the pandemic. The forecasts of the combined GFD of central and state governments for 2019-20 were also gradually revised up to 6.8 per cent in March 2020 survey round. As per the latest estimate for 2019-20, the combined GFD is expected at 6.9 per cent.

[5] Gross domestic saving rate is defined as the ratio of gross domestic saving to gross national disposable income.

Table 1: Forecast (Median) Revision of Macroeconomic Indicators for 2019-20

Survey Period	Mar-19	May-19	Jul-19	Sep-19	Nov-19	Jan-20	Mar-20
Round Number	**57**	**58**	**59**	**60**	**61**	**62**	**63**
GDP growth	7.3	7.2	6.9	6.2	5.3	5.0	5.0
PFCE growth	8.1	8.0	7.6	5.5	4.4	4.9	5.3
GFCF growth	9.4	9.2	7.6	6.0	4.9	2.3	-0.6
GVA growth	7.1	7.0	6.7	6.0	5.3	4.8	4.8
Gross domestic saving rate	30.2	30.4	30.2	30.1	30.0	29.9	29.4
CPI Headline Inflation	3.7	3.8	3.6	3.5	3.9	4.6	4.8
CPI Core Inflation	4.9	4.7	4.1	4.2	3.9	4.0	4.0
WPI Headline Inflation	2.5	3.1	2.4	1.8	1.6	1.8	1.8
WPI NFMP Inflation	2.5	2.5	1.1	0.5	-0.2	-0.4	-0.4
Current Account Balance (per cent of GDP)	-2.3	-2.2	-2.0	-1.9	-1.5	-1.2	-1.0
Central govt. fiscal deficit (per cent of GDP)	3.4	3.4	3.3	3.3	3.6	3.8	3.8
Combined fiscal deficit (per cent of GDP)	6.3	6.2	6.1	6.1	6.5	6.6	6.8

Source: Survey of Professional Forecasters, Reserve Bank of India.

II.2 Annual Forecasts for 2020-21

Forecasts for macroeconomic indicators for 2020-21 were collected since the May 2019 round of the survey. Growth forecast for 2020-21 was revised down by 180 bps to 5.5 per cent in March 2020 from 7.3 per cent in March 2019. With the global spread of coronavirus, the IMF revised down the global GDP growth for 2020 sharply by 630 bps to -3.0 per cent in April 2020[6] from the forecast made in January 2020. On the domestic front also, nationwide lockdown imposed during the last week of March 2020, social distancing norms and mass return of migrant workers led to decline in the manufacturing and already stressed construction activities. Subsequently, growth forecast was revised down sharply over the successive survey rounds to -9.1 per cent in September 2020. With gradual reopening of the economy and as indicated by the high frequency indicators, growth forecast was revised up to -7.5 per cent in March 2021 and was broadly in line with the provisional estimate of -7.3 per cent (Table 2).

In line with the revisions in GDP growth forecast, real PFCE growth forecast was revised down from 8.0 per cent in May 2019 to -11.0 per cent in September 2020. On the back of muted domestic demand, lower capacity utilisation and large housing overhang, forecast of real GFCF growth, a proxy for investment growth, was also revised down from 9.7 per cent to -21.0 per cent during the same period. With improvement in economic activities, real PFCE and GFCF growth forecasts were revised up over the subsequent rounds of the survey.

In tandem with downward revisions in GDP growth forecast, GVA growth forecast was revised down over the successive rounds of the survey, from 7.1 per cent in May 2019 to -8.4 per cent in September 2020, reflecting the weakness in manufacturing and services activities, before revising up to -6.5 per cent in March 2021, 30 basis points lower than the provisional estimate of -6.2 per cent.

CPI headline inflation forecast for 2020-21, which remained within the narrow range of 3.9 per cent to 4.2 per cent during the surveys conducted during May 2019 to May 2020, revised up significantly to 6.2 per cent in January 2021[7], reflecting the impact of pandemic led supply disruption, adverse weather in some of the states and imposition of higher tax on petroleum products.

[6] World Economic Review (April 2020).

[7] Forecast was in line with the actual print of 6.2 per cent.

Reflecting the weak demand condition and softening of Indian basket of crude oil prices[8], forecast of CPI core inflation was revised down in successive rounds to 3.5 per cent in May 2020. However, increase in the taxes on petroleum products, increase in gold and silver prices, and sequential increase in input cost led to upward revision in core inflation forecast to 5.3 per cent in September 2020, which remained unchanged in the subsequent four rounds of the survey. The forecast of 5.3 per cent turned out to be same as the actual print.

Forecast for WPI headline inflation for 2020-21 was revised down continuously over the successive rounds of the survey till May 2020 and projected to enter into negative territory in July 2020. However, with the improvement in demand conditions, WPI headline inflation was revised up to 1.0 per cent in March 2021. With the softening of commodity prices and weak domestic demand conditions, WPI NFMP inflation forecast was revised down from 4.2 per cent in May 2019 to around 0.0 per cent in May 2020 round and was revised up gradually to 2.0 per cent in March 2021.

Current account balance (as per cent of GDP at market price) for 2020-21, which was expected at -0.5 per cent in May 2020, projected to turn into surplus and forecast was revised up successively to 1.2 per cent in November 2020, on the back of the expectation of higher fall in imports than exports due to weak domestic demand, muted international crude oil prices.

Due to lower tax collection and an increase in revenue expenditure in the rural, agriculture and defence spending, forecast of central government fiscal deficit for 2020-21 was revised up from 3.6 per cent of GDP in March 2020 to 7.7 per cent in November 2020, primarily reflecting the impact of various measures taken by the government to revive the economy caused by the pandemic. Forecast was revised to 9.5 per cent in March 2021.

The combined fiscal deficit forecast was revised up from 6.1 per cent in May 2019 to 14.0 per cent in March 2021.

II.3 Revisions in Quarterly GDP Forecasts

The quarterly GDP growth forecast for the quarters of the year 2019-20 were revised down

Table 2: Forecast (Median) Revision of Macroeconomic Indicators for 2020-21

Survey Period	May-19	Jul-19	Sep-19	Nov-19	Jan-20	Mar-20	May-20	Jul-20	Sep-20	Nov-20	Jan-21	Mar-21
Round Number	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**
GDP growth	7.3	7.2	7.0	6.4	5.9	5.5	-1.5	-5.8	-9.1	-8.5	-7.6	-7.5
PFCE growth	8.0	8.0	7.0	6.4	6.1	5.5	-0.5	-6.0	-11.0	-9.7	-9.4	-9.0
GFCF growth	9.7	9.1	7.4	6.5	5.3	2.6	-6.4	-9.8	-21.0	-19.1	-14.5	-12.4
GVA growth	7.1	7.1	6.7	6.3	5.7	5.3	-1.7	-5.8	-8.4	-8.2	-7.3	-6.5
Gross domestic saving rate	30.7	30.5	30.5	30.3	30.0	29.5	27.1	28.0	26.0	27.1	29.0	28.9
CPI Headline Inflation	4.1	4.0	3.9	4.0	4.2	4.2	4.0	4.4	5.6	6.3	6.2	6.2
CPI Core Inflation	4.8	4.4	4.4	4.2	4.2	4.1	3.5	4.5	5.3	5.3	5.3	5.3
WPI Headline Inflation	3.9	3.7	2.8	2.7	3.2	2.2	0.6	-0.8	-0.4	0.2	0.5	1.0
WPI NFMP Inflation	4.2	3.3	2.1	1.4	1.2	1.0	0.0	0.1	0.5	0.7	1.7	2.0
Current Account Balance (per cent of GDP)	-2.3	-2.1	-2.0	-1.8	-1.5	-0.7	-0.5	0.4	0.5	1.2	1.2	1.0
Central govt. fiscal deficit (per cent of GDP)	3.3	3.2	3.3	3.5	3.5	3.6	6.7	7.5	7.5	7.7	7.5	9.5
Combined fiscal deficit (per cent of GDP)	6.1	6.0	6.0	6.3	6.4	6.5	10.9	12.0	12.0	12.5	11.8	14.0

Source: Survey of Professional Forecasters, Reserve Bank of India.

[8] Indian crude oil basket price decreased from US$ 70.0 per barrel in May 2019 to US$ 30.6 per barrel in May 2020.

Table 3: Quarterly Median Forecasts of GDP Growth

Survey period	Mar-19	May-19	Jul-19	Sep-19	Nov-19	Jan-20	Mar-20	May-20	Jul-20	Sep-20	Nov-20	Jan-21	Mar-21
Round number	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**
Q1: 2019-20	6.8	6.6	6.1										
Q2: 2019-20	7.3	7.1	6.7	5.8									
Q3: 2019-20	7.5	7.2	7.0	6.4	5.5	4.8							
Q4: 2019-20	7.5	7.4	7.5	7.2	6.1	5.4	4.6	2.0					
Q1: 2020-21		7.3	7.3	7.2	6.2	5.7	4.7	-14.9	-21.5				
Q2: 2020-21				7.0	6.6	6.0	5.3	1.2	-5.0	-10.0			
Q3: 2020-21						6.1	5.7	3.1	0.4	-3.2	-2.0	-0.7	
Q4: 2020-21							6.1	6.2	2.9	0.6	1.0	1.7	0.8
Q1: 2021-22									16.0	17.8	21.0	24.6	26.6
Q2: 2021-22										8.8	9.1	8.7	9.7
Q3: 2021-22												5.0	6.0
Q4: 2021-22													5.3

Source: Survey of Professional Forecasters, Reserve Bank of India

successively over the different rounds of the survey (Table 3)[9]. The forecast path for Q1:2020-21 and Q2:2020-21[10] were also revised down sharply by about 29 and 17 percentage points from their initial forecasts over the successive survey rounds. Growth forecasts for Q3:2020-21 and Q4:2020-21 were also revised down till the September 2020 round, though the extent of revisions were relatively small. With the gradual opening of the economy, growth forecast path for Q3:2020-21 and Q4:2020-21 were revised up subsequently. Forecast path for 2021-22 was also revised up from the initial forecast.

II.4 Revisions in Quarterly Inflation Forecasts

The quarterly inflation forecast path for 2019-20 and 2020-21 was revised by incorporating the evolving macroeconomic conditions, demand supply mismatch and incoming economic data (Table 4).

The quarterly headline CPI inflation forecast for Q1:2019-20 and Q2:2019-20 turned out to be in line with the realised inflation of 3.1 per cent and 3.5 per cent, respectively.

Due to hardening of food inflation on account of excess unseasonal rainfall during October 2019, damaging crops in some major crop producing states, headline inflation forecast for Q3:2019-20 was revised up to 4.7 per cent in November 2019 from 3.7 per cent in the previous round, while forecast for Q4:2019-20 was revised up from 4.5 per cent in November 2019 to 6.7 per cent in March 2020, which was same as the actual print of 6.7 per cent.

Headline inflation forecast for Q1:2020-21 remained range bound during May-November 2019 rounds of the survey, and was revised up by 100 bps to 5.1 per cent in January 2020, on the back of elevated food inflation driven by high vegetables inflation. Inflation forecast path for the remaining quarters of 2020-21 was revised up sharply in the range of 170-340 basis points (bps), particularly since July 2020 round, due to lockdown induced supply disruption, increase in retail price margin, hike in taxes in petroleum products, and sequential increase in input cost. Forecast for Q2:2020-21 was revised up to 6.6 per cent in September 2020, and was lower than the actual print of 6.9 per cent. Headline inflation forecast for Q3:2020-21 was revised up to 6.6 per cent in November 2020 and was higher than the realised inflation of 6.4 per cent.

[9] GDP growth (first revised estimate) for the four quarters of 2019-20 stands at 5.4 per cent, 4.6 per cent, 3.3 per cent and 3.0 per cent, respectively.

[10] GDP growth (provisional) for the four quarters of 2020-21 stands at -24.4 per cent, -7.4 per cent, 0.5 per cent and 1.6 per cent, respectively.

Table 4: Quarterly Median Forecasts of Inflation

Survey Period	Mar-19	May-19	Jul-19	Sep-19	Nov-19	Jan-20	Mar-20	May-20	Jul-20	Sep-20	Nov-20	Jan-21	Mar-21
Survey Round	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**
CPI Headline inflation													
Q1: 2019-20	2.9	3.1											
Q2: 2019-20	3.3	3.5	3.3	3.3									
Q3: 2019-20	4.0	4.0	3.8	3.7	4.7								
Q4: 2019-20	4.2	4.2	4.0	3.9	4.5	6.3	6.7						
Q1: 2020-21		4.1	3.8	3.9	4.1	5.1	5.3	5.6					
Q2: 2020-21				4.0	4.0	4.9	4.8	4.9	5.2	6.6			
Q3: 2020-21						3.8	3.6	3.2	3.3	4.9	6.6		
Q4: 2020-21							3.2	2.8	3.0	4.2	5.4	5.0	4.9
Q1: 2021-22									3.3	3.9	5.0	5.0	5.0
Q2: 2021-22										3.8	4.5	4.6	4.9
Q3: 2021-22												4.1	4.3
Q4: 2021-22													5.0
CPI ex Food, Fuel, Pan, Tobacco and Intoxicants inflation													
Q1: 2019-20	4.8	4.5											
Q2: 2019-20	4.8	4.6	4.2	4.2									
Q3: 2019-20	4.8	4.5	3.9	3.9	3.5								
Q4: 2019-20	4.9	4.8	4.1	4.2	3.7	4.0	4.1						
Q1: 2020-21		5.0	4.4	4.4	4.0	4.2	4.1	3.8					
Q2: 2020-21				4.3	4.0	4.2	4.0	3.5	4.7	5.5			
Q3: 2020-21						4.4	4.2	3.4	4.6	5.6	5.4		
Q4: 2020-21							4.1	3.1	4.2	5.2	5.3	5.4	5.6
Q1: 2021-22									3.7	4.7	4.8	5.1	5.3
Q2: 2021-22										4.2	4.3	4.8	5.3
Q3: 2021-22												4.9	5.3
Q4: 2021-22													5.1
WPI Headline inflation													
Q1: 2019-20	2.7	3.0											
Q2: 2019-20	2.1	2.9	1.9	1.1									
Q3: 2019-20	2.3	2.7	1.9	1.0	0.7								
Q4: 2019-20	3.6	3.8	3.0	2.2	1.7	2.7	2.4						
Q1: 2020-21		3.9	2.8	2.2	1.6	2.8	1.8	-0.6					
Q2: 2020-21				2.8	2.6	3.5	2.5	0.5	-0.6	0.0			
Q3: 2020-21						3.4	2.5	0.6	-1.2	0.1	1.3		
Q4: 2020-21							2.2	0.5	-0.7	0.3	1.3	2.3	3.9
Q1: 2021-22									2.5	2.5	4.1	5.7	7.5
Q2: 2021-22										2.1	2.6	4.2	6.0
Q3: 2021-22												3.3	4.8
Q4: 2021-22													3.0
WPI Non-food Manufactured Products inflation (NFMP)													
Q1: 2019-20	2.4	2.0											
Q2: 2019-20	2.0	1.8	0.8	0.0									
Q3: 2019-20	2.0	1.9	0.5	-0.2	-1.4								
Q4: 2019-20	3.0	2.7	1.7	0.6	-0.6	-0.9	-0.8						
Q1: 2020-21		3.1	2.1	1.1	-0.1	-0.2	-0.2	-0.7					
Q2: 2020-21				2.0	1.0	1.0	1.0	-0.2	0.1	0.4			
Q3: 2020-21						1.5	1.8	0.7	0.9	1.3	1.8		
Q4: 2020-21							1.8	0.9	0.6	1.2	1.8	4.1	5.5
Q1: 2021-22									2.0	2.0	2.6	5.1	6.2
Q2: 2021-22										1.9	2.6	4.8	5.8
Q3: 2021-22												3.5	4.3
Q4: 2021-22													2.6

Source: Survey of Professional Forecasters, Reserve Bank of India

Forecast of CPI core inflation for the quarters of the year 2019-20 were revised down successively from March 2019 and were broadly in line with the actual print at shorter forecast horizon[11]. With the weakening of the domestic demand conditions, core inflation forecast for the quarters of 2020-21 were revised down from May 2019 to May 2020. Due to increase in the taxes on petrol and diesel, increase in prices of gold and silver and sequential increase in input costs, forecast path was revised up from July 2020. Headline and core inflation forecasts for Q4: 2020-21 to Q3: 2021-22 were revised up from their initial forecasts.

III. Disagreement and Uncertainty in Forecasts

Forecasts of macroeconomic variables are always associated with inherent risk and uncertainty, reflecting the accuracy of underlying model and related assumptions, validity of structural relationships, evolution of economic conditions, data quality and other related factors. Understanding the nuances of expectation formulation and measurement of forecast uncertainty are, therefore, critical components in policy making process. The twin conundrum of gauging the subjectivity of individual forecaster's assessment and unavailability of data on economic uncertainty poses a formidable practical challenge in the measurement of uncertainty.

Though disagreement and uncertainty appear analogous, they differ significantly in the present context. Irrespective of underlying uncertainty, agents may disagree about the future path of macroeconomic variables for various reasons and the level of disagreement can be measured from the point forecasts provided by forecasters. The survey seeks panellists' underlying probability distribution for GDP growth and CPI inflations, which can be used to measure the level of uncertainty associated with the individual forecast. Here, we prepare the measures of uncertainty and disagreement for those respondents of SPF who provided information on both point and density forecasts of output growth and inflation.

Under the assumption of uniform probability distribution within each interval of density forecast, the forecast uncertainty of the i^{th} respondent is given by:

$$ {}_i\sigma^2{}_{q,t} = \left[\sum_n {}_ip_n\left(\frac{u_n^3 - l_n^3}{3*(u_n - l_n)}\right)\right] - \left[\sum_n {}_ip_n\left(\frac{u_n^2 - l_n^2}{2*(u_n - l_n)}\right)\right]^2 $$

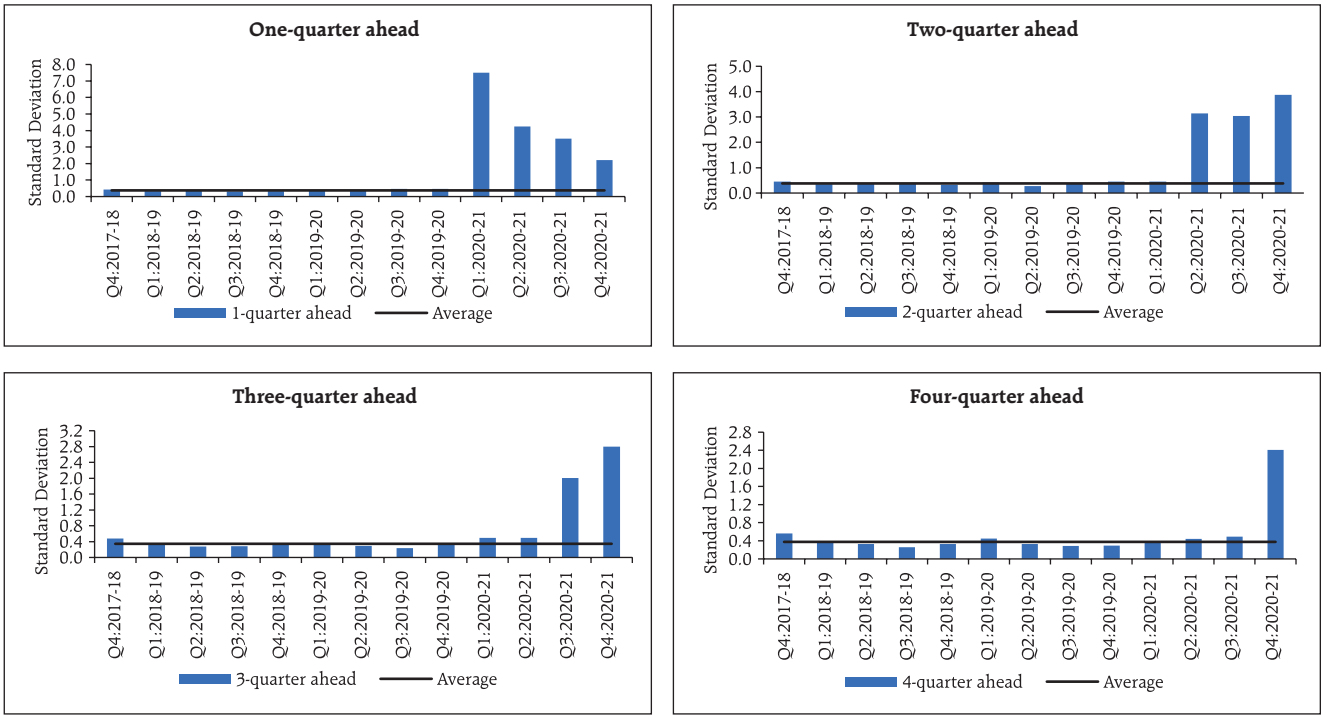
where ${}^i\sigma^2{}_{q,t}$ is the variance of the i[th] respondent's density forecast in the q[th] survey round conducted during time point t, ${}_ip_n$ is the probability given by the i^{th} respondent to the n^{th} interval of density forecast, and u_n and l_n are the upper and lower bounds of the n^{th} interval, respectively (Zarnowitz and Lambros, 1987). The aggregate measure of uncertainty $\bar{\sigma}^2{}_{q,t}$ is then calculated as the average of all the individual respondents' variances. Disagreement has been measured as the standard deviation of the individual point forecast. In the recent period, this methodology was applied to estimate uncertainty using survey of professional forecasters responses (Abel *et al* (2016), Bordoloi *et al* (2019)).

Disagreement

Disagreement for one quarter ahead forecast horizon for GDP growth for Q1:2020-21 and Q2:2020-21 were estimated higher than the long-run average (Chart 1). With the gradual resumption of the economy, disagreement for one quarter ahead forecast from Q2:2020-21 moderated. Disagreement was higher than the long run average for other forecast horizons in the recent period. Disagreement for GVA growth forecast mirrored similar pattern as observed in case of GDP growth forecast (Chart 2).

[11] The actual print of CPI core (i.e. excluding Food, Fuel, Pan, Tobacco and Intoxicants) inflation for the four quarters of 2019-20 stands at 4.3 per cent, 4.3 per cent, 3.6 per cent and 4.0 per cent respectively.

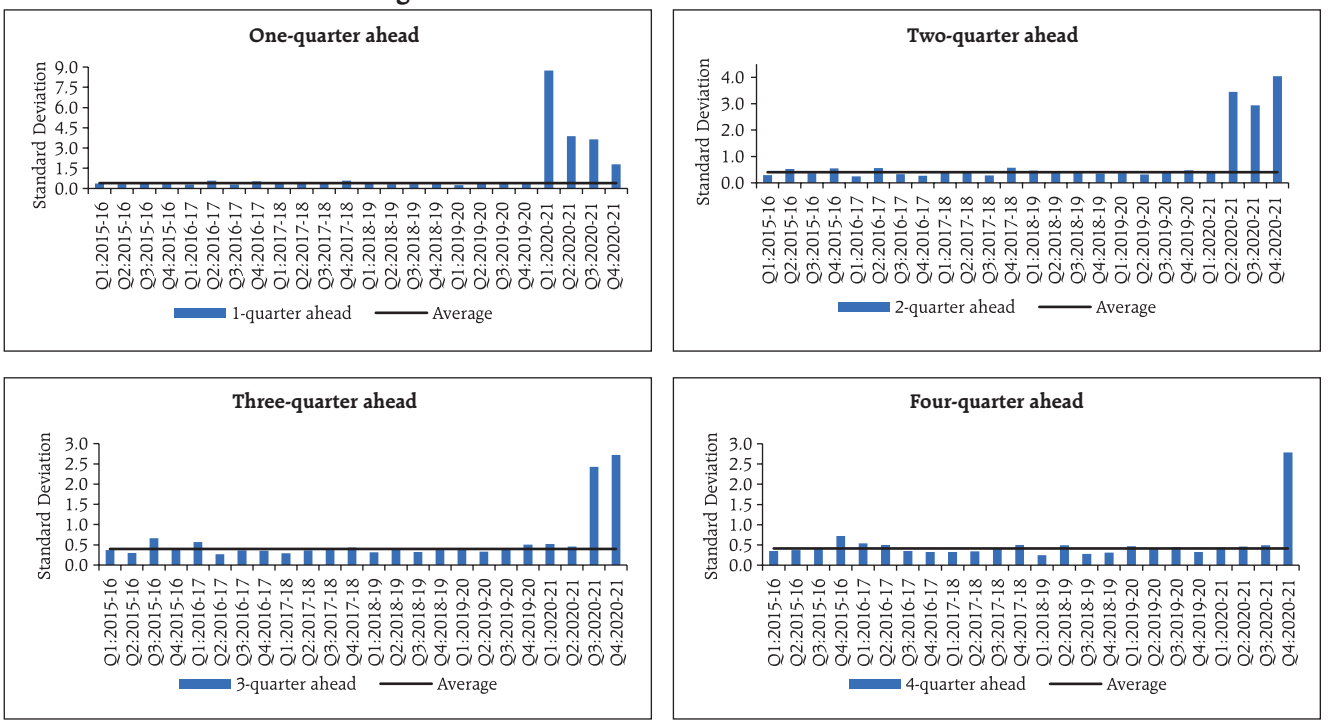
Chart 1: Disagreement in GDP Growth for Various Forecast Horizons



Sources: Survey of Professional Forecasters, Reserve Bank of India.

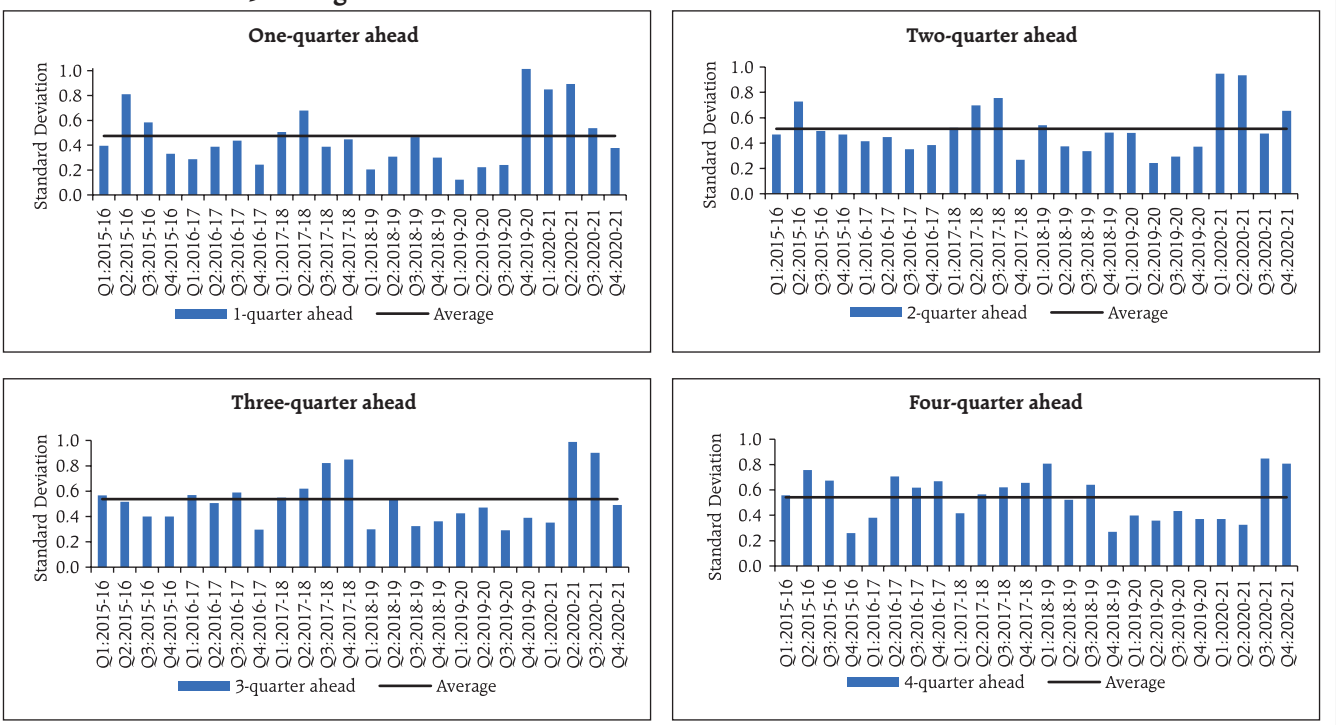
For one quarter ahead forecast horizon, disagreement in headline CPI inflation increased for Q4:2019-20 due to the spike in vegetables prices caused by unseasonal rain in October- November

Chart 2: Disagreement in GVA Growth for Various Forecast Horizons



Sources: Survey of Professional Forecasters, Reserve Bank of India.

Chart 3: Disagreement in CPI Headline Inflation for Various Forecast Horizons



Sources: Survey of Professional Forecasters, Reserve Bank of India

2019 (Chart 3). Disagreement for headline inflation continued to remain high for the first half of 2020-21 due to lockdown induced supply disruption. With the gradual normalisation of the supply related disruption, disagreement among the forecasters reversed to its long run average in the subsequent two quarters. Disagreement for two and three quarters ahead forecasts reverted to its long-run average in the recent periods. Moderation in disagreement is also observed for the four quarters ahead forecast.

In case of exclusion-based CPI[12] inflation, disagreement among the forecasters increased during the survey rounds conducted towards the start of the year 2020, with the increasing spread of the coronavirus globally and subsequent lockdown announced by the Government of India. Accordingly, disagreement among the forecasters increased for one quarter ahead forecast (Q2: 2020-21), two quarter ahead forecast (Q3:2020-21) and three quarter ahead forecast (Q4:2010-21) (Chart 4). Subsequently, with the availability of new information, disagreement among the forecasters reverted to its long run average. For four quarter ahead forecast horizon, disagreement among the forecasters hovered around its long run average.

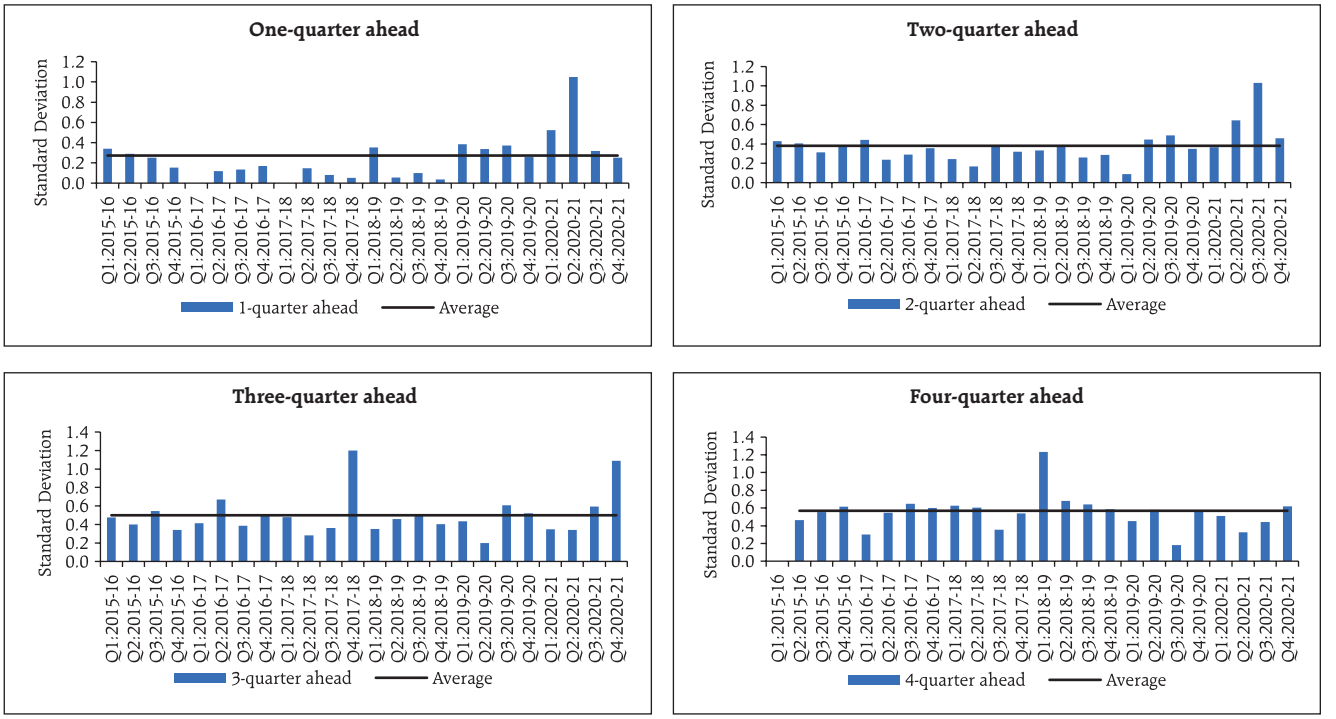
Uncertainty

The quarterly CPI headline inflation forecast uncertainty depicted in the left panel of Chart 5, shows that uncertainty declined as the forecast horizon reduced. The level of inflation forecast uncertainty increased in January 2020, and moderated in March 2020. Subsequently, due to the lockdown in the economy coupled with unavailability of the CPI headline print for April 2020, uncertainty increased sharply in the survey conducted in May 2020[13].

[12] CPI excluding Food and Beverages, Fuel and Light and Pan, Tobacco and Intoxicants.

[13] The imputed CPI indices for April 2020 and May 2020 were released on July 13, 2020.

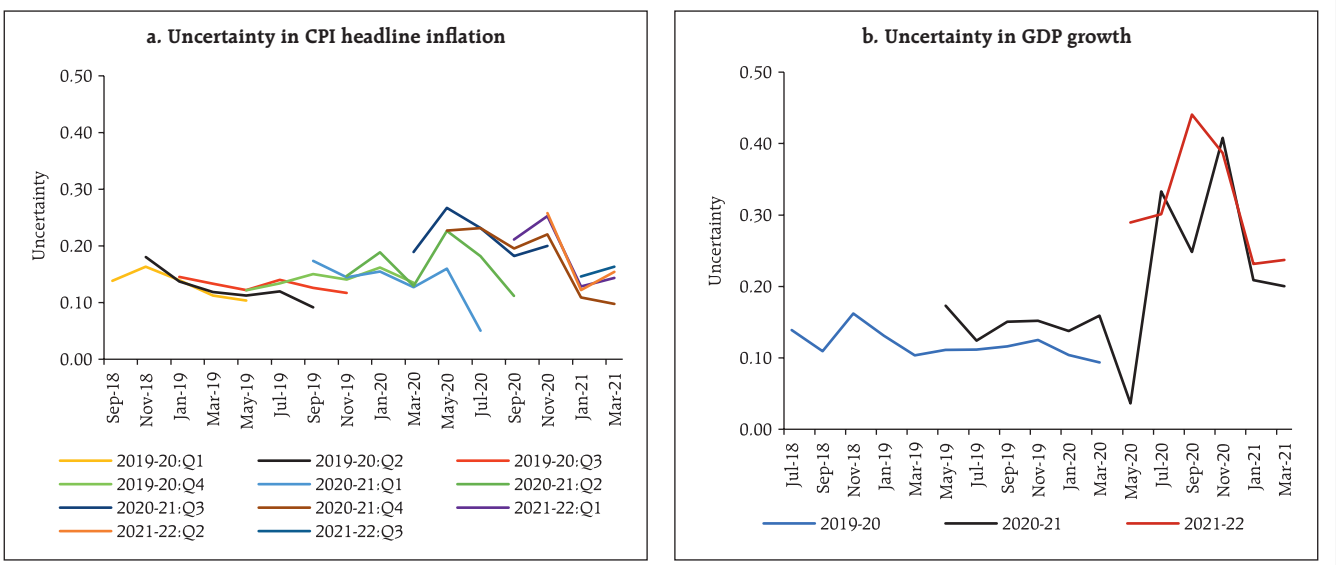
Chart 4: Disagreement in Exclusion-based CPI Inflation for Various Forecast Horizons



Sources: Survey of Professional Forecasters, Reserve Bank of India.

The uncertainty in GDP growth forecast for 2019-20 decreased gradually as the forecast horizon reduced. Uncertainty in GDP growth forecast for 2020-21 increased in July 2020 and increased further to reach its peak in November 2020. For 2021-22, elevated level of uncertainty was observed during May 2020 to

Chart 5: Uncertainty in Inflation and Growth Forecasts



Source: Survey of Professional Forecasters, Reserve Bank of India

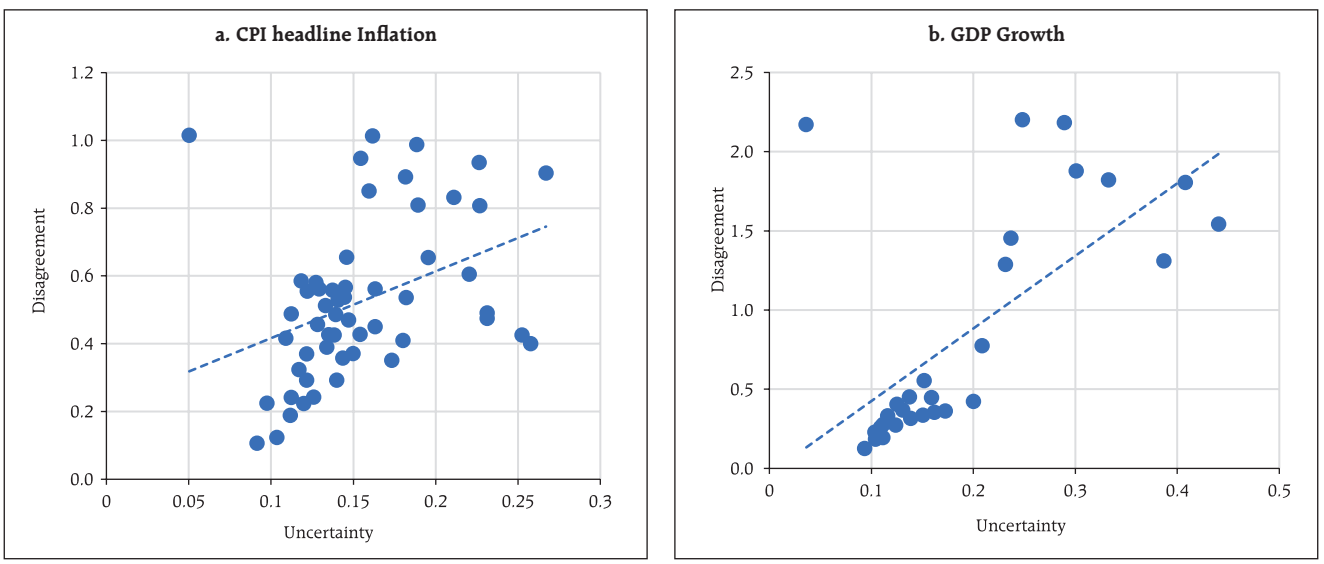
November 2020[14]. With the resumption of economic activities, uncertainty of forecasts for both the years decreased in subsequent rounds.

IV. Association between Disagreement and Uncertainty in Forecasts

In the previous section, uncertainty and disagreement among the forecasters have been analysed separately. However, it is believed that higher uncertainty leads to higher disagreement among the forecasters about the forecasts on major macro variables. Higher interpersonal differentiation of expectations indicates higher uncertainty (Zarnowitz and Lambros, 1987). Aggregate forecast uncertainty can be expressed as the sum of the disagreement among the forecasters and the perceived variability of future aggregate shocks (Lahiri and Sheng, 2010). Drawing from the literature, one would expect positive correlation between disagreement and uncertainty. The scatter plots of disagreement and uncertainty of GDP growth and CPI headline inflation across different forecast horizons[15] based on the different rounds of the survey suggest existence of a positive correlation between disagreement and uncertainty (Chart 6). The correlation coefficient between disagreement and uncertainty of forecasts is found to be 0.39 for inflation and 0.65 for GDP growth, suggesting existence of co-movement between uncertainty and disagreement.

Despite mixed empirical evidences in the literature, disagreement has been often used as a proxy to measure uncertainty. Based on professional forecasters survey conducted by the Federal Reserve Bank of Philadelphia, it was found that disagreement is a good proxy for uncertainty parameter when the variability of aggregate shocks is low (Lahiri and Sheng, 2010). Association between changes in disagreement and uncertainty based on the survey of external forecasters conducted by the Bank of England was reported by Boero *et. al.* (2015). On the other hand,

Chart 6: Disagreement and Uncertainty of Forecasts



Source: Survey of Professional Forecasters, Reserve Bank of India.

[14] GDP growth forecasts for 2021-22 were collected from the May 2020 (64th) round of the survey.

[15] Disagreement and uncertainty values for quarterly headline inflation forecasts from Q1:2019-20 to Q3:2021-22 from survey rounds 55 to 69 were considered for the analysis. From each round, forecast for different time horizons were taken. The disagreement and uncertainty values for these forecasts were then pooled to compute correlation coefficient. Similarly, for GDP growth, forecasts for 2019-20, 2020-21 and 2021-22 were considered from rounds 55 to 69.

there are studies that could not establish statistically significant association between disagreement and uncertainty for the survey conducted by the European Central Bank (Rich *et. al.* 2012).

To explore the relationship between disagreement and forecast uncertainty, empirical analysis has been carried out to check whether disagreement can be a useful indicator for uncertainty. Accordingly, the following regression model has been used to assess the association between uncertainty and disagreement,

$$\bar{\sigma} = \alpha + \beta * s_f + \epsilon \quad (1)$$

where $\bar{\sigma}$ is the square root of the uncertainty parameter and s_f is the measure of disagreement[16] (Rich *et al.* 2012).

For annual GDP growth forecast, the coefficient of disagreement is estimated at 0.093, which is statistically significant, with R^2 estimated at 0.36 (Table 5). In case of quarterly CPI headline inflation forecast, the coefficient of disagreement is estimated at 0.090, which is statistically significant, with R^2 of 0.14. Both the results indicate existence of moderate but significant association between uncertainty and disagreement. As such, though disagreement contains some information on uncertainty, it may not be a reliable proxy for uncertainty.

Table 5: Regression Estimates of Uncertainty on Disagreement

	α	β	R^2
Annual GDP growth	0.344 (0.00)	0.093 (0.00)	0.36
Quarterly CPI headline inflation	0.342 (0.00)	0.090 (0.01)	0.14

Note: Figures reported inside the parentheses are the p-values.

V. Conclusion

The forecast revisions in successive survey rounds by professional forecasters reflect new information flows and changes in level of confidence on the evolution of economic conditions. The massive disruption in global as well as domestic economies due to the coronavirus pandemic and the uncertainty about its future path led to large swings in forecasts. Large forecast revisions, for both GDP growth and inflation, could be attributed to the impact of the nationwide and subsequent localised lockdowns, the changes in nature and scale of consumption, and the diversity of impact on various economic activities, as the pandemic induced shock made traditional models less efficient in many cases.

Reflecting on this uncertainty coupled with pre-pandemic slowdown, the professional forecasters revised down their growth trajectory for both 2019-20 and 2020-21, over successive rounds of the survey. The supply chain challenges during the pandemic and persistently high CPI inflation prints since December 2019 led to upward revisions in the CPI inflation trajectory, particularly for 2020-21.

Measures of disagreement and uncertainty among the forecasters were derived from the reported point and density forecasts, for both inflation and growth. With the onset of the global pandemic, disagreement among the forecasters rose significantly. In tandem, uncertainty of inflation and growth forecasts followed a similar pattern and declined with the reduction in the forecast horizon. Empirical analysis suggests existence of association between uncertainty and disagreement. Regression estimates indicate that uncertainty displays a significant relationship with disagreement. However, the analysis provides little support in favour of using disagreement as a proxy for uncertainty.

[16] Measured by standard deviation of the point forecast as defined earlier.

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*Changing Tides in the Indian Money Market**

Money market plays an important role in the well-functioning of an economy by providing short-term capital to a wide class of financial entities. The article examines the different money market segments in India and analyses the changes witnessed in the Indian money market during January 2016 to March 2021. The constructed dispersion index that reveals the behaviour of cross-sectional rate dispersion in the money markets, indicates a frictionless market with efficient pass-through during the period before the declaration of the pandemic in January 2020-February 2020. The decreasing trend in the dispersion index in the recent times suggests stabilisation of the markets and adaptation to the new normal.

Introduction

Money market is an integral part of the financial system and includes instruments that provide short-term funds with maturity ranging from overnight to one year. As the short-term money market rates often serve as operational targets of central banks, the money market plays a key role in the transmission of monetary policy. Money market has emerged as the router for the transmission of policy impulses across the financial system and is essential for extracting important information related to the expectations of future movements in interest rates (Bhattacharyya *et al.*, 2009). As the money market rates serve as benchmarks for the pricing of credit, it plays an important role in determining the credit conditions in the economy and in turn the level of lending rates faced by firms and households (Corradin *et al.,* 2020). Money market generally includes short-term unsecured (uncollateralised) interbank loans, secured (collateralised) loans (including repurchase agreements), treasury bills (T-bills), commercial papers (CPs) and certificates of deposit (CDs). Participants in these markets typically include, banks, investment funds and non-financial corporations. A well-functioning interbank market (where banks borrow from and lend to each other) can ensure efficient liquidity transfer between surplus and needy banks (Furfine, 2001; Acharya *et al.,* 2012).

During the recent episodes of financial distress induced by the Covid-19 pandemic, money market too came under stress with volatile interest rate spreads and trading activity. In the past, tension in the money market has resulted in banks replacing money market funding with central bank funding globally. Further, central bank interventions conducted in the wake of a financial crisis, are known to impact money markets. For instance, large-scale asset purchases conducted during the Global Financial Crisis (GFC) had a significant impact on money markets. During the GFC and Euro area's sovereign debt crisis, cross-sectional dispersion in the interbank money market rates raised the lending rates banks charge to firms (Altavilla *et al.,* 2019). Therefore, in addition to studying the changes in volumes, rates and microstructure, money market dispersion (deviation of cross-sectional distribution of money market rates) is also of importance to the central banks as this can indicate market segmentation and provide an understanding of the funding cost of banks. With this background, it would be interesting to examine the different money market segments in India and analyse the changes witnessed in the Indian money market.

In India, money markets have gone through substantial changes in the past five years. The volumes and rates in the money market segments have broadly evolved with changing monetary policy stance and banking system liquidity conditions. The

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period considered for the study — January 2016 to March 2021, provides an opportunity to examine the shifts experienced in the money markets in view of the adoption of the inflation targeting regime, change in the liquidity conditions during November 2016 following the Indian banknote demonetisation, availability of payment systems on a 24x7 basis, adoption of the revised liquidity management framework in February 2020, and the different policy measures (including the unconventional monetary policy measures to provide liquidity in the financial system) undertaken by the Reserve Bank (since end-February 2020) to mitigate the stress induced by the Covid-19 pandemic.

The article is structured as follows: Section II provides an overview of the different segments of the Indian money market. Section III presents stylised facts related to money markets, collected from literature and examines the relevance of these theories in the Indian context. Section IV measures dispersion of money market rates using an index termed as the Dispersion Index (proposed by Duffie and Krishnamurthy, 2016), which combines information of money market rates and volumes. This is followed by an analysis to determine the important factors that influence dispersion of money market rates in the Indian setup. Section V provides the concluding observations.

II. Salient Features of the Indian Money Market

The Reserve Bank undertakes monetary operation under the Liquidity Adjustment Facility (LAF) and manages liquidity in the banking system. For providing short-term funds, the Indian money market includes call money, triparty repo [erstwhile collateralised borrowing and lending obligation (CBLO)[1]], market repo, repo in corporate bonds, CPs, CDs and T-Bills. The details of these segments are presented in Annex-Table A.1 In India, commercial banks, co-operative banks, primary dealers (PDs), insurance companies, mutual funds (MFs), non-banking financial companies (NBFCs), corporates are permitted to participate in money markets.

The share of each money market segment in the overall volume along with the trend in the average daily volume in the money markets is given in Chart 1a. The average volume has increased, with the increase being steeper in the recent times. Further, CBLO/triparty repo dominate in terms of volume with a share of around 58 per cent (during the period from January 2016 to March 2021). The rates in the different money market segments tend to move in tandem and the CP rates generally trade at the highest (Chart 1b).

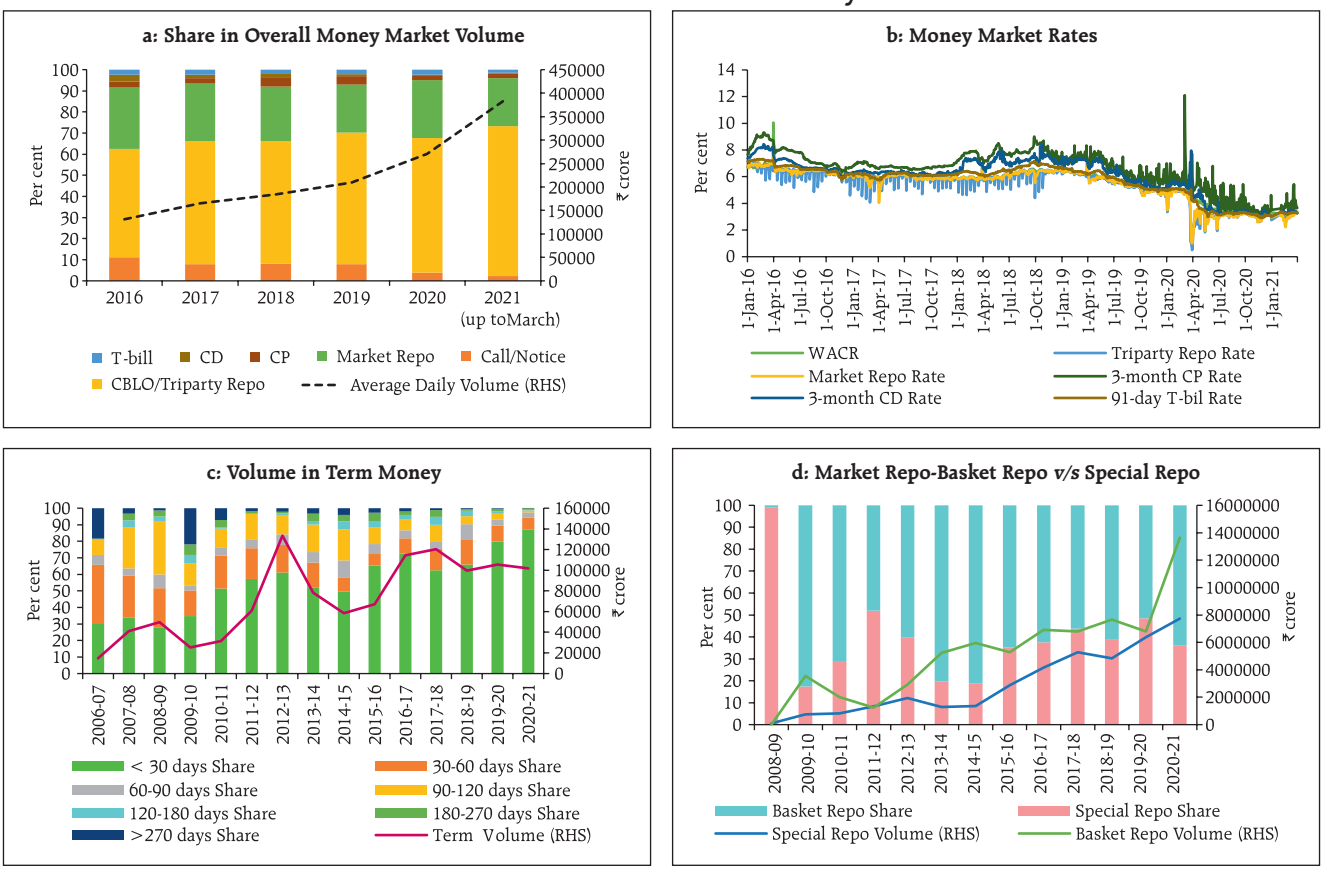
In the call money segment[2], the overnight segment dominates in terms of volume. Despite several measures taken by the Reserve Bank, the volume in the term money segment remains very low. However, the share of the term money in the total call money volume increased marginally in 2020-21 and stood at 3.6 per cent in comparison to 2.5 per cent in 2019-20. In the term money segment, trading is mainly concentrated in the tenor of 15-30 days (Chart 1c). Some of the reasons for the general under development of the term segment include: (i) the inability of market participants to build interest rate expectations over the medium term; (ii) the skewed distribution of liquidity; and (iii) the preference of banks for LAF reverse repo operations over term money market to deploy their surplus funds (Patra *et al.*, 2016).

Further, market repo may be categorised into two – Basket Repo and Special Repo. Basket repo is the general collateral repo and special repo helps

[1] Collateralised Borrowing and Lending Obligation (CBLO) segment of the money market was discontinued and replaced with Triparty Repo with effect from November 05, 2018. The Clearing Corporation of India Limited (CCIL) was authorised by RBI to act as a triparty repo agent and undertake central counterparty (CCP) clearing of triparty repo transactions.

[2] In the call money segment, funds are borrowed/lent for a period of one day. If the period is more than one day and up to 14 days, it is referred to as notice money and if funds are borrowed/lent for 15 days to 1 year, then it is referred to as term money.

Chart 1: Overview of the Indian Money Market



Note: Weighted average call rate (WACR) is the volume-weighted average rate of the call/notice segment.
Sources: RBI; CCIL; FBIL; NSDL; FIMMDA; and Author's calculations.

in obtaining a particular security for meeting any delivery obligation against short sale position. Basket repo accounts for the larger market share in comparison to special repo, although volume in the latter has shown a steady increase in the recent years (Chart 1d). As the rate in the special repo segment depends on the availability of a particular security, any short supply can push down the borrowing rates, thus making basket repo a better representative of the money market than special repo (Nath, 2018).

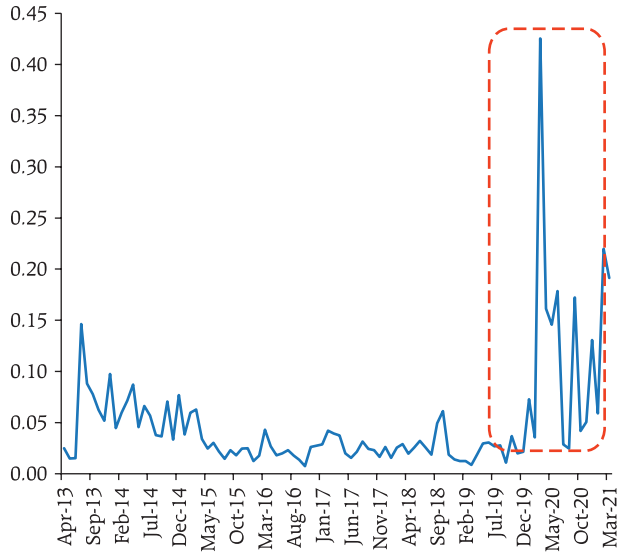
III. Stylised Facts

This section presents the important stylised facts related to money markets available in the literature and focus is mainly kept on the behaviour of money markets during times of financial crisis. The relevance of these theories is checked for in the Indian context.

Stylised Fact 1: Money markets experience bouts of volatility during financial crisis and increasing the amount of excess reserves lowers overnight rate volatility (Corradin *et al.*, 2020; Bech and Monnet, 2016).

A review of volatility is important as lower volatility in the overnight interbank rate would reduce the uncertainty about funding costs (Kavediya and Pattanaik, 2016). The important drivers of volatility of the overnight call money rate (the operating target of monetary policy) are system liquidity and policy repo rate (RBI, 2021). These two factors are bound to undergo changes as a result of the measures taken

Chart 2: Volatility in the Overnight Money Market



Sources: RBI; Author's calculations.

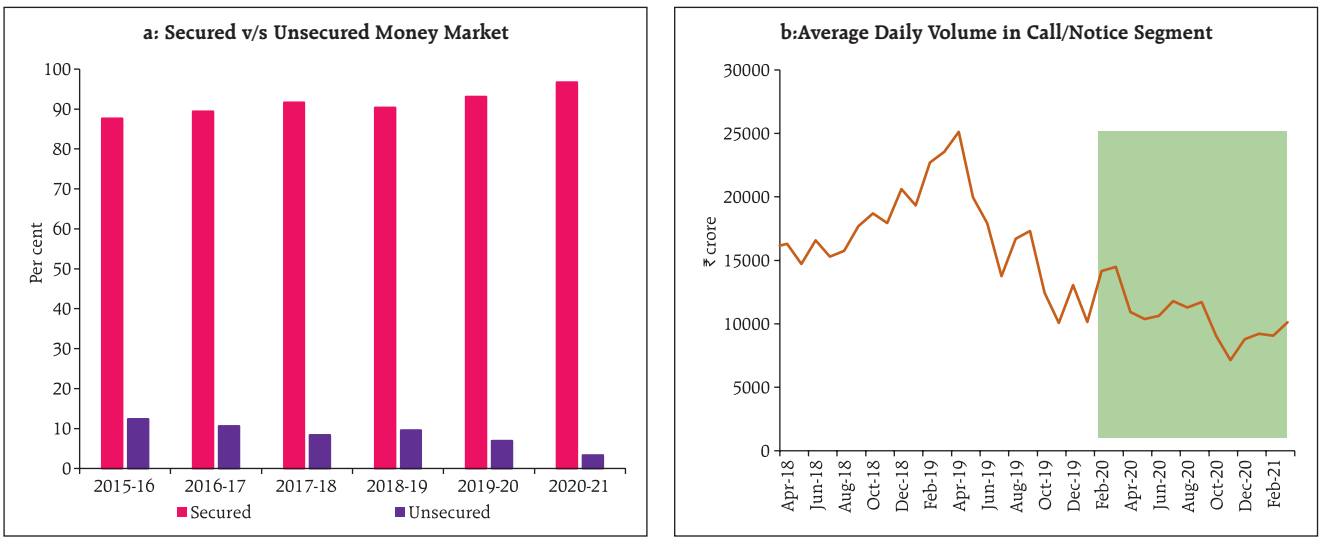
by the central bank to mitigate the risks arising from uncertainty during a financial crisis. Volatility in the overnight money market (call/notice, CBLO/triparty repo, market repo), measured as the coefficient of variation[3] of the volume-weighted rates increased after the declaration of the Covid-19 pandemic (Chart 2). After the volatility peaked in March 2020, it declined subsequently.

Stylised Fact 2: During financial crisis, there is a shift away from unsecured markets and towards the secured markets (Corradin *et al.*, 2020).

The volume shares of the unsecured segment (call money) and the secured segment (CBLO/triparty repo and market repo) in the overall volume are given in Chart 3a. The increase in the share of secured volume in 2020-21 (from 93 per cent to 97 per cent) and the subsequent decline in the share of unsecured volume validates the shift away from unsecured markets during uncertain times. Further, the decline in the average daily volume in the unsecured money market segment after the declaration of the Covid-19 pandemic is evident in Chart 3b.

Stylised Fact 3: Increasing the amount of excess reserves drives the overnight interbank rate towards the floor of an interest rate corridor (Bech and Monnet, 2016).

Chart 3: Volume in the Money Market



Note: Shaded portion represents the period after the declaration of Covid-19 pandemic.
Sources: RBI; CCIL; Author's calculations.

[3] Coefficient of variation is measured as a ratio of standard deviation to mean.

From the plot of surplus liquidity [net LAF outstanding, (+) absorption] and overnight volume-weighted average rates along with the policy corridor, it can be seen that as the magnitude of system liquidity increased, resultant on the proactive measures taken by the Reserve Bank in order to mitigate the risks arising from the Covid-19 pandemic, the rates have dipped below the reverse repo rate (Chart 4a). Further, the scatter plot based on daily observations of surplus liquidity and overnight volume-weighted average rates indicate an inverse relationship (Chart 4b).

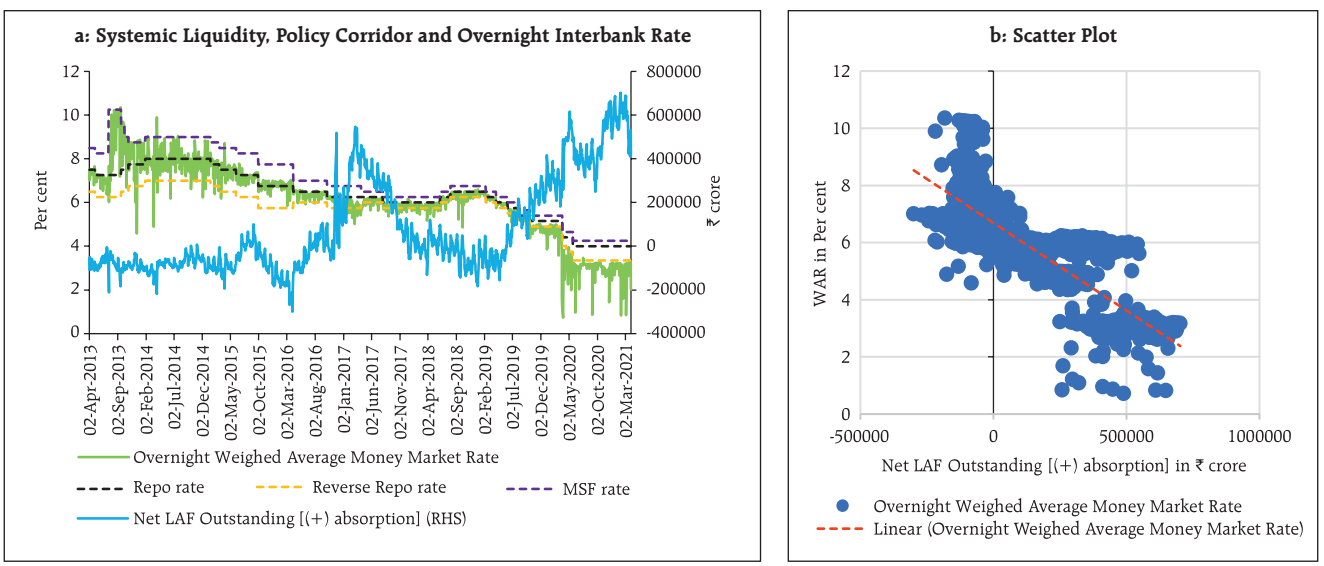
Stylised Fact 4: Increasing the amount of excess reserves does not impact the recourse to the central bank lending facility (Bech and Monnet, 2016).

The causal relationship in the Indian context is explored by considering the utilisation of marginal standing facility (MSF), a window provided by RBI to banks for borrowing in emergency situations, against banking system liquidity. Consideration of a long time period may not be indicative of the relationship due to changes in system liquidity, availability of payment systems for 24x7, discontinuation of the daily conduct of fixed rate repo operations as a part of the adoption of the revised liquidity management framework etc. Interestingly, the correlations between MSF utilisation and system liquidity during the recent period (January 2020-March 2021), when the liquidity was in surplus and a distant period (November 2013-June 2015), when the liquidity was in deficit are (-) 0.511 and (-) 0.510 respectively. Further, three pairs of Granger causality tests conducted for the period from November 2013 to March 2021 on the variables –system liquidity, MSF volume and overnight money market volume suggest that system liquidity causes overnight money market volume, but not MSF volume (Annex-Table A.2). Moreover, overnight money market volume does not impact MSF volume. The utilisation of MSF is therefore independent of the prevalent liquidity conditions.

Stylised Fact 5: Financial crisis impact the intraday interest rate causing different average interest rates in the morning session and afternoon session (Baglioni and Monticini, 2013).

For this, intraday rates are calculated in the call money, CBLO/triparty repo and market repo segments of the money market. Due to changing liquidity

Chart 4: Liquidity Conditions and Overnight Money Market Rate

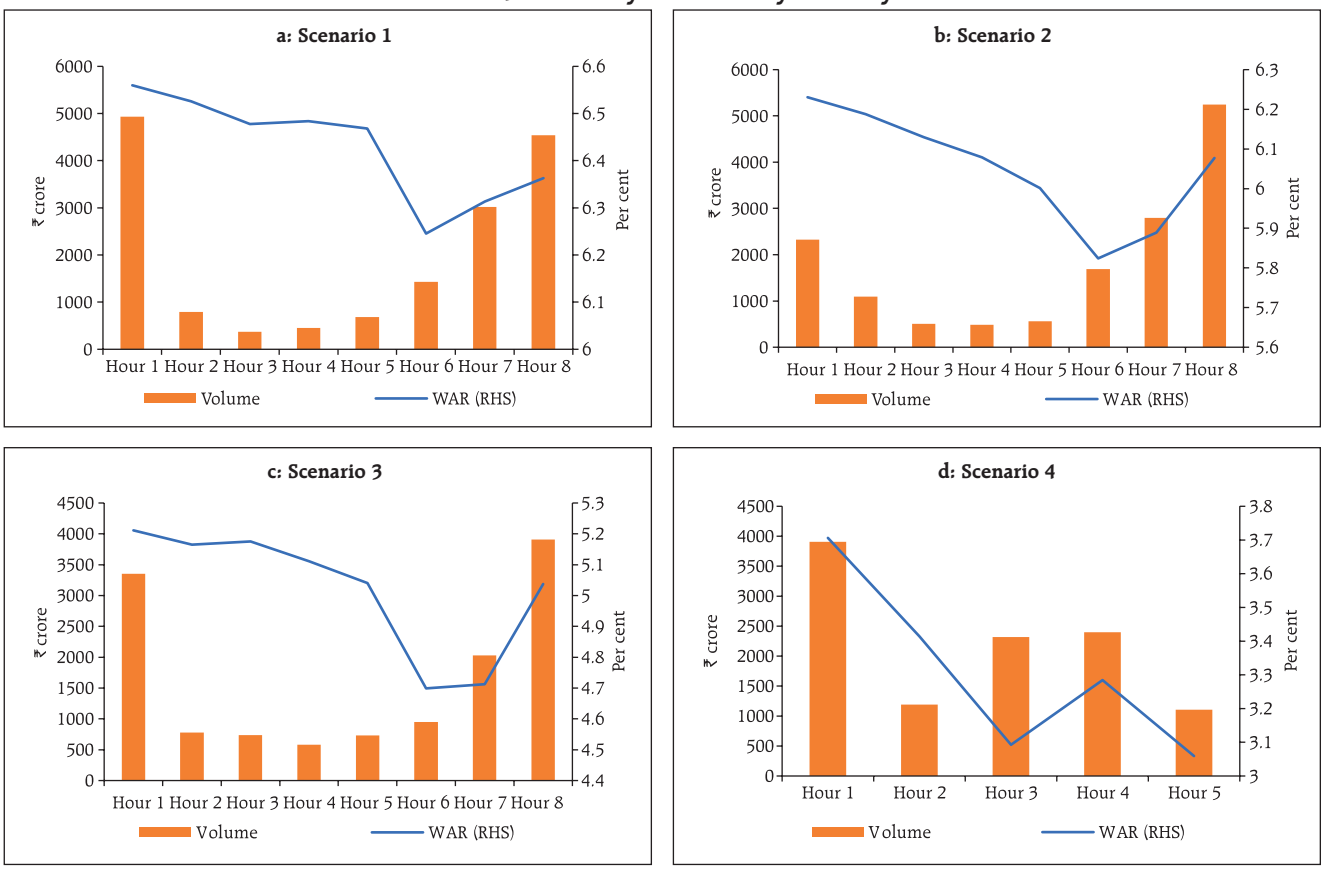


Sources: RBI; Author's calculations.

conditions and policy rates, intraday rates are calculated separately for four scenarios that capture the period when the system liquidity was in deficit; period after demonetisation, when the system turned to surplus mode; and the periods before and after the declaration of the Covid-19 pandemic. Also, scenarios are chosen in such a way that within each scenario, the policy repo rate has remained unchanged. Accordingly, the scenarios are: scenario 1: April 2016-June 2016[4]; scenario 2:-November 2016-July 2017[5]; scenario 3: October 2019-February 2020[6]; and scenario 4: May 2020-March 2021[7]. The movement of intraday average trading volume and weighted average rate (WAR) in the four considered scenarios are shown separately for the call money, triparty repo and market repo segments (Charts 5, 6 and 7).

In scenarios 1, 2 and 3, it can be seen that the intraday call money trading is largely concentrated in the first and last hour and has a U-shape. Trading increases in the last hour after the closing of CBLO/ triparty repo and market repo segments. It can be seen that when the system liquidity was in deficit, trading is highest in the first hour (Chart 5a). However, as the system liquidity turned to surplus, trading reduced in the first hour and was highest in the last hour (Charts 5b, 5c). Further, in scenario 4, after adoption

Chart 5: Intraday Call Money Activity



Sources: RBI; CCIL; and Author's calculations.

4 Scenario 1: Average net LAF outstanding [(+) absorption]: ₹(-) 80,715 crore; Repo rate: 6.50 per cent

5 Scenario 2: Average net LAF outstanding [(+) absorption]: ₹ 30,4319 crore; Repo rate: 6.25 per cent

6 Scenario 3: Average net LAF outstanding [(+) absorption]: ₹2,62,908 crore; Repo rate: 5.15 per cent

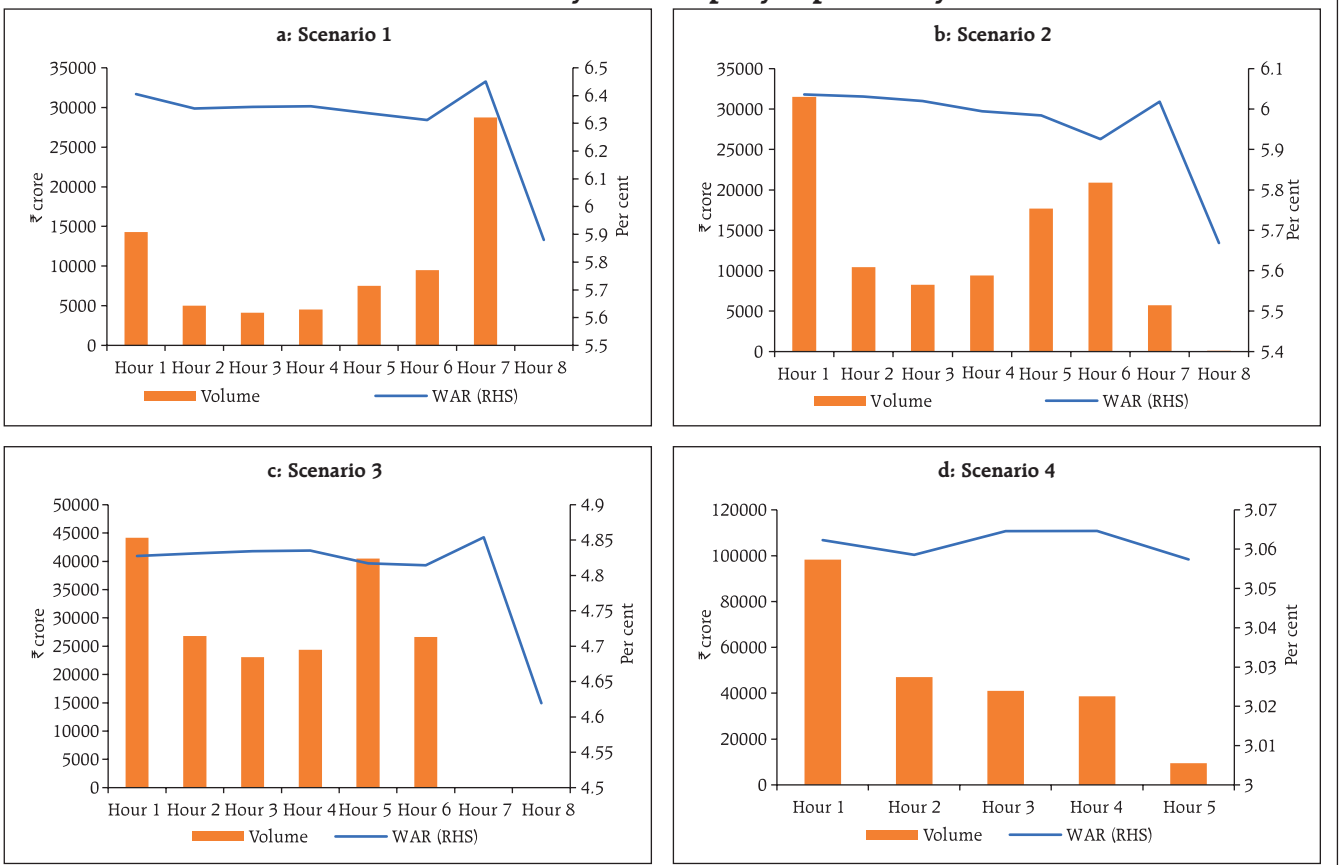
7 Scenario 4: Average net LAF outstanding [(+) absorption]: ₹4,98,014 crore; Repo rate: 4.00 per cent

of truncated market hours, trading activity is not seen to follow the earlier U-shaped curve (Chart 5d).

In the case of WAR, it can clearly be seen that in scenarios 1, 2 and 3, rates are the highest in the first hour and witnesses a slump in the sixth hour only to increase later in the last hour. During the first three scenarios, the average difference between the WAR in the first hour and sixth hour range between (-) 31 to (-) 51 bps. In scenario 4, in the period after the declaration of the Covid-19 pandemic, the pattern is different and WAR drops by 61 bps in the third hour and drops further in the last hour after experiencing an increase in the fourth hour.

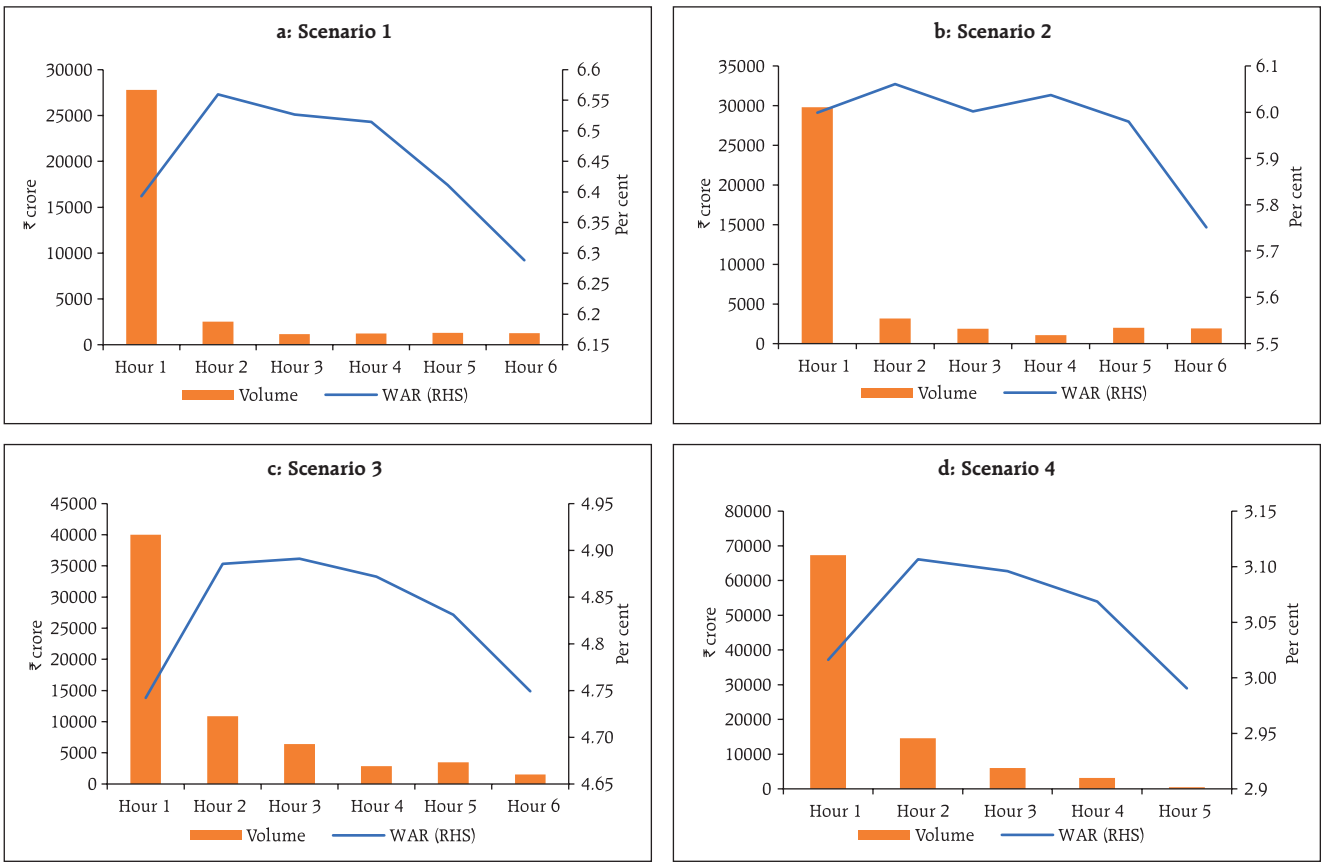
During the period when the system liquidity was in deficit, trading in the CBLO segment was seen to increase towards the end of the day (Chart 6a). This has changed when the system turned to surplus mode with the first hour dominating in terms of trading activity (Charts 6b, 6c and 6d). Unlike the call money segment, the intraday WARs have not undergone major changes in pattern in scenario 4. This could be attributed to the fact that the important participants like MFs and insurance companies in the triparty repo do not maintain current accounts with the Reserve Bank and do not have direct access to the liquidity facilities of the Reserve Bank. However, the steep rises and declines witnessed in the first three scenarios are absent in scenario 4 due to multiple changes in the net asset value (NAV) cut-off timings of MFs for overnight and liquid schemes during 2020-21.

Chart 6: Intraday CBLO/Triparty Repo Activity



Sources: RBI; CCIL; and Author's calculations.

Chart 7: Intraday Market Repo Activity



Sources: RBI; CCIL; and Author's calculations.

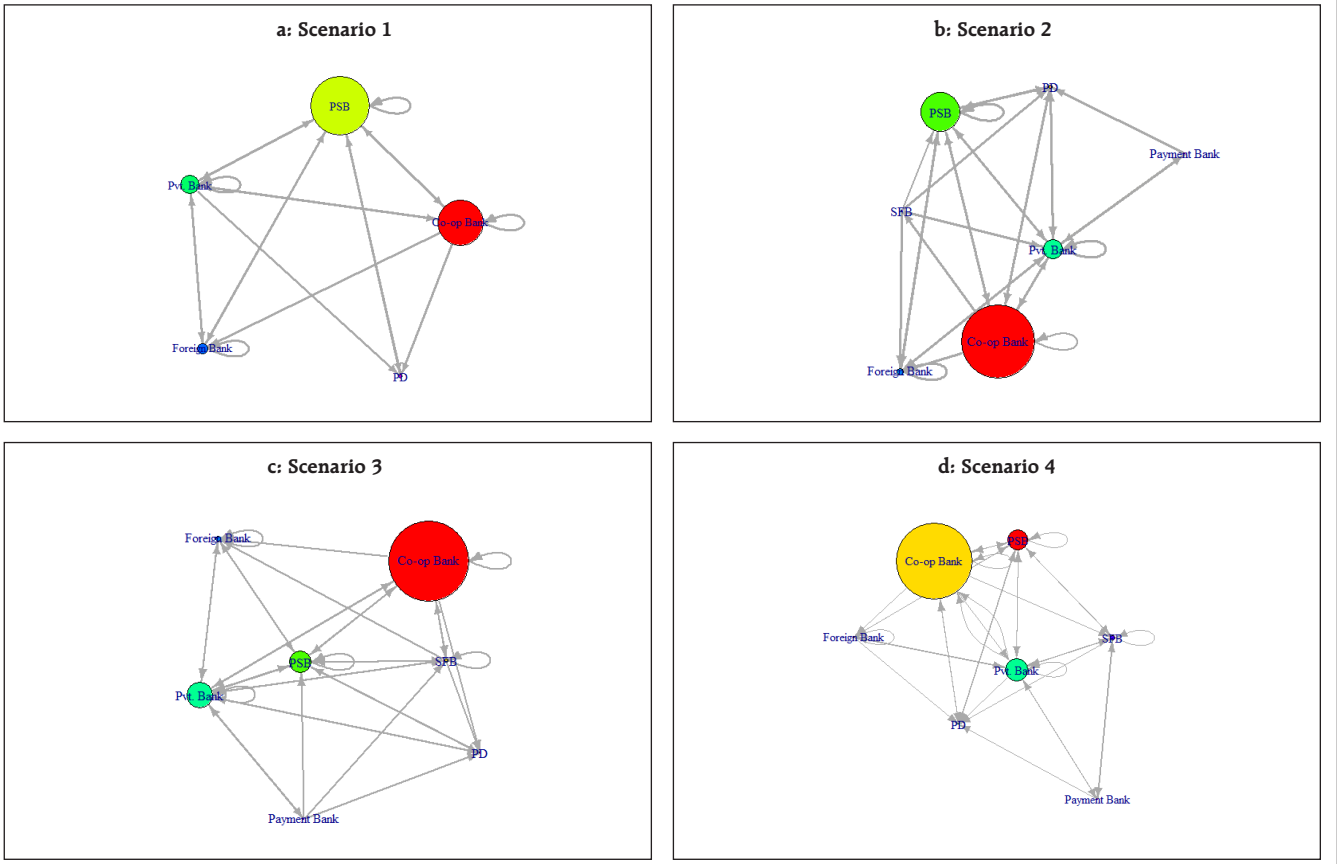
The pattern of increased trading activity in the first hour in the market repo segment followed by a drastic reduction in the subsequent hour has remained unchanged in the considered four scenarios (Charts 7a, 7b, 7c and 7d). Even in the case of WAR, the rates have shown a steady increase in the second hour followed by a drop in the rates in the last hour in all the four scenarios. This constant pattern across all four scenarios in market repo may be due to the inaccessibility of the important market participants to the liquidity facilities of the Reserve Bank, like in the case of triparty repo.

Stylised Fact 6: Unconventional Monetary Policy (unprecedented policy measures taken by the central bank that include collateral policies; asset purchase programmes and forward guidance) can significantly change interbank structures (Wolski and van de Leur, 2016).

As in the case of the intraday trading activity, the market structure, studied by way of network diagrams, is examined separately for the same four scenarios for the three important money market segments (Charts 8, 9 and 10). Network diagram provides a graphical depiction of the network, with the nodes representing the participants and the link representing the presence of a transaction between the nodes. The graphs prepared are based on the Kamada-Kawai algorithm[8]. Here, the size of the

[8] The algorithm uses the attractive and repulsive forces between linked nodes, and positions the nodes with the greater number of links closer to the nodes with many links.

Chart 8: Network Diagram of Call Money Market



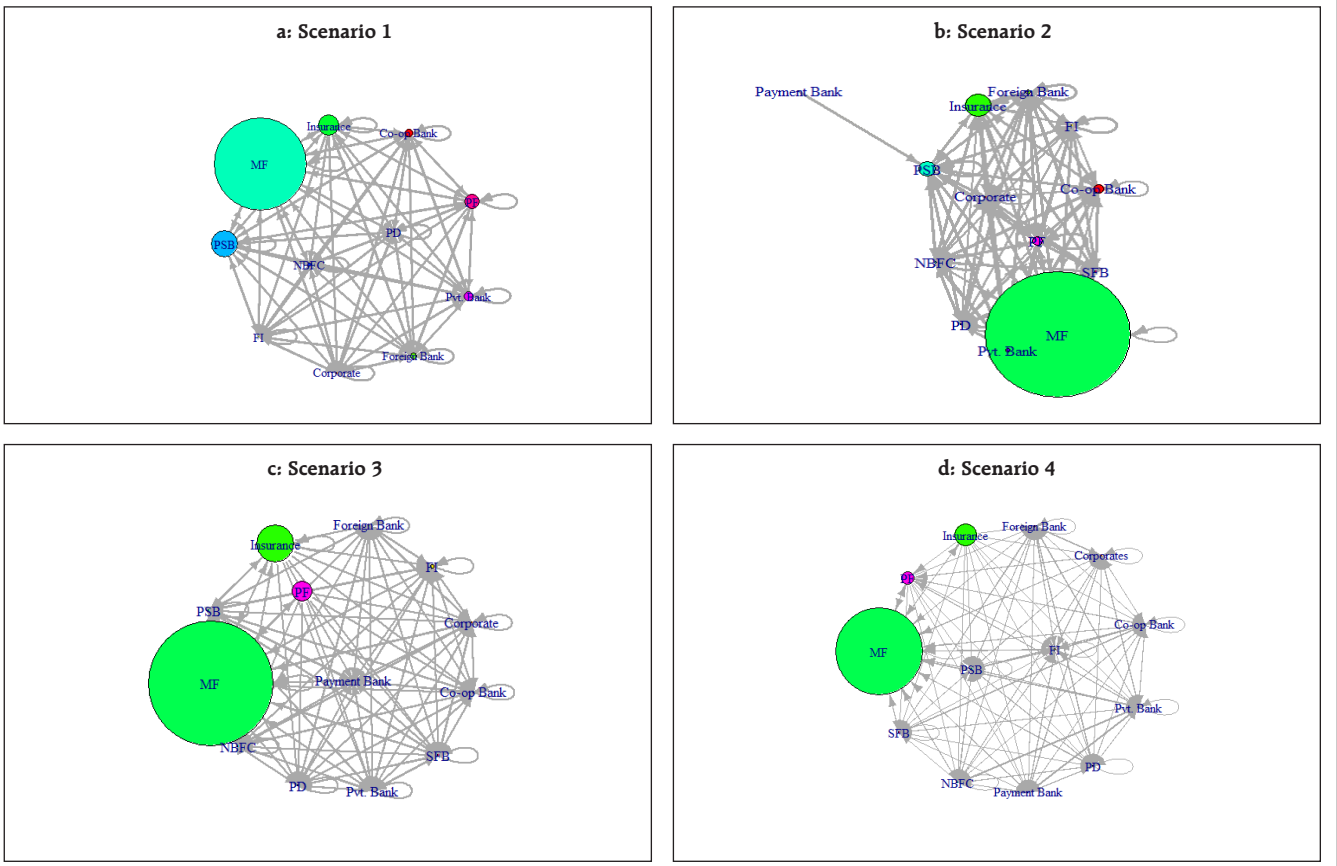
Sources: RBI; CCIL; and Author's calculations.

nodes represents the share of the entity in lending and the links are weighted by the WAR between the nodes.

In the call money market, co-operative banks have remained the biggest lender since scenario 2. The network structure which was relatively simple in scenario 1 has become complex in scenario 4 with more interconnections and varying link weights. This suggests that banks have adopted diverse portfolio allocation based on the funding requirements (Chart 8d).

In the CBLO/triparty repo segment, MFs followed by insurance companies have dominated as the important lenders in all the four scenarios (Chart 9). On comparing scenarios 1 and 4, it can be seen that interconnections have increased. Although the market has more interconnections in scenario 3 (in the pre-Covid period) in comparison to scenarios 1 and 2, the market structures have not changed significantly from scenario 3 to scenario 4. As the share of lending by banks is nominal in the triparty repo segment, there is reduced impact of liquidity conditions on portfolio diversification.

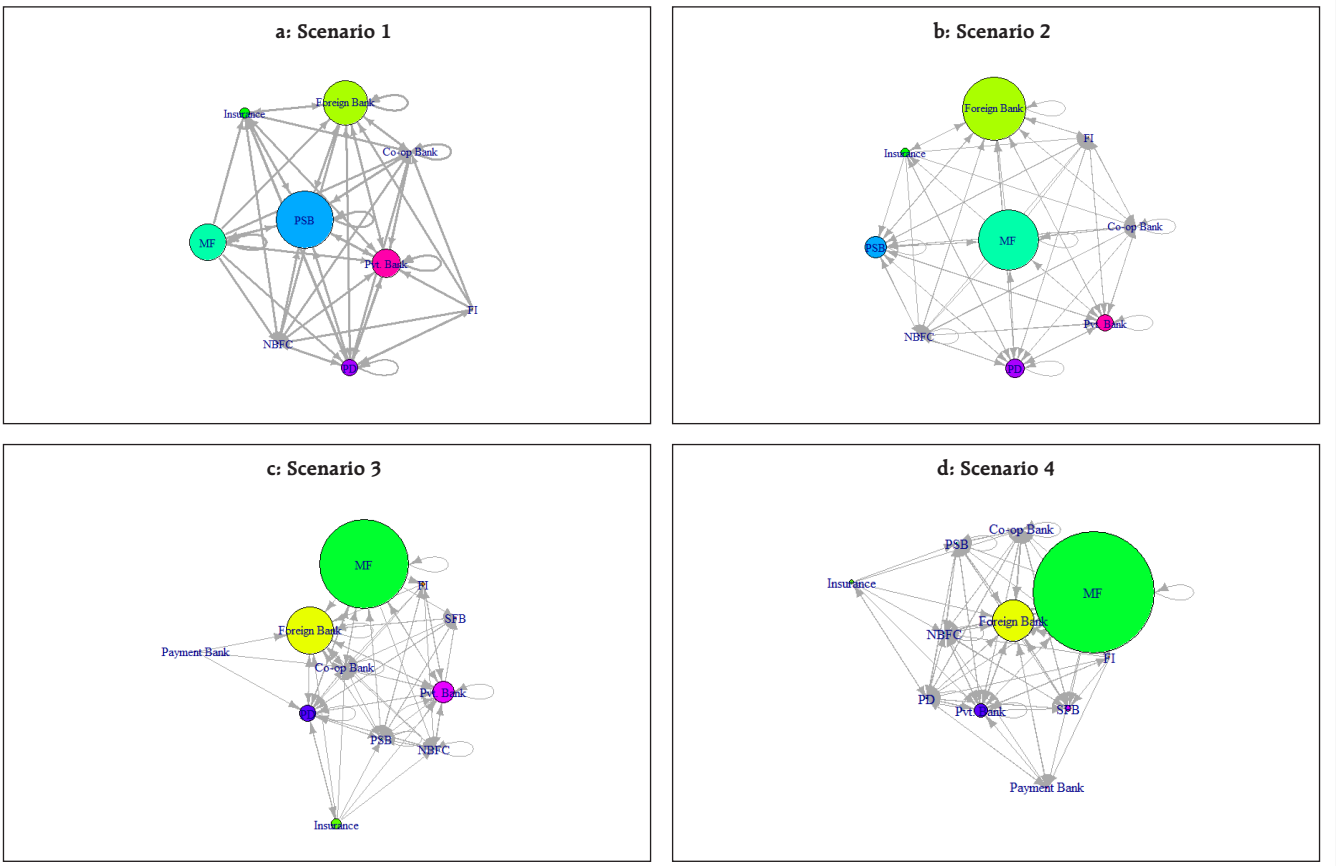
Chart 9: Network Diagram of CBLO/Triparty Repo Market



Sources: RBI; CCIL; and Author's calculations.

On comparing network diagrams of the market repo segment, it can be seen that public sector banks were displaced by foreign banks as the biggest lender in scenario 2 (Charts 10a and 10b). Foreign banks indulge in short-selling and buy shorter-maturity bonds and trade to make profits. Foreign banks are active on both the borrowing and lending sides in the market repo segment due to the availability of the special repo facility. Further, shares of MFs in lending increased and were dominant in scenarios 3 and 4 (Charts 10c and 10d). The growth of the MF industry has resulted in their increased participation in the market repo segment and the average volume of the overall segment increased from ₹39,669 crore in scenario 1 to ₹85,690 crore in scenario 4. The marginal changes in the interbank connections from scenario 3 to scenario 4 may be attributed to the changes in the composition of special repo facility in the market repo segment (as seen in Chart 1d).

Chart 10: Network Diagram of Market Repo Market



Sources: RBI; CCIL; and Author's calculations.

IV. A Dispersion Index for the Indian Money Market

Money market activity in secured and unsecured segments is normally measured considering important metrics like volumes, rates and spreads. A dispersion index was designed that explores the behaviour of cross-sectional rate dispersion in the US-dollar money markets (Duffie and Krishnamurthy, 2016). The index is designed in such a way that it would be zero in frictionless market without measurement noise and its actual level would reflect cross-sectional variation in rates caused by pass-through frictions. The dispersion index combines information of money market rates and volumes and is measured as the weighted absolute deviation of the cross-sectional distribution of the overnight rates. Although the constructed index suffers from limitations in terms of availability of data, the dispersion index may serve as an empirical gauge of pass-through efficiency.

IV.1 Construction of the Dispersion Index

The index construction is based on the methodology outlined in Duffie and Krishnamurthy (2016). However, modifications are made to adapt to the Indian markets. For the construction of the index, daily data on rates and volumes are collected on the different money market segments including call money, CBLO/triparty repo, market repo, CPs, CDs and T-bills for the period from January 01, 2016 to March 31, 2021[9]. Although the focus is on overnight volumes

[9] There is a limitation in the construction of the dispersion index as both primary market rates and secondary markets have been used in the case of CPs, CDs and T-bills, based on data availability. This limitation was also acknowledged in Duffie and Krishnamurthy (2016). However, within a segment, the market type has been kept uniform.

and rates[10], due to the non-availability of data for CPs, CDs and T-bills, approximations are made using 3-month rates and overall trading volume. The details are presented in Annex-Table A.3.

Let $y_{i,t}(m)$ denote the rate for instrument i at time t, maturing in m days. The term structure effects, arising from the use of 3-months rates in the case of CPs, CDs and T-bills is adjusted as

$$\hat{y}_{i,t} = y_{i,t}(m) - \left(MIBOR_t(m) - MIBOR_t(1)\right) \quad ...(1)$$

In the case of CPs and CDs, the credit spread is also adjusted by subtracting the spread between Mumbai Interbank Offered Rate (MIBOR) and Overnight Index Swap (OIS) associated with 3-months. The dispersion index, D_t at day t is computed as the weighted mean absolute deviation of the cross-sectional adjusted rates as

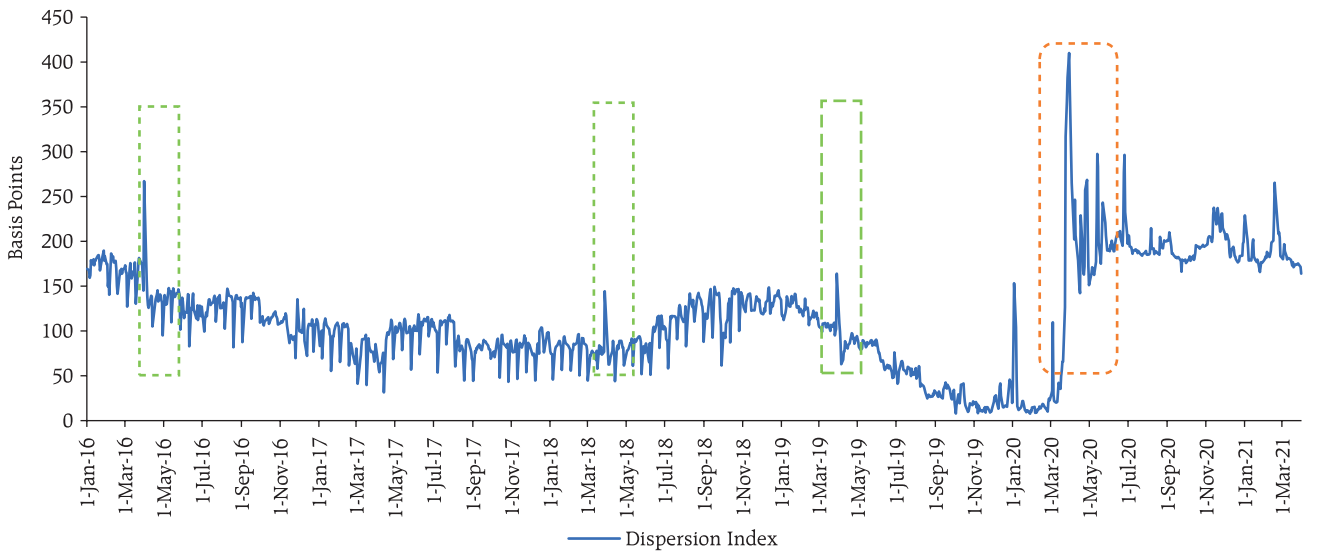
$$D_t = \frac{1}{\sum_i v_{i,t}} \sum_i v_{i,t} \left| \hat{y}_{i,t} - \bar{y}_t \right| \quad ...(2)$$

Here $v_{i,t}$ is the volume of trading of the instrument i on day t in ₹ crore and $\bar{y}_t$ is the volume-weighted mean rate.

The dispersion index (expressed in basis points) for the considered period is plotted in Chart 11. The index witnessed peaks at the end of every financial year, in end-March, when the money market rates normally increase owing to the demand for funds (due to liquidity management at the end of the annual report disclosure cycle). During the period before the declaration of the pandemic, the dispersion index touched lows in January 2020-February 2020 indicating a frictionless market with efficient pass-through.

The onset and declaration of the Covid-19 pandemic caused the dispersion index to peak in March 2020, as extreme risk-aversion gripped investors which resulted in the triparty repo and market repo segments trading at near-zero rate levels. However, dispersion started showing a decreasing trend subsequently, *albeit* at elevated levels in comparison to the pre-Covid-19 period. Further, towards the end of the period under consideration, the dispersion index started displaying a more prominent decreasing trend

Chart 11: Dispersion Index of the Indian Money Market



Sources: RBI; CCIL; FBIL; NSDL; FIMMDA; and Author's calculations.

[10] In the case of call money markets, data on combined call/notice volume and rates are used. In the case of triparty repo and market repo, data on the term segment (where trading is low) is combined with the overnight segment in order to remove the holiday effect of volumes shifting from the overnight to term segment.

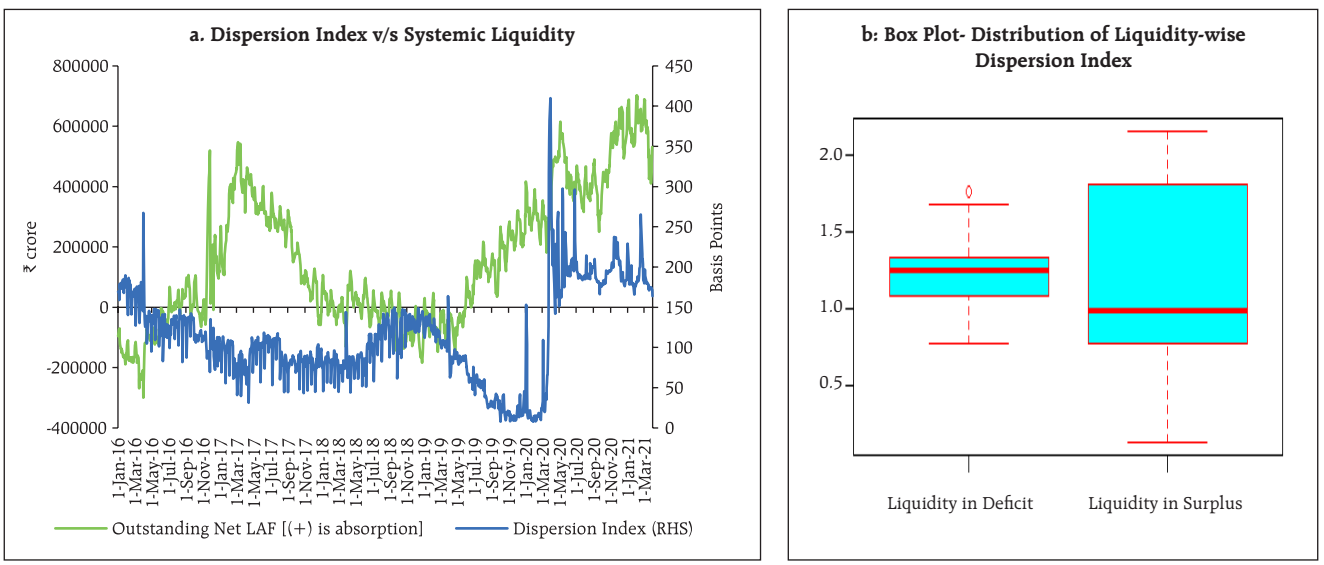
suggesting stabilisation of the markets and adaptation to the new system.

The frequent dips in the index witnessed during the initial period of consideration may be attributed to the effect of Reporting Fridays. As already seen, CBLO is a preferred money market segment with the highest trading volumes on non-Reporting Fridays. The funds borrowed under CBLO qualified for reserve requirements and banks were required to include the CBLO borrowing in their net demand and time liability (NDTL). Further, banks were also required to maintain statutory liquidity ratio (SLR) against the borrowing under CBLO. On the other hand, market repo is exempted from SLR/ Cash Reserve Ratio (CRR) computation. Therefore, the CBLO rates dipped to low levels on Reporting Fridays as liquidity shifted from CBLO to market repo. The rates reverted then to usual levels after the Reporting Friday. However, after triparty repo replaced CBLO in November 2018, this shifting of liquidity to market repo ceased as the borrowing under triparty repo is also exempted from CRR/SLR[11]. This has resulted in a smoother index since November 2018.

This dispersion index is next compared to the banking system liquidity (Chart 12a). From the box plot (Chart 12b), it can be seen that the median of dispersion is higher for the period when the liquidity is in deficit and the distribution of dispersion in the period of surplus liquidity is skewed. It may however be noted that the period under consideration witnessed more episodes of the banking system being in surplus than being in deficit.

The dispersion index is then compared with important financial market drivers/indicators — policy repo rate and NSE-Volatility Index (VIX), which indicates stress in the financial markets (Chart 13). The shifts in the mean of the dispersion rate with changes in the policy rate is evident in Chart 13a. The correlation between dispersion index and policy repo rate is significant at (-) 0.38 for the entire sample period considered. However, the correlation is positive

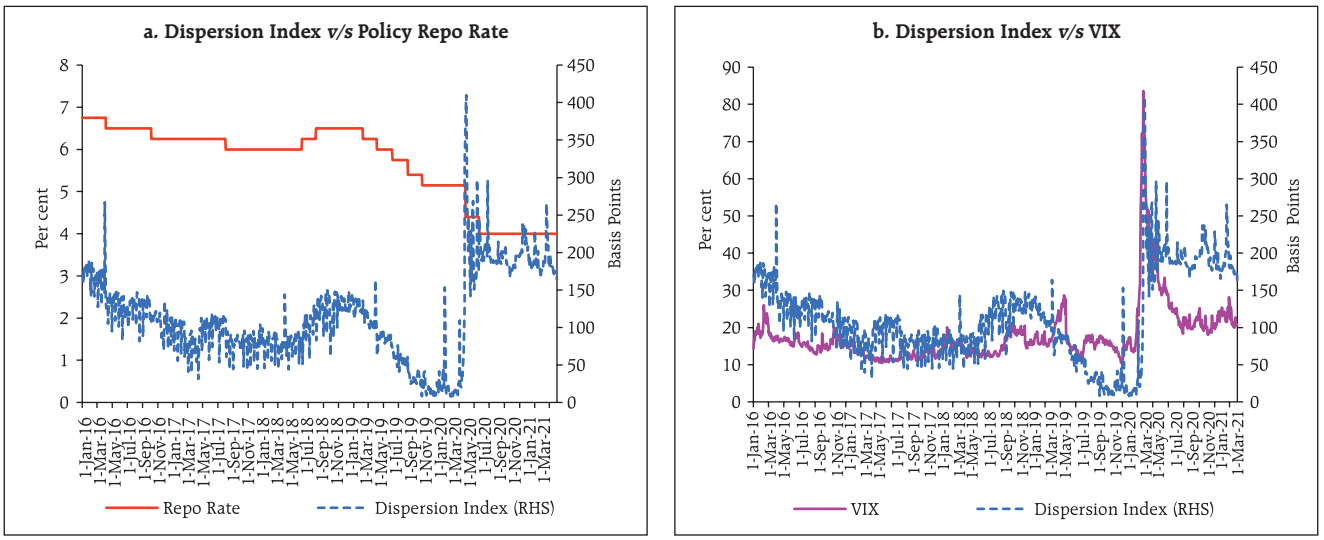
Chart 12: Dispersion Index and Banking System Liquidity



Sources: RBI; CCIL; FBIL; NSDL; FIMMDA; and Author's calculations.

[11] The securities acquired under both triparty repo and market repo segments are eligible for SLR.

Chart 13: Dispersion Index and Market Scenario



Sources: RBI; CCIL; FBIL; NSDL; FIMMDA; NSE and Author's calculations.

and significant at 0.86 for the period from January 2016 to May 2018 (this period witnessed only rate cuts). On considering a similar period that witnessed only rate cuts – from February 2020 to March 2021, the correlation is significant at (-) 0.70. This disparity during the pandemic is further explored by comparing the dispersion index with the prevalent risk appetite in the financial markets, NSE-VIX, which touched record highs after the declaration of the Covid-19 pandemic. Strong co-movement is visible in the patterns of VIX and dispersion index with the correlation between dispersion index and VIX significant at 0.51 for the entire sample period (Chart 13b).

IV.2 Determinants of the Dispersion Index

The determinants of the dispersion index are empirically investigated based on pointers available in literature. Due to the presence of variables of different orders of integration, the model is estimated using the autoregressive distributed lag (ARDL) cointegration procedure (Pesaran *et al.*, 2001). As the results obtained with the use of daily data were not robust due to problems like heteroscedasticity, data is converted to monthly values. The variables considered in the analysis include: (i) average dispersion index (*Disp_in*); (ii) policy repo rate (*Repo*); (iii) 1-month realised volatility in SENSEX (*Vol*); (iv) net liquidity position under LAF[12] as a percentage of the banking system's NDTL (*Net_LAF*); and (v) net purchase under Open Market Operations (OMO) as a percentage of G-sec market turnover (*Net_OMO*) and dummies for financial year-end and onset of pandemic. The results of the unit root tests conducted on the variables considered in the analysis are given in Annex-Table A.4. The variables — Net_OMO and Vol are stationary at levels while the other variables are stationary in first difference.

A general-to-specific modelling approach guided by Schwartz Bayesian Criterion is used to determine the lag lengths of the ARDL model. The presence of a cointegrating relationship between the dispersion index and the other variables is confirmed by the conduct of Bounds test (Pesaran *et al.*, 2001). The results are provided in Table 1.

[12] Net LAF is computed as Reverse Repo (Fixed Rate and Variable Rate) – Repo (Fixed Rate and Variable Rate) – MSF – Long Term Repo Operations (LTRO, TLTRO). Here (+) indicates absorption.

Table 1: ARDL Bounds Test Results for Cointegration

Function	F-statistics		
Disp_in=f(Net_LAF, Net_OMO, Vol, Repo)	5.82		
Critical Bounds	10%	5%	1%
Lower Bounds	2.2	2.56	3.29
Upper Bounds	3.09	3.49	4.37

Source: Author's estimates.

The long-run and short-run estimates of the ARDL model are presented in Table 2. The diagnostic tests indicate absence of serial correlation and heteroscedasticity.

The estimated coefficients of the long-run relationship show that system liquidity[13] and market uncertainty (measured by SENSEX realised volatility) have a positive and significant impact on the dispersion index. While policy repo rate has a negative and significant impact on dispersion, RBI's OMO purchases were not found to have an impact on dispersion. From the results of the short-run dynamic coefficients obtained by estimating an error correction model associated with the long-run estimates, it can be seen that RBI's OMO purchases do not have an impact even in the short run. The signs of the short-run dynamic impacts are maintained in the long-run as well. The dummies for financial year-end and pandemic period have the expected positive and significant coefficients.

Table 2: Results of ARDL(1,1,0,0,2): Long-run and Short-run Estimates

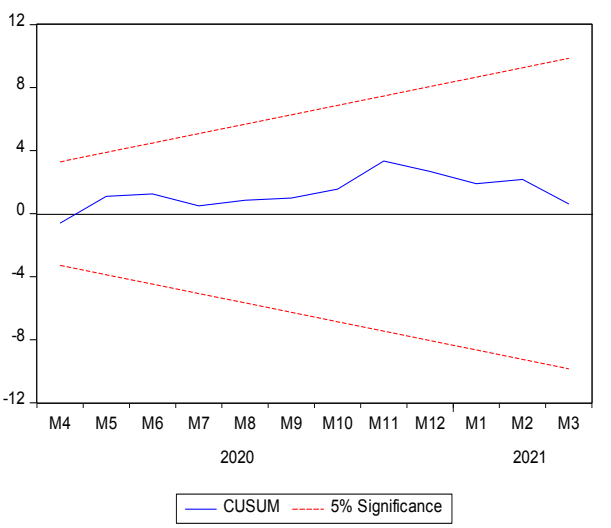
	Coefficient	P-value
Long-run estimates		
Net_LAF	0.0004*	0.10
Net_OMO	0.0014	0.40
Vol	0.0107*	0.06
Repo	-0.1968***	0.00
Short-run estimates		
ΔDisp_in(-1)	-0.2933***	0.01
ΣΔNet_LAF(0 to -1)	0.0009***	0.00
ΔNet_OMO	0.0007	0.29
ΔVol	0.0048***	0.00
ΣΔRepo(0 to -2)	-0.2112**	0.04
ecm(-1)	-0.4436**	0.04
Constant	-0.0251*	0.05
Diagnostics		
Breusch-Godfrey LM test for autocorrelation p-value	0.2429	
LM test for autoregressive conditional heteroscedasticity p-value	0.3853	

Source: Author's estimates. Note: Δ is the difference operator.

The equilibrium correction coefficient [(-) 0.4436] is statistically significant with the expected negative sign and suggests a moderate speed of adjustment to equilibrium after a shock. The cumulative sum (CUSUM) from a recursive estimation of the model also indicate stability in the coefficients (Chart 14).

Financial market volatility positively impacts dispersion index in the long-run and short-run which are in expected lines. The positive impact of surplus liquidity may be due to the segmentation between entities that have access to the liquidity facilities extended by the Reserve Bank and those that do not

Chart 14: Stability Tests



Source: Author's calculations.

[13] The analysis was repeated by separating out the long-term component from surplus liquidity and using two variables: (i) net LAF excluding the amount availed under LTRO/TLTRO and; (ii) the amount availed under LTRO as a percentage of NDTL. The coefficients were positive and significant for both variables. However, as the results were not as robust as the final results given, the same have not been included in the article.

have access. However, as the Reserve Bank started undertaking sector-specific, institution-specific and instrument-specific liquidity measures, dispersion started showing a decreasing trend. Although positive, the OMO purchases undertaken by the Reserve Bank did not impact dispersion. This suggests that there is no collateral scarcity in India which was considered as an important reason for increased dispersion witnessed in the Euro area in the wake of asset purchases by the central bank during the crisis period. (Corradin *et al.*, 2020[14]). Further, the sample period under consideration witnessed multiple trends in OMO operations, with prolonged periods of OMO sales in mid-2017 followed by a period when no operation was undertaken (Annex-Chart A.1). Since December 2019, RBI has undertaken OMO purchases and simultaneous sale and purchase of OMOs. A better understanding of the impact of OMO operations on dispersion would therefore require a separate scenario analysis with more data points that are not currently available. Similarly, the impact of decreasing repo rate on increasing dispersion needs to be further explored for a longer period as the policy rate has undergone more rate cuts in the period under consideration and has fallen from 6.75 per cent in January 2016 to 4 per cent in March 2021.

V. Conclusion

Money market is an integral part of the financial system and plays a key role in the implementation and transmission of monetary policy. In India, money markets have broadly evolved with changing monetary policy stance and banking system liquidity conditions. The different segments of the money markets were analysed in terms of volume, rates, microstructure and dispersion during the period from January 2016 to March 2021, with a special focus on the period after the onset of Covid-19 pandemic.

The article showed an increase in overnight money market volatility after the declaration of the Covid-19 pandemic that peaked in March 2020 and a shift away from unsecured markets and towards the secured markets. Further, the intraday market activity and network structure have undergone changes after the onset of the pandemic with the changes being more prominent in the call money market. The constructed dispersion index that reveals the behaviour of cross-sectional rate dispersion in the money markets, indicated a frictionless market with efficient pass-through during the period before the declaration of the pandemic in January 2020-February 2020. Market uncertainty was found to be associated with increasing money market dispersion. The impact of decreasing repo rate on increasing dispersion needs to be further explored for a longer period as the policy rate has undergone more rate cuts in the period under consideration and has fallen from 6.75 per cent in January 2016 to 4 per cent in March 2021. Although the impact of surplus liquidity on money market dispersion was found to be positive, the sector-specific, institution-specific and instrument-specific liquidity measures undertaken by the Reserve Bank have resulted in a decreasing trend in the dispersion index in the recent times. This suggest stabilisation of the money market with the market adapting to the new normal.

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[14] This paper suggests that the implementation of large-scale asset purchases by ECB contributed to an expansion of the Eurosystem balance sheet and led to collateral scarcity in money market segments. This in turn contributed to their rising dispersion.

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Annex

Annex-Table A.1: Money Market Timings

Segment	Type	Reporting Platform	Eligible Participants/Issuers	Market Timings	Revised Existing Timings
Call Money	Purely unsecured interbank market	NDS-CALL	Scheduled Commercial Banks (including Small Finance Banks), Payment Banks and Regional Rural Banks (RRBs), Co-operative Banks and PDs	9:00 AM to 5:00 PM	10:00 AM to 3:30 PM
CBLO/Triparty Repo	Collateralised borrowing/ lending with the eligible collateral as central government securities and T-bills	Triparty Repo (Dealing) System (TREPS)	Commercial banks, co-operative banks, PDs, financial institutions, insurance companies, mutual funds, NBFCs, corporates and provident/pension funds etc.	9:00 AM to 3:00 PM*	10:00 AM to 3:00 PM
Market Repo	Collateralised borrowing/ lending undertaken among the market participants, with CCIL providing guarantee of settlement of all deals	Clearcorp Repo Order Matching System (CROMS)	Commercial banks, co-operative banks, PDs, financial institutions, insurance companies, mutual funds, NBFCs, listed and unlisted companies, subject to certain conditions	9:00 AM to 2:30 PM**	10:00 AM to 2:30 PM
Repo in Corporate Bond	Repos collateralised by corporate bonds to manage liquidity and asset-liability mismatches	CCIL-Financial Market Trade Reporting and Confirmation Platform (F-TRAC)	Scheduled commercial banks [excluding RRBs and Local Area Banks (LABs)], PDs, NBFCs, All India Financial Institutions (AlFIs), MFs, Housing Finance Companies (HFCs), and insurance companies	9:00 AM to 6:00 PM	10:00 AM to 3:30 PM
Commercial Papers (CPs)	Unsecured money market instrument issued in the form of a promissory note by corporate borrowers	F-TRAC	Companies and AIFIs (subject to the conditions laid out by RBI and SEBI)	9:00 AM to 5:00 PM	10:00 AM to 3:30 PM
Certificates of Deposit (CDs)	Negotiable money market instrument with minimum amount of ₹ 1 lakh and the maturity not less than 7 days and not more than a year[15]	F-TRAC	Scheduled commercial banks (excluding RRBs and LABs) and select AlFIs	9:00 AM to 5:00 PM	10:00 AM to 3:30 PM
Treasury Bills	Short-term debt instruments issued by the Government of India	NDS-OM	Government of India. Commercial banks (including Bank-PDs) hold the major share in ownership of T-bills (Annex-Chart A.2)	9:00 AM to 5:00 PM***	10:00 AM to 3:30 PM

Notes: In order to minimise the risks from Covid-19, the trading hours were revised in 2020.
* The timings for the entities settling through Designated Settlement Banks (DSB) is from 9:00 AM to 2:30 PM and the timings for the settlement on T+1 basis is from 9:00 AM to 5:00 PM.
** The timings for the settlement on T+1 basis is from 9:00 AM to 5:00 PM.
*** The timings for the settlement on T+0 basis is from 9:00 AM to 2:30 PM.
Sources: RBI; RBI (2021); CCIL.

[15] Financial Institutions can issue CDs for a period not less than 1 year and not exceeding 3 years.

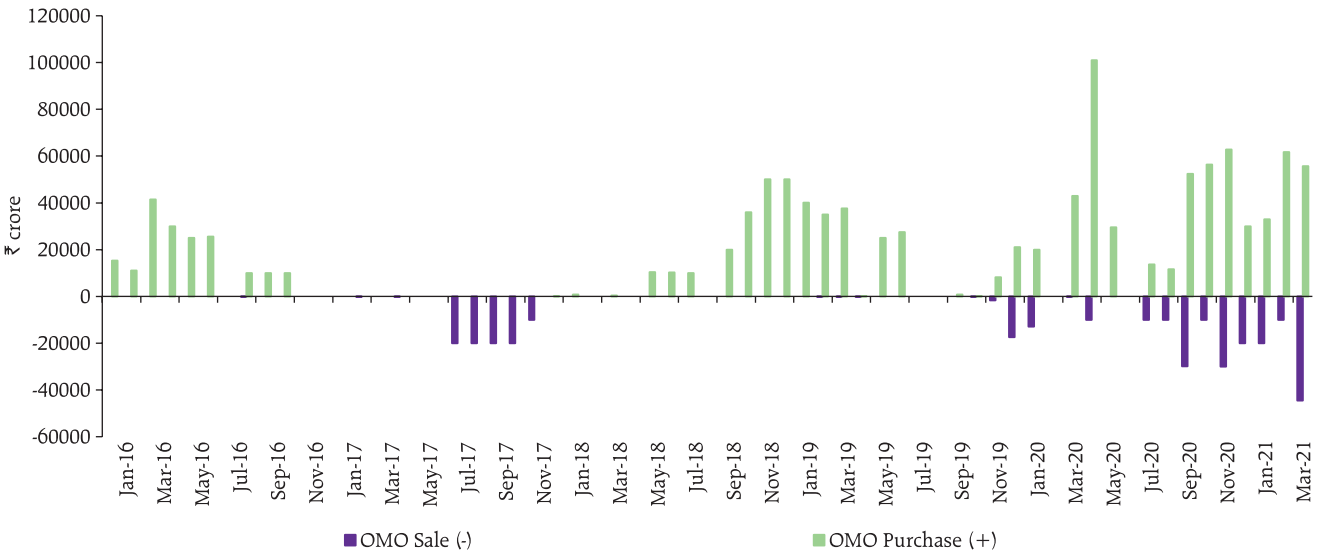
Annex-Table A.2: Pairwise Granger Causality Tests	
Null Hypothesis	**P-value**
System liquidity does not cause MSF volume	0.1721
MSF volume does not cause system liquidity	0.9438
Surplus liquidity does not cause overnight money market volume	0.0050
Overnight money market volume does not cause surplus liquidity	0.3057
Overnight money market volume does not cause MSF volume	0.5608
MSF volume does not cause overnight money market volume	0.4129

Annex-Table A.3: Details of Main Components of Dispersion Index			
S.No.	**Market Segment**	**Data Used for Rate and Volume**	**Sources**
1.	Call Money	Rate and volume of call/notice segments	RBI; CCIL
2.	CBLO/Triparty Repo	Rate and volume of overnight and term segments	RBI; CCIL
3.	Market Repo	Rate and volume of overnight and term segments	RBI; CCIL
4.	Commercial Paper	3-month rate and overall issuance in primary market	FIMMDA; CCIL; NSDL; Author's calculations
5.	Certificate of Deposit	3-month rate and overall issuance in primary market	FIMMDA; CCIL; NSDL; Author's calculations
6.	T-bill	91-day rates and overall trading volume in secondary market	CCIL; FBIL

Annex-Table A.4: Results of the Unit Root Tests		
Variable	**Augmented Dickey Fuller Test Statistic**	**Phillips-Perron Test Statistic**
Disp_in	-2.13	-1.96
Δ(Disp_in)	-5.74***	-5.72***
Net_LAF	-1.75	-1.51
Δ(Net_LAF)	-6.37***	-6.40***
Net_OMO	-4.07***	-4.07***
Repo	-0.45	0.09
Δ(Repo)	-3.61***	-8.48***
Vol	-4.06***	-3.89***

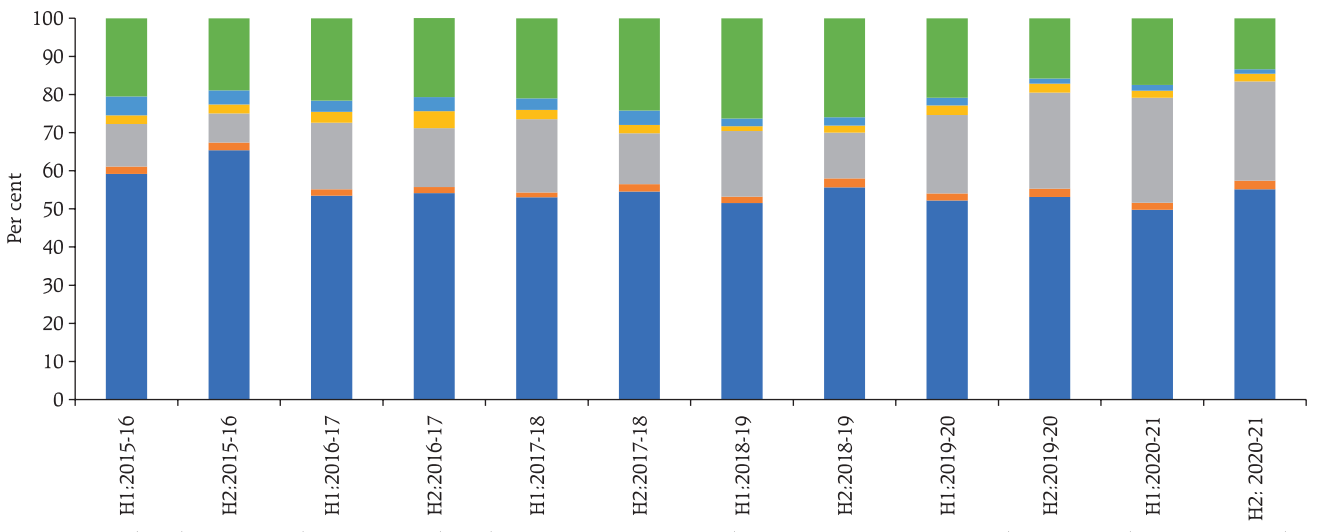
Note: ***, **, and * indicate 1 per cent, 5 per cent and 10 per cent levels of significance, respectively.

Annex - Chart A.1: OMO (Outright) Sale and Purchase



Sources: RBI; Author's calculations.

Annex - Chart A.2: Ownership Pattern of T-bills



Note: Others including State Governments, RBI and Provident Funds.
Sources: RBI; Author's calculations.

CURRENT STATISTICS

Contents

Notes: .. = Not available.
– = Nil/Negligible.
P = Preliminary/Provisional. PR = Partially Revised.

No. 1: Select Economic Indicators

Item	2020-21	2019-20	2020-21		2021-22
		Q4	Q1	Q4	Q1
	1	2	3	4	5
1 Real Sector (% Change)					
1.1 GVA at Basic Prices	-6.2	3.7	-22.4	3.7	18.8
1.1.1 Agriculture	3.6	6.8	3.5	3.1	4.5
1.1.2 Industry	-6.4	-3.2	-31.0	5.5	40.4
1.1.3 Services	-8.4	5.6	-24.9	3.2	16.1
1.1a Final Consumption Expenditure	-7.3	3.3	-19.9	6.4	13.8
1.1b Gross Fixed Capital Formation	-10.8	2.5	-46.6	10.9	55.3
	2020-21	**2020**		**2021**	
		Aug.	**Sep.**	**Aug.**	**Sep.**
	1	2	3	4	5
1.2 Index of Industrial Production	-8.4	-7.1	1.0	11.9	-
2 Money and Banking (% Change)					
2.1 Scheduled Commercial Banks					
2.1.1 Deposits	11.4	10.9	10.5	9.5	9.4
2.1.2 Credit	5.6	5.5	5.1	6.7	6.7
2.1.2.1 Non-food Credit	5.5	5.5	5.1	6.7	6.8
2.1.3 Investment in Govt. Securities	19.3	21.8	20.3	5.3	5.1
2.2 Money Stock Measures					
2.2.1 Reserve Money (M0)	18.8	14.7	14.4	15.2	14.7
2.2.2 Broad Money (M3)	12.2	12.6	12.2	9.5	9.3
3 Ratios (%)					
3.1 Cash Reserve Ratio	3.50	3.00	3.00	4.00	4.00
3.2 Statutory Liquidity Ratio	18.00	18.00	18.00	18.00	18.00
3.3 Cash-Deposit Ratio	4.2	3.7	3.6	4.8	4.7
3.4 Credit-Deposit Ratio	72.4	72.1	72.0	70.2	70.2
3.5 Incremental Credit-Deposit Ratio	37.4	-25.4	-14.3	-12.9	1.5
3.6 Investment-Deposit Ratio	29.5	30.7	31.1	29.6	29.9
3.7 Incremental Investment-Deposit Ratio	46.8	101.9	100.6	32.3	41.3
4 Interest Rates (%)					
4.1 Policy Repo Rate	4.00	4.00	4.00	4.00	4.00
4.2 Reverse Repo Rate	3.35	3.35	3.35	3.35	3.35
4.3 Marginal Standing Facility (MSF) Rate	4.25	4.25	4.25	4.25	4.25
4.4 Bank Rate	4.25	4.25	4.25	4.25	4.25
4.5 Base Rate	7.40/8.80	7.40/9.00	7.40/9.00	7.40/8.80	7.30/8.80
4.6 MCLR (Overnight)	6.55/7.05	6.65/7.20	6.65/7.15	6.55/7.00	6.55/7.00
4.7 Term Deposit Rate >1 Year	4.90/5.50	5.00/5.50	4.90/5.50	4.90/5.50	4.90/5.50
4.8 Savings Deposit Rate	2.70/3.00	2.70/3.00	2.70/3.00	2.70/3.00	2.70/3.00
4.9 Call Money Rate (Weighted Average)	3.25	3.43	3.41	3.19	3.19
4.10 91-Day Treasury Bill (Primary) Yield	3.32	3.24	3.36	3.30	3.45
4.11 182-Day Treasury Bill (Primary) Yield	3.47	3.49	3.58	3.45	3.57
4.12 364-Day Treasury Bill (Primary) Yield	3.83	3.59	3.73	3.65	3.81
4.13 10-Year G-Sec Par Yield (FBIL)	6.34	6.12	6.04	6.27	6.23
5 Reference Rate and Forward Premia					
5.1 INR-US$ Spot Rate (Rs. Per Foreign Currency)	72.40	73.35	73.73	74.13	73.69
5.2 INR-Euro Spot Rate (Rs. Per Foreign Currency)	85.31	87.07	86.04	87.20	86.47
5.3 Forward Premia of US$ 1-month (%)	6.80	3.76	3.74	3.40	3.50
3-month (%)	5.64	3.90	3.80	3.56	3.64
6-month (%)	5.47	4.01	3.91	3.76	3.87
6 Inflation (%)					
6.1 All India Consumer Price Index	6.18	6.7	7.3	5.3	4.3
6.2 Consumer Price Index for Industrial Workers	5.03	5.6	5.6	4.8	4.4
6.3 Wholesale Price Index	1.29	0.4	1.3	11.4	10.7
6.3.1 Primary Articles	1.71	1.9	4.1	6.2	4.1
6.3.2 Fuel and Power	-7.99	-9.1	-8.6	26.1	24.8
6.3.3 Manufactured Products	2.75	1.4	1.9	11.4	11.4
7 Foreign Trade (% Change)					
7.1 Imports	-16.91	-26.0	-19.0	52.8	84.8
7.2 Exports	-6.88	-12.2	5.9	46.4	22.6

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.

Reserve Bank of India

No. 2: RBI - Liabilities and Assets *

(₹ Crore)

Item	As on the Last Friday/ Friday						
	2020-21	2020	2021				
		Oct.	Oct. 1	Oct. 8	Oct. 15	Oct. 22	Oct. 29
	1	2	3	4	5	6	7
1 Issue Department							
1.1 Liabilities							
1.1.1 Notes in Circulation	2831727	2688725	2890265	2914133	2925247	2917700	2917689
1.1.2 Notes held in Banking Department	11	12	11	15	16	16	18
1.1/1.2 Total Liabilities (Total Notes Issued) or Assets	**2831738**	**2688737**	**2890276**	**2914148**	**2925263**	**2917716**	**2917707**
1.2 Assets							
1.2.1 Gold	106555	117206	109232	111733	113685	112693	114228
1.2.2 Foreign Securities	2724437	2570667	2780398	2801792	2810972	2804443	2802933
1.2.3 Rupee Coin	746	864	646	623	606	581	545
1.2.4 Government of India Rupee Securities	–	–	–	–	–	–	–
2 Banking Department							
2.1 Liabilities							
2.1.1 Deposits	1504697	1439019	2110695	2109536	2108477	2103570	2106098
2.1.1.1 Central Government	100	100	100	101	100	101	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	542693	453999	643952	637545	671429	638589	663314
2.1.1.5 Scheduled State Co-operative Banks	6529	5623	7140	7024	6933	6822	7272
2.1.1.6 Non-Scheduled State Co-operative Banks	3204	2405	3614	3561	3587	3420	3484
2.1.1.7 Other Banks	31820	26036	37220	37460	37215	36744	36704
2.1.1.8 Others	895440	950693	1378313	1355975	1307431	1337730	1301553
2.1.1.9 Financial Institution Outside India	24868	120	40313	67827	81739	80123	93627
2.1.2 Other Liabilities	1343670	1424609	1325320	1377161	1406384	1376361	1377512
2.1/2.2 Total Liabilities or Assets	**2848367**	**2863628**	**3436015**	**3486697**	**3514861**	**3479931**	**3483609**
2.2 Assets							
2.2.1 Notes and Coins	11	12	11	15	16	17	18
2.2.2 Balances held Abroad	1204135	1300811	1510938	1551344	1566813	1544400	1556220
2.2.3 Loans and Advances							
2.2.3.1 Central Government	–	–	–	–	–	–	–
2.2.3.2 State Governments	1674	4190	14498	9800	8296	4802	1966
2.2.3.3 Scheduled Commercial Banks	90275	115757	93004	94399	94187	93603	93597
2.2.3.4 Scheduled State Co-op.Banks	–	–	–	–	–	–	–
2.2.3.5 Industrial Dev. Bank of India	–	–	–	–	–	–	–
2.2.3.6 NABARD	26422	23320	21902	21902	21902	21902	21902
2.2.3.7 EXIM Bank	–	–	–	–	–	–	–
2.2.3.8 Others	6678	12931	4273	2373	73	73	73
2.2.3.9 Financial Institution Outside India	24858	10480	39006	54330	67487	74124	77660
2.2.4 Bills Purchased and Discounted							
2.2.4.1 Internal	–	–	–	–	–	–	–
2.2.4.2 Government Treasury Bills	–	–	–	–	–	–	–
2.2.5 Investments	1331671	1239727	1576250	1571786	1571888	1558294	1546119
2.2.6 Other Assets	162643	156400	176133	180748	184199	182717	186055
2.2.6.1 Gold	146572	151494	169084	173313	176704	175161	177912

* Data are provisional

No. 3: Liquidity Operations by RBI

(₹ Crore)

Date	Liquidity Adjustment Facility				MSF	Standing Liquidity Facilities	Market Stabilisation Scheme	OMO (Outright)		Long Term Repo Operations &	Targeted Long Term Repo Operations #	Special Long-Term Repo Operations for Small Finance Banks	Special Reverse Repo £	Net Injection (+)/ Absorption (-) (1+3+5+6+9+10+ 11+12-2-4-7-8-13)
	Repo	Reverse Repo	Variable Rate Repo	Variable Rate Reverse Repo				Sale	Purchase					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Sep. 1, 2021	-	662871	-	-	0	–	-	-	-	-	-	-	-	-662871
Sep. 2, 2021	-	714231	-	-	19	–	-	-	-	-	-	-	-	-714212
Sep. 3, 2021	-	683539	-	-	0	–	-	-	-	-	-	-	-	-683539
Sep. 4, 2021	-	38160	-	-	1276	–	-	-	-	-	-	-	-	-36884
Sep. 5, 2021	-	5665	-	-	51	–	-	-	-	-	-	-	-	-5614
Sep. 6, 2021	-	684223	-	-	30	–	-	-	-	-	-	-	-	-684193
Sep. 7, 2021	-	627660	-	50008	17	–	-	-	-	-	-	-	-	-677651
Sep. 8, 2021	-	594572	-	-	34	-1600	-	-	-	-	-	-	-	-596138
Sep. 9, 2021	-	481121	-	350015	13	–	-	-	-	-	-	-	9450	-840573
Sep. 10, 2021	-	67472	-	-	527	–	-	-	-	-	-	-	-	-66945
Sep. 11, 2021	-	12062	-	-	279	–	-	-	-	-	-	-	-	-11783
Sep. 12, 2021	-	2513	-	-	3	–	-	-	-	-	-	-	-	-2510
Sep. 13, 2021	-	540722	-	-	13	–	-	-	-	-	200	-	-	-540509
Sep. 14, 2021	-	497954	-	100019	65	–	-	-	-	-	-	-	-	-597908
Sep. 15, 2021	-	451181	-	-	527	–	-	-	-	-	-	150	-	-450504
Sep. 16, 2021	-	375743	-	-	4	–	-	5	5	-	-	-	-	-375739
Sep. 17, 2021	-	319912	-	-	168	–	-	-	-	-	-	-	-	-319744
Sep. 18, 2021	-	45044	-	-	1755	–	-	-	-	-	-	-	-	-43289
Sep. 19, 2021	-	2782	-	-	16	–	-	-	-	-	-	-	-	-2766
Sep. 20, 2021	-	323779	-	-	77	–	-	-	-	-	-	-	-	-323702
Sep. 21, 2021	-	277396	-	150007	0	–	-	-	-	-	-	-	-	-427403
Sep. 22, 2021	-	286041	-	-	70	-1300	-	-	-	-	-	-	-	-287271
Sep. 23, 2021	-	342644	-	-	103	–	-	-	-	-	-	-	-	-342541
Sep. 24, 2021	-	338748	-	394516	152	–	-	15000	15001	-	-	-	9711	-742822
Sep. 25, 2021	-	12350	-	-	348	–	-	-	-	-	-	-	-	-12002
Sep. 26, 2021	-	3470	-	-	428	–	-	-	-	-	-	-	-	-3042
Sep. 27, 2021	-	327354	-	-	439	–	-	-	-	-	600	-	-	-326315
Sep. 28, 2021	-	303230	-	197123	450	–	-	-	-	-	-	-	-	-499903
Sep. 29, 2021	-	289707	-	-	902	–	-	-	-	-	-	-	-	-288805
Sep. 30, 2021	-	363114	-	-	217	500	-	-	-	-	-	-	-	-362397

Notes: #Includes Targeted Long Term Repo Operations (TLTRO), Targeted Long Term Repo Operations 2.0 (TLTRO 2.0) and On Tap Targeted Long Term Repo Operations. Negative (-) sign indicates repayments done by Banks.
& Negative (-) sign indicates repayments done by Banks.
£ As per Press Release No. 2021-2022/177 dated May 07, 2021. From June 18, 2021, the data also includes the amount absorbed as per the Press Release No. 2021-2022/323 dated June 04, 2021.

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

i) Operations in onshore / offshore OTC segment

Item	2020-21	2020	2021	
		Sep.	Aug.	Sep.
	1	2	3	4
1 Net Purchase/ Sale of Foreign Currency (US $ Million) (1.1–1.2)	68315	8172	3747	791
1.1 Purchase (+)	162479	13322	10887	9169
1.2 Sale (–)	94164	5150	7140	8378
2 ₹ equivalent at contract rate (₹ Crores)	510516	60803	28895	7515
3 Cumulative (over end-March) (US $ Million)	68315	42487	39639	40430
(₹ Crores)	510516	317967	297464	304980
4 Outstanding Net Forward Sales (–)/ Purchase (+) at the end of month (US $ Million)	72751	13881	49606	49606

ii) Operations in currency futures segment

Item	2020-21	2020	2021	
		Sep.	Aug.	Sep.
	1	2	3	4
1 Net Purchase/ Sale of Foreign Currency (US $ Million) (1.1–1.2)	0	0	0	0
1.1 Purchase (+)	12118	0	560	0
1.2 Sale (–)	12118	0	560	0
2 Outstanding Net Currency Futures Sales (–)/ Purchase (+) at the end of month (US $ Million)	690	0	0	0

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

Item	As on September 30, 2021		
	Long (+)	Short (-)	Net (1-2)
	1	2	3
1. Upto 1 month	7755	840	6915
2. More than 1 month and upto 3 months	15964	2895	13069
3. More than 3 months and upto 1 year	40367	10745	29622
4. More than 1 year	0	0	0
Total (1+2+3+4)	**64086**	**14480**	**49606**

No. 5: RBI's Standing Facilities

(₹ Crore)

Item	As on the Last Reporting Friday							
	2020-21	2020	2021					
		Oct. 23	May 21	Jun. 18	Jul. 30	Aug. 27	Sep. 24	Oct. 22
	1	2	3	4	5	6	7	8
1 MSF	182	6	494	59	254	2	152	461
2 Export Credit Refinance for Scheduled Banks								
2.1 Limit	–	-	-	-	-	-	-	-
2.2 Outstanding	–	-	-	-	-	-	-	-
3 Liquidity Facility for PDs								
3.1 Limit	4900	4900	4900	4900	4900	4900	4900	4900
3.2 Outstanding	–	-	0	0	0	0	0	0
4 Others								
4.1 Limit	75000	65000	60000	76000	76000	76000	76000	76000
4.2 Outstanding	32387	36488	1662	5578	23296	23296	25396	21696
5 Total Outstanding (1+2.2+3.2+4.2)	32569	36494	2156	5637	23550	23298	25548	22157

Note :1.Special refinance facility to Others, i.e. to the EXIM Bank, is reopened since May 22, 2020
2.Refinance facility to Others, i.e. to the NABARD/SIDBI/NHB U/S 17(4H) of RBI ACT,1934, since, April 17, 2020.

Money and Banking

No. 6: Money Stock Measures

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2020-21	2020	2021		
		Sep. 25	Aug. 27	Sep. 10	Sep. 24
	1	2	3	4	5
1 Currency with the Public (1.1 + 1.2 + 1.3 – 1.4)	2751828	2585243	2830841	2843215	2814964
1.1 Notes in Circulation	2826851	2656476	2916737	2923865	2897815
1.2 Circulation of Rupee Coin	26170	25738	26467	26467	26550
1.3 Circulation of Small Coins	743	743	743	743	743
1.4 Cash on Hand with Banks	101935	97715	113106	107859	110143
2 Deposit Money of the Public	2042471	1739732	1972289	1934904	2005068
2.1 Demand Deposits with Banks	1995120	1696910	1926134	1888182	1958168
2.2 'Other' Deposits with Reserve Bank	47351	42822	46156	46722	46900
3 M_1 (1 + 2)	**4794299**	**4324974**	**4803130**	**4778119**	**4820032**
4 Post Office Saving Bank Deposits	170025	162350	170025	170025	170025
5 M_2 (3 + 4)	**4964324**	**4487324**	**4973155**	**4948144**	**4990057**
6 Time Deposits with Banks	14050278	13414790	14526500	14622988	14576472
7 M_3 (3 + 6)	**18844578**	**17739765**	**19329631**	**19401108**	**19396504**
8 Total Post Office Deposits	509544	470929	509544	509544	509544
9 M_4 (7 + 8)	**19354122**	**18210694**	**19839175**	**19910652**	**19906048**

No. 7: Sources of Money Stock (M_3)

(₹ Crore)

Sources	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2020-21	2020	2021		
		Sep. 25	Aug. 27	Sep. 10	Sep. 24
	1	2	3	4	5
1 Net Bank Credit to Government	**5850374**	**5518317**	**6078962**	**6255731**	**6076808**
1.1 RBI's net credit to Government (1.1.1–1.1.2)	1099686	836430	1191232	1251825	1118511
1.1.1 Claims on Government	1337300	1196304	1578932	1593052	1585465
1.1.1.1 Central Government	1333917	1185788	1575852	1580791	1577489
1.1.1.2 State Governments	3383	10516	3080	12260	7976
1.1.2 Government deposits with RBI	237615	359874	387700	341227	466954
1.1.2.1 Central Government	237572	359832	387658	341184	466912
1.1.2.2 State Governments	42	42	42	42	42
1.2 Other Banks' Credit to Government	4750689	4681887	4887730	5003906	4958298
2 Bank Credit to Commercial Sector	**11668466**	**10933906**	**11609595**	**11623567**	**11665988**
2.1 RBI's credit to commercial sector	8709	14740	8616	7000	5796
2.2 Other banks' credit to commercial sector	11659757	10919166	11600979	11616567	11660191
2.2.1 Bank credit by commercial banks	10949509	10271581	10897601	10912705	10956817
2.2.2 Bank credit by co-operative banks	694758	637509	685527	685821	685451
2.2.3 Investments by commercial and co-operative banks in other securities	15490	10076	17851	18041	17923
3 Net Foreign Exchange Assets of Banking Sector (3.1 + 3.2)	**4578846**	**4283299**	**4857809**	**4904762**	**4895023**
3.1 RBI's net foreign exchange assets (3.1.1–3.1.2)	4199400	3985569	4514459	4561412	4551673
3.1.1 Gross foreign assets	4199637	3985812	4514703	4561656	4551917
3.1.2 Foreign liabilities	237	243	244	244	244
3.2 Other banks' net foreign exchange assets	379446	297731	343350	343350	343350
4 Government's Currency Liabilities to the Public	**26913**	**26481**	**27210**	**27210**	**27293**
5 Banking Sector's Net Non-monetary Liabilities	**3280021**	**3022240**	**3243945**	**3410163**	**3268609**
5.1 Net non-monetary liabilities of RBI	1356660	1384384	1316710	1322629	1315185
5.2 Net non-monetary liabilities of other banks (residual)	1923362	1637856	1927236	2087534	1953423
M_3 (1+2+3+4–5)	**18844578**	**17739765**	**19329631**	**19401108**	**19396504**

No. 8: Monetary Survey

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2020-21	2020	2021		
		Sep. 25	Aug. 27	Sep. 10	Sep. 24
	1	2	3	4	5
Monetary Aggregates					
NM_1 (1.1 + 1.2.1+1.3)	4794299	4324974	4803130	4778119	4820032
NM_2 (NM_1 + 1.2.2.1)	11048277	10285464	11273860	11293286	11314819
NM_3 (NM_2 + 1.2.2.2 + 1.4 = 2.1 + 2.2 + 2.3 – 2.4 – 2.5)	18936051	17826724	19420610	19499666	19498790
1 Components					
1.1 Currency with the Public	2751828	2585243	2830841	2843215	2814964
1.2 Aggregate Deposits of Residents	15892848	14942443	16305533	16366329	16391028
1.2.1 Demand Deposits	1995121	1696910	1926134	1888182	1958168
1.2.2 Time Deposits of Residents	13897727	13245533	14379399	14478147	14432860
1.2.2.1 Short-term Time Deposits	6253977	5960490	6470730	6515166	6494787
1.2.2.1.1 Certificates of Deposit (CDs)	78702	73353	64693	67446	59966
1.2.2.2 Long-term Time Deposits	7643750	7285043	7908669	7962981	7938073
1.3 'Other' Deposits with RBI	47351	42822	46156	46722	46900
1.4 Call/Term Funding from Financial Institutions	244025	256217	238081	243400	245898
2 Sources					
2.1 Domestic Credit	18518950	17430074	18690513	18860643	18723508
2.1.1 Net Bank Credit to the Government	5850374	5518317	6078962	6255731	6076808
2.1.1.1 Net RBI credit to the Government	1099686	836430	1191232	1251825	1118511
2.1.1.2 Credit to the Government by the Banking System	4750689	4681887	4887730	5003906	4958298
2.1.2 Bank Credit to the Commercial Sector	12668575	11911757	12611551	12604913	12646700
2.1.2.1 RBI Credit to the Commercial Sector	34134	40026	25388	28830	27626
2.1.2.2 Credit to the Commercial Sector by the Banking System	12634441	11871731	12586163	12576083	12619074
2.1.2.2.1 Other Investments (Non-SLR Securities)	951313	940628	976083	952657	949934
2.2 Government's Currency Liabilities to the Public	26913	26481	27210	27210	27293
2.3 Net Foreign Exchange Assets of the Banking Sector	4438202	4110620	4772540	4780987	4798128
2.3.1 Net Foreign Exchange Assets of the RBI	4199400	3985569	4514459	4561412	4551673
2.3.2 Net Foreign Currency Assets of the Banking System	238802	125051	258081	219575	246455
2.4 Capital Account	2775245	2811108	2962739	2944214	2941756
2.5 Other items (net)	1272767	929343	1106914	1224960	1108382

No. 9: Liquidity Aggregates

(₹ Crore)

Aggregates	2020-21	2020	2021		
		Sep.	Jul.	Aug.	Sep.
	1	2	3	4	5
1 NM_3	**18936051**	**17826724**	**19464580**	**19420610**	**19498790**
2 Postal Deposits	509544	470929	509544	509544	509544
3 L_1 (1 + 2)	**19445595**	**18297653**	**19974124**	**19930154**	**20008334**
4 Liabilities of Financial Institutions	33179	38481	25815	25923	27371
4.1 Term Money Borrowings	2645	5700	4077	4244	4244
4.2 Certificates of Deposit	25550	29300	16525	16775	18175
4.3 Term Deposits	4984	3481	5212	4905	4952
5 L_2 (3 + 4)	**19478774**	**18336133**	**19999938**	**19956077**	**20035705**
6 Public Deposits with Non-Banking Financial Companies	31905	31905	..	..	31905
7 L_3 (5 + 6)	**19510679**	**18368038**	..	..	**20067610**

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

No. 10: Reserve Bank of India Survey

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2020-21	2020	2021		
		Sep. 25	Aug. 27	Sep. 10	Sep. 24
	1	2	3	4	5
1 Components					
1.1 Currency in Circulation	2853763	2682957	2943946	2951074	2925107
1.2 Bankers' Deposits with the RBI	698867	463610	689090	683360	687375
1.2.1 Scheduled Commercial Banks	651748	429915	641437	631652	638826
1.3 'Other' Deposits with the RBI	47351	42822	46156	46722	46900
Reserve Money (1.1 + 1.2 + 1.3 = 2.1 + 2.2 + 2.3 – 2.4 – 2.5)	3599981	3189389	3679192	3681157	3659382
2 Sources					
2.1 RBI's Domestic Credit	730328	561723	454233	415164	395602
2.1.1 Net RBI credit to the Government	1099686	836430	1191232	1251825	1118511
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)	1096345	825956	1188194	1239607	1110577
2.1.1.1.1 Loans and Advances to the Central Government	–	–	–	–	–
2.1.1.1.2 Investments in Treasury Bills	–	–	–	–	–
2.1.1.1.3 Investments in dated Government Securities	1333174	1185063	1575132	1580102	1576829
2.1.1.1.3.1 Central Government Securities	1333174	1185063	1575132	1580102	1576829
2.1.1.1.4 Rupee Coins	743	725	720	690	659
2.1.1.1.5 Deposits of the Central Government	237572	359832	387658	341184	466912
2.1.1.2 Net RBI credit to State Governments	3340	10474	3038	12218	7934
2.1.2 RBI's Claims on Banks	-403492	-314733	-762387	-865491	-750535
2.1.2.1 Loans and Advances to Scheduled Commercial Banks	-378066	-289447	-745615	-843662	-728706
2.1.3 RBI's Credit to Commercial Sector	34134	40026	25388	28830	27626
2.1.3.1 Loans and Advances to Primary Dealers	–	–	–	–	–
2.1.3.2 Loans and Advances to NABARD	25426	25286	16772	21830	21830
2.2 Government's Currency Liabilities to the Public	26913	26481	27210	27210	27293
2.3 Net Foreign Exchange Assets of the RBI	4199400	3985569	4514459	4561412	4551673
2.3.1 Gold	247723	264971	275932	276990	275988
2.3.2 Foreign Currency Assets	3951694	3720615	4238544	4284440	4275703
2.4 Capital Account	1173033	1223306	1212280	1211489	1205606
2.5 Other Items (net)	183626	161078	104429	111139	109579

No. 11: Reserve Money - Components and Sources

(₹ Crore)

Item	2020-21	Outstanding as on March 31/ last Fridays of the month/ Fridays					
		2020	2021				
		Sep. 25	Aug. 27	Sep. 3	Sep. 10	Sep. 17	Sep. 24
	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)	3599981	3189389	3679192	3695382	3681157	3711050	3659382
1 Components							
1.1 Currency in Circulation	2853763	2682957	2943946	2939095	2951074	2938741	2925107
1.2 Bankers' Deposits with RBI	698867	463610	689090	709691	683360	725166	687375
1.3 'Other' Deposits with RBI	47351	42822	46156	46596	46722	47143	46900
2 Sources							
2.1 Net Reserve Bank Credit to Government	1099686	836430	1191232	1300733	1251825	1104072	1118511
2.2 Reserve Bank Credit to Banks	-378066	-289447	-745615	-876915	-843662	-665132	-728706
2.3 Reserve Bank Credit to Commercial Sector	8709	14740	8616	8628	7000	7118	5796
2.4 Net Foreign Exchange Assets of RBI	4199400	3985569	4514459	4538963	4561412	4547663	4551673
2.5 Government's Currency Liabilities to the Public	26913	26481	27210	27210	27210	27210	27293
2.6 Net Non- Monetary Liabilities of RBI	1356660	1384384	1316710	1303237	1322629	1309882	1315185

No. 12: Commercial Bank Survey

(₹ Crore)

Item	Outstanding as on last reporting Fridays of the month/ reporting Fridays of the month				
	2020-21	2020	2021		
		Sep. 25	Aug. 27	Sep. 10	Sep. 24
	1	2	3	4	5
1 Components					
1.1 Aggregate Deposits of Residents	14960961	14093146	15369949	15429847	15455336
1.1.1 Demand Deposits	1861193	1576060	1790996	1753582	1823739
1.1.2 Time Deposits of Residents	13099768	12517086	13578953	13676265	13631597
1.1.2.1 Short-term Time Deposits	5894896	5632689	6110529	6154319	6134219
1.1.2.1.1 Certificates of Deposits (CDs)	78702	73353	64693	67446	59966
1.1.2.2 Long-term Time Deposits	7204873	6884397	7468424	7521945	7497378
1.2 Call/Term Funding from Financial Institutions	244025	256217	238081	243400	245898
2 Sources					
2.1 Domestic Credit	16378019	15654537	16467365	16573260	16570318
2.1.1 Credit to the Government	4461632	4437463	4591955	4708234	4662056
2.1.2 Credit to the Commercial Sector	11916387	11217074	11875410	11865026	11908262
2.1.2.1 Bank Credit	10949509	10271581	10897601	10912705	10956817
2.1.2.1.1 Non-food Credit	10888255	10205154	10828801	10842967	10894475
2.1.2.2 Net Credit to Primary Dealers	23633	12199	9363	7122	9212
2.1.2.3 Investments in Other Approved Securities	894	1629	1324	1505	1262
2.1.2.4 Other Investments (in non-SLR Securities)	942351	931666	967121	943694	940972
2.2 Net Foreign Currency Assets of Commercial Banks (2.2.1–2.2.2–2.2.3)	238802	125051	258081	219575	246455
2.2.1 Foreign Currency Assets	454866	361222	459653	423104	453232
2.2.2 Non-resident Foreign Currency Repatriable Fixed Deposits	152552	169257	147101	144841	143611
2.2.3 Overseas Foreign Currency Borrowings	63512	66914	54471	58688	63166
2.3 Net Bank Reserves (2.3.1+2.3.2–2.3.3)	1010202	806963	1488773	1571909	1466234
2.3.1 Balances with the RBI	542693	429915	641437	631652	638826
2.3.2 Cash in Hand	90748	87601	101721	96596	98703
2.3.3 Loans and Advances from the RBI	-376761	-289447	-745615	-843662	-728706
2.4 Capital Account	1578041	1563631	1726288	1708554	1711980
2.5 Other items (net) (2.1+2.2+2.3–2.4–1.1–1.2)	843995	673558	879902	982944	869793
2.5.1 Other Demand and Time Liabilities (net of 2.2.3)	593095	484143	501728	557985	520219
2.5.2 Net Inter-Bank Liabilities (other than to PDs)	80681	71249	47623	37880	36145

No. 13: Scheduled Commercial Banks' Investments

(₹ Crore)

Item	As on March 26, 2021	2020	2021		
		Sep. 25	Aug. 27	Sep. 10	Sep. 24
	1	2	3	4	5
1 SLR Securities	4462526	4439092	4593279	4709739	4663318
2 Commercial Paper	82584	92022	81561	76221	74182
3 Shares issued by					
3.1 PSUs	9840	11862	10668	10847	10724
3.2 Private Corporate Sector	64035	71294	69737	70062	70140
3.3 Others	5210	5037	5151	5175	5135
4 Bonds/Debentures issued by					
4.1 PSUs	121008	124498	115114	113506	114705
4.2 Private Corporate Sector	308904	304660	313729	316133	320982
4.3 Others	149325	148503	145079	145290	146239
5 Instruments issued by					
5.1 Mutual funds	31142	40302	51791	54178	47849
5.2 Financial institutions	167130	133488	152062	152283	151015

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			
	2020-21	2020	2021		2020-21	2020	2021	
		Sep.	Aug.	Sep.		Sep.	Aug.	Sep.
	1	2	3	4	5	6	7	8
Number of Reporting Banks	209	209	210	211	133	133	134	135
1 Liabilities to the Banking System	**259530**	**282300**	**238674**	**232513**	**254589**	**277072**	**234251**	**227943**
1.1 Demand and Time Deposits from Banks	200585	221020	170669	171131	195866	215993	166520	166914
1.2 Borrowings from Banks	40886	45238	49402	42447	40880	45238	49396	42383
1.3 Other Demand and Time Liabilities	18059	16042	18602	18934	17843	15841	18336	18645
2 Liabilities to Others	**16457782**	**15498736**	**16746756**	**16864858**	**16014145**	**15069677**	**16311329**	**16428231**
2.1 Aggregate Deposits	15540152	14674707	15935780	16019389	15113512	14262403	15517050	15598948
2.1.1 Demand	1899343	1611292	1830494	1862812	1861193	1576060	1790996	1823739
2.1.2 Time	13640809	13063416	14105286	14156578	13252320	12686343	13726054	13775208
2.2 Borrowings	248271	260780	243677	251043	244025	256217	238080	245898
2.3 Other Demand and Time Liabilities	669359	563249	567299	594426	656607	551057	556198	583385
3 Borrowings from Reserve Bank	**90275**	**121530**	**91806**	**92417**	**90275**	**121495**	**91806**	**92382**
3.1 Against Usance Bills /Promissory Notes	–	–	–	–	–	–	–	–
3.2 Others	90275	121530	91806	92417	90275	121495	91806	92382
4 Cash in Hand and Balances with Reserve Bank	650745	531956	761648	756402	633440	517516	743158	737529
4.1 Cash in Hand	92793	89701	103780	100794	90748	87601	101721	98703
4.2 Balances with Reserve Bank	557951	442255	657868	655608	542693	429915	641437	638826
5 Assets with the Banking System	**265729**	**280547**	**249941**	**254390**	**197541**	**218022**	**195991**	**201009**
5.1 Balances with Other Banks	179430	187592	176371	179846	143294	153034	141467	144591
5.1.1 In Current Account	16796	16665	26135	21548	14226	14410	23335	19142
5.1.2 In Other Accounts	162634	170927	150236	158298	129068	138624	118131	125448
5.2 Money at Call and Short Notice	36716	33823	22146	21959	10654	11399	6146	7062
5.3 Advances to Banks	19908	21840	24127	24660	16764	21374	23695	24278
5.4 Other Assets	29675	37292	27296	27925	26829	32214	24683	25078
6 Investment	**4598924**	**4571333**	**4734101**	**4804691**	**4462526**	**4439092**	**4593279**	**4663318**
6.1 Government Securities	4591896	4563197	4726753	4797271	4461632	4437463	4591955	4662056
6.2 Other Approved Securities	7029	8135	7348	7421	894	1629	1324	1262
7 Bank Credit	**11297014**	**10603062**	**11236000**	**11295261**	**10949509**	**10271581**	**10897601**	**10956817**
7a Food Credit	91653	96830	104619	98160	61254	66426	68801	62342
7.1 Loans, Cash-credits and Overdrafts	11081668	10440241	11032004	11091410	10736491	10110780	10695671	10754999
7.2 Inland Bills-Purchased	30896	20538	32026	31826	30531	20266	32005	31812
7.3 Inland Bills-Discounted	128831	95214	122813	120033	127883	94174	121455	118694
7.4 Foreign Bills-Purchased	20762	18608	19266	20016	20394	18357	19088	19844
7.5 Foreign Bills-Discounted	34857	28463	29890	31976	34210	28004	29383	31467

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

(₹ Crore)

Sector	Outstanding as on				Growth (%)	
	Mar.26, 2021	2020	2021		Financial year so far	Y-o-Y
		Sep.25	Aug.27	Sep.24	2021-22	2021
	1	2	3	4	%	%
I. Gross Bank Credit (II+III)	**10949509**	**10271581**	**10897463**	**10956792**	**0.1**	**6.7**
II. Food Credit	**61254**	**66427**	**68801**	**62342**	**1.8**	**-6.1**
III. Non-food Credit	**10888255**	**10205154**	**10828662**	**10894450**	**0.1**	**6.8**
1. Agriculture & Allied Activities	**1271047**	**1201893**	**1304270**	**1321325**	**4.0**	**9.9**
2. Industry (Micro and Small, Medium and Large)	**2895786**	**2760676**	**2826181**	**2829547**	**-2.3**	**2.5**
2.1 Micro and Small [1]	383854	360341	390108	395432	3.0	9.7
2.2 Medium	136054	117541	170177	175081	28.7	49.0
2.3 Large	2375878	2282794	2265896	2259034	-4.9	-1.0
3. Services	**2647362**	**2550706**	**2594741**	**2571563**	**-2.9**	**0.8**
3.1 Transport Operators	133953	127002	131845	131206	-2.1	3.3
3.2 Computer Software	19183	18018	18541	18621	-2.9	3.3
3.3 Tourism, Hotels & Restaurants	48019	48178	48563	48854	1.7	1.4
3.4 Shipping	7188	5082	6997	7384	2.7	45.3
3.5 Aviation	25643	26006	28278	27876	8.7	7.2
3.6 Professional Services	105253	107606	99935	99459	-5.5	-7.6
3.7 Trade	590377	551830	591683	576621	-2.3	4.5
3.7.1 Wholesale Trade	309611	271763	309807	291589	-5.8	7.3
3.7.2 Retail Trade	280766	280067	281876	285033	1.5	1.8
3.8 Commercial Real Estate	264246	256272	258286	255778	-3.2	-0.2
3.9 Non-Banking Financial Companies (NBFCs) [2] *of which,*	937949	899302	870541	876825	-6.5	-2.5
3.9.1 Housing Finance Companies (HFCs)	215189	189865	205093	212148	-1.4	11.7
3.9.2 Public Financial Institutions (PFIs)	78442	52347	77833	79674	1.6	52.2
3.10 Other Services [3]	515550	511412	540073	528938	2.6	3.4
4. Personal Loans	**2845527**	**2604048**	**2893913**	**2918538**	**2.6**	**12.1**
4.1 Consumer Durables	8810	7788	10258	10904	23.8	40.0
4.2 Housing	1458358	1356531	1469744	1478451	1.4	9.0
4.3 Advances against Fixed Deposits	62975	56882	61088	63690	1.1	12.0
4.4 Advances to Individuals against share & bonds	4419	6003	4390	4481	1.4	-25.4
4.5 Credit Card Outstanding	116537	105640	115612	115641	-0.8	9.5
4.6 Education	63968	65336	62964	63437	-0.8	-2.9
4.7 Vehicle Loans	267352	248368	268643	270378	1.1	8.9
4.8 Loan against gold jewellery	60724	40086	62926	63770	5.0	59.1
4.9 Other Personal Loans	802385	717414	838288	847788	5.7	18.2
5. Priority Sector *(Memo)*						
5.1 Agriculture & Allied Activities [4]	1235082	1153293	1249775	1261764	2.2	9.4
5.2 Micro & Small Enterprises [5]	1113243	1130647	1110565	1100816	-1.1	-2.6
5.3 Medium Enterprises [6]	207615	176469	215688	219344	5.6	24.3
5.4 Housing	468659	463289	470652	446129	-4.8	-3.7
5.5 Education Loans	48201	51928	46993	47201	-2.1	-9.1
5.6 Renewable Energy	1171	1210	1313	1423	21.5	17.5
5.7 Social Infrastructure	2352	1081	2619	2323	-1.2	114.8
5.8 Export Credit [7]	19028	15822	17875	21444	12.7	35.5
5.9 Others	9169	10857	15988	16595	81.0	52.9
5.10 Weaker Sections including net PSLC- SF/MF	813263	747551	814998	844833	3.9	13.0

Note 1: Data are provisional. Gross bank 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 90 per cent of total non-food credit extended by all SCBs.

Note 2: With effect from January 2021, sectoral credit data are based on revised format due to which values and growth rates of some of the existing components published earlier have undergone some changes

1 Micro & Small includes credit to micro & small industries in the manufacturing sector.

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 Agriculture and Allied Activities also include priority sector lending certificates (PSLCs).

5 Micro and Small Enterprises include credit to micro and small enterprises in manufacturing and services sector and also include PSLCs.

6 Medium Enterprises include credit to medium enterprises in the manufacturing and services sector.

7 Export credit under the priority sector relates to foreign banks only.

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

(₹ Crore)

Industry	Outstanding as on				Growth (%)	
	Mar. 26, 2021	2020	2021		Financial year so far	Y-o-Y
		Sep. 25	Aug.27	Sep. 24	2021-22	2021
	1	2	3	4	%	%
2 Industries (2.1 to 2.19)	2895786	2760676	2826181	2829547	–2.3	2.5
2.1 Mining & Quarrying (incl. Coal)	46052	40745	49913	48829	6.0	19.8
2.2 Food Processing	153286	137309	146314	145334	–5.2	5.8
2.2.1 Sugar	25519	20752	19520	18461	–27.7	–11.0
2.2.2 Edible Oils & Vanaspati	18972	17126	18355	17891	–5.7	4.5
2.2.3 Tea	4273	4267	4684	4812	12.6	12.8
2.2.4 Others	104523	95164	103755	104171	–0.3	9.5
2.3 Beverage & Tobacco	15966	15012	14564	14994	–6.1	–0.1
2.4 Textiles	200487	186682	199804	198445	–1.0	6.3
2.4.1 Cotton Textiles	90546	83314	85196	83868	–7.4	0.7
2.4.2 Jute Textiles	2724	2408	2674	2650	–2.7	10.1
2.4.3 Man-Made Textiles	38861	35228	41695	41943	7.9	19.1
2.4.4 Other Textiles	68356	65732	70239	69984	2.4	6.5
2.5 Leather & Leather Products	10461	10904	10421	10416	–0.4	–4.5
2.6 Wood & Wood Products	13186	12647	13507	13470	2.2	6.5
2.7 Paper & Paper Products	35466	33000	36086	36349	2.5	10.1
2.8 Petroleum, Coal Products & Nuclear Fuels	66909	59254	63026	68024	1.7	14.8
2.9 Chemicals & Chemical Products	192323	175062	178794	182178	–5.3	4.1
2.9.1 Fertiliser	32237	34184	24939	27117	–15.9	–20.7
2.9.2 Drugs & Pharmaceuticals	51723	50532	49354	50247	–2.9	–0.6
2.9.3 Petro Chemicals	45621	34698	40384	39324	–13.8	13.3
2.9.4 Others	62742	55649	64118	65490	4.4	17.7
2.10 Rubber, Plastic & their Products	54308	50950	58457	59773	10.1	17.3
2.11 Glass & Glassware	6319	6797	5922	5918	–6.3	–12.9
2.12 Cement & Cement Products	54194	59858	47505	47393	–12.5	–20.8
2.13 Basic Metal & Metal Product	328867	339884	293635	285726	–13.1	–15.9
2.13.1 Iron & Steel	232934	249421	201972	193685	–16.8	–22.3
2.13.2 Other Metal & Metal Product	95933	90463	91663	92041	–4.1	1.7
2.14 All Engineering	147545	140248	146872	147744	0.1	5.3
2.14.1 Electronics	33871	30100	34199	34594	2.1	14.9
2.14.2 Others	113674	110148	112673	113150	–0.5	2.7
2.15 Vehicles, Vehicle Parts & Transport Equipment	83188	89239	85423	85700	3.0	–4.0
2.16 Gems & Jewellery	62983	62082	68266	69598	10.5	12.1
2.17 Construction	94565	101264	97967	95699	1.2	–5.5
2.18 Infrastructure	1092217	1026233	1085039	1086038	–0.6	5.8
2.18.1 Power	567584	548298	567273	570403	0.5	4.0
2.18.2 Telecommunications	112120	115484	110396	111333	–0.7	–3.6
2.18.3 Roads	237061	195085	240065	243541	2.7	24.8
2.18.4 Airports	7327	5148	7479	7541	2.9	46.5
2.18.5 Ports	7363	9323	8840	8930	21.3	–4.2
2.18.6 Railways	11260	13268	12917	12901	14.6	–2.8
2.18.7 Other Infrastructure	149502	139629	138069	131388	–12.1	–5.9
2.19 Other Industries	237464	213508	224668	227919	–4.0	6.7

Note : With effect from January 2021, sectoral credit data are based on revised format due to which values and growth rates of some of the existing components published earlier have undergone some changes.

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								
	2020-21	2020	2021						
		Aug, 28	Jun, 18	Jun, 25	Jul, 02	Jul, 16	Jul, 30	Aug, 13	Aug, 27
	1	2	3	4	5	6	7	8	9
Number of Reporting Banks	32	32	33	33	33	33	32	33	33
1 Aggregate Deposits (2.1.1.2+2.2.1.2)	**125859.6**	**126932.5**	**125115.5**	**126578.8**	**127404.4**	**127039.8**	**125916.2**	**125488.9**	**125501.3**
2 Demand and Time Liabilities									
2.1 Demand Liabilities	**23736.9**	**25033.9**	**26632.6**	**26326.8**	**27586.5**	**27279.7**	**27260.6**	**27669.6**	**27501.5**
2.1.1 Deposits									
2.1.1.1 Inter-Bank	4896.9	3773.1	5372.9	4843.0	5053.9	5397.3	5180.7	5399.0	5419.8
2.1.1.2 Others	13,899.4	14546.6	15924.5	16531.2	16367.1	16525.2	15832.0	15817.5	15695.3
2.1.2 Borrowings from Banks	0.0	264.9	819.8	819.8	819.8	849.8	1019.7	1069.6	1069.6
2.1.3 Other Demand Liabilities	4940.6	6449.2	4515.4	4132.8	5345.6	4507.4	5228.2	5383.4	5316.8
2.2 Time Liabilities	**179957.5**	**171792.6**	**169212.2**	**169926.4**	**168077.2**	**169250.6**	**166255.1**	**165604.8**	**166716.0**
2.2.1 Deposits									
2.2.1.1 Inter-Bank	65333.7	57209.2	56839.2	56574.5	55274.4	56414.7	54487.6	54146.9	55115.2
2.2.1.2 Others	111960.2	112385.9	109191.0	110047.6	111037.3	110514.6	110084.2	109671.4	109806.0
2.2.2 Borrowings from Banks	630.0	629.9	1308.9	909.2	908.0	908.0	908.0	908.0	908.0
2.2.3 Other Time Liabilities	2033.7	1567.6	1873.2	2395.1	857.6	1413.3	775.3	878.5	886.8
3 Borrowing from Reserve Bank	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0
4 Borrowings from a notified bank / Government	63559.8	54027.9	52431.3	53948.1	53897.7	55245.5	54718.0	56575.4	56497.3
4.1 Demand	15691.8	13174.5	9969.4	10771.0	10601.1	10615.3	10682.3	11558.3	11967.8
4.2 Time	47868.0	40853.4	42461.9	43177.2	43296.6	44630.2	44035.8	45017.1	44529.5
5 Cash in Hand and Balances with Reserve Bank	**8151.1**	**6851.3**	**9237.2**	**8751.1**	**8861.6**	**9149.7**	**9567.7**	**9175.0**	**8711.2**
5.1 Cash in Hand	570.3	601.7	696.8	669.6	631.5	693.2	604.1	610.3	672.7
5.2 Balance with Reserve Bank	7580.8	6249.6	8540.4	8081.5	8230.0	8456.5	8963.6	8564.7	8038.4
6 Balances with Other Banks in Current Account	**1148.1**	**865.8**	**1255.2**	**1222.8**	**1383.6**	**1433.5**	**1287.8**	**1381.1**	**1310.9**
7 Investments in Government Securities	**64455.2**	**55743.6**	**65848.8**	**67450.1**	**68465.6**	**68048.9**	**67457.7**	**68266.4**	**69149.6**
8 Money at Call and Short Notice	**28835.7**	**25438.5**	**20941.3**	**20792.7**	**19278.0**	**21097.6**	**19409.0**	**19377.0**	**20512.8**
9 Bank Credit (10.1+11)	**114631.6**	**113618.3**	**106904.5**	**106675.1**	**108831.5**	**108426.4**	**109260.6**	**108302.6**	**107334.4**
10 Advances									
10.1 Loans, Cash-Credits and Overdrafts	**114612.1**	**113614.8**	**106900.5**	**106671.0**	**108827.4**	**108422.2**	**109256.5**	**108298.5**	**107314.7**
10.2 Due from Banks	89429.1	77827.8	85015.9	86149.5	86303.3	87316.9	85942.6	88700.2	88554.7
11 Bills Purchased and Discounted	19.5	3.5	4.0	4.1	4.1	4.2	4.0	4.2	19.7

Prices and Production

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

Group/Sub group	2020-21			Rural			Urban			Combined		
	Rural	Urban	Combined	Sep. 20	Aug. 21	Sep 21(P)	Sep. 20	Aug. 21	Sep 21(P)	Sep. 20	Aug. 21	Sep 21(P)
	1	2	3	4	5	6	7	8	9	10	11	12
1 Food and beverages	**156.7**	**161.1**	**158.3**	**159.6**	**161.8**	**162.1**	**164.4**	**167.6**	**167.3**	**161.4**	**163.9**	**164.0**
1.1 Cereals and products	145.4	149.9	146.8	146.0	144.9	145.4	150.6	149.2	149.3	147.5	146.3	146.6
1.2 Meat and fish	185.2	192.4	187.7	186.3	202.3	202.1	193.7	208.2	207.4	188.9	204.4	204.0
1.3 Egg	160.3	164.8	162.0	159.2	176.5	172.0	164.8	178.5	174.1	161.4	177.3	172.8
1.4 Milk and products	154.1	154.4	154.2	153.6	157.5	158.0	153.7	158.8	159.2	153.6	158.0	158.4
1.5 Oils and fats	148.2	139.9	145.2	142.6	190.9	195.5	135.7	171.9	175.0	140.1	183.9	188.0
1.6 Fruits	146.9	153.4	149.9	147.2	155.7	152.8	155.7	167.1	161.3	151.2	161.0	156.8
1.7 Vegetables	174.2	196.2	181.7	200.6	153.9	151.3	226.0	186.1	183.3	209.2	164.8	162.2
1.8 Pulses and products	154.4	156.0	154.9	150.3	162.8	163.9	152.2	163.5	164.5	150.9	163.0	164.1
1.9 Sugar and confectionery	114.4	117.0	115.3	115.3	115.2	119.3	118.1	116.8	120.4	116.2	115.7	119.7
1.10 Spices	161.9	160.4	161.4	160.9	169.8	170.1	161.3	165.8	166.2	161.0	168.5	168.8
1.11 Non-alcoholic beverages	149.8	141.3	146.3	147.4	167.6	168.3	139.2	154.0	154.8	144.0	161.9	162.7
1.12 Prepared meals, snacks, sweets	163.2	165.5	164.3	161.9	171.9	172.8	164.8	174.1	175.1	163.2	172.9	173.9
2 Pan, tobacco and intoxicants	**181.8**	**188.7**	**183.6**	**182.7**	**190.2**	**190.5**	**188.7**	**196.1**	**196.5**	**184.3**	**191.8**	**192.1**
3 Clothing and footwear	**155.6**	**149.7**	**153.3**	**155.0**	**166.3**	**167.1**	**148.3**	**156.4**	**157.3**	**152.3**	**162.4**	**163.2**
3.1 Clothing	156.4	152.0	154.7	155.7	167.0	167.6	150.5	158.9	159.8	153.7	163.8	164.5
3.2 Footwear	151.1	137.2	145.3	150.6	162.6	163.6	136.1	142.8	143.6	144.6	154.4	155.3
4 Housing	-	**157.2**	**157.2**	-	-	-	**156.5**	**162.4**	**162.1**	**156.5**	**162.4**	**162.1**
5 Fuel and light	**149.1**	**140.9**	**146.0**	**146.8**	**163.1**	**163.7**	**137.1**	**158.5**	**160.7**	**143.1**	**161.4**	**162.6**
6 Miscellaneous	**153.9**	**146.1**	**150.2**	**154.3**	**163.3**	**163.8**	**146.2**	**155.6**	**156.0**	**150.4**	**159.6**	**160.0**
6.1 Household goods and services	152.9	145.2	149.3	152.0	160.9	161.3	145.1	152.1	153.2	148.7	156.7	157.5
6.2 Health	160.3	151.3	156.9	159.5	171.1	171.9	151.0	162.1	162.8	156.3	167.7	168.4
6.3 Transport and communication	144.9	135.0	139.7	146.4	157.7	157.9	135.4	150.4	150.4	140.6	153.9	154.0
6.4 Recreation and amusement	154.0	144.3	148.5	152.4	161.1	162.7	142.0	152.2	153.7	146.5	156.1	157.6
6.5 Education	162.5	156.2	158.9	162.5	167.5	168.6	155.7	160.4	160.4	158.5	163.3	163.8
6.6 Personal care and effects	153.7	155.8	154.5	156.2	160.3	160.2	158.1	159.5	159.6	157.0	160.0	160.0
General Index (All Groups)	**156.1**	**154.4**	**155.3**	**157.5**	**163.6**	**164.0**	**155.2**	**162.2**	**162.3**	**156.4**	**162.9**	**163.2**

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	2020-21	2020	2021	
				Sep.	Aug.	Sep.
	1	2	3	4	5	6
1 Consumer Price Index for Industrial Workers	2016	2.88	-	118.1	123	123.3
2 Consumer Price Index for Agricultural Labourers	1986-87	5.89	1034	1037	1066	1067
3 Consumer Price Index for Rural Labourers	1986-87	–	1040	1043	1074	1076

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

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

Item	2020-21	2020	2021	
		Sep.	Aug.	Sep.
	1	2	3	4
1 Standard Gold (₹ per 10 grams)	48723	50784	47109	46584
2 Silver (₹ per kilogram)	59283	63337	64219	61892

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	2020-21	2020	2021		
			Sep.	Jul.	Aug. (P)	Sep. (P)
	1	2	3	4	5	6
1 ALL COMMODITIES	**100.000**	**123.4**	**122.9**	**135.0**	**135.9**	**136.0**
1.1 PRIMARY ARTICLES	**22.618**	**145.7**	**148.8**	**154.3**	**155.8**	**154.9**
1.1.1 FOOD ARTICLES	**15.256**	**160.7**	**168.4**	**161.5**	**160.9**	**160.5**
1.1.1.1 Food Grains (Cereals+Pulses)	3.462	159.3	158.6	159.7	161.0	162.9
1.1.1.2 Fruits & Vegetables	3.475	179.2	211.1	170.1	168.6	164.1
1.1.1.3 Milk	4.440	153.4	153.8	155.9	156.8	156.8
1.1.1.4 Eggs,Meat & Fish	2.402	151.2	150.7	164.0	158.7	158.5
1.1.1.5 Condiments & Spices	0.529	149.5	149.1	150.1	151.2	155.3
1.1.1.6 Other Food Articles	0.948	162.0	172.1	162.8	161.9	163.9
1.1.2 NON-FOOD ARTICLES	**4.119**	**130.5**	**124.5**	**152.2**	**161.6**	**161.1**
1.1.2.1 Fibres	0.839	119.8	110.6	146.3	147.1	147.1
1.1.2.2 Oil Seeds	1.115	161.7	155.5	216.9	239.6	235.0
1.1.2.3 Other non-food Articles	1.960	109.0	104.6	116.3	117.8	119.8
1.1.2.4 Floriculture	0.204	210.0	203.4	168.2	215.1	211.2
1.1.3 MINERALS	**0.833**	**164.9**	**145.5**	**187.4**	**191.9**	**187.4**
1.1.3.1 Metallic Minerals	0.648	159.8	136.8	182.0	188.6	182.0
1.1.3.2 Other Minerals	0.185	183.1	176.1	206.5	203.4	206.6
1.1.4 CRUDE PETROLEUM & NATURAL GAS	**2.410**	**70.4**	**67.4**	**101.0**	**101.1**	**97.0**
1.2 FUEL & POWER	**13.152**	**94.0**	**91.9**	**115.2**	**116.0**	**114.7**
1.2.1 COAL	**2.138**	**126.6**	**126.4**	**127.5**	**127.7**	**127.7**
1.2.1.1 Coking Coal	0.647	141.8	141.6	142.5	143.4	143.4
1.2.1.2 Non-Coking Coal	1.401	119.3	119.0	119.8	119.8	119.8
1.2.1.3 Lignite	0.090	130.9	131.1	138.1	138.1	138.1
1.2.2 MINERAL OILS	**7.950**	**79.2**	**77.5**	**118.5**	**119.7**	**117.6**
1.2.3 ELECTRICITY	**3.064**	**109.6**	**105.3**	**98.2**	**98.2**	**98.2**
1.3 MANUFACTURED PRODUCTS	**64.231**	**121.5**	**120.1**	**132.3**	**133.0**	**133.8**
1.3.1 MANUFACTURE OF FOOD PRODUCTS	**9.122**	**141.4**	**140.7**	**155.8**	**157.4**	**158.5**
1.3.1.1 Processing and Preserving of meat	0.134	137.2	138.3	142.2	142.3	142.3
1.3.1.2 Processing and Preserving of fish, Crustaceans, Molluscs and products thereof	0.204	139.0	142.1	142.2	140.5	139.3
1.3.1.3 Processing and Preserving of fruit and Vegetables	0.138	120.2	119.7	123.3	122.2	122.3
1.3.1.4 Vegetable and Animal oils and Fats	2.643	143.5	137.3	185.6	188.4	187.9
1.3.1.5 Dairy products	1.165	146.9	145.8	148.0	148.3	148.6
1.3.1.6 Grain mill products	2.010	143.5	143.8	142.9	144.3	145.8
1.3.1.7 Starches and Starch products	0.110	115.9	105.8	125.9	128.8	128.9
1.3.1.8 Bakery products	0.215	138.1	138.1	142.6	143.1	144.1
1.3.1.9 Sugar, Molasses & honey	1.163	118.4	119.7	118.0	120.8	126.3
1.3.1.10 Cocoa, Chocolate and Sugar confectionery	0.175	128.0	127.5	127.0	128.3	128.7
1.3.1.11 Macaroni, Noodles, Couscous and Similar farinaceous products	0.026	132.3	132.4	131.9	132.0	138.4
1.3.1.12 Tea & Coffee products	0.371	166.5	191.6	172.5	166.4	168.6
1.3.1.13 Processed condiments & salt	0.163	147.0	145.9	153.6	154.7	156.2
1.3.1.14 Processed ready to eat food	0.024	132.2	131.4	136.6	137.1	135.6
1.3.1.15 Health supplements	0.225	142.9	143.2	151.5	154.3	155.1
1.3.1.16 Prepared animal feeds	0.356	170.5	170.6	202.1	209.3	208.6
1.3.2 MANUFACTURE OF BEVERAGES	**0.909**	**124.5**	**123.9**	**126.5**	**127.0**	**126.9**
1.3.2.1 Wines & spirits	0.408	120.2	120.0	123.0	123.4	123.4
1.3.2.2 Malt liquors and Malt	0.225	126.5	126.8	129.6	129.3	130.2
1.3.2.3 Soft drinks; Production of mineral waters and Other bottled waters	0.275	129.4	127.4	129.3	130.5	129.2
1.3.3 MANUFACTURE OF TOBACCO PRODUCTS	**0.514**	**157.2**	**155.3**	**161.1**	**160.3**	**161.3**
1.3.3.1 Tobacco products	0.514	157.2	155.3	161.1	160.3	161.3

No. 21: Wholesale Price Index (Contd.)

(Base: 2011-12 = 100)

Commodities	Weight	2020-21	2020	2021		
			Sep.	Jul.	Aug. (P)	Sep. (P)
1.3.4 MANUFACTURE OF TEXTILES	**4.881**	**117.6**	**113.6**	**130.8**	**132.2**	**132.7**
1.3.4.1 Preparation and Spinning of textile fibres	2.582	106.6	101.2	121.3	123.2	124.2
1.3.4.2 Weaving & Finishing of textiles	1.509	131.7	128.6	145.5	146.8	146.1
1.3.4.3 Knitted and Crocheted fabrics	0.193	115.2	114.2	123.4	124.1	125.1
1.3.4.4 Made-up textile articles, Except apparel	0.299	132.3	131.4	135.7	136.4	137.7
1.3.4.5 Cordage, Rope, Twine and Netting	0.098	155.6	154.6	168.6	167.7	167.7
1.3.4.6 Other textiles	0.201	116.3	113.2	123.6	123.0	124.8
1.3.5 MANUFACTURE OF WEARING APPAREL	**0.814**	**138.6**	**138.3**	**141.8**	**142.0**	**143.7**
1.3.5.1 Manufacture of Wearing Apparel (woven), Except fur Apparel	0.593	138.1	137.7	140.9	141.3	143.6
1.3.5.2 Knitted and Crocheted apparel	0.221	139.8	140.0	144.0	143.8	143.8
1.3.6 MANUFACTURE OF LEATHER AND RELATED PRODUCTS	**0.535**	**117.9**	**118.7**	**117.3**	**118.2**	**118.8**
1.3.6.1 Tanning and Dressing of leather; Dressing and Dyeing of fur	0.142	101.1	102.7	102.6	103.6	104.3
1.3.6.2 Luggage, HandbAgs, Saddlery and Harness	0.075	138.6	138.4	140.1	139.8	139.4
1.3.6.3 Footwear	0.318	120.6	121.3	118.5	119.6	120.5
1.3.7 MANUFACTURE OF WOOD AND PRODUCTS OF WOOD AND CORK	**0.772**	**134.6**	**133.9**	**140.2**	**140.4**	**140.6**
1.3.7.1 Saw milling and Planing of wood	0.124	120.7	119.0	126.5	127.9	127.8
1.3.7.2 Veneer sheets; Manufacture of plywood, Laminboard, Particle board and Other panels and Boards	0.493	136.6	135.2	141.1	141.1	140.8
1.3.7.3 Builder's carpentry and Joinery	0.036	185.8	188.2	194.2	193.8	193.8
1.3.7.4 Wooden containers	0.119	125.7	127.5	134.8	135.1	137.4
1.3.8 MANUFACTURE OF PAPER AND PAPER PRODUCTS	**1.113**	**121.7**	**119.1**	**133.5**	**132.5**	**132.9**
1.3.8.1 Pulp, Paper and Paperboard	0.493	124.1	120.9	135.6	135.7	136.7
1.3.8.2 Corrugated paper and Paperboard and Containers of paper and Paperboard	0.314	122.2	119.8	135.9	134.7	135.3
1.3.8.3 Other articles of paper and Paperboard	0.306	117.4	115.5	127.8	125.1	124.5
1.3.9 PRINTING AND REPRODUCTION OF RECORDED MEDIA	**0.676**	**153.8**	**154.2**	**156.1**	**156.6**	**154.9**
1.3.9.1 Printing	0.676	153.8	154.2	156.1	156.6	154.9
1.3.10 MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS	**6.465**	**118.2**	**116.1**	**129.3**	**130.2**	**131.3**
1.3.10.1 Basic chemicals	1.433	118.6	114.8	137.5	137.7	140.3
1.3.10.2 Fertilizers and Nitrogen compounds	1.485	123.6	123.1	127.3	128.1	127.7
1.3.10.3 Plastic and Synthetic rubber in primary form	1.001	116.7	112.4	135.1	136.9	138.5
1.3.10.4 Pesticides and Other agrochemical products	0.454	124.4	125.4	128.9	129.5	130.9
1.3.10.5 Paints, Varnishes and Similar coatings, Printing ink and Mastics	0.491	114.9	114.6	124.6	126.6	127.2
1.3.10.6 Soap and Detergents, Cleaning and Polishing preparations, Perfumes and Toilet preparations	0.612	120.6	119.6	126.8	127.6	128.8
1.3.10.7 Other chemical products	0.692	115.1	112.9	125.6	126.0	127.3
1.3.10.8 Man-made fibres	0.296	93.7	88.3	102.7	103.5	104.6
1.3.11 MANUFACTURE OF PHARMACEUTICALS, MEDICINAL CHEMICAL AND BOTANICAL PRODUCTS	**1.993**	**130.9**	**130.0**	**134.3**	**134.0**	**134.8**
1.3.11.1 Pharmaceuticals, Medicinal chemical and Botanical products	1.993	130.9	130.0	134.3	134.0	134.8
1.3.12 MANUFACTURE OF RUBBER AND PLASTICS PRODUCTS	**2.299**	**111.3**	**109.5**	**121.4**	**122.2**	**123.6**
1.3.12.1 Rubber Tyres and Tubes; Retreading and Rebuilding of Rubber Tyres	0.609	98.3	97.5	102.9	103.9	104.2
1.3.12.2 Other Rubber Products	0.272	93.3	92.2	100.7	100.1	100.9
1.3.12.3 Plastics products	1.418	120.3	117.9	133.2	134.3	136.2
1.3.13 MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS	**3.202**	**117.6**	**116.8**	**122.6**	**121.9**	**121.9**
1.3.13.1 Glass and Glass products	0.295	127.2	128.3	137.9	135.9	136.7
1.3.13.2 Refractory products	0.223	109.5	108.5	114.2	114.0	111.1
1.3.13.3 Clay Building Materials	0.121	109.3	112.7	109.0	109.4	110.8
1.3.13.4 Other Porcelain and Ceramic Products	0.222	109.5	107.9	112.1	111.4	111.9
1.3.13.5 Cement, Lime and Plaster	1.645	120.9	119.6	126.2	125.5	125.2

No. 21: Wholesale Price Index (Contd.)

(Base: 2011-12 = 100)

Commodities	Weight	2020-21	2020	2021		
			Sep.	Jul.	Aug. (P)	Sep. (P)
1.3.13.6 Articles of Concrete, Cement and Plaster	0.292	125.3	123.9	127.8	127.6	128.0
1.3.13.7 Cutting, Shaping and Finishing of Stone	0.234	121.1	120.8	123.9	121.5	122.5
1.3.13.8 Other Non-Metallic Mineral Products	0.169	78.9	77.6	85.5	85.5	88.0
1.3.14 MANUFACTURE OF BASIC METALS	**9.646**	**111.4**	**108.2**	**134.0**	**135.8**	**137.1**
1.3.14.1 Inputs into steel making	1.411	109.2	104.9	137.8	141.8	143.6
1.3.14.2 Metallic Iron	0.653	113.3	110.8	140.9	142.9	145.2
1.3.14.3 Mild Steel - Semi Finished Steel	1.274	99.8	97.3	115.2	116.7	116.8
1.3.14.4 Mild Steel -Long Products	1.081	112.0	106.3	131.4	132.8	133.6
1.3.14.5 Mild Steel - Flat products	1.144	117.2	111.6	156.3	156.1	156.1
1.3.14.6 Alloy steel other than Stainless Steel- Shapes	0.067	108.3	102.7	127.0	128.2	129.6
1.3.14.7 Stainless Steel - Semi Finished	0.924	108.7	105.9	134.1	135.7	138.2
1.3.14.8 Pipes & tubes	0.205	127.9	123.2	148.5	149.9	153.5
1.3.14.9 Non-ferrous metals incl. precious metals	1.693	112.3	110.9	133.4	135.4	137.4
1.3.14.10 Castings	0.925	109.1	108.6	117.1	118.2	118.9
1.3.14.11 Forgings of steel	0.271	145.7	143.0	154.7	155.8	157.8
1.3.15 MANUFACTURE OF FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT	**3.155**	**115.9**	**113.3**	**129.3**	**129.3**	**130.6**
1.3.15.1 Structural Metal Products	1.031	114.1	110.1	123.2	123.0	123.6
1.3.15.2 Tanks, Reservoirs and Containers of Metal	0.660	127.8	123.0	156.2	156.5	157.3
1.3.15.3 Steam generators, Except Central Heating Hot Water Boilers	0.145	98.9	98.6	96.8	96.8	96.9
1.3.15.4 Forging, Pressing, Stamping and Roll-Forming of Metal; Powder Metallurgy	0.383	96.7	96.1	115.3	114.4	117.8
1.3.15.5 Cutlery, Hand Tools and General Hardware	0.208	102.9	102.5	106.5	107.2	108.3
1.3.15.6 Other Fabricated Metal Products	0.728	125.0	123.9	134.1	134.4	136.0
1.3.16 MANUFACTURE OF COMPUTER, ELECTRONIC AND OPTICAL PRODUCTS	**2.009**	**109.8**	**109.2**	**113.1**	**113.2**	**112.7**
1.3.16.1 Electronic Components	0.402	99.1	97.9	104.1	105.2	105.0
1.3.16.2 Computers and Peripheral Equipment	0.336	134.8	135.2	134.6	134.6	134.6
1.3.16.3 Communication Equipment	0.310	114.9	114.3	119.7	119.3	119.3
1.3.16.4 Consumer Electronics	0.641	98.5	97.9	102.8	103.0	101.6
1.3.16.5 Measuring, Testing, Navigating and Control equipment	0.181	107.7	106.1	107.7	107.7	107.1
1.3.16.6 Watches and Clocks	0.076	141.8	142.9	144.9	143.2	144.7
1.3.16.7 Irradiation, Electromedical and Electrotherapeutic equipment	0.055	102.8	101.6	105.2	104.0	104.0
1.3.16.8 Optical instruments and Photographic equipment	0.008	102.7	102.0	98.5	98.5	98.4
1.3.17 MANUFACTURE OF ELECTRICAL EQUIPMENT	**2.930**	**113.6**	**112.6**	**121.1**	**121.5**	**120.4**
1.3.17.1 Electric motors, Generators, Transformers and Electricity distribution and Control apparatus	1.298	113.2	112.2	118.8	119.3	116.4
1.3.17.2 Batteries and Accumulators	0.236	117.1	117.9	120.0	120.5	121.5
1.3.17.3 Fibre optic cables for data transmission or live transmission of images	0.133	98.1	93.3	99.6	101.6	99.4
1.3.17.4 Other electronic and Electric wires and Cables	0.428	115.9	114.7	138.9	138.2	139.4
1.3.17.5 Wiring devices, Electric lighting & display equipment	0.263	111.1	110.1	114.1	113.6	113.7
1.3.17.6 Domestic appliances	0.366	119.7	119.4	126.3	126.8	128.4
1.3.17.7 Other electrical equipment	0.206	109.5	108.5	113.1	114.8	112.9
1.3.18 MANUFACTURE OF MACHINERY AND EQUIPMENT	**4.789**	**114.0**	**113.7**	**119.2**	**119.4**	**120.3**
1.3.18.1 Engines and Turbines, Except aircraft, Vehicle and Two wheeler engines	0.638	106.3	105.6	119.4	119.6	119.4
1.3.18.2 Fluid power equipment	0.162	119.4	119.9	120.4	121.0	120.8
1.3.18.3 Other pumps, Compressors, Taps and Valves	0.552	111.6	111.0	114.0	114.8	114.8
1.3.18.4 Bearings, Gears, Gearing and Driving elements	0.340	111.8	110.4	120.6	118.7	118.0
1.3.18.5 Ovens, Furnaces and Furnace burners	0.008	80.2	81.9	74.2	75.1	75.3
1.3.18.6 Lifting and Handling equipment	0.285	113.4	113.8	117.0	117.7	120.4

No. 21: Wholesale Price Index (Concld.)

(Base: 2011-12 = 100)

Commodities	Weight	2020-21	2020	2021		
			Sep.	Jul.	Aug. (P)	Sep. (P)
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	128.7	128.4	135.0	134.3	134.6
1.3.18.9 Agricultural and Forestry machinery	0.833	121.6	121.7	126.4	126.9	128.6
1.3.18.10 Metal-forming machinery and Machine tools	0.224	108.4	108.7	114.8	115.1	115.3
1.3.18.11 Machinery for mining, Quarrying and Construction	0.371	75.7	75.3	76.6	78.1	78.1
1.3.18.12 Machinery for food, Beverage and Tobacco processing	0.228	128.0	127.7	128.6	129.0	132.7
1.3.18.13 Machinery for textile, Apparel and Leather production	0.192	121.9	122.4	121.4	121.7	124.5
1.3.18.14 Other special-purpose machinery	0.468	128.7	128.3	133.1	133.6	135.2
1.3.18.15 Renewable electricity generating equipment	0.046	65.2	64.4	66.2	66.1	66.5
1.3.19 MANUFACTURE OF MOTOR VEHICLES, TRAILERS AND SEMI-TRAILERS	**4.969**	**117.8**	**118.3**	**121.3**	**121.7**	**122.5**
1.3.19.1 Motor vehicles	2.600	119.4	120.4	121.5	121.5	122.7
1.3.19.2 Parts and Accessories for motor vehicles	2.368	116.1	116.0	121.1	121.9	122.3
1.3.20 MANUFACTURE OF OTHER TRANSPORT EQUIPMENT	**1.648**	**126.2**	**126.2**	**130.6**	**130.9**	**131.4**
1.3.20.1 Building of ships and Floating structures	0.117	158.8	158.8	158.9	158.9	158.9
1.3.20.2 Railway locomotives and Rolling stock	0.110	105.0	104.7	104.5	104.0	104.9
1.3.20.3 Motor cycles	1.302	124.7	124.9	129.7	130.1	130.7
1.3.20.4 Bicycles and Invalid carriages	0.117	130.3	128.2	136.4	136.4	137.3
1.3.20.5 Other transport equipment	0.002	128.5	127.5	132.3	132.6	134.2
1.3.21 MANUFACTURE OF FURNITURE	**0.727**	**133.2**	**130.5**	**146.2**	**147.1**	**148.5**
1.3.21.1 Furniture	0.727	133.2	130.5	146.2	147.1	148.5
1.3.22 OTHER MANUFACTURING	**1.064**	**132.4**	**136.9**	**137.0**	**133.3**	**135.1**
1.3.22.1 Jewellery and Related articles	0.996	130.5	135.4	135.1	131.2	133.0
1.3.22.2 Musical instruments	0.001	173.7	163.0	203.3	183.4	189.2
1.3.22.3 Sports goods	0.012	132.0	131.1	138.3	138.7	138.8
1.3.22.4 Games and Toys	0.005	142.4	142.6	150.1	151.2	151.0
1.3.22.5 Medical and Dental instruments and Supplies	0.049	167.4	166.9	171.3	171.3	172.9
2 FOOD INDEX	**24.378**	**153.4**	**158.0**	**159.4**	**159.6**	**159.8**

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	2019-20	2020-21	April-August		August	
				2020-21	2021-22	2020	2021
	1	2	3	4	5	6	7
General Index	100.00	129.0	118.1	97.4	125.3	117.2	131.1
1 Sectoral Classification							
1.1 Mining	14.37	109.6	101.0	84.7	106.0	84.0	103.8
1.2 Manufacturing	77.63	129.6	117.2	94.2	123.6	118.7	130.2
1.3 Electricity	7.99	158.4	157.6	152.3	175.7	162.7	188.7
2 Use-Based Classification							
2.1 Primary Goods	34.05	127.0	118.1	106.2	125.5	108.8	127.3
2.2 Capital Goods	8.22	93.3	75.9	50.6	81.0	75.9	91.0
2.3 Intermediate Goods	17.22	137.7	124.7	98.3	137.5	129.4	142.7
2.4 Infrastructure/ Construction Goods	12.34	136.6	124.7	96.6	140.0	130.7	145.2
2.5 Consumer Durables	12.84	119.0	101.2	66.5	102.4	109.5	118.3
2.6 Consumer Non-Durables	15.33	145.3	142.1	129.0	142.1	140.0	147.3

Source : National Statistical 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 - September			
	2021-22 (Budget Estimates)	2021-22 (Actuals)	2020-21 (Actuals)	Percentage to Budget Estimates	
				2021-22	2020-21
	1	2	3	4	5
1 Revenue Receipts	**1788424**	**1081048**	**550782**	**60.4**	**27.3**
1.1 Tax Revenue (Net)	1545396	920692	458508	59.6	28.0
1.2 Non-Tax Revenue	243028	160356	92274	66.0	24.0
2 Non-Debt Capital Receipt	**188000**	**18118**	**14635**	**9.6**	**6.5**
2.1 Recovery of Loans	13000	9003	8854	69.3	59.2
2.2 Other Receipts	175000	9115	5781	5.2	2.8
3 Total Receipts (excluding borrowings) (1+2)	**1976424**	**1099166**	**565417**	**55.6**	**25.2**
4 Revenue Expenditure	2929000	1396666	1313574	47.7	49.9
4.1 Interest Payments	809701	363757	305652	44.9	43.2
5 Capital Expenditure	554236	229351	165836	41.4	40.2
6 Total Expenditure (4+5)	**3483236**	**1626017**	**1479410**	**46.7**	**48.6**
7 Revenue Deficit (4-1)	**1140576**	**315618**	**762792**	**27.7**	**125.2**
8 Fiscal Deficit (6-3)	**1506812**	**526851**	**913993**	**35.0**	**114.8**
9 Gross Primary Deficit (8-4.1)	**697111**	**163094**	**608341**	**23.4**	**690.2**

Source: Controller General of Accounts (CGA), Ministry of Finance, Government of India and Union Budget 2021-22.

No. 24: Treasury Bills – Ownership Pattern

(₹ Crore)

Item	2020-21	2020	2021					
		Sep. 25	Aug. 20	Aug. 27	Sep. 3	Sep. 10	Sep. 17	Sep. 24
	1	2	3	4	5	6	7	8
1 91-day								
1.1 Banks	5676	13536	7352	5990	5708	12113	13175	12894
1.2 Primary Dealers	16740	32019	16341	14559	15347	13394	13288	13890
1.3 State Governments	13347	55395	57542	59757	58712	57762	60982	66717
1.4 Others	52802	127184	148785	145396	139080	127728	119927	113596
2 182-day								
2.1 Banks	67473	181537	105058	103967	101399	102493	103054	100171
2.2 Primary Dealers	30966	65936	55471	54959	57517	61710	61872	62322
2.3 State Governments	9436	4323	16510	16510	16510	16510	17010	8377
2.4 Others	31800	114302	118327	117804	116489	109327	105807	106158
3 364-day								
3.1 Banks	119024	133861	111785	109084	108165	106130	105389	105842
3.2 Primary Dealers	154197	125921	101534	102355	100094	102189	101713	101789
3.3 State Governments	18510	16502	14455	19265	18356	19386	19416	19416
3.4 Others	174501	122943	105301	101340	105430	92722	88143	81683
4 14-day Intermediate								
4.1 Banks								
4.2 Primary Dealers								
4.3 State Governments	220351	102540	99600	144913	107934	80804	90649	133145
4.4 Others	747	604	1142	201	383	687	460	737
Total Treasury Bills (Excluding 14 day Intermediate T Bills) #	694471	993460	858462	850986	842807	821464	809776	792856

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

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			
	1	2	3	4	5	6	7	8	9	10
91-day Treasury Bills										
2021-22										
Sep. 1	9000	100	31355	4918	45	8982	4918	13900	99.19	3.2856
Sep. 8	9000	100	44725	2903	33	8997	2903	11900	99.19	3.2889
Sep. 15	9000	89	30881	8458	37	8992	8458	17450	99.18	3.3044
Sep. 22	9000	96	27047	10239	49	8996	10239	19235	99.17	3.3439
Sep. 29	9000	130	52506	4002	33	8998	4002	13000	99.15	3.4488
182-day Treasury Bills										
2021-22										
Sep. 1	4000	83	20295	0	8	4000	0	4000	98.32	3.4197
Sep. 8	4000	87	22870	0	19	4000	0	4000	98.33	3.4098
Sep. 15	4000	93	19065	500	25	4000	500	4500	98.34	3.3944
Sep. 22	4000	66	14381	0	11	4000	0	4000	98.32	3.4185
Sep. 29	4000	95	23665	0	13	4000	0	4000	98.25	3.5669
364-day Treasury Bills										
2021-22										
Sep. 1	4000	97	16121	0	3	4000	0	4000	96.52	3.6197
Sep. 8	4000	105	21014	1030	11	4000	1030	5030	96.57	3.5616
Sep. 15	4000	86	11170	0	47	4000	0	4000	96.55	3.5800
Sep. 22	4000	75	12049	0	26	4000	0	4000	96.54	3.5987
Sep. 29	4000	106	20290	0	43	4000	0	4000	96.34	3.8100

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
September 1, 2021	1.95-3.40	3.18
September 2, 2021	1.95-3.40	3.16
September 3, 2021	1.95-3.40	3.18
September 4, 2021	2.70-3.25	2.90
September 6, 2021	1.95-3.40	3.16
September 7, 2021	1.95-3.40	3.16
September 8, 2021	1.95-3.45	3.14
September 9, 2021	1.95-3.40	3.14
September 13, 2021	1.95-3.40	3.16
September 14, 2021	1.95-3.40	3.14
September 15, 2021	1.95-3.40	3.18
September 16, 2021	1.95-3.40	3.15
September 17, 2021	1.95-3.40	3.21
September 18, 2021	2.70-3.25	2.81
September 20, 2021	1.95-3.45	3.22
September 21, 2021	1.95-3.50	3.18
September 22, 2021	1.95-3.40	3.17
September 23, 2021	1.95-3.40	3.22
September 24, 2021	2.10-3.40	3.16
September 27, 2021	1.95-3.45	3.15
September 28, 2021	1.95-3.50	3.19
September 29, 2021	1.95-3.60	3.25
September 30, 2021	1.95-3.55	3.36
October 1, 2021	1.95-3.45	3.22
October 4, 2021	1.95-3.40	3.20
October 5, 2021	1.95-3.40	3.19
October 6, 2021	1.95-3.40	3.19
October 7, 2021	1.95-3.40	3.17
October 8, 2021	1.95-3.45	3.28
October 11, 2021	1.95-3.40	3.27
October 12, 2021	1.95-3.45	3.18
October 13, 2021	1.95-3.45	3.25
October 14, 2021	1.95-3.50	3.29

Note: Includes Notice Money.

No. 27: Certificates of Deposit

Item	2020	2021			
	Sep. 25	Aug. 13	Aug. 27	Sep. 10	Sep. 24
	1	2	3	4	5
1 Amount Outstanding (₹ Crore)	71904.21	63488.94	64222.13	67144.54	60220.40
1.1 Issued during the fortnight (₹ Crore)	6492.55	73.40	6332.44	6524.51	3229.92
2 Rate of Interest (per cent)	3.51-5.75	4.31-4.31	3.27-4.31	3.27-4.49	3.35-4.49

No. 28: Commercial Paper

Item	2020	2021			
	Sep. 30	Aug. 15	Aug. 31	Sep. 15	Sep. 30
	1	2	3	4	5
1 Amount Outstanding (₹ Crore)	362310.10	419726.00	391504.85	401221.25	370982.10
1.1 Reported during the fortnight (₹ Crore)	86727.40	148470.35	73288.65	74402.55	59167.05
2 Rate of Interest (per cent)	3.32-11.86	3.26-12.01	3.15-12.83	3.14-13.42	3.26-12.83

No. 29: Average Daily Turnover in Select Financial Markets

(₹ Crore)

Item	2020-21	2020	2021					
		Sep. 25	Aug. 20	Aug. 27	Sep. 3	Sep. 10	Sep. 17	Sep. 24
	1	2	3	4	5	6	7	8
1 Call Money	17461	20575	8975	12845	11232	11762	11143	13382
2 Notice Money	2604	382	5778	1311	3776	573	3731	623
3 Term Money	757	857	368	483	612	436	609	349
4 Triparty Repo	421118	310900	651549	577354	629960	460377	584346	510865
5 Market Repo	337341	309908	359103	301952	364656	292542	375873	313962
6 Repo in Corporate Bond	2990	4666	156	4152	6690	5019	7191	3968
7 Forex (US $ million)	67793	52906	70936	70694	70252	63077	63556	77799
8 Govt. of India Dated Securities	62490	44251	65235	47477	90056	101524	82942	99739
9 State Govt. Securities	5080	3902	5040	5068	5437	5983	4299	6267
10 Treasury Bills								
10.1 91-Day	4970	13686	2081	3081	2682	3265	3003	5224
10.2 182-Day	4870	6978	5063	4605	2645	2458	2177	2361
10.3 364-Day	4010	1373	8745	5220	3101	2557	2179	1897
10.4 Cash Management Bills	1490							
11 Total Govt. Securities (8+9+10)	82910	70190	86165	65450	103920	115787	94600	115488
11.1 RBI	–	2059	222	5128	112	1302	133	6353

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

(Amount in ₹ Crore)

Security & Type of Issue	2020-21		2020-21 (Apr.-Sep.)		2021-22 (Apr.-Sep.) *		Sep. 2020		Sep. 2021 *	
	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	**74**	**102062**	**24**	**76830**	**58**	**50529**	**5**	**1672**	**11**	**3866**
1A Premium	73	97648	24	73568	55	49657	5	1623	11	3836
1.1 Public	53	38004	13	16848	48	49736	3	1309	10	3841
1.1.1 Premium	53	34848	13	14317	48	49018	3	1282	10	3815
1.2 Rights	21	64059	11	59983	10	793	2	363	1	25
1.2.1 Premium	20	62800	11	59251	7	639	2	341	1	21
2 Preference Shares	–	–	–	–	–	–	–	–	–	–
2.1 Public	–	–	–	–	–	–	–	–	–	–
2.2 Rights	–	–	–	–	–	–	–	–	–	–
3 Bonds & Debentures	**16**	**5806**	**6**	**1032**	**14**	**7083**	**1**	**150**	**4**	**1694**
3.1 Convertible	–	–	–	–	–	–	–	–	–	–
3.1.1 Public	–	–	–	–	–	–	–	–	–	–
3.1.2 Rights	–	–	–	–	–	–	–	–	–	–
3.2 Non-Convertible	16	5806	6	1032	14	7083	1	150	4	1694
3.2.1 Public	16	5806	6	1032	14	7083	1	150	4	1694
3.2.2 Rights	–	–	–	–	–	–	–	–	–	–
4 Total(1+2+3)	**90**	**107868**	**30**	**77862**	**72**	**57612**	**6**	**1821**	**15**	**5560**
4.1 Public	69	43809	19	17879	62	56819	4	1459	14	5535
4.2 Rights	21	64059	11	59983	10	793	2	363	1	25

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 of numbers.

Source : Securities and Exchange Board of India.

* : Data is Provisional

External Sector

No. 31: Foreign Trade

Item	Unit	2020-21	2020	2021				
			Sep.	May	Jun.	Jul.	Aug.	Sep.
		1	2	3	4	5	6	7
1 Exports	₹ Crore	2159043	202509	236566	238991	264581	247703	248606
	US $ Million	291808	27559	32288	32490	35501	33390	33795
1.1 Oil	₹ Crore	190896	25917	38848	29058	43716	34846	38376
	US $ Million	25804	3527	5302	3950	5866	4697	5217
1.2 Non-oil	₹ Crore	1968147	176591	197719	209933	220865	212857	210229
	US $ Million	266004	24032	26986	28540	29636	28693	28578
2 Imports	₹ Crore	2915958	224254	284443	309399	342819	334154	414812
	US $ Million	394436	30518	38822	42062	45999	45044	56388
2.1 Oil	₹ Crore	611353	42813	69350	78299	93407	71800	128268
	US $ Million	82684	5826	9465	10644	12533	9679	17436
2.2 Non-oil	₹ Crore	2304605	181441	215094	231100	249412	262354	286544
	US $ Million	311752	24692	29357	31417	33466	35365	38952
3 Trade Balance	₹ Crore	-756914	-21745	-47877	-70408	-78238	-86451	-166207
	US $ Million	-102627	-2959	-6534	-9572	-10498	-11654	-22594
3.1 Oil	₹ Crore	-420457	-16895	-30502	-49241	-49691	-36954	-89892
	US $ Million	-56880	-2299	-4163	-6694	-6667	-4981	-12220
3.2 Non-oil	₹ Crore	-336458	-4850	-17375	-21167	-28547	-49497	-76315
	US $ Million	-45748	-660	-2371	-2878	-3830	-6672	-10374

Source: DGCI&S and Ministry of Commerce & Industry.

No. 32: Foreign Exchange Reserves

Item	Unit	2020	2021					
		Oct. 23	Sep. 17	Sep. 24	Oct. 1	Oct. 8	Oct. 15	Oct. 22
		1	2	3	4	5	6	7
1 Total Reserves	**₹ Crore**	**4126040**	**4701267**	**4709016**	**4723970**	**4794421**	**4824947**	**4793167**
	US $ Million	**560532**	**639642**	**638646**	**637477**	**639516**	**641008**	**640100**
1.1 Foreign Currency Assets	₹ Crore	3809474	4248108	4252509	4264251	4325736	4350293	4321443
	US $ Million	517524	577986	576731	575451	577001	577951	577098
1.2 Gold	₹ Crore	271325	272700	275988	278316	285046	290389	287854
	US $ Million	36860	37103	37430	37558	38022	38579	38441
	Volume (Metric Tonnes)	670.12	733.57	739.17	744.77	745.7	746.63	746.63
1.3 SDRs	SDRs Million	1048	13657	13657	13657	13657	13657	13657
	₹ Crore	10949	142839	142889	142576	144454	144876	144680
	US $ Million	1487	19434	19379	19240	19268	19247	19321
1.4 Reserve Tranche Position in IMF	₹ Crore	34292	37621	37630	38826	39185	39389	39189
	US $ Million	4661	5119	5106	5228	5225	5231	5240

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

No. 33: Non-Resident Deposits

(US$ Million)

Scheme	Outstanding				Flows	
	2020-21	2020	2021		2020-21	2021-22
		Sep.	Aug.	Sep.	Apr.-Sep.	Apr.-Sep.
	1	2	3	4	5	6
1 NRI Deposits	**141895**	**137293**	**141523**	**141553**	**4934**	**1741**
1.1 FCNR(B)	20473	22291	19331	18951	-1953	-1522
1.2 NR(E)RA	102579	98101	102667	102744	6211	1927
1.3 NRO	18842	16901	19525	19859	676	1337

No. 34: Foreign Investment Inflows

(US$ Million)

Item	2020-21	2020-21	2021-22	2020	2021	
		Apr.-Sep.	Apr.-Sep.	Sep.	Aug.	Sep.
	1	2	3	4	5	6
1.1 Net Foreign Direct Investment (1.1.1–1.1.2)	**43955**	**23897**	**21953**	**2594**	**5038**	**2873**
1.1.1 Direct Investment to India (1.1.1.1–1. 1.1.2)	**54927**	**29183**	**30480**	**4118**	**5955**	**4413**
1.1.1.1 Gross Inflows/Gross Investments	**81973**	**41368**	**42864**	**4934**	**8438**	**6505**
1.1.1.1.1 Equity	61088	30692	31841	3023	6350	4623
1.1.1.1.1.1 Government (SIA/FIPB)	948	172	333	2	174	46
1.1.1.1.1.2 RBI	51597	26887	21632	2373	4587	4062
1.1.1.1.1.3 Acquisition of shares	7091	2945	9189	531	1471	397
1.1.1.1.1.4 Equity capital of unincorporated bodies	1452	688	688	118	118	118
1.1.1.1.2 Reinvested earnings	16935	8025	8372	1372	1372	1372
1.1.1.1.3 Other capital	3950	2652	2651	539	716	510
1.1.1.2 Repatriation/Disinvestment	**27046**	**12185**	**12385**	**817**	**2483**	**2092**
1.1.1.2.1 Equity	26983	12170	12077	815	2456	2057
1.1.1.2.2 Other capital	63	15	307	2	27	34
1.1.2 Foreign Direct Investment by India (1.1.2.1+1.1.2.2+1.1.2.3–1.1.2.4)	**10972**	**5287**	**8526**	**1524**	**917**	**1540**
1.1.2.1 Equity capital	5583	2437	4368	454	511	777
1.1.2.2 Reinvested Earnings	3013	1507	1513	251	251	251
1.1.2.3 Other Capital	6688	2461	4351	1144	427	908
1.1.2.4 Repatriation/Disinvestment	4313	1118	1705	325	272	396
1.2 Net Portfolio Investment (1.2.1+1.2.2+1.2.3–1.2.4)	**36137**	**7639**	**4450**	**1178**	**3255**	**2393**
1.2.1 GDRs/ADRs	–	–	–	–	–	–
1.2.2 FIIs	38725	8833	5322	1424	3117	2976
1.2.3 Offshore funds and others	–	–	–	–	–	–
1.2.4 Portfolio investment by India	2589	1194	872	246	-138	583
1 Foreign Investment Inflows	**80092**	**31536**	**26403**	**3772**	**8293**	**5266**

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

(US$ Million)

Item	2020-21	2020	2021		
		Sep.	Jul.	Aug.	Sep.
	1	2	3	4	5
1 Outward Remittances under the LRS	**12684.40**	**1648.17**	**1308.47**	**1965.35**	**1970.01**
1.1 Deposit	680.37	123.46	46.93	58.04	60.09
1.2 Purchase of immovable property	62.75	8.26	6.89	7.39	9.36
1.3 Investment in equity/debt	471.80	73.61	50.21	46.31	73.55
1.4 Gift	1586.24	225.36	175.22	191.05	210.23
1.5 Donations	12.59	0.61	0.78	0.75	0.85
1.6 Travel	3239.67	358.12	346.91	574.22	580.35
1.7 Maintenance of close relatives	2680.10	416.70	243.23	284.83	295.25
1.8 Medical Treatment	29.75	2.51	2.88	2.93	3.32
1.9 Studies Abroad	3836.12	427.87	423.35	780.26	718.32
1.10 Others	85.03	11.68	12.07	19.60	18.71

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

Item	2019-20	2020-21	2020	2021	
			October	September	October
	1	2	3	4	5
40-Currency Basket (Base: 2015-16=100)					
1 Trade-weighted					
1.1 NEER	98.00	93.92	94.69	94.50	93.60
1.2 REER	103.20	103.46	106.40	105.56	105.45
2 Export-weighted					
2.1 NEER	97.38	93.59	94.52	94.07	93.15
2.2 REER	102.88	102.96	106.07	104.79	104.61
6-Currency Basket (Trade-weighted)					
1 Base: 2015-16 = 100					
1.1 NEER	94.92	88.47	88.97	87.83	86.59
1.2 REER	103.62	101.88	104.54	103.75	103.49
2 Base: 2018-19 = 100					
2.1 NEER	100.78	93.93	94.46	93.25	91.93
2.2 REER	103.32	101.59	104.24	103.45	103.19

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

(Amount in US$ Million)

Item	2020-21	2020	2021	
		Sep.	Aug.	Sep.
	1	2	3	4
1 Automatic Route				
1.1 Number	1063	99	90	86
1.2 Amount	26799	5223	2247	2595
2 Approval Route				
2.1 Number	13	-	1	4
2.2 Amount	8456	-	600	1428
3 Total (1+2)				
3.1 Number	1076	99	91	90
3.2 Amount	35255	5223	2847	4023
4 Weighted Average Maturity (in years)	6.03	3.32	5.68	7.80
5 Interest Rate (per cent)				
5.1 Weighted Average Margin over 6-month LIBOR or reference rate for Floating Rate Loans	1.93	1.66	1.29	2.91
5.2 Interest rate range for Fixed Rate Loans	0.00-13.00	0.00-11.00	0.00-10.00	0.00-10.00

No. 38: India's Overall Balance of Payments

(US $ Million)

Item	Apr-Jun 2020			Apr-Jun 2021(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
Overall Balance of Payments(1+2+3)	**242565**	**222718**	**19846**	**335303**	**303432**	**31870**
1 CURRENT ACCOUNT (1.1+ 1.2)	**122413**	**103355**	**19058**	**180009**	**173512**	**6497**
1.1 MERCHANDISE	**52210**	**63200**	**-10990**	**97432**	**128148**	**-30716**
1.2 INVISIBLES (1.2.1+1.2.2+1.2.3)	**70204**	**40156**	**30048**	**82578**	**45364**	**37213**
1.2.1 Services	46953	26195	20758	56216	30404	25812
1.2.1.1 Travel	1868	2766	-897	1597	2885	-1289
1.2.1.2 Transportation	4805	4216	588	6732	6616	116
1.2.1.3 Insurance	564	378	186	772	428	344
1.2.1.4 G.n.i.e.	148	330	-182	203	236	-32
1.2.1.5 Miscellaneous	39567	18504	21063	46912	20239	26673
1.2.1.5.1 Software Services	22623	1849	20774	27602	2466	25136
1.2.1.5.2 Business Services	11282	11514	-232	12962	11635	1327
1.2.1.5.3 Financial Services	1009	1062	-52	1201	1118	83
1.2.1.5.4 Communication Services	707	304	403	807	310	497
1.2.2 Transfers	18223	1249	16974	20917	1980	18937
1.2.2.1 Official	27	270	-243	23	308	-285
1.2.2.2 Private	18196	979	17217	20894	1672	19222
1.2.3 Income	5027	12712	-7685	5445	12980	-7536
1.2.3.1 Investment Income	3664	12043	-8379	3843	12269	-8426
1.2.3.2 Compensation of Employees	1364	669	695	1601	711	890
2 CAPITAL ACCOUNT (2.1+2.2+2.3+2.4+2.5)	**120151**	**118776**	**1376**	**155293**	**129528**	**25766**
2.1 Foreign Investment (2.1.1+2.1.2)	**74498**	**74384**	**114**	**102664**	**90366**	**12298**
2.1.1 Foreign Direct Investment	11985	12513	-528	23628	11731	11896
2.1.1.1 In India	11840	9735	2105	23086	5910	17176
2.1.1.1.1 Equity	6897	9725	-2828	17902	5818	12084
2.1.1.1.2 Reinvested Earnings	3908		3908	4255		4255
2.1.1.1.3 Other Capital	1035	10	1025	928	92	837
2.1.1.2 Abroad	144	2778	-2633	542	5821	-5279
2.1.1.2.1 Equity	144	1235	-1091	542	2381	-1839
2.1.1.2.2 Reinvested Earnings	0	753	-753	0	760	-760
2.1.1.2.3 Other Capital	0	789	-789	0	2681	-2681
2.1.2 Portfolio Investment	62514	61872	642	79036	78634	402
2.1.2.1 In India	61869	60772	1098	77499	77121	378
2.1.2.1.1 FIIs	61869	60772	1098	77499	77121	378
2.1.2.1.1.1 Equity	52749	48334	4414	69769	68832	937
2.1.2.1.1.2 Debt	9121	12437	-3317	7730	8289	-559
2.1.2.1.2 ADR/GDRs	0	0	0	0	0	0
2.1.2.2 Abroad	644	1100	-456	1537	1513	24
2.2 Loans (2.2.1+2.2.2+2.2.3)	**18847**	**16097**	**2750**	**16481**	**13328**	**3153**
2.2.1 External Assistance	5743	1638	4105	1893	1619	274
2.2.1.1 By India	9	20	-11	14	30	-15
2.2.1.2 To India	5733	1618	4116	1879	1589	290
2.2.2 Commercial Borrowings	4087	5246	-1159	3286	2343	942
2.2.2.1 By India	442	1003	-562	736	293	443
2.2.2.2 To India	3646	4243	-597	2550	2050	500
2.2.3 Short Term to India	9017	9213	-196	11303	9366	1937
2.2.3.1 Buyers' credit & Suppliers' Credit >180 days	9017	8412	605	9259	9366	-107
2.2.3.2 Suppliers' Credit up to 180 days	0	801	-801	2044	0	2044
2.3 Banking Capital (2.3.1+2.3.2)	**17695**	**15460**	**2235**	**20595**	**16530**	**4065**
2.3.1 Commercial Banks	17695	14693	3003	20595	16506	4089
2.3.1.1 Assets	6871	4383	2487	7895	6289	1606
2.3.1.2 Liabilities	10825	10310	515	12700	10217	2483
2.3.1.2.1 Non-Resident Deposits	10653	7653	3000	11212	8686	2525
2.3.2 Others	0	767	-767	0	25	-25
2.4 Rupee Debt Service	0	55	-55	0	57	-57
2.5 Other Capital	9111	12779	-3668	15553	9247	6306
3 Errors & Omissions	0	**587**	**-587**	0	**393**	**-393**
4 Monetary Movements (4.1+ 4.2)	0	**19846**	**-19846**	0	**31870**	**-31870**
4.1 I.M.F.	0	0	0	0	0	0
4.2 Foreign Exchange Reserves (Increase - / Decrease +)	0	19846	-19846	0	31870	-31870

Note : P : Preliminary

No. 39: India's Overall Balance of Payments

(₹ Crore)

Item	Apr-Jun 2020			Apr-Jun 2021(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
Overall Balance of Payments(1+2+3)	**1840444**	**1689862**	**150582**	**2473396**	**2238302**	**235094**
1 CURRENT ACCOUNT (1.1+ 1.2)	**928804**	**784203**	**144601**	**1327857**	**1279929**	**47929**
1.1 MERCHANDISE	**396138**	**479523**	**-83385**	**718715**	**945294**	**-226579**
1.2 INVISIBLES (1.2.1+1.2.2+1.2.3)	**532666**	**304679**	**227986**	**609142**	**334634**	**274508**
1.2.1 Services	356253	198750	157503	414684	224280	190404
1.2.1.1 Travel	14176	20984	-6808	11778	21283	-9505
1.2.1.2 Transportation	36457	31992	4465	49660	48803	857
1.2.1.3 Insurance	4283	2872	1411	5696	3160	2536
1.2.1.4 G.n.i.e.	1123	2504	-1381	1500	1739	-239
1.2.1.5 Miscellaneous	300215	140399	159816	346050	149294	196756
1.2.1.5.1 Software Services	171650	14027	157623	203612	18192	185420
1.2.1.5.2 Business Services	85604	87365	-1762	95612	85825	9787
1.2.1.5.3 Financial Services	7659	8056	-396	8856	8247	609
1.2.1.5.4 Communication Services	5364	2309	3055	5951	2286	3664
1.2.2 Transfers	138268	9477	128792	154296	14604	139692
1.2.2.1 Official	205	2049	-1844	171	2272	-2101
1.2.2.2 Private	138063	7428	130635	154125	12332	141793
1.2.3 Income	38144	96452	-58308	40163	95750	-55588
1.2.3.1 Investment Income	27797	91375	-63578	28351	90506	-62156
1.2.3.2 Compensation of Employees	10347	5077	5270	11812	5244	6568
2 CAPITAL ACCOUNT (2.1+2.2+2.3+2.4+2.5)	**911640**	**901204**	**10437**	**1145539**	**955474**	**190065**
2.1 Foreign Investment (2.1.1+2.1.2)	**565250**	**564387**	**863**	**757313**	**666592**	**90721**
2.1.1 Foreign Direct Investment	90933	94938	-4006	174292	86537	87755
2.1.1.1 In India	89839	73864	15975	170293	43594	126698
2.1.1.1.1 Equity	52333	73787	-21454	132055	42917	89137
2.1.1.1.2 Reinvested Earnings	29652	0	29652	31390	0	31390
2.1.1.1.3 Other Capital	7853	77	7776	6848	677	6171
2.1.1.2 Abroad	1094	21074	-19981	3999	42943	-38944
2.1.1.2.1 Equity	1094	9372	-8278	3999	17565	-13566
2.1.1.2.2 Reinvested Earnings	0	5715	-5715	0	5603	-5603
2.1.1.2.3 Other Capital	0	5987	-5987	0	19776	-19776
2.1.2 Portfolio Investment	474318	469449	4869	583021	580055	2966
2.1.2.1 In India	469430	461102	8328	571680	568891	2789
2.1.2.1.1 FIIs	469430	461102	8328	571680	568891	2789
2.1.2.1.1.1 Equity	400227	366734	33493	514658	507747	6911
2.1.2.1.1.2 Debt	69203	94368	-25165	57022	61143	-4121
2.1.2.1.2 ADR/GDRs	0	0	0	0	0	0
2.1.2.2 Abroad	4888	8347	-3459	11341	11164	177
2.2 Loans (2.2.1+2.2.2+2.2.3)	**143001**	**122135**	**20866**	**121576**	**98314**	**23262**
2.2.1 External Assistance	43572	12426	31146	13964	11940	2024
2.2.1.1 By India	71	153	-82	106	220	-114
2.2.1.2 To India	43501	12273	31228	13858	11720	2138
2.2.2 Commercial Borrowings	31013	39806	-8792	24237	17286	6951
2.2.2.1 By India	3350	7612	-4262	5430	2164	3265
2.2.2.2 To India	27664	32194	-4530	18807	15122	3685
2.2.3 Short Term to India	68416	69904	-1488	83375	69088	14287
2.2.3.1 Buyers' credit & Suppliers' Credit >180 days	68416	63825	4591	68300	69088	-788
2.2.3.2 Suppliers' Credit up to 180 days	0	6079	-6079	15076	0	15076
2.3 Banking Capital (2.3.1+2.3.2)	**134263**	**117303**	**16960**	**151922**	**121938**	**29984**
2.3.1 Commercial Banks	134263	111481	22782	151922	121756	30166
2.3.1.1 Assets	52131	33257	18874	58236	46388	11847
2.3.1.2 Liabilities	82132	78223	3908	93687	75367	18319
2.3.1.2.1 Non-Resident Deposits	80826	58063	22763	82703	64074	18629
2.3.2 Others	0	5823	-5823	0	182	-182
2.4 Rupee Debt Service	0	419	-419	0	419	-419
2.5 Other Capital	69126	96959	-27833	114727	68210	46518
3 Errors & Omissions	0	**4456**	**-4456**	0	**2900**	**-2900**
4 Monetary Movements (4.1+ 4.2)	0	**150582**	**-150582**	0	**235094**	**-235094**
4.1 I.M.F.	0	0	0	0	0	0
4.2 Foreign Exchange Reserves (Increase - / Decrease +)	0	150582	-150582	0	235094	-235094

Note : P: Preliminary

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

(US $ Million)

Item	Apr-Jun 2020			Apr-Jun 2021(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
1 Current Account (1.A+1.B+1.C)	**122413**	**103330**	**19083**	**180008**	**173482**	**6526**
1.A Goods and Services (1.A.a+1.A.b)	**99163**	**89394**	**9768**	**153648**	**158552**	**-4904**
1.A.a Goods (1.A.a.1 to 1.A.a.3)	**52210**	**63200**	**-10990**	**97432**	**128148**	**-30716**
1.A.a.1 General merchandise on a BOP basis	52073	62512	-10439	97353	120259	-22906
1.A.a.2 Net exports of goods under merchanting	137	0	137	79	0	79
1.A.a.3 Nonmonetary gold		688	-688		7888	-7888
1.A.b Services (1.A.b.1 to 1.A.b.13)	**46953**	**26195**	**20758**	**56216**	**30404**	**25812**
1.A.b.1 Manufacturing services on physical inputs owned by others	77	6	71	83	9	73
1.A.b.2 Maintenance and repair services n.i.e.	32	128	-97	58	127	-70
1.A.b.3 Transport	4805	4216	588	6732	6616	116
1.A.b.4 Travel	1868	2766	-897	1597	2885	-1289
1.A.b.5 Construction	659	625	34	583	892	-309
1.A.b.6 Insurance and pension services	564	378	186	772	428	344
1.A.b.7 Financial services	1009	1062	-52	1201	1118	83
1.A.b.8 Charges for the use of intellectual property n.i.e.	399	1847	-1448	191	1972	-1781
1.A.b.9 Telecommunications, computer, and information services	23396	2269	21127	28489	3017	25473
1.A.b.10 Other business services	11282	11514	-232	12962	11635	1327
1.A.b.11 Personal, cultural, and recreational services	500	347	153	647	804	-157
1.A.b.12 Government goods and services n.i.e.	148	330	-182	203	236	-32
1.A.b.13 Others n.i.e.	2212	705	1507	2698	665	2033
1.B Primary Income (1.B.1 to 1.B.3)	**5027**	**12712**	**-7685**	**5445**	**12980**	**-7536**
1.B.1 Compensation of employees	1364	669	695	1601	711	890
1.B.2 Investment income	3054	11861	-8807	2877	12009	-9132
1.B.2.1 Direct investment	1306	7361	-6055	1425	7195	-5770
1.B.2.2 Portfolio investment	24	1222	-1198	143	1852	-1709
1.B.2.3 Other investment	66	3273	-3207	45	2961	-2916
1.B.2.4 Reserve assets	1657	4	1653	1264	1	1263
1.B.3 Other primary income	610	182	428	966	260	706
1.C Secondary Income (1.C.1+1.C.2)	**18223**	**1223**	**16999**	**20916**	**1950**	**18966**
1.C.1 Financial corporations, nonfinancial corporations, households, and NPISHs	18196	979	17217	20894	1672	19222
1.C.1.1 Personal transfers (Current transfers between resident and/	17596	739	16857	20074	1183	18891
1.C.1.2 Other current transfers	600	240	360	820	489	331
1.C.2 General government	26	244	-218	22	278	-256
2 Capital Account (2.1+2.2)	**91**	**872**	**-782**	**116**	**177**	**-62**
2.1 Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	5	790	-786	7	56	-49
2.2 Capital transfers	86	82	4	109	121	-13
3 Financial Account (3.1 to 3.5)	**120061**	**137775**	**-17714**	**155179**	**161250**	**-6072**
3.1 Direct Investment (3.1A+3.1B)	**11985**	**12513**	**-528**	**23628**	**11731**	**11896**
3.1.A Direct Investment in India	11840	9735	2105	23086	5910	17176
3.1.A.1 Equity and investment fund shares	10805	9725	1081	22157	5818	16339
3.1.A.1.1 Equity other than reinvestment of earnings	6897	9725	-2828	17902	5818	12084
3.1.A.1.2 Reinvestment of earnings	3908		3908	4255		4255
3.1.A.2 Debt instruments	1035	10	1025	928	92	837
3.1.A.2.1 Direct investor in direct investment enterprises	1035	10	1025	928	92	837
3.1.B Direct Investment by India	144	2778	-2633	542	5821	-5279
3.1.B.1 Equity and investment fund shares	144	1988	-1844	542	3141	-2599
3.1.B.1.1 Equity other than reinvestment of earnings	144	1235	-1091	542	2381	-1839
3.1.B.1.2 Reinvestment of earnings		753	-753		760	-760
3.1.B.2 Debt instruments	0	789	-789	0	2681	-2681
3.1.B.2.1 Direct investor in direct investment enterprises		789	-789		2681	-2681
3.2 Portfolio Investment	**62514**	**61872**	**642**	**79036**	**78634**	**402**
3.2.A Portfolio Investment in India	61869	60772	1098	77499	77121	378
3.2.1 Equity and investment fund shares	52749	48334	4414	69769	68832	937
3.2.2 Debt securities	9121	12437	-3317	7730	8289	-559
3.2.B Portfolio Investment by India	644	1100	-456	1537	1513	24
3.3 Financial derivatives (other than reserves) and employee stock options	**3421**	**3805**	**-385**	**3544**	**4841**	**-1297**
3.4 Other investment	**42142**	**39740**	**2403**	**48970**	**34174**	**14797**
3.4.1 Other equity (ADRs/GDRs)	0	0	0	0	0	0
3.4.2 Currency and deposits	10653	8420	2233	11212	8711	2501
3.4.2.1 Central bank (Rupee Debt Movements; NRG)	0	767	-767	0	25	-25
3.4.2.2 Deposit-taking corporations, except the central bank (NRI Deposits)	10653	7653	3000	11212	8686	2525
3.4.2.3 General government			0			
3.4.2.4 Other sectors			0			
3.4.3 Loans (External Assistance, ECBs and Banking Capital)	16873	13924	2949	14562	11782	2781
3.4.3.A Loans to India	16422	12901	3521	13812	11458	2353
3.4.3.B Loans by India	451	1023	-573	750	323	427
3.4.4 Insurance, pension, and standardized guarantee schemes	40	47	-7	32	63	-30
3.4.5 Trade credit and advances	9017	9213	-196	11303	9366	1937
3.4.6 Other accounts receivable/payable - other	5560	8135	-2575	11862	4253	7609
3.4.7 Special drawing rights			0			
3.5 Reserve assets	0	**19846**	**-19846**	0	**31870**	**-31870**
3.5.1 Monetary gold			0			
3.5.2 Special drawing rights n.a.			0			
3.5.3 Reserve position in the IMF n.a.			0			
3.5.4 Other reserve assets (Foreign Currency Assets)	0	19846	-19846	0	31870	-31870
4 Total assets/liabilities	**120061**	**137775**	**-17714**	**155179**	**161250**	**-6072**
4.1 Equity and investment fund shares	67803	65000	2803	97582	84208	13374
4.2 Debt instruments	46698	44794	1904	45735	40920	4815
4.3 Other financial assets and liabilities	5560	27981	-22422	11862	36123	-24261
5 Net errors and omissions		**587**	**-587**		**393**	**-393**

Note : P : Preliminary

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

(₹ Crore)

Item	Apr-Jun 2020			Apr-Jun 2021(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
1 Current Account (1.A+1.B+1.C)	**928798**	**784007**	**144791**	**1327850**	**1279707**	**48143**
1.A Goods and Services (1.A.a+1.A.b)	**752391**	**678274**	**74117**	**1133399**	**1169574**	**-36175**
1.A.a Goods (1.A.a.1 to 1.A.a.3)	**396138**	**479523**	**-83385**	**718715**	**945294**	**-226579**
1.A.a.1 General merchandise on a BOP basis	395100	474304	-79205	718135	887106	-168971
1.A.a.2 Net exports of goods under merchanting	1038	0	1038	580	0	580
1.A.a.3 Nonmonetary gold	0	5219	-5219		58188	-58188
1.A.b Services (1.A.b.1 to 1.A.b.13)	**356253**	**198750**	**157503**	**414684**	**224280**	**190404**
1.A.b.1 Manufacturing services on physical inputs owned by others	588	45	542	610	68	542
1.A.b.2 Maintenance and repair services n.i.e.	241	975	-733	424	938	-514
1.A.b.3 Transport	36457	31992	4465	49660	48803	857
1.A.b.4 Travel	14176	20984	-6808	11778	21283	-9505
1.A.b.5 Construction	5003	4743	260	4303	6581	-2278
1.A.b.6 Insurance and pension services	4283	2872	1411	5696	3160	2536
1.A.b.7 Financial services	7659	8056	-396	8856	8247	609
1.A.b.8 Charges for the use of intellectual property n.i.e.	3026	14016	-10990	1412	14547	-13135
1.A.b.9 Telecommunications, computer, and information services	177514	17215	160300	210155	22252	187903
1.A.b.10 Other business services	85604	87365	-1762	95612	85825	9787
1.A.b.11 Personal, cultural, and recreational services	3792	2632	1160	4776	5933	-1157
1.A.b.12 Government goods and services n.i.e.	1123	2504	-1381	1500	1739	-239
1.A.b.13 Others n.i.e.	16787	5352	11435	19901	4903	14998
1.B Primary Income (1.B.1 to 1.B.3)	**38144**	**96452**	**-58308**	**40163**	**95750**	**-55588**
1.B.1 Compensation of employees	10347	5077	5270	11812	5244	6568
1.B.2 Investment income	23171	89993	-66822	21224	88588	-67364
1.B.2.1 Direct investment	9912	55855	-45943	10515	53077	-42562
1.B.2.2 Portfolio investment	185	9273	-9088	1051	13662	-12610
1.B.2.3 Other investment	500	24831	-24332	336	21843	-21508
1.B.2.4 Reserve assets	12574	34	12540	9322	7	9315
1.B.3 Other primary income	4626	1382	3244	7127	1918	5209
1.C Secondary Income (1.C.1+1.C.2)	**138262**	**9280**	**128982**	**154289**	**14383**	**139906**
1.C.1 Financial corporations, nonfinancial corporations, households, and NPISHs	138063	7428	130635	154125	12332	141793
1.C.1.1 Personal transfers (Current transfers between resident and/	133511	5606	127905	148076	8724	139352
1.C.1.2 Other current transfers	4553	1822	2731	6049	3608	2441
1.C.2 General government	199	1852	-1654	164	2051	-1887
2 Capital Account (2.1+2.2)	**690**	**6620**	**-5930**	**854**	**1309**	**-455**
2.1 Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	34	5996	-5961	51	413	-363
2.2 Capital transfers	656	624	32	803	895	-93
3 Financial Account (3.1 to 3.5)	**910956**	**1045362**	**-134406**	**1144692**	**1189480**	**-44788**
3.1 Direct Investment (3.1A+3.1B)	**90933**	**94938**	**-4006**	**174292**	**86537**	**87755**
3.1.A Direct Investment in India	89839	73864	15975	170293	43594	126698
3.1.A.1 Equity and investment fund shares	81986	73787	8199	163445	42917	120527
3.1.A.1.1 Equity other than reinvestment of earnings	52333	73787	-21454	132055	42917	89137
3.1.A.1.2 Reinvestment of earnings	29652	0	29652	31390	0	31390
3.1.A.2 Debt instruments	7853	77	7776	6848	677	6171
3.1.A.2.1 Direct investor in direct investment enterprises	7853	77	7776	6848	677	6171
3.1.B Direct Investment by India	1094	21074	-19981	3999	42943	-38944
3.1.B.1 Equity and investment fund shares	1094	15087	-13993	3999	23167	-19168
3.1.B.1.1 Equity other than reinvestment of earnings	1094	9372	-8278	3999	17565	-13566
3.1.B.1.2 Reinvestment of earnings	0	5715	-5715	0	5603	-5603
3.1.B.2 Debt instruments	0	5987	-5987	0	19776	-19776
3.1.B.2.1 Direct investor in direct investment enterprises	0	5987	-5987	0	19776	-19776
3.2 Portfolio Investment	**474318**	**469449**	**4869**	**583021**	**580055**	**2966**
3.2.A Portfolio Investment in India	469430	461102	8328	571680	568891	2789
3.2.1 Equity and investment fund shares	400227	366734	33493	514658	507747	6911
3.2.2 Debt securities	69203	94368	-25165	57022	61143	-4121
3.2.B Portfolio Investment by India	4888	8347	-3459	11341	11164	177
3.3 Financial derivatives (other than reserves) and employee stock options	**25953**	**28871**	**-2918**	**26144**	**35709**	**-9565**
3.4 Other investment	**319753**	**301522**	**18232**	**361235**	**252085**	**109150**
3.4.1 Other equity (ADRs/GDRs)	0	0	0	0	0	0
3.4.2 Currency and deposits	80826	63886	16940	82703	64257	18447
3.4.2.1 Central bank (Rupee Debt Movements; NRG)	0	5823	-5823	0	182	-182
3.4.2.2 Deposit-taking corporations, except the central bank (NRI Deposits)	80826	58063	22763	82703	64074	18629
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)	128022	105649	22373	107420	86908	20512
3.4.3.A Loans to India	124601	97884	26717	101884	84524	17361
3.4.3.B Loans by India	3421	7765	-4344	5536	2384	3151
3.4.4 Insurance, pension, and standardized guarantee schemes	306	358	-53	238	462	-224
3.4.5 Trade credit and advances	68416	69904	-1488	83375	69088	14287
3.4.6 Other accounts receivable/payable - other	42183	61725	-19541	87499	31370	56128
3.4.7 Special drawing rights	0	0	0	0	0	0
3.5 Reserve assets	**0**	**150582**	**-150582**	**0**	**235094**	**-235094**
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	150582	-150582	0	235094	-235094
4 Total assets/liabilities	**910956**	**1045362**	**-134406**	**1144692**	**1189480**	**-44788**
4.1 Equity and investment fund shares	514453	493185	21268	719825	621168	98657
4.2 Debt instruments	354320	339871	14449	337369	301848	35520
4.3 Other financial assets and liabilities	42183	212307	-170123	87499	266464	-178966
5 Net errors and omissions	**0**	**4456**	**-4456**		**2900**	**-2900**

Note : P: Preliminary

No. 42: International Investment Position

(US$ Million)

Item	As on Financial Year /Quarter End							
	2020-21		2020		2021			
			Jun.		Mar.		Jun.	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	1	2	3	4	5	6	7	8
1 Direct Investment Abroad/in India	193929	482179	185590	419385	193929	482179	199208	493691
1.1 Equity Capital and Reinvested Earnings	122726	456947	120286	395773	122726	456947	125324	467991
1.2 Other Capital	71203	25232	65304	23612	71203	25232	73884	25700
2 Portfolio Investment	7936	281961	4303	241620	7936	281961	7912	281267
2.1 Equity	2340	177278	830	138961	2340	177278	3146	176203
2.2 Debt	5596	104682	3474	102659	5596	104682	4766	105064
3 Other Investment	80606	446473	53558	432739	80606	446473	76911	447153
3.1 Trade Credit	5644	100337	1145	103998	5644	100337	7861	102193
3.2 Loan	13335	189993	7425	184813	13335	189993	13661	189520
3.3 Currency and Deposits	42436	142069	27741	132942	42436	142069	35904	141873
3.4 Other Assets/Liabilities	19191	14074	17247	10987	19191	14074	19485	13567
4 Reserves	576984		505702		576984		611075	
5 Total Assets/ Liabilities	859454	1210613	749153	1093744	859454	1210613	895106	1222111
6 IIP (Assets - Liabilities)		-351158		-344591		-351158		-327005

Payment and Settlement Systems

No.43: Payment System Indicators

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

System	Volume (Lakh)				Value (₹ Crore)			
	FY 2020-21	2020	2021		FY 2020-21	2020	2021	
		Sep.	Aug.	Sep.		Sep.	Aug.	Sep.
	1	2	3	4	5	6	7	8
A. Settlement Systems								
Financial Market Infrastructures (FMIs)								
1 CCIL Operated Systems (1.1 to 1.3)	27.97	2.70	2.51	3.21	161943141	13397758	15362952	16683094
1.1 Govt. Securities Clearing (1.1.1 to 1.1.3)	11.55	1.08	0.96	1.37	110634315	9021412	10388877	11404584
1.1.1 Outright	6.28	0.61	0.50	0.90	10032187	881023	730532	1127485
1.1.2 Repo	2.84	0.29	0.24	0.25	43751173	4115039	3479766	3885956
1.1.3 Tri-party Repo	2.43	0.19	0.22	0.22	56850956	4025350	6178579	6391143
1.2 Forex Clearing	16.04	1.60	1.48	1.77	48903961	4238877	4599545	4826170
1.3 Rupee Derivatives @	0.38	0.03	0.06	0.07	2404865	137470	374530	452340
B. Payment Systems								
I Financial Market Infrastructures (FMIs)	–	–	–	–	–	–	–	–
1 Credit Transfers - RTGS (1.1 to 1.2)	1591.92	130.11	166.52	174.57	105599849	9489066	10164296	11069631
1.1 Customer Transactions	1573.47	128.49	165.34	173.33	91008367	7993814	8940380	9838858
1.2 Interbank Transactions	18.45	1.61	1.18	1.24	14591482	1495252	1223916	1230773
II Retail								
2 Credit Transfers - Retail (2.1 to 2.6)	317851.82	25506.62	45370.66	45720.72	33522150	2817678	3277624	3495969
2.1 AePS (Fund Transfers) @	11.32	0.96	1.05	0.98	623	51	61	57
2.2 APBS $	14372.99	1059.85	722.32	781.62	112747	6243	10305	6199
2.3 IMPS	32783.47	2796.08	3797.12	3848.84	2941500	248662	320203	324096
2.4 NACH Cr $	16449.51	1179.79	2075.99	1171.57	1232714	68176	98119	91281
2.5 NEFT	30927.89	2468.27	3218.73	3359.54	25130910	2165515	2209818	2419688
2.6 UPI @	223306.64	18001.67	35555.45	36558.17	4103658	329032	639117	654648
2.6.1 of which USSD @	10.45	0.89	1.14	1.14	172	14	17	16
3 Debit Transfers and Direct Debits (3.1 to 3.3)	10440.40	926.42	1008.32	987.44	872399	78240	85436	84660
3.1 BHIM Aadhaar Pay @	160.84	15.28	21.99	19.39	2580	205	462	440
3.2 NACH Dr $	9629.61	857.43	876.81	878.31	868906	77958	84818	84068
3.3 NETC (linked to bank account) @	649.96	53.71	109.52	89.74	913	77	155	152
4 Card Payments (4.1 to 4.2)	57786.60	4994.52	5493.00	5337.50	1291799	106500	142600	142817
4.1 Credit Cards (4.1.1 to 4.1.2)	17641.06	1486.71	1904.71	1847.21	630414	51134	77733	80228
4.1.1 PoS based $	8688.81	713.37	984.62	961.53	280769	21986	32969	31743
4.1.2 Others $	8952.25	773.33	920.08	885.68	349645	29148	44764	48485
4.2 Debit Cards (4.2.1 to 4.2.1)	40145.54	3507.81	3588.29	3490.29	661385	55366	64867	62589
4.2.1 PoS based $	20773.50	1758.83	2119.63	2053.00	377630	30422	41177	38591
4.2.2 Others $	19372.04	1748.98	1468.66	1437.29	283755	24944	23690	23998
5 Prepaid Payment Instruments (5.1 to 5.2)	49742.55	4653.54	5259.99	4934.60	197696	16683	22670	30273
5.1 Wallets	39987.01	3616.58	4227.08	3884.65	152065	13258	17745	25645
5.2 Cards (5.2.1 to 5.2.2)	9755.54	1036.96	1032.91	1049.96	45631	3425	4925	4628
5.2.1 PoS based $	787.59	60.08	132.27	133.71	11639	910	1110	995
5.2.2 Others $	8967.95	976.87	900.63	916.25	33992	2515	3815	3634
6 Paper-based Instruments (6.1 to 6.2)	6703.70	612.71	588.62	624.10	5627189	485243	533903	566468
6.1 CTS (NPCI Managed)	6702.53	612.63	588.62	624.10	5625941	485114	533903	566468
6.2 Others	1.17	0.08	–	–	1249	128	–	–
Total - Retail Payments (2+3+4+5+6)	442525.07	36693.80	57720.58	57604.36	41511233	3504344	4062232	4320187
Total Payments (1+2+3+4+5+6)	444116.99	36823.90	57887.11	57778.93	147111082	12993410	14226528	15389818
Total Digital Payments (1+2+3+4+5)	437413.29	36211.20	57298.49	57154.83	141483892	12508167	13692625	14823351

PART II - Payment Modes and Channels

System	Volume (Lakh)				Value (₹ Crore)			
	FY 2020-21	2020	2021		FY 2020-21	2020	2021	
		Sep.	Aug.	Sep.		Sep.	Aug.	Sep.
	1	2	3	4	5	6	7	8
A. Other Payment Channels								
1 Mobile Payments (mobile app based) (1.1 to 1.2)	258033.70	20994.76	39029.40	46858.26	9201212	705945	1136503	1233089
1.1 Intra-bank $	25220.71	1907.83	3244.29	5175.00	1871390	145416	201774	274653
1.2 Inter-bank $	232812.99	19086.93	35785.12	41683.26	7329822	560529	934729	958435
2 Internet Payments (Netbanking / Internet Browser Based) @ (2.1 to 2.2)	32493.63	2822.04	3134.32	3187.18	41581497	3436124	3688425	4003452
2.1 Intra-bank @	6886.15	594.83	603.29	598.49	20601554	1678942	1636328	1795714
2.2 Inter-bank @	25607.48	2227.20	2531.03	2588.68	20979943	1757182	2052097	2207737
B. ATMs								
3 Cash Withdrawal at ATMs $ (3.1 to 3.3)	60905.81	5069.39	5688.71	5545.36	2889826	241223	262881	257964
3.1 Using Credit Cards $	51.41	4.36	5.02	4.98	2560	217	248	249
3.2 Using Debit Cards $	60602.23	5042.50	5656.34	5512.90	2878025	240205	261683	256767
3.3 Using Pre-paid Cards $	252.17	22.53	27.35	27.48	9240	801	949	948
4 Cash Withdrawal at PoS $ (4.1 to 4.2)	394.77	33.62	6.62	5.37	1533	123	70	46
4.1 Using Debit Cards $	353.50	29.39	5.50	5.08	1484	118	42	40
4.2 Using Pre-paid Cards $	41.27	4.23	1.12	0.29	49	5	28	6
5 Cash Withrawal at Micro ATMs @	9460.43	717.65	1061.82	888.88	225420	17096	26830	22793
5.1 AePS @	9460.43	717.65	1061.82	888.88	225420	17096	26830	22793

PART III - Payment Infrastructures (Lakh)

System	As on March 2021	2020	2021	
		Sep.	Aug.	Sep.
	1	2	3	4
Payment System Infrastructures				
1 Number of Cards (1.1 to 1.2)	9602.51	9241.29	9777.46	9853.28
1.1 Credit Cards	620.49	586.94	639.34	650.25
1.2 Debit Cards	8982.02	8654.35	9138.11	9203.03
2 Number of PPIs @ (2.1 to 2.2)	21952.60	19960.47	24099.33	22461.77
2.1 Wallets @	20052.10	18287.99	21927.39	20203.10
2.2 Cards @	1900.51	1672.48	2171.94	2258.68
3 Number of ATMs (3.1 to 3.2)	2.39	2.34	2.41	2.41
3.1 Bank owned ATMs $	2.14	2.10	2.14	2.13
3.2 White Label ATMs $	0.25	0.24	0.27	0.28
4 Number of Micro ATMs @	4.04	3.28	4.94	5.13
5 Number of PoS Terminals	47.20	44.23	48.16	49.77
6 Bharat QR @	35.70	22.99	52.47	52.85
7 UPI QR *	925.22	604.07	1133.11	1196.08

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

Occasional Series

No. 44: Small Savings

(₹ Crore)

Scheme		2019-20	2020		2021	
			Feb.	Dec.	Jan.	Feb.
		1	2	3	4	5
1 Small Savings	**Receipts**	**159573**	**16911**	**16781**	**14261**	**14405**
	Outstanding	**1078535**	**1046766**	**1196084**	**1210379**	**1224772**
1.1 Total Deposits	**Receipts**	**116389**	**11460**	**12407**	**9820**	**10143**
	Outstanding	**734807**	**716363**	**827156**	**836976**	**847119**
1.1.1 Post Office Saving Bank Deposits	Receipts	25893	2690	3307	2049	2252
	Outstanding	166140	156258	190437	192486	194738
1.1.2 MGNREG	Receipts					
	Outstanding					
1.1.3 National Saving Scheme, 1987	Receipts	36	-20	-21	-26	-23
	Outstanding	3143	2939	3086	3060	3037
1.1.4 National Saving Scheme, 1992	Receipts	-1	-3	-3	0	57
	Outstanding	9	-23	-17	-17	40
1.1.5 Monthly Income Scheme	Receipts	16510	1887	1053	1162	1135
	Outstanding	209168	207059	217980	219142	220277
1.1.6 Senior Citizen Scheme 2004	Receipts	20334	2131	2014	1886	1950
	Outstanding	76042	73728	90914	92800	94750
1.1.7 Post Office Time Deposits	Receipts	41795	4494	4330	3952	3798
	Outstanding	166087	161115	195847	199799	203597
1.1.7.1 1 year Time Deposits	Outstanding	92618	90327	104601	105928	107099
1.1.7.2 2 year Time Deposits	Outstanding	7097	6970	7324	7375	7418
1.1.7.3 3 year Time Deposits	Outstanding	7536	7464	7330	7285	7267
1.1.7.4 5 year Time Deposits	Outstanding	58836	56354	76592	79211	81813
1.1.8 Post Office Recurring Deposits	Receipts	11821	281	1727	797	974
	Outstanding	114222	115291	128912	129709	130683
1.1.9 Post Office Cumulative Time Deposits	Receipts	1	0	0	0	0
	Outstanding	-25	-25	-24	-24	-24
1.1.10 Other Deposits	Receipts	0	0	0	0	0
	Outstanding	21	21	21	21	21
1.2 Saving Certificates	**Receipts**	**30170**	**3937**	**3941**	**3909**	**3647**
	Outstanding	**252190**	**248022**	**274905**	**278848**	**282483**
1.2.1 National Savings Certificate VIII issue	Receipts	19495	2619	1923	1903	1843
	Outstanding	117987	115127	129270	131173	133016
1.2.2 Indira Vikas Patras	Receipts	-101	1	-1	-1	0
	Outstanding	162	-288	158	157	157
1.2.3 Kisan Vikas Patras	Receipts	-18168	-1120	-669	-603	-470
	Outstanding	1135	3949	-5121	-5724	-6194
1.2.4 Kisan Vikas Patras - 2014	Receipts	28972	2452	2677	2610	2274
	Outstanding	122602	118507	140538	143148	145422
1.2.5 National Saving Certificate VI issue	Receipts	-4	0	8	0	0
	Outstanding	-155	-180	-147	-147	-147
1.2.6 National Saving Certificate VII issue	Receipts	-24	-15	3	0	0
	Outstanding	-106	-99	-103	-103	-103
1.2.7 Other Certificates	Outstanding	10565	11006	10310	10344	10332
1.3 Public Provident Fund	**Receipts**	**13014**	**1514**	**433**	**532**	**615**
	Outstanding	**91538**	**82381**	**94023**	**94555**	**95170**

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)

Central Government Dated Securities					
Category	2020			2021	
	Jun.	Sep.	Dec.	Mar.	Jun.
	1	2	3	4	5
(A) Total (in ₹. Crore)	**6704983**	**7137069**	**7357111**	**7635902**	**7882533**
1 Commercial Banks	38.98	38.55	37.81	37.77	35.99
2 Non-Bank PDs	0.36	0.34	0.25	0.27	0.34
3 Insurance Companies	26.24	25.33	25.64	25.30	25.83
4 Mutual Funds	2.02	2.42	2.62	2.94	2.82
5 Co-operative Banks	1.86	1.86	1.83	1.82	1.82
6 Financial Institutions	1.19	1.42	1.00	1.00	1.43
7 Corporates	0.78	0.94	1.05	1.06	1.39
8 Foreign Portfolio Investors	1.79	2.05	2.10	1.87	1.79
9 Provident Funds	4.96	4.77	4.61	4.44	4.04
10 RBI	14.70	15.00	15.71	16.20	17.11
11. Others	7.11	7.32	7.37	7.33	7.43
11.1 State Governments	1.99	1.86	1.76	1.69	1.67

State Governments Securities					
Category	2020			2021	
	Jun.	Sep.	Dec.	Mar.	Jun.
	1	2	3	4	5
(B) Total (in ₹. Crore)	**3393099**	**3564979**	**3721573**	**3879982**	**4028849**
1 Commercial Banks	33.54	34.60	34.19	33.69	33.75
2 Non-Bank PDs	0.74	0.54	0.36	0.48	0.39
3 Insurance Companies	30.85	30.26	30.25	30.04	29.67
4 Mutual Funds	1.74	1.96	1.92	1.82	1.74
5 Co-operative Banks	4.38	4.19	4.11	4.05	4.12
6 Financial Institutions	1.96	1.92	1.88	1.86	1.79
7 Corporates	0.31	0.39	0.45	0.49	1.45
8 Foreign Portfolio Investors	0.02	0.02	0.02	0.02	0.02
9 Provident Funds	21.70	21.31	21.20	22.00	21.09
10 RBI	0.00	0.00	0.81	0.77	0.88
11. Others	4.78	4.80	4.82	4.77	5.10
11.1 State Governments	0.18	0.18	0.18	0.18	0.18

Treasury Bills					
Category	2020			2021	
	Jun.	Sep.	Dec.	Mar.	Jun.
	1	2	3	4	5
(C) Total (in ₹. Crore)	**881362**	**982286**	**839729**	**690646**	**901327**
1 Commercial Banks	46.11	53.50	54.75	55.54	52.25
2 Non-Bank PDs	1.48	2.16	1.65	2.82	1.82
3 Insurance Companies	4.64	4.06	4.50	5.61	4.75
4 Mutual Funds	23.45	19.90	18.98	17.80	19.93
5 Co-operative Banks	1.95	1.63	1.61	2.43	1.60
6 Financial Institutions	1.67	1.34	1.11	1.24	2.56
7 Corporates	1.43	1.63	2.01	3.16	3.00
8 Foreign Portfolio Investors	0.00	0.00	0.00	0.00	0.00
9 Provident Funds	0.05	0.00	0.09	0.22	0.10
10 RBI	11.27	4.80	0.68	0.49	2.58
11. Others	7.95	10.99	14.63	10.70	11.42
11.1 State Governments	4.35	7.76	13.27	5.98	7.97

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

(₹ Crore)

Item	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE
	1	2	3	4	5	6
1 Total Disbursements	**3760611**	**4265969**	**4515946**	**5040747**	**5875914**	**6470254**
1.1 Developmental	2201287	2537905	2635110	2882758	3486519	3818358
1.1.1 Revenue	1668250	1878417	2029044	2224367	2708218	2920507
1.1.2 Capital	412069	501213	519356	596774	694262	794599
1.1.3 Loans	120968	158275	86710	61617	84038	103252
1.2 Non-Developmental	1510810	1672646	1812455	2078276	2295105	2556504
1.2.1 Revenue	1379727	1555239	1741432	1965907	2171963	2421566
1.2.1.1 Interest Payments	648091	724448	814757	894520	969344	1091617
1.2.2 Capital	127306	115775	69370	111029	121159	132961
1.2.3 Loans	3777	1632	1654	1340	1984	1977
1.3 Others	48514	55417	68381	79713	94290	95393
2 Total Receipts	**3778049**	**4288432**	**4528422**	**5023352**	**5779396**	**6524526**
2.1 Revenue Receipts	2748374	3132201	3376416	3797731	4338225	4828088
2.1.1 Tax Receipts	2297101	2622145	2978134	3278947	3547958	3951657
2.1.1.1 Taxes on commodities and services	1440952	1652377	1853859	2030050	2157126	2436871
2.1.1.2 Taxes on Income and Property	852271	965622	1121189	1246083	1386652	1510287
2.1.1.3 Taxes of Union Territories (Without Legislature)	3878	4146	3086	2814	4180	4500
2.1.2 Non-Tax Receipts	451272	510056	398282	518783	790267	876430
2.1.2.1 Interest Receipts	35779	33220	34224	36273	33272	30911
2.2 Non-debt Capital Receipts	59827	69063	142433	140287	129507	232172
2.2.1 Recovery of Loans & Advances	16561	20942	42213	44667	62499	18302
2.2.2 Disinvestment proceeds	43266	48122	100219	95621	67008	213870
3 Gross Fiscal Deficit [1 - (2.1 + 2.2)]	**952410**	**1064704**	**997097**	**1102729**	**1408183**	**1409995**
3A Sources of Financing: Institution-wise						
3A.1 Domestic Financing	939662	1046708	989167	1097210	1403250	1405373
3A.1.1 Net Bank Credit to Government	231090	617123	144792	387091	518093	-----
3A.1.1.1 Net RBI Credit to Government	60472	195816	-144847	325987	190241	-----
3A.1.2 Non-Bank Credit to Government	708572	429585	844375	710119	885156	-----
3A.2 External Financing	12748	17997	7931	5519	4933	4622
3B Sources of Financing: Instrument-wise						
3B.1 Domestic Financing	939662	1046708	989167	1097210	1403250	1405373
3B.1.1 Market Borrowings (net)	673298	689821	794856	795845	962386	1105573
3B.1.2 Small Savings (net)	80015	35038	71222	88961	213430	213430
3B.1.3 State Provident Funds (net)	35261	45688	42351	51004	42900	42529
3B.1.4 Reserve Funds	-3322	-6436	18423	-18298	-241	2978
3B.1.5 Deposits and Advances	13470	17792	25138	66289	32949	35987
3B.1.6 Cash Balances	-17438	-22463	-12476	17395	96518	-54272
3B.1.7 Others	158378	287268	49653	96014	55309	59147
3B.2 External Financing	12748	17997	7931	5519	4933	4622
4 Total Disbursements as per cent of GDP	*27.3*	*27.7*	*26.4*	*26.6*	*28.9*	*28.8*
5 Total Receipts as per cent of GDP	*27.4*	*27.9*	*26.5*	*26.5*	*28.4*	*29.0*
6 Revenue Receipts as per cent of GDP	*20.0*	*20.3*	*19.7*	*20.0*	*21.3*	*21.5*
7 Tax Receipts as per cent of GDP	*16.7*	*17.0*	*17.4*	*17.3*	*17.4*	*17.6*
8 Gross Fiscal Deficit as per cent of GDP	*6.9*	*6.9*	*5.8*	*5.8*	*6.9*	*6.3*

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

Source : Budget Documents of Central and State Governments.

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

(₹ Crore)

Sr. No	State/Union Territory	During September-2021					
		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	454	29	1882	27	1580	14
2	Arunachal Pradesh	-	-	-	-	-	-
3	Assam	-	-	-	-	-	-
4	Bihar	-	-	-	-	-	-
5	Chhattisgarh	52	2	-	-	-	-
6	Goa	100	12	79	12	-	-
7	Gujarat	-	-	-	-	-	-
8	Haryana	-	-	-	-	-	-
9	Himachal Pradesh	-	-	24	1	-	-
10	Jammu & Kashmir UT	-	-	1165	29	1047	17
11	Jharkhand	311	13	153	7	-	-
12	Karnataka	-	-	-	-	-	-
13	Kerala	92	11	971	10	322	1
14	Madhya Pradesh	-	-	-	-	-	-
15	Maharashtra	-	-	-	-	-	-
16	Manipur	-	-	307	30	156	27
17	Meghalaya	59	10	74	3	-	-
18	Mizoram	-	-	126	22	-	-
19	Nagaland	84	16	139	14	-	-
20	Odisha	-	-	-	-	-	-
21	Puducherry	-	-	-	-	-	-
22	Punjab	528	3	-	-	-	-
23	Rajasthan	2475	30	461	5	-	-
24	Tamil Nadu	-	-	-	-	-	-
25	Telangana	578	30	1442	28	451	12
26	Tripura	-	-	-	-	-	-
27	Uttar Pradesh	-	-	-	-	-	-
28	Uttarakhand	-	-	-	-	-	-
29	West Bengal	-	-	-	-	-	-

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. 48: Investments by State Governments

(₹ Crore)

Sr. No	State/Union Territory	As on end of September 2021			
		Consolidated Sinking Fund (CSF)	Guarantee Redemption Fund (GRF)	Government Securities	Auction Treasury Bills (ATBs)
	1	2	3	4	5
1	Andhra Pradesh	8999	886	--	-
2	Arunachal Pradesh	1869	3	--	-
3	Assam	4131	59	--	-
4	Bihar	6053	--	--	-
5	Chhattisgarh	5079	--	1	4550
6	Goa	665	336	--	-
7	Gujarat	5293	518	--	-
8	Haryana	838	1311	--	-
9	Himachal Pradesh	--	--	--	-
10	Jammu & Kashmir UT	--	--	--	-
11	Jharkhand	488	--	--	-
12	Karnataka	6271	--	--	21000
13	Kerala	2327	--	--	-
14	Madhya Pradesh	--	995	--	-
15	Maharashtra	48106	684	--	27000
16	Manipur	167	109	--	-
17	Meghalaya	785	45	9	-
18	Mizoram	380	49	--	-
19	Nagaland	1789	36	--	-
20	Odisha	12152	1581	92	23728
21	Puducherry	333	--	--	1109
22	Punjab	1694	--	8	-
23	Rajasthan	--	--	129	4200
24	Tamilnadu	7201	--	40	14023
25	Telangana	6145	1343	--	-
26	Tripura	402	10	--	900
27	Uttar Pradesh	1003	--	180	-
28	Uttarakhand	3540	138	--	-
29	West Bengal	9652	632	214	-
	Total	**135364**	**8734**	**672**	**96510**

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.

No. 49: Market Borrowings of State Governments

(₹ Crore)

Sr. No.	State	2019-20		2020-21		2021-22						Total amount raised, so far in 2021-22	
						July		August		September			
		Gross Amount Raised	Net Amount Raised	Gross Amount Raised	Net Amount Raised	Gross Amount Raised	Net Amount Raised	Gross Amount Raised	Net Amount Raised	Gross Amount Raised	Net Amount Raised	Gross	Net
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Andhra Pradesh	42415	33444	50896	41915	3750	2242	2000	840	6000	4840	25750	20059
2	Arunachal Pradesh	1366	1287	767	767	-	-	-	-	-	-	400	400
3	Assam	12906	10996	15030	14230	500	500	1700	1700	1700	1700	3900	3900
4	Bihar	25601	22601	27285	24685	4000	4000	2000	2000	2000	2000	12000	12000
5	Chhattisgarh	11680	10980	13000	10500	1000	1000	-	-	1000	1000	2000	2000
6	Goa	2600	2000	3354	3054	200	200	200	200	400	200	1100	900
7	Gujarat	38900	28600	44780	33280	3000	2000	1500	-500	3000	1000	12000	5000
8	Haryana	24677	20677	30000	25550	-	-	2500	2000	1000	1000	13500	10200
9	Himachal Pradesh	6580	4460	6000	3755	-	-	-	-	1000	1000	1000	1000
10	Jammu & Kashmir UT	7869	6760	9328	6020	-	-	500	500	1100	1100	4200	3500
11	Jharkhand	7500	5656	9400	8900	-	-	-	-500	500	500	500	-
12	Karnataka	48500	42500	69000	61900	-	-	-	-	-	-	-	-
13	Kerala	18073	12617	28566	23066	-	-	2500	1500	5500	4500	17000	15000
14	Madhya Pradesh	22371	16550	45573	38773	2000	2000	-	-	6000	6000	8000	8000
15	Maharashtra	48498	32998	69000	50022	5750	3750	8000	5000	8500	7000	46250	39750
16	Manipur	1757	1254	1302	1044	200	200	-	-	147	47	747	647
17	Meghalaya	1344	1070	1777	1587	-	-	-	-	400	400	800	700
18	Mizoram	900	745	944	677	100	100	-	-100	80	80	330	80
19	Nagaland	1000	423	1721	1366	-	-	150	150	150	150	900	800
20	Odisha	7500	6500	3000	500	-	-1000	-	-500	-	-	-	-2000
21	Puducherry	970	470	1390	790	-	-	-	-	124	124	124	124
22	Punjab	27355	18470	32995	23467	1200	-100	1250	-950	5170	3770	11120	2170
23	Rajasthan	39092	24686	57359	44273	3100	3100	-	-	6000	5500	25600	23600
24	Sikkim	809	481	1292	1292	-	-	-	-	251	251	751	751
25	Tamil Nadu	62425	49826	87977	76796	8000	6500	6000	6000	1000	1000	39000	35000
26	Telangana	37109	30697	43784	37365	3000	1908	3500	2660	3500	2660	23500	19391
27	Tripura	2928	2578	1916	1631	-	-	-	-	300	300	300	150
28	Uttar Pradesh	69703	52744	75500	59185	7500	6000	7500	5988	7500	6500	27500	19988
29	Uttarakhand	5100	4500	6200	5208	500	300	-	-	-	-150	1200	350
30	West Bengal	56992	40882	59680	50180	5500	3500	5000	3000	8500	7000	29500	15827
	Grand Total	634521	487454	798816	651777	49300	36200	44300	28988	70822	59472	308972	239286

- : 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.

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

NM_2 and NM_3 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.
L_1 and L_2 are compiled monthly and L_3 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 SWAP arrangement. 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 & 1.1.1.1.1.4: 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 2018-19 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 (WLAOs). WLAs are included from April 2014 onwards.

Table No. 45

(-): represents nil or negligible

The revised table format since June 2016, incorporates the ownership pattern of State Governments Securities and Treasury Bills along with the Central Government Securities.

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

Bank PDs are clubbed under Commercial Banks. However, they form very small fraction of total outstanding securities.

The category 'Others' comprises State Governments, Pension Funds, PSUs, Trusts, HUF/Individuals *etc.*

Table No. 46

GDP data is based on 2011-12 base. GDP data from 2019-20 pertains to the Provisional Estimates of National Income released by National Statistics Office on 29th May 2020. GDP for 2020-21 is from Union Budget 2020-21.
Data pertains to all States and Union Territories.
Total receipts and total expenditure exclude National Calamity Contingency Fund expenditure.
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://dbie.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**.

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10. Reserve Bank of India Occasional Papers Vol. 40, No. 2, 2019	₹200 per copy (over the counter) ₹250 per copy (inclusive of postal charges)	US$ 18 per copy (inclusive of air mail courier charges)
11. Reserve Bank of India Occasional Papers Vol. 41, No. 1, 2020	₹200 per copy (over the counter) ₹250 per copy (inclusive of postal charges)	US$ 18 per copy (inclusive of air mail courier charges)
12. Perspectives on Central Banking Governors Speak (1935-2010) Platinum Jubilee	₹1400 per copy (over the counter)	US$ 50 per copy (inclusive of air mail courier 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 (http://dbie.rbi.org.in).
3. The Reserve Bank of India History 1935-1997 (4 Volumes), Challenges to Central Banking in the Context of Financial Crisis and the Regional Economy of India: Growth and Finance are available at leading book stores in India.

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