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GOVERNOR'S STATEMENT

Governor's Statement

*Governor's Statement**

Shaktikanta Das

The Monetary Policy Committee (MPC) met on 5th, 6th and 7th April, 2021 and deliberated on current and evolving macroeconomic and financial developments, both domestic and global. The MPC voted unanimously to leave the policy repo rate unchanged at 4 per cent. It also unanimously decided to continue with the accommodative stance as long as necessary to sustain growth on a durable basis and continue to mitigate the impact of COVID-19 on the economy, while ensuring that inflation remains within the target going forward. The marginal standing facility (MSF) rate and the bank rate remain unchanged at 4.25 per cent. The reverse repo rate stands unchanged at 3.35 per cent.

Let me start by laying out briefly the MPC's decision and its underlying rationale. Since its last meeting, headline inflation, after moderating close to the target rate in January 2021, firmed up to 5.0 per cent in February 2021, primarily due to an adverse base effect. Looking ahead, the evolving CPI inflation trajectory is likely to be subjected to both upside and downside pressures. The bumper foodgrains production in 2020-21 should result in softening of cereal prices going forward. Mitigation of price pressures on key food items such as protein-based components and edible oils would also depend on supply-side measures and easing of international prices. The MPC noted that underlying inflation pressures emanate from high international commodity prices and logistics costs. The softening in crude prices seen in recent weeks, if it sustains, can assuage input cost pressures.

The National Statistical Office (NSO) in its update on February 26, 2021 placed the contraction in real GDP at 8.0 per cent for 2020-21. Prospects for 2021-22 have strengthened with the progress of the vaccination programme. The recent surge in infections has, however, imparted greater uncertainty to the outlook and needs to be closely watched, especially as localised and regional lockdowns could dampen the recent improvement in demand conditions and delay the return of normalcy. Against this backdrop, the MPC judged that monetary policy should remain accommodative to support and nurture the recovery. In other words, the stance of monetary policy will remain accommodative till the prospects of sustained recovery are well secured while closely monitoring the evolving outlook for inflation.

Assessment of Growth and Inflation

Growth

Global growth is gradually recovering from the slowdown, but it remains uneven across countries and is supported by ongoing vaccination drives, sustained accommodative monetary policies and further sizeable fiscal stimulus. World output is projected by the Organisation for Economic Co-operation and Development (OECD) to reach its pre-pandemic level by mid-2021, though it will be largely contingent on the pace of vaccine distribution and its efficacy against emerging variants of the virus. Stronger external demand should support India's exports and investment demand.

In the domestic economy, the focus must now be on containing the spread of the virus as well as on economic revival - consolidating the gains achieved so far and sustaining the impulses of growth in the new financial year (2021-22). A key aspect of this strategy will be to strengthen the bedrock of macroeconomic stability that has anchored India's revival from the pandemic. This will help stakeholders in taking efficient spending decisions over longer horizons, thereby improving the investment climate. Public investment in key infrastructure sectors is a force multiplier with historically proven ability to revive the broader economy by directly enhancing capital stock and productivity, and by attracting private

* Governor's Statement - April 7, 2021

investment. The focus of the Union Budget 2021-22 on investment-led measures with increased allocations for capital expenditure; the expanded production-linked incentives (PLI) scheme; and rising capacity utilisation (from 63.3 per cent in Q2:2020-21 to 66.6 per cent in Q3:2020-21) will reinforce the process of economic revival. In fact, firms engaged in manufacturing, services and infrastructure sector polled by the Reserve Bank in March 2021 are optimistic about a pick-up in demand and expansion of business activity into financial year 2021-22.

Juxtaposition of high frequency lead and coincident indicators reveals that economic activity is normalising in spite of the surge in infections. Rural demand remains buoyant and record agriculture production in 2020-21 bodes well for its resilience. Urban demand has gained traction and should get a fillip with the ongoing vaccination drive.

The recent surge in COVID-19 infections, however, adds uncertainty to the domestic growth outlook amidst tightening of restrictions by some state governments. In India, we are now better prepared to meet the challenges posed by this resurgence in infections. Fiscal and monetary authorities stand ready to act in a coordinated manner to limit its spillovers to the economy at large and contain its fallout on the ongoing recovery. There is concern around rising cases of infections but as Martin Luther King Jr had said and I quote: "We must accept finite disappointment, but never lose infinite hope[1]".

The increase in international commodity prices since the February policy and recurrence of global financial market volatility like the bout experienced in late February accentuates the downside risks. The upside risks, however, come from (i) the vaccination programme being speeded up and increasingly extended to the wider segments of the population; (ii) the gradual release of pent-up demand; and (iii) the investment-enhancing and growth-supportive reform measures taken by the Government. Taking these factors into consideration, the projection of real GDP growth for 2021-22 is retained at 10.5 per cent consisting of 26.2 per cent in Q1; 8.3 per cent in Q2; 5.4 per cent in Q3; and 6.2 per cent in Q4.

Inflation

While headline inflation at 5.0 per cent in February 2021 remains within the tolerance band, some underlying constituents are testing the upper tolerance level.

Going forward, the food inflation trajectory will critically depend on the temporal and spatial progress of the south-west monsoon in its 2021 season. Second, some respite from the incidence of domestic taxes on petroleum products through coordinated action by the Centre and States could provide relief on top of the recent easing of international crude prices. Third, a combination of high international commodity prices and logistics costs may push up input price pressures across manufacturing and services. Taking into consideration all these factors, the projection for CPI inflation has been revised to 5.0 per cent in Q4:2020-21; 5.2 per cent in Q1:2021-22; 5.2 per cent in Q2; 4.4 per cent in Q3; and 5.1 per cent in Q4, with risks broadly balanced.

On March 31, 2021, the Government retained the inflation target at 4 per cent with the lower and upper tolerance levels of 2 per cent and 6 per cent, respectively, for the next five years (April 2021-March 2026). An inflation rate of 4 per cent over the medium term has now been successfully entrenched in the economic landscape. The experience with efficaciously maintaining price stability and the gains in credibility for monetary policy since the beginning of the inflation targeting framework in 2016 are reinforced by the retention of the target and the tolerance band. From the time after the Monetary Policy Committee (MPC) was constituted in September 2016, average CPI inflation for the period October 2016 to February 2020 – prior to the onset of the COVID-19 pandemic

[1] Address in Washington D.C. in February 1968.

– was 3.8 per cent, down from the average of 7.3 per cent during January 2012 to September 2016. Our research suggests that trend inflation has moderated during the flexible inflation targeting period to around 4 per cent in recent times. The experience during the COVID-19 period has testified to the flexibility of the framework to respond to sharp growth-inflation trade-offs and extreme supply-side shocks over the course of the business cycle. Monetary policy over the next five years would aim at consolidating and building upon the credibility gains of the first 5 years of flexible inflation targeting.

Liquidity Guidance

In my statements over the past few policy announcements, I have been reiterating the Reserve Bank's commitment to ensuring ample system liquidity in consonance with the accommodative stance of the MPC. When I say ample liquidity, I mean a level of liquidity that would keep the system in surplus even after meeting the requirements of all financial market segments and the productive sectors of the economy. From that perspective, our endeavour has been to conduct liquidity management operations conducive for promoting orderly market conditions. This approach has yielded dividends. It has facilitated the successful completion of central and state government borrowing programmes of close to ₹22.0 lakh crore at record low costs with elongated maturity during 2020-21. It has also facilitated significant amount of private borrowing through corporate bonds, commercial paper and debentures.

It would be worthwhile to note that despite the recommencement of 14-day variable rate reverse repo (VRRR) auctions since January 15, 2021, liquidity absorbed through the fixed rate reverse repo has steadily increased from a fortnightly average of ₹4.3 lakh crore during January 16-29 to ₹4.9 lakh crore during January 30-March 31, 2021. Reflecting the surplus liquidity, reserve money rose by 14.2 per cent(YoY) as on March 26, 2021 driven by currency demand, while money supply (M3) grew by 11.8 per cent (YoY) (as on March 26), with bank credit growth at 5.6 per cent (YoY) (as on March 26). In view of the success of VRRR and given the rising level of surplus liquidity, it has now been decided to conduct VRRR auctions of longer maturity as indicated in the Revised Liquidity Management Framework announced on February 06, 2020. The amount and tenor of these auctions will be decided based on the evolving liquidity and financial conditions. This is a part of RBI's liquidity management operations and should not be read as liquidity tightening. In fact, by paying a higher rate of interest on liquidity absorptions through the VRRR auctions, the RBI is indirectly expanding liquidity.

Since mid-February this year, global financial markets have increasingly turned volatile, driven by a surge in sovereign bond yields over inflation concerns stemming from the edging up of international commodity prices as well as expectations of stronger growth. Bond market volatility and strengthening of the US dollar spilled over to emerging markets. Expectations of a reflationary cycle in the US led to a retrenchment of portfolio flows to emerging market economies (EMEs) which continued through March.

Given the strong inter-connectedness of financial markets across borders and progressive integration into the global financial cycle, there was an upsurge of investor unease in India, despite repeated assurances and forward guidance on liquidity given by the RBI. The benchmark 10-year yield, which traded at 5.93 per cent (on an average) during April 2020-January 2021, spiked to 6.25 per cent on March 10, 2021 before coming down again. In sync with G-sec yields, corporate bond yields also hardened across issuers and rating categories in the recent period. Since end-January 2021, AAA corporate bond yields of 3-year and 5-year maturities have firmed up by 30 bps and 31 bps, respectively, by March 31, 2021. Reflecting these developments, corporate bond issuance in February at ₹45,685 crore has moderated from its peak of ₹88,130 crore recorded in December 2020.

Taking note of the market's discomfort and in consonance with our commitment to ensure ample liquidity and orderly market conditions, the Reserve Bank scaled up its open market operations (OMOs) in February and conducted five special OMOs (operation twists) in February and March; increased the amount for the operation twist (OT) auction on March 4, 2021 from ₹10,000 crore to ₹15,000 crore; and adopted an innovative asymmetrical special OMO (purchase of ₹20,000 crore and sale of ₹15,000 crore) on March 10, 2021 to reinforce the compression of term premia as well as to inject liquidity which drew a favourable market response. These were clear signals that the Reserve Bank will support the market with adequate liquidity through various instruments in its toolkit. The liquidity impact of OMOs could be gauged from the fact that we made net outright purchases amounting to ₹3.13 lakh crore during 2020-21.

For the year 2021-22, drawing on this experience, we have decided to put in place what is termed as a secondary market G-sec acquisition programme or G-SAP 1.0, to give it a distinct character. Under the programme, the RBI will commit upfront to a specific amount of open market purchases of government securities with a view to enabling a stable and orderly evolution of the yield curve amidst comfortable liquidity conditions. The endeavour will be to ensure congenial financial conditions for the recovery to gain traction. For Q1 of 2021-22, therefore, it has been decided to announce a G-SAP of ₹1 lakh crore. The first purchase of government securities for an aggregate amount of ₹25,000 crore under G-SAP 1.0 will be conducted on April 15, 2021.

The positive externalities of G-SAP 1.0 operations need to be seen in the context of those segments of the financial markets that rely on the G-sec yield curve as a pricing benchmark. In addition, the extension of Held-to-Maturity (HTM) dispensation opens up space for investments of more than ₹4.0 lakh crore. We will also continue to deploy our regular operations under the LAF, longer-term repo/ reverse repo auctions, forex operations and open market operations including special OMOs to ensure liquidity conditions evolve in consonance with the stance of monetary policy and financial conditions are supportive for all stakeholders.

While laying out the liquidity management strategy for 2021-22, let me unequivocally state that the Reserve Bank's endeavour is to ensure orderly evolution of the yield curve, governed by fundamentals as distinct from any specific level thereof. Our objective is to eschew volatility in the G-sec market in view of its central role in the pricing of other financial market instruments across the term structure and issuers, both in the public and private sectors. This is a necessary prerequisite for the nascent and hesitant recovery to firm up and become durable. Needless to add, two-way movements in bond yields consistent with the fundamentals are quite normal from a market perspective; however, such movements should not be abrupt and disruptive if financial stability has to be preserved.

The Reserve Bank will of course continue to do whatever it takes to preserve financial stability and to insulate domestic financial markets from global spillovers and the consequent volatility. I would urge market participants to take heed of our actions, communication and signals in a balanced manner. Together, we can overcome the challenges and lay the foundations for a durable recovery beyond the pandemic. Let us prepare for our tryst with our potential firmly.

Additional Measures

Against this backdrop, and with a view to nurture the recovery, certain additional measures are being announced. The details of the measures are set out in the statement on developmental and regulatory policies (Part-B) of the Monetary Policy Statement.

TLTRO on Tap Scheme – Extension of Deadline

With a view to increasing the focus of liquidity measures on revival of activity in specific sectors,

the TLTRO on Tap Scheme announced on October 9, 2020 which was made available up to March 31, 2021, is now being further extended by a period of six months *i.e.*, upto September 30, 2021.

Liquidity Facility for All India Financial Institutions

Special refinance facilities of ₹75,000 crore were provided to All India Financial Institutions (AIFIs) like NABARD, SIDBI, NHB and EXIM bank during April-August 2020. To nurture the still nascent growth impulses, it is felt necessary to support continued flow of credit to the real economy. Accordingly, liquidity support of ₹50,000 crore for fresh lending during 2021-22 will be provided to AIFIs: ₹25,000 crore to NABARD; ₹10,000 crore to NHB; and ₹15,000 crore to SIDBI.

Enhancement of Limit of Maximum Balance for Payments Banks

With a view to furthering financial inclusion and to expand the ability of payments banks to cater to the growing needs of their customers, the current limit on maximum end of day balance of ₹1 lakh per individual customer is being increased to ₹2 lakh with immediate effect.

Asset Reconstruction Companies – Constitution of a Committee

Asset Reconstruction Companies (ARCs) play an important role in the resolution of stressed assets. Their potential, however, is yet to be fully realised. It is, therefore, proposed to constitute a committee to undertake a comprehensive review of the working of ARCs and recommend measures to enable these entities to meet the growing requirements of the financial sector.

Permitting Banks to On-lend through NBFCs

Recognising the key role played by NBFCs in making credit available to the last mile, bank lending to registered NBFCs (other than MFIs) for on-lending to Agriculture, MSME and Housing was permitted to be classified as Priority Sector lending (PSL). This dispensation which was available from August 13, 2019 till March 31, 2021 is being further extended for another six months up to September 30, 2021.

Priority Sector Lending (PSL) - Enhancement of Loan Limit against eNWR/NWR

With a view to encouraging farm credit to individual farmers against pledge/hypothecation of agricultural produce, it has been decided to enhance the loan limit under priority sector lending (PSL) from ₹50 lakh to ₹75 lakh per borrower against the pledge/hypothecation of agricultural produce backed by Negotiable Warehouse Receipts (NWRs)/electronic-NWRs (e-NWRs) issued by warehouses registered with the Warehousing Development and Regulatory Authority (WDRA). For other Warehouse Receipts, the loan limit for classification under PSL will continue to be ₹50 lakh per borrower.

Financial Inclusion Index

Financial Inclusion has been a thrust area for the Government, the Reserve Bank and other regulators, with significant progress made over the years. To measure the extent of financial inclusion in the country, the Reserve Bank proposes to construct and publish a Financial Inclusion Index (FI Index) based on multiple parameters. This will be published in July every year for the financial year ending previous March.

Centralised Payment Systems (CPS) – viz RTGS and NEFT – Membership for Entities other than Banks

Membership to the RBI-operated Centralised Payment Systems (CPSs) – RTGS and NEFT – is currently limited to banks, with a few exceptions. It is now proposed to enable non-bank payment system operators like Prepaid Payment Instrument (PPI) issuers, card networks, White label ATM operators and Trade Receivables Discounting System (TReDS) platforms regulated by the Reserve Bank, to take direct membership in CPSs. This facility is expected to minimise settlement risk in the financial system

and enhance the reach of digital financial services to all user segments.

Interoperability of Prepaid Payment Instruments (PPIs), and Increase in Account Limit to ₹2 lakh

The Reserve Bank had issued guidelines in October 2018 for adoption of interoperability on a voluntary basis for full-KYC Prepaid Payment Instruments (PPIs). As the migration towards interoperability has not been significant, it is now proposed to make interoperability mandatory for full-KYC PPIs and for all payment acceptance infrastructure. To incentivise the migration of PPIs to full-KYC, it is proposed to increase the current limit on outstanding balance in such PPIs from ₹1 lakh to ₹2 lakh.

Cash Withdrawal from Full-KYC PPIs issued by Non-banks

At present, cash withdrawal is allowed only for full-KYC PPIs issued by banks. As a confidence-boosting measure, and to bring uniformity across PPI issuers, it is now proposed to allow cash withdrawals for full-KYC PPIs of non-bank PPI issuers. This measure, in conjunction with the mandate for interoperability, will boost migration to full-KYC PPIs and would also complement the acceptance infrastructure in Tier III to VI centres.

Relaxation in the Period of Parking of External Commercial Borrowing (ECB) Proceeds in Term Deposits

Under the extant External Commercial Borrowing (ECB) framework, borrowers are allowed to place ECB proceeds in term deposits with AD Category-I banks in India for a maximum period of 12 months. In view of the difficulty faced by borrowers due to the Covid-19 pandemic, it has been decided to permit parking of unutilised ECB proceeds drawn down on or before March 1, 2020 in term deposits with AD Category-I banks in India prospectively up to March 1, 2022.

WMA limit for States/UTs

We have decided to accept the recommendations of an Advisory Committee constituted by the Reserve Bank to review the Ways and Means Advance (WMA) limits for State Governments/UTs and other related issues. Accordingly, it has been decided to enhance the aggregate WMA limit of states and UTs to ₹47,010 crore, an increase of about 46 per cent from the current limit of ₹32,225 crore which was fixed in February 2016. Further, it has also been decided to continue the enhanced interim WMA limit of ₹51,560 crore granted by RBI due to the pandemic for a further period of six months *i.e.*, up to September 30, 2021.

Conclusion

In contrast to the previous year, the hope generated by vaccination drives in several countries at the start of the year 2021 has been somewhat offset by rising infections and new mutant strains worldwide. Yet, the speed and collective endeavour with which the world mobilised scientific energies to develop vaccines, and pandemic-related protocols, that have now become a way of life, give us hope and confidence that we will sail through this renewed second/third surge. Localised spurts in rates of infections will hopefully ebb with the COVID-19 vaccination drives. I truly believe in the indomitable spirit of the human race which confronted the trial by virus during 2020 with resilience and fortitude and the will to survive. Let 2021 be the harbinger of a new economic era for India. I conclude by a quote from Mahatma Gandhi, who continues to inspire us: "If patience is worth anything, it must endure to the end of time. And a living faith will last in the midst of the blackest storm"[2].

Thank you. Stay safe. Stay well. Namaskar.

[2] Mahatma Gandhi (1969). "Collected Works of Mahatma Gandhi

MONETARY POLICY STATEMENT FOR 2020-21

Monetary Policy Statement, 2020-21 Resolution of the
Monetary Policy Committee (MPC), October 2020

Monetary Policy Statement, 2021-22 Resolution of the Monetary Policy Committee (MPC) *

On the basis of an assessment of the current and evolving macroeconomic situation, the Monetary Policy Committee (MPC) at its meeting today (April 7, 2021) decided to:

- keep the policy repo rate under the liquidity adjustment facility (LAF) unchanged at 4.0 per cent.

Consequently, the reverse repo rate under the LAF remains unchanged at 3.35 per cent and the marginal standing facility (MSF) rate and the Bank Rate at 4.25 per cent.

- The MPC also decided to continue with the accommodative stance as long as necessary to sustain growth on a durable basis and continue to mitigate the impact of COVID-19 on the economy, while ensuring that inflation remains within the target going forward.

These decisions are in consonance with the objective of achieving the medium-term target for consumer price index (CPI) inflation of 4 per cent within a band of +/- 2 per cent, while supporting growth.

The main considerations underlying the decision are set out in the statement below.

Assessment

Global Economy

Since the MPC's meeting in February, lingering effects of the slowdown in the global economy in Q4 of 2020 have persisted, although recent arrivals of high frequency indicators suggest that a gradual but uneven recovery may be forming. The much anticipated boost to economic activity from the vaccination rollouts is being somewhat held back by new mutations of COVID-19, second and third waves of infections across countries and unequal access to vaccines more generally. World trade activity improved in Q4:2020 and January 2021. There are, however, concerns due to COVID-19-related fresh lockdowns and depressed demand in a few major economies, escalation in shipping charges and container shortages. Inflation remains benign in major advanced economies (AEs), although highly accommodative monetary policies and large fiscal stimuli have added to concerns around market-based indicators of inflation expectations, unsettling bond markets globally. In a few emerging market economies (EMEs), however, inflation is ruling above targets, primarily driven by firming global commodity prices. This has even prompted a few of them to raise policy rates. Equity and currency markets have been turbulent with the increase in long-term bond yields and the steepening of yield curves. More recently, however, calm has returned and major equity markets have scaled new peaks in March, while currencies are trading mixed against a generally firming US dollar. With the bond markets sell-offs, EME assets came under selling pressure and capital outflows imposed depreciating pressures on EME currencies in March.

Domestic Economy

The second advance estimates for 2020-21 released by the National Statistical Office (NSO) on February 26, 2021 placed India's real gross domestic product (GDP) contraction at 8.0 per cent during the year. High frequency indicators – vehicle sales; railway freight traffic; toll collections; goods and services tax (GST) revenues; e-way bills; and steel consumption – suggest that gains in manufacturing and services activity in Q3:2020-21 extended into Q4. Purchasing managers' index (PMI) manufacturing at 55.4 in

* Released on April 7, 2021.

March 2021 remained in expansion zone, but lower than its level in February. The index of industrial production slipped into marginal contraction in January 2021, dragged down by manufacturing and mining. Core industries also contracted in February. The resilience of agriculture is evident from foodgrains and horticulture production for 2020-21, which are expected to be 2.0 per cent and 1.8 per cent higher respectively than the final estimates of 2019-20.

Headline inflation increased to 5.0 per cent in February after having eased to 4.1 per cent in January 2021. Within an overall food inflation print of 4.3 per cent in February, five out of twelve food sub-groups recorded double digit inflation. While fuel inflation pressures eased somewhat in February, core inflation registered a generalised hardening and increased by 50 basis points to touch 6 per cent.

System liquidity remained in large surplus in February and March 2021 with average daily net liquidity absorption of ₹5.9 lakh crore. Driven by currency demand, reserve money (RM) increased by 14.2 per cent (y-o-y) as on March 26, 2021. Money supply (M3) grew by 11.8 per cent as on March 26, 2021 with credit growth at 5.6 per cent. Corporate bond issuances at ₹6.8 lakh crore during 2020-21 (up to February 2021) were higher than ₹6.1 lakh crore during the same period last year. Issuances of commercial paper (CPs) turned around since December 2020 and were higher by 10.4 per cent during December 2020 to March 2021 than in the same period of the previous year. India's foreign exchange reserves increased by US$ 99.2 billion during 2020-21 to US$ 577.0 billion at end-March 2021, providing an import cover of 18.4 months and 102 per cent of India's external debt.

Outlook

The evolving CPI inflation trajectory is likely to be subjected to both upside and downside pressures. The bumper foodgrains production in 2020-21 should sustain softening of cereal prices going forward. While the prices of pulses, particularly *tur* and *urad*, remain elevated, the incoming *rabi* harvest arrivals in the markets and the overall increase in domestic production in 2020-21 should augment supply which, along with imports, should enable some softening of these prices going forward. While edible oils inflation has been ruling at heightened levels with international prices remaining firm, reduction of import duties and appropriate incentives to enhance productivity domestically could work towards a better demand-supply balance over the medium-term. Pump prices of petroleum products have remained high. Reduction of excise duties and cesses and state level taxes could provide some relief to consumers on top of the recent easing of international crude prices. This could slow down the propagation of second-round effects. The impact of high international commodity prices and increased logistics costs are being felt across manufacturing and services. Finally, inflation expectations of urban households one year ahead showed a marginal increase than over the three months ahead horizon according to the Reserve Bank's March 2021 survey. Taking into consideration all these factors, CPI inflation is now projected as 5.0 per cent in Q4:2020-21; 5.2 per cent in Q1:2021-22, 5.2 per cent in Q2, 4.4 per cent in Q3 and 5.1 per cent in Q4, with risks broadly balanced (Chart 1).

Turning to the growth outlook, rural demand remains buoyant and record agriculture production for 2020-21 bodes well for its resilience. Urban demand has been gaining strength on the back of normalisation of economic activity and should get a fillip with the ongoing vaccination drive. The fiscal stimulus from increased allocation for capital expenditure under the Union Budget 2021-22, expanded production-linked incentives (PLI) scheme and rising capacity utilisation (from 63.3 per cent in Q2 to 66.6 per cent in Q3:2020-21) should provide strong support to investment demand and exports. Firms engaged in manufacturing, services and infrastructure polled by the Reserve

Chart 1: Quarterly Projection of CPI Inflation (y-o-y)

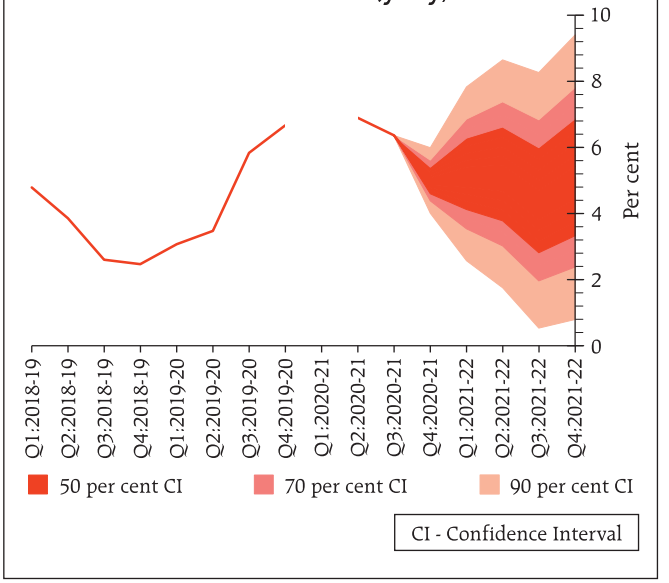
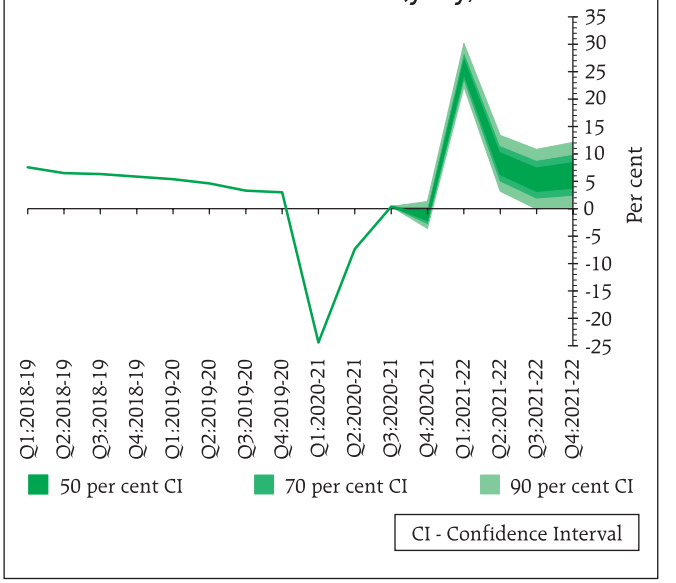


Chart 2: Quarterly Projection of Real GDP Growth (y-o-y)



Bank in March 2021 were optimistic about a pick-up in demand and expansion in business activity into 2021-22. Consumer confidence, on the other hand, has dipped with the recent surge in COVID infections in some states imparting uncertainty to the outlook. Taking these factors into consideration, the projection of real GDP growth for 2021-22 is retained at 10.5 per cent consisting of 26.2 per cent in Q1, 8.3 per cent in Q2, 5.4 per cent in Q3 and 6.2 per cent in Q4 (Chart 2).

The MPC notes that the supply side pressures on inflation could persist. It also notes that demand-side pull remains moderate. While cost-push pressures have risen, they could be partially offset with the normalisation of global supply chains. On imported inflation from global commodity prices, urgent concerted and coordinated policy actions by Centre and States can mitigate domestic input costs such as taxes on petrol and diesel and high retail margins. The renewed jump in COVID-19 infections in certain parts of the country and the associated localised lockdowns could dampen the demand for contact-intensive services, restrain growth impulses and prolong the return to normalcy. In such an environment, continued policy support remains necessary. Taking these developments into consideration, the MPC decided to continue with the accommodative stance as long as necessary to sustain growth on a durable basis and continue to mitigate the impact of COVID-19 on the economy, while ensuring that inflation remains within the target going forward.

All members of the MPC – Dr. Shashanka Bhide, Dr. Ashima Goyal, Prof. Jayanth R. Varma, Dr. Mridul K. Saggar, Dr. Michael Debabrata Patra and Shri Shaktikanta Das – unanimously voted for keeping the policy repo rate unchanged. Furthermore, all members of the MPC voted to continue with the accommodative stance as long as necessary to sustain growth on a durable basis and continue to mitigate the impact of COVID-19 on the economy, while ensuring that inflation remains within the target going forward.

The minutes of the MPC's meeting will be published on April 22, 2021.

The next meeting of the MPC is scheduled during June 2 to 4, 2021.

STATEMENT ON DEVELOPMENTAL AND REGULATORY POLICIES

Statement on Developmental and Regulatory Policies

Statement on Developmental and Regulatory Policies

This Statement sets out various developmental and regulatory policy measures on (i) liquidity management and support to targeted sectors; (ii) regulation and supervision; (iii) debt management; (iv) payment and settlement systems; (v) financial Inclusion; and (vi) external commercial borrowings.

I. Liquidity Measures

1. TLTRO on Tap Scheme – Extension of Deadline

With a view to increasing the focus of liquidity measures on revival of activity in specific sectors that have both backward and forward linkages and having multiplier effects on growth, the RBI had announced the TLTRO on Tap Scheme on October 9, 2020 which was available up to March 31, 2021. In addition to the five sectors announced under the scheme on October 21, 2020, 26 stressed sectors identified by the Kamath Committee were also brought within the ambit of sectors eligible under on tap TLTRO on December 4, 2020 and bank lending to NBFCs on February 5, 2021. Liquidity availed by banks under the scheme is to be deployed in corporate bonds, commercial paper, and non-convertible debentures issued by entities in these sectors; it can also be used to extend bank loans and advances to these sectors. Investments made by banks under this facility can be classified as held to maturity (HTM) even above the 25 per cent of total investment permitted to be included in the HTM portfolio. All exposures under this facility are exempted from reckoning under the large exposure framework (LEF). On a review, it has now been decided to extend the TLTRO on Tap Scheme by a period of six months, *i.e.*, till September 30, 2021.

2. Liquidity Facility for All India Financial Institutions

To support the continued flow of credit to the real economy in the aftermath of the COVID-19 pandemic, special refinance facilities for a total amount of ₹75,000 crore were provided during April-August 2020 to all India financial institutions (AIFIs) – the National Bank for Agriculture and Rural Development (NABARD); the Small Industries Development Bank of India (SIDBI); the National Housing Bank (NHB); and the EXIM Bank. These facilities were available for a period of one year. NABARD, SIDBI and NHB will repay the facilities extended to them during April-May 2020. In consonance with the policy objective of nurturing the still nascent growth impulses, it has been decided to extend fresh support of ₹50,000 crore to the AIFIs for new lending in 2021-22. Accordingly, NABARD will be provided a special liquidity facility (SLF) of ₹25,000 crore for a period of one year to support agriculture and allied activities, the rural non-farm sector and non-banking financial companies-micro finance institutions (NBFC-MFIs). SLF of ₹10,000 crore will be extended to NHB for one year to support the housing sector. To meet the funding requirements of micro, small and medium enterprises (MSMEs), SIDBI will be sanctioned ₹15,000 crore under this facility for a period of upto one year. All these three facilities will be available at the prevailing policy repo rate.

II. Regulation and Supervision

3. Enhancement of limit of maximum balance per customer at end of the day from ₹1 lakh to ₹2 lakh for Payments Banks

The extant "Guidelines for Licensing of Payments Banks" issued on November 27, 2014 allow payments banks to hold a maximum balance of ₹ 1 lakh per individual customer. Based on a review of performance of payments banks and with a view to encourage their efforts for financial inclusion and to expand their ability to cater to the needs of their customers, including MSMEs, small traders and merchants, it has been decided to enhance the limit of maximum balance at end of the day from ₹1 lakh to ₹2 lakh per individual customer. A circular in this regard shall be issued separately.

4. Asset Reconstruction Companies – Constitution of a Committee

After enactment of Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act in 2002, regulatory guidelines for Asset Reconstruction Companies (ARCs) were issued in 2003 to enable development of this sector and to facilitate smooth functioning of ARCs. Since then, while ARCs have grown in number and size, their potential for resolving stressed assets is yet to be realised fully. It is, therefore, proposed to constitute a Committee to undertake a comprehensive review of the working of ARCs in the financial sector ecosystem and recommend suitable measures for enabling such entities to meet the growing requirements of the financial sector. Details of the constitution of the committee and its terms of reference will be announced separately.

5. Permitting banks to on-lend through NBFCs

Recognizing the role played by NBFCs in providing credit at the bottom of the pyramid to the sectors which contribute significantly to the economic growth in terms of export and employment, and with a view to augment the liquidity position of the NBFCs, it was decided in August 2019 to allow banks to classify lending to registered NBFCs (other than MFIs) as Priority Sector Lending (PSL) up to 5 per cent of a bank's total PSL, for on-lending to Agriculture/ MSME/Housing till March 31, 2020. This dispensation was later extended up to March 31, 2021. An amount of around ₹37,000 crore has been lent by banks to NBFCs for on-lending to the specified priority sectors by December 2020. With a view to ensure continued availability of credit to these sectors to aid faster economic recovery, it has been decided to extend the PSL classification for lending by banks to NBFCs for 'on-lending' to the above sectors for six months, *i.e.* up to September 30, 2021.

6. Priority Sector Lending (PSL) guidelines-Enhancement of Loan limit against eNWR/NWR

With a view to encourage farm credit to individual farmers against pledge/hypothecation of agricultural produce and leverage the inherent safety of Negotiable Warehouse Receipts (NWRs)/electronic-NWRs(e-NWRs) issued by the warehouses registered and regulated by Warehousing Development and Regulatory Authority (WDRA), it has been decided to enhance the loan limit from ₹50 lakh to ₹75 lakh per borrower against the pledge/hypothecation of agricultural produce backed by NWRs/(e-NWRs) issued by warehouses registered and regulated by WDRA. The Priority Sector loan limit backed by other Warehouse Receipts will continue to be ₹50 lakh per borrower. The circular in this regard will be issued separately.

III. Debt Management

7. Review of Way and Means Advances (WMA) limits for the State Governments/UTs

An Advisory Committee (Chairman: Shri Sudhir Shrivastava) was constituted by the Reserve Bank in August 2019 to review the Ways and Means Advances (WMA) limits for State Governments/UTs and examine other related issues. The Committee has recommended an overall revised limit of ₹47,010 crore for all states, as against the current limit of ₹32,225 crore (fixed in February 2016), representing an increase of about 46%. The committee also recommended the continuation of the enhanced interim WMA limit of ₹ 51,560 crore (60 per cent increase in the current limits allowed by the Reserve Bank during the last fiscal to help states/UTs to tide over the difficulties faced by them during the pandemic) for a further period of six months *i.e.*, from April 1, 2021 up to September 30, 2021. The Reserve Bank has accepted both the recommendations.

IV. Financial Inclusion

8. Financial Inclusion Index

Financial Inclusion has been viewed as a key enabler for achieving inclusive and sustainable development worldwide. This has been a thrust area for Government, Reserve Bank and other regulators, with a number of steps having been taken and significant progress made over the years. To measure the extent of financial inclusion in the country, the Reserve Bank will construct and periodically publish a "Financial Inclusion Index" (FI Index). The FI Index would be based on multiple parameters and shall reflect the broadening and deepening of financial inclusion in the country. To begin with, the FI Index will be published annually in July for the financial year ending previous March.

V. Payments Systems

9. Centralised Payment Systems (CPS), viz- RTGS and NEFT – Membership for entities other than banks

Membership to the RBI-operated Centralised Payment Systems (CPSs) – RTGS and NEFT – are so far limited to banks, with a few exceptions, such as specialised entities like clearing corporations and select development financial institutions. Over the last few years, the role of non-bank entities in payment space (*e.g.* Prepaid Payment Instrument (PPI) issuers, Card Networks, White Label ATM (WLA) operators, Trade Receivables Discounting System (TReDS) platforms), has grown in importance and volume, as they have innovated by leveraging technology and offering customised solutions to users. To reinforce this trend and encourage participation of non-banks across payment systems, it is proposed to enable, in a phased manner, payment system operators, regulated by the Reserve Bank, to take direct membership in CPSs. This facility is expected to minimise settlement risk in the financial system and enhance the reach of digital financial services to all user segments. These entities will, however, not be eligible for any liquidity facility from the Reserve Bank to facilitate settlement of their transactions in these CPSs. Necessary instructions will be issued separately.

10. Interoperability of Prepaid Payment Instruments (PPIs), and Increase in account limit to ₹ 2 lakh

To promote optimal utilisation of payment instruments (like cards, wallets *etc.*), and given the constraint of scarce acceptance infrastructure (like PoS devices, ATMs, QR codes, bill-payment touch points, *etc.*), Reserve Bank of India has been stressing on the benefits of interoperability amongst the issuing and acquiring entities alike, banks or non-banks. The Master Direction on Issuance and Operation of PPIs dated October 11, 2017 laid down a road-map for a phased implementation of interoperability amongst PPIs issued by banks and non-banks. Thereafter, the guidelines issued in October 2018 enabled interoperability, albeit on a voluntary basis, insofar as the PPIs were full-KYC (they met all Know Your Customer requirements). Despite a passage of two years, migration towards full-KYC PPIs, and therefore interoperability, is not significant. It is, therefore, proposed to make interoperability mandatory for full-KYC PPIs and for all acceptance infrastructure. To incentivise the migration of PPIs to full-KYC, it is proposed to increase the limit of outstanding balance in such PPIs from the current level of ₹1 lakh to ₹2 lakh. Necessary instructions will be issued separately.

11. Permitting Cash Withdrawal from Full-KYC PPIs issued by Non-banks

Presently, cash withdrawal is allowed only for full-KYC PPIs issued by banks and this facility is available through ATMs and PoS terminals. Holders of such PPI, given the comfort that they can withdraw cash as required, are less incentivised to carry cash and consequently more likely to perform digital transactions. As a confidence-boosting measure, it is proposed to allow the facility of cash withdrawal, subject to a limit, for full-KYC PPIs of non-bank PPI issuers as well. The measure, in conjunction with

the mandate for interoperability, will give boost to migration to full-KYC PPIs and would also complement the acceptance infrastructure in Tier III to VI centres. Necessary instructions will be issued separately.

VI. External Commercial Borrowings

12. Relaxation in the period of parking of External Commercial Borrowing (ECB) proceeds in term deposits

Under the extant ECB framework, ECB borrowers are allowed to place ECB proceeds in term deposits with AD Category-I banks in India for a maximum period of 12 months. In view of the difficulty faced by borrowers in utilizing already drawn down ECBs due to Covid-19 pandemic induced lockdown and restrictions, it has been decided to relax the above stipulation as a one-time measure, with a view to provide relief. Accordingly, unutilised ECB proceeds drawn down on or before March 1, 2020 can be parked in term deposits with AD Category-I banks in India prospectively up to March 1, 2022. Guidelines in this regard will be issued separately.

MONETARY POLICY REPORT FOR 2021-22

Monetary Policy Report - April 2021

I. Macroeconomic Outlook

The rebound from the COVID-19 induced slump has been sharper than anticipated and economic activity is expected to rebound strongly in 2021-22. Headline consumer price index (CPI) inflation receded into the tolerance band beginning December 2020. Core inflation pressures remain elevated, reflecting pass-through from higher crude oil and non-oil commodity prices, high fuel and other taxes post-COVID and increased operating costs. The evolving COVID-19 trajectory and progress on vaccination remain the key drivers of economic activity and inflation, globally and in India.

Section 45-ZA of the RBI Act, 1934 requires that the Central Government shall, in consultation with the Reserve Bank of India (RBI), determine the inflation target in terms of consumer price index (CPI), once in every five years. Accordingly, in a notification on March 31, 2021, the Central Government, in consultation with the RBI, retained the inflation target at 4 per cent (with the upper tolerance level of 6 per cent and the lower tolerance level of 2 per cent) for the 5-year period April 1, 2021 to March 31, 2026. The experience with successfully maintaining price stability and the gains in credibility for monetary policy since the institution of the inflation targeting framework in 2016 would be reinforced by the retention of the target and the tolerance band.[1] The experience during the COVID-19 period has testified to the flexibility of the framework to respond to sharp growth-inflation trade-offs and extreme supply-side shocks.

I.1 Key Developments since the October 2020 MPR

Since the release of the Monetary Policy Report (MPR) in October 2020, domestic economic activity has turned out to be better than anticipated on the back of a turnaround in gross fixed capital formation and a much shallower contraction in private consumption than in the preceding quarters of the financial year. The global economy is pulling out of the loss of momentum in Q4:2020, driven by multiple vaccine approvals, the launch of inoculation drives in many countries and the extension of monetary and fiscal stimuli. On the other hand, new mutants of the COVID-19 virus, second/third waves of infections, renewed lockdowns in many countries and uneven access to vaccines across countries continue to weigh on the outlook. The resurgence of commodity price inflation, supported by abundant global liquidity, has fuelled reflation trade in global financial markets. Despite the promise of continued accommodative monetary policies by central banks, bond yields have firmed up from very low levels, spurred by inflation concerns and expectations of stronger growth. Amidst stretched valuations, equity prices have become sensitive to the hardening of yields. In turn, exchange rates have become volatile, with capital outflows from emerging economies in early March interrupting their earlier ebullience on risk-on sentiments.

Crude oil prices jumped sharply on production cuts by the Organization of the Petroleum Exporting Countries (OPEC) *plus* and on anticipation of stronger demand. Non-oil commodity prices have risen substantially across the board, putting upward pressures on inflation in commodity importing countries. Gold prices eased from the highs reached in August 2020 on a stronger US dollar and expectations of economic recovery. While inflation is expected to remain subdued in advanced economies (AEs) and most of the emerging market economies (EMEs) on account of negative output gaps, the large fiscal and monetary stimuli and elevated commodity prices have raised inflation concerns over longer horizons

[1] *Report on Currency and Finance 2020-21: Reviewing the Monetary Policy Framework*, Reserve Bank of India, February 2021.

in advanced economies and in the nearer-term in the case of EMEs.

Turning to the domestic economy, the gross domestic product (GDP) shrugged off the contractions of preceding quarters and moved into expansion zone in Q3:2020-21 (+ 0.4 per cent, year-on-year). High frequency indicators point to the growth momentum gaining strength in Q4 although the surge in COVID-19 infections in a few states in March 2021 imparts uncertainty to the assessment. The outlook for the agriculture sector remains bright, with higher *rabi* sowing, above normal north-east monsoon and adequate reservoir levels. Inflation receded into the tolerance band beginning December 2020 after breaching the upper threshold of 6 per cent for six consecutive months (June-November 2020). The late winter easing of vegetable prices that caused this softening has dissipated, however. In its February 2021 print, headline inflation firmed up again, with upside pressures getting generalised across constituents of core inflation.

Monetary Policy Committee: October 2020-March 2021

During October 2020-March 2021, the Monetary Policy Committee (MPC) met thrice. In the October 2020 meeting, the MPC noted that the revival of the economy from the unprecedented COVID-19 pandemic assumed the highest priority in the conduct of monetary policy. High inflation was seen as easing with the unlocking of the economy, restoration of supply chains and normalisation of activity. Hence, the MPC decided to look through the inflation spike and unanimously voted to keep the policy repo rate unchanged. It also voted to continue with the accommodative stance as long as necessary – at least during the current financial year and into the next financial year – to revive growth on a durable basis and mitigate the impact of COVID-19 on the economy, while ensuring that inflation remained within the target going forward.

In the run up to the December 2020 meeting, CPI inflation had increased to 7.6 per cent in October 2020 with food inflation surging to double digits across protein-rich items, edible oils, vegetables and spices on multiple supply shocks. Core inflation had remained sticky and was seen to firm up as economic activity normalised and demand picked up. At the same time, with the signs of economic recovery being far from broad-based and still dependent on sustained policy support, the MPC decided to maintain *status quo* on the policy rate and continue with the accommodative stance set out in the October resolution.

By the time the MPC met in February 2021, CPI inflation had declined to 4.6 per cent in December 2020 on the back of a larger than anticipated deflation in vegetable prices. The MPC noted the sharp correction in food prices but was concerned that some pressures persisted, and core inflation remained elevated. As the recovery was still to gather firm traction and continued policy support remained crucial, the MPC unanimously decided to keep the policy repo rate unchanged and maintain its accommodative stance.

The MPC's voting pattern reflects the individual members' assessments, expectations and policy preferences (Table I.1). The MPC's unanimous vote on the policy rate in all the three meetings during October 2020-March 2021 was a reflection of the unprecedented pandemic and an unambiguous consensus on continued policy support.

Macroeconomic Outlook

Chapters II and III analyse macroeconomic developments during October 2020-March 2021. Turning to the outlook, the evolution of key macroeconomic and financial variables over the

Table I.1 Monetary Policy Committees and Voting Patterns

Country	Policy Meetings: October 2020 - March 2021		
	Total Meetings	Meetings with Full Consensus	Meetings without Full Consensus
Brazil	4	4	0
Chile	4	4	0
Colombia	5	3	2
Czech Republic	4	4	0
Hungary	5	5	0
India	3	3	0
Israel	4	0	4
Japan	4	0	4
South Africa	3	1	2
Sweden	2	2	0
Thailand	4	4	0
UK	4	4	0
US	4	4	0

Sources: Central bank websites.

Table I.2: Baseline Assumptions for Projections

Indicator	MPR October 2020	MPR April 2021
Crude oil (Indian basket)	US$ 40.9 per barrel during H2:2020-21	US$ 64.6 per barrel during 2021-22
Exchange rate	₹ 73.6/US$ during H2:2020-21	₹ 72.6/US$ during 2021-22
Monsoon	9 per cent above long period average for 2020	Normal for 2021
Global growth	(-) 4.9 per cent in 2020 5.4 per cent in 2021	5.5 per cent in 2021 4.2 per cent in 2022
Fiscal deficit (per cent of GDP)	Given the Covid-19 impact on activity, revenues, and expenditures and factoring in the additional borrowings announced, fiscal deficits are expected to be significantly higher	To remain within BE 2021-22 Centre: 6.8 Combined: 10.8
Domestic macroeconomic/ structural policies during the forecast period	No major change	No major change

Notes: 1. The Indian basket of crude oil represents a derived numeraire comprising sour grade (Oman and Dubai average) and sweet grade (Brent) crude oil.
2. The exchange rate path assumed here is for the purpose of generating the baseline projections and does not indicate any 'view' on the level of the exchange rate. The Reserve Bank is guided by the objective of containing excess volatility in the foreign exchange market and not by any specific level of and/or band around the exchange rate.
3. BE: Budget estimates.
4. Combined fiscal deficit refers to that of the Centre and States taken together.

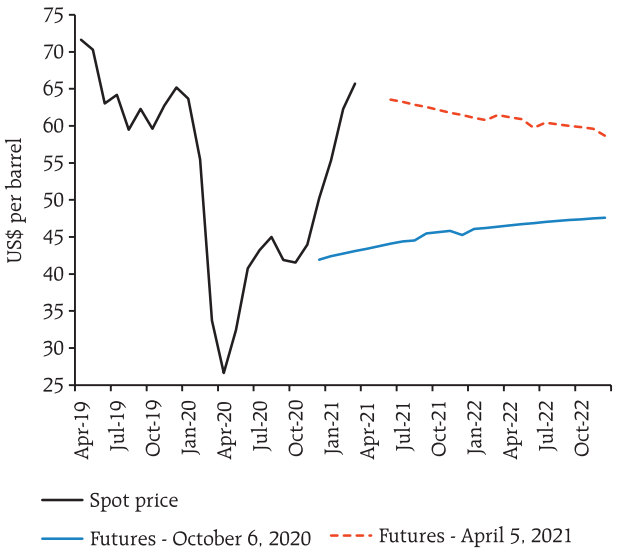
Sources: RBI estimates; Budget documents; and IMF.

past six months warrants revisions in the baseline assumptions (Table I.2).

First, global crude oil prices have hardened notably since November 2020 on the back of production cuts by the OPEC and non-OPEC allies (*OPEC plus*) and expected revival in demand with vaccine rollouts. Reflecting these developments as well as the attack on Saudi Arabia's oil facilities, Brent crude crossed US$ 70 per barrel in early March. Prices, however, corrected to around US$ 65 in the second half of March over concerns of demand faltering on rising COVID-19 infections and increase in crude stockpiles. Taking into account these developments, crude prices (Indian basket) are assumed at US$ 64.6 per barrel for 2021-22 in the baseline, 58 per cent above the October MPR baseline for 2020-21 (Chart I.1).

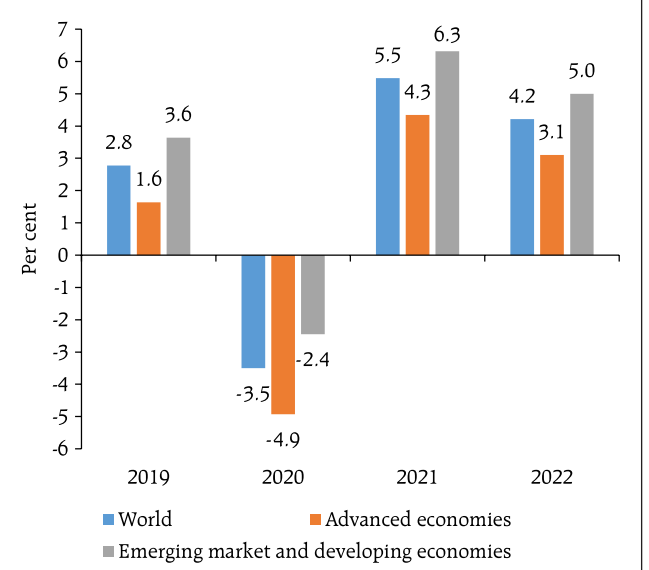
Second, the nominal exchange rate (the Indian rupee or INR *vis-à-vis* the US dollar) has moved in a range of INR 72-75 per US dollar since October 2020. The INR remained under depreciating pressure till mid-November 2020 due to COVID-related uncertainty, risk aversion and capital outflows. Subsequently, the INR appreciated, riding on the domestic recovery gaining traction, decline in the number of new infections, vaccine rollout, and the measures announced in the Union Budget 2021-22 to revive the economy. The INR depreciated sharply in late February on elevated global financial market volatility following the spike in sovereign bond yields in the US and other major AEs. Taking these developments into account, the exchange rate is assumed at INR 72.6 per US dollar for 2021-22 in the baseline.

Chart I.1: Brent Prices



Source: Bloomberg.

Chart I.2: Global GDP Growth



Source: IMF.

Third, global economic activity has improved relative to the outlook in October 2020 with vaccine rollouts and easing of lockdown restrictions, although it remains uneven across countries and sectors. The International Monetary Fund (IMF) in its January 2021 *World Economic Outlook* (WEO) update projected the global economy to expand by 5.5 per cent in 2021 (Chart I.2); the outlook remains heavily contingent upon the progress with COVID-19 containment measures and the scale and speed of the vaccination programme. The World Trade Organization's (WTO) trade barometers suggest a moderation in global merchandise and services trade volumes from the marked improvement in Q4:2020.

I.2 The Outlook for Inflation

After breaching the upper tolerance threshold of 6.0 per cent for six consecutive months (June-November 2020), CPI inflation fell in December 2020 and eased further in January 2021 to 4.1 per cent on the back of a sharp correction in vegetable prices and softening of cereal prices. It rebounded to 5.0 per cent in February, however, driven primarily by base effects. Core inflation pressures remained elevated, with inflation excluding food and fuel at 6.0 per cent in February reflecting pass-through to retail prices from higher crude oil and non-oil commodity prices, high fuel and other taxes post-COVID and increased operating costs (Chapter II).

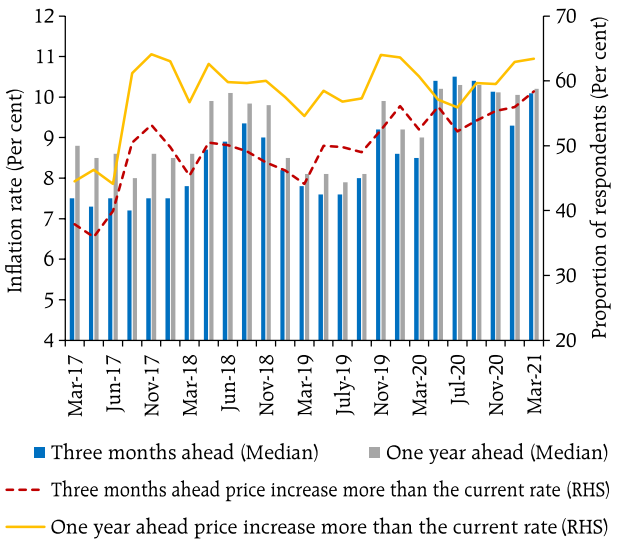
Looking ahead, three months and one year ahead median inflation expectations of urban households rose by 80 basis points (bps) and 10 bps, respectively in the March 2021 round of the Reserve Bank's survey[2] in tandem with higher food and oil prices. The proportion of respondents expecting the general price level to increase by more than the current rate also increased for both three months and one year ahead horizons *vis-à-vis* the previous round (Chart I.3).

Manufacturing firms polled in the January-March 2021 round of the Reserve Bank's industrial outlook survey[3] expected further input cost pressures from

[2] The Reserve Bank's inflation expectations survey of households is conducted in 18 cities and the results of the March 2021 survey are based on responses from 5,955 households.

[3] The results of the January-March 2021 round of the industrial outlook survey are based on responses from 967 companies.

Chart I.3: Inflation Expectations of Households



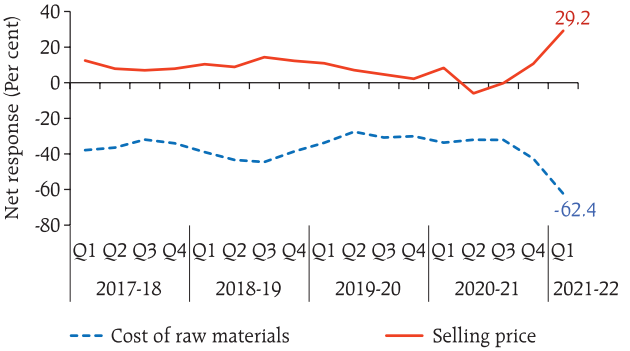
Source: Inflation Expectations Survey of Households, RBI.

raw materials in Q1:2021-22; moreover, positive sentiments on profit margins rose on the back of higher selling prices, suggesting a return of pricing power (Chart I.4). The *IHS Markit's* purchasing managers' index (PMI) survey for the manufacturing sector also reported strong increase in input prices in March 2021 along with higher output prices; for the services sector, input cost inflation was at an eight-year high while selling prices remained stable in February, reflecting efforts to boost sales.

Professional forecasters surveyed[4] by the Reserve Bank in March 2021 expected CPI inflation to ease from 4.9-5.0 per cent in H1:2021-22 to 4.3 per cent in Q3 and revert to 5.0 per cent in Q4 (Chart I.5).

Taking into account the initial conditions, signals from forward-looking surveys and estimates from structural and other time-series models, CPI inflation is projected to average 5.0 per cent in Q4:2020-21, 5.2 per cent in Q1:2021-22 and Q2, 4.4 per cent in Q3, and 5.1 per cent in Q4, with risks broadly balanced (Chart I.6). The 50 per cent and the 70 per cent confidence intervals for headline inflation in Q4:2021-22 are 3.3-6.9 per cent and 2.4-7.8 per cent, respectively.

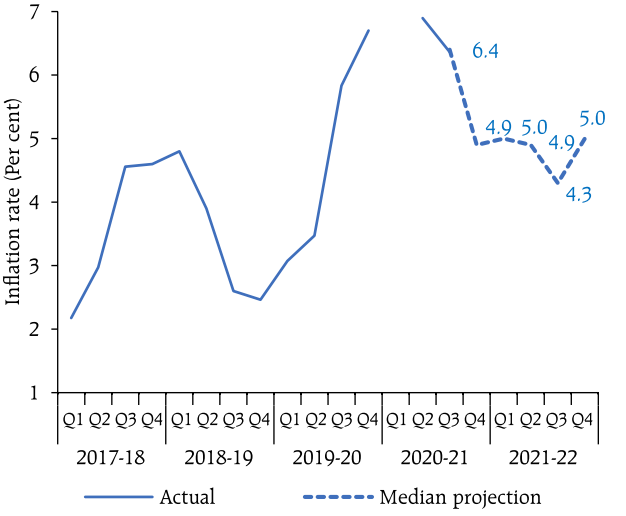
Chart I.4: Expectations about Cost of Raw Materials and Selling Prices



Note: Net response is the difference between the respondents reporting optimism and those reporting pessimism. The range is -100 to 100. A positive/negative value of net response is considered as optimistic/pessimistic from the viewpoint of respondent firms. Therefore, higher positive values of selling prices indicate increase in output prices while lower values for the cost of raw materials indicate higher input price pressures and *vice versa*.

Source: Industrial Outlook Survey, RBI.

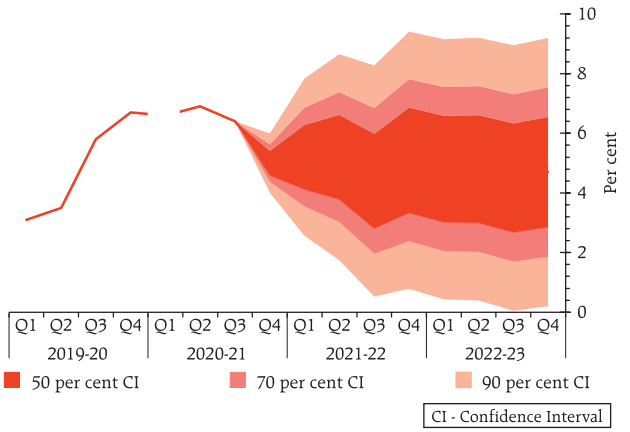
Chart I.5: Inflation Expectations of Professional Forecasters



Sources: Survey of Professional Forecasters, RBI and National Statistical Office.

[4] 31 panellists participated in the March 2021 round of the Reserve Bank's survey of professional forecasters.

Chart I.6: Projection of CPI Inflation (y-o-y)



Note: The fan chart depicts uncertainty around the baseline projection path. The baseline projections are conditioned upon the assumptions set out in Table I.2. The thick red shaded area represents 50 per cent confidence interval, implying that there is 50 per cent probability that the actual outcome will be within the range given by the thick red shaded area. Likewise, for 70 per cent and 90 per cent confidence intervals, there is 70 per cent and 90 per cent probability, respectively, that the actual outcomes will be in the range represented by the respective shaded areas.
Source: RBI staff estimates.

For 2022-23, assuming a normalisation of supply chains on the back of vaccine rollout, a normal monsoon and no major exogenous or policy shocks, structural model (Box I.1) estimates indicate that inflation will move in a range of 4.5-4.8 per cent. The 50 per cent and the 70 per cent confidence intervals for Q4:2022-23 are 2.9-6.5 per cent and 1.9-7.5 per cent, respectively. There are a number of upside and downside risks to the baseline inflation forecasts. The major upside risks include supply chain disruptions persisting for a longer period, rise in global crude oil and other commodity prices beyond what is currently in the baseline, and stronger pass-through of input costs amidst improvement in demand conditions and return of pricing power. Persistent structural demand-supply imbalances in key food items such as pulses, edible oils and fats, and eggs, meat and fish could also keep inflation elevated. The downside risks are mostly associated with a weaker than anticipated global and domestic demand in the case of another wave of infections and new mutants of the virus, fall in crude oil prices on weak demand and an early normalisation of supply chains. Prospects of a good *rabi* crop on top of a bumper *kharif* harvest in 2020-21 and effective supply management could keep food prices softer than in the baseline.

I.3 The Outlook for Growth

The rebound from the COVID-19 induced slump has been sharper than anticipated. Real GDP growth turned positive in Q3:2020-21 and a further strengthening is expected to have occurred in Q4:2020-21. Going forward, rural demand is likely to remain resilient on good prospects for the agriculture sector. Urban demand and demand for contact-intensive services is also expected to strengthen with the spread of vaccination. The fiscal stimulus under *AtmaNirbhar* 2.0 and 3.0 schemes and increased capital outlays and the investment-enhancing proposals in the Union Budget 2021-22 will likely accelerate public investment and crowd-in private investment. While the domestic financial conditions are expected to remain supportive in view of the guidance from RBI that systemic liquidity would continue to remain comfortable over the ensuing year, the risks of spillovers from volatility in global financial markets remain elevated.

Turning to the forward-looking surveys, consumer confidence[5] for the year ahead dipped, although it was still in the optimistic zone, in the March 2021 round,

[5] The survey is conducted by the Reserve Bank in 13 major cities and the March 2021 round is based on responses from 5,372 respondents.

Box I.1: Quarterly Projection Model 2.0

The Quarterly Projection Model (QPM) in the RBI's Forecast and Policy Analysis System (FPAS) is the workhorse model for generating medium term projections and undertaking policy scenario analysis, consistent with the central bank's mandate under the flexible inflation targeting (FIT) framework (Benes *et al.*, 2016). The QPM is a forward-looking, open economy, calibrated, new-Keynesian gap model, and incorporates specific characteristics of the Indian economy.

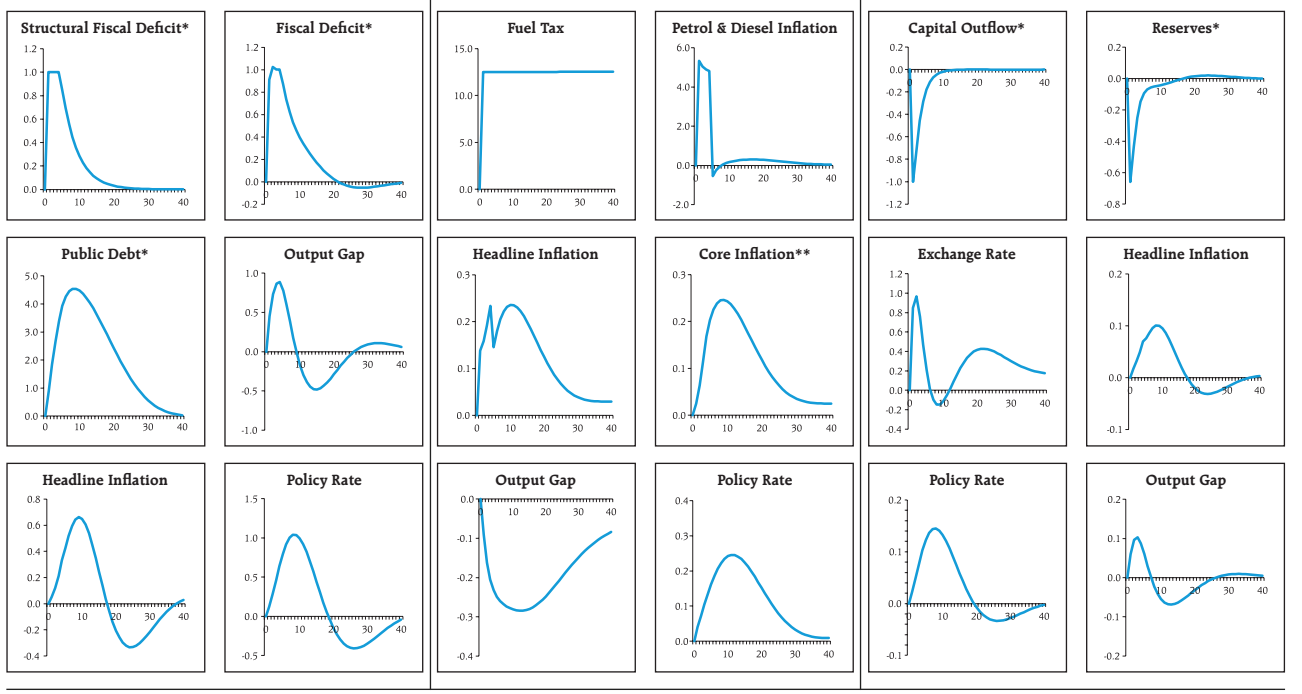
With a view to enriching the model's analytics and to capture monetary-fiscal-external-real sector interactions more comprehensively, the model structure has been expanded and the parameters of the QPM recalibrated, taking into account pre-COVID period data (up to Q4:2019) and latest empirical findings. In terms of its structure, the augmented QPM model (QPM 2.0) incorporates: a) fiscal-monetary dynamics, b) disaggregated fuel pricing (oil price, exchange rate and fuel taxes) and c) balance of payments and exchange rate interactions. The fiscal block in QPM 2.0 decomposes the primary deficit into structural (cyclically adjusted) and cyclical components, with shocks to the structural component impacting inflation through aggregate demand and country risk premia. The monetary policy stance affects the fiscal position through the interest rate channel (Escolano, 2010). The fuel block incorporates India's complex system of pricing – items like petrol and diesel are priced on the basis of international oil prices, exchange rate and fuel taxes (excise duty and value added tax (VAT)); liquified petroleum gas (LPG) and kerosene prices are market determined but with lagged pass-through; and prices of electricity are administered by state governments. The cost-push implications are also incorporated in the enhanced aggregate supply block. Finally, the balance of payments module incorporates determinants of current and capital accounts and their interaction with the exchange rate management, guided by the objective of containing excess volatility in the foreign exchange market. This recognises the costs associated with spurts in volatility in the exchange rate (e.g., balance-sheet effects, dynamic Dutch disease) due to sudden surges or reversals in capital flows (Ghosh *et al.*, 2016).

The model properties of these features can be best represented through impulse response functions which trace out the impact on key macroeconomic variables in response to shocks. First, an expansionary structural fiscal shock contributes to demand pressures and creates a positive output gap. Increasing debt could contribute to depreciation of the currency through elevated country risk premia. The positive output gap and currency depreciation together lead to higher inflation, warranting monetary policy action (Chart I.1.1a). On the other hand, if the fiscal deficit shock is cyclical, it has a modest impact on inflation. Second, an increase in fuel taxes feeds into higher fuel prices and ex-food fuel inflation through the cost-push channel. Headline inflation goes up by 25 bps in response to a fuel tax increase of ₹10 per litre (Chart I.1.1b). Inflation expectations edge higher and remain entrenched, if tax reversals do not happen. Demand conditions also remain subdued for a longer period. Finally, the impact of capital flows depends, *inter alia*, on the RBI's decision to intervene and sterilise. In case of a capital outflow shock of one percentage point (of nominal GDP) and assuming the RBI intervenes and sterilises 70 per cent of these capital outflows, the reserves will deplete by 0.7 percentage points of nominal GDP. The exchange rate will depreciate, inducing inflationary pressure (Chart I.1.1c). In the case of no intervention, the exchange rate depreciation will be relatively higher.

A historical decomposition of the shocks suggests that the FIT framework helped in anchoring inflation expectations during 2016-20 leading to lower headline as well as core inflation. The disinflation during the post-FIT period was also supported by favourable supply shocks, both food and fuel, benign external factors and prudent fiscal policy (Chart I.1.2).

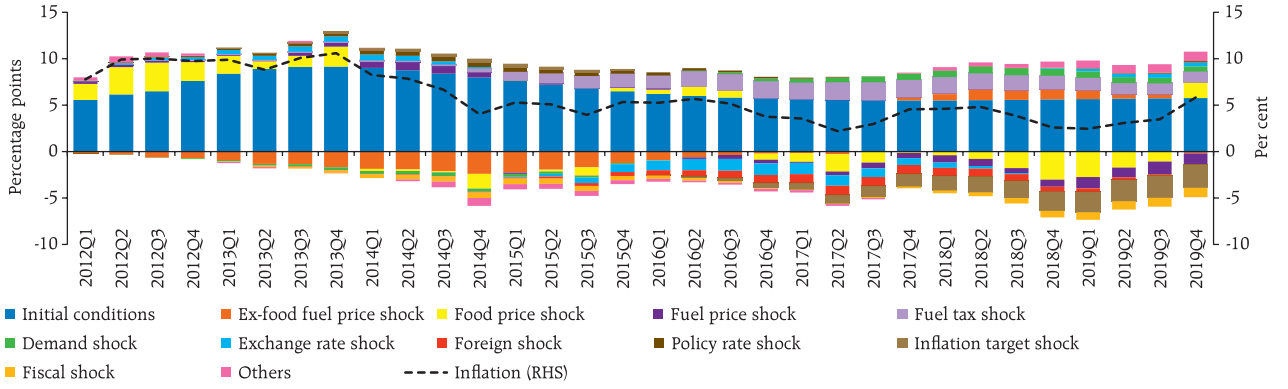
(contd.)

Chart I.1.1: Impulse Responses



#: An increase of ₹ 10 per litre. *: Per cent of nominal GDP. **: CPI excluding food, fuel, petrol and diesel.
Note: x-axes represent quarters and y-axes are in percentage points.
Source: RBI staff estimates.

Chart I.1.2: Historical Decomposition of Headline Inflation



Source: RBI staff estimates.

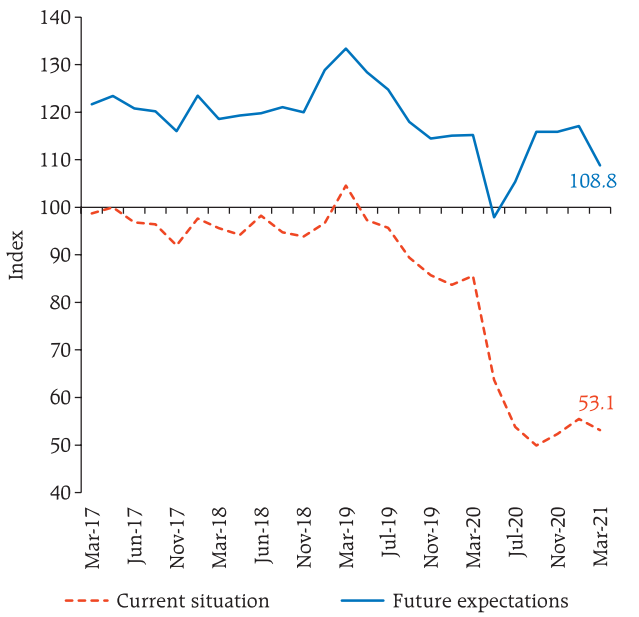
References:

Benes, J., K. Clinton, A. George, P. Gupta, J. John, O. Kamenik, D. Laxton, P. Mitra, G. Nadhanael, R. Portillo, H. Wang, and F. Zhang (2016), "Quarterly Projection Model for India: Key Elements and Properties", RBI Working Paper Series No. 8.

Ghosh, A. R., J. D. Ostry, and M. Chamon (2016), "Two Targets, Two Instruments: Monetary and Exchange Rate Policies in Emerging Market Economies", *Journal of International Money and Finance*, *60*, 172-196.

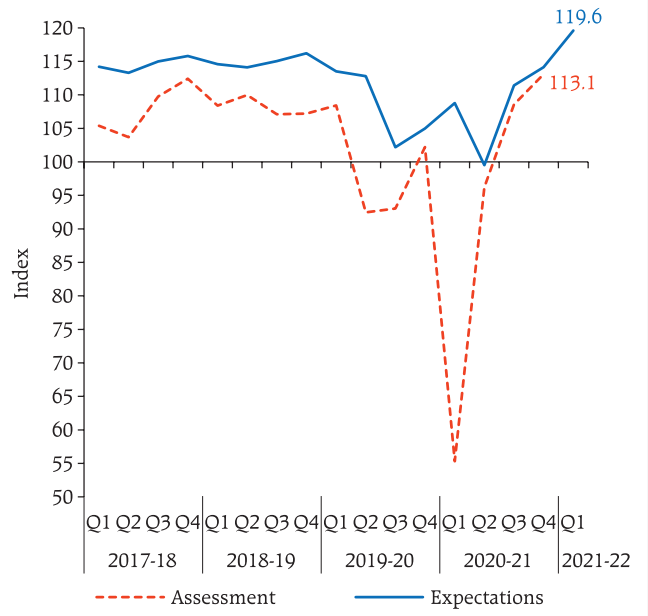
Escolano, M. J. (2010), "A Practical Guide to Public Debt Dynamics, Fiscal Sustainability, and Cyclical Adjustment of Budgetary Aggregates", International Monetary Fund.

Chart I.7: Consumer Confidence



Source: Consumer Confidence Survey, RBI.

Chart I.8: Business Assessment and Expectations



Source: Industrial Outlook Survey, RBI.

driven by lower expectations on the general economic situation, the employment scenario and income conditions (Chart I.7).

Sentiments in the manufacturing sector for the quarter ahead strengthened further in the January-March 2021 round of the Reserve Bank's industrial outlook survey, reflecting optimism on production, order books, capacity utilisation, employment conditions and the overall business situation (Chart I.8).

Surveys by other agencies also indicate optimism on future business expectations (Table I.3). According to the purchasing managers' survey for March 2021, the one year ahead business expectations of firms in the manufacturing sector exhibit confidence; optimism of firms in the services sector strengthened to a one-year high in February.

Professional forecasters polled in the March 2021 round of the Reserve Bank's survey expected a sharp uptick in real GDP growth in Q1:2021-22, driven by base effects before tapering in subsequent quarters (Chart I.9 and Table I.4).

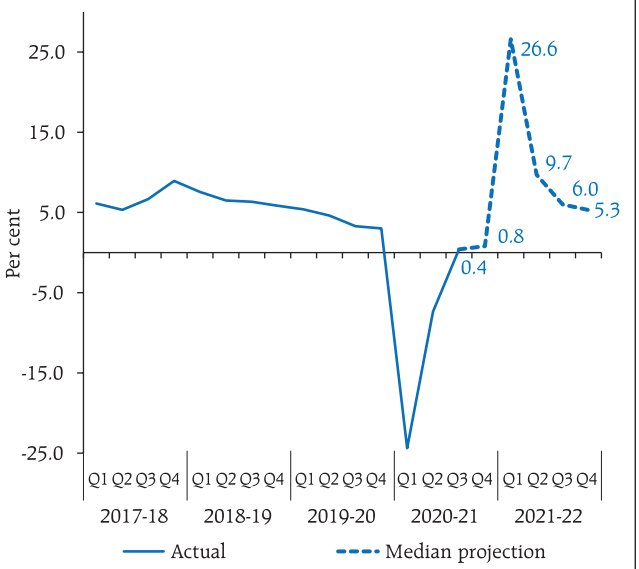
Table I.3: Business Expectations Surveys

Item	NCAER Business Confidence Index (February 2021)	FICCI Overall Business Confidence Index (February 2021)	Dun and Bradstreet Composite Business Optimism Index (January-March 2021)	CII Business Confidence Index (March 2021)
Current level of the index	84.8	74.2	79.9	68.7
Index as per previous survey	65.5	70.9	46.2	62.9
% change (q-o-q) sequential	29.6	4.7	72.9	9.2
% change (y-o-y)	-23.7	25.8	26.8	28.7

Notes:
1. NCAER: National Council of Applied Economic Research.
2. FICCI: Federation of Indian Chambers of Commerce & Industry.
3. CII: Confederation of Indian Industry.

Sources: NCAER, FICCI, CII and Dun & Bradstreet Information Services India Pvt. Ltd.

Chart I.9: Professional Forecasters' Projection of Real GDP Growth



Sources: Survey of Professional Forecasters, RBI and National Statistical Office.

Table I.4: Projections - Reserve Bank and Professional Forecasters

(Per cent)

	2020-21	2021-22	2022-23
Reserve Bank's Baseline Projections			
Inflation, Q4 (y-o-y)	5.0	5.1	4.7
Real GDP growth	-8.0	10.5	6.8
Median Projections of Professional Forecasters			
Inflation, Q4 (y-o-y)	4.9	5.0	
Real GDP growth	-7.5	11.0	
Gross domestic saving (per cent of GNDI)	28.9	29.6	
Gross capital formation (per cent of GDP)	27.7	30.1	
Credit growth of scheduled commercial banks	6.4	8.0	
Combined gross fiscal deficit (per cent of GDP)	14.0	10.5	
Central government gross fiscal deficit (per cent of GDP)	9.5	6.8	
Repo rate (end-period)	4.00	4.00	
Yield on 91-days treasury bills (end-period)	3.3	3.9	
Yield on 10-year central government securities (end-period)	6.2	6.5	
Overall balance of payments (US$ billion)	97.2	50.6	
Merchandise exports growth	-10.3	15.0	
Merchandise imports growth	-19.0	24.1	
Current account balance (per cent of GDP)	1.0	-0.8	

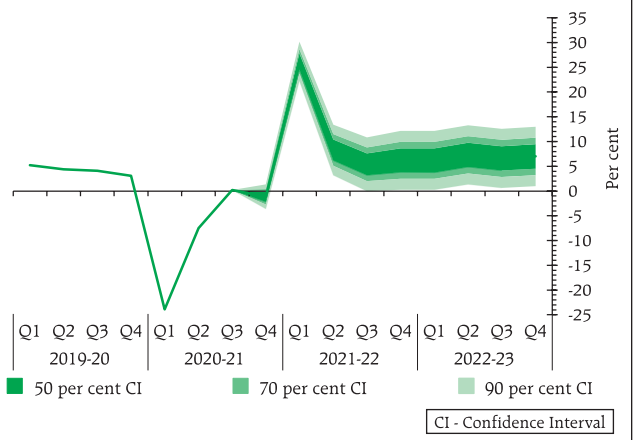
Note: GNDI: Gross National Disposable Income.
Sources: RBI staff estimates; and Survey of Professional Forecasters (March 2021).

Overall, economic activity is gathering strength, supported by the recovery in both demand and supply channels, sustained rollout of the vaccination programme, growth-enhancing proposals in the Union Budget and highly accommodative monetary conditions. Taking into account the baseline assumptions, the survey indicators, and model forecasts, real GDP growth[6] is projected to pick up from (-) 8.0 per cent in 2020-21 to 10.5 per cent in 2021-22 – with a quarterly path of 26.2 per cent in Q1, 8.3 per cent in Q2, 5.4 per cent in Q3, and 6.2 per cent in Q4 – with risks evenly balanced (Chart I.10 and Table I.4). For 2022-23, assuming a normal monsoon, and no major exogenous or policy shocks, the structural model estimates indicate real GDP growth at 6.8 per cent, with quarterly growth rates in the range of 6.2-7.3 per cent.

There are upside as well as downside risks to the baseline growth path. A faster decline in COVID-19 infections helped by a rapid vaccination drive, large pent-up demand for contact-intensive services, and stronger global demand provide an upside to the baseline growth path. The uncertainty associated with the spread of COVID-19, including new mutants of the virus, deviation of the south-west monsoon from the baseline assumption of a normal monsoon, and elevated crude oil prices and global financial market volatility pose downside risks.

[6] The Central government in February 2021 decided to bring the off-budget part of food subsidies on-budget, which has resulted in GDP contraction (-8.0 per cent) being notably higher than that (-6.5 per cent) in gross value added (GVA) in 2020-21. This budgetary treatment would especially depress reported GDP growth for Q4:2020-21 (see Chapter III).

Chart I.10: Projection of Growth in Real GDP (y-o-y)



Note: The fan chart depicts uncertainty around the baseline projection path. The baseline projections are conditioned upon the assumptions set out in Table I.2. The thick green shaded area represents 50 per cent confidence interval, implying that there is 50 per cent probability that the actual outcome will be within the range given by the thick green shaded area. Likewise, for 70 per cent and 90 per cent confidence intervals, there is 70 per cent and 90 per cent probability, respectively, that the actual outcomes will be in the range represented by the respective shaded areas.
Source: RBI staff estimates.

I.4 Balance of Risks

The baseline projections of inflation and growth are conditional on the assumptions of key domestic and international macroeconomic and financial conditions described in the previous sections. The inherent uncertainties associated with such assumptions have exacerbated due to the COVID-19 pandemic and could have a significant bearing on the inflation and growth trajectories. This section explores plausible alternative scenarios to assess the balance of risks around the baseline projections.

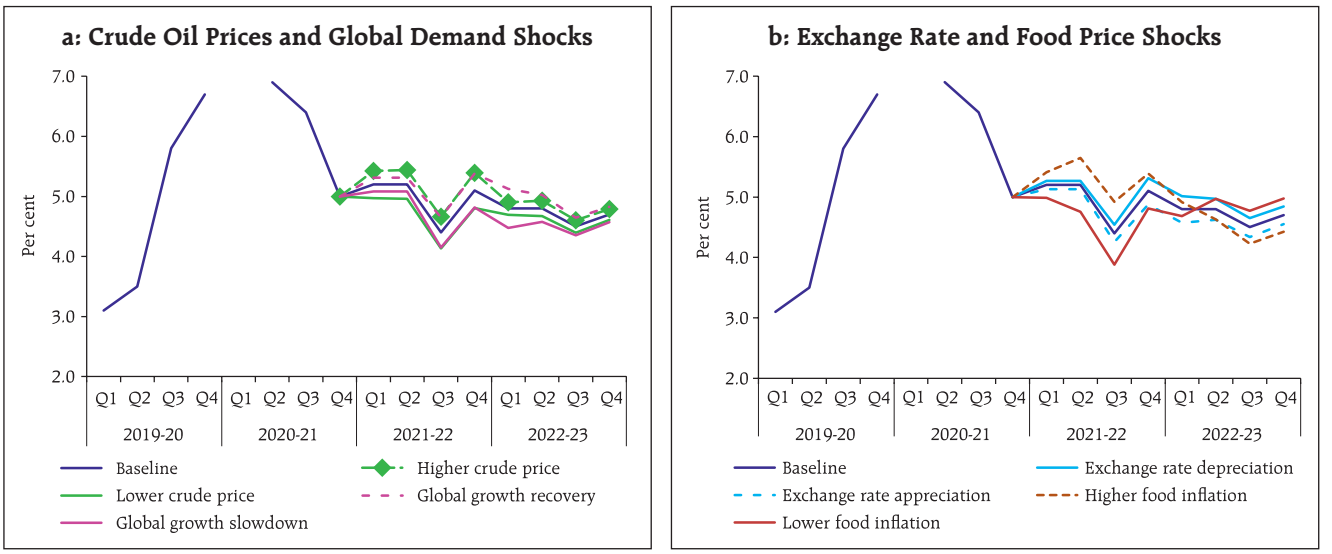
(i) Global Growth Uncertainties

The COVID-19 pandemic induced the severest global recession in decades in 2020. Global growth is expected to recover to 5.5 per cent in 2021, reflecting base effects, the expected moderation in new infections, the rollout of the vaccination programme and large monetary and fiscal support. However, the uncertainty about the pandemic's spread and its containment continues to pose high risks to the global outlook on both sides. A faster spread of mutated coronavirus variants across the world and an unequal access to vaccines across countries can result in a shallower and delayed global recovery. A surge in global bond yields – as experienced in February 2021 on reflation trade – could induce large global financial market volatility, disorderly adjustment in asset prices and disrupt global demand. In such a scenario, if global recovery is 100 bps below the baseline, domestic growth and inflation could be lower by around 40 bps and 30 bps, respectively, from the baseline trajectories. Conversely, success in containing the spread of new mutants, widespread and equitable distribution of vaccines across the world, and additional policy stimulus could provide a boost to global economic activity. In this scenario, assuming that global growth surprises by 100 bps on the upside, domestic growth and inflation could edge higher by around 40 bps and 30 bps, respectively (Charts I.11a and I.12a).

(ii) International Crude Oil Prices

International crude oil prices have risen sharply on production cuts and hopes of demand revival. For a net energy importer like India, the dynamics of international crude price movements have significant macroeconomic implications. A quicker containment of COVID-19 inducing higher global growth than the baseline and a faster closing of the global output gap along with sustained production cuts by the OPEC *plus* could lead to a sharper increase in international crude oil prices. Assuming crude oil price to be 10 per cent above the baseline, domestic inflation and growth could be higher by 30 bps and weaker by around 20 bps, respectively, over the baseline. Conversely, crude oil prices could soften if the recovery is more subdued owing to a faster spread of virus mutations, the delays in vaccination or improved supplies of shale gas. As a result, if the price of the crude falls by 10 per cent relative to the baseline, inflation could ease by around 30 bps with a boost of 20 bps to growth (Charts I.11a and I.12a).

Chart I.11: Impact of Risk Scenarios on the Baseline Inflation Path

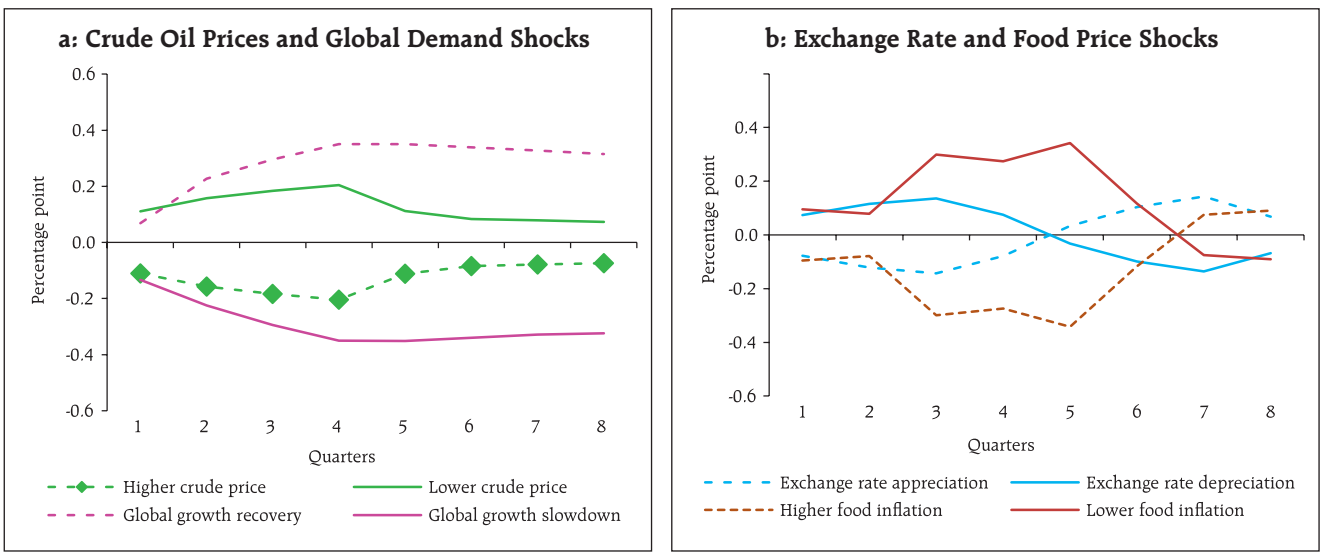


Source: RBI staff estimates.

(iii) Exchange Rate

The INR has exhibited two-way movements over the past six months, reflecting both global and domestic factors. Looking ahead, heightened volatility in global financial markets, especially a snapback in global sovereign bond yields – as observed in February 2021 – could lead to a broader risk aversion to EME assets and net capital outflows. In such a scenario, should the INR depreciate by 5 per cent from the baseline, inflation could move up by around 20 bps while GDP growth could be higher by around 15 bps through increased net exports (Charts I.11b and

Chart I.12: Impact of Risk Scenarios on the Baseline Growth Path



Source: RBI staff estimates.

I.12b). On the other hand, given India's relatively better growth outlook and expectations of strong capital inflows, there could be INR appreciation. If the INR appreciates by 5 per cent relative to the baseline, inflation and GDP growth could moderate by around 20 bps and 15 bps, respectively, *vis-à-vis* the baseline.

(iv) Food Inflation

Food inflation has softened since December 2020, largely led by the sharp fall in prices of vegetables and moderation in prices of cereals. Going forward, the bumper *kharif* harvest, record *rabi* sowing, further easing of supply chains and effective supply management measures could moderate food inflation by 100 bps below the baseline. Conversely, the recent hardening of global food prices and domestic demand-supply gaps in key food items like pulses, edible oils and fats, and eggs, fish and meat could lead to persistent upward pressures of around 100 bps on food inflation. Higher inflation expectations could then add to sustained pressures on headline inflation. The baseline assumes a normal south-west monsoon in 2021 and any deviations in the actual outturn on either side would be a critical factor in determining the food as well as headline inflation (Charts I.11b and I.12b).

I.5 Conclusion

Domestic economic activity is widely expected to rebound strongly in 2021-22. Rapid vaccination drive, large pent-up demand, investment enhancing measures by the government and better external demand provide an upside to the baseline growth path while surge in infections, new mutants, deviation of the south-west monsoon from the baseline assumption of a normal monsoon, higher crude oil and non-oil commodity prices and global financial market volatility impart downside risks to the baseline growth path. Lingering supply chain disruptions, rising global crude oil prices and stronger pass-through of input costs could push headline inflation above the baseline. There is also the probability of softer international crude oil prices on the back of a weaker than anticipated global demand, bountiful foodgrains production and effective supply management coming together to ease inflation more than anticipated. The evolving COVID-19 trajectory and progress on vaccination remain the key drivers of economic activity and inflation, globally and in India.

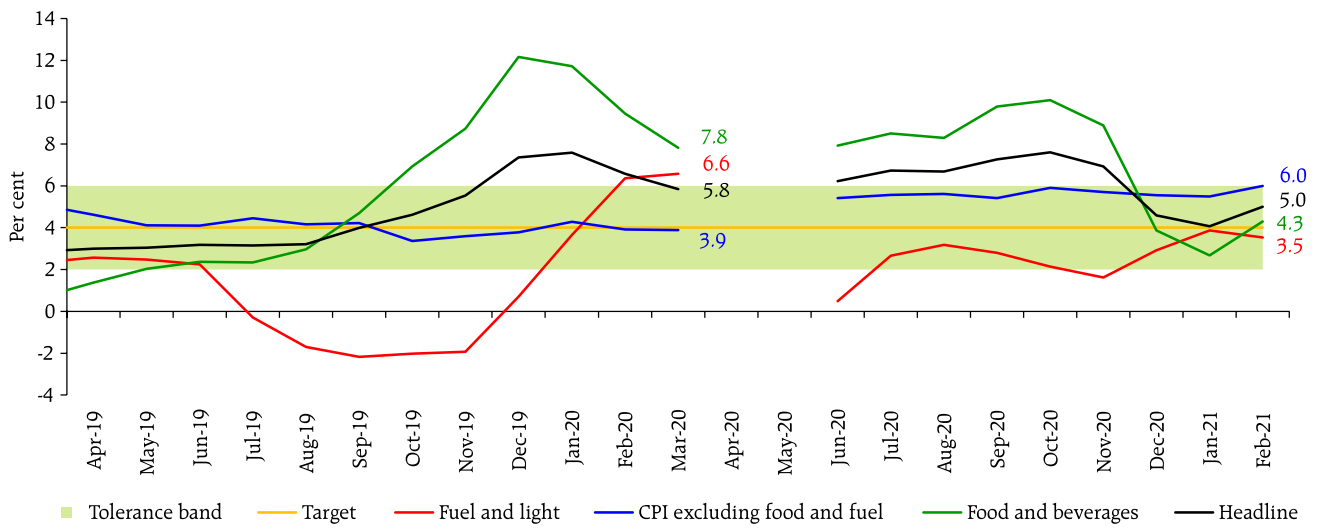
II. Prices and Costs

In 2020-21, inflation breached the upper tolerance band of 6 per cent for six consecutive months in the post-lockdown period (June-November 2020) due to a series of cost-push shocks – supply chain disruptions; weather shocks; higher crude oil and other commodity prices; and higher taxes. The sharp correction during December-January was reversed on adverse base effects in February. Core inflation remained sticky at elevated levels. Costs of farm and industrial inputs recovered with the gradual unlocking of the economy and rural wage growth moderated although it remained higher than in the pre-lockdown period.

In the months following the publication of the October 2020 MPR, inflationary pressures got accentuated and headline inflation[1] remained above the upper tolerance threshold. Core inflation also stayed sticky at elevated levels. During December 2020-January 2021, however, there was a sharp correction and inflation eased significantly, moving closer to the target, only to reverse to 5.0 per cent in February 2021, primarily due to adverse base effects. Core inflation (CPI inflation excluding food and fuel) surged to a 28-month high of 6.0 per cent in February 2021 under the combined effects of rising industrial raw material prices, record high petroleum product prices and the higher cost of doing business in the post-lockdown period (Chart II.1).

The Reserve Bank of India (RBI) Act enjoins the RBI to set out deviations of actual inflation outcomes from projections, if any, and explain the underlying reasons thereof. The October 2020 MPR had projected moderation in CPI inflation from 6.8 per cent in Q2:2020-21 to 5.4 per cent in Q3 and 4.5 per cent in

Chart II.1: CPI Inflation (y-o-y)

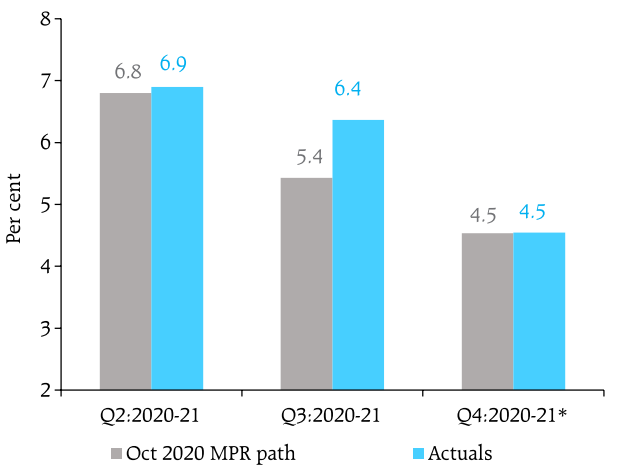


Note: The imputed CPI prints for April and May 2020 have been regarded as a break in the CPI series.
Sources: National Statistical Office (NSO); and RBI staff estimates.

[1] Headline inflation is measured by year-on-year changes in all-India consumer price index – combined (CPI-C).

Q4. In Q3, actual inflation was 100 basis points (bps) above projection (Chart II.2). A sharp, unanticipated increase in food inflation – double-digit inflation in eggs, meat and fish (due to fragmented supply chains), pulses (tight demand supply balance), edible oils (high international prices), and vegetables (unseasonal rains) – led to this substantial overshoot. Retail price margins for food also increased, with the persistence of supply chain disruptions. International crude oil prices (Indian basket) jumped from the baseline assumption of US$ 40.9 per barrel for H2:2020-21 to US$ 61.2 per barrel by February 2021. Gold prices remained elevated in Q3:2020-21 over COVID-19 concerns, supported by highly accommodative monetary policies in the major advanced economies. Cost-push pressures also impinged on core inflation more than anticipated. In Q4 (January-February), the correction in food prices resulted in actual inflation aligning with the projection (Chart II.2).

Chart II.2: CPI Inflation (y-o-y): Projection *versus* Actual



*: Projection for entire Q4:2020-21 *vis-a-vis* actual average inflation during January-February 2021.
Sources: NSO; and RBI staff estimates.

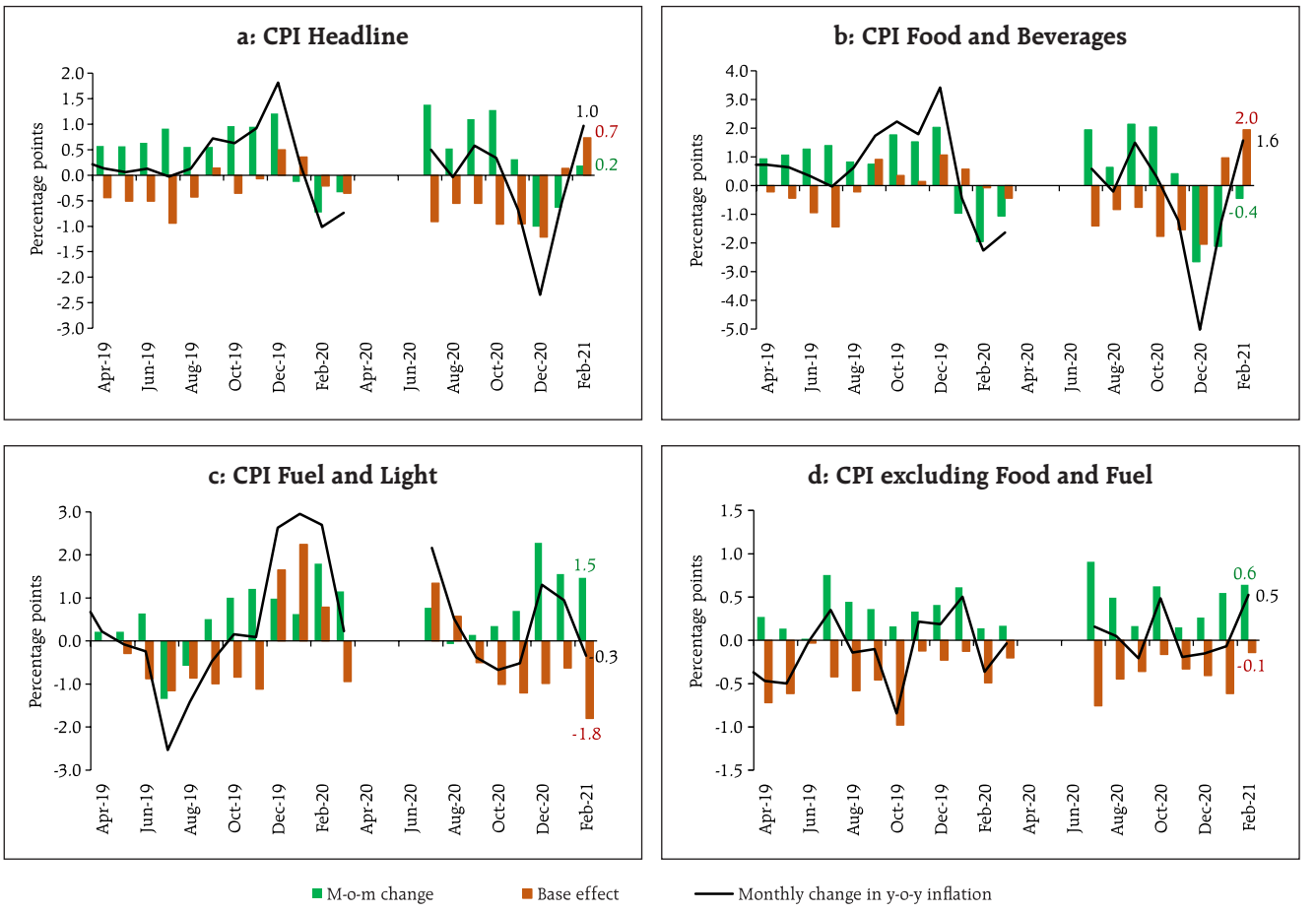
II.1 Consumer Prices

The sharp upward movement of inflation to a peak of 7.6 per cent in October 2020 came about from a pick-up in price momentum in food as well as in the core category.[2] Thereafter, strong favourable base effects brought about a moderation in headline inflation to 6.9 per cent in November 2020, more than offsetting positive momentum in all these components. In December 2020, a negative momentum in headline inflation due to a sharp decline in food prices, along with favourable base effects, resulted in headline inflation declining by 2.3 percentage points. In January 2021, headline inflation moderated further due to a large negative momentum engendered by food prices. In February 2021, an adverse base effect of around 70 bps resulted in a substantial pick-up in inflation (Chart II.3).

Reflecting broad-based price pressures, the distribution of CPI group/sub-group inflation in 2020-21 was centred at 4.9 per cent, higher than the sub-4 per cent levels seen in recent years (Chart II.4). With several sub-groups exhibiting double-digit inflation, the inflation distribution also exhibited a fat tail, pushing mean headline inflation

[2] A change in CPI year-on-year (y-o-y) inflation between any two months is the difference between the current month-on-month (m-o-m) change in the price index (momentum) and the m-o-m change in the price index 12 months earlier (base effect). For more details, see Box I.1 of the MPR, September 2014.

Chart II.3: CPI Inflation – Momentum and Base Effects



Sources: NSO; and RBI staff estimates.

in excess of 6.0 per cent. The diffusion indices of price changes in CPI items on a non-seasonally adjusted basis[3] increased in January-February 2021, indicative of price pressures across the CPI basket (Chart II.5).[4]

II.2 Drivers of Inflation

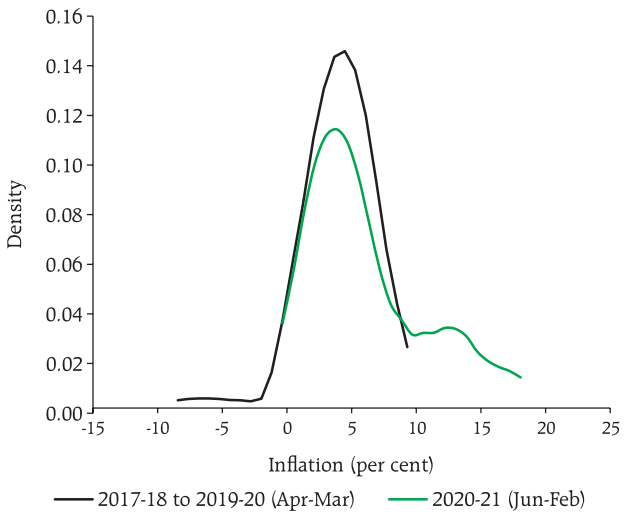
The relative role of various demand and supply shocks impinging upon the inflation dynamics can be captured through vector autoregression (VAR) estimates and historical decomposition.[5] The high inflation episode in Q3:2020-21 was predominantly due to supply shocks. In Q4, supply side factors turned benign pulling down headline inflation. On the other hand, easy monetary conditions and the firming up

[3] In view of the non-availability of CPI item level data for the period March-May 2020, the diffusion indices have been constructed with item level indices without seasonal adjustment.

[4] The CPI diffusion index, a measure of dispersion of price changes, categorises items in the CPI basket according to whether their prices have risen, remained stagnant or fallen over the previous month. A reading above 50 for the diffusion index signals a broad expansion or generalisation of price increases and a reading below 50 signals broad-based price decline.

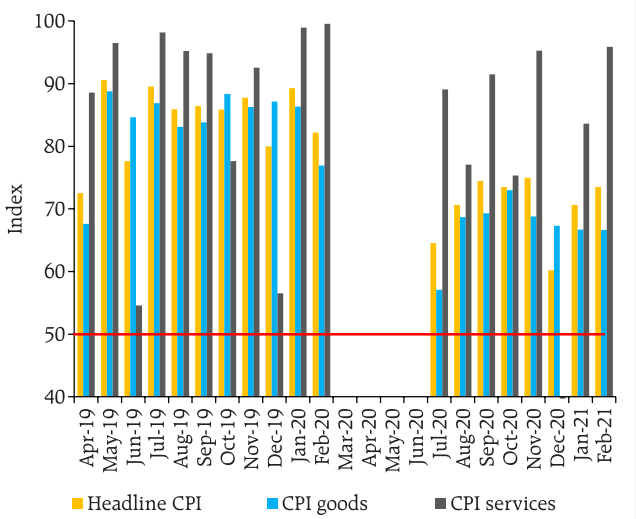
[5] Historical decomposition estimates the contribution of each shock to the movements in inflation over the sample period (Q4:2010-11 to Q4:2020-21) based on a vector autoregression (VAR) with the following variables (represented as the vector Y_t) –crude oil prices; exchange rate (INR per US$), asset price (BSE Sensex), CPI; the output gap; rural wages; the policy repo rate; and money supply (M3). All variables other than policy repo rate are growth rates. The VAR can be written in reduced form as: $Y_t = c + A\,Y_{t-1} + e_t$; where e_t represents a vector of shocks. Using Wold decomposition, Y_t can be represented as a function of its deterministic trend and sum of all the shocks e_t. This formulation facilitates decomposition of the deviation of inflation from its deterministic trend into the sum of contributions from various shocks.

Chart II.4: Average CPI Inflation (y-o-y) (Kernel Density Estimates)



Sources: NSO; and RBI staff estimates.

Chart II.5: Diffusion Indices: CPI (M-o-M Non-Seasonally Adjusted)



Sources: NSO; and RBI staff estimates.

of asset and crude oil prices contributed positively to the deviation of inflation from trend levels in Q3 and Q4. Muted demand conditions and moderation in rural wage growth pulled down inflation in Q3 and Q4, offsetting these effects (Chart II.6a).

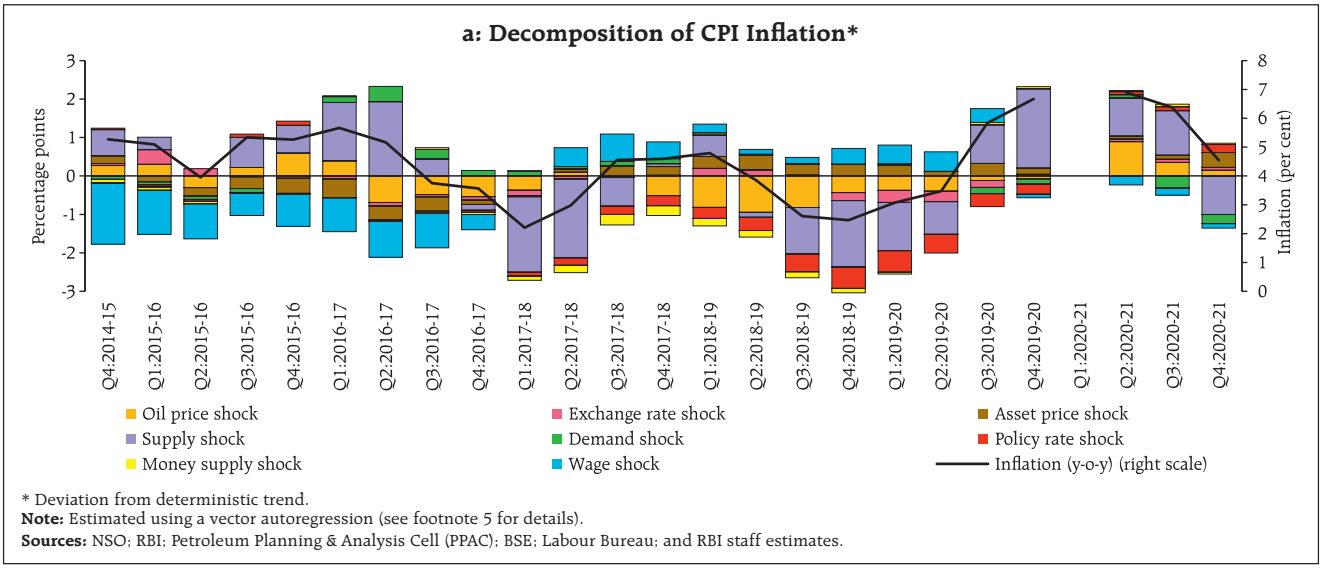
High volatility in perishable goods (non-durable goods with a 7-day recall[6]) from supply shocks in both directions had a significant bearing on the inflation trajectory. With the surge in vegetable prices, the contribution of perishables to overall inflation increased to 55.3 per cent during September-November 2020 from 46.8 per cent in June-August 2020. Subsequently, as vegetable prices corrected, perishables' contribution decreased sharply to 32.0 per cent during December 2020-January 2021. In February 2021, following the lower rate of deflation in the prices of vegetables, perishables' share increased to 38.6 per cent. Reflecting the increase in prices of protein-based food, edible oils and other food items, the contribution of semi-perishable goods (non-durable goods with a 30-day recall) remained elevated (Chart II.6b). Imported components contributed 0.5 percentage points to headline inflation in February 2021, driven by gold, silver, edible oils and higher domestic taxes on petroleum products (Chart II.6c).

Food Group

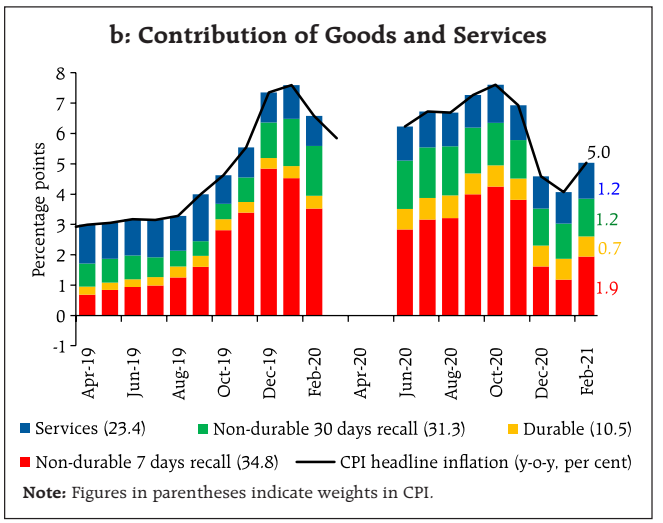
Food inflation rose sharply to 10.1 per cent in October 2020 and remained above 6 per cent for 14 consecutive months till November 2020. It moderated quickly in the subsequent months to 2.7 per cent in January 2021 before picking up to 4.3 per cent in February 2021. These large variations were primarily driven by movements in prices of vegetables (Chart II.7). The softening of inflation in respect of cereals and products, milk and sugar and confectionery also aided the easing in food inflation. On the other hand, there were upward pressures from oils and fats, non-alcoholic beverages, prepared meals and snacks

[6] The CPI weighting diagrams use the modified mixed reference period (MMRP) data based on the 2011-12 Consumer Expenditure Survey conducted by the National Sample Survey Office (NSSO). Under MMRP, data are collected on expenditure incurred for frequently purchased items – edible oil, eggs, fish, meat, vegetables, fruits, spices, beverages, processed foods, pan, tobacco and intoxicants – during the last seven days; for clothing, bedding, footwear, education, medical (institutional), durable goods, during the last 365 days; and for all other food, fuel and light, miscellaneous goods and services including non-institutional medical services, rents and taxes, data relate to the last 30 days.

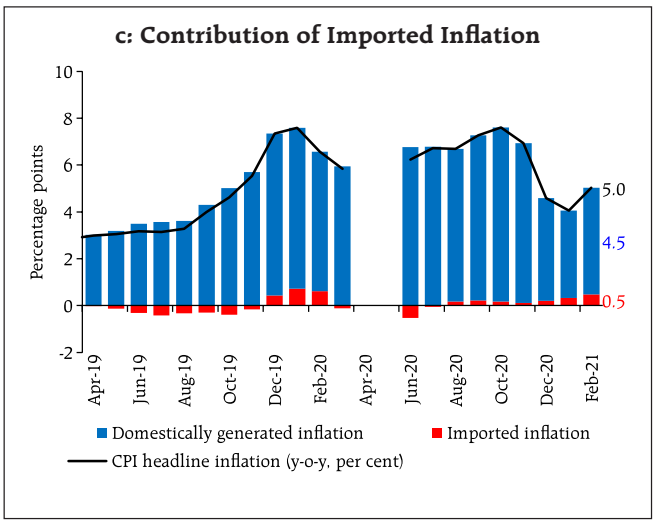
Chart II.6: Drivers of CPI Inflation



* Deviation from deterministic trend.
Note: Estimated using a vector autoregression (see footnote 5 for details).



Note: Figures in parentheses indicate weights in CPI.



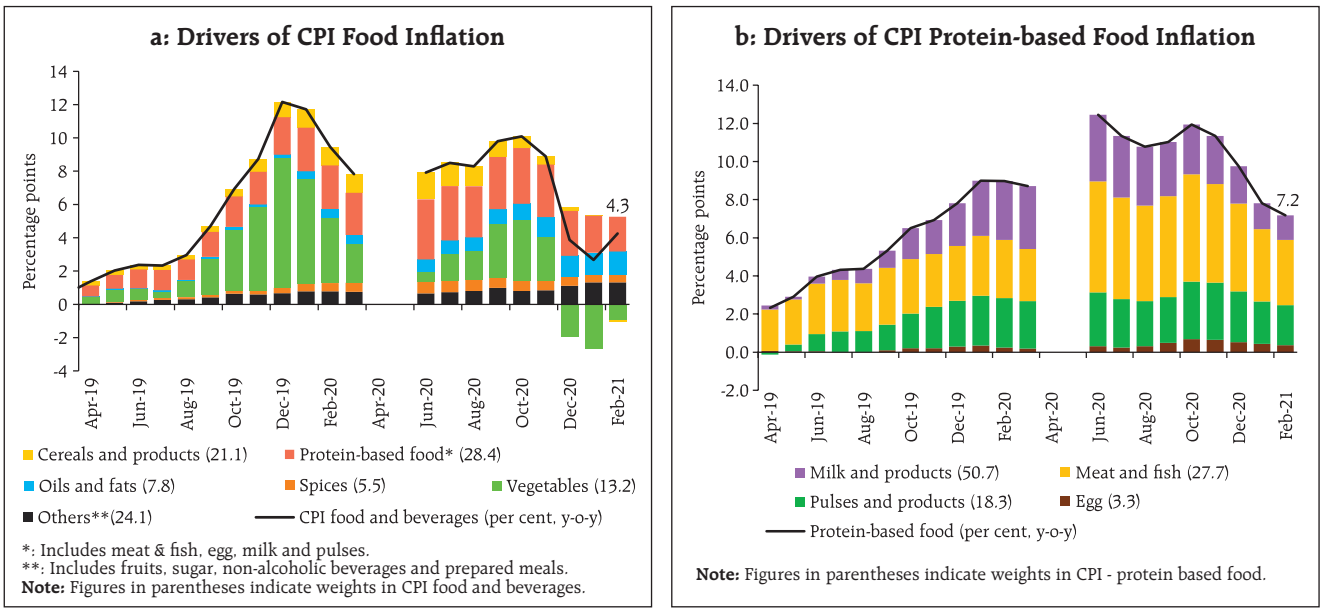
Sources: NSO; RBI; Petroleum Planning & Analysis Cell (PPAC); BSE; Labour Bureau; and RBI staff estimates.

and fruits. Despite a sizeable moderation, inflation in five out of twelve food sub-groups was still in double digits in February 2021. Seven of the twelve sub-groups recorded increases above the historical average (Chart II.8). Rural and urban food inflation exhibited broadly similar movements, with no significant difference between month-over-month changes in prices of food and its sub-groups in rural and urban areas.[7]

In the case of cereals (weight of 9.7 per cent in the CPI and 21.1 per cent in the food and beverages group), a bumper *kharif* rice production and record buffer stocks – around 6.7 times the norms for rice and 2.1 times for wheat as on March 16, 2021 – led to easing in inflation to (-)0.3 per cent in February 2021 from 7.9 per cent in June 2020. Higher *rabi* sowing has kept the price pressures subdued despite higher procurement and exports of both rice and wheat.

[7] Based on modified z-test (accounting for autocorrelation) on difference of rural and urban m-o-m changes of seasonally adjusted series.

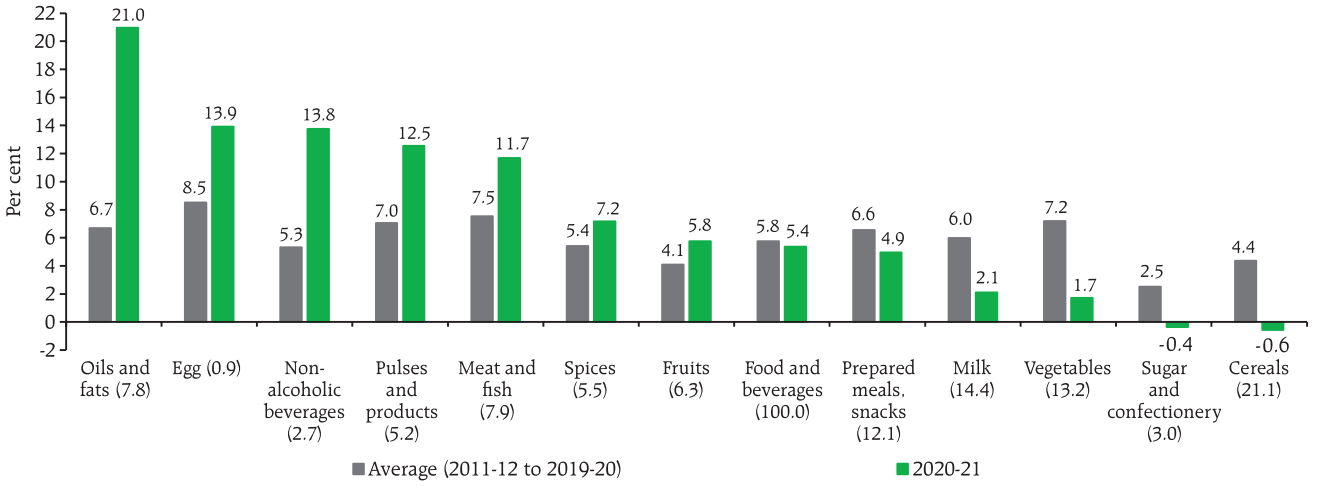
Chart II.7: CPI Food Inflation



Sources: NSO; and RBI staff estimates.

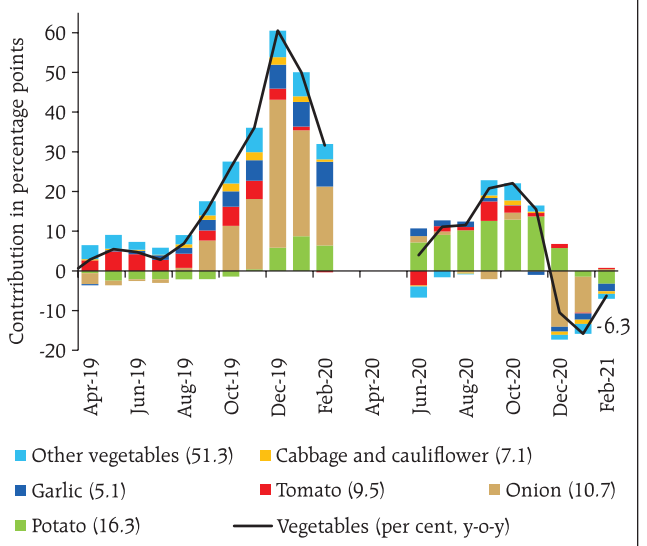
Inflation in prices of vegetables (weight of 6.0 per cent in the CPI and 13.2 per cent in the food and beverages group) rose steeply to a peak of 22.1 per cent in October 2020 and then corrected rapidly to move into deflation during December 2020-February 2021, driven primarily by a large fall in onion, tomato and potato prices (Chart II.9). Potato price inflation reached a peak of 107.0 per cent in November 2020. Higher imports and fresh arrivals of early *rabi* production in the market led to a sharp easing in prices during December 2020-February 2021, with a deflation of (-) 21.3 per cent in February 2021.

Chart II.8: CPI Food – Financial Year Price Build-up (February over March)



Note: Figures in parentheses indicate weights in CPI - food and beverages.
Sources: NSO; and RBI staff estimates.

Chart II.9: Drivers of Vegetable Inflation (y-o-y)



Note: Figures in parentheses indicate items weights in CPI-vegetables.
Sources: NSO; and RBI staff estimates.

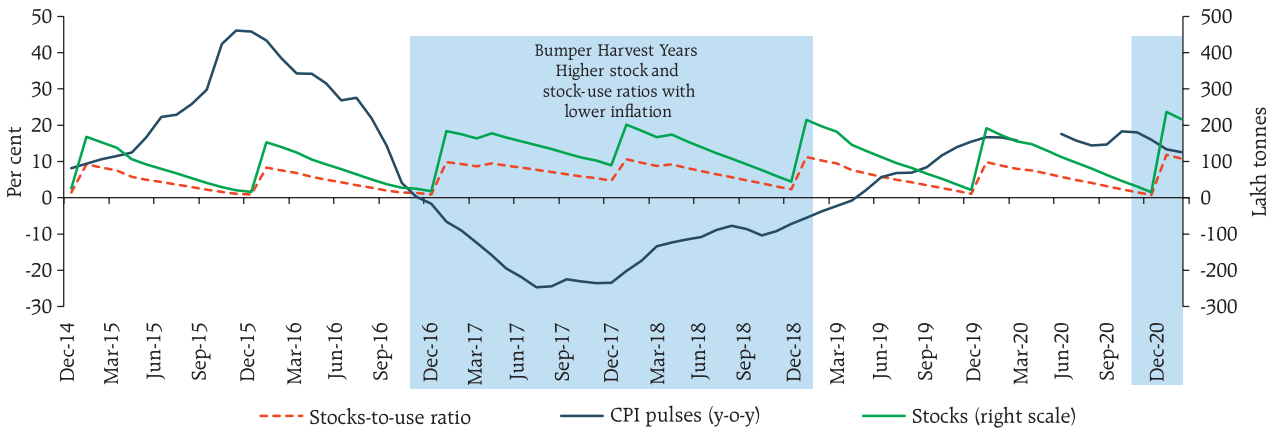
Inflation in onion prices, which was in negative territory during August-September 2020, witnessed substantial price pressures during September-November 2020 as excess rainfall in major producing regions of Madhya Pradesh, Gujarat, Karnataka and Maharashtra damaged the *kharif* crop and impacted late *kharif* production, resulting in lower market arrivals. To contain the escalation in prices, the Government imposed an export ban on onions in September 2020 (removed in January 2021), increased imports, released buffer stocks and imposed stock holding limits on wholesalers and retailers. These steps, along with fresh arrivals, led to onion prices moving into deflation during November 2020-January 2021. Onion prices picked up again in February 2021, however, due to drop in arrivals on account of unseasonal rainfall in January 2021 in Maharashtra. In the case of the third key vegetable, *i.e.*, tomatoes, low arrivals from the key producing regions in Karnataka and Maharashtra on the back of excess rainfall pushed inflation to a peak of 54.5 per cent in September 2020. Thereafter, with an increase in fresh arrivals, prices eased beginning October 2020.

In protein-based food items, inflation in pulses (weight of 2.4 per cent in the CPI and 5.2 per cent in the food and beverages group) was in double digits throughout 2020-21. To improve domestic supplies, the government eased restrictions and issued licenses for imports, reduced import duties on *masur*, released 2 lakh tonnes of *tur* (*arhar*) from the buffer stock and extended the time limit for import of *tur* under the import quota of 4 lakh tonnes for 2020-21. Reflecting these measures, as well as the arrival of *kharif* pulses and favourable base effects, pulses inflation moderated to 12.5 per cent in February 2021 from 18.3 per cent in October 2020. The production of pulses at 244 lakh tonnes in 2020-21 (second advance estimates for 2020-21) is expected to augment the domestic availability and improve the stock-use ratio (Chart II.12). Pulses inflation can thus be expected to moderate in the coming months, given the past relationship between production/stocks and prices[8], although pressures may persist in some items like *tur* and *urad*.

Among animal protein-rich items, inflation in egg, meat and fish also remained in double digits during most of 2020-21. It eased during November 2020 - February 2021, largely due to the fall in prices of chicken from improved supplies and a decline in demand due to bird flu during January 2021. Prices of mutton and pork, however, remained high due to supply bottlenecks and higher demand for protein-based food items.

[8] The bumper harvests during 2016-17 and 2017-18 of 231 lakh tonnes and 254 lakh tonnes, respectively, and the consequent higher stock-use ratios coincided with record 29 consecutive months of deflation during December 2016 to April 2019.

Chart II.10: Pulses Inflation and Stock-Use Ratio: Monthly Balance Sheet



Sources: NSO; Directorate General of Commercial Intelligence and Statistics (DGCIS); Commission of Agricultural Costs and Prices (CACP); Ministry of Agriculture; and RBI staff estimates.

Prices of milk and products (weight of 6.6 per cent in the CPI and 14.4 per cent in the food and beverages group) remained muted in H2:2020-21, reflecting a quick restoration of supply chains of the well-established system of cooperatives amidst lower demand from the bulk segment. Prices of sugar and confectionery (weight of 1.4 per cent in the CPI and 3.0 per cent in the food and beverages group) eased during September 2020 - February 2021 on the back of expectations of a bumper crop and higher domestic production even as international sugar prices increased due to concerns over lower global availability in 2020-21.[9]

Prices of oils and fats (weight of 3.6 per cent in the CPI and 7.8 per cent in the food and beverages group) remained one of the major pressure points throughout the year. Higher demand for mustard oil coupled with elevated international prices[10] (particularly palm oil and soybean oil) resulted in oils and fats inflation peaking at around 20 per cent in December 2020-February 2021. The government reduced the basic customs duty (BCD) on crude palm oil from 37.5 per cent to 27.5 per cent effective November 27, 2020 and then revised it to 32.5 per cent [including the Agricultural Infrastructure Development Cess (AIDC)] effective February 2, 2021. Mustard oil and refined oil were the highest contributors to elevated edible oil inflation.

Retail Margins

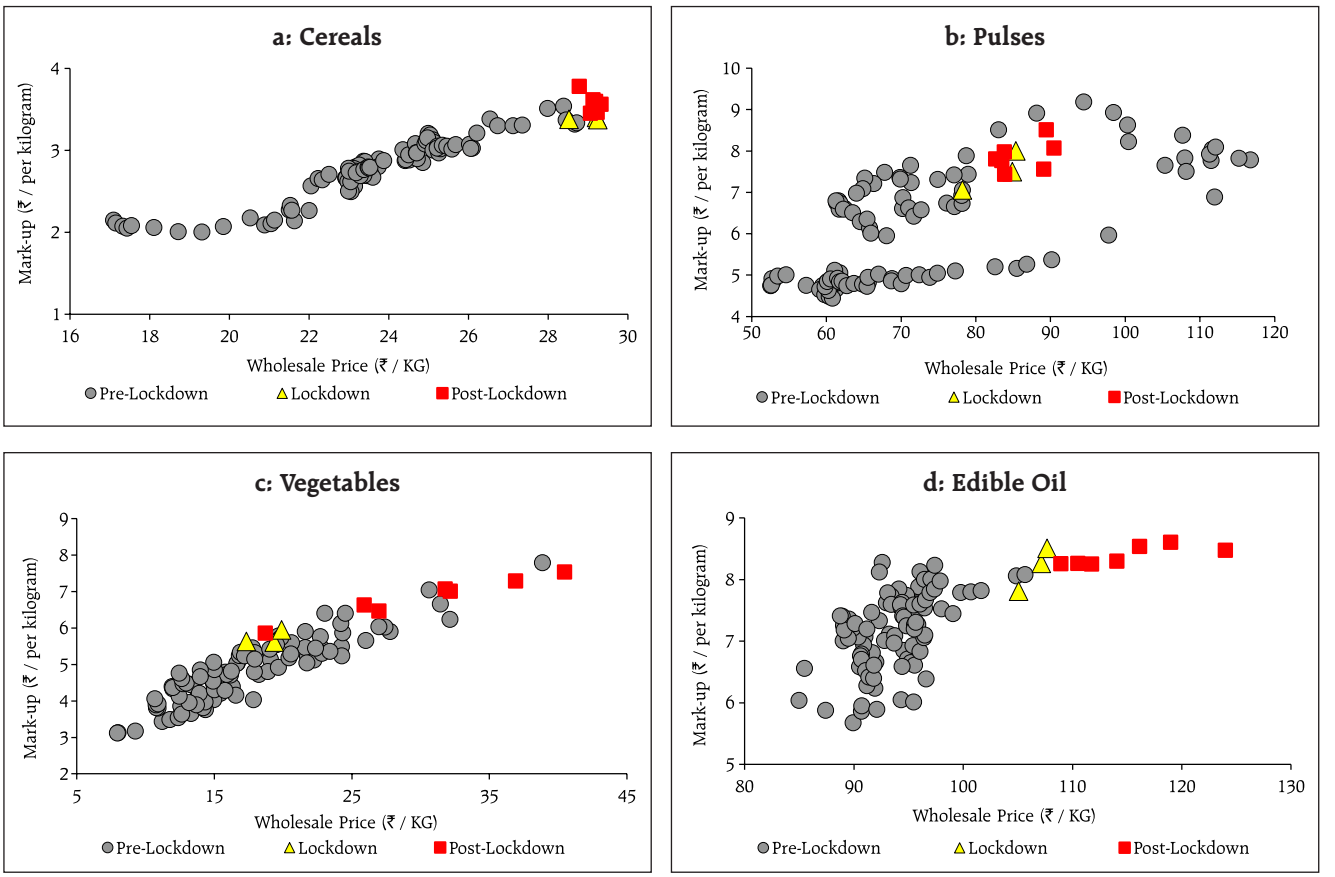
Average retail price margins over wholesale prices increased across all the major sub-groups (cereals, vegetables, edible oils and pulses) during the post-lockdown period, pulling up headline inflation. The margins were higher in edible oils, vegetables and pulses than in the other two sub-groups (Chart II.11).[11]

[9] Domestic sugar mills produced 278 lakh tonnes of sugar during 2021 sugar season (till March 31, 2021) as compared with 233 lakh tonnes in the corresponding period of the previous year.

[10] International edible oil prices firmed up due to labour shortages in palm oil plantations in Indonesia and Malaysia, drought in Argentina affecting soybean production, and increased Chinese demand.

[11] The analysis is based on daily price data on wholesale and retail prices from the Department of Consumer Affairs (DCA) for four major sub-groups – cereals, vegetables, edible oils and pulses – for January 2012 to December 2020 (excluding data for January-February 2021 due to changes in price collection mechanism and item varieties by DCA). The overall period has been divided into three phases, *viz.*, pre-lockdown (January 2012 to February 2020), lockdown (March 2020 to May 2020) and post-lockdown (June 20 to December 2020). Item level retail and wholesale prices are aggregated at respective sub-group using item level CPI weights.

Chart II.11: Retail Price Margins



Sources: Department of Consumer Affairs, Ministry of Consumer Affairs, Food and Public Distribution; and RBI staff estimates.

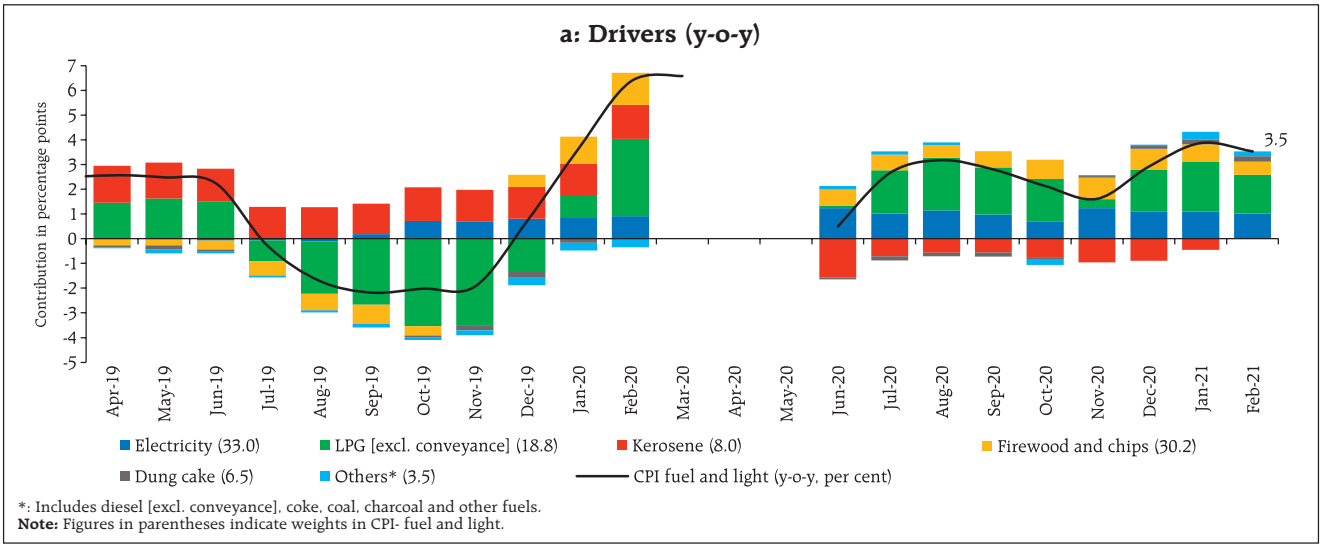
CPI Fuel Group

Inflation in fuel prices initially moderated from 3.2 per cent in August 2020 to 1.6 per cent in November 2020, due to a decline in LPG and PDS kerosene prices and favourable base effects. Fuel inflation then increased to 3.5 per cent in February 2021, led by prices of LPG, kerosene and dung cake (Chart II.12a). The movements in LPG inflation largely reflected the lagged impact of international prices (Chart II.12b). PDS-kerosene prices were in deflation throughout 2020-21, as international prices to which they are linked have been below pre-COVID levels since April 2020 (Chart II.12c).

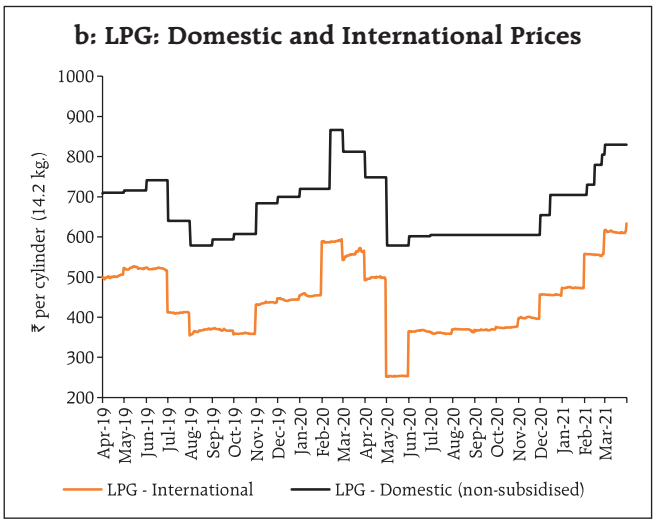
CPI excluding Food and Fuel

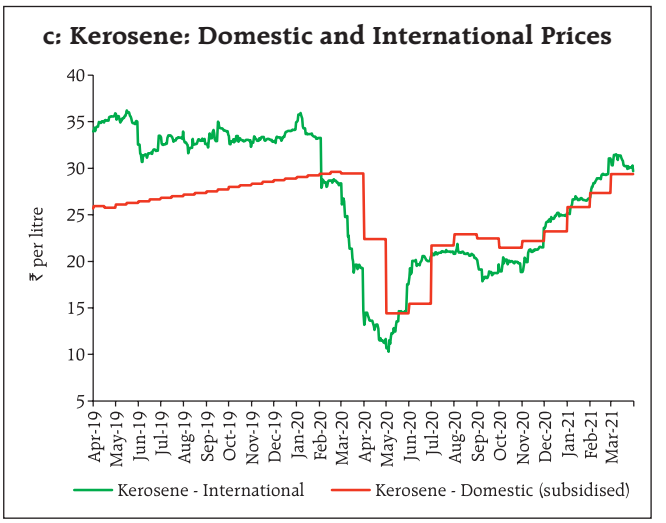
CPI inflation excluding food and fuel, or core inflation, remained sticky and hovered between 5.4 per cent and 6.0 per cent during September 2020 to February 2021. Excluding petrol, diesel, gold and silver also, core inflation remained elevated (between 4.5 per cent and 5.1 per cent) over this period (Chart II.13). While the price build-up in the core categories was similar to the historical average, considerable variation was observed across subgroups: transport and communication, pan, tobacco and intoxicants, personal care and effects, health and recreation and amusement exhibited substantially

Chart II.12: CPI Fuel Group Inflation



*: Includes diesel [excl. conveyance], coke, coal, charcoal and other fuels.
Note: Figures in parentheses indicate weights in CPI- fuel and light.





Notes: (1) The international price for LPG is based on spot prices for Saudi Butane and Propane, combined in the ratio of 60:40 respectively. These international product prices are indicative import prices. Further details are available at www.ppac.org.in.
(2) The indicative international price for kerosene is the Singapore Jet Kero spot price.
(3) The domestic prices of LPG and kerosene represent the average prices of four and three metros, respectively, as reported by Indian Oil Corporation Limited (IOCL).

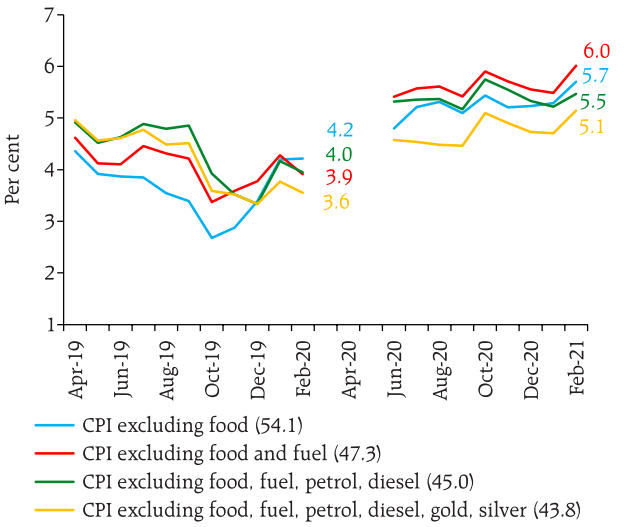
Sources: NSO; Bloomberg; IOCL; and RBI staff estimates.

higher build-up than the long-term average whereas clothing and footwear, housing, household goods and services and education exhibited subdued build-ups (Chart II.14).

In H2:2020-21, crude oil prices (Indian basket) jumped by nearly 50 per cent – from around US$ 41 per barrel in September 2020 to US$ 61 per barrel in February 2021. This sharp rise in international prices, along with the non-reversal of the substantial post-lockdown hike in excise duties and value added taxes (VATs), resulted in domestic petrol and diesel pump prices reaching historical highs by February 2021 (Chart II.15b).

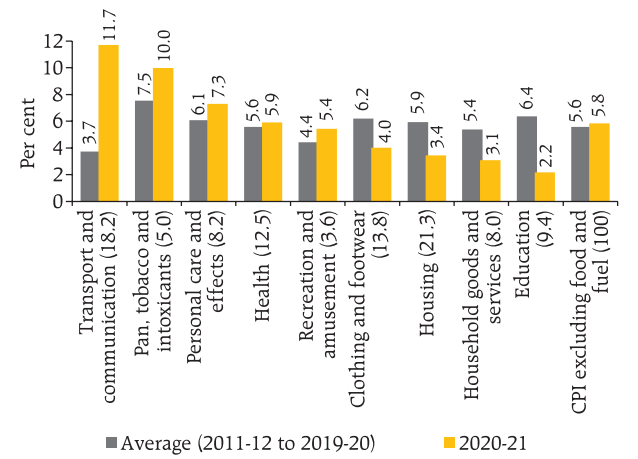
The combined share of central excise and states' value added tax (VAT) in petrol prices has risen from ₹22 per litre (31 per cent) in mid-2014 and ₹38 per

Chart II.13: Exclusion based CPI Inflation (y-o-y)



Note: (1) Figures in parentheses indicate weights in CPI.
(2) Derived as residual from headline CPI.
Sources: NSO; and RBI staff estimates.

Chart II.14: CPI excluding Food and Fuel – Financial Year Price Buildup (February over March)



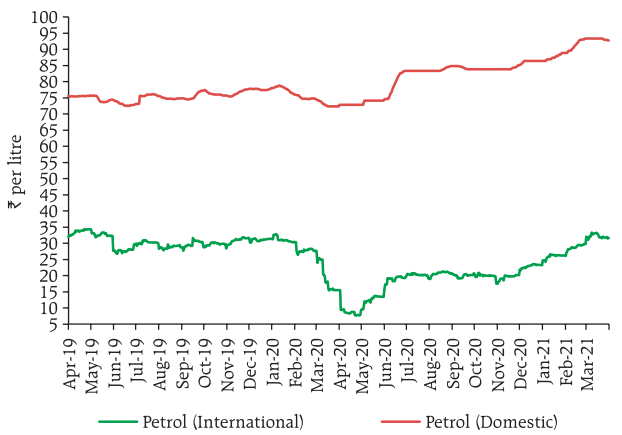
Note: Figures in parentheses indicate weights in CPI excluding food and fuel.
Sources: NSO; and RBI staff estimates.

litre (54 per cent) in March 2020 to ₹53 per litre (61 per cent) in February 2021 (Chart II.16a). While the WPI measures basic prices less trade discounts, thereby leaving out indirect taxes, retail prices are inclusive of taxes. CPI petrol and diesel inflation has been in double digits since July 2020 and was at 20.7 per cent in February 2021; in contrast, WPI petrol and diesel prices were in sharp double digit deflation for most part of the financial year, with February 2021 seeing a reading of only 0.2 per cent (Chart II.16b).

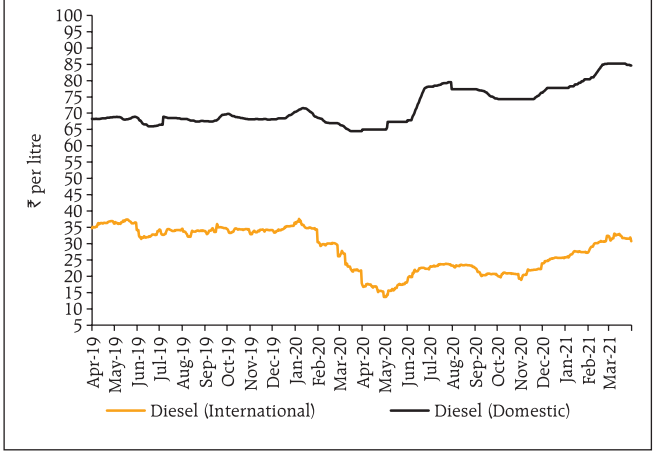
Compared to pre-COVID levels, measures of core inflation remain elevated, indicative of significant cost-push pressures across sectors in the post-lockdown period. Price inflation in the goods

Chart II.15: Movements in International and Domestic Petroleum Product Prices

a: Petrol – Domestic and International Prices

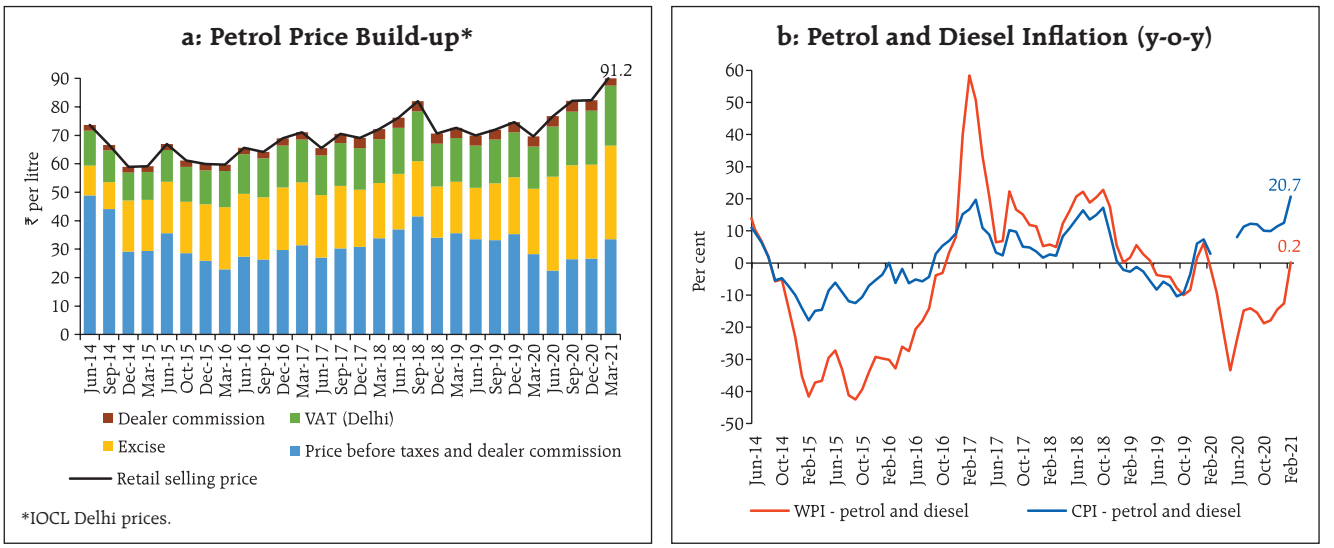


b: Diesel – Domestic and International Prices



Note: International petrol and diesel prices denote the spot price of Singapore gasoline and gasoil, respectively. Domestic petrol and diesel prices represent the average pump prices of four metros as reported by Indian Oil Corporation Limited (IOCL).
Sources: Petroleum Planning and Analysis Cell (PPAC); Bloomberg; and RBI staff estimates.

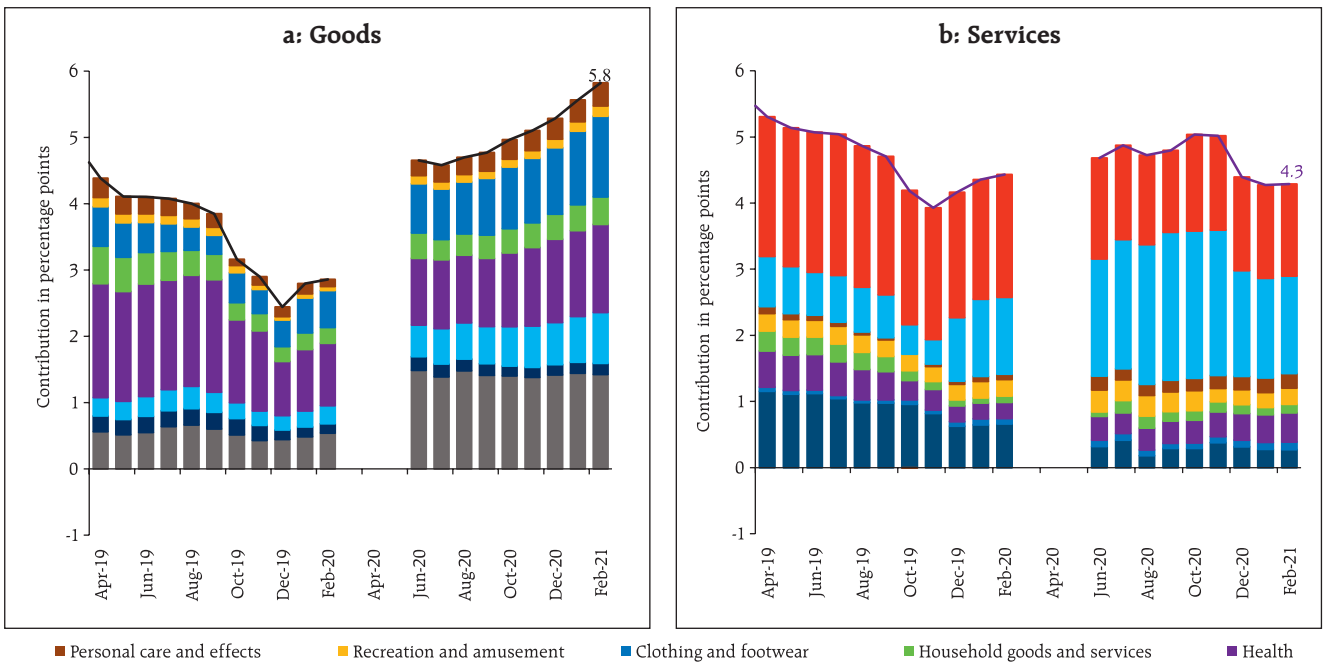
Chart II.16: Petrol Price Build-up and Inflation Rates of Petroleum Products



Sources: PPAC; NSO; Ministry of Commerce and Industry; and RBI staff estimates.

component, *i.e.*, excluding food, fuel, petrol, diesel, gold and silver (with a weight of 20.7 per cent in CPI) rose to 5.8 per cent in February 2021 from 4.7 per cent in August 2020, driven by health care goods – particularly medicines, clothing and footwear goods and transportation goods like motor vehicles

Chart II.17: Contribution to CPI Inflation excluding Food, Fuel, Petrol, Diesel, Gold and Silver



Note: Figures in parentheses indicate weights in CPI.
Sources: NSO; and RBI staff estimates.

(Chart II.17a). Core services inflation (weight of 23.0 per cent in CPI) rose from 4.0 per cent in August 2020 to 5.0 per cent in November 2020, primarily due to higher prices of recreation, education, transportation and communications services. Subsequently, core services inflation moderated to 4.3 per cent in January-February 2021 as inflation in prices of communication dropped sharply due to favourable base effects along with some moderation in education and recreation services inflation. Housing inflation, which primarily includes rental charges, at 3.2 per cent during November 2020 - February 2021 was lower than the pre-COVID levels; however, it was the second largest contributor to core services inflation (Chart II.17b).

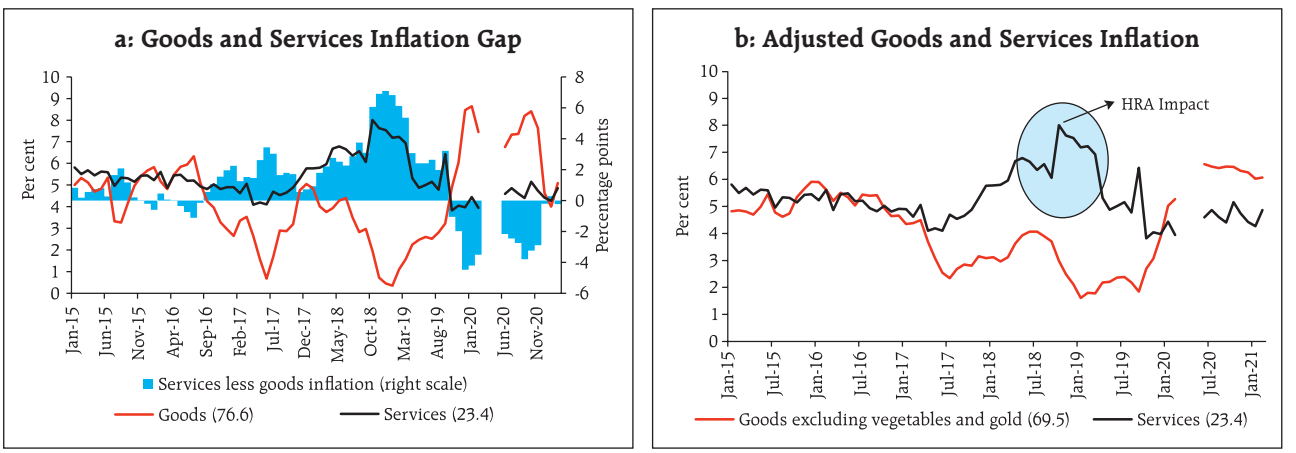
In sum, headline inflation dynamics in the post-lockdown period were primarily driven by goods inflation. Services inflation is the more durable component of the CPI and drives goods inflation over time (Box II.1).

Box II.1: CPI Goods and Services: Do they Converge after Shocks?

Cross-country evidence suggests that services inflation, on average, exceeds goods inflation due to a variety of factors such as lower productivity in non-tradable services (Balassa-Samuelson effect), higher mark-ups in services due to reduced competition and increased demand for services as per capita income rises (Ferrara 2019, Zaman 2015). In the post-lockdown period, however, CPI goods inflation (with a weight of 76.6 per cent in the CPI basket) exceeded CPI services (weight of 23.4 per cent) inflation substantially, with the gap increasing from 2.2 percentage points in June 2020 to 3.8 percentage points in September 2020. In February 2021, the gap narrowed to around 30 bps. In the past too, there have been episodes of goods and services inflation exhibiting divergent patterns, as during September 2016 to September 2019. Movements in CPI goods inflation excluding vegetables and gold and CPI services inflation (barring the period influenced by the statistical HRA[12] impact), however, tend to show greater co-movement (Chart II.1.1).

For India, the evidence suggests that prices of goods and services exhibit co-movement over time, *i.e.*, the two series are cointegrated (Table II.1.1). This is consistent

Chart II.1.1: Goods and Services Inflation (y-o-y)



Note: Figures in parentheses indicate weights in CPI.
Sources: NSO; and RBI staff estimates.

(Contd.)

[12] In July 2017 house rent allowances (HRA) of central government employees were increased under the 7th Central Pay Commission awards. The impact of this lingered for more than two years as state governments also implemented changes for their employees in a staggered manner.

Table II.1.1: CPI Good and Services

Long-run cointegration estimates

$$\ln(CPI\ goods)_t = 1.32 + 0.72\ln(CPI\ services)_t \quad \ldots(1)$$
$$(23.98)\ ***$$

Note: Figures in parenthesis are t-statistics. Trace test and max-eigenvalue test indicates cointegrating relationship at 5 per cent level of significance. *** denotes significance at 1 per cent level.

Vector error correction estimates:

	ΔIn(CPI goods)$_t$	ΔIn(CPI services)$_t$
$\hat{u}_{t-1}$ (ECM)	(–) 0.125 (-3.04)***	(+) 0.013 (0.96)
$\sum_{i=1}^{5} \Delta$ In(CPI goods)$_{t-i}$	(+) 0.60 (2.75)**	(+) 0.05 (0.47)
$\sum_{i=1}^{5} \Delta$ In(CPI services)$_{t-i}$	(–) 0.59 (-1.72)*	(+) 0.75 (6.74)***
c	(+) 0.0051 (3.25)***	(+) 0.001 (1.89)*
Adj. R^2	0.14	0.54

Notes: Figures in parenthesis are t-statistics. *** denotes significance at 1 per cent level ** denotes significance at 5 per cent level and * denotes significant at 10 per cent level. The sample period for the analysis is January 2011-December 2019. CPI goods and CPI services are seasonally adjusted CPI indices of goods and services, respectively.
P-value for Breusch–Godfrey LM test for the null of no serial correlation (up to 5 lags): 0.15.
Sources: NSO; and RBI staff estimates.

with the cross-country evidence (Peach, 2004). Given the evidence of long-run cointegration, the short-run dynamics can be further explored through a Vector Error Correction Model (VECM). The VECM analysis indicates a significant error correction (EC) term in CPI goods prices, while it was found to be insignificant in the case of CPI services prices. This suggests that following a shock resulting in a divergence from the long run equilibrium, it is goods prices that make the necessary adjustment to restore equilibrium.

CPI goods prices are considerably influenced by the volatility induced by perishables such as vegetables and can result in divergences from CPI services prices over short periods. Services inflation, on the other hand, represents the relatively sticky component in the CPI basket and can spill over to goods inflation, resulting in generalised inflationary pressures.

References:

Ferrara, L. (2019), "What is Behind the Change in the Gap between Services Price Inflation and Goods Price Inflation?", ECB Economic Bulletin Boxes, 5.

Peach, R.W., Rich, R., and Antoniades, A. (2004), "The Historical and Recent Behavior of Goods and Services Inflation", Federal Reserve Bank of New York, Economic Policy Review, December.

Zaman, S. (2015), "The Gap Between Services Inflation and Goods Inflation", Economic Trends, Federal Reserve Bank of Cleveland.

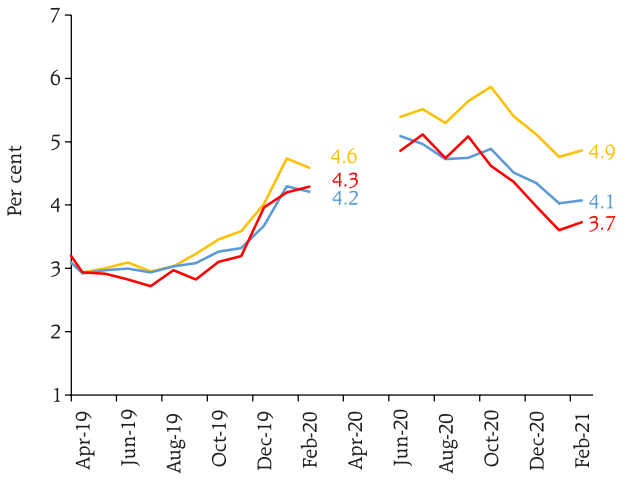
In addition to exclusion-based measures, trimmed means of inflation provide a measure of underlying inflation dynamics and are computed by statistically eliminating items with extremely positive and negative inflation. The trimmed mean indicators showed easing of inflation over the period under review in view of the omission of a few large outliers – such as vegetables, pulses, edible oils, transport fare, and pan, tobacco and intoxicants – in either direction. In contrast, exclusion-based measures, which capture persistent trends in inflation by eliminating *ex-ante* identified idiosyncratic and volatile components, suggest stickiness in inflation (Charts II.13 and II.18).

Other Measures of Inflation

Inflation measured by sectoral CPIs for agricultural labourers (CPI-AL) and rural labourers (CPI-RL) remained below headline CPI inflation in H2:2020-21. Lower inflation in food items along with their higher weight in CPI-AL and CPI-RL and subdued inflation in fuel, and clothing and footwear groups contributed to the relatively lower inflation prints for CPI-AL and CPI-RL. Inflation in terms of CPI for industrial workers (CPI-IW) though their gap narrowed. also remained below the headline CPI during H2.[13] The price build-up in CPI-IW for clothing, housing and miscellaneous groups was lower relative

[13] The Labour Bureau revised the base year of CPI for industrial workers (CPI-IW) from 2001 to 2016 in September 2020, based on the Working-Class Family Income & Expenditure Survey (WCFI&ES). The series covers 88 centres (78 in the earlier series), uses geometric mean for aggregation of price quotations (instead of arithmetic mean in the earlier series), and covers a larger number of items (463 items as against 392).

Chart II.18: Trimmed Means of CPI Inflation (y-o-y)



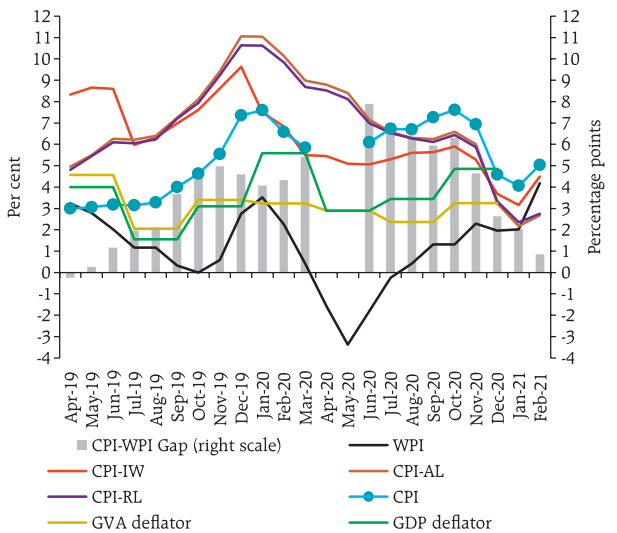
Sources: NSO; and RBI staff estimates.

to the headline CPI; that of fuel, and pan, tobacco and intoxicants groups was higher; and the fall in food prices was muted.[14]

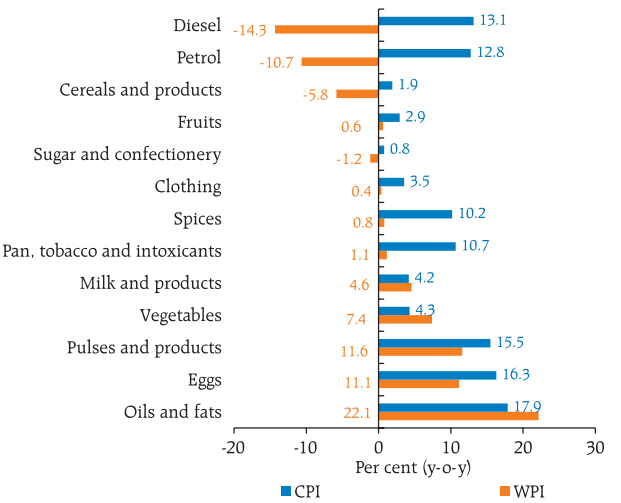
WPI inflation also remained below CPI inflation in H2:2020-21, although it has quickly inched up close to CPI inflation in recent months (Charts II. 19a). From its trough in May 2020, WPI inflation charted a V-shaped uptrend in view of a sharp rise in fuel and non-food commodity prices. In contrast, WPI food inflation decelerated continuously from September 2020 and fell into negative territory in January 2021 before moving up in February 2021 to 3.3 per cent. Average WPI food inflation during September 2020 to February 2021 at 3.7 per cent was way lower than average CPI food inflation at 6.6 per cent, with inflation across major food sub-groups, except vegetables, milk and products, oils and fats, recording lower prints in the WPI than in the CPI. The largest deviation between CPI and WPI emanated from inflation in petroleum products, especially in petrol and diesel, reflecting the wedge due to tax components. Similarly, tax implications were

Chart II.19: Alternative Measures of Inflation

a: Various Measures of Inflation (y-o-y)



b: CPI-WPI Divergence : Select Commodities (Average during September 2020 - February 2021)



Sources: NSO; Labour Bureau; Ministry of Commerce and Industry; and RBI staff estimates.

[14] Inflation for major groups of CPI-IW cannot be worked out as the linking factor released by the Labour Bureau is only for headline index and not at the group level; therefore, the discussion is based on price build-ups.

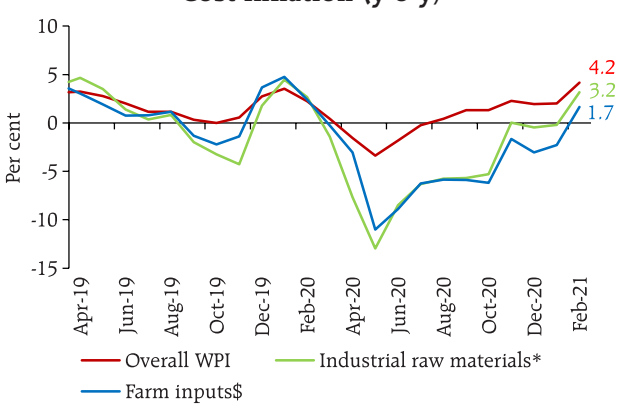
visible in prices for pan, tobacco and intoxicants – while CPI for these items remained in double digits (average 10.7 per cent), inflation in WPI beverages, and tobacco products averaged 0.2 and 2.5 per cent, respectively, during September 2020 to February 2021 (Chart II.19b).

Inflation measured in terms of gross value added (GVA) and gross domestic product (GDP) deflators clocked a pick-up from Q1:2020-21 to Q3, broadly in alignment with WPI inflation.

II.3 Costs

The measures of cost inflation – farm inputs and industrial raw materials derived from WPI – moved higher with the gradual unlocking of the economy, *albeit* with transient dips (Chart II.20). The firming up of global crude oil prices during H2:2020-21 impacted the prices of inputs such as high-speed diesel, naptha, aviation turbine fuel, and furnace oil. Minerals and non-food articles also generally rose during October 2020-February 2021. Prices of fibres emerged out of deflation in January 2021 in line with a pick-up in raw cotton and raw silk prices. Reflecting this, inflation in cotton yarn price registered sharp uptick.

Chart II.20: Farm and Non-farm Input Cost Inflation (y-o-y)



*: Comprise primary non-food articles, minerals, coal, aviation turbine fuel, high speed diesel, naphtha, bitumen, furnace oil, lube oil, petroleum coke, electricity, cotton yarn and paper and pulp from WPI.
$: Comprise high speed diesel, fodder, electricity, fertilisers, pesticides, and agricultural and forestry machinery from WPI.
Sources: Ministry of Commerce and Industry; and RBI staff estimates.

Within farm sector inputs, fodder price inflation remained elevated in double digits, during October 2020 to February 2021 due to the damage from excess rains during September-October 2020. Inflation in fertilisers remained muted in line with subdued cost of raw materials such as natural gas. Prices of electricity – a key constituent of both industrial and farm inputs – remained in deflation on an average during H2, barring a transient spike in November. Inflation in prices of agricultural machinery and implements recorded a modest increase during November 2020-February 2021.

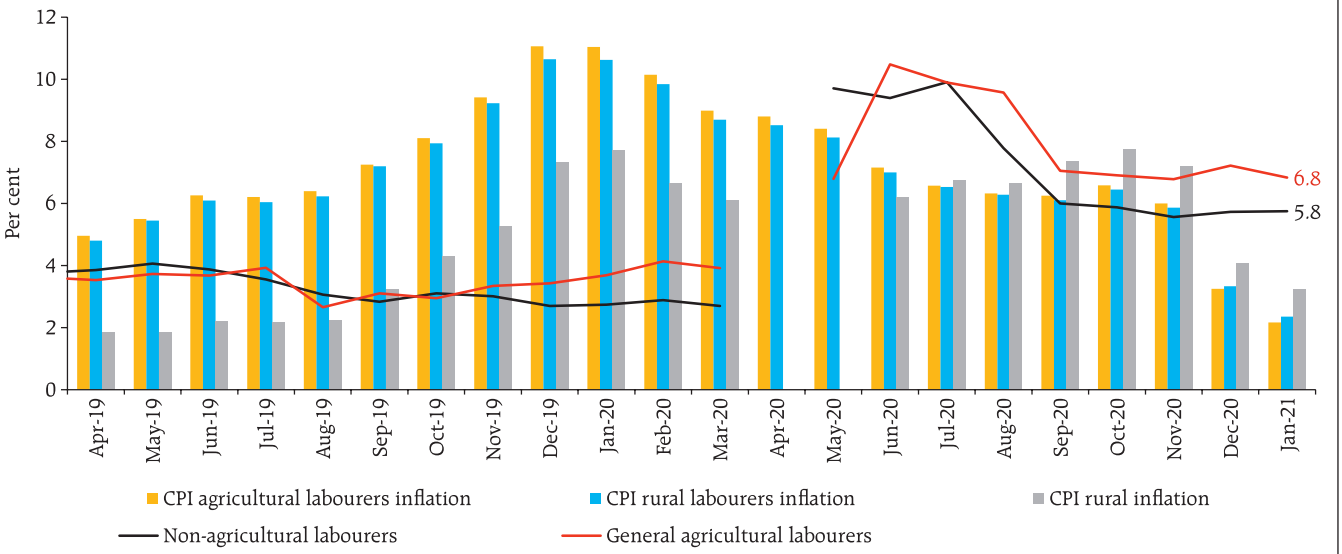
Nominal rural wages for both agricultural and non-agricultural labourers hardened during H1:2020-21, reflecting labour shortages during the lockdown period and the hike in wages by ₹20 under the *Mahatma Gandhi* National Rural Employment Guarantee (MGNREGA) scheme effective April 1, 2020. As the unlock phase progressed and labour availability improved, wage growth moderated in H2 although it remained higher than in the pre-lockdown period (Chart II.21).

Growth in the value of production in Q3:2020-21 for listed firms in the manufacturing and services sectors outpaced the rise in staff costs. As a result, unit labour costs (measured as a ratio of staff cost to value of production) decreased during Q3:2020-21, reverting towards pre-COVID levels. Unit labour costs moderated from 6.9 per cent in Q2:2020-21 to 6.4 per cent in Q3:2020-21 for firms in the manufacturing sector and from 31.4 per cent to 28.5 per cent respectively, for the services sector firms (Chart II.22).

Manufacturing, services and infrastructure firms polled in Reserve Bank's enterprise surveys[15] reported an increase in salary outgo in Q4:2020-21, with expectations of a further rise in Q1:2021-22 as the level of employment is likely to

[15] Industrial Outlook Survey; and Services and Infrastructure Outlook Survey.

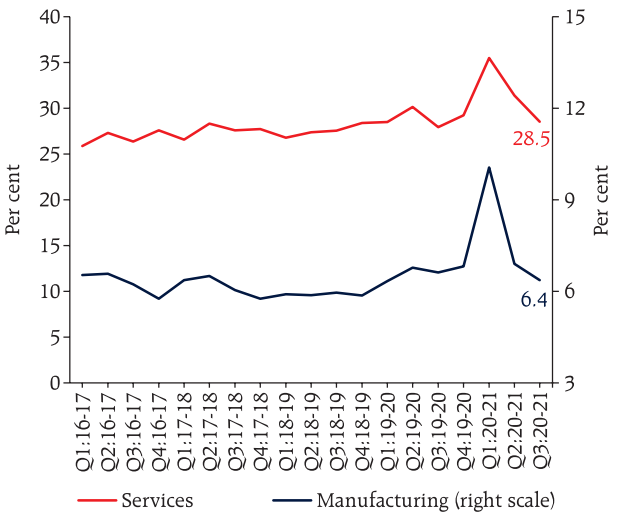
Chart II.21: Wage Growth and Inflation in Rural Areas (y-o-y)



Sources: NSO; Labour Bureau; and RBI staff estimates.

gradually edge up. Input costs were also expected to intensify further in Q1 and continue in Q2 and Q3 of 2021-22 with the pace of increase moderating a tad for the manufacturing sector. The surveyed firms reported passing through the costs to their selling prices in Q4:2020-21. Selling prices are expected to gain further traction in Q1:2021-22 and remain firm in Q2 and Q3 for all the three sectors (Chart II.23).

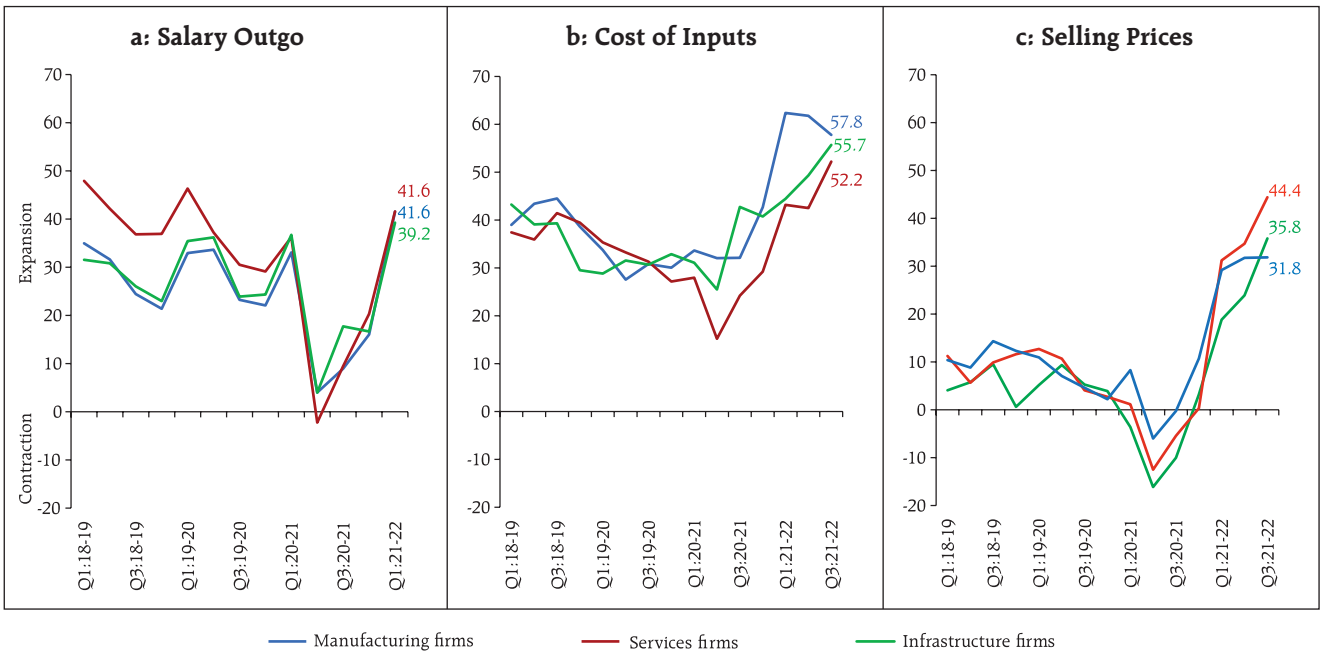
Chart II.22: Labour Cost in Manufacturing and Services: Staff Cost Per Unit Value of Production



Sources: Capitaline database; and RBI staff estimates.

Manufacturing firms polled for the purchasing managers' index (PMI) reported an increase in input prices in Q3:2020-21, with a further firming up in Q4 from higher costs of chemicals, metals, minerals, cotton and plastic; higher cost pressures were passed through to the clients resulting in an increase in selling prices. PMI services firms also reported continued increase in input prices in Q3 and Q4, driven by fuel, with the sharpest increase reported in prices of consumer services. Despite an increase in input costs, services sector firms reported lower selling prices in efforts to boost sales.

Chart II.23: Expectations of Cost Conditions (Net Response)



Note: 'Net response' is the difference between the percentage of respondents reporting increase in prices and those reporting decrease.
Sources: Reserve Bank's Industrial Outlook Survey; Services & Infrastructure Outlook Survey; and RBI staff estimates.

II.4 Conclusion

In 2020-21, inflation breached the upper tolerance band of 6 per cent for six consecutive months in the post-lockdown period (June-November 2020) due to a series of cost-push shocks – supply chain disruptions; weather shocks; higher crude oil and other commodity prices; and higher taxes. Inflationary pressures persisted despite a bumper *kharif* harvest. The increase in petrol and diesel prices is showing up in trade and transport costs, taxi and auto fares, and its second-round effects could push-up the prices of goods and services further in a broad-based manner, with firms regaining pricing power. Effective supply measures and tax rationalisation are critical to help anchor inflation expectations. If inflation remains close to the target on a durable basis, it can then provide monetary policy the space to adequately support the nascent recovery.

III. Demand and Output

After the unprecedented contraction in Q1, real gross domestic product (GDP) recorded sequential upturn in Q2 and regained positive territory in Q3 with the ambit of the recovery broadening to encompass a wider spectrum of sectors, supported by a significant decline in COVID-19 infections. The recent increase in COVID infections, if not contained, could push back the normalisation process and impede the broader revival of economic activity.

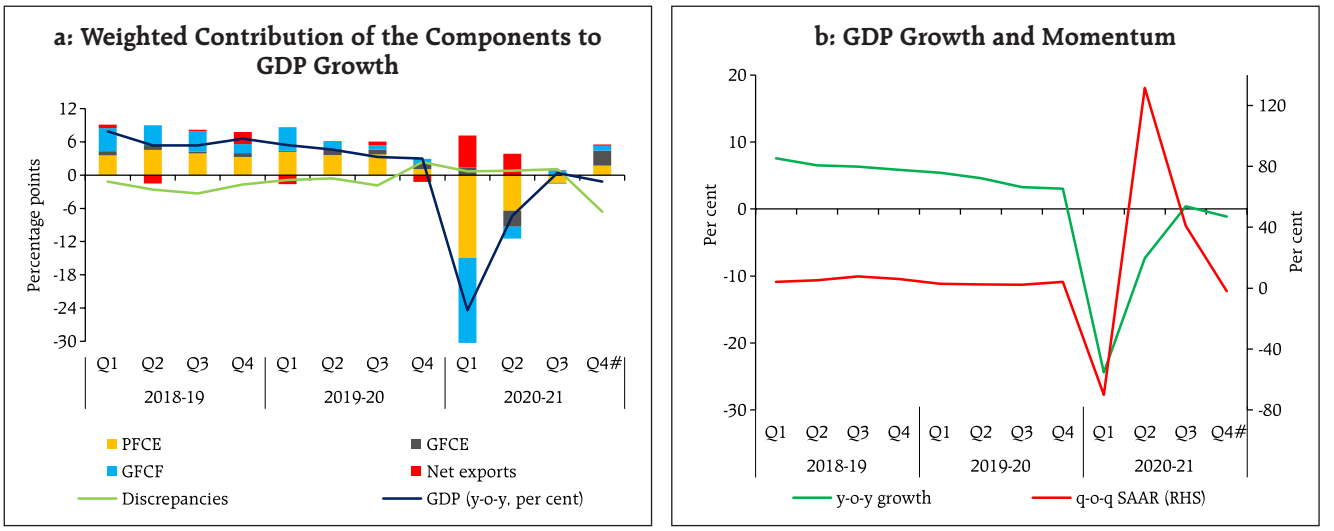
Economic activity in India in H2:2020-21 turned out to be more resilient than anticipated in the October 2020 MPR, supported by a significant decline in new COVID-19 infections from the mid-September 2020 peak and the rollout of the vaccination drive from mid-January 2021. After the unprecedented contraction in Q1, real gross domestic product (GDP) recorded sequential upturn in Q2 and regained positive territory in Q3 with the ambit of the recovery broadening to encompass a wider spectrum of sectors since then. On the supply side too, the sustained resilience of agriculture and allied activities was complemented by manufacturing and services sector activity gaining some momentum. As a result, real gross value added (GVA) recorded positive growth in Q3 and is expected to be positive in Q4 also.

III.1 Aggregate Demand

Real GDP contracted by 8.0 per cent in 2020-21, according to the National Statistical Office's (NSO) second advance estimates (SAE), although some slack can be attributed to on-budgeting of past subsidy payments in Q4 (Chart III.1a and Table III.1).

The recovery in H2:2020-21 was on the back of revival in government expenditure and fixed investment and easing of the contraction in private consumption. Quarter-on-quarter seasonally adjusted annualised (qoq-SAAR) growth rates, however,

Chart III.1: GDP Growth and its Constituents



Note: 1. # - Implicit growth. 2. SAAR – Seasonally adjusted annualised rate.
Sources: National Statistical Office (NSO) and RBI staff estimates.

Table III.1: Real GDP Growth

(y-o-y, per cent)

Item	2019-20	2020-21	Weighted Contribution*		2019-20				2020-21			
			2019-20	2020-21	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4#
Private final consumption expenditure	5.5	-9.0	3.1	-5.1	7.6	6.5	6.4	2.0	-26.3	-11.3	-2.4	3.1
Government final consumption expenditure	7.9	2.9	0.8	0.3	1.8	9.6	8.9	12.1	12.8	-24.0	-1.1	29.2
Gross fixed capital formation	5.4	-12.4	1.7	-4.0	13.3	3.9	2.4	2.5	-46.4	-6.8	2.6	2.8
Exports	-3.3	-8.1	-0.7	-1.6	3.0	-1.3	-5.4	-8.8	-22.0	-2.1	-4.6	-3.7
Imports	-0.8	-17.6	-0.2	-4.0	9.4	-1.7	-7.5	-2.7	-41.1	-18.2	-4.6	-4.3
GDP at market prices	**4.0**	**-8.0**	**4.0**	**-8.0**	**5.4**	**4.6**	**3.3**	**3.0**	**-24.4**	**-7.3**	**0.4**	**-1.1**

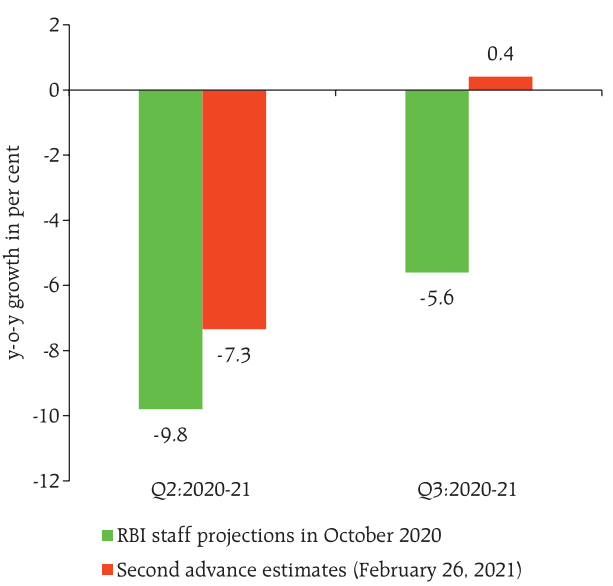
*: Component-wise contributions to growth do not add up to GDP growth because change in stocks, valuables and discrepancies are not included.
#: Implicit growth.
Source: National Statistical Office (NSO).

moderated in Q3 and Q4 suggesting some flattening of momentum (Chart III.1b).

GDP Projections versus Actual Outcomes

The October 2020 Monetary Policy Report (MPR) projected GDP growth at (-) 9.8 per cent for Q2:2020-21, (-) 5.6 per cent for Q3 and 0.5 per cent for Q4, with risks tilted to the downside. Actual outcomes in terms of the NSO's SAE overshot these projections by 250 and 600 basis points in Q2 and Q3, respectively (Chart III.2), which may be largely attributed to faster than anticipated reduction in new COVID-19 infections in the country. The upside surprise in Q2 and Q3 largely stemmed from a better-than-expected performance in gross fixed capital formation. Data for Q4:2020-21 are expected on May 31, 2021.

Chart III.2: GDP Growth - Projections *versus* Actual



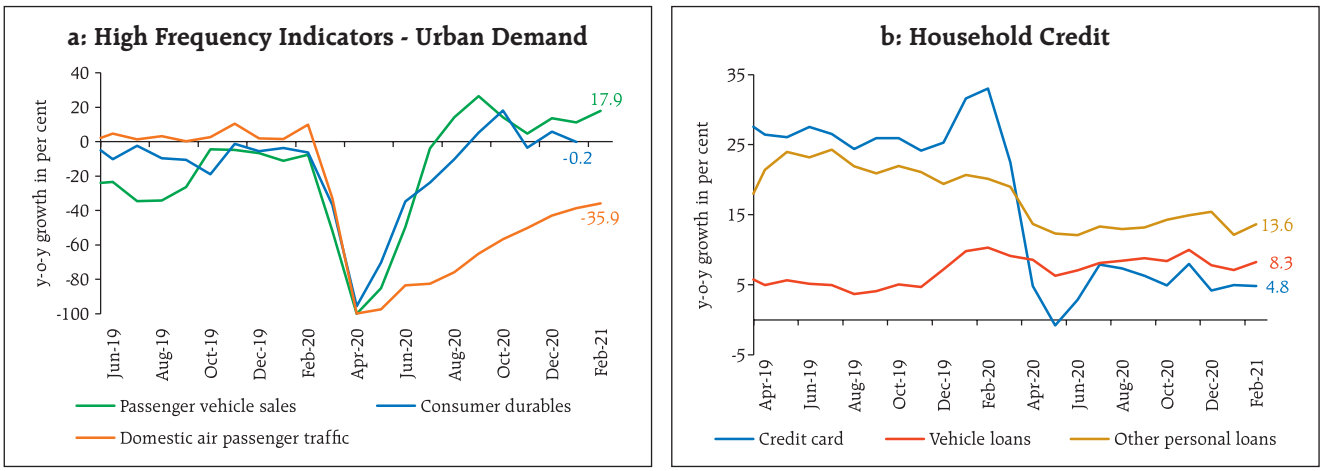
Sources: NSO and RBI staff estimates.

III.1.1 Private Final Consumption Expenditure

Private final consumption expenditure (PFCE) – the mainstay of aggregate demand, severely dented during the pandemic – revived in H2:2020-21 as spending expanded from essential commodities and services towards discretionary items on the back of gradual relaxation of restrictions. The contraction in real PFCE moderated to 2.4 per cent in Q3 from 11.3 per cent in Q2. Spending on transport, hotels and restaurants, recreation and culture, which together contribute around 20 per cent to PFCE, also began improving in Q4. Several high frequency indicators of private consumption crossed pre-COVID levels, attesting to a broad-based momentum.

Drilling down further reveals a divergence between urban and rural demand, with the former suffering the maximum damage and taking longer time to recover due to the loss of employment and heightened uncertainty. Some coincident and proximate high frequency indicators show that urban consumption started inching up from Q3:2020-21 and gained further strength in Q4 with the easing of restrictions. Passenger vehicle sales remained robust since August and posted double-digit growth in

Chart III.3: Consumption Demand: High Frequency Indicators



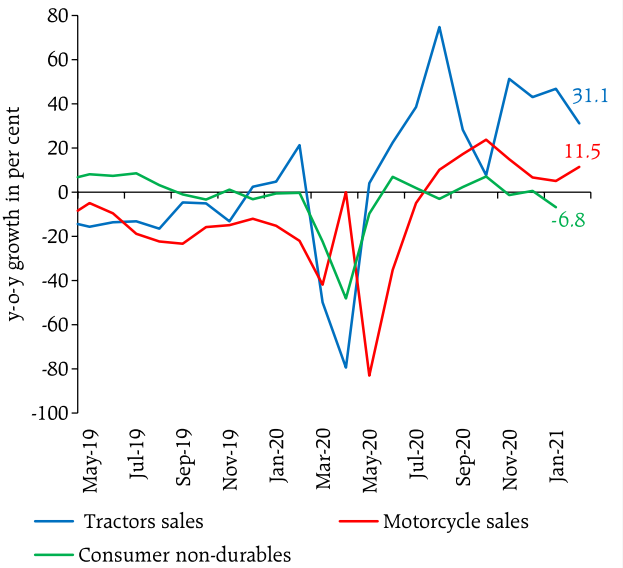
Sources: Directorate General of Civil Aviation (DGCA), Society of Indian Automobile Manufacturers (SIAM); NSO; and RBI.

January and February 2021, partly reflecting shifting of preferences towards own vehicles over public transportation in the wake of the pandemic. The production of consumer durables, that had collapsed during H1, got revitalised and surpassed pre-COVID levels in December 2020 (Chart III.3a). Credit card outstanding and other personal loans, however, remained subdued (Chart III.3b). Domestic air passenger traffic, is still tepid and around two-third of pre-COVID-19 levels, reflecting lackluster activity related to tourism and entertainment, and with business meetings increasingly preferring the virtual mode.

Rural consumption recouped quickly and remained resilient on the back of record *kharif* production, sustained employment under the *Mahatma Gandhi* National Rural Employment Guarantee Act (MGNREGA), and cash transfers under PM *Kisan Samman Nidhi Yojana* and other schemes. The households that sought employment under the MGNREGA scheme were 63 per cent higher in Q3:2020-21 and remained elevated in Q4. Indicators of rural demand – improved *rabi* acreage during 2020-21; higher production of fertilisers; and accelerated tractor sales during November-February – augur well for a brighter outlook. Motorcycle sales have remained in expansion zone since August 2020 (Chart III.4). The consumer non-durables output witnessed expansion in December 2020, before contracting in January 2021.

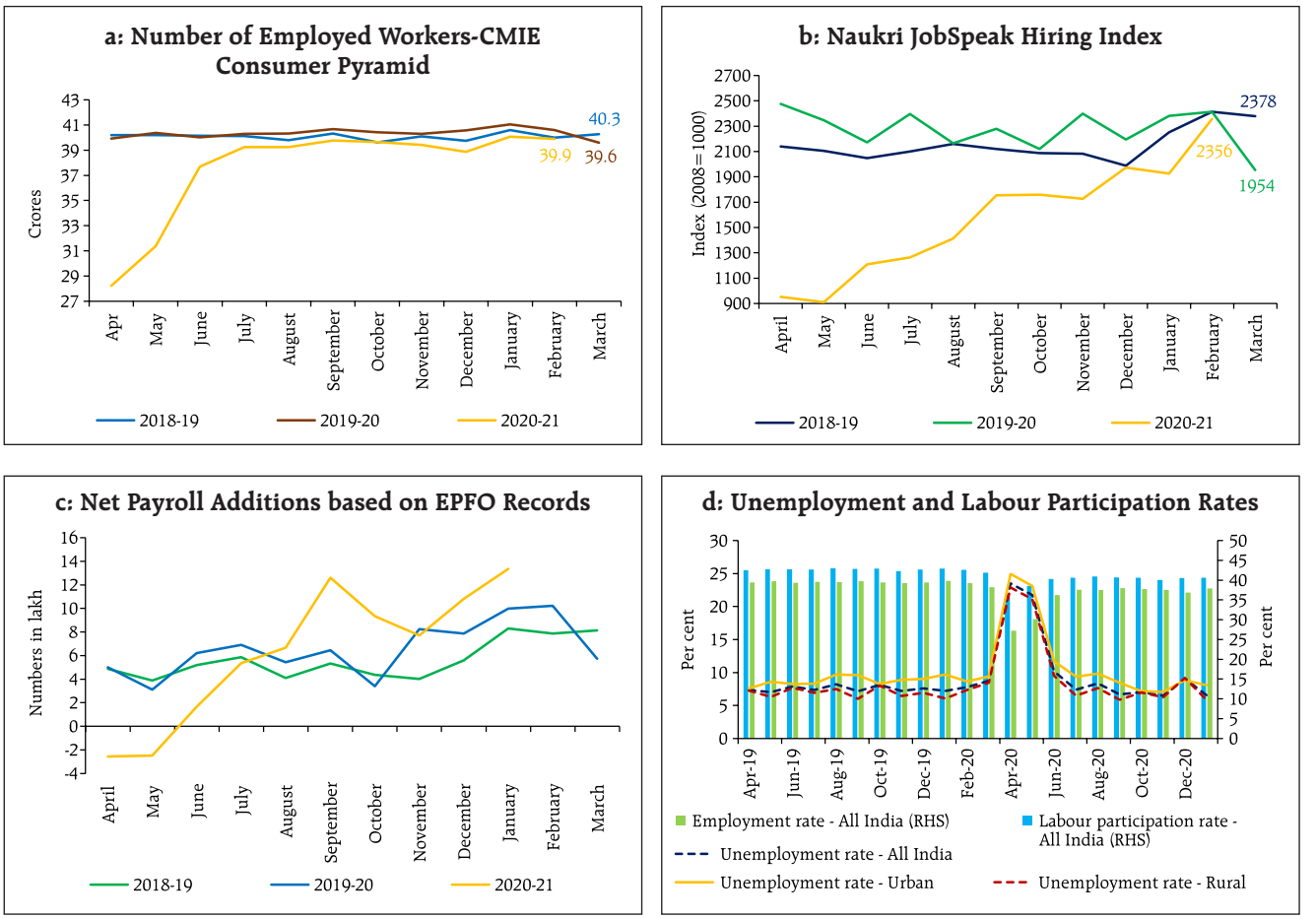
Unemployment rates in both rural and urban areas recorded declines during H2 and supported private consumption. The labour force participation rate improved considerably in H2 *vis-à-vis* H1 but remains

Chart III.4: Select Indicators - Rural Demand



Sources: Tractor Manufactures Association; Society of Indian Automobile Manufacturers (SIAM); and NSO.

Chart III.5: Evolving Employment Situation in India



Source: CMIE, EPFO and Naukari.com.

below pre-COVID levels. Nonetheless, the available data from different sources indicate that employment conditions have improved considerably in H2 (Chart III.5).

III.1.2 Gross Fixed Capital Formation

The upturn in fixed investment gained traction during H2:2020-21, although it continues to be weighed down by surplus capacity and uncertainty surrounding the outlook. Congenial financial conditions are expected to continue supporting the recovery in fixed investment (Box III.1). Gross fixed capital formation (GFCF) expanded by 2.6 per cent on year-on-year basis in Q3 and is estimated to rise by 2.8 per cent in Q4. For the full year 2020-21, GFCF is estimated to have contracted by 12.4 per cent, given the sharp downturn in H1. The share of GFCF in aggregate GDP inched up to 32.8 per cent in H2 from 28.5 per cent in H1 and 31.9 per cent in H2:2019-20. Real estate and construction activity gained some momentum from Q3 – particularly in rural and semi-urban areas and affordable segments in urban areas – benefitting from lower mortgage rates, favourable pricing and a slash in stamp duty across several states. Among its proximate coincident indicators, steel consumption rose at a robust pace in January and February 2021 on top of double-digit growth in the preceding two months. Investment in machinery and equipment is

Box III.1: Investment and Financial Conditions

Domestic financial conditions eased considerably with the onset of the pandemic as reflected in large drops in interest rates/spreads across the spectrum and ample surplus liquidity in the system on the back of conventional and unconventional policy measures by the Reserve Bank. The availability and cost of finance are amongst the important drivers of investment. A financial condition index (FCI) that is a summary indicator of financial conditions, helps to gauge their impact on investment activity.

Following Kongsamut *et. al.* (2017), a FCI for India is constructed with variables drawn from equity, debt, money and forex markets. Using data from Q1:2002 to Q1:2020, the FCI includes the following five standardised variables – government securities (G-Sec) 10-year benchmark yield, corporate AAA bond spread over G-Sec yield, Nifty-50 return, repo rate and net foreign portfolio inflows – based on a preliminary analysis of their correlation and impact on investment.

Dynamic factor model (DFM)[1] and vector auto regression (VAR)[2] approaches are used to construct FCIs (FCI1 and FCI2, respectively) for a robust analysis. Negative values of FCIs denote easier financial conditions while positive values indicate tighter financial conditions. Both the FCIs exhibit broadly similar directional changes (Chart III.1.2). The FCIs capture the tightening of financial conditions during the global financial crisis in 2008 and later in 2012-13 (associated with the period of high inflation and monetary tightening) as well as the recent easing of financial conditions after the pandemic. In terms of the DFM-based FCI, financial conditions at present are at their easiest since 2003.

Chart III.1.1: GFCF Trend and Cycle

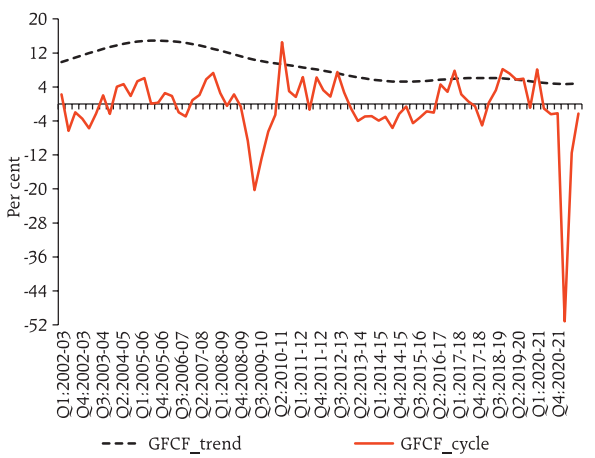
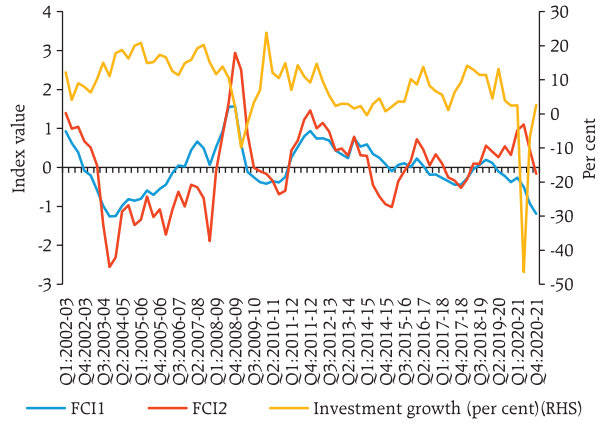


Chart III.1.2: FCI and GFCF Growth



Source: RBI staff estimates.

Both the measures of FCIs are negatively correlated (statistically significant) with growth in gross fixed capital formation (GFCF) and the correlation is higher for lagged FCI, *i.e.*, the easing of financial conditions is associated with a subsequent rise in investment growth (Table III.I.1). Granger causality tests confirm that the

Table III.I.1: Correlation Coefficient of FCIs with Investment Growth (y-o-y)

	FCI1	FCI2
Lag 0	-0.26*	-0.52*
Lag 1	-0.43*	-0.57*
Lag 2	-0.57*	-0.59*
Lag 3	-0.61*	-0.52*
Lag 4	-0.54*	-0.38*

* indicates significant at 1% level
Source: RBI staff estimates.

(Contd.)

[1] DFM is applied as dimension reduction technique using factor analyser module of Python. Bartlett's test of sphericity indicates that the dataset is not an identity matrix; Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is found to be greater than 0.6. The maximum likelihood (ML) method is used to fit factors to the observed data with visual scree plot analysis to decide on using 2 factors.

[2] The VAR model is run on the same set of variables and the weights are derived from impulse response functions as cumulative impact on investment in 8 subsequent quarters to construct FCI2.

Table III.I.2: Granger Causality Test

Hypothesis	FCI1 (DFM)		FCI2 (VAR)	
	F-statistic	Prob	F-statistic	Prob
FCI does not Granger cause investment growth	2.04	0.14	**3.76*** **	**0.03**
FCI (-1) does not Granger cause investment growth	1.54	0.22	1.08	0.34
FCI (-2) does not Granger cause investment growth	**2.45*** **	**0.09**	2.33	0.11
FCI (-3) does not Granger cause investment growth	0.37	0.69	0.29	0.75
FCI (-4) does not Granger cause investment growth	0.02	0.98	0.39	0.68

***indicates significant at 10% level.
Source: RBI staff estimates.

financial conditions have a statistical significant impact on investment growth (Table.I.2). The role of financial conditions in supporting investment activity is also corroborated by regression analysis with controls for expected economic activity (Table III.I.3).

Table III.I.3: Regression Estimates

Dependent Variable: Investment Growth

	Coefficient	t-Statistic
Investment growth (-1)	0.54	4.67*
FCI1(-2)	-3.05	-2.98*
GDP growth(+2)	0.58	2.69*
Constant	0.27	0.14
R^2	0.59	
Prob (J-statistic)	0.79	
Q-statistic (upto 4 lags) (p-value)	0.23	

*: Significant at 1 per cent level.
The equation is estimated through generalised method of moments approach with the following instruments: lags of the endogenous variables as well as lag of world GDP growth, Brent crude prices and annual deviation rainfall in India from its long period average.
Source: RBI staff estimates.

References:

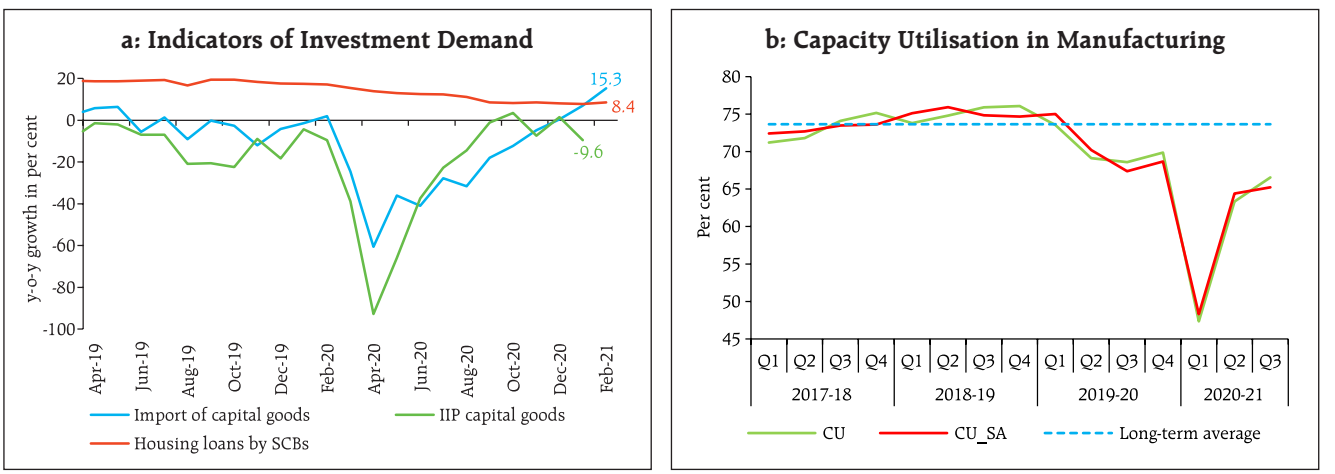
Hatzius, J., Hooper, P., Mishkin, F., Schoenholtz, K., Watson, M. (2010), 'Financial Conditions Indexes: A Fresh Look after the Financial Crisis', NBER Working Papers, No. 16150.

Kongsamut, P., C. Mumssen, A. Paret, T. Tressel (2017), 'Incorporating Macro-Financial Linkages into Forecasts Using Financial Conditions Indices: The Case of France' IMF Working Paper No. 17/269.

Gulati, S., Ghosh, B., Deepmala and Kumar, S. (2021), 'Investment and Financial Conditions', *Mimeo.*

also recovering as reflected by imports of capital goods remaining in the positive zone since December 2020 (Chart III.6a). The production of capital goods attained positive territory in December 2020 but shrank in

Chart III.6: Investment Demand



Sources: DGCI&S; NSO; and RBI.

January 2021. The capacity utilisation (CU) in the manufacturing sector improved to 66.6 per cent in Q3 from the previous quarter (Chart III.6b). Seasonally adjusted CU also increased to 65.2 per cent in Q3 from 64.4 per cent in the previous quarter.

Half-yearly unaudited financial statements of listed non-government non-financial (NGNF) companies indicate that companies reduced their assets and used funds to reduce liabilities and build-up cash holdings – the former signifying deleveraging while the latter is indicative of precautionary saving in uncertain times. The debt to equity ratio of these firms dropped by 4.4 percentage points to 39.7 per cent in H1:2020-21, although it was still higher than its level in the previous two years. Investment by these companies remained subdued (Table III.2). At the same time, the interest coverage ratio of listed non-financial private companies increased in Q3, indicating improved debt servicing capacity of these companies (Chart III.7). The deleveraging and improved debt service capacity along with congenial financial conditions, recovery in capacity utilisation, resuscitation of private consumption and the expanded scope of the Production-Linked Incentive (PLI) Scheme offer a conducive environment for capex spending by non-financial private companies. Bank lending to micro, small and medium enterprises (MSMEs) segment has improved with increased

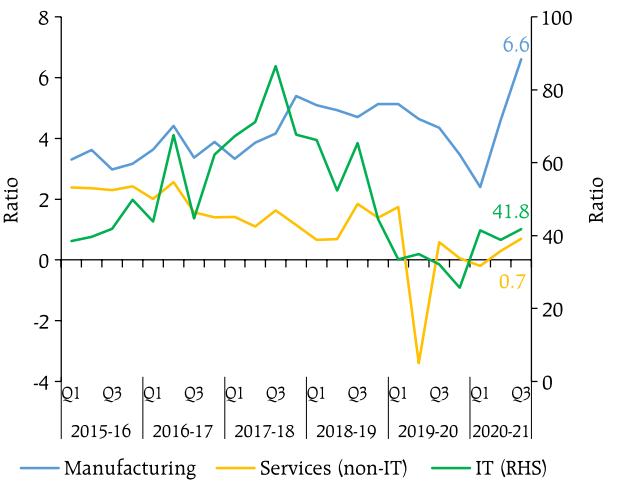
Table III.2: Listed Private Manufacturing Companies

(Per cent)

Period	Debt to Equity Ratio	Debt to Assets Ratio	Cash to Total Assets Ratio	Fixed Assets (y-o-y growth)
H2:2017-18	36.9	19.3	2.9	
H1:2018-19	37.9	19.5	2.6	
H2:2018-19	37.7	19.8	3.0	4.6
H1:2019-20	34.7	18.6	3.1	7.8
H2:2019-20	44.1	21.9	3.8	8.2
H1:2020-21	39.7	21.0	4.7	2.1

Note: Based on data of 1,249 common listed private manufacturing companies.
Source: RBI staff estimates.

Chart III.7: Interest Coverage Ratio

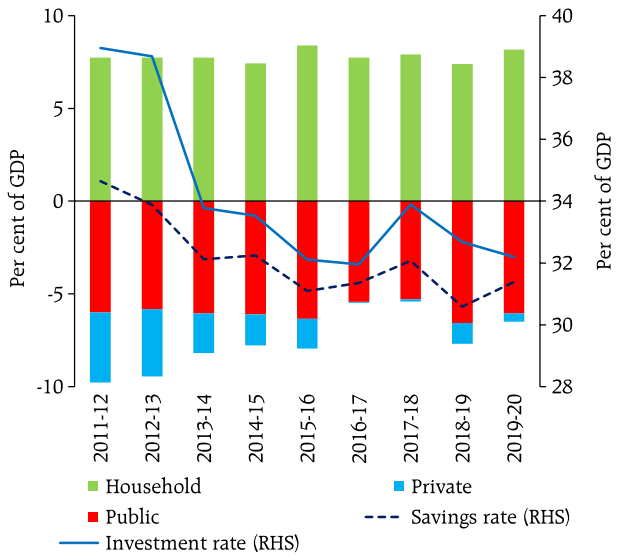


Note: Data for Q3:2020-21 are based on results of 1,685 listed private manufacturing companies and 678 listed private non-financial services companies.
Source: RBI staff estimates.

utilisation under the government's Emergency Credit Line Guarantee Scheme (ECLGS) to meet working capital requirements. As on February 28, 2021, the utilisation under ECLGS stood at 82 per cent. The PLI, covering 13 sectors with a commitment of the government support amounting to nearly ₹1.97 lakh crore, has begun attracting investment, including FDI, in the manufacturing sector. The significantly higher allocation for capital expenditure in the Union Budget 2021-22 is expected to crowd in private investment, and hence, augurs well for the revival of the private sector investment cycle. At the same time, possible stress in the balance sheet of banks – once special dispensations related to moratorium, asset classification and restructuring wane – could weigh on the investment outlook. Capital infusion and efficient and effective handling of loan delinquencies should be accorded priority, so that impediment to credit availability does not undermine revival in the investment cycle.

As per the first revised estimates for 2019-20, the gross domestic saving rate increased to 31.4 per cent of GDP from 30.6 per cent a year ago. Net household

Chart III.8: Saving Investment Gap



Sources: NSO; and RBI staff estimates.

financial saving – a major source of funds for the economy – increased to 8.0 per cent of GDP in 2019-20 from 7.2 per cent in the preceding year. While the public sector was reliant on household surpluses for financing its deficit, the private sector depended primarily on internal resources for financing its investment needs (Chart III.8). According to preliminary estimates, the household financial savings rate spiked to 21.0 per cent of GDP in Q1:2020-21 as consumption waned amidst lockdowns and nearly normalised back to 10.4 per cent in Q2 as consumption recovered reinforced by pent-up demand[3].

III.1.3 Government Expenditure

The contraction in Government Final Consumption Expenditure (GFCE) narrowed sharply from 24.0 per cent during Q2 to 1.1 per cent in Q3. GFCE support to aggregate demand revived in Q4 (the implicit growth in the SAE of NSO is 29.2 per cent). Overall, the fiscal

[3] Hansda, Sanjay Kumar, Anupam Prakash, Anand Prakash Ekka and Ishu Thakur (2021), "Q2:2020-21 Estimates of Household Financial Savings and Household Debt-GDP Ratio", RBI Bulletin, March.

Table III.3: Key Fiscal Indicators – Central Government Finances

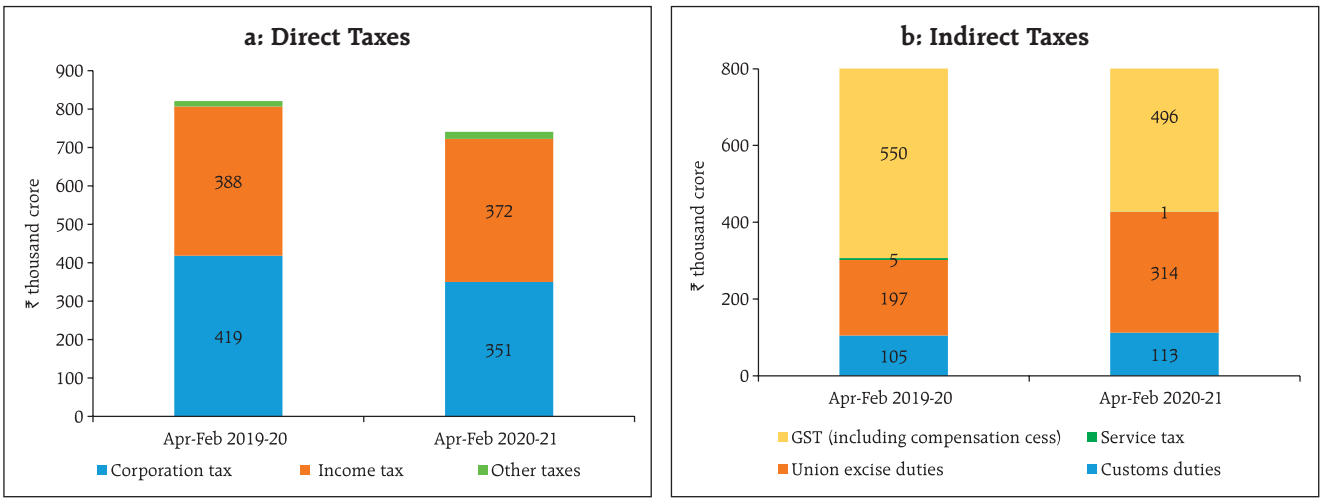
Indicator	Per cent to GDP		
	2019-20	2020-21 (RE)	2021-22 (BE)
1. Revenue receipts	8.3	8.0	8.0
a. Tax revenue (Net)	6.7	6.9	6.9
b. Non-Tax revenue	1.6	1.1	1.1
2. Non-debt capital receipts	0.3	0.2	0.8
3. Revenue expenditure	11.6	15.5	13.1
a. Interest payments	3.0	3.6	3.6
b. Major subsidies	1.1	3.1	1.5
4. Revenue expenditure excluding interest payments and subsidies	7.3	8.6	7.8
5. Capital expenditure	1.7	2.3	2.5
6. Capital outlay	1.5	1.7	2.3
7. Total expenditure	13.2	17.7	15.6
8. Gross fiscal deficit	4.6	9.5	6.8
9. Revenue deficit	3.3	7.5	5.1
10. Primary deficit	1.6	5.9	3.1

Sources: Union Budget 2021-22 and RBI staff estimates.

support to aggregate demand remained substantial in H2. Excluding government expenditure, the economy would have recorded a contraction of 9.3 per cent in 2020-21. In 2021-22, the growth in revenue expenditure excluding interest and subsidy payments has been budgeted at 4.8 per cent, considerably on the lower side as compared with 13.1 per cent in 2020-21 (RE), indicating lower support to aggregate demand (Table III.3).

During 2020-21, the fiscal position of the central government remained under stress due to revenue shortfalls and increase in COVID-19-related discretionary spending. Revenue collections gathered pace in H2, however, on the back of the pick-up in economic activity. The centre's net tax revenue increased by 9.1 per cent during April-February 2020-21 and stood at 90.4 per cent of revised estimates (RE) for the full year (Chart III.9). Except excise and customs duties, tax collections witnessed declines across the board.

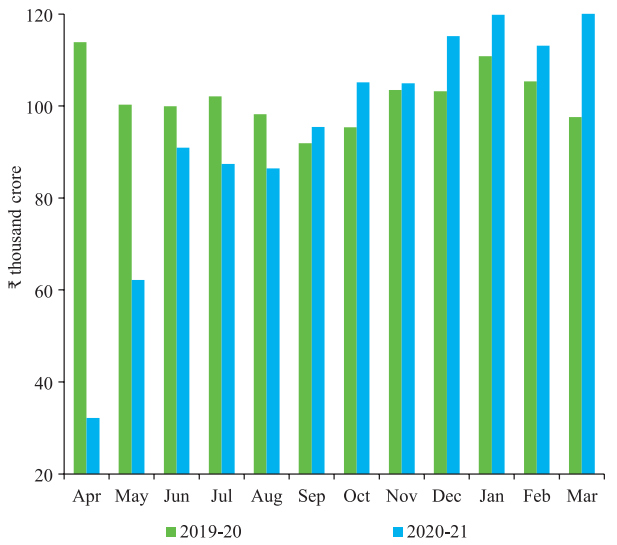
Chart III.9: Tax Collections



Source: Controller General of Accounts, Ministry of Finance.

Total GST collections were severely hit by the lockdown during H1:2020-21 but crossed the previous year's level from September 2020 onwards (Chart III.10). In March 2021, GST collections were recorded at ₹1.24 lakh crore. Direct tax collections during April-February 2020-21 were 81.6 per cent of RE, down by 9.9 per cent over the previous year's level.

Chart III.10: GST Collections



Source: CGA.

Total tax revenue is budgeted to be higher in 2021-22 than in the previous year (Table III.4).

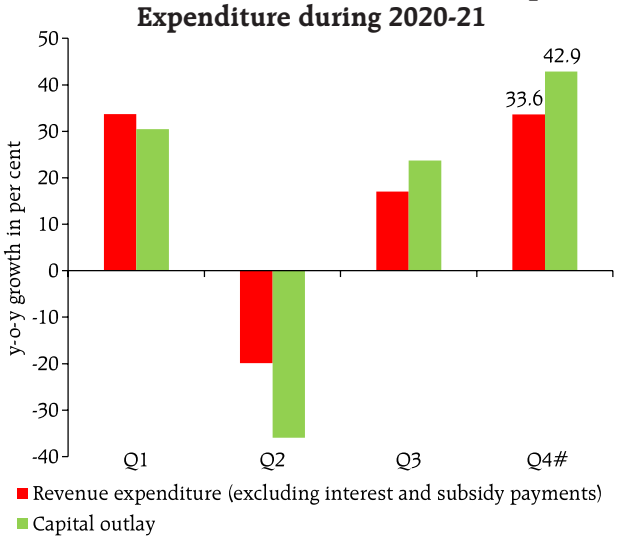
The revenue expenditure for the full year 2020-21 was revised upward by 14.5 per cent from the BE, mainly due to spending on major subsides. Outgoes on food subsidy in RE were over three and half times of the BE (2.2 per cent of GDP) because of distribution of free foodgrains to over 80 crore people and on-budgeting of past subsidy payments

Table III.4: Central Government Tax Collections

Indicator	Per cent to GDP		
	2019-20	2020-21 (RE)	2021-22 (BE)
1. Direct tax	**5.1**	**4.6**	**5.0**
(i) Corporation	2.7	2.3	2.5
(ii) Income	2.4	2.3	2.5
2. Indirect tax	**4.6**	**5.1**	**5.0**
(i) GST	2.9	2.6	2.8
(ii) Customs	0.5	0.6	0.6
(iii) Excise	1.2	1.8	1.5
3. Gross tax revenue (1+2)	**9.7**	**9.7**	**9.9**
4. Net tax revenue	**6.6**	**6.9**	**6.9**

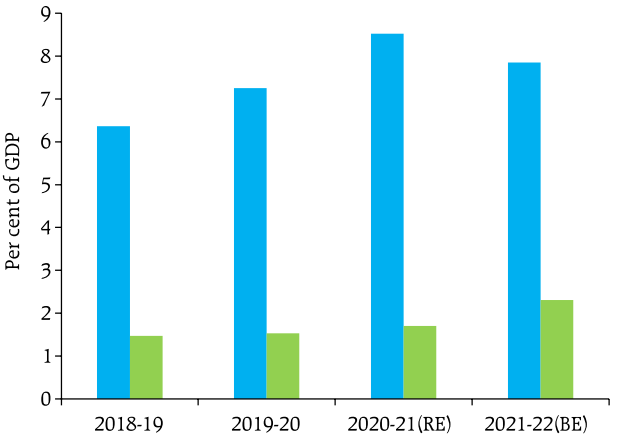
Note: BE: Budget Estimates. RE: Revised Estimates.
Source: Union Budget, 2021-22.

Chart III.11: Growth in Revenue and Capital Expenditure during 2020-21



#: Implicit
Source: RBI staff estimates.

Chart III.12: Revenue Expenditure and Capital Outlay



Source: RBI staff estimates.

to the Food Corporation of India (FCI) in the form of National Small Saving Fund (NSSF) loans. The revenue expenditure, excluding interest and subsidy payments, is estimated to step-up by 33.6 per cent in Q4 (Chart III.11). The capital expenditure of the central government also inched up by 6.6 per cent in RE 2020-21 from BE on the back of higher spending on central sector schemes, railways, defence, transfers to the States, health and MSMEs. Higher capital expenditure in RE that is attributed to discretionary spending gave a thrust to fixed investment in the economy. The increased government expenditure reflects the fiscal policy push necessitated by the pandemic to save lives and livelihood and nurture the economic recovery. Reflecting decline in revenues and higher expenditures, the fiscal deficit (FD) and revenue deficit (RD) edged up considerably to 9.5 per cent and 7.5 per cent of GDP, respectively in 2020-21(RE).

The Union Budget 2021-22 gave an impetus to growth through increased outlays for capital expenditure. Although total expenditure is budgeted to grow by only 1 per cent, the increased focus on capital expenditure that has multiplier effects would boost overall investment and growth in the economy. The allocation for capital expenditure has been budgeted higher by 26.2 per cent, while revenue expenditure is budgeted to fall by 2.7 per cent in 2021-22. The capital outlay (*i.e.*, capital expenditure excluding loans and advances) is budgeted to edge up to 2.3 per cent of GDP in 2021-22 (BE) from 1.7 per cent in 2020-21(RE) (Chart III.12). The Union Budget 2021-22 expected the fiscal deficit (FD) to decline to 6.8 per cent of GDP and to 4.5 per cent by 2025-26.

Based on data for 24 states for April-January 2020-21, states' consolidated revenue receipts contracted largely due to downturn in own tax revenue, central tax transfer and own non-tax revenue. Consolidated revenue receipts, however, made a turnaround in H2 (October-January 2020-21) due to revival in GST collections. Despite COVID-19 related spending, states' revenue expenditure (excluding interest payments and subsidies) rose marginally during April-January due to expenditure rationalisation. Capital expenditure after contracting in H1, posted a robust growth in H2 (October-January 2020-21), reflecting a qualitative improvement in expenditure composition. For 2021-22, the consolidated GFD (for 12 states for which data are available) is budgeted at 3.7 per cent of

Table III.5: State Government Finances - Key Deficit Indicators

(per cent of GSDP)

Item	2019-20	2020-21 (BE)	2020-21 (RE)	2021-22 (BE)
Revenue deficit	0.1	0.1	1.7	0.5
Primary deficit	0.7	1.1	2.4	1.8
Gross fiscal deficit	2.3	2.6	4.2	3.7

Notes: 1. Data pertain to 12 states out of 28 States and 3 Union Territories that have presented their Budgets for 2021-22.
2. GSDP is the sum of GSDP of the respective 12 states.

Source: Budget Documents of State Governments.

GSDP during 2021-22 as against 4.2 per cent in 2020-21(RE) (Table III.5).

The Reserve Bank of India completed the central government's market borrowing programme for 2020-21 successfully and in a non-disruptive manner (Table III.6). Despite a sharp increase in the quantum of the borrowings, ample surplus liquidity, regular open market operations (OMO) including special OMOs, regulatory measures and forward guidance enabled the government to complete its borrowings at a 16-year low weighted average cost – 5.79 per cent during 2020-21 as compared with 6.84 per cent in 2019-20 – along with the highest weighted average maturity. States' gross borrowings of ₹7.98 lakh crore, also significantly higher than normal, were completed at a weighted average cost of 6.52 per cent during 2020-21.

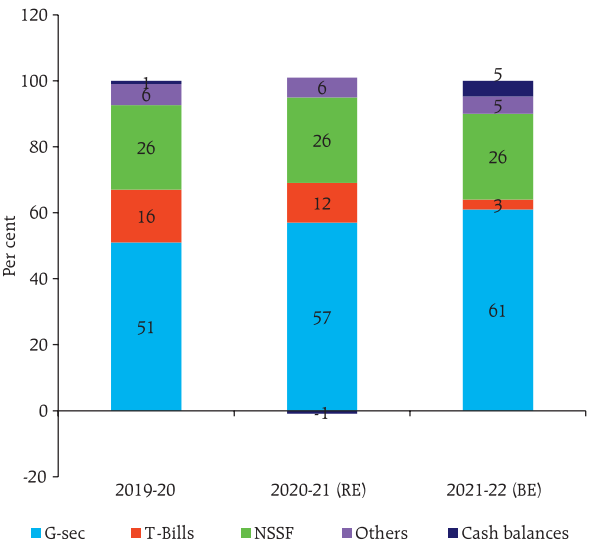
Table III.6: Centre's Borrowings

(₹ Lakh Crore)

Item		2019-20	2020-21 (RE)	2021-22 (BE)
I	Net borrowings (G-Sec)	4.7	10.5	9.2
	Repayments	2.4	2.3	2.9
	Gross borrowings (G-Sec)	7.1	12.8	12.1
II	T-Bills/Cash management bills (Net)	1.5	2.2	0.5
III	Net market borrowings (I+II)	6.2	12.7	9.7
IV	Securities against small savings	2.4	4.8	3.9
V	State provident fund	0.1	0.2	0.2
VI	Other receipts	0.4	0.4	0.5
VII	External debt	0.1	0.5	0
VIII	**Total debt (III to VII)**	**9.3**	**18.7**	**14.4**
IX	Drawdown on cash balances	0.1	-0.2	0.7
X	**Total funding (VIII+IX)**	**9.4**	**18.5**	**15.1**

Sources: Government of India; and RBI staff estimates.

Chart III.13: Funding of Centre's Fiscal Deficit



Sources: Government of India; and RBI staff estimates.

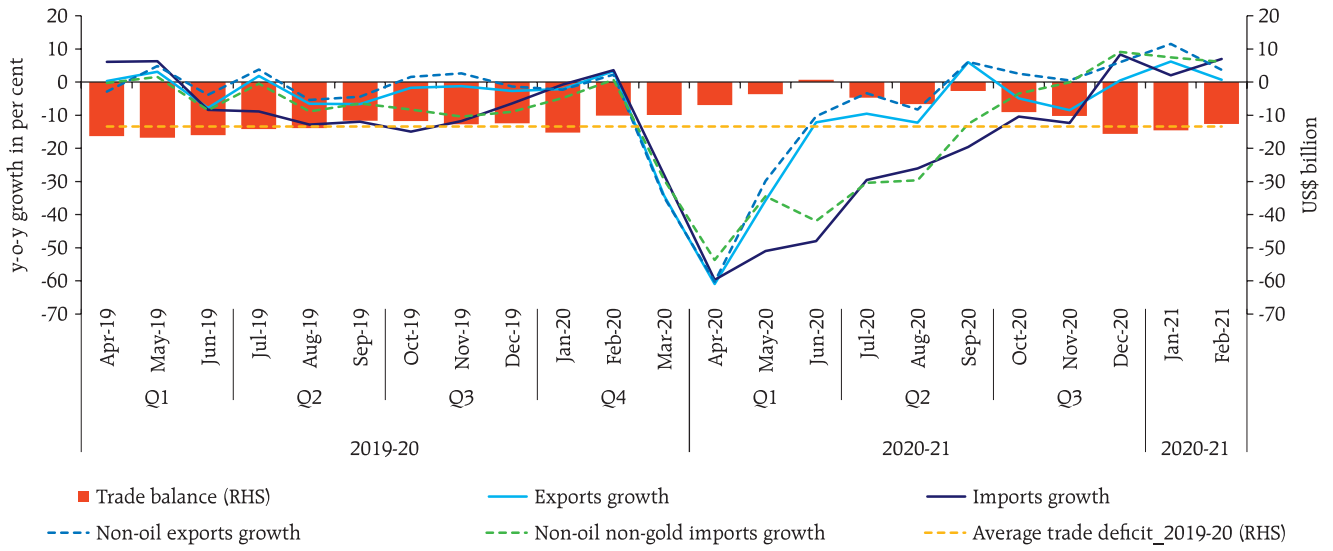
Eleven tranches of switch operations amounting to ₹1.53 lakh crore were undertaken during 2020-21, aiming at managing rollover risk and enhancing liquidity of government securities.

The Union Budget 2021-22 has placed net market borrowings through G-Sec at ₹9.2 lakh crore, lower than in 2020-21 (RE). Market borrowings are slated to finance 61 per cent of the centre's fiscal deficit in 2021-22(BE), higher than 57 per cent in RE 2020-21 (Chart III.13). Gross market borrowings of the central government through dated securities have been planned at ₹7.24 lakh crore in H1:2021-22 (60 per cent of the total budgeted amount for 2021-22). The ways and means advances (WMA) limit for the central government has been fixed at ₹1.20 lakh crore for H1:2021-22 to enable seamless bridging of intermittent mismatch between receipts and payments on account of leads and lags.

III.1.4 External Demand

With the global economy gradually emerging from one of its deepest recessions, India's exports surpassed the pre-pandemic level and entered the expansionary zone from December 2020. Imports contraction

Chart III.14: India's Merchandise Trade



Sources: Directorate General of Commercial Intelligence and Statistics (DGCI&S) and RBI staff estimates.

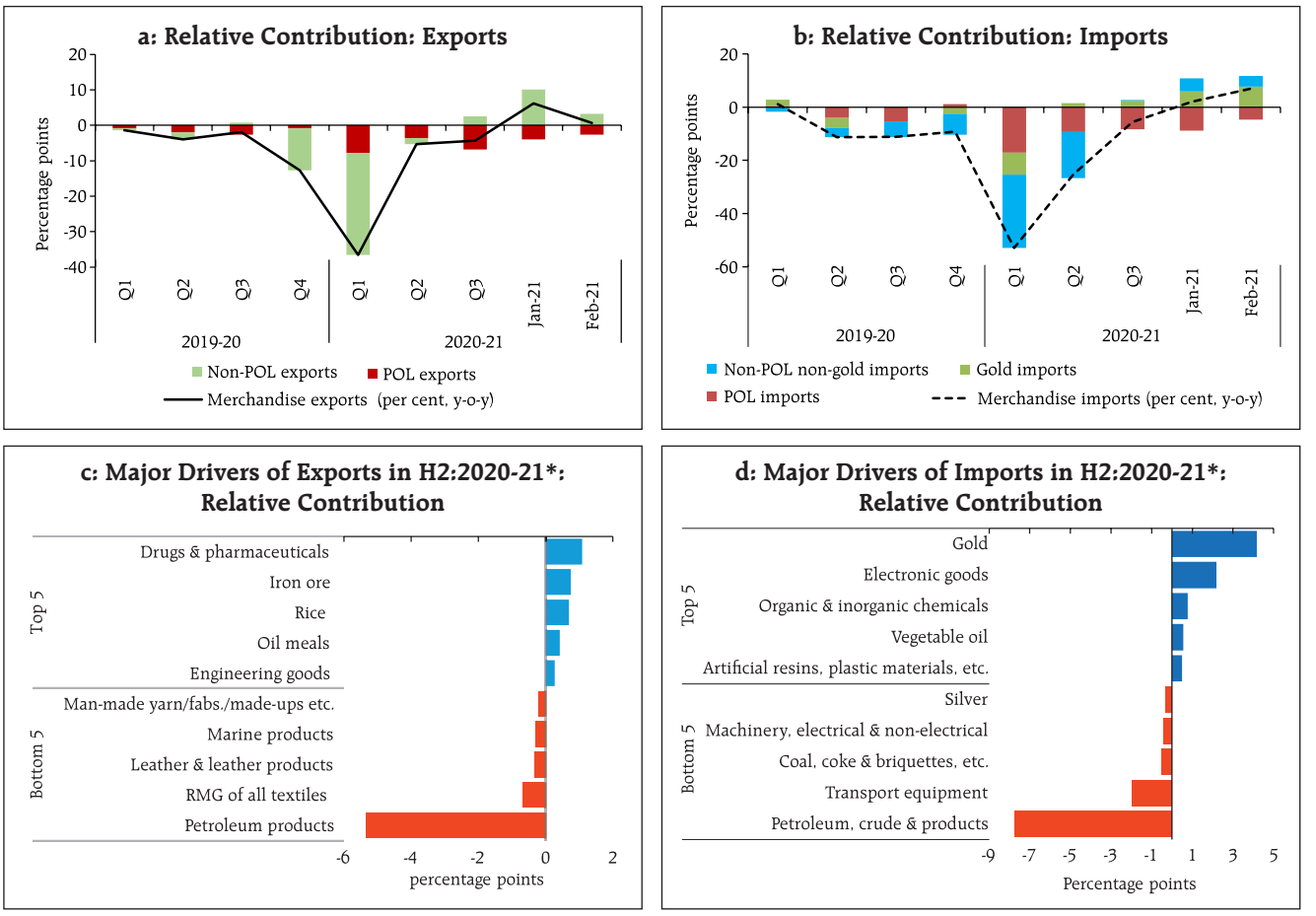
became softer in H2:2020-21 and eventually turned positive from December 2020 after a gap of 9 months (Chart III.14). The positive contribution of net external demand to y-o-y growth fell in Q3 with improvement in imports outpacing exports. The contribution of net external demand to growth is estimated to improve in Q4.

According to data released by the Directorate General of Commercial Intelligence and Statistics (DGCI&S), the pace of contraction in India's merchandise exports, which peaked in Q1:2020-21 due to the disruptions caused by the COVID-19, moderated in Q2 and Q3 on the back of a gradual recovery in global demand conditions. Merchandise exports expanded for the third month in a row in February 2021 (Chart III.15 a). Non-oil exports rose by 3.1 per cent in Q3 and 7.5 per cent during January-February 2021 (Chart III.15c). At the disaggregated level, drugs and pharmaceuticals, iron ore and agricultural products pushed up non-oil export growth. Overall, during April-February 2020-21, merchandise exports contracted by 12.2 per cent.

With the gradual opening up of the economy and revival of domestic demand, the pace of contraction in merchandise imports moderated to 4.7 per cent in Q3:2020-21 from 52.9 per cent in Q1 (Chart III.15b). In February 2021, merchandise imports rose by 7.0 per cent, registering an expansion for the third consecutive month. The rebound in non-oil non-gold imports has been broad-based, with major sectors including electronic goods, machinery, chemicals, and pearls and precious stones reaching pre-COVID levels in December 2020 (Chart III.15d). Gold imports rose by 38.0 per cent in Q3 and 124 per cent in February 2021. Overall, merchandise imports contracted by 23.1 per cent in April-February 2020-21. With imports contracting faster than exports, the merchandise trade deficit nearly halved to US$ 84.6 billion in April-February 2020-21 from US$151.4 billion in the corresponding period a year ago. Going forward, India's oil import bill may edge up due to the rise in international crude oil prices since November 2020 in the face of rebalancing of global oil supply-demand conditions.

Turning to the services sector, the initial setback to the exports of services in Q1:2020-21 waned gradually in view of the resilience of software exports (Chart III.16). While travel and transport sector and

Chart III.15: Relative Contribution to Export and Import Growth

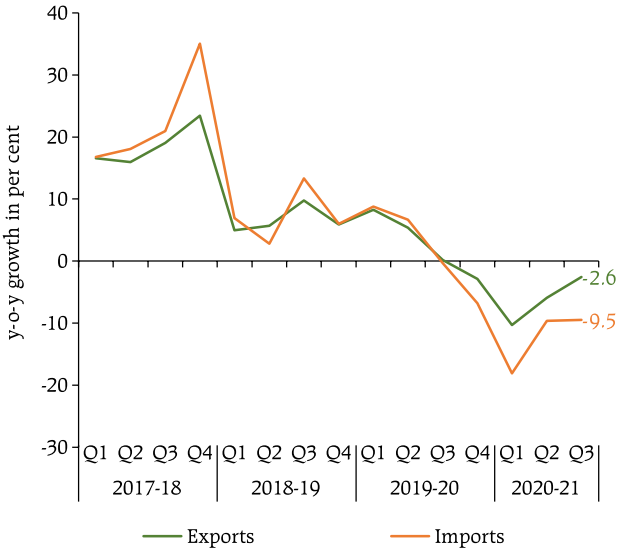


Note: *:H2: October-February 2020-21.
Sources: DGCI&S and RBI staff estimates.

trade-related services were adversely impacted due to the global lockdown restrictions, domestic information technology (IT) companies benefitted from demand from international customers and increasingly adopted new models for IT and other work operations in the wake of the pandemic. Remittances recorded sequential improvement in Q2 and Q3 with the phased normalisation of global economic activity. While the current account surplus was 3.0 per cent of GDP in H1, the rising trade deficit pushed the current account back into deficit in Q3.

Net capital flows remained robust in 2020-21 supported by foreign direct investment (FDI) and foreign portfolio investment (FPI) on growing optimism about India's growth prospects. Driven

Chart III.16: Services Trade



Source: DGCI&S.

primarily by megadeals in the digital and retail sectors, net FDI at US$ 44.3 billion during April-January 2020-21 was higher than US$ 36.3 billion a year ago. The sharp upturn in net purchases by portfolio investors in the equity segment during H2 resulted in net FPI inflows at US$ 37.1 billion during 2020-21 (up to March 30) as against an outflow of US$ 5.2 billion during the same period last year (Chart III.17). While the accommodative monetary policies of major central banks improved the appetite for risk among global portfolio investors, robust earnings reported by domestic corporate sector, positive sentiments on COVID vaccination and optimism on domestic growth also helped in attracting record FPI inflows. Despite purchases by FPIs in the debt market in H2:2020-21, there was a cumulative net outflow at US$ 0.5 billion from this segment in 2020-21 (up to March 30). External commercial borrowings recorded net outflows during April-January 2020 partly due to pre-payments. Net flows under non-resident deposits, however, surged during the period. As on March 26, 2021, India's foreign exchange reserves amounted to US$ 579.3 billion, covering 18.4 months of imports and 102.8 per cent of external debt (chart III.17).

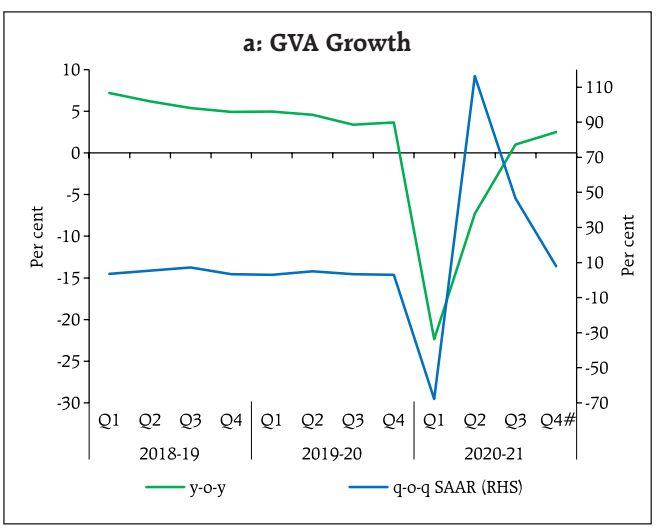
Chart III.17: Net Foreign Direct and Portfolio Investment

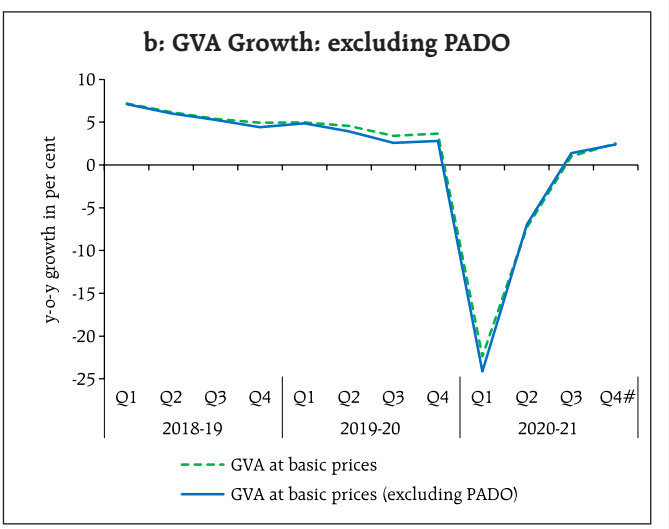
*: Upto March 30, 2021
Sources: NSDL; and RBI.

III.2 Aggregate Supply

Gross value added (GVA) – the measure of aggregate supply – contracted by 6.5 per cent in 2020-21 as per the SAE released by the NSO. GVA posted a growth of 1.8 per cent in H2:2020-21 in contrast to a downturn of 14.9 per cent in H1:2020-21. The momentum in growth – Q-o-Q-SAAR – eased during Q3 and Q4 from Q2 (Chart III.18).

Chart III.18: GVA Growth





#: Implied
Sources: NSO; and RBI staff estimates.

Table III.7: Sector-wise Growth in GVA

(y-o-y, per cent)

Sector	2019-20 (FRE)	2020-21 (SAE)	Weighted Contribution 2020-21	2019-20 (FRE)				2020-21 (SAE)			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Agriculture, forestry and fishing	**4.3**	**3.0**	**0.4**	**3.3**	**3.5**	**3.4**	**6.8**	**3.3**	**3.0**	**3.9**	**1.9**
Industry	**-2.0**	**-7.4**	**-1.6**	**1.0**	**-2.7**	**-3.0**	**-3.2**	**-31.1**	**-1.6**	**1.4**	**1.9**
Mining and quarrying	-2.5	-9.2	-0.2	-1.3	-5.2	-3.5	-0.9	-18.0	-7.6	-5.9	-5.5
Manufacturing	-2.4	-8.4	-1.4	0.6	-3.0	-2.9	-4.2	-35.9	-1.5	1.6	2.3
Electricity, gas, water supply and other utilities	2.1	1.8	0.0	6.9	1.7	-3.1	2.6	-9.9	2.3	7.3	8.9
Services	**6.4**	**-8.4**	**-5.3**	**6.8**	**7.3**	**5.8**	**5.6**	**-24.8**	**-10.9**	**0.0**	**2.9**
Construction	1.0	-10.3	-0.8	3.7	1.0	-1.3	0.7	-49.4	-7.2	6.2	8.4
Trade, hotels, transport, communication	6.4	-18.0	-3.7	6.2	6.8	7.0	5.7	-47.6	-15.3	-7.7	-2.9
Financial, real estate and professional services	7.3	-1.4	-0.3	8.8	8.9	5.5	4.9	-5.4	-9.5	6.6	6.9
Public administration, defence and other services	8.3	-4.1	-0.5	5.6	8.8	8.9	9.6	-9.7	-9.3	-1.5	3.2
GVA at basic prices	**4.1**	**-6.5**	**-6.5**	**5.0**	**4.6**	**3.4**	**3.7**	**-22.4**	**-7.3**	**1.0**	**2.5**

FRE: First Revised Estimates; SAE: Second Advance Estimates; #: Implicit growth.
Source: NSO.

Agriculture and allied activities remained resilient during 2020-21, partially offsetting the contraction in other components of GVA. Manufacturing activity entered expansion in Q3 but dipped back into contraction in January 2021. The services sector – battered by the pandemic – tenuously regained momentum in H2, buoyed by optimism on the roll-out of vaccines (Table III.7).

III.2.1 Agriculture

GVA in agriculture and allied activities expanded by 3.0 per cent in H2:2020-21, maintaining its pace of H1. Sufficient access to inputs, adequate and well-spread south-west and the north-east monsoon rains, sufficient reservoir levels and improved soil moisture pushed up *rabi* acreage by 2.9 per cent. The SAE for 2020-21 has placed *kharif* and *rabi* foodgrains production higher by 2.9 and 1.1 per cent, respectively, over their levels a year ago (Table III.8). Foodgrains production, including both the staple cereals, *viz.*, rice and wheat, touched another record for the fifth consecutive year. Among the commercial crops, cotton and oilseeds (groundnut and 'rapeseed and mustard') achieved record production levels. All the crops, except pulses and jute and mesta, achieved their target levels for 2020-21. Horticultural production was also placed at a record level of 3,265.8 lakh tonnes during 2020-21 – 1.8 per cent higher than the final estimates for 2019-20 – driven largely by production of aromatics and medicinal crops, vegetables and fruits.

Allied activities consisting of livestock, forestry and fishing – which constitute about 44 per cent of the

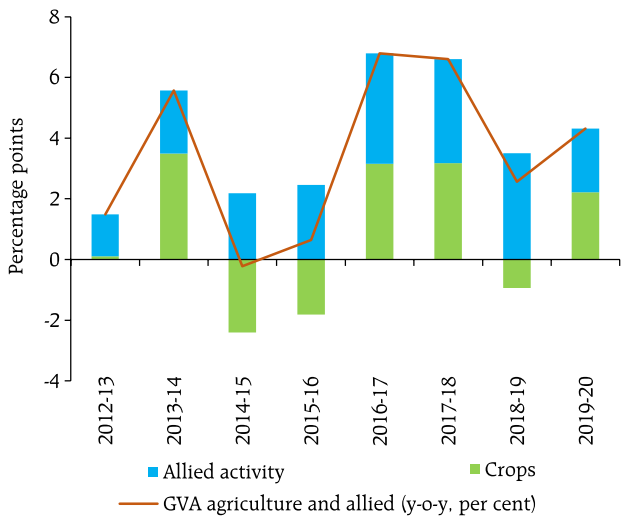
Table III.8: Agricultural Production in 2020-21 (Second Advance Estimates)

(in Lakh Tonnes)

Crop	2019-20		2020-21		Variation in 2020-21 (Per cent)		
	2nd AE	Final	Target	2nd AE	Over 2nd AE 2019-20	Over Final 2019-20	Over Target
Foodgrains	2919.5	2975.0	3010.0	3033.4	3.9	2.0	0.8
Kharif	1423.6	1438.1	1493.5	1479.5	3.9	2.9	-0.9
Rabi	1496.0	1536.9	1516.5	1554.0	3.9	1.1	2.5
Rice	1174.7	1188.7	1196.0	1203.2	2.4	1.2	0.6
Wheat	1062.1	1078.6	1080.0	1092.4	2.9	1.3	1.1
Pulses	230.2	230.3	256.0	244.2	6.1	6.0	-4.6
Oilseeds	341.9	332.2	370.0	373.1	9.1	12.3	0.8
Sugarcane	3538.5	3705.0	3900.0	3976.6	12.4	7.3	2.0
Cotton #	348.9	360.7	360.0	365.4	4.7	1.3	1.5
Jute & Mesta ##	98.1	98.8	105.0	97.8	-0.3	-1.0	-6.9

#: lakh bales of 170 kgs. each.
##: lakh bales of 180 kgs. each.
Source: Ministry of Agriculture and Farmers' Welfare, Government of India.

Chart III.19: Contribution of Crops and Allied Activities



Sources: NSO; and RBI staff estimates.

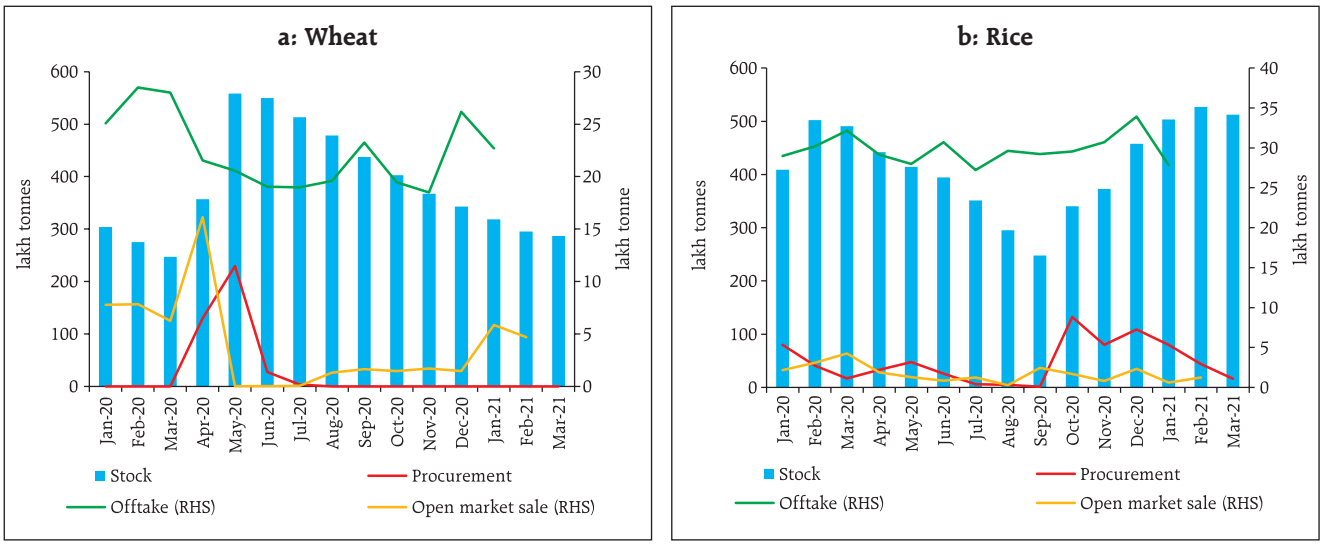
sector – contributed about half of overall agricultural GVA growth in 2019-20 (Chart III.19).

The procurement of paddy during the *kharif* marketing season that started in September 2020 was higher by 14.0 per cent year-on-year till March 31, 2021. For upcoming *rabi* marketing season (April-March), the government has set a target to procure 407.0 lakh tonnes of wheat, which is 2.3 per cent over and above the record procurement during the previous *rabi* season. Record procurement of cereals led to a significantly higher buffer stock of wheat and rice at 286.8 lakh tonnes (2.1 times the buffer norms) and 512.4 lakh tonnes (6.7 times the buffer norms), respectively, by mid-March 2020 notwithstanding 315 lakh tonnes of cereals distributed under the *Pradhan Mantri Garib Kalyan Anna Yojana* (Chart III.20).

In terms of high frequency indicators, tractor sales posted strong growth in Q3 and January-February 2021, and two-wheeler sales remained buoyant (Table III.9). Farm exports remained strong during Q3 and Q4 (January-February), benefitting from a surge in global demand and higher international food prices.

The Union Budget 2021-22 has announced measures targeted at infrastructure development in agriculture, rural areas, and fisheries by enhancing credit flow and improving supply chains for perishables while ensuring continuation of direct procurement of cereals by the government. The extension of the agriculture infrastructure fund to Agricultural Produce Market Committees (APMCs) and integration of additional 1,000 APMC *mandis* with electronic-National

Chart III.20: Stock, Procurement and Offtake Position – Wheat and Rice



Source: Food Corporation of India, GoI.

Table III.9: High Frequency Indicators for Rural Economy

Per cent

Items	Growth	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
Tractor sales	y-o-y	38.5	74.7	28.3	7.7	51.3	43.1	46.7	31.1
Two-wheeler sales	y-o-y	-15.2	3.0	11.6	16.9	13.4	7.4	6.6	10.2
Fertilizer sales	y-o-y	25.4	7.0	-2.6	17.7	3.7	-26.5	-22.3	NA
Demand for employment (MGNREGA)	y-o-y	66.3	60.4	63.3	81.0	43.1	47.2	30.0	20.3
Export - agri and allied sector	y-o-y	15.3	14.1	31.5	34.2	12.5	12.9	21.5	27.1
Agriculture credit (Outstanding)	y-o-y	5.4	4.9	5.9	7.4	8.5	9.4	9.9	10.2
Stocks-cereals (Ratio of actual stock to quarterly buffer norms)	Rice	2.8	2.2	2.4	3.3	3.6	4.5	6.6	6.7
	Wheat	2.0	1.7	2.1	2.0	1.8	1.7	2.3	2.1

Sources: Tractor Manufactures Association; SIAM; Ministry of Chemicals and Fertilzers; Ministry of Rural Development; CMIE; RBI; and Food Corporation of India.

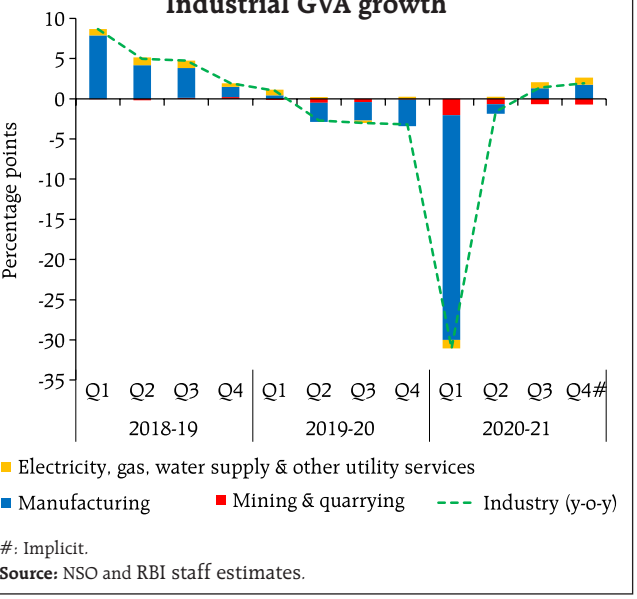
Agriculture Market (e-NAM)[4] is expected to enhance farmers access to markets and prices and improve marketing efficiency in the agriculture sector. The proposal to expand "operation green" from 3 (onions, tomatoes and potatoes) to 22 perishable commodities is expected to improve supply chains, reduce price fluctuations and boost exports of perishable agricultural commodities. According to the National Oceanic and Atmospheric Administration (NOAA) of the US, there is around 60 per cent chance of a transition from *La Niña* to ENSO-Neutral during the April-June 2021, indicative of a normal south west monsoon.

III.2.2 Industry

Industrial sector GVA was driven by the manufacturing sector emerging out of contraction in Q3, although in Q4, there has been some setback due to sharp retrenchment of production of capital goods and consumer non-durables (Chart III.21). In contrast, the mining sector continued to languish, throttled by supply bottlenecks. Crude oil and natural gas production dropped due to lack of critical infrastructure and equipment, and operational difficulties amidst the pandemic. Natural gas production crossed the pre-COVID levels in January 2021 following the start of production in KG-D6 field, which bodes well for the outlook.

The index of industrial production (IIP) emerged out of a prolonged contraction in September 2020 but it lost momentum again in November and January 2021 (Chart III.22a). The improvement in manufacturing activity in Q3 was driven by basic metals, chemical and chemical products, motor vehicles and electrical equipment. 12 out of 23 industry groups entered positive territory in Q3 as compared to only 5 groups during Q2. In terms of the use-based classification, the recovery in Q3 was led by consumer durables

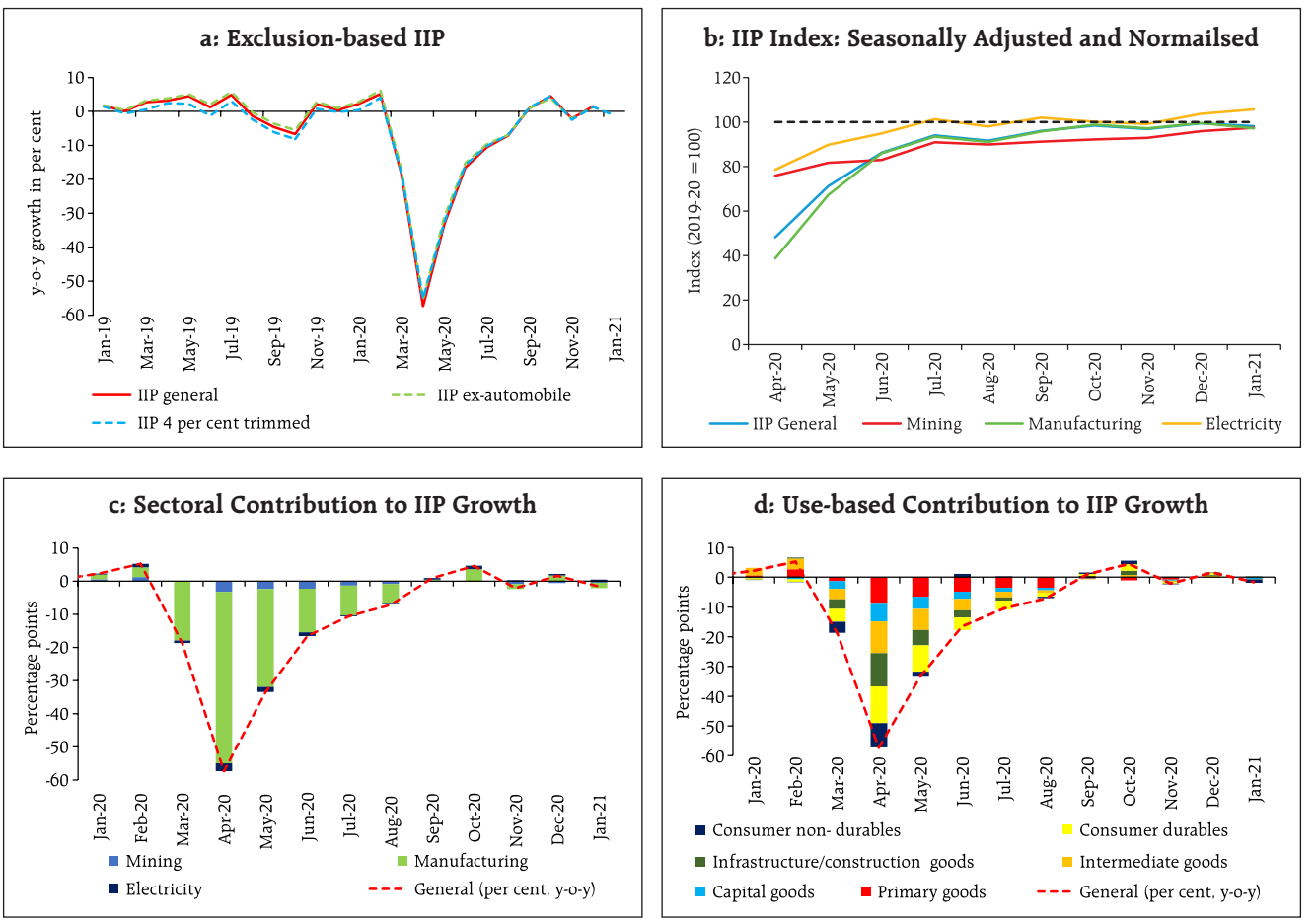
Chart III.21: Weighted Contribution to Industrial GVA growth



#: Implicit.
Source: NSO and RBI staff estimates.

[4] National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the APMC *mandis* to create a unified national market for agricultural commodities.

Chart III.22: Index of Industrial Production (IIP)



Sources: NSO; and RBI staff estimates.

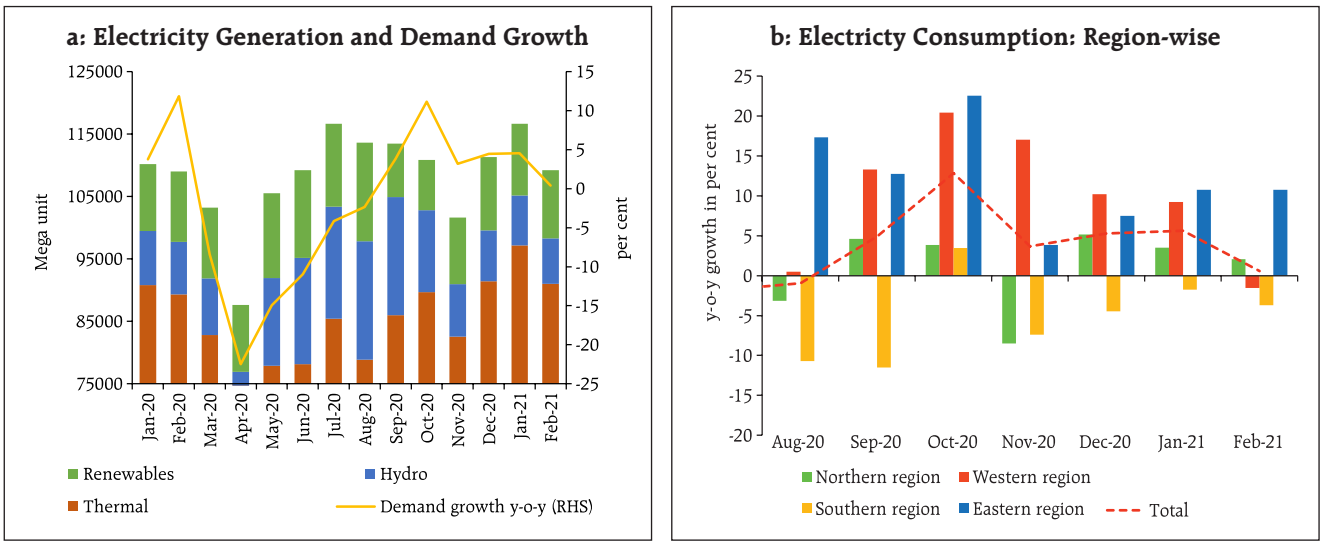
and infrastructure/construction goods on the back of increase in sales of automobiles and electronics, and higher domestic demand from the auto and white goods segment for steel (Chart III.22d). In capital goods sector, the moderation was offset by higher output of agricultural tractors, harvesters, threshers, tyres and tubes.

In January 2021, the IIP contracted by 1.6 per cent, pulled down by the downturn in manufacturing. Mining activity contracted further in January 2021. In terms of the use-based classification, capital goods production declined to a 5-month low while consumer non-durables output fell to an 8-month low.

Electricity generation improved in Q3 and January 2021 reflecting buoyant demand although there was some deceleration in February 2021. The thermal sector contributed primarily to the upturn in electricity generation in Q3 and January with a growth of 7.6 per cent and 7.0 per cent, respectively, before easing to 1.9 per cent in February 2021. The rate of contraction in nuclear power generation became more pronounced during January-February 2021, while generation from renewable sources decelerated in January and contracted in February (Chart III.23a). Hydro power generation continued to contract in Q3 and January-February 2021. The deceleration in electricity demand in February was mainly due to a drop in consumption in western and southern regions (Chart III.23b).

Nominal GVA of manufacturing companies posted a notable improvement in Q3 on the back of strong

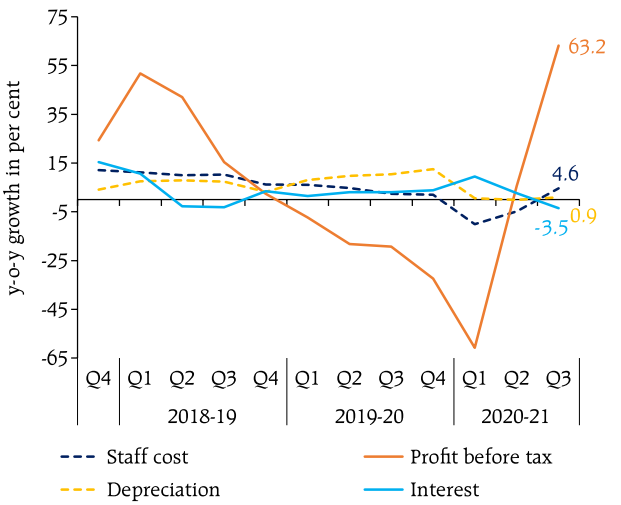
Chart III.23: Electricity Demand and Consumption



Source: Central Electricity Authority and Power System Operation Corporation Limited (POSOCO).

growth in profits (Chart III.24). Profit before tax of manufacturing companies surged on an improvement in net sales coupled with reduced interest expenses. Employee cost posted an uptick, however.

Chart III.24: Components of Manufacturing GVA



Note: Data for Q3:2020-21 are based on results of 1,685 listed private manufacturing companies.
Source: RBI staff estimates.

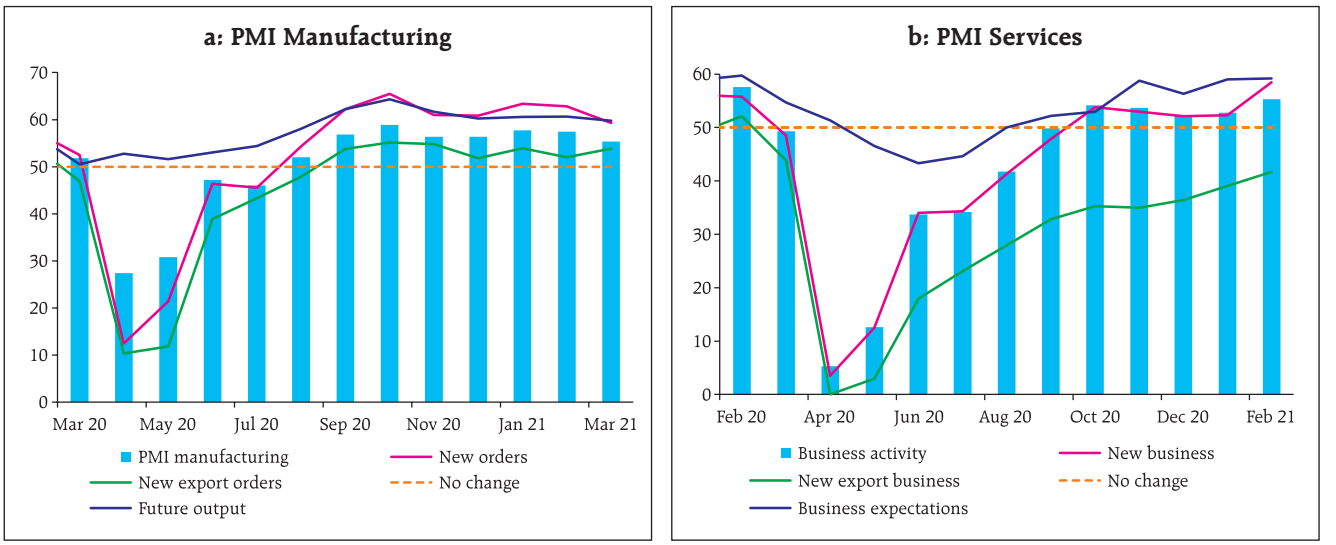
Business sentiment improved in H2:2020-21, with the Reserve Bank's business assessment index rising to 113.1 in Q4:20-21 (the 93rd round of the industrial outlook survey) from 108.6 in Q3:2020-21. The business expectations index (BEI) also improved further to 119.6 for Q1:2021-22 as compared to 114.1 for Q4:2020-21. The manufacturing purchasing managers' index (PMI) at 55.4 in March 2021 indicated expansion for the eighth consecutive month, driven by upturn in new orders and production (Chart III.25a).

Overall, manufacturing activity and electricity generation are gradually normalising and approaching their 2019-20 levels (Table III.10).

III.2.3 Services

The services sector stepped out of contraction in H2:2020-21 with the phased unlocking of the economy, and recorded a growth of 1.4 per cent.

Chart III.25: Purchasing Managers Index (PMI)



Note: >50: Expansion, < 50: Contraction.
Source: IHS Markit.

The construction sector recuperated faster than anticipated – entering positive territory in Q3 – and rose by 7.3 per cent in H2 due to demand from the residential sector and highway construction (Chart III.26a). Indicators such as finished steel consumption mirrored the recovery in construction activity (Chart III.26b). Robust collection of the goods and services tax (GST) and issuances of e-way bills

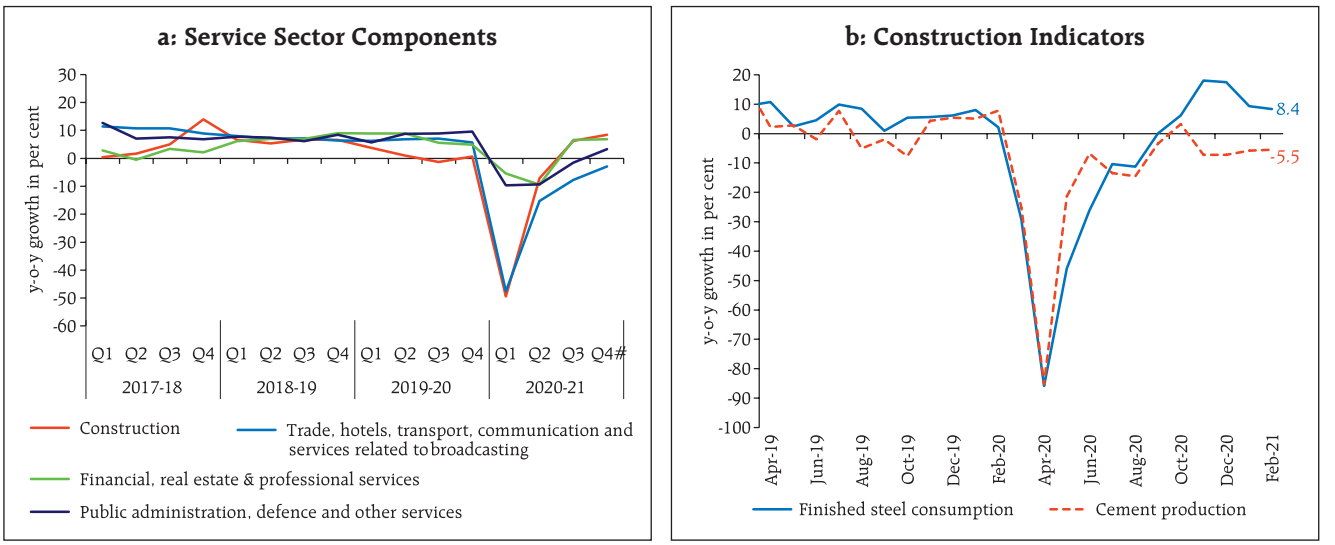
Table III.10: Industrial Sector Indicators: Progress towards Normalisation
(Seasonally adjusted and normalised to 2019-2020 = 100)

	Indicators	2019-20	Q1:2020-21	Q2:2020-21	Q3:2020-21	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
I	**Index of Industrial Production**	100	69	94	98	98	97	99	98	
	IIP: Manufacturing	100	64	93	99	99	97	100	97	
	IIP: Capital goods	100	40	85		95	89	94	94	
	IIP: Infrastructure & construction goods	100	56	96	102	102	101	102	99	
	IIP: Consumer durables goods	100	36	89	100	104	95	101	99	
	IIP: Consumer non-durables goods	100	86	102	101	104	99	100	94	
II	**Eight Core Industries Index**	100	79	94	97	95	98	100	100	101
	ECI: Steel	100	56	97	101	99	100	103	100	99
	ECI: Cement	100	63	87	94	95	94	96	97	103
	Electricity demand	100	87	99	101	100	99	103	105	109
III	**Production of Automobiles**									
	Passenger vehicles	100	19	87	109	112	99	116	94	106
	Two wheelers	100	24	91	110	117	105	109	105	109
	Three wheelers	100	25	46	64	62	62	68	62	70
	Production of tractors	100	60	122	150	144	140	167	173	177

Sources: CMIE, CEIC, NSO, SIAM, RBI staff estimates.

← Below pre-Covid level Normalisation / recovery of activity →

Chart III.26: Service Sector



Sources: NSO; Office of Economic Adviser, Joint Plant Committee, Department of Industrial Policy & Promotion, Ministry of Commerce & Industry.

suggest a strong upturn in domestic trading activity. The ongoing normalisation of trade, both domestic and international, boosted railway freight traffic (Table III.11).

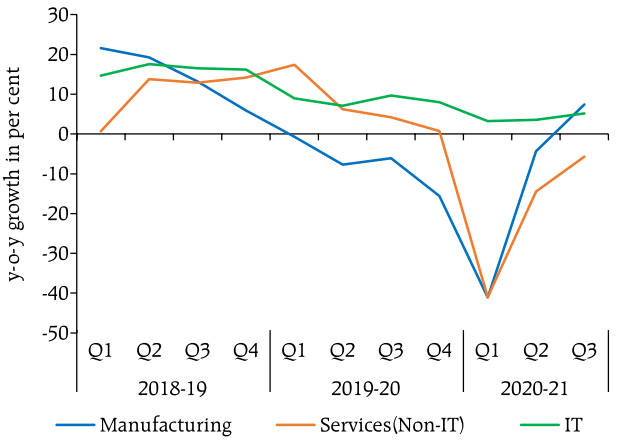
Table III.11: Services Sector: Progress towards Normalisation
(Seasonally adjusted and normalised to 2019-2020 = 100)

	Indicators	2019-20	Q1:2020-21	Q2:2020-21	Q3:2020-21	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
I	**Construction**									
	Steel consumption	100	50	93	110	103	113	113	110	109
	Cement production	100	63	87	94	95	94	96	97	103
II	**Trade, Hotels, Transport, Communication and Services related to Broadcasting**									
	Commercial vehicle sales (Quarterly average)*	100	18	74	108					
	Domestic air passenger traffic	100	7	26	48	42	49	53	56	64
	Domestic air cargo	100	27	69	88	85	88	90	89	96
	International air cargo	100	46	78	84	84	83	86	86	92
	Freight traffic	100	82	101	109	109	109	111	110	113
	Port cargo	100	82	92	100	97	101	102	103	105
	Toll collection: Volume*	100	101	202	265	252	257	285	307	327
	Petroleum consumption	100	76	89	98	98	98	99	100	100
	GST E-way bill*	100	49	99	118	122	110	123	120	122
	GST revenue*	100	61	88	106	103	103	113	118	111
III	**Financial, Real Estate & Professional Services ***									
	Credit outstanding	100	104	104	106	105	106	108	108	108
	Bank deposits	100	107	110	112	110	111	114	114	114
	Life insurance first year premium	100	76	116	102	106	89	113	99	104
	Non-life insurance premium	100	89	122	103	101	95	114	117	100
4	**External Trade***									
	Merchandise exports	100	66	95	97	96	90	104	104	106
	Merchandise imports	100	52	74	92	85	84	108	106	103
	Non-oil non-gold imports	100	60	82	100	97	93	110	102	92
	Services exports	100	91	92	95	90	93	102	93	
	Services imports	100	83	85	89	81	86	98	86	

* indicates data has not been seasonally adjusted.
Sources: CMIE, CEIC, NSO, MOSPI, IRDAI, RBI staff estimates.

← Below pre-Covid level | Normalisation / recovery of activity →

Chart III.27: Nominal Sales Growth: Industrial and Services Sectors



Note: Data for Q3:2020-21 are based on results of 1,685 listed private manufacturing companies and 678 listed private non-financial services companies.
Source: RBI staff estimates.

IT companies continued to record steady growth (Chart III.27). Growing demand for core transformation services[5] and strong revenue conversion from earlier deals, coupled with low travel cost, supported IT companies during Q3. Sales of non-IT services companies remained in contraction zone in Q3, *albeit* with some moderation.

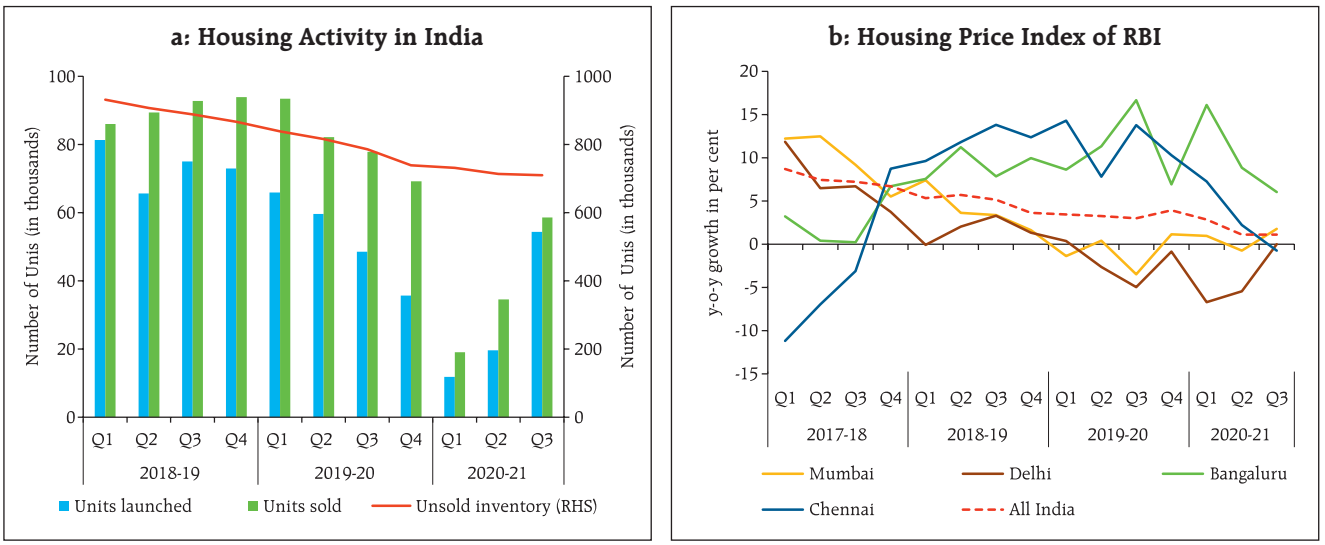
Commercial vehicle sales – an indicator of transportation services – posted a sequential improvement in Q3:2020-21, with the pace of contraction moderating to 1.2 per cent from 20.1 per cent in Q2. Other indicators of transportation services – toll collections; rail freight traffic; and cargo handled by major ports – displayed expansion. Air passengers and cargo traffic – both domestic and international – remained in contractionary zone, despite some pick-up. Domestic flights are witnessing some momentum as travellers are increasingly shedding their inhibitions. The services PMI exhibited expansion during H2 and at 55.3 in February, it was above its long period average on the back of new work and business activity gaining hold (Chart III.25b).

In H2, public administration, defence and other services (PADO) expanded marginally from the contraction in H1, driven by government revenue expenditure on public administration. Other services in PADO – private education; health; personal services; and cultural and recreational activities – continued to be tepid. Growth in central government revenue expenditure, excluding interest payments and subsidies, recovered in Q3 and strengthened further in Q4. GVA in financial, real estate and professional services rebounded and expanded by 6.8 per cent in H2, reflecting the strong performance of information technology and financial companies. Accelerated growth in aggregate deposits and the improvement in bank credit extended support to financial services during H2.

The real estate sector gained steam from Q3, particularly in rural and semi-urban areas and affordable segments in urban areas, on the back of lower mortgage rates, favourable pricing and slash in stamp duty across several states. In residential real estate, new launches registered y-o-y growth for the first time in eight quarters during Q3:2020-21 while the inventory overhang moderated to an average of 55 months in Q3 from 73 months in Q2 (Chart III.28a). Growth in the RBI's all-India housing price index remained unchanged in Q3 from the previous quarter (Chart III.28b).

[5] Cloud services, analytics and insights, cognitive business operations, internet of things (IoT) and quality engineering and transformation platform services led growth in the quarter.

Chart III.28: Housing Sector- Launches, Sales and Prices



Sources: PropTiger and RBI staff estimates.

III.3 Conclusion

Economic activity in India is gathering pace on improving business sentiment. Rural demand is leading the expansion, and there is growing evidence of catch-up in urban demand. The fiscal stimulus under *AatmaNirbhar* 2.0 and 3.0, coupled with increased allocation for capital expenditure under the Union Budget 2021-22, should accelerate public investment and crowd in private investment. The production-linked incentives scheme is expected to enhance India's manufacturing capabilities and bolster exports. Despite gaining some traction, the contact-intensive services sector may take some time to reach pre-COVID levels. The recent increase in COVID infections, if not contained, could push back the normalisation process and impede the broader revival of economic activity. The sharp rise in global crude oil and commodity prices and global financial market volatility impart downside risks to the recovery.

IV. Financial Markets and Liquidity Conditions

During H2:2020-21, domestic financial markets continued to post recovery in market activity amidst easy liquidity conditions. Nevertheless, concerns about a surge in infections in a few states, global bond sell-off, the large government borrowing, and uncertainty about the pace and scale of economic recovery kept market sentiments subdued. The pace of monetary transmission improved while bank credit growth registered an upturn. Going forward, the RBI's market operations would ensure ample surplus liquidity in consonance with the accommodative policy stance to revive growth on a durable basis by mitigating the impact of COVID-19.

Introduction

In H2:2020-21, global financial markets remained largely buoyant, fuelled by optimism around a speedy vaccine-led recovery. Growing inflation concerns over fiscal stimulus amidst extremely accommodative monetary policies rattled global bond markets in February 2021. Long-term sovereign bond yields jumped sharply in the US and induced bouts of volatility across financial markets and regions of the world. The consequent yield curve steepening resulted in portfolio reallocation and corrections in equity prices. Despite the recent declines, stock indices remain elevated on anticipation of stronger recovery. In the currency markets, the US dollar appreciated in the first quarter of 2021 driven by rising bond yields while EME currencies faced depreciation pressures from bouts of capital outflows.

IV.1 Domestic Financial Markets

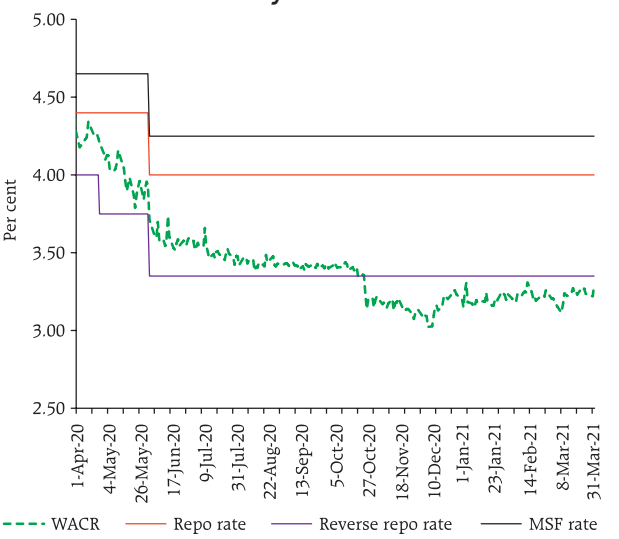
During H2:2020-21, domestic financial markets continued to post recovery in market activity amidst easy liquidity conditions. Nevertheless, concerns about a surge in infections in a few states, global bond sell-off, the large government borrowing and uncertainty about the pace and scale of economic recovery kept market sentiments subdued.

IV.1.1 Money Market

The money market remained largely stable during H2:2020-21, reflecting surplus liquidity conditions. The weighted average call rate (WACR) in the unsecured overnight money market eased and slipped below the reverse repo rate, beginning the second half of October 2020 (Chart IV.1). The negative spread of WACR relative to the reverse repo rate averaged 14 bps in H2.

In the overnight call money segment, the weighted average rate (WAR) of traded deals generally remained above the reverse repo rate while that of reported deals remained below[1]. The share

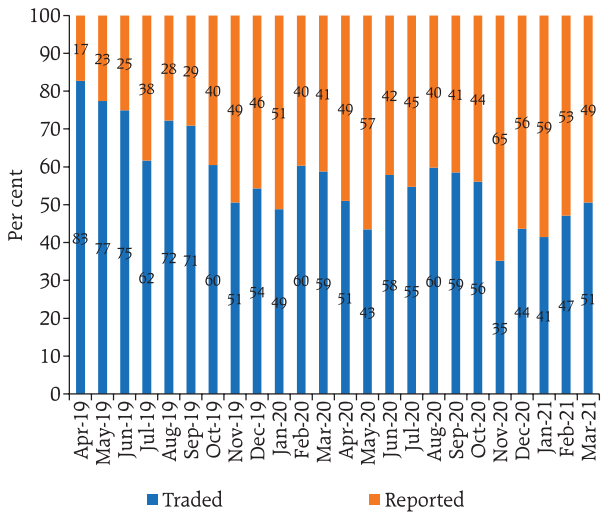
Chart IV.1: Policy Corridor and WACR



Source: Reserve Bank of India (RBI).

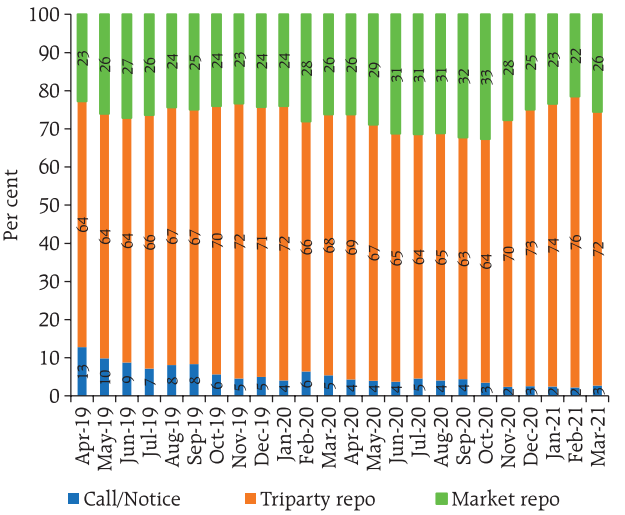
[1] 'Traded deals' are deals negotiated directly on the NDS-Call platform whereas 'reported deals' are over-the-counter (OTC) deals which are reported on the NDS-Call platform after the completion of negotiation of deals.

Chart IV.2: Share of Traded/Reported Deals in Call Money Market



Sources: Clearing Corporation of India Ltd. (CCIL); RBI.

Chart IV.3: Share in Overnight Money Market Volumes



Sources: CCIL; RBI.

of the reported deals in the total volume of the call money segment increased to 54 per cent in H2:2020-21 from 46 per cent in H1, thereby pulling down the WACR below the reverse repo rate (Chart IV.2). The increased share of reported deals reflected the sharp increase in lending share of co-operative banks from 60 per cent in October to 79 per cent in November and the concomitant reduction in the borrowing share of public sector banks (PSBs) from 26 per cent to 1.0 per cent during the same period.

The share of the collateralised money market (triparty repo and market repo) in the overnight money market volume increased further to 97 per cent in H2: 2020-21 from 95 per cent in H2: 2019-20 (Chart IV.3). Within the secured segment, the share of triparty repo in the overnight money market volume increased due to ramped-up lending by mutual funds in this segment. The combined volume in the overnight and term segments of the triparty repo market expanded sharply during H2:2020-21 – daily average volume increased from ₹1.67 lakh crore in October 2020 to ₹2.67 lakh crore in March 2021. There was a sharp increase (decrease) in the share of borrowing by public sector (private sector) banks in both triparty and market repo segments – the share of public sector banks increased from 14 per cent in October 2020 to 56 per cent in March 2021 in the triparty repo and from 10 per cent to 17 per cent in market repo segment over the same period – as these segments provide access to funds from mutual funds. Moreover, the share of mutual funds in triparty repo lending increased from 61 per cent in October 2020 to 68 per cent in March 2021.

The rates in the secured overnight segments remained consistently below the WACR and the reverse repo rate (Chart IV.4), impelled by the surplus liquidity conditions, as alluded to earlier.

Following the reactivation of the 14-day variable rate reverse repo auctions in mid-January 2021 with the resumption of normal liquidity management operations, money market rates and their spreads from the WACR firmed up somewhat from end-January 2021 (Table IV.1).

Interest rates on longer-term money market instruments like 91-day Treasury Bills (T-Bills) rates and the 3-month certificates of deposit (CDs)

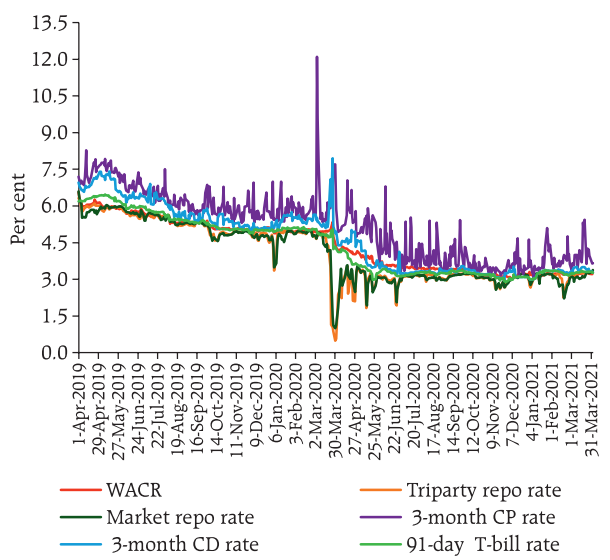
Table IV.1: Policy Transmission in the Money Market

(Basis points)

	Change in Rates							Average Spread over WACR				
	Repo	Call (WACR)	Triparty repo	Market repo	3-month CD	91-day T-bill	3-month CP	Triparty repo	Market repo	3-month CD	91-day T-bill	3-month CP
H1: 2020-21 (Apr 03 – Sep 30, 2020)	-40	-87	265	211	-156	-97	-155	-59	-59	-2	-26	80
H2: 2020-21 (Oct 01-Mar 31, 2021)	0	-13	14	15	-11	0	-67	-14	-17	5	-2	46
Jan 11*- Mar 31, 2021	0	12	13	18	25	24	22	-7	-17	13	7	65

Note: - (+): easing (hardening).
*: Period after the announcement of resumption of normal liquidity operations by the RBI.
Sources: RBI; CCIL:F-TRAC; CCIL; FBIL; and RBI staff estimates.

Chart IV.4: Money Market Rates



Sources: RBI; CCIL: F-TRAC; CCIL: FBIL; and RBI staff estimates.

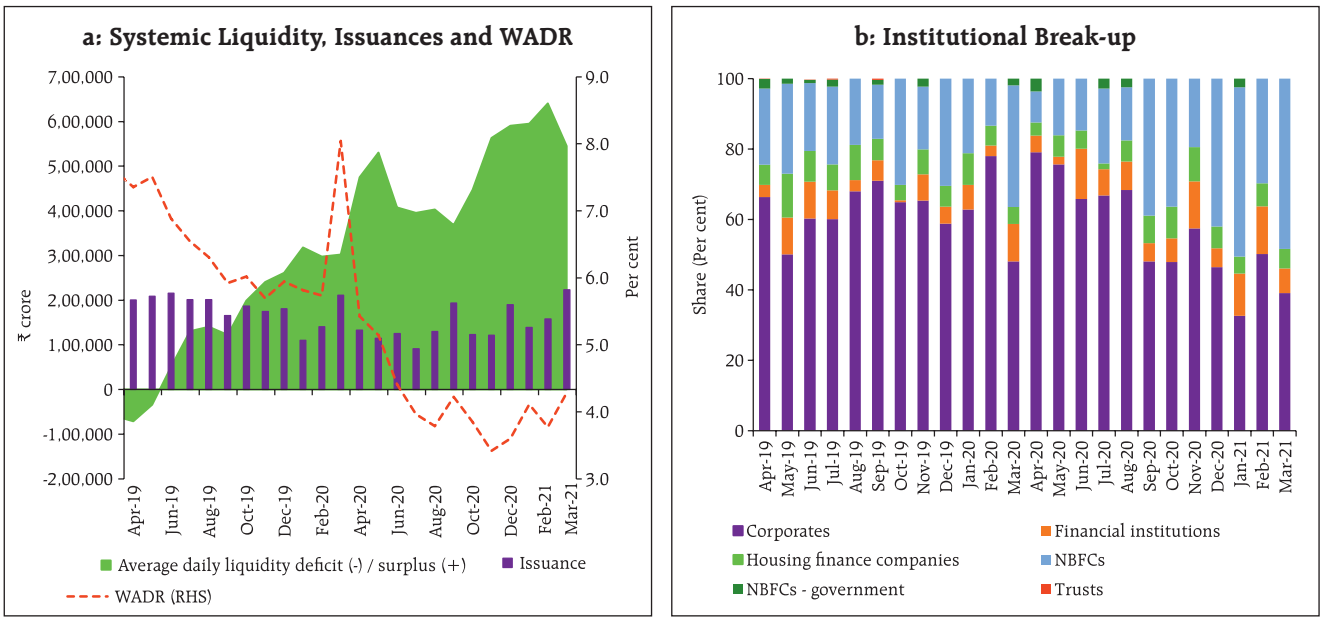
rates also traded below the reverse repo rate, on an average, by 16 bps and 9 bps, respectively. Interest rates on CDs and commercial papers (CPs), however, inched up above the reverse repo rate in March 2021. Reflecting the surplus system liquidity and weak credit demand, banks reduced their recourse to CDs. As a result, fresh issuance of CDs declined to ₹53,468 crore during H2:2020-21 (up to March 12, 2021) from ₹1.69 lakh crore in the corresponding period of 2019-20. CP issuances declined moderately to ₹9.54 lakh crore during H2:2020-21 from ₹10.04 lakh crore during the corresponding period of 2019-20 (Chart IV.5.a). CP rates generally traded above the reverse repo rate, with an average spread of 33 bps during H2:2020-21. A temporary rise in the weighted average discount rate (WADR) was observed in the last fortnight of January and March 2021 due to increased issuances by non-banking financial companies (NBFCs) (Chart IV.5.b).

IV.1.2 Government Securities (G-sec) Market

During H2: 2020-21, the 10-year G-sec yield firmed up by 30 bps, although it remained at decadal low levels. During Q3:2020-21, the yield softened by 15 bps from 6.04 per cent to 5.89 per cent, aided by policy measures viz., (i) introduction of on-tap TLTROs; (ii) extended dispensation of enhanced held to maturity (HTM) limit for banks; (iii) open market operation (OMO) purchase auctions; (iv) simultaneous purchase and sale of securities (special OMOs)[2] ; and (iv) the monetary policy committee's (MPCs) forward guidance on maintaining accommodative monetary policy stance as long as necessary to revive growth on a durable basis. The extent of softening, however, was limited over concerns about large supply of bonds with the announcement of additional borrowing of

[2] Commonly referred as Operation Twist (OT).

Chart IV.5: Primary Issuances of Commercial Paper

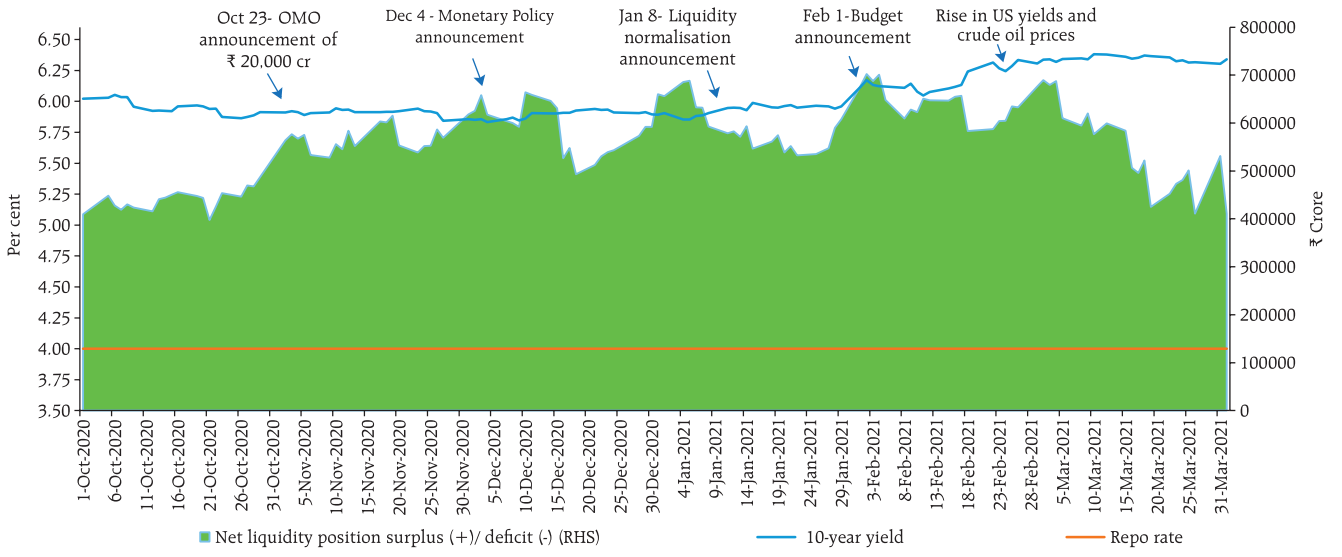


Sources: RBI; CCIL - F-TRAC; and RBI staff estimates.

₹1.1 lakh crore by the Central Government to fund the shortfall in GST compensation for states.

During Q4, yields remained range bound with an upward bias till the presentation of the Union Budget 2021-22 on February 1, 2021 (Chart IV.6). Yields spiked following the announcement of Government borrowings of ₹12.05 lakh crore for 2021-22 and additional borrowing of ₹80,000 crore for 2020-21. Yields subsequently eased somewhat on the back of (i) the OMO purchases for an enhanced amount of ₹20,000 crore on February 10, 2021 at lower than the market's expected cut-offs;

Chart IV.6: 10-year Yield, Repo Rate and Liquidity Conditions



Sources: RBI; and Financial Benchmark of India Pvt Ltd. (FBIL).

(ii) extension of the dispensation of enhanced HTM limit of 22 per cent of NDTL up to March 31, 2023; and (iii) forward guidance by the RBI on ensuring ample liquidity to foster congenial financing conditions. Yields firmed up from the second half of February in the wake of the sharp rise in US treasury yields and higher crude oil prices. The cancellation of the last scheduled G-sec auction for 2020-21 resulted in some moderation in yields towards end-March.

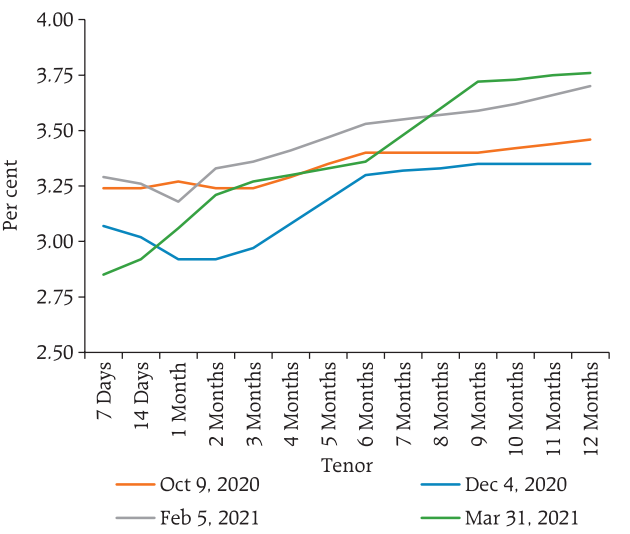
Yields on treasury bills across maturities traded below the policy repo rate as systemic liquidity continued to remain in large surplus (Chart IV.7).

The average level of the yield curve increased by 19 bps in H2:2020-21 and the slope steepened by 5 bps[3] (Chart IV.8). The slope dynamics reflect larger rise in long term yields compared with the short term, the latter driven by the large systemic liquidity surplus in consonance with the accommodative monetary policy stance.

State Development Loans

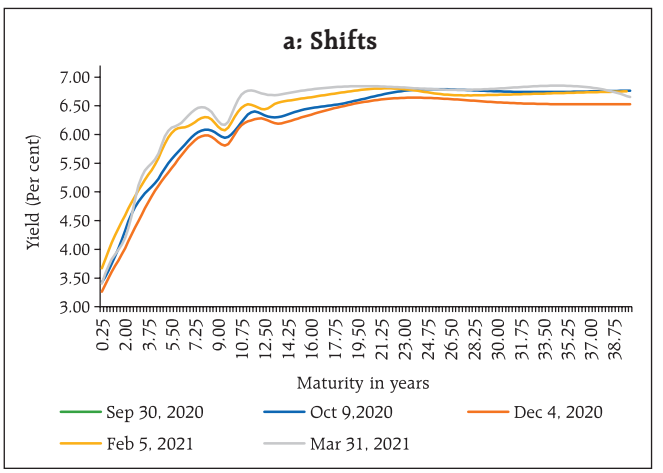
The weighted average spread of cut-off yields on SDLs over G-sec yields of corresponding maturities was 53 bps during H2, same as in H1:2020-21 (Chart IV.9). The spread widened post the Union Budget announcement of February 1, 2021 but narrowed substantially in end-March 2021 following the cancellation of the last G-sec auction. The average inter-state spread on securities of 10-year maturity

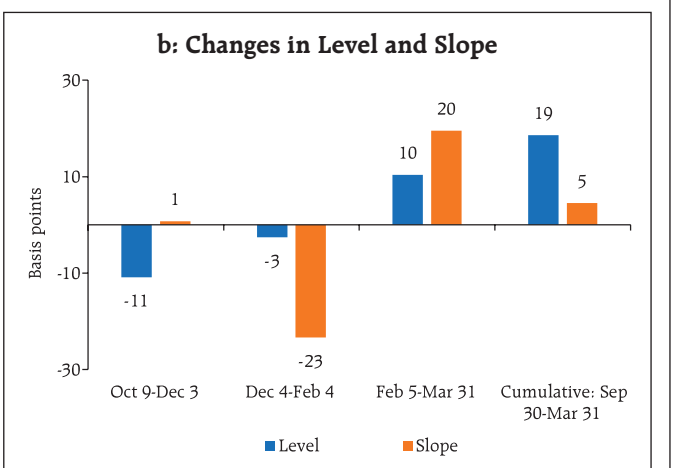
Chart IV.7: FBIL -T-Bill Benchmark
(Yield to Maturity)



Sources: FBIL.

Chart IV.8: G-Sec Yield Curve

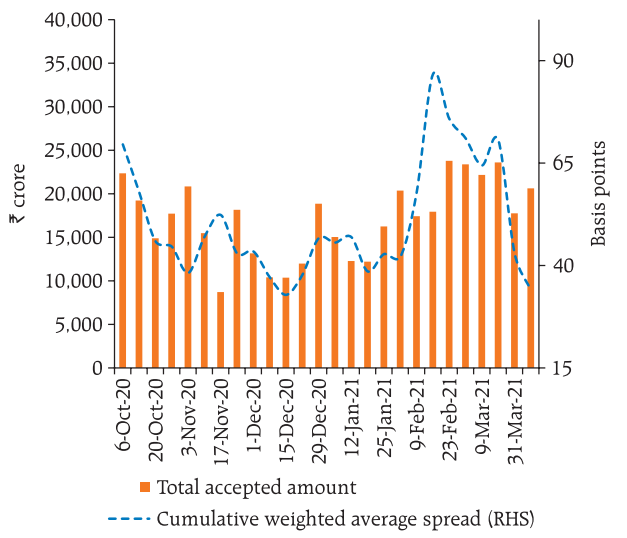




Sources: FBIL; and RBI staff estimates.

[3] While the level is the average of par yields of all tenors up to 30-years published by FBIL, the slope (term spread) is the difference in par yields of 3-months and 30-years maturities.

Chart IV.9: SDLs - Amount Raised and Spread over G-sec Yield



Source: RBI.

(fresh issuance) was 11 bps in H2 as compared with 9 bps in H1:2020-21.

Switching of Securities

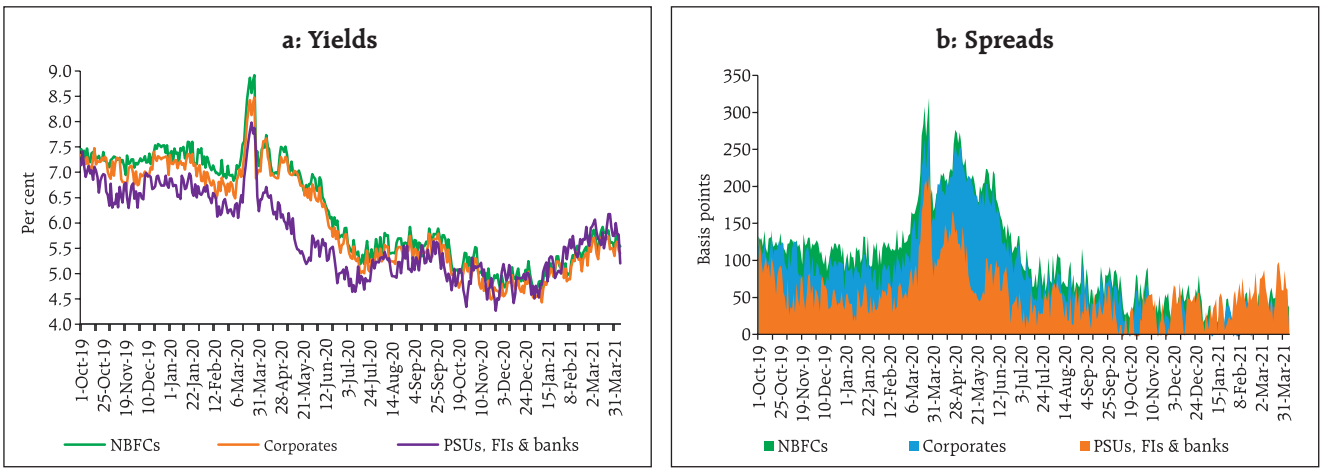
In order to facilitate debt consolidation, the Reserve Bank conducted six switch operations on behalf of the central government amounting to ₹77,371 crore during H2:2020-21. The weighted average maturity (WAM) of the outstanding stock of G-secs increased to 11.31 years as at end-March 2021 from 10.97 years as at end-September 2020. The weighted average coupon (WAC) at 7.27 per cent was lower than 7.44 per cent over the same period.

IV.1.3 Corporate Bond Market

During H2:2020-21, corporate bond yields remained almost unchanged. Yields on AAA-rated 3-year bonds issued by NBFCs softened by 1 basis point to 5.54 per cent, while those on corporates and public-sector undertakings (PSUs), financial institutions (FIs) and banks hardened by 5 bps and 11 bps to 5.40 per cent and 5.20 per cent, respectively, at end-March 2021 (Chart IV.10a). The risk premium or spread on AAA-rated 3-year bonds (over 3-year G-sec) moderated from 63 bps to 36 bps for NBFCs, 43 bps to 22 bps for corporates and 17 bps to 2 bps for PSUs, FIs and banks (Chart IV.10b).

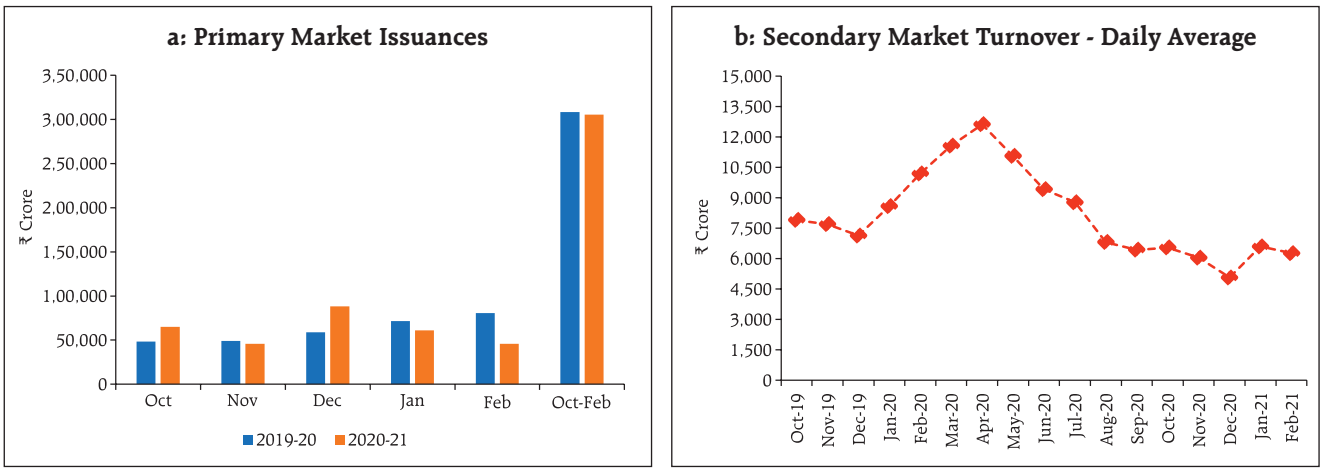
Resource mobilisation through issuances of corporate bonds in the primary market at ₹3.06 lakh crore during H2:2020-21 (up to February 2021) was marginally lower than ₹3.08 lakh crore during the corresponding period of the previous year (Chart IV.11a). Almost the entire resource mobilisation in the corporate bond market (97.3 per cent) was through the

Chart IV.10: Corporate Bond Yields and Spreads on AAA-rated 3-year Bonds



Source: Fixed Income Money Market and Derivatives Association of India (FIMMDA).

Chart IV.11: Corporate Bond Market Activity



Source: SEBI.

private placement route. Outstanding investments by FPIs in corporate bonds declined to ₹1.3 lakh crore at end-March 2021 from ₹1.5 lakh crore at end-September 2020. Consequently, foreign portfolio invenstors (FPIs') utilisation of the approved limit for investment in corporate bonds declined to 23.1 per cent at end-March 2021 from 33.8 per cent at end-September 2020. The daily average secondary market trading volume in the corporate bond market declined by 26.4 per cent to ₹6,084 crore during H2:2020-21 (up to February 2021) over the corresponding period of the previous year (Chart IV.11b).

Between March 26, 2020 and March 31, 2021, the spread of AAA-rated 3-year bonds (over 3-year G-sec) issued by corporates fell from 276 bps to 22 bps. The spreads on BBB- (BBB minus) bonds – the lowest rated investment grade corporate bonds – also moderated significantly by 171 bps over the same period (Table IV.2). The market perception of credit risk has also improved: State Bank of India's and ICICI Bank's 3-year credit default swap (CDS) spreads reduced by 11 bps each during H2:2020-21.

IV.1.4 Equity Market

Domestic equities scaled all-time highs in H2:2020-21 on positive global cues, record FPI inflows, revival in economic activity, robust corporate earnings, roll-out of COVID-19 vaccine and announcement of

Table IV.2: Financial Markets - Rates and Spread

Instrument	Interest Rates (per cent)			Spread in bps (over corresponding risk-free rate)		
	As on March 26, 2020	As on March 31, 2021	Variation (in bps)	As on March 26, 2020	As on March 31, 2021	Variation
(1)	(2)	(3)	(4 = 3-2)	(5)	(6)	(7 = 6-5)
CP (3-month)	6.74	3.65	-309	170	38	-132
Corporate Bonds						
(i) AAA (1-yr)	7.76	4.15	-361	246	29	-217
(ii) AAA (3-yr)	8.47	5.40	-307	276	22	-254
(iii) AAA (5-yr)	7.84	6.14	-170	141	8	-133
(iv) AA (3-yr)	9.15	6.17	-298	344	99	-245
(v) BBB-minus (3-yr)	12.29	10.05	-224	658	487	-171
10-yr G-sec	6.22	6.17	-5	-	-	-

Sources: CCIL: F-TRAC; FIMMDA; and Bloomberg.

a growth-oriented Union Budget 2021-22. The BSE Sensex gained 30.1 per cent in H2:2020-21 to close at 49,509 on March 31, 2021 (Chart IV.12a).

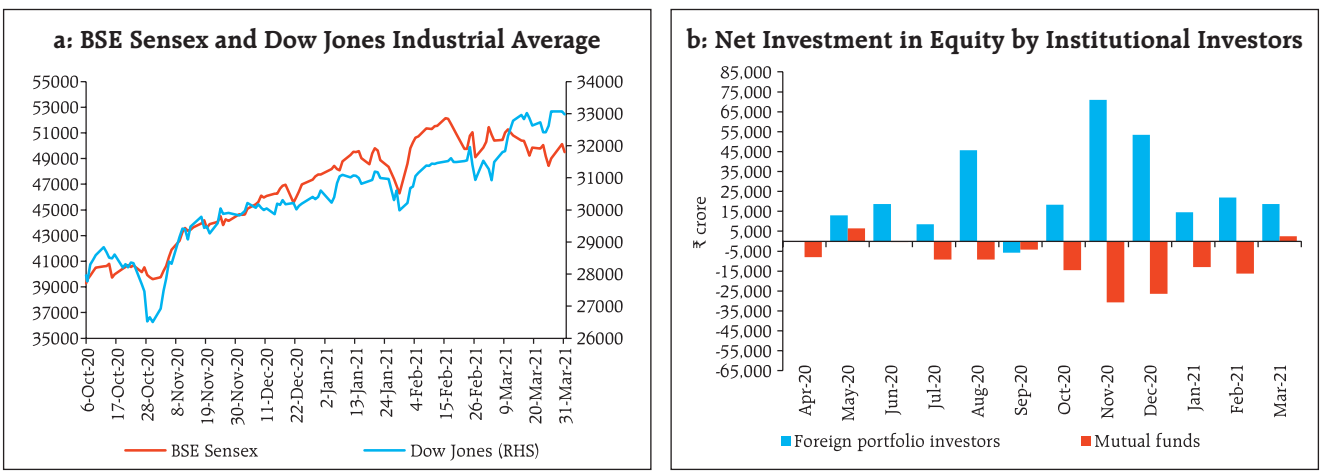
The Indian equity market remained upbeat in October 2020 following the phased unlocking of the economy, Q2 corporate earnings and a slew of liquidity and regulatory measures by the RBI. Domestic equities, however, witnessed cautious trading towards the end of the month due to uncertainty surrounding the outcome of the US presidential elections. In November, the BSE Sensex gained by 11.4 per cent, supported by FPI inflows, positive developments on the vaccine and the Government's approval of a ₹1.5 lakh crore production-linked incentive (PLI) scheme for 10 manufacturing sectors. Equity markets extended their gains in December 2020 amidst better-than-expected GDP data for Q2:2020-21, expectations of swifter global economic recovery after the US stimulus package and the announcement of Brexit trade deal. Subsequently, the emergence of new strains of coronavirus in the UK and several other countries dampened sentiments and capped market rallies. Overall, the BSE Sensex increased by 25.4 per cent during Q3:2020-21.

In January 2021, domestic markets surged on the back of upbeat corporate results for Q3:2020-21 and accelerated roll-out of COVID-19 vaccines. The benchmark index closed above 50000 for the first time on February 3, 2021 and scaled an all-time high of 52154 on February 15, 2021 riding on the budget euphoria. Markets, however, declined towards the end of the month following a spike in US treasury yields, rise in crude oil prices and fresh COVID-19 cases in a few Indian states. The equity market resumed its upward trajectory in early March 2021 following robust GST collections, positive GDP data for Q3:2020-21 and improvement in manufacturing and services PMI for February 2021. Market ebullience, however, sobered reflecting inflation worries and a surge in infections in certain states. During H2, FPIs were net buyers to the tune of ₹1.98 lakh crore while MFs were net sellers amounting to ₹0.99 lakh crore in the Indian equity market (Chart IV.12b). Resource mobilisation through public and rights issues of equity increased to ₹1.04 lakh crore during 2020-21 (up to February 2021) from ₹66,324 crore in the corresponding period of the previous year.

IV.1.5. Foreign Exchange Market

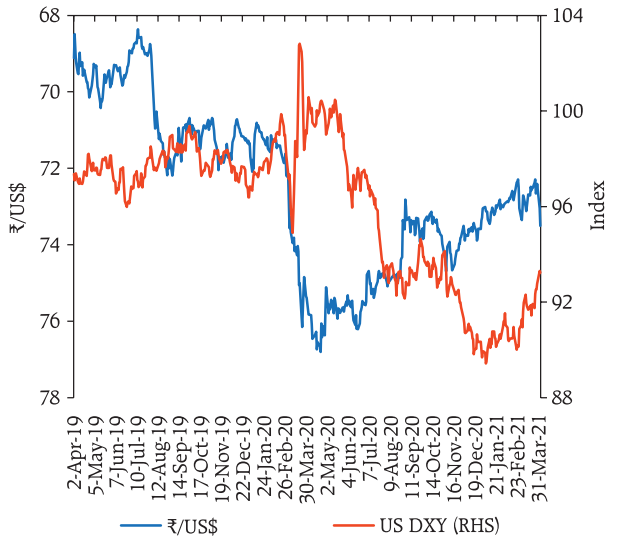
During H2:2020-21, the Indian rupee (INR) traded mostly with an appreciating bias against the

Chart IV.12: Stock Market Indices and Investment



Sources: Bloomberg; NSDL; and SEBI.

Chart IV.13: Movements of Indian Rupee and US Dollar Index



Sources: FBIL; and Thomson Reuters.

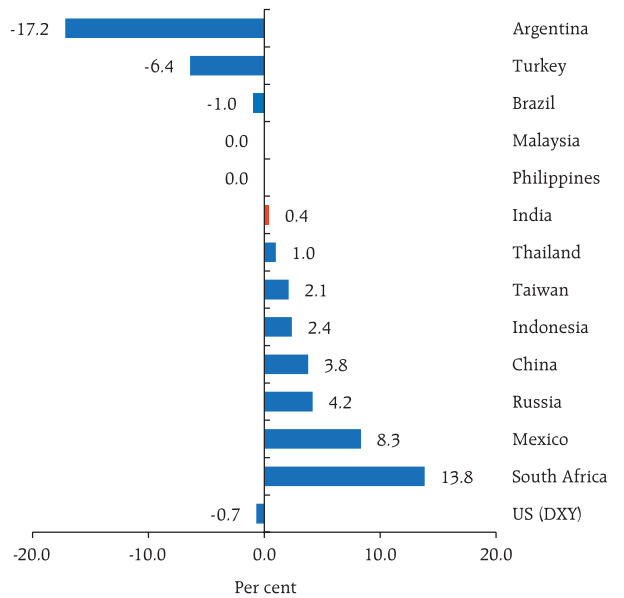
US dollar on the back of growth revival and robust foreign investments amidst a weakening US dollar (Chart IV.13). After some depreciation in November 2020, the INR appreciated to ₹72.29 on February 24, 2021 owing to sustained strong FPI inflows but depreciated somewhat thereafter due to elevated global financial market volatility on the back of rising US yields, firming global crude prices and moderation in FPI inflows.

Strong FPI flows to most EMEs, largely driven by ample global liquidity, have induced an appreciation of their currencies. The appreciation of INR was modest relative to its EME peers in H2 (Chart IV.14a). In terms of the real effective exchange rate (REER), the INR depreciated between September 2020 and February 2021 in contrast to major EMEs (Chart IV.14b).

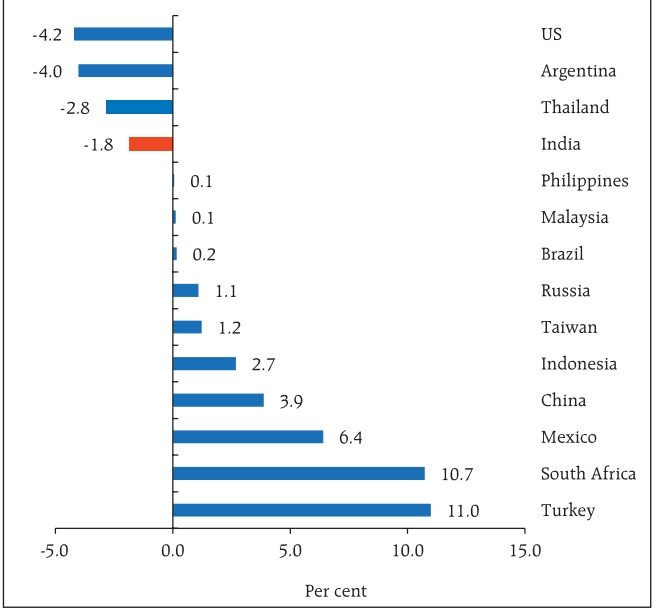
In terms of the 40-currency nominal effective exchange rate (NEER), the INR depreciated by 0.2 per cent (at end-March 2021 over the average of September 2020), while it depreciated by 1.4 per cent in terms of the 40-currency REER (Table IV.3).

Chart IV.14: Cross-Currency Movements

a: Movement of Major EME Currencies against US Dollar
(end-March, 2021 over end-September 2020)



b: Movement in REER
(February 2021 over September 2020)



Sources: RBI; FBIL; IMF; Bloomberg; Thomson Reuters; and Bank for International Settlements (BIS).

Table IV.3: Nominal and Real Effective Exchange Rate Indices (Trade-weighted)
(Base: 2015-16 = 100)

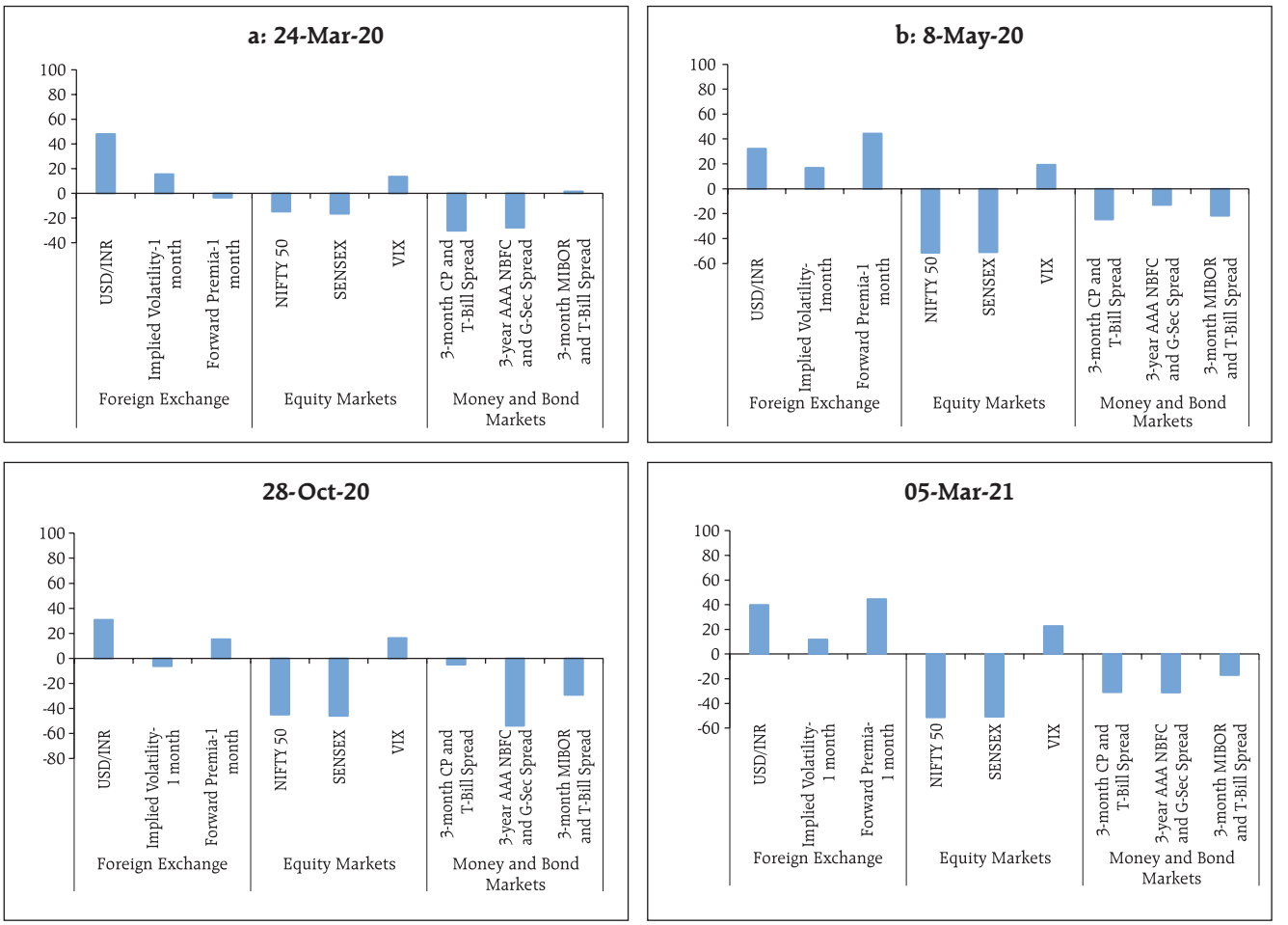
Item	Index: end-March 2021 (P)	Appreciation (+) / Depreciation (-) (Per cent)
		end-March 2021 over September (average) 2020
40-currency REER	104.0	-1.4
40-currency NEER	94.7	-0.2
6-currency REER	102.3	-1.2
6-currency NEER	88.5	-0.9
₹/US$	73.5	0.0

P: Provisional.
Sources: RBI; and FBIL.

Financial Barometer

A cross-market financial barometer illustrates the recovery in financial markets from the height of the pandemic-induced disruptions.[4] The barometer presents four different stages since the declaration of the pandemic. In response to the gradual unlocking of the economy and resumption of normal market activity, all nine indicators suggest improvement in financial market sentiments in March 2021 *vis-à-vis* the elevated stress levels of March and May 2020 (Chart IV.15).

Chart IV.15: Financial Market Barometer



Sources: Bloomberg; CCIL: F-TRAC; FBIL; and RBI staff estimates.

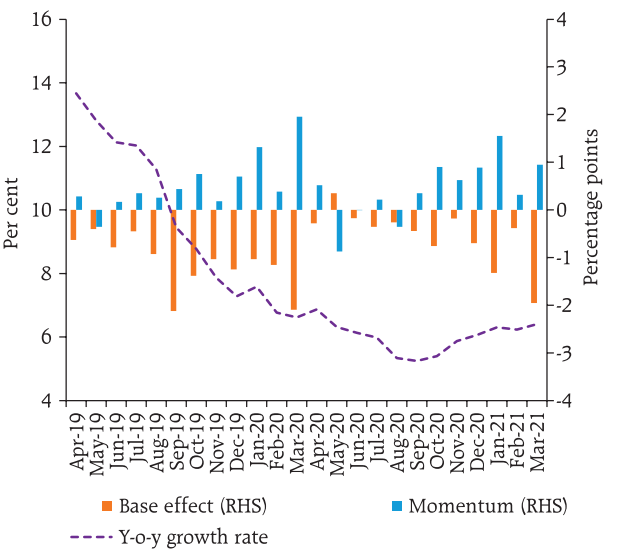
[4] The barometer consists of nine indicators across four markets (money, bonds, foreign exchange and equities) and compares the level of each indicator on a certain day with its pre-turmoil level (calibrated as zero on the scale) and with its level at a 'peak' in the turmoil (calibrated as 100). Negative column for an indicator indicate values lower than its pre-turmoil level. The pre-turmoil level for all indicators is taken as January 1, 2020, while the peak turmoil day is indicator specific and happens to concentrate around March 24, 2020 (the day of imposition of country-wide lockdown) and in some cases in May 2020 (see Chapter IV of Monetary Policy Report, October 2020).

IV.1.6 Credit Market

Credit offtake improved in H2, with the momentum picking up beginning October and registering a positive growth (financial year basis) since November. Non-food credit by scheduled commercial banks (SCBs) rose by 6.4 per cent (y-o-y as on March 12) as compared with 6.1 per cent a year ago (Chart IV.16).

Credit growth accelerated across all bank groups, especially public sector banks (PSBs) (Chart IV.17a). Of the incremental credit extended by SCBs on a y-o-y basis (March 12, 2021 over March 13, 2020), 53.8 per cent was provided by PSBs, 45.7 per cent by private sector banks and 0.5 per cent by foreign banks (Chart IV.17b).

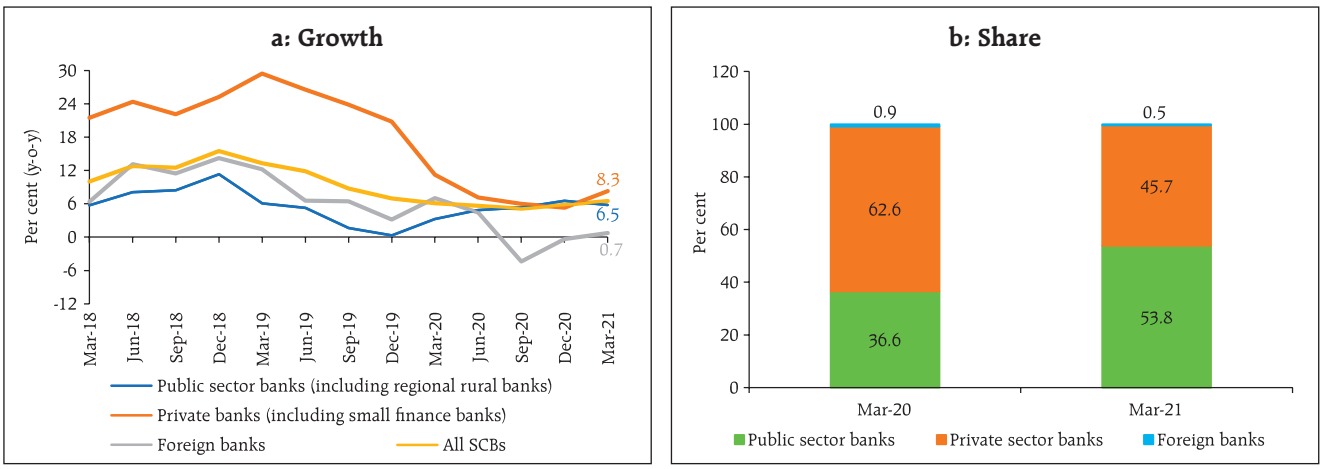
Chart IV.16: Non-food Credit Growth of SCBs



Source: RBI

Among major sectors[5], credit to agriculture grew by 10.2 per cent (y-o-y) in February 2021 – the highest since April 2017 (Chart IV.18a). Credit growth to the services sector also remained strong. Credit to the industrial sector, however, contracted marginally by 0.2 per cent, mainly due to a decline in credit to large industries (which account for more than 80 per cent of credit to the industrial sector). On the positive side, credit to medium industries registered a robust growth of 21.0 per cent, reflecting the measures taken by the Government of India and the RBI for enhancing credit flows to the MSME sector. In terms of the contribution of different sectors in incremental credit, personal loans accounted for the largest share (41.7 per cent), followed by the services sector (39.0 per cent) (Chart IV.18b). In the overall non-food credit growth of February 2021, the relative contributions of personal loans and credit to the services sector

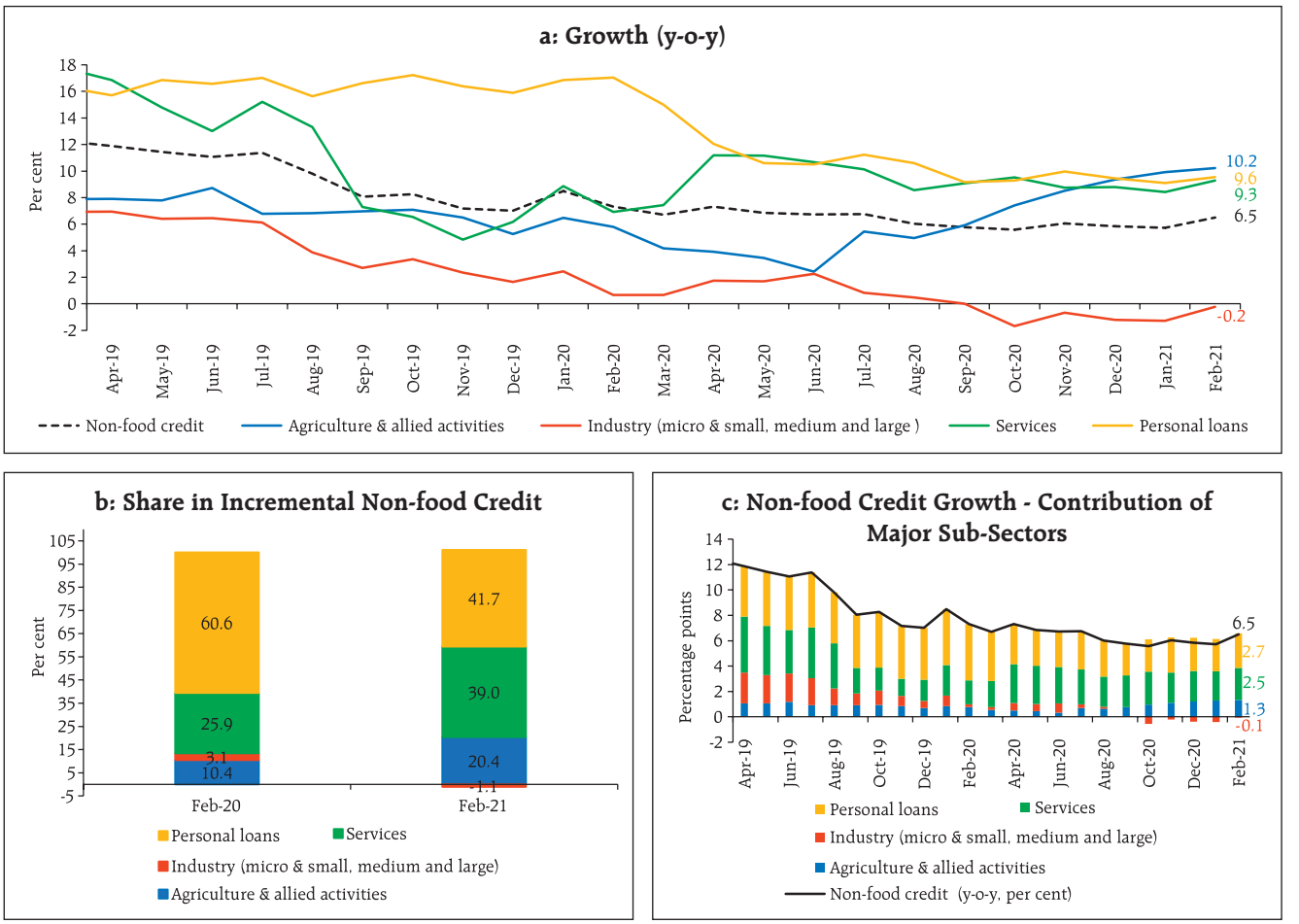
Chart IV.17: Credit Flow across Bank-Groups



Source: RBI

[5] Data on sectoral credit relate to select banks accounting for around 90 per cent of the total non-food credit.

Chart IV.18: Sectoral Deployment of Credit



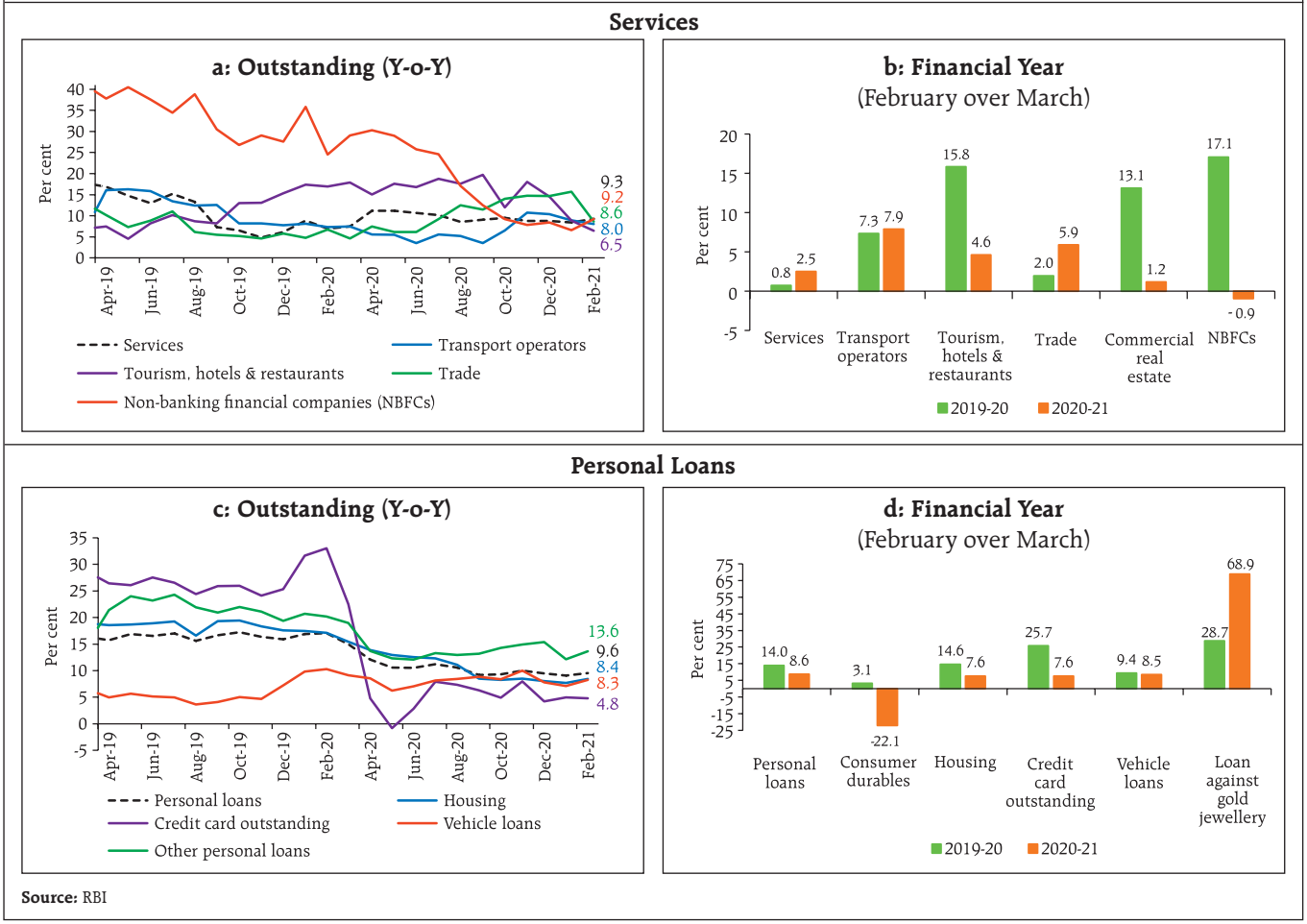
Source: RBI.

were 2.7 percentage points and 2.5 percentage points, respectively (Chart IV.18c).

Within industry, credit to mining and quarrying, food processing, beverages and tobacco, textile, gems and jewellery, vehicle, vehicle parts and transport equipment registered accelerated growth (on a y-o-y basis) in February 2021. Credit growth to petroleum, coal products and nuclear fuels and cement and cement products, however, decelerated, while that to chemicals and chemical products, basic metal and metal products, construction, all engineering and infrastructure contracted. Unlike the sharp deceleration in credit to the industrial sector, that to the services sector accelerated during H2:2020-21 (up to February 2021) mainly due to robust credit offtake in transport operators and trade segments (Chart IV.19a).

On a financial year basis (up to February 2021), credit growth to the services sector accelerated at a modest pace (Chart IV.19b). Personal loans segment, which has generally performed well in recent years, decelerated during H2 so far primarily due to a sharp slowdown in growth of housing loans, its largest component (Chart IV.19c). Amongst other constituents of personal loans, consumer durable loans and credit card outstanding witnessed tepid growth while loans against gold and jewellery picked up significantly (Chart IV.19d).

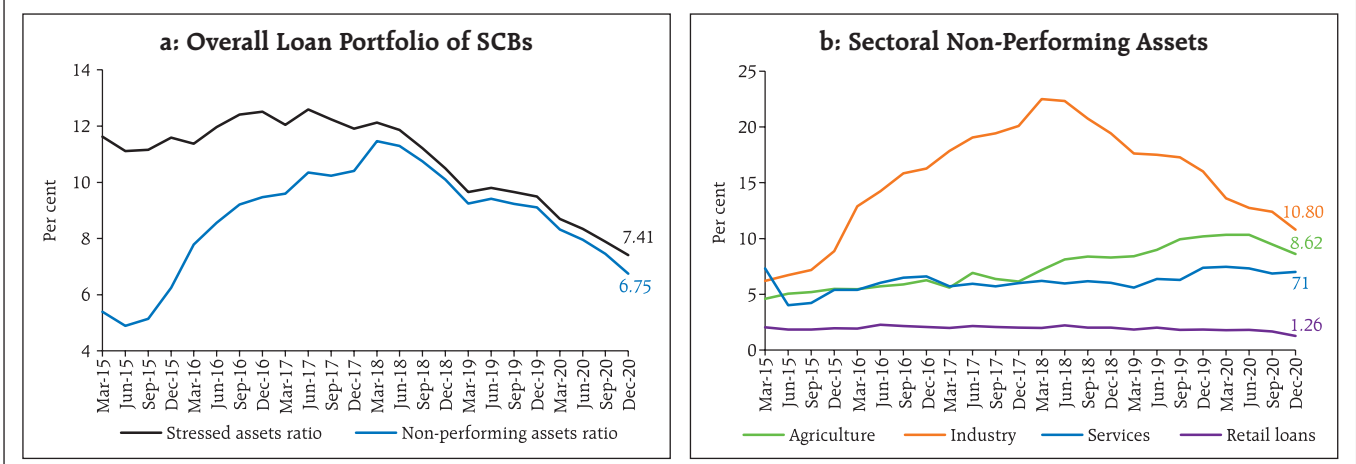
Chart IV.19: Credit Growth in Select Sub-Sectors



Source: RBI

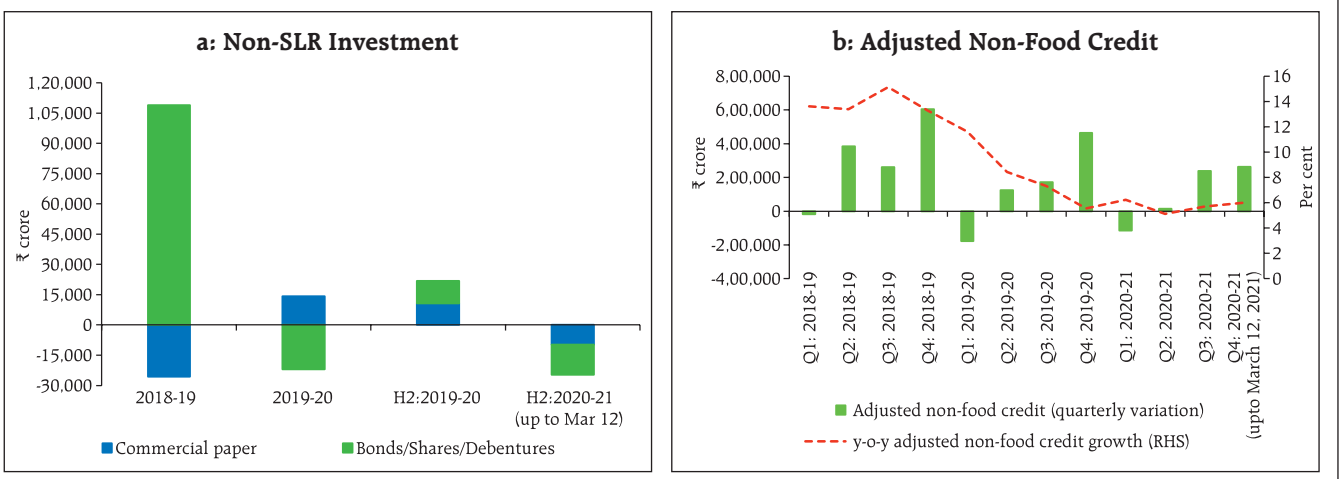
The asset quality of SCBs improved during 2020-21 (up to December), with the overall non-performing assets (NPA) ratio declining to 6.8 per cent in December from 8.3 per cent in March 2020, reflecting mainly the regulatory dispensations in response to the COVID-19 pandemic (Chart IV.20a). The NPA ratios

Chart IV.20: Stressed Assets and Non-Performing Assets of SCBs



Source: RBI.

Chart IV.21: Non-SLR Investment and Adjusted Non-Food Credit



Source: RBI.

eased across all the major sectors over the same period (Chart IV.20b).

Banks' non-SLR investments, *i.e.*, investments in CPs, bonds, debentures and shares of public and private corporates fell in H2:2020-21 (up to March 12) (Chart IV.21a). Adjusted non-food credit growth (*i.e.*, non-food credit including non-SLR investments) increased to 6.0 per cent as on March 12, 2021 from 5.5 per cent a year ago (Chart IV.21b).

With muted credit offtake, strong deposit growth and increased government market borrowings, banks augmented their SLR investments. Excess SLR holdings increased to 11.4 per cent of net demand and time liabilities (NDTL) on February 26, 2021 from 8.2 per cent at end-March 2020 (Chart IV.22).

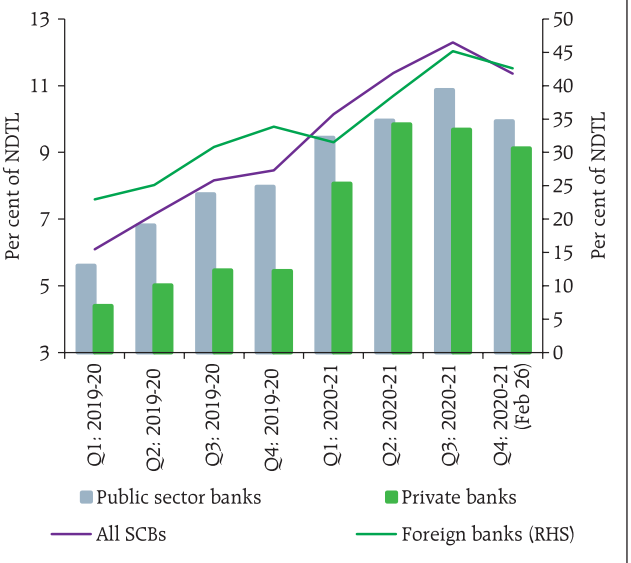
IV.2 Monetary Policy Transmission

Monetary transmission to deposit and lending rates of banks improved significantly during 2020-21, aided by large surplus liquidity, the implementation of the external benchmark system and subdued credit demand. The weighted average lending rate (WALR) on fresh rupee loans declined by 107 bps since March 2020 in response to the reduction of 115 bps in the policy repo rate (Table IV.4).

The median spread charged by public sector banks returned to pre-COVID levels with the gradual return of normalcy in financial markets; however, it remained elevated for private sector banks (Chart IV.23).

Spreads of WALRs on outstanding rupee loans and fresh rupee loans over 1-year MCLR were the lowest in respect of housing loans, reflecting lower

Chart IV.22: Excess SLR of Banks



Source: RBI.

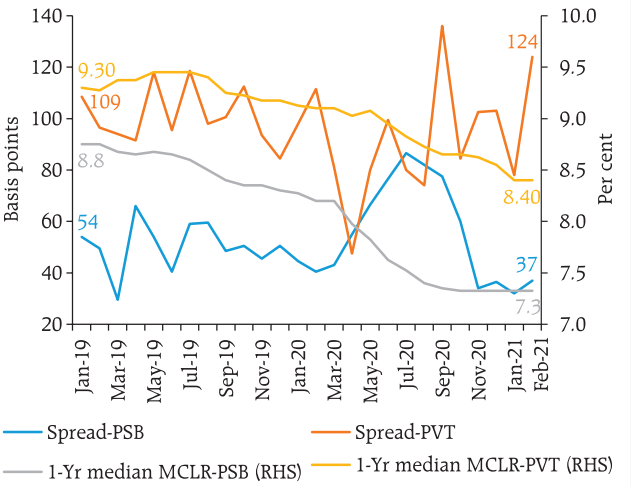
Table IV.4: Transmission from the Repo Rate to Banks' Deposit and Lending Rates

(Basis points)

Period	Repo Rate	Term Deposit Rates		Lending Rates		
		Median Term Deposit Rate	WADTDR	1 - Year Median MCLR	WALR - Outstanding Rupee Loans	WALR - Fresh Rupee Loans
February - September 2019 (Pre-external benchmark)	-110	-9	-7	-30	2	-40
October 2019 - March 2021* (Post-external benchmark)	-140	-175	-145	-120	-100	-138
March 2020 - March 2021*	-115	-144	-106	-95	-82	-107
February 2019 - March 2021*	-250	-205	-152	-150	-98	-178
October 2020 -March 2021*	0	-6	-28	-13	-30	-10

*: Latest data on WADTDR and WALRs pertain to February 2021.
WADTDR: Weighted Average Domestic Term Deposit Rate.
MCLR: Marginal Cost of Funds-based Lending Rate.
WALR: Weighted Average Lending Rate.
Source: RBI.

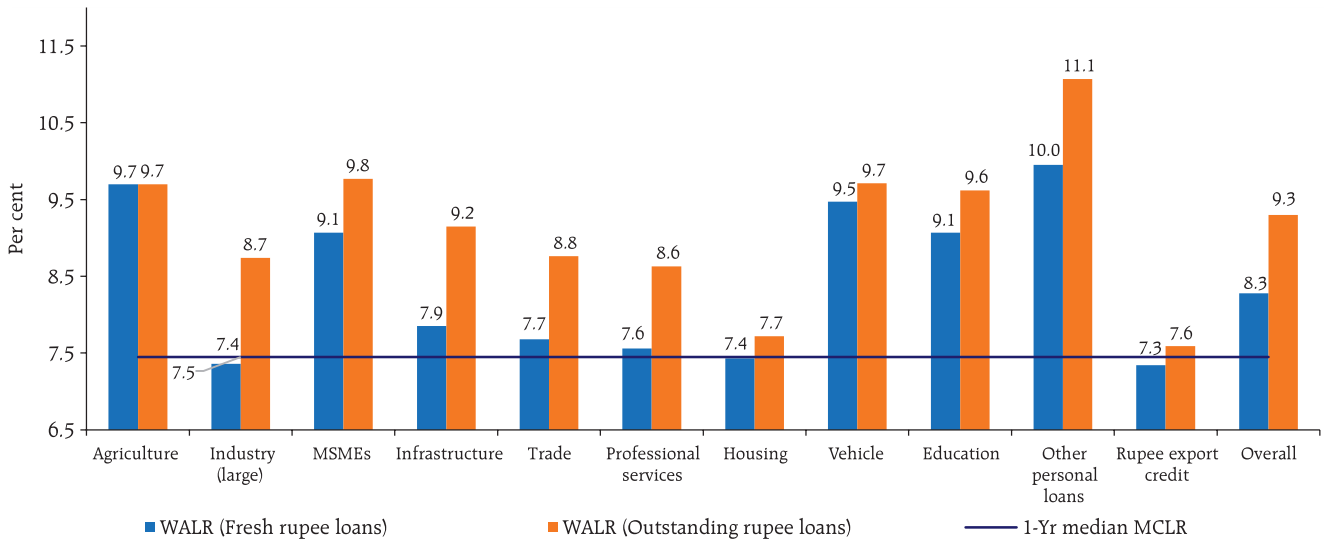
Chart IV.23: Median Spread - WALR (Fresh loans) over 1-Year MCLR



Note: PSB: Public sector banks; PVT: Private sector banks.
Source: RBI.

defaults and the availability of collateral (Chart IV.24). Other personal loans *i.e.* loans other than housing, vehicle and education loans are mostly unsecured and involve higher credit risk and hence, the spread was the highest for this category. The lower WALRs on rupee export credit reflected the interest rate subvention provided by the government.

Chart IV.24: Sector-wise WALR Relative to 1-Year Median MCLR (February 2021)#

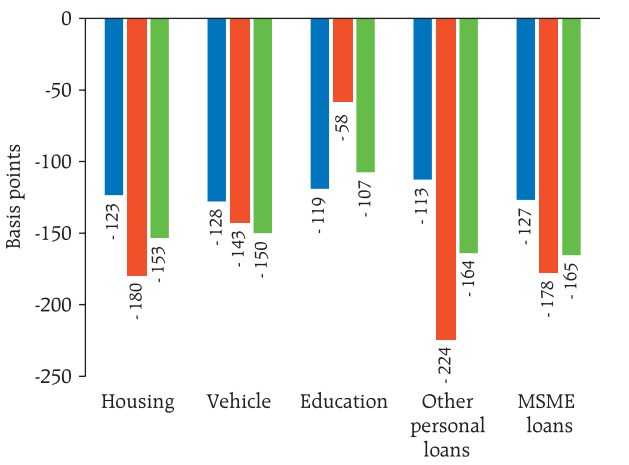


#Pertain to domestic banks.
Source: RBI.

There has been a significant improvement in transmission to all new loans sanctioned since October 2019 in respect of the retail and MSE sectors where the new floating rate loans were mandatorily linked to one of the prescribed external benchmarks.[6] The quantum of decline in WALRs on MSME loans, housing loans, vehicle loans and other personal loans exceeded the decline in WALR on aggregate fresh rupee loans to all sectors (138 bps) during the same period (Chart IV.25). Notably, the introduction of external benchmark linked loans has incentivised banks to adjust their term as well as saving deposit rates in line with the benchmark rates to protect their net interest margins (NIMs), thus accelerating the pace of transmission to lending rates by bringing down the overall MCLR and, in turn, lending rates on other sectors as well.[7]

In respect of fresh rupee loans linked to the policy repo rate, the median spread charged by domestic banks was the highest in the case of other personal loans, which are mostly unsecured as indicated earlier (Table IV.5). Among the bank groups, the median spread charged by public sector banks for different categories of loans was lower than those of private sector banks.

Chart IV.25: WALR on Personal Loans and Loans to MSMEs - Variation (October 2019 - February 2021)



Source: RBI.

Table IV.5: Loans linked to External Benchmark – Median Spread over Policy Repo Rate (February 2021)

(Percentage points)

	Personal Loans				MSME Loans
	Housing	Vehicle	Education	Other Personal Loans	
Public Sector Banks (12)	3.6	4.8	4.5	6.8	6.1
Private Sector Banks (20)	6.7	7.2	7.4	7.8	7.0
Domestic Banks (32)	4.4	5.0	4.8	7.0	6.5

Note: Figures in parentheses are number of banks.
Source: RBI.

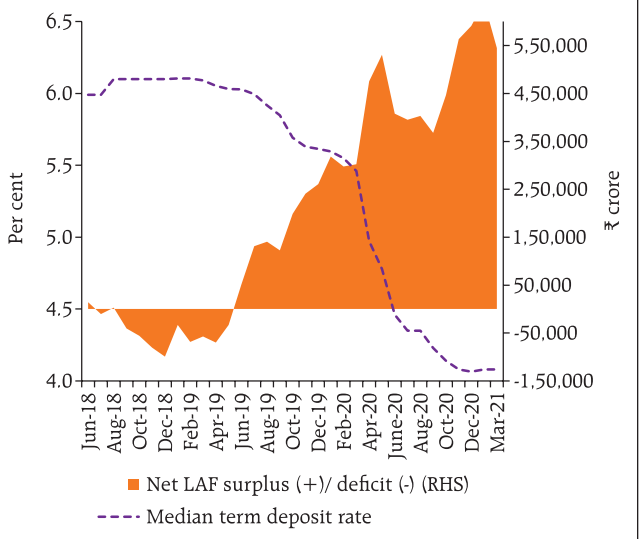
The responsiveness of term deposit rates to policy rate changes has also improved in the past year, reflecting the combined impact of surplus liquidity, the external benchmark-based pricing of loans and weak credit demand. The weighted average domestic term deposit rate (WADTDR) on outstanding rupee deposits declined by 152 bps during the ongoing easing cycle (i.e., since February 2019), of which the decline of 106 bps has occurred since March 2020. The median term deposit rate, which reflects the prevailing card rates, has registered a sizeable decline of 144 bps since March 2020 (Chart IV.26).

Apart from the reduction in term deposit rates, banks have also lowered their saving deposit rates. These deposit rates of five major banks, which ranged 3.50-4.00 per cent at the beginning of the current easing cycle (early February 2019) and 3.25-3.50 per cent immediately prior to the introduction of the external benchmark were placed at 2.70-3.00 per cent in March 2021. This adjustment in saving deposit rates is critical for transmission, given their large share (33.0 per cent as on March 12, 2021) in aggregate deposits.

[6] Loans to medium enterprises were also mandatorily linked to the external benchmark, effective April 1, 2020.

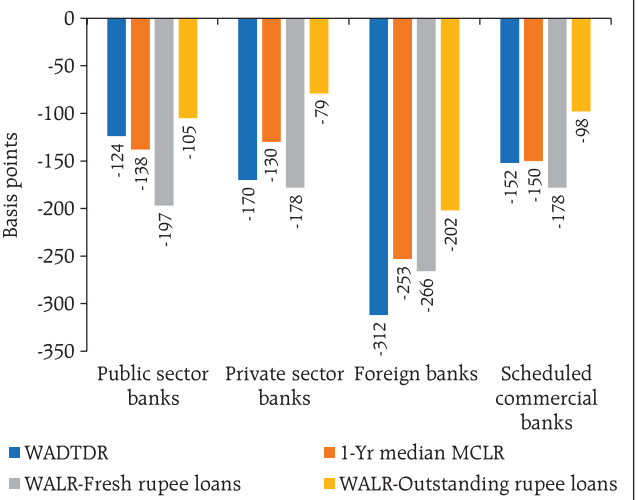
[7] The reduction in term deposit rates applies only to fresh term deposits, while it is across the board in the case of saving deposits. The latter brings about an instantaneous reduction in the banks' cost of funds, and in turn, in the MCLR and the lending rates on fresh rupee loans (provided the spread over the MCLR remains relatively stable).

Chart IV.26: Median Term Deposit Rate and Liquidity Conditions



Source: RBI.

Chart IV.27: Transmission across Bank Groups during Easing Cycle (February 2019 - February 2021)



Source: RBI.

Amongst bank groups, the pass-through to deposit and lending rates was the highest for foreign banks (Chart IV.27). The deposit base of foreign banks is primarily made up of low cost and lower duration wholesale deposits which adjust quickly to policy rate changes, prompting faster transmission to lending rates as well.[8]

While the decline in WADTDR on outstanding rupee term deposits of private sector banks (170 bps) exceeded that of public sector banks (124 bps) in the current easing cycle, the reduction in lending rates was higher for the latter group. Historically, WADTDR of private sector banks has been higher than those offered by public sector banks. As credit demand slowed post COVID-19, private sector banks reduced their term deposit rates sharply, and their WADTDR fell below the level of public sector banks (Chart IV.28).

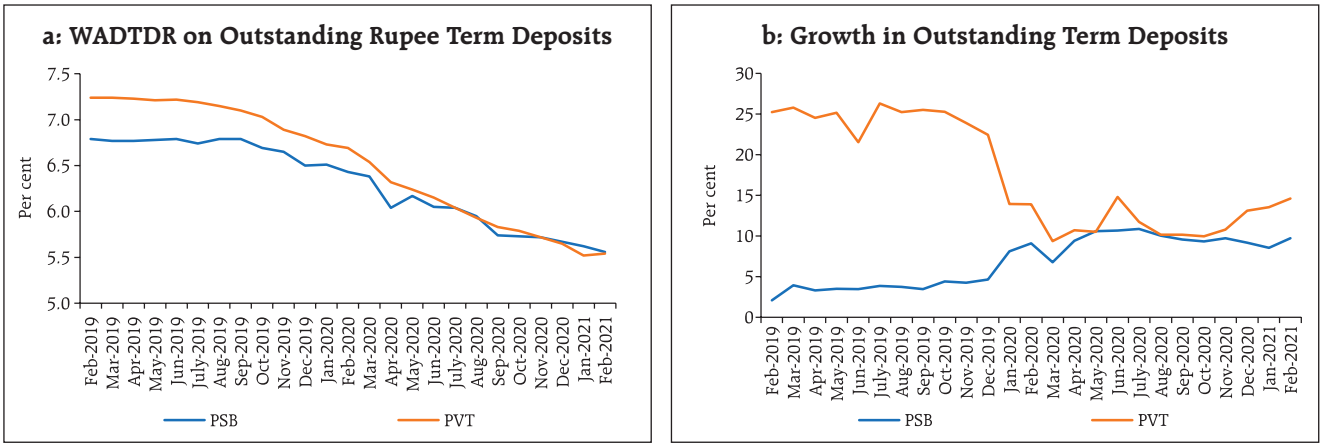
[8] More than 80 per cent of fresh deposits of 8 major foreign banks raised in February 2021 – accounting for 85 per cent of outstanding deposits of foreign banks - were wholesale deposits and almost 95 per cent of these deposits were of duration up to 180 days. The median term deposit rate (maturity up to 1 year) of foreign banks declined from 4.89 per cent in March 2020 to 2.79 per cent in February 2021.

Administered interest rates on small savings instruments – which compete with bank deposits and have a sizeable bearing on monetary transmission – are linked to market yields on G-secs with a lag and are fixed on a quarterly basis at a spread of 0-100 bps over and above G-sec yields of comparable maturities. The interest rates on the various small savings instruments, after being lowered sharply during Q1:2020-21 in alignment with the formula-based rates, were left unchanged during the remaining quarters of 2020-21 and Q1: 2021-22. The interest rates on small savings for various instruments are 69-198 bps higher than the formula-based rates (Table IV.6).

IV.3 Liquidity Conditions and the Operating Procedure of Monetary Policy

The RBI Act 1934 requires the RBI to place the operating procedure relating to the implementation of monetary policy and changes thereto from time to time, if any, in the public domain. In consonance with the accommodative stance of monetary policy,

Chart IV.28: Weighted Average Domestic Term Deposit Rates (WADTDR) and Deposit Growth



PSB: Public sector banks; PVT: Private sector banks.
Source: RBI.

liquidity measures during H2:2020-21 aimed at reinforcing easy financial conditions to support the nascent economic recovery. Normal liquidity management operations – suspended in April 2020 in the face of COVID-related dislocations – were resumed in January 2021 with the Reserve Bank reiterating the availability of ample liquidity in the system. Overall, the total liquidity support announced by the Reserve Bank since February 6, 2020 (up to March 31, 2021) amounted to ₹13.6 lakh crore [6.7 (6.9) per cent of 2019-20 (2020-21) nominal GDP] (Table IV.7).

Table IV.6: Interest Rates on Small Savings Instruments – Q1:2021-22

Small Savings Scheme	Maturity (years)	Spread (Percentage point) $	Average G-sec Yield (%) of Corresponding Maturity (December 2020 -February 2021)	Formula based Rate of Interest (%) (applicable for Q1:2021-22)	Government Announced Rate of Interest (%) in Q1:2021-22	Difference (basis points)
(1)	(2)	(3)	(4)	(5) = (3) + (4)	(6)	(7) = (6) - (5)
Savings Deposit	-	-	-	-	4.00	-
Public Provident Fund	15	0.25	6.16	6.41	7.10	69
Term Deposits						
1 Year	1	0	3.52	3.52	5.50	198
2 Year	2	0	4.02	4.02	5.50	148
3 Year	3	0	4.51	4.51	5.50	99
5 Year	5	0.25	5.51	5.76	6.70	94
Recurring Deposit Account	5	0	4.51	4.51	5.80	129
Monthly Income Scheme	5	0.25	5.49	5.74	6.60	86
Kisan Vikas Patra	124 Months#	0	6.16	6.16	6.90	74
NSC VIII issue	5	0.25	5.63	5.88	6.80	92
Senior Citizens Saving Scheme	5	1.00	5.51	6.51	7.40	89
Sukanya Samriddhi Account Scheme	21	0.75	6.16	6.91	7.60	69

$: Spreads for fixing small saving rates as per Government of India Press Release of February 2016.
#: Current maturity is 124 months.
Note: Compounding frequency varies across instruments.
Sources: Government of India; and RBI staff estimates.

Table IV.7: Liquidity Measures since February 6, 2020
(As on March 31, 2021)

(₹ crore)

Measures	Announced Amount
LTRO	2,00,000
Variable rate repo	2,25,000
SLF for PDs	7,200
CRR cut	1,37,000
MSF (dip by 1% in SLR)	1,37,000
TLTRO	1,00,000
TLTRO (2.0)	50,000
Net OMO purchases	1,50,000
Special liquidity facility for mutual funds	50,000
Refinance to NABARD, SIDBI, NHB and EXIM Bank	75,000
Special liquidity scheme for NBFCs	30,000
56-day term repo	1,00,000
On Tap TLTRO	1,00,000
Total	**13,61,200**
As proportion of 2019-20 GDP (%)	**6.7**
As proportion of 2020-21 GDP (%)	**6.9**

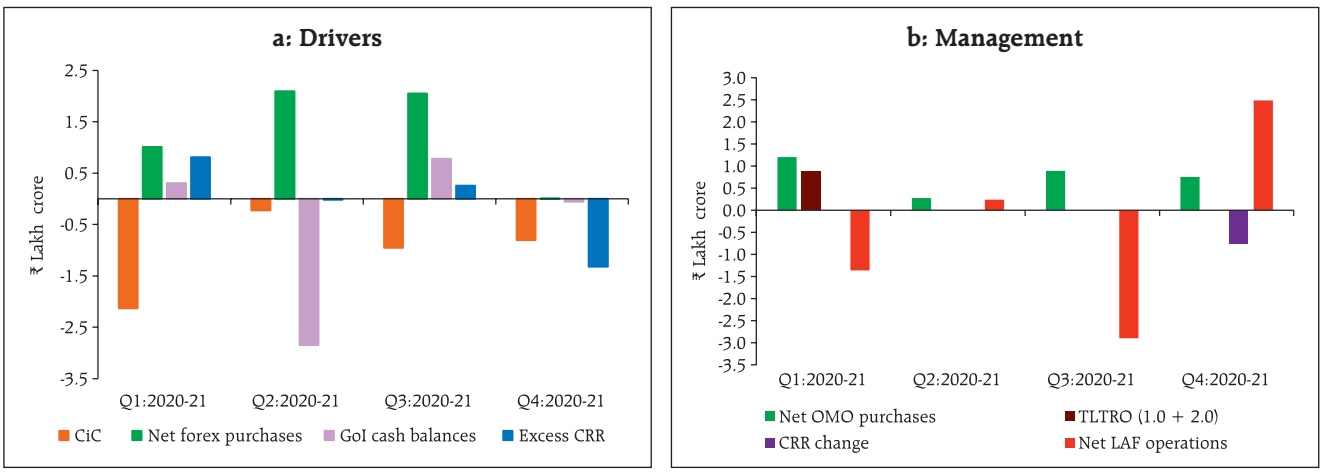
Source: RBI.

Drivers and Management of Liquidity

During Q3, the festival related expansion in currency in circulation (CiC) was the major source of leakage of liquidity (₹0.95 lakh crore), which was more than offset by the infusion through net forex operations (₹2.0 lakh crore) and OMO purchases (₹0.89 lakh crore), including three OMOs in state development loans (SDLs)[9]. Government spending and the drawdown of excess cash reserve ratio (CRR) balances by banks also augmented system liquidity (Chart IV.29a). Consequently, the surplus liquidity – as reflected in average daily net absorptions under the liquidity adjustment facility (LAF) – soared to ₹5.33 lakh crore during the quarter. Banks returned TLTRO funds amounting to ₹0.37 lakh crore – 33.1 per cent of the total amount of ₹1.13 lakh crore availed under the scheme. In Q4, surplus liquidity increased further to ₹5.9 lakh crore due to injection from forex operations and net OMO purchases, despite leakage through CiC and reduced government spending. Total OMO purchases during 2020-21 amounted to ₹3.13 lakh crore. Reserve money (RM) increased by 14.2 per cent (y-o-y) during 2020-21 (up to March 26) driven by currency demand while money supply (M3) increased by 12.6 per cent (y-o-y) (up to March 12).

The surplus liquidity was mopped up through the overnight fixed rate reverse repo under the LAF and the reactivated 14-day variable rate reverse repos (VRRR) (Chart IV.29b).

Chart IV.29: Systemic Liquidity – Drivers and Management



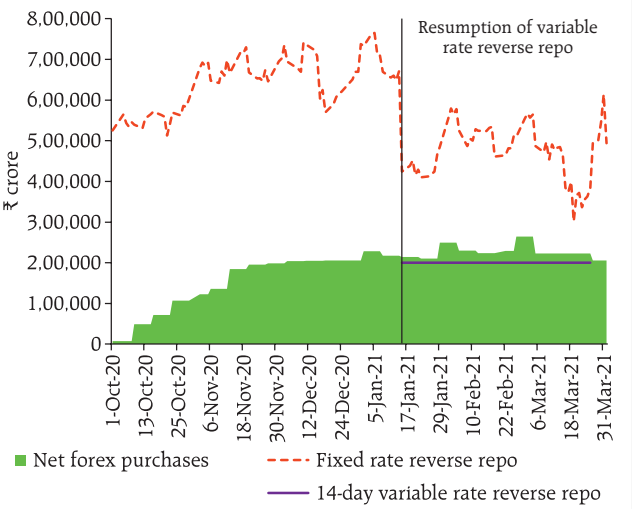
Source: RBI.

[9] The Reserve Bank also conducted six auctions of simultaneous purchase and sale of securities under open market operations (special OMOs) during this period.

Five 14-day VRRR auctions of ₹2 lakh crore each were conducted in Q4, which were well received as reflected in the bid-cover ratio (bidding offers as a proportion of the notified amount) of 1.3 or more in each auction. The liquidity absorbed through the fixed rate reverse repo has steadily increased from a fortnightly average of ₹4.3 lakh crore during January 16-29, 2021 to ₹4.9 lakh crore during January 30 - March 31 (Chart IV.30).

OMOs – both purchases and sales – are a key instrument to adjust the durable liquidity in the banking system in sync with the monetary policy stance. During 2020-21, ₹1.00 lakh crore was infused through outright purchases from eight auction announcements (including three of state development loans). These announcements contributed to softening of yields (Box IV.1).

Chart IV.30: Reverse Repo and Forex Purchases



Note: Net forex purchases are cumulative from October 2020.
Source: RBI.

Box IV.1: Announcement Effect of Open Market Operations on Financial Markets

OMO auctions conducted by the central bank not only impact government bond yields but also have a significant effect on other financial instruments, given that these are priced off risk-free government bonds. The instantaneous announcement effect of OMOs is examined for the benchmark 10-year government securities, AAA 5-year corporate bonds (CBs) and 5-year overnight index swaps (OIS)[10] using daily data on secondary market yields/rates spanning 10 years (January 2012 – January 2021) in an event study (ES) framework (Hartley and Rebucci, 2020). During the sample period, there were 98 OMO announcements – 83 purchases and 15 sales. These announcements were made after the closure of market trading hours; therefore, the difference in yields between the opening rate of the next trading day and the closing rate of the OMO announcement day, controlled for other factors, captures the announcement effect.

Results from paired t-tests[11] suggest negative and statistically significant softening in yields/rates, on an average, of (i) 2 bps on G-sec and corporate bonds; and (ii) 1 bps on OIS, validating the presence of announcement effects (Table IV.1.1)[12].

The instantaneous announcement impact is corroborated by regression analysis of the events (OMO announcements) with appropriate controls *viz.*, for intra-day global factors through the global economic policy uncertainty index [GEPUI][13], the inter-day difference in yields/rates on the announcement day as an indicator of

Table IV.1.1: Closing and Opening Yields/Rates – Paired t-test

Variable	Window	Mean	t-stat.	p-value
10-Yr G-Sec	Open (+1) - Close (0)	-0.02**	-2.39	0.01
5-Yr CBs	Close (+1) - Close (0)	-0.02**	-2.02	0.02
5-Yr OIS	Open (+1) - Close (0)	-0.01**	-2.35	0.01

Note: Close (0): Announcement day closing; Open (+1): Next day opening; Close (+1): Next day closing.
** represents significance at 5 per cent.

(contd.)

[10] In OIS transactions, one of the counterparties swaps an overnight interest rate while the other swaps a fixed short-term rate. The spread between these two rates is an important indicator of financial market conditions – widening spreads signifying tight liquidity conditions.

[11] The paired sample t-test determines whether the mean difference between two sets of observations in a large sample is zero.

[12] Similar tests for OMO sales announcements suggest that there is no statistically significant difference in yields; hence the empirical exercise is confined to OMO purchases.

[13] Baker, S. R. Bloom, N. and S. J. Davis (2016): Measuring Economic Policy Uncertainty, The Quarterly Journal of Economics, Vol 131:4, pp. 1593-1636.

Table IV.1.2: Announcement Effect of OMOs

	Reg-1			Reg-2			Reg-3		
	G-sec	CBs	OIS	G-sec	CBs	OIS	G-sec	CBs	OIS
	Dependent Variable								
Independent Variables	**ΔY** (open(+1)-close(0))	**ΔY** (close(+1)-close(0))	**ΔY** (open(+1)-close(0))	**ΔY** (open(+1)-close(0))	**ΔY** (close(+1)-close(0))	**ΔY** (open(+1)-close(0))	**ΔY** (open(+1)-close(0))	**ΔY** (close(+1)-close(0))	**ΔY** (open(+1)-close(0))
Constant (*C*)	-0.03***	-0.03***	-0.02***	-	-	-	-	-	-
$\Delta Y_{(close\ (0)-open\ (0))}$	0.72***	-	0.06	0.73***	-	0.09	0.74***	-	0.09
$\Delta Y_{(close\ (0)-close(-1))}$	-	0.25	-	-	0.25	-	-	0.24	-
$\Delta Liquidity_{(close\ (+1)-close\ (0))}$	-	-0.06	-	-	-0.05	-	-	-0.05	-
GEPUI	0.0002***	0.0001**	0.0001**	0.0001**	0.0001*	0.00005**	0.0002***	0.0001	0.0000**
Amount	-	-	-	-0.18***	-0.14*	-0.10**	-0.33***	-0.25**	-0.11**
Amount x Liquidity	-	-	-	-	-	-	-0.07*	-0.06**	-0.001
Diagnostic (*p* - value)									
B-G LM Test	0.456	0.064	0.209	0.458	0.139	0.112	0.578	0.098	0.117
Arch-LM Test	0.856	0.099	0.839	0.933	0.135	0.946	0.953	0.151	0.947

Note: close (0): Announcement day closing; open (+1): Next day opening; close (+1): Next day closing; close(-1): Previous day closing; ***, ** and * represent significance at 1 per cent, 5 per cent and 10 per cent, respectively.

Source: RBI staff estimates.

the hysteresis phenomenon[14] and changes in liquidity to account for intra-day liquidity effects on corporate bonds in the baseline regression (Reg-1). Apart from these variables, the size of the OMO auction is included in the second regression (Reg-2). Finally, for identifying the impact of the prevailing liquidity conditions on the announcement effect, an interaction term between the size of the OMO purchase announcement and the liquidity conditions on the announcement day is also included in the third regression (Reg-3).[15] The impact of the OMO announcement is captured by the constant term (*C*) in Reg-1 and by the coefficients on OMO auction amounts (as percentage of NDTL) in Reg-2 and Reg-3. All the control variables are demeaned (by taking deviation from the mean).

$$\mathbf{\Delta Y} = C + \alpha_0 (\Delta Y_{-1}) + \alpha_1 \Delta \text{ Liquidity} + \alpha_2 \text{ GEPUI} + \alpha_3 \text{ Amount} + \alpha_4 (\text{Amt} * \text{Liquidity}) + \varepsilon \quad \ldots(1)$$

Reg-1: α_3 and $\alpha_4 = 0$
Reg-2: C and $\alpha_4 = 0$
Reg-3: $C = 0$

The estimates of Reg-1 indicate that, on an average, the OMO announcements soften G-sec, corporate bond yields and OIS rates by 2-3 basis points (bps) each (Table IV.I.2). While the hysteresis phenomenon is significant only in the G-sec segment, increased global uncertainty marginally hardens yields/rates across markets (statistically significant). Every ₹10,000 crore of OMO auction announcement (equivalent to 0.1 per cent of NDTL, on an average) eases yields/rates by 1-2 bps (Reg-2). The interaction term in Reg-3 is found to be statistically significant in the G-sec and corporate bond segment, suggesting that the prevailing liquidity situation also matters – thus, the announcement effect is expected to be larger in deficit liquidity conditions. Overall, the analysis indicates that the OMO announcements during 2020-21 have cumulatively eased G-sec and corporate bond yields by about 20-25 bps each and the OIS rates by around 10 bps. Special OMOs (OTs), LTRO and TLTRO auctions also had a significant impact on G-sec yields, thereby moderating the term spread (Talwar *et. al*, 2021).

References:

Hartley, J. S. and A. Rebucci (2020), "An Event Study of COVID-19 Central Bank Quantitative Easing in Advanced and Emerging Economies", NBER Working Paper No. 27339, June.

Talwar, B. A., Kushawaha, K.M., and I. Bhattacharyya (2021), "Unconventional Monetary Policy in Times of COVID-19", RBI Bulletin, March, pp 41-56.

[14] For corporate bonds, the daily difference in yields is used to capture the hysteresis effect.

[15] Both the announced amount and the liquidity position (net LAF) are normalised by NDTL.

Policy Measures

To nurture the revival of activity in sectors that have multiplier effects on growth, the Reserve Bank announced "On-tap targeted long-term repo operations (TLTRO)" with tenors of up to three years for a total amount of up to ₹1 lakh crore at a floating rate linked to the policy repo rate in October 2020. The liquidity availed by banks under the scheme is to be deployed in corporate bonds, commercial paper and non-convertible debentures issued by the entities in five sectors[16] over and above their investments in these instruments as on September 30, 2020. Moreover, to enable banks to exploit the synergies between central bank liquidity under on-tap TLTRO scheme and the Emergency Credit Line Guarantee Scheme 2.0 (ECLGS 2.0) of the Central Government, the Reserve Bank expanded the scope of the on-tap TLTRO in December to all stressed sectors identified by the Kamath Committee in addition to the five sectors announced earlier in October 2020.

In February 2021, the RBI (i) allowed lending by banks to NBFCs under the TLTRO on-tap scheme for incremental lending to specified stressed sectors; (ii) announced a gradual restoration of the cash reserve ratio (CRR) in two phases in a non-disruptive manner to 3.5 per cent of NDTL effective March 27, 2021 and 4.0 per cent effective May 22, 2021; (iii) extended the facility for availing funds under the marginal standing facility (MSF) by dipping into the SLR up to 3.0 per cent of NDTL until September 30, 2021; and (iv) provided CRR exemption for credit flows to new MSME borrowers on exposures up to ₹25 lakh per borrower for credit extended up to October 1, 2021.

During H2:2020-21, thirteen auctions of OTs have been conducted. In March, the scale of OTs was increased to ₹15,000 crore (on March 4) and subsequently an asymmetric OT having a liquidity impact (purchase ₹20,000 crore; sales ₹15,000 crore) was conducted on March 10, 2021 which elicited favourable response on the purchase leg with bid-cover ratio of 4.

As staff and IT resources were severely affected in financial markets with the onset of the COVID-19 pandemic, the RBI shortened trading hours for various markets regulated by it effective April 7, 2020. Subsequently, with the phased roll-back of the lockdown and easing of restrictions on movement of people and resumption of normal functioning of offices, the RBI decided to restore trading hours in a phased manner beginning November 9, 2020.

To meet any additional / unforeseen demand for liquidity and to provide flexibility to the banking system in year-end liquidity management, the Reserve Bank decided to conduct two fine-tuning variable rate repo auctions of ₹ 0.25 lakh crore each on March 26 and March 31, 2021 of 11 days and 5 days tenor, respectively. Furthermore, it was decided not to conduct the 14-day VRRR auction on March 26 to ensure the availability of ample liquidity for managing year-end requirements.

IV.4 Conclusion

During H2, domestic financial markets and conditions remained congenial, supported by ample surplus liquidity. Market activity continued to revive, building on the recovery witnessed in the later part of H1 and steered by the forward guidance provided on liquidity and the orderly evolution of the yield curve. The pace of monetary transmission improved further and bank credit growth registered an upturn. Going forward, the RBI's market operations would ensure ample surplus liquidity in consonance with the accommodative policy stance to revive growth on a durable basis and mitigate the impact of COVID-19 on the economy.

[16] Agriculture, agri-infrastructure, secured retail, micro, small and medium enterprises (MSMEs), and drugs, pharmaceuticals and healthcare.

V. External Environment

In Q1:2021 (January-March), the global economy gradually regained momentum. Rapid mutations of the virus, concerns over the effectiveness of available vaccines and limited access to vaccines in many countries keep the near-term outlook clouded and the recovery remains fragile, incomplete, uneven and divergent. Inflation risks are widely perceived to be rising in an environment of exceptional monetary and fiscal accommodation, leading to turbulence in global financial markets and capital outflows from emerging markets in the second half of Q1:2021.

In Q1:2021 (January-March), the global economy gradually regained momentum of recovery gathered in Q3:2020, which had encountered headwinds in Q4 as many advanced economies (AEs) and some emerging market economies (EMEs) had to reimpose restrictions/lockdowns in the wake of second/third wave of infections coupled with the newer and more virulent strains of the virus. Mass vaccination drives are underway in several countries, but rapid mutations of the virus, concerns over the effectiveness of available vaccines and limited access to vaccines in many countries keep the near-term outlook clouded and the recovery remains fragile, incomplete, uneven and divergent.

Prolonged monetary accommodation, easy financial conditions and rounds of fiscal stimulus buoyed stock markets around the world, with strong rallies pushing equity valuations to record levels in February 2021 to a point of disconnect with the real economy. In the bond market, short term yields remain anchored on low policy rates, but longer-term yields have surged since the second half of February 2021 across the world on rising inflation expectations and apprehensions about possible reversal of monetary policy stances. In turn, equity and currency markets have experienced bouts of volatility. Commodity prices continue to spiral up under a combination of supply disruptions and revival of demand, translating into intensifying input price pressures on account of severely stretched supply chains. Consequently, inflation risks are widely perceived to be rising in an environment of exceptional monetary and fiscal accommodation, leading to turbulence in global financial markets and capital outflows from emerging markets in the second half of Q1:2021.

V.1 Global Economic Conditions

Economic activity across major AEs and EMEs posted a strong recovery in Q3:2020, following a record plunge in Q2 amidst widespread lockdowns. As stated earlier, activity stalled again in Q4 as countries battled new waves of infections and speedily communicable mutations of the virus. With inoculations underway, high frequency indicators, however, point to some pick-up in Q1:2021. Nonetheless, activity remains below the pre-pandemic levels even as GDP contractions ease across major economies.

The US economy contracted by 3.5 per cent in 2020, marking an abrupt halt to its expansion for more than a decade (Table V.1). Notwithstanding steady decline in the unemployment rate from a record level of April 2020, labour market conditions remain weak and fragile with employment well below the Federal Reserve's (Fed's) goal of full employment. Incoming data for Q1:2021 suggest some stabilisation – retail sales picked up sharply in January before moderating in February on severe winter weather, and the Institute for Supply Management (ISM)'s manufacturing purchasing managers' index (PMI) in March posted its strongest expansion since December 1983. US$1.9 trillion fiscal stimulus by the new administration has boosted prospects for the US economy.

Table V.1: Real GDP Growth

(Per cent)

Country	Q1-2020	Q2-2020	Q3-2020	Q4-2020	2020 (E)	2021 (P)	2022 (P)
Quarter-over-quarter, seasonally adjusted annualised rate (Q-o-q, SAAR)							
Canada	-7.5	-38.5	40.6	9.6	-	-	-
Euro area	-14.2	-38.8	59.9	-2.6	-	-	-
Japan	-2.2	-29.3	22.8	11.7	-	-	-
South Korea	-5.0	-12.0	8.8	5.0	-	-	-
UK	-10.9	-57.9	87.1	5.2	-	-	-
US	-5.0	-31.4	33.4	4.3	-	-	-
Year-on-year (Y-o-y)							
Advanced Economies							
Canada	-0.3	-12.7	-5.3	-3.2	-5.4	3.6	4.1
Euro area	-3.3	-14.6	-4.2	-4.9	-6.6	4.2	3.6
Japan	-2.0	-10.3	-5.8	-1.4	-4.8	3.1	2.4
South Korea	1.4	-2.7	-1.1	-1.2	-1.0	3.1	2.9
UK	-2.2	-21.4	-8.5	-7.3	-9.8	4.5	5.0
US	0.3	-9.0	-2.8	-2.4	-3.5	5.1	2.5
Emerging Market Economies							
Brazil	-0.3	-10.9	-3.9	-1.1	-4.1	3.6	2.6
China	-6.8	3.2	4.9	6.5	2.3	8.1	5.6
India	3.0	-24.4	-7.3	0.4	-8.0	11.5	6.8
Indonesia	3.0	-5.3	-3.5	-2.2	-2.1	4.8	6.0
Philippines	-0.7	-16.9	-11.4	-8.3	-9.5	6.6	6.5
Russia	1.4	-7.8	-3.5	-1.8	-3.0	3.0	3.9
South Africa	0.4	-17.8	-6.2	-4.1	-7.0	2.8	1.4
Thailand	-2.1	-12.1	-6.4	-4.2	-6.1	2.7	4.6

Memo:	**2020 (E)**	**2021 (P)**	**2022 (P)**
World Output	-3.5	5.5	4.2
World Trade Volume	-9.6	8.1	6.3

E: Estimate. P: Projection. -: Not applicable.
Note: India's data correspond to fiscal year (April-March).
Sources: Bloomberg; Official statistical agency of each country and IMF WEO Update, January 2021.

Euro area GDP declined by 6.6 per cent in 2020, with Q4 reading reversing the strong rebound witnessed in Q3 as emergence of the second wave of the virus along with more virulent strains led to a re-clamping of lockdowns across major constituent economies. This weakness continued into Q1:2021 with most economies extending lockdown restrictions even as they continued with the slow pace of vaccination. Consumer and business sentiments remain weak, with declining retail sales in January and the fourth consecutive month of decline in the composite PMI in February owing to subdued service sector activity.

The Japanese economy expanded by 11.7 per cent (q-o-q, SAAR) in Q4, extending the third quarter's recovery from the worst recession witnessed in the first half of 2020. Resilient trade conditions as reflected in a strong pick-up in exports and high capital spending underpinned by significant government support led to the GDP expansion. With the third wave of COVID-19 infections and the re-imposition of the state of emergency in the Tokyo area, however, the momentum for recovery slowed down in Q1, accompanied by large contractions in retail sales and industrial production in January and February. The manufacturing PMI, on the other hand, expanded in February 2021 for the first time since April 2019, with March witnessing further expansion.

In the UK, GDP expanded in Q4, but it moderated from the record pace registered in Q3, leading to an overall contraction of 9.8 per cent in 2020. In early Q1:2021, infections reached new peaks, with newer and more contagious variants pushing the economy into its third nationwide lockdown in January. Furthermore, the new trading arrangement with the European Union (EU) post-Brexit is likely to weigh on activity in early 2021.

The economic recovery continued in China for the third consecutive quarter in Q4, resulting in an overall annual increase of 2.3 per cent in 2020 and making it the only major economy to register growth in a pandemic-ravaged year (Table V.2). China's growth has been powered by strong and robust recovery in manufacturing and exports underpinned by policy support measures. By contrast, the recovery in consumption activity remains relatively weak. The Chinese economy seems to have lost some steam in Q1 from COVID-19 flare-ups in January and the associated containment measures. The Caixin composite PMI – though in expansion – eased to a ten-month low in February. Even the Caixin manufacturing PMI for March turned out to be the lowest in the current 11-month period of expansion. The Brazilian economy contracted in Q4 on y-o-y basis

Table V.2: Select Macroeconomic Indicators for BRICS

	Country	2020 (E)	2021 (P)		Country	2020 (P)	2021 (P)
Real GDP growth rate (per cent)	Brazil	-4.1	3.6	**General Govt. gross debt (as per cent of GDP)**	Brazil#	95.6	92.1
	Russia	-3.0	3.0		Russia	21.0	20.7
	India	-8.0	11.5		India	85.5	83.1
	China	2.3	8.1		China	65.2	69.4
	South Africa	-7.0	2.8		South Africa	77.7	84.9
	Country	**2020**	**2021(P)**		**Country**	**2020 (P)**	**2021 (P)**
CPI inflation rate (per cent)	Brazil	3.2	2.9	**Current account balance (as per cent of GDP)**	Brazil	0.3	0.02
	Russia	3.4	3.2		Russia	1.2	1.8
	India	6.1@	3.7		India	0.3	-0.9
	China	2.5	2.7		China	1.3	0.7
	South Africa	3.3	3.9		South Africa	-1.6	-1.8
	Country	**2020 (P)**	**2021(P)**		**Country**	**2020**	**2021(P)**
General Govt. net lending/ borrowing (as per cent of GDP)	Brazil	-16.8	-6.5	**Forex reserves* (in US$ billion)**	Brazil	355.6	356.1
	Russia	-5.3	-2.6		Russia	596.1	586.3
	India	-13.1	-10.9		India	588.4	586.7
	China	-11.9	-11.8		China	3536.0	3528.8
	South Africa	-14.0	-11.1		South Africa	54.2	53.3

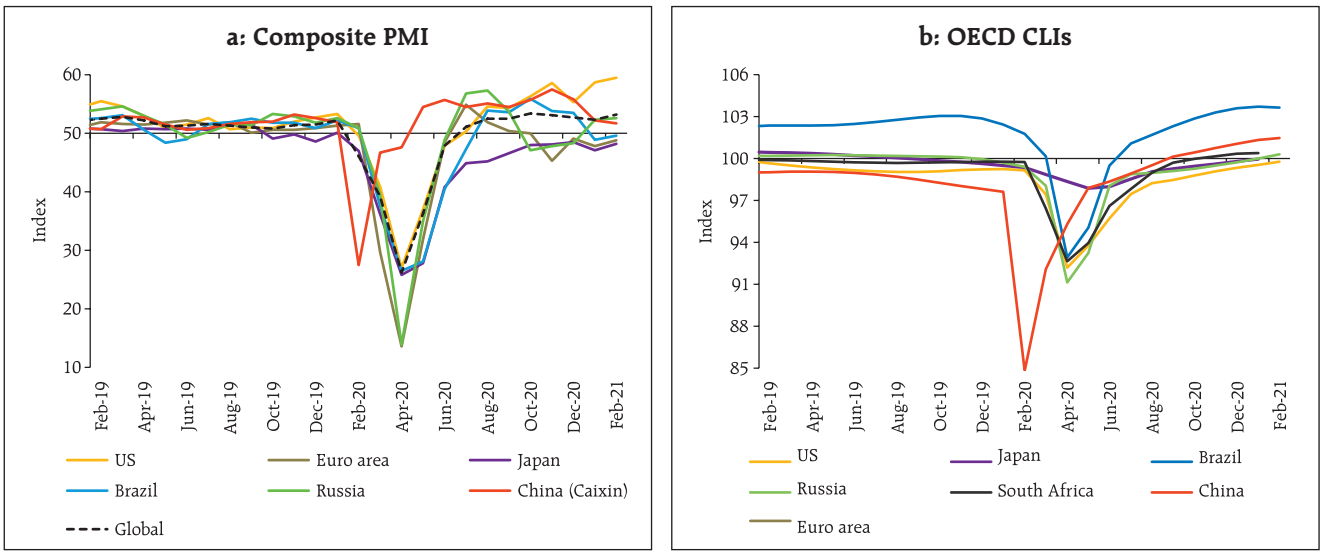
P: Projection. E: Estimate.
*: Forex reserves for 2021 pertain to February 2021.
#: Gross debt refers to the nonfinancial public sector, excluding Eletrobras and Petrobras, and includes sovereign debt held by the central bank.
@: Average of the period from June 2020 to February 2021.
Notes: India's data correspond to fiscal year (April-March).
Sources: Bloomberg; Official statistical agency of each country; WEO October 2020 database and January 2021 Update; IMF Fiscal Monitor Update, January 2021; and IRFCL, IMF.

following declines in household and government consumption expenditure, while weak services and external sector activity added further downward pressures. The near-term growth outlook remains clouded with emergency transfer programs expected to unwind, while the more contagious COVID-19 P1 variant continues to spread rapidly weighing heavily on economic activity with the composite PMI reflecting contraction since January 2021.

The Russian economy contracted in 2020, with a modest recovery in H2 (July-December) preventing a deeper plunge. The South African economy rebounded sharply in Q3:2020 following a historic plunge in Q2, driven primarily by manufacturing, mining and trade activity. In Q4, the recovery slowed down, with new waves of the deadly virus amidst a slow vaccine rollout and renewed load shedding. These factors extended into Q1:2021. Across major South-East Asian economies, GDP declined in Q4:2020, with contraction varying in the range of (-) 2.2 per cent to (-) 8.3 per cent (y-o-y) as the virus impeded economic activity.

The global composite PMI moderated during November-January within the expansion zone as the resurgence of infections across major economies pulled down services activity, especially in the contact-intensive industries. There was some uptick in February readings for both manufacturing and services activity on the back of the strong performance in the US (Chart V.1a). Composite leading indicators (CLIs) suggest growth is stabilising across major AEs and EMEs (Chart V.1b).

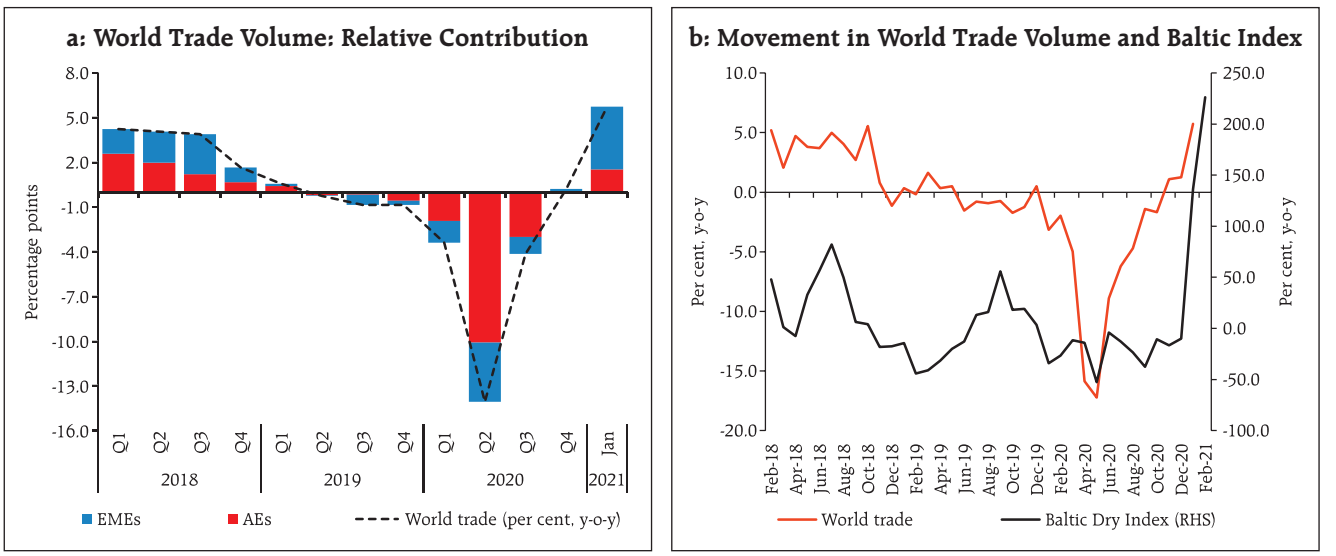
Chart V.1: Survey Indicators



Sources: Bloomberg; and OECD.

Global trade recovered faster than expected from the deep contraction witnessed in Q2:2020 on the back of the robust trade performance of EMEs (Chart V.2a). The WTO's Goods Trade Barometer rebounded in Q4:2020; however, this momentum is unlikely to be sustained in H1:2021 (January-June) as its key constituents such as export orders and automotive products have started showing signs of deceleration. The Baltic Dry Index, which measures shipping costs for a wide variety of bulk commodities such as coal, iron ore, and grain, rose sharply in January and February 2021 due to firming container shipping freight rates and an unfavourable base effect (Chart V.2b).

Chart V.2: World Trade Volume



Sources: CPB Netherlands; and CEIC.

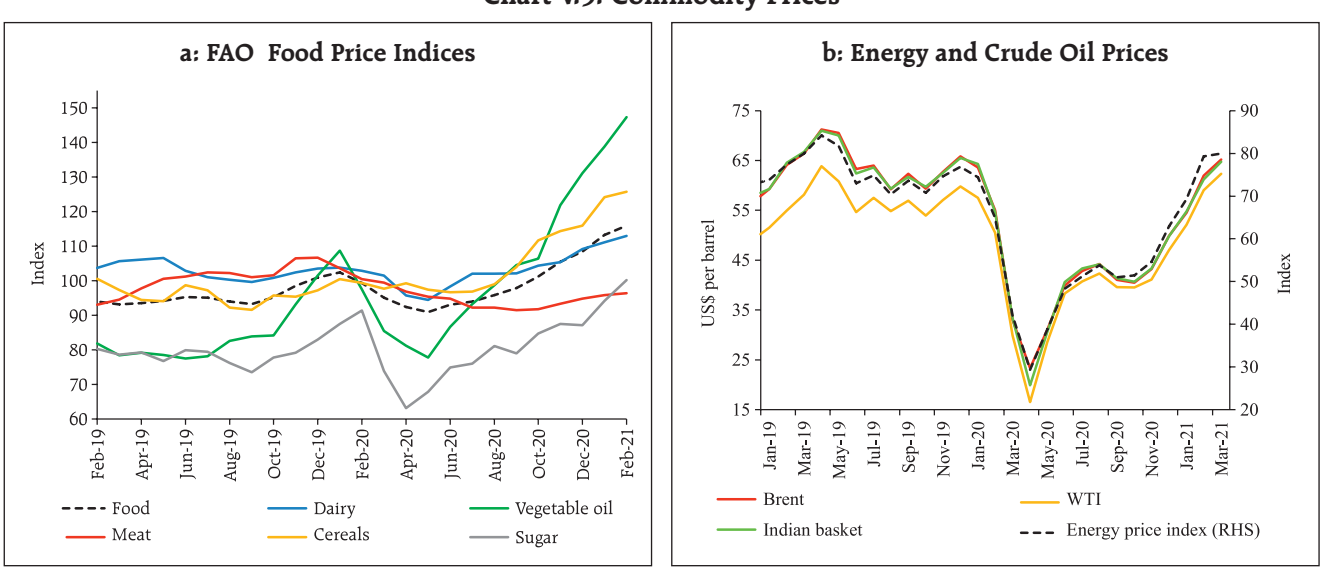
V.2 Commodity Prices and Inflation

Global commodity prices have been rising since May, after recovering from a plunge in the early part of 2020. The Bloomberg commodity price index increased by 17.8 per cent between September 2020 and March 2021. The food price index of the Food and Agriculture Organization (FAO) increased by 18.4 per cent between September 2020 and February 2021 – the index was at its highest level in February 2021 since July 2014, with pressures being particularly high for vegetable oil prices due to tightening availability of supplies among major exporters. For meat, low demand for poultry meat amidst avian influenza outbreaks has kept price pressures somewhat muted (Chart V.3a).

Crude oil prices lost some steam in September-October on waning demand prospects but have picked up since November on vaccine optimism and extension of production cuts by OPEC *plus*. The US stimulus and Brexit agreement further boosted the market sentiments. In February, prices surged to their highest level since the pandemic amidst tightening global supplies and falling crude inventories in the US and Europe. Saudi Arabia's decision to voluntarily cut production by an additional 1.0 million barrels per day during February-April added to bullish sentiments. Following an attack on Saudi Arabia's oil facilities, Brent prices increased further, moving closer to US$70 per barrel in mid-March. However, prices corrected thereafter, on near-term demand concerns amidst rising infections and build up in the US crude inventories. Despite the correction, Brent crude prices increased by 21.9 per cent in Q1:2021 (Chart 3b).

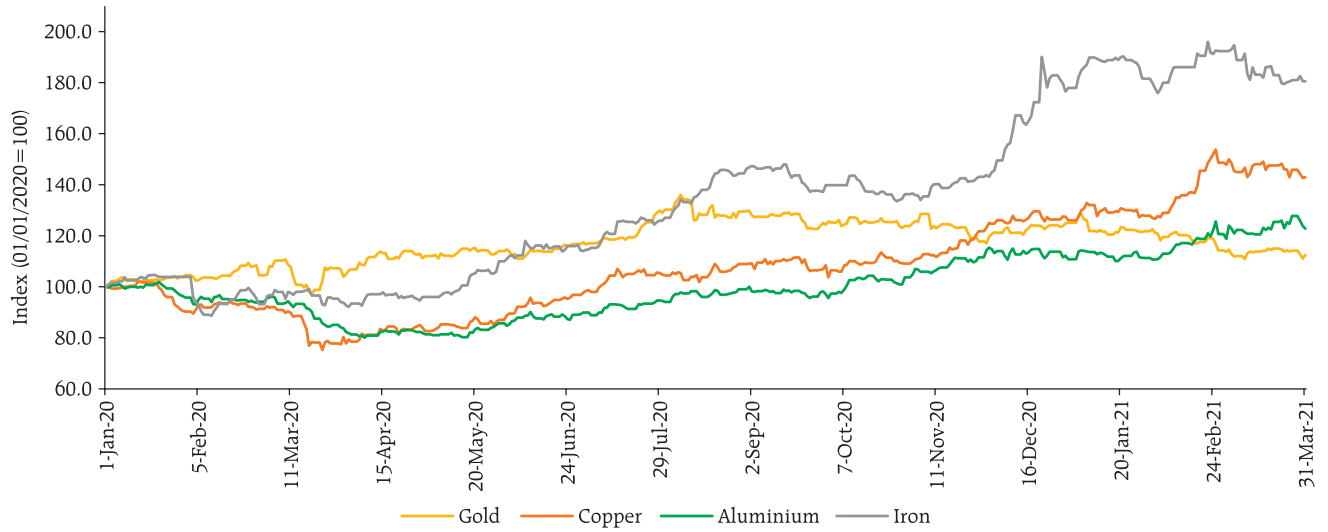
Base metal prices, measured by the Bloomberg's base metal spot index, increased by 28.4 per cent between September 2020 and March 2021, surpassing pre-COVID levels on strong rallies witnessed in H2:2020. The upturn has been primarily driven by strong restocking by China and positive sentiments propelled by stimulus measures across major economies. The robust recovery in manufacturing and industrial activity along with persistent supply chain disruptions, shipping difficulties and labour and container shortages have boosted prices of industrial metals. In contrast, gold prices after wrapping up the year 2020 with a

Chart V.3: Commodity Prices



Sources: FAO; and World Bank.

Chart V.4: Metal Price Indices



Source: Bloomberg.

phenomenal gain of 25.1 per cent, lost sheen with prices correcting by 10.0 per cent in Q1:2021. Rising US bond yields, the strengthening US dollar and strong risk-on sentiments reduced the safe haven appeal of the yellow metal (Chart V.4).

CPI inflation remains benign and below target in major AEs, while for major EMEs, barring China, Thailand and Indonesia, CPI inflation has mostly picked up, even moving above targets in a few of them (Table V.3).

In the US, inflation based on the personal consumer expenditures (PCE) price index has risen since December. However, average inflation remains well below the Fed's 2 per cent target as relatively soft aggregate demand and earlier declines in consumer energy prices contained price pressures. Inflation expectations have, however, shown some uptick in the latest readings of survey-based measures. After being in deflation for the last five months of 2020, Euro area CPI inflation has moved back to the positive zone since January 2021 on rising cost of services and non-energy industrial goods with energy prices rebounding in March. Nonetheless, inflation remains

Table V.3: Inflation Performance

(Per cent)

Country	Inflation Target	Q1:2020	Q2:2020	Q3:2020	Q4:2020	Q1:2021
Advanced Economies						
Canada	1.0-3.0	1.8	0.0	0.2	0.8	1.1
Euro area	2.0	1.1	0.2	0.0	-0.3	1.0
Japan	2.0	0.5	0.1	0.2	-0.8	-0.5
UK	2.0	1.7	0.6	0.6	0.5	0.6
US	2.0	1.7	0.6	1.2	1.2	1.5
Emerging Market Economies						
Brazil	3.75 ± 1.5	3.8	2.1	2.6	4.2	4.9
Russia	4.0	2.4	3.1	3.6	4.4	5.5
India	4.0 ± 2.0	6.7	6.2*	6.9	6.4	4.5
China	-	5.0	2.7	2.3	0.1	-0.3
South Africa	3.0-6.0	4.4	2.4	3.1	3.2	3.1
Indonesia	3.0 ± 1.0	2.9	2.3	1.4	1.6	1.5
Philippines	3.0 ± 1.0	2.7	2.3	2.5	3.1	4.5
Thailand	1.0-3.0	0.4	-2.7	-0.7	-0.4	-0.5
Turkey	5.0	12.1	11.7	11.8	13.5	15.6

*: Data refer to June 2020 only.

Notes: (1) Inflation for the US is in terms of personal consumption expenditure.

(2) Quarterly inflation is the simple average of inflation in each month of the quarter. Q1:2021 is the average of the months for which data are available.

(3) The ECB aims at inflation rates of below, but close to 2%. The Fed adopted 'flexible average inflation targeting' in August 2020 wherein it would allow the inflation rate to go above the target of 2 per cent rate for brief periods to make up for the shortfall from the target in earlier periods. Bank of Canada aims to keep inflation at the 2 per cent mid-point of an inflation control target range of 1-3 per cent.

(4) Brazil's inflation target for 2020 was 4.0 ± 1.5 per cent.

Sources: Central bank websites; and Bloomberg.

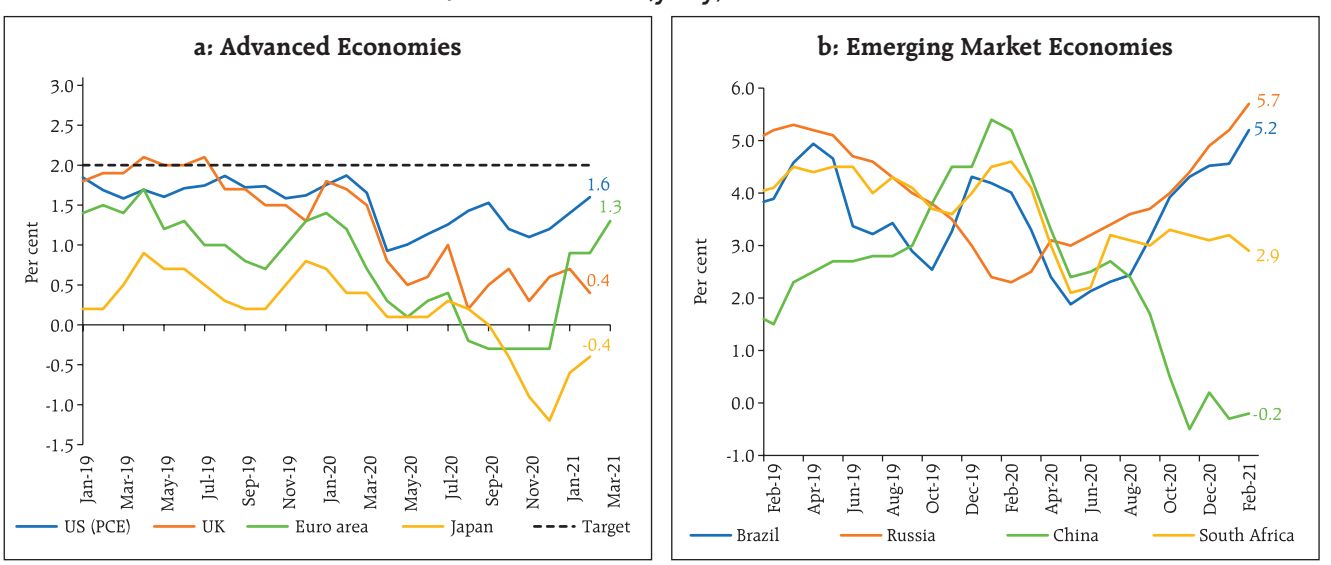
low and below the ECB's target owing to substantial slack in product and labour markets. In Japan, CPI remained in deflation for the fifth consecutive month in February as COVID-19 weighed on demand; lower crude oil prices in the initial period and discounts on travel within Japan through the 'Go To Travel' campaign by the national government added to the downside. In the UK, CPI inflation remains relatively subdued over both direct and indirect COVID-induced factors, particularly the reduction in value added tax for certain services and lower energy prices. Despite some pick-up in December-January, it remains way below the Bank of England's (BoE's) target (Chart V.5a).

In Russia, the inflation rate has overshot the target since November 2020, primarily attributed to the weakening ruble and firming global commodity prices, especially food prices, besides the lingering supply side disruptions inflicted by the pandemic. In Brazil too, CPI inflation has edged up, though it remains within the central bank's target range. The increase in global commodity prices, the depreciating Brazilian real and rapid recovery in domestic demand supported by emergency aid programs, led to the upward pressures in prices. CPI inflation in South Africa saw some uptick in January on higher prices for food, housing and utilities, and miscellaneous goods and services. In February, however, it eased marginally, moving below the central bank's target range on softening health and food prices. China, on the other hand, registered deflation since November, barring December. There has been a significant easing in consumer prices due to lower pork prices on improved supply and favourable base effects. Renewed lockdown restrictions due to fresh outbreaks resulting in decreased travel and consumer spending before the Chinese new year in February also kept the price pressures low (Chart V.5b).

V.3 Monetary Policy Stance

In order to mitigate the impact of the COVID-19 pandemic on their domestic economies, governments and central banks have provided unprecedented and large fiscal and monetary stimuli since March 2020. The IMF estimates that the total fiscal support pledged in 2020 through additional spending, revenue foregone and liquidity support was about US$14 trillion or 13.5 per cent of world GDP (Table V.4). Monetary policy turned even more accommodative with expansion of asset purchase programmes and

Chart V.5: CPI Inflation (y-o-y) – Select Economies



Source: Bloomberg.

Table V.4: Fiscal Support in 2020 in Response to COVID-19

(Amount in US$ billion; Per cent as proportion of GDP)

Country	Amount	Per cent
Advanced Economies	**-**	***24.0***
Canada	306	18.7
European Union	1,358	10.6
Japan	2,210	44.0
UK	877	32.4
US	4,013	19.2
Emerging Market Economies	**-**	***6.1***
Brazil	206	14.5
Russia	63	4.4
India	215	8.1
China	904	6.0
South Africa	28	9.8

Source: IMF Fiscal Monitor Update, January 2021.

launch/extension of special liquidity programmes by central banks in most AEs and EMEs in Q4:2020. Rate cuts continued in both Q4:2020 and Q1:2021, mainly by EMEs. A few major EMEs, however, raised rates in March in response to inflation concerns.

The Fed has maintained the target range for the federal funds rate at 0 to 0.25 per cent since March 2020. The Federal Open Market Committee (FOMC) has since December 2020 stated that monthly asset purchases of at least US$80 billion of Treasury securities and US$40 billion of agency mortgage-backed securities would continue till further progress has been made towards the maximum employment and price stability goals. The Fed also extended the temporary dollar liquidity swap lines and the temporary repurchase agreement facility for foreign and international monetary authorities up to September 2021. In March, the Fed extended the Paycheck Protection Program Liquidity facility by three months up to June 2021 to provide support for the flow of credit to small businesses. The FOMC increased the per counterparty limit for overnight reverse repo to US$80 billion from US$30 billion.

The European Central Bank (ECB) in its December 2020 meeting increased purchases under the Pandemic Emergency Purchase Program (PEPP) by €500 billion (approximately US$607 billion)[1] to €1.85 trillion (approximately US$2.25 trillion) and extended the horizon for purchases by nine months to end-March 2022. Furthermore, it also extended the period for the more favourable terms of the third series of the targeted longer-term refinancing operations by 12 months to June 2022, besides other recalibrations. The collateral easing measures were extended up to June 2022. Four additional Pandemic Emergency Longer-Term Refinancing Operations would be conducted in 2021. The Eurosystem repo facility for central banks and all temporary swap/repo lines with non-euro area central banks were extended till March 2022. In March 2021, the ECB said that purchases under the PEPP would be at a significantly higher pace over the next quarter compared to the initial months of the year.

The BoE has maintained a pause on the Bank Rate at its all-time low of 0.1 per cent since March 2020. In its November 2020 meeting, the BoE increased the target stock of purchase of UK government bonds by an additional £150 billion (approximately US$197 billion). In March 2021, the UK government updated the remit of BoE's Monetary Policy Committee (MPC) to reflect the "*government's economic strategy for achieving strong, sustainable and balanced growth that is also environmentally sustainable and consistent with the transition to a net zero economy.*"[2] Given the implications of climate change for monetary policy and financial stability, a number of central banks are actively pursuing green goals (Box V.1).

[1] The US$ approximations for all amounts mentioned in another currency in this Chapter are based on the exchange rate (Bloomberg) on the date of announcement of the particular measure.

[2] https://www.bankofengland.co.uk/-/media/boe/files/letter/2021/march/2021-mpc-remit-letter.pdf?la=en&hash=C3A91905E1A58A3A98071B2DD41E65FAFD1CF03E

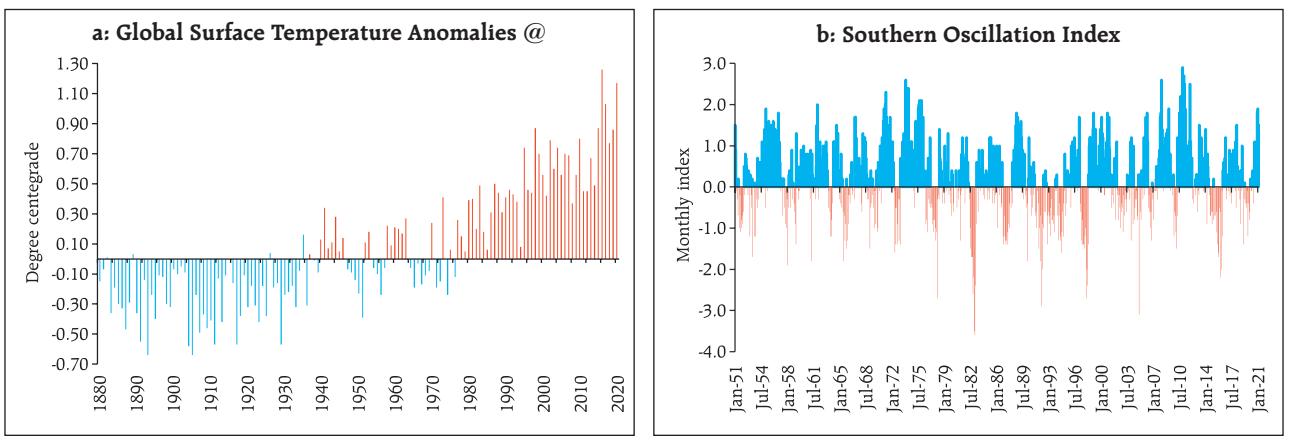
Box V.1: Central Bank Actions to Mitigate Climate Change Risk: Cross-country Experience

In 2020, the average temperature of global land and ocean surfaces was 1.17°C higher than the twentieth-century average of 13.9°C, making it the second warmest year on record. The five warmest years since 1880 have been only recently after 2015 (Chart V.1.1a). Global temperatures are expected to increase by another 1.5 degree between 2030 and 2052, and to continue upwards thereafter [Intergovernmental Panel on Climate Change (IPCC), 2018]. The rise in global temperature is mainly attributed to an increase in greenhouse gas emissions. As a result, *El Niño*–Southern Oscillation changes in the global atmospheric circulation have been wild, influencing, in turn, temperature and precipitation across the globe (Chart V.1.1b).

The higher global temperatures and the associated shifts in weather patterns are key risks to the growth and inflation outlook across AEs and EMEs through various channels. While the most evident channel is agricultural output, others could be adverse effects on labour productivity, mortality rates and investment decisions (Acevedo *et al.*, 2018; Batten, 2020). Thus, climate change poses severe challenges to the central banks' mandate of price and financial stability. Conventional models followed by the central banks cannot predict climate-related risks accurately, including exposure to "green swan"[3] risks, which are in nature of "climate black swan events", *i.e.*, extreme financially disruptive events that could be the next systemic financial crisis (Bolton *et al.* 2020).

In 2017, eight central banks and supervisors established the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) which had 89 central banks and supervisors from around the world by March 2021. The NGFS recommended integration of climate-related factors into prudential supervision and emphasised the importance of a robust and internationally consistent climate and environmental disclosure framework. A recent survey of 26 central banks reveals that central banks consider climate change to be an emerging challenge both in terms of its potential threat to the economy and impact on their operational frameworks (NGFS, 2020). The prime motivation for the central banks is to mitigate financial risks on their balance sheets due to exposures to climate change related risks. Furthermore, central banks are in favour of formulating pro-active measures in moving towards a low-carbon economy while ensuring smooth monetary transmission over the long-term (Table V.1.1).

Chart V.1.1: Evolving Climate Change Risk



@: Deviations of average annual global surface temperatures (land and ocean) since 1880 from the long-term average (1901-2000).
Note: The Southern Oscillation Index (SOI) measures large-scale fluctuations in air pressure occurring between the western and the eastern tropical Pacific during El Niño and La Niña episodes. In general, smoothed time series of the SOI correspond very well with changes in ocean temperatures across the eastern tropical Pacific. Prolonged periods of negative (positive) SOI values coincide with abnormally warm (cold) ocean waters across the eastern tropical Pacific typical of El Niño (La Niña) episodes.
Sources: NOAA National Centers for Environmental Information, Climate at a Glance: Global Time Series, published March 2021, retrieved on March 31, 2021 from https://www.ncdc.noaa.gov/cag/; and https://www.cpc.ncep.noaa.gov/data/indices/soi.

(Contd.)

[3] The concept of "green swan" used by Bolton *et al.* (2020) was inspired by the famous concept of "black swan" developed by Taleb (2007) [Taleb, Nassim N. 2007. *The Black Swan.* New York: Penguin Random House]. Black swan events are rare and unexpected events with low probability but heavy impacts. Such events can only be explained after they happen.

Table V.1.1: Mitigating Climate Change Risk – Select Central Bank Initiatives

Central Bank	Strategy	Central Bank	Strategy
Advanced Economies			
Bank of Canada	• Pilot project to help banks and insurance companies to develop climate change risk scenarios • A multi-year research plan focused on climate-related risks and Canada-specific climate scenarios by staff members	Hong Kong Monetary Authority (HKMA)	• Developed a common assessment framework to help banks to assess their individual "greenness baseline" • Banks were advised to assess climate-related physical risk and transition risk associated with the projects and businesses they are funding • Assistance to the Government in implementation of green bond issuance programme
Bank of England (BoE)	• In March 2021, the Monetary Policy Committee's remit was modified to include support to the Government's economic strategy of transition to a net zero emissions economy • Became member of the government-regulator task force to examine the most effective way to approach climate related financial disclosures, including exploring the appropriateness of mandatory reporting	Reserve Bank of New Zealand (RBNZ)	• Supervisory engagement on the identification and management of climate risks among New Zealand's financial institutions • Better management of RBNZ balance sheet to mitigate climate change risk
European Central Bank (ECB)	• Set up a climate change centre in January 2021 to bring together the work on climate issues in different parts of the ECB • Climate risk stress test exercise to assess the impact on the European banking sector over a 30-year horizon	Federal Reserve	• The Federal Reserve supervisors expect banks to have systems in place that appropriately identify, measure, control, and monitor all of their material risks, "which for many banks are likely to extend to climate risks." • Formally joined the Network for Greening the Financial System in December 2020
Emerging Market Economies			
Banco Central do Brasil	• Capital requirements guidelines for banks for pricing-in environmental risks through which banks evaluate lending practices, stress-test against the exposure to environmental risks and disclose their risk assessment methods and exposure to social and environmental damages		
People's Bank of China (PBoC)	• Issued green bond guidelines for building a green finance system in 2015 • Mandatory for financial institutions to disclose environment-related information to support and incentivise green investment • Incentives included, among others, for re-lending operations by the PBoC, specialised green guarantee programs, interest subsides for green loan-supported projects, and the launch of a national-level green development fund		
Reserve Bank of India	• In 2015, included the small renewable energy sector under the Priority Sector Lending (PSL) scheme • Sensitising public, investors and banks regarding the need, opportunities, and challenges of green finance through its regular reports and other communications		

Source: Websites of respective central banks.

To sum up, changing weather patterns and increased reliance on bioenergy could increase the volatility of food and energy prices and hence impart substantial volatility to headline inflation, making it challenging for central banks to meet their inflation targets. Nowcasting and forecasting models of central banks need to be augmented to adequately account for weather effects.

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Bolton P., D. Morgan, da Silva. L. A. P., S. Frédéric and S. Romain (2020), *The Green Swan: Central Banking and Financial Stability in the Age of Climate Change*, Bank for International Settlements.

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NGFS (2020), "Survey on Monetary Policy Operations and Climate Change: Key Lessons for Further Analyses", *NGFS Technical Document*, December.

The Bank of Japan (BoJ) in December 2020 extended the duration of the special program to support financing in response to COVID-19 by six months to September 2021 and made adjustments to the programme. Following a review of the measures taken under "quantitative and qualitative monetary easing with yield curve control", the BoJ announced further effective and sustainable monetary easing in March 2021: (i) establishment of an "Interest Scheme to Promote Lending" under which interest rates, linked to the short-term policy rate, would apply as an incentive to financial institutions' current account balances with the BoJ, corresponding to amount lent by the institutions under eligible fund-provisioning measures; (ii) the range of 10-year government bond yield fluctuations would be +/- 25 basis points (bps) from the target level; and (iii) the annual target for purchase of exchange-traded funds and Japan real estate investment trusts has been removed, while the ceiling has been retained.

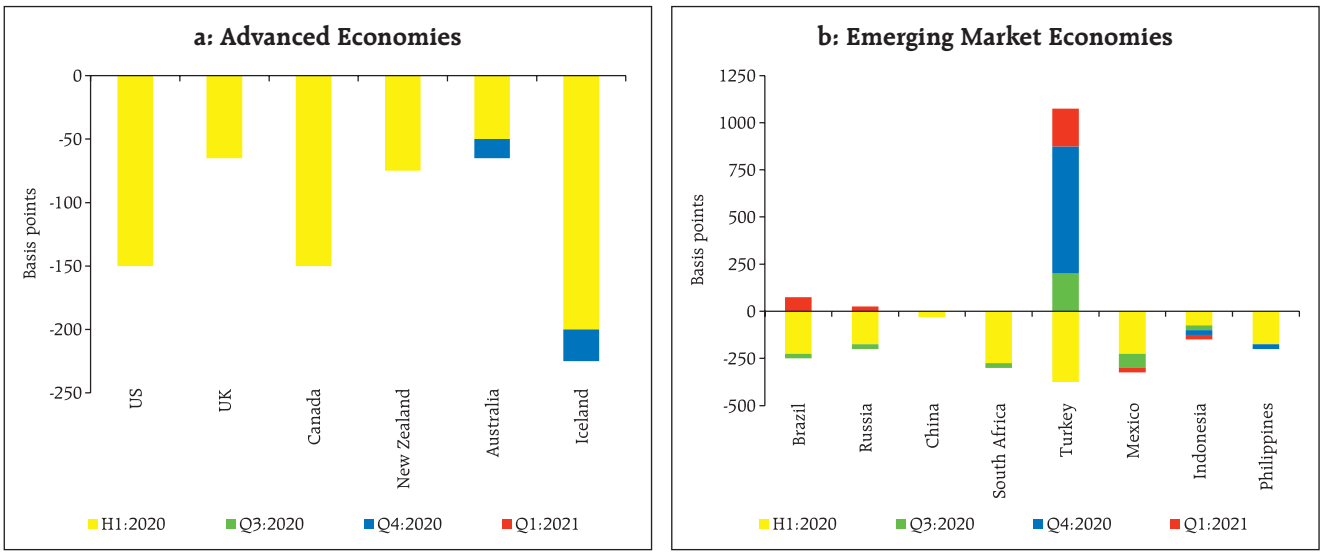
The Bank of Canada (BoC) has maintained a pause on the policy rate since reducing it to 0.25 per cent in March 2020. In October, the BoC announced it would gradually reduce quantum of weekly purchase of government securities, while recalibrating its quantitative easing program towards longer-term bonds that have a more direct influence on borrowing rates.

The Reserve Bank of New Zealand (RBNZ) has maintained its policy rate at the historic low of 0.25 per cent since March 2020. In November, the RBNZ announced additional stimulus in the form of a "Funding for Lending Programme" aimed at reducing banks' funding costs. In February 2021, the RBNZ stated that it had completed the operational work to make its policy rate, the official cash rate, negative if need arose for further monetary stimulus. The New Zealand government modified the MPC's remit with effect from March 1, 2021 to assess and outline, *inter alia*, the impact of its decisions on the government's policy relating to sustainable house prices. In March, the RBNZ withdrew a few temporary liquidity facilities, which were introduced in response to the COVID-19 pandemic, as they had low usage.

Amongst the major AE central banks, Australia and Iceland reduced policy rates in Q4:2020. In November, the Reserve Bank of Australia (RBA) cuts its policy rate by 15 bps to a new low of 0.10 per cent and reduced the target for 3-year government bond yields to the same level. It also launched a quantitative easing programme of purchase of government bonds of 5-10 years maturity worth AUD100 billion (approximately US$72 billion) to be carried out over six months. In February 2021, the RBA extended the asset purchase programme that was to end by mid-April 2021 by six months with purchase of additional AUD100 billion (approximately US$76 billion). In March, the RBA indicated that it had adjusted bond purchases to enable smooth functioning of the market and would do more, if required. The central bank of Iceland reduced its policy rate by 25 bps in November to 0.75 per cent (Chart V.6a).

Given the conventional policy space, a few EMEs cut the policy rates further in 2021, while others started reversing monetary stimulus. The People's Bank of China has maintained the one-year Loan Prime Rate at 3.85 per cent since April 2020, while the South African Reserve Bank has maintained its policy rate at 3.5 per cent since July 2020. After maintaining a pause through Q4:2020, in January 2021, Banco Central do Brasil (BCB) withdrew the forward guidance introduced in August 2020 when the underlying measures of inflation were below the target. In its March meeting, with inflation projected to be at the upper bound of the target, the BCB raised the Selic rate by 75 bps to 2.75 per cent and indicated that a similar magnitude hike will likely be effected in its next policy meeting. The Bank of Russia, after maintaining a pause through Q4:2020, raised the policy rate by 25 bps to 4.5 per cent in March and indicated that it was a beginning of return to neutral monetary policy.

Chart V.6: Policy Rate Changes – Select Major Economies



Source: Bloomberg.

The central bank of Turkey followed up the rate hike in September 2020 with an increase of 475 bps in November and by another 200 bps each in December 2020 and March 2021 and indicated that the tight monetary policy stance would be maintained decisively for an extended period until strong indicators pointed to a permanent fall in inflation. Amongst other EME central banks, Bank Indonesia (BI) and Bangko Sentral ng Pilipinas cut their policy rates by 25 bps each in Q4: 2020 (November), while BI and Banco de México cut rates by 25 bps each in February during Q1:2021 (Chart V.6b).

V.4 Global Financial Markets

The global financial markets remained buoyant, supported by highly accommodative monetary and fiscal policies and vaccine-led recovery optimism. Stock markets reached record highs in a few jurisdictions in February 2021, despite output being well-below pre-pandemic path, raising concerns of a disconnect between the markets and the real economy and risks of future financial fragility (Box V.2).

Among AEs, US equity markets scaled new peaks every month between November 2020 and March 2021. Apart from the earlier noted ultra-accommodative monetary policy and vaccine news, the US markets were also boosted by the Presidential election results in early November and the additional fiscal stimulus packages in December and March. In Q1:2021, there were episodes of correction, mostly due to surge in yields in the bond market.

Among other major AEs also, November 2020 was one of the best months on record in terms of gains. The UK and the EU stock indices moved up, benefitting additionally from the trade agreement concluded before the expiry of the transitional period following Brexit. Towards end-January 2021, these indices corrected due to the volatility brought on by US markets and again in the second half of February. In March, the indices were up again to almost 13-month highs. The Nikkei crossed 30,000 in February 2021 for the first time since 1990. Stock markets in EMEs powered further ahead through Q4:2020 and up to

Box V.2: Financial Markets and Real Economy Disconnect – Bubble or Retreat?

Under the unprecedented and continuing monetary accommodation by most central banks, financial markets across the world have been exuberant. Equity markets touched record highs, even as COVID-19 pushed the global economy into its severest contraction in decades. This is in sharp contrast to the typical co-movement between the equity markets and the real economy, especially in severely stressed situations (Chart V.2.1).

The apparent disconnect between the real economy and asset prices could be due to non-price factors (Claessens and Kose, 2017). A steep decline in risk premiums and risk-free discount rates have driven up asset prices (Igan *et al.*, 2020). Certain segments of the equity markets, particularly small-cap, health and pharmaceuticals, and technology notched higher gains than others. Despite episodic corrections, the US S&P and the Indian BSE Sensex, *inter alia*, reached all-time highs in Q1:2021. Though reflation trade, creeping bond yields and inflation expectations led to a correction in the stock markets in the latter part of February, markets picked up again in March with the US stimulus, mainly in AEs.

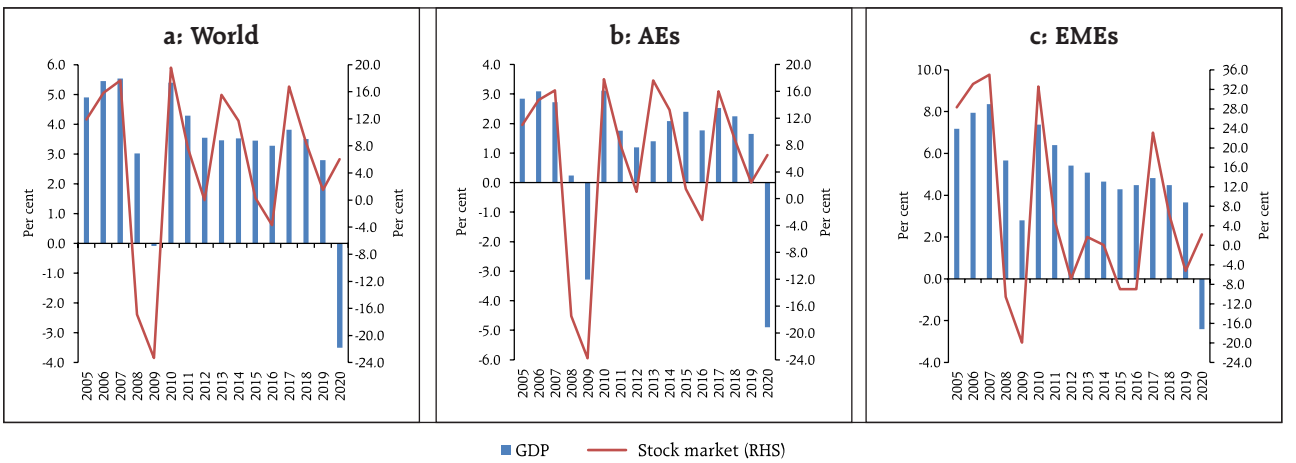
Against this backdrop, a preliminary examination has been undertaken to understand the drivers of stock markets at the global level. The variables included in the empirical exercise are: MSCI world stock index (LWorld_stk), World GDP (LWorld_GDP), gold prices (LGold) and yield on 10-year US government securities (US_10yr)[4]. All the variables are integrated of order one, *i.e.*, I(1), and the Johansen-cointegration test reveals the presence of one long-run cointegrating relationship[5]. The estimated long-run equation from a vector error correction model (VECM) is as follows:

$$\underset{}{LWorld\_stk} = \underset{}{5.34} + \underset{(9.99)}{1.98}LWorld\_GDP - \underset{(11.01)}{1.11}LGold - \underset{(2.97)}{0.12}US\_10yr \quad \ldots\ldots\ldots (1)$$

Figures in parentheses are estimated t-values. All coefficients are statistically significant at 1 per cent level.

The results suggest that higher real GDP growth boosts equity prices, while higher interest rates and gold prices are associated with corrections in equity prices. A higher level of GDP growth translates to higher corporate earnings, which in turn results in higher equity returns (Gracia and Liu, 1999). Rise in yields and gold prices presents portfolio diversification options, and are

Chart V.2.1: Equity Markets and GDP – Growth Rates



Sources: IMF; Bloomberg; and RBI staff estimates.

(Contd.)

[4] All data, barring LWorld_GDP, were sourced from Bloomberg. For LWorld_GDP, annual world GDP levels given by the IMF were interpolated to obtain quarterly series. The sample period is from Q1:2005 to Q4:2020.

[5] To control for periods of excessive volatility and uncertainty in economic conditions, three dummies, *viz.*, Dummy_COVID, Dummy_TT and Dummy_GFC for COVID-19, taper tantrum and global financial crisis episodes, respectively, were included.

Table V.1.1: Short-run Estimates of Change in World Stock Prices

	Coefficient	P-values
ECT	-0.238	0.026**
$\sum_{i=1}^{3} \Delta LWorld\_stk$	0.321	0.295
$\sum_{i=1}^{3} \Delta LWorld\_GDP$	1.476	0.063*
$\sum_{i=1}^{3} \Delta LGold$	-0.169	0.484
$\sum_{i=1}^{3} \Delta US\_10yr$	-0.137	0.019**
Dummy_COVID	0.044	0.313
Dummy_GFC	-0.064	0.013**
Dummy_TT	0.042	0.272
Adjusted R^2	0.47	
Memo: VEC Residual Portmanteau Tests for Autocorrelations		
Lags	Adj. Q-Stat.	P-value
4	33.765	0.209

Notes: 1. All variables are in log form, barring the 10-year yield, which is in percentage points. The model was estimated with lag order of 3.
2. * and ** indicate statistical significance at 10 and 5 per cent level, respectively.
Source: RBI staff estimates.

inversely related to stock prices. The short-run dynamics show that the coefficient of the error correction term of the ΔLWorld_stk is statistically significant with the correct negative sign implying that the stock prices adjust towards long-run relationship after a shock and that the estimated model is stable (Table V.1.1). In the case of a shock, gold prices are the quickest to adjust, followed by stock prices.

Summing up, unprecedented large scale monetary and fiscal accommodation by most countries and vaccine optimism have contributed to a sharp rebound in stock markets across the world. The empirical evidence still supports the conventional wisdom that a long-run relationship holds between the financial markets and the real sector.

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Igan, D., D. Kirti and M. S. Peria (2020), "The Disconnect between Financial Markets and the Real Economy", IMF Special Notes Series on COVID-19, August 26.

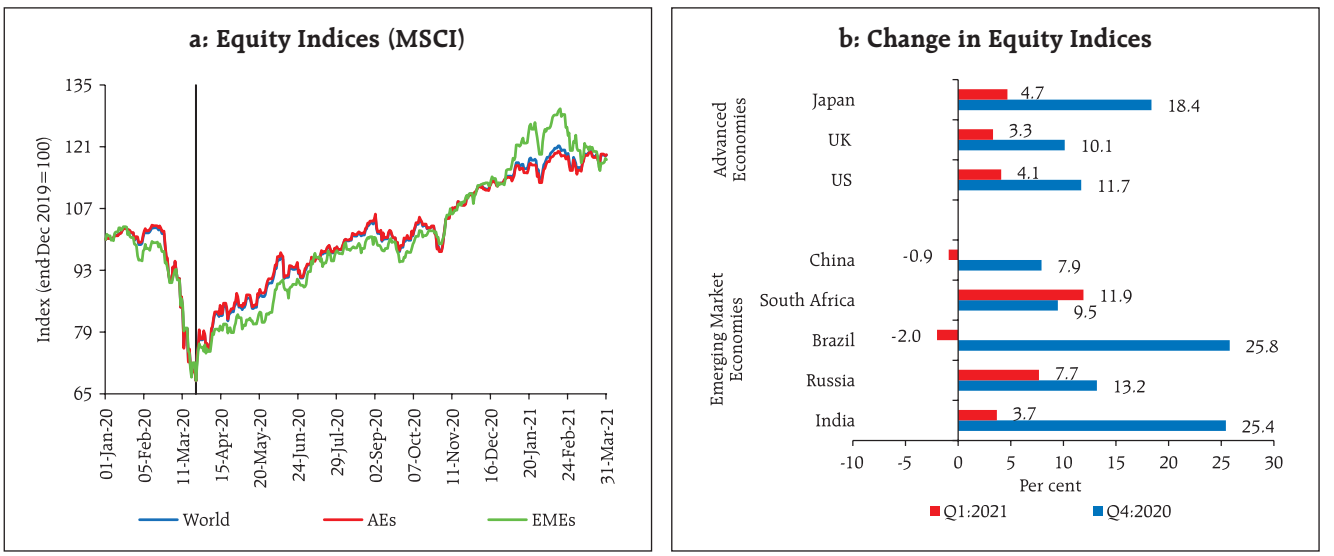
mid Q1:2021, mirroring those in the US and other AEs and supported by burgeoning foreign portfolio flows (Chart V.7). With resumption of capital outflows since the latter part of February, EME stock indices have shed gains.

Bond yields remained low in major AEs till end-2020 driven by low or negative policy rates, forward guidance of low for longer, explicit yield curve control policies in a few countries and safe haven demand due to continued uncertainty with new rounds of infections, fatalities and virus mutations. In the US, however, bond yields have been inching up gradually from Q3:2020 on expectations of reflation (Chart V.8a). In January 2021, the 10-year yield rose above 1 per cent for the first time since March 2020 on expectations of further stimulus by the new US administration, better economic recovery prospects and rising inflation expectations. In February, the large sell-offs saw longer term yields, especially of the 10-year and 30-year bonds shoot up, leading to steepening of the yield curve. The 10-year yield at end-March 2021 was 106 bps higher than its level at end-September 2020.

There has also been a steepening of the yield curve in several other countries, both AEs and EMEs, particularly since the second half of February. Low policy rates have kept the short-term yields low, while longer maturities have been rising. This necessitated further bond purchases by countries like Australia which practice yield curve control. The rise in yields led to portfolio reallocation resulting in correction in equity markets noted above.

In currency markets, the US dollar weakened further in Q4:2020. In 2021, it has strengthened mainly

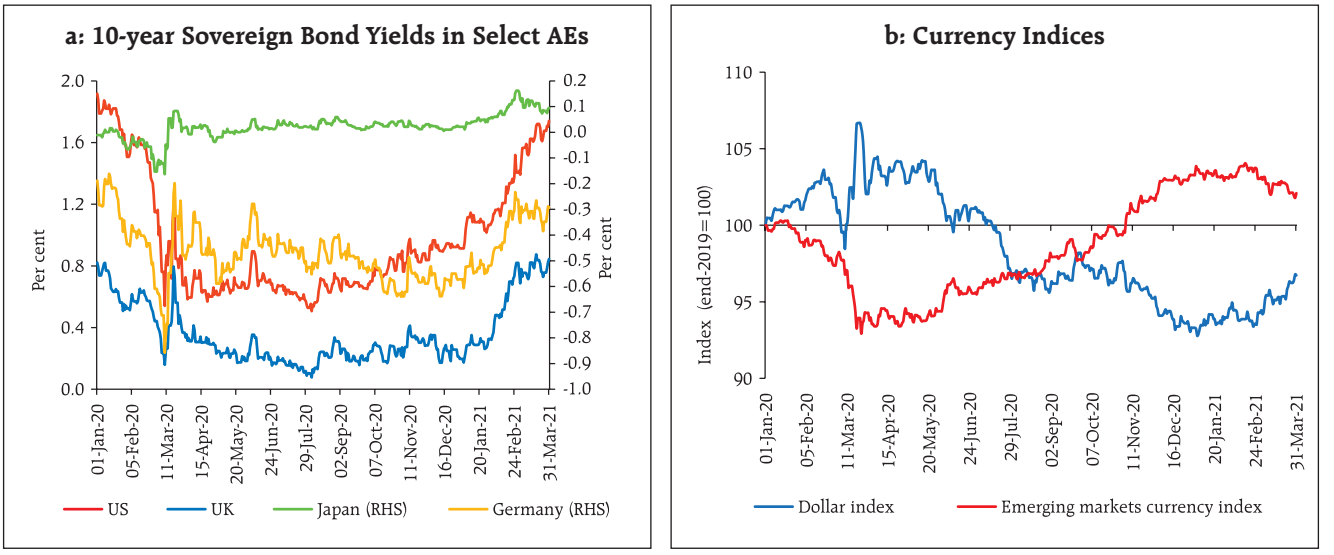
Chart V.7: Equity Markets



Sources: Bloomberg; and RBI staff estimates.

due to rising bond yields and expectations of higher inflation and higher interest rates. As regards emerging market currencies, there has been resumption of capital outflows in Q1:2021 from most regions, causing the emerging markets currencies to depreciate (Chart V.8b). The MSCI Emerging Market Currency Index, which increased by 5.3 per cent in Q4:2020, dipped by 1.1 per cent in Q1:2021.

Chart V.8: Bond Yields and Currency Movements



Source: Bloomberg.

V.5 Conclusion

In 2021, real GDP is expected to register a strong rebound following the record contraction in the previous year. The actual outcome will depend on how the race against the virus and its mutations is won. Inflation concerns are creeping up at a time when both monetary and fiscal policies are highly accommodative, there are promises of continued low rates for long and demand is recovering. If rising inflation and consequent movements in the bond markets lead to large valuation shifts in equity and other financial markets, it could lead to extreme volatility in global financial markets which could then spill over to emerging economies and impede the nascent global recovery. Monetary authorities in major advanced economies need to remain vigilant to these developments and be sensitive to the spillovers of their policies to the rest of the world.

SPEECH

Financial Sector in the New Decade
Shaktikanta Das

*Financial Sector in the New Decade**

Shaktikanta Das

A very warm good morning to you all. It is indeed an honour for me to be here at the India Economic Conclave 2021 organised by the Times Network. I have been looking forward to participating in this year's conclave, especially after an enriching experience during my participation in this event in 2019. The theme of this year's conclave, one which resonates very strongly is "India's Decade: Reform. Perform. Transform." The COVID-19 pandemic has set forth the wheels of transformation for everything around us, from our work life to our policy priorities. As we toil towards addressing the challenges raised by COVID-19 with the aim to emerge as a modern and transformed India, I applaud the foresight of the Times Network in selecting such a pertinent theme.

Today in my address, I have chosen to speak on a subject in which the Reserve Bank has a major stake – "financial sector in a new decade". Contextually, it is important to bear in mind that unlike the global financial crisis (GFC) of 2008 when financial sector vulnerabilities impacted the real sector, this time the risk of contagion is from the real sector to the financial sector.

Global Perspective

Globally, the measures initiated in the last decade after the global financial crisis were aimed at reducing leverage and improving the quality and quantity of capital, among others. As a result, before entering the Covid pandemic, banks were well capitalised and maintained high liquidity buffers, which - coupled with loan moratorium and asset classification freezes - helped them to stay resilient during these tough times. Measures taken by central banks and national governments such as reducing policy rates; capital, liquidity and regulatory relaxations; asset purchases; forex swaps; and government guarantees, among others, played a crucial role in preventing heavy sell-offs and protecting bank balance sheets. This collective endeavour resulted in stabilisation of the financial sector and provided necessary liquidity support to maintain the flow of credit in the economy. The rapid progress in vaccine has upgraded the global outlook although we are not out of the woods yet as fresh waves of newer variants of the virus bring in fresh concerns. While the global economy continues to reel under the impact of this unprecedented shock, the near-term financial stability risks have been contained on account of coordinated interventions of central banks across the globe.

The present pandemic underlines the imperative of strong capital buffers in the banking system. While the capital reforms undertaken post GFC did provide space to cushion the immediate impact of the current pandemic, banks would need to shore up their capital position, both to absorb some of the slippages as well as to sustain credit flow, especially when monetary and fiscal measures unwind. While part of the global regulatory reform agenda is still under implementation, the pandemic provides an opportunity to test and evaluate the efficacy of various reform measures. The learnings from the crisis could throw up new focus areas to be addressed in the design of the international regulatory architecture for banks and other financial sector entities.

Indian Context

In the Indian context, maintaining the health of the banking sector remains a policy priority. As I have stressed on several earlier occasions, the strength of a banking system depends on building its capital base while at the same time focusing on corporate

* Address by Shri Shaktikanta Das, Governor, Reserve Bank of India - Thursday, March 25, 2021 - at the Times Network India Economic Conclave 2021 in New Delhi

governance and ethics-driven compliance culture. Banks and NBFCs need to enhance their skillset to identify risks early, measure them, mitigate the risk proactively and build up adequate provisioning buffers to absorb potential losses. They should also augment their internal stress testing framework with severe but plausible stress scenarios. Upgradation of IT infrastructure and improving customer services together with cybersecurity measures are other key issues which also need attention.

On our part, we have reorganized RBI's supervision of banks, non-banking financial companies (NBFCs) and urban co-operative banks (UCBs) under one umbrella and initiated a series of measures to strengthen supervisory oversight on these entities. Our focus is more on early identification of risks, putting in place a structured early supervisory intervention framework and increasing the focus on root causes of vulnerabilities than on symptoms. We are also harmonising the supervisory rigour across banks and NBFCs.

The Reserve Bank has also been taking steps to provide all round support to improve the resilience of these sectors. Apart from liquidity support through targeted long-term repos (TLTRO) and special liquidity support windows, other measures included priority sector classification benefit to banks' lending to NBFCs for on-lending to priority sector, promoting co-lending model, harmonisation of exposure limits for banks' exposure to NBFCs under the large exposure framework, synchronisation of risk weights for exposures of banks to rated NBFCs with those of corporates, and relaxations for minimum holding period for securitisation and assignment. We have also strengthened the liquidity risk management framework with the introduction of granular maturity buckets and glide path for introduction of liquidity coverage ratio (LCR) for NBFCs. To augment risk management practices, a functionally independent Chief Risk Officer (CRO) with clearly specified roles and responsibilities was mandated for large NBFCs. The guidelines for Core Investment Companies (CICs) were revised in August 2020 with a view to address complexity and multiple leveraging, strengthen risk management and corporate governance practices, and induce transparency through disclosures. The revised regulatory framework for Housing Finance Companies (HFCs), issued in October 2020, aimed at harmonising the regulations between HFCs and NBFCs in a non-disruptive manner. Further, keeping in view the increasing significance of NBFCs in the financial system, we are in the process of finalising the guidelines on their dividend distribution and scale based regulation.

The UCBs are registered as cooperative societies and have been under the dual regulation of the Reserve Bank and the Central/State Registrar of Cooperative Societies (RCS). The recent amendments to the Banking Regulation Act, 1949 (as applicable to Cooperative Societies) has brought the functions of governance, capital, audit and amalgamation of co-operative banks under the regulatory domain of the Reserve Bank. In the recent period, we have been taking measures to improve their governance structure, implement system-based asset classification norms, bring them into the CRILC[1] reporting infrastructure and under the supervisory action framework (SAF). Last month, we have set up an expert committee to examine these issues and provide a road map for strengthening the UCB sector.

Banking sector: Way Ahead

The Reserve Bank is striving towards a more competitive, efficient and heterogeneous banking structure. The licensing policies for universal banks, small finance banks (SFBs) and payments banks are a step in this direction. Presently, ten SFBs and six payments banks are operational.

[1] Central Repository of Information on Large Credits.

I foresee four distinct sets of banking landscapes emerging in the current decade. The first set will be dominated by a few large Indian banks with domestic and international presence. Second, there will be several mid-sized banks with economy-wide presence. The third set would encompass smaller private sector banks, SFBs, regional rural banks and co-operative banks, which may specifically cater to the credit requirements of small borrowers. The fourth segment would consist of digital players who may act as service providers directly to customers or through banks as their agents or associates. In fact, digital players would increasingly emerge as critical pieces across all segments.

Let me now dwell upon the interplay and synergies that could be exploited by these four segments while they compete with each other to move up the ladder. Each of these segments needs to comprehend the future needs of the society and respond to the growth in the Indian financial sector. IT systems need to be developed to handle the exponential surge in the number of transactions. The example of Unified Payments Interface (UPI) which took three years' (2017-2019) to register a monthly count of 1 billion transactions, but doubled to 2 billion a month in a short span of another year clearly stands out. This demonstrates the need for scalability of systems and platforms in such a way that it can be easily scaled up, not 'incremental scalability, but 'exponential scalability'.

India is on the way to becoming Asia's top financial technology (FinTech) hub with 87 per cent FinTech adoption rate as against the global average of 64 per cent. The FinTech market in India was valued at ₹1.9 trillion in 2019[2] and is expected to reach ₹6.2 trillion by 2025 across diversified fields like digital payments, digital lending, peer to peer (P2P) lending, crowd funding, block chain technology, distributed ledgers technology, big data, RegTech and SupTech, to name a few. In a world where the FinTech companies are leading in terms of the volume of digital transactions and playing a more active role in the banking and finance industry, it is important that the commercial banks adapt to the technological changes and work in tandem with these entities so that in future they are part of the ecosystem rather than competing with Fintech companies for business. A meaningful collaboration and co-existence in providing affordable and efficient value-added services would help both the worlds.

From the regulatory perspective, it is RBI's priority to foster effective regulations with continuous knowledge acquisition so that we stay ahead of the curve. The Reserve Bank's endeavour is to ensure that the regulations do not constrain innovation; rather they should encourage and nurture innovation, without compromising the need for financial sector stability, cybersecurity, customer protection, etc. Optimality in regulation and supervision is the key. With this objective in mind, we have recently constituted a working group on digital lending, including lending through online platforms and mobile apps. Overall, an orderly growth of Fintechs will benefit all the stakeholders in the financial sector.

Financial Sector and Payment System – Lifeline of the Economy

While we are on Fintech and technology, it would be extremely relevant to touch upon the developments in our payment systems where India has shown remarkable progress in recent years. As the adage goes "the best way to predict the future is to create it" and at the Reserve Bank, this is our unwavering approach when it comes to the future of payment systems. With our commitment to foster innovation, and provide state-of-the-art and safe experience to users, we have placed ourselves in the forefront of payment systems on a global stage. India has emerged as one of the leaders when it comes to payment systems;

[2] *https://www.researchandmarkets.com/reports/5024695/fintech-market-in-india-2020.*

perhaps akin to the recognition in the COVID vaccine front. Sustaining this position is both challenging and exciting.

The growth rate of Indian payment systems has been phenomenal, creating new records with each passing day. Digital payments volume in India increased at a compounded annual growth rate of over 55 per cent in the past five years from 5.9 billion in 2015-16 to 34.3 billion in 2019-20, almost six times in 5 years. Retail payment systems such as the UPI and Aadhaar Enabled Payment Service (AePS) have changed the entire dynamics of retail payment systems as they are being used at every nook and corner of the country. Last year when many other nations were writing cheques to provide stimulus to the people, we, in India, processed 274 crore digital transactions to provide Direct Benefit Transfer (DBT) to the people straight into their bank accounts.

24x7 and interoperability are two key aspects that are the hallmarks of our payment systems and it would continue to be so. Interoperability is sine-qua-non if the existing infrastructure has to be leveraged to its optimum use. RBI's recent initiative in setting-up a Payment Infrastructure Development Fund (PIDF) to expand the reach of digital payments infrastructure into less penetrated regions is aimed at making payments more inclusive. The emphasis of the Reserve Bank is on operationalising all our payment systems round the clock, 365 days a year and I am happy to say that with 24x7 NEFT and RTGS systems, we are among a few countries that provide the facility to transfer any amount at any point of time.

The success of UPI in India has attracted immense admiration from the international community and several countries across the globe have expressed interest in developing a system on similar lines which could provide a basis for stronger bilateral business operations and economic partnerships. The UPI system also has the potential to unfold into a cheaper and faster alternative to available means for multilateral cross-border payments as well. It would be appropriate to mention that our RTGS also has multi-currency capabilities and with 24x7 operations now, there is a scope to explore whether its foot-prints could be expanded beyond India. With the Reserve Bank at the forefront of nurturing innovation, the day is not far, when we will experience cheaper, faster and safer cross border remittances. Also, the indigenous Rupay card network has shown astounding growth across strata and has a significant market share. With Rupay having international presence, our home-grown card network could make a mark in the global financial landscape, going forward.

The Reserve Bank is intensively involved in developing an ecosystem, which would not only nurture the future technologies, but also stimulate the technological aspirations of the financial community. On these lines, to enable the growth of FinTech in India, the Reserve Bank in August 2019 entered into the elite class of select few countries which have their very own regulatory sandbox ecosystem, where any regulated or unregulated entity can come and live test their innovative products or services in a controlled environment. This is a collaboration between the regulator, the innovators, the financial service providers and the end users (customers) which would ensure that Indian consumers continue to receive the best in class financial services. The responses to the 1st Cohort on "Retail Payments" and the 2nd Cohort on "Cross Border Payments" were encouraging. Additionally, the Reserve Bank has also created our own Innovation Hub (RBIH). This hub will collaborate with financial sector institutions, technology industry and academic institutions for exchange of ideas and development of prototypes related to financial innovations. The Bank for International Settlements (BIS) and several central banks have also set up such hubs to stay ahead of the curve in technology absorption.

While doing all these, we need to be watchful of the risks associated with certain technological innovations. That being said, while we are working on introducing a digital version of the fiat currency, the Reserve Bank is also assessing the financial stability implications of introducing such a Central Bank Digital Currency (CBDC). As the underlying technology is still developing, we are exploring ways for a clear, safe and legally certain settlement finality, which is most crucial for a secure and efficient payment system. It also needs to be appreciated that there are not many practical instances of operationalisation of CBDC across the world; this calls for utmost precaution so that we can produce a safe and robust model.

Enhancing cyber resilience is another important aspect when it comes to digital innovations. As we are expanding our operating hours and allowing for increased access and increased interoperability, there are persisting threats of cyber-attacks to our systems. Experience shows that even the most efficient and protected systems can get compromised which could expose stakeholders to disproportionate risks. The Reserve Bank is constantly creating awareness of such incidents and encouraging banks and non-banks to establish and maintain capabilities to avert such attacks. One must also know how to ring-fence such attacks when they occur and swiftly repair and restore the systems to normalcy. Cyber crisis proofing of systems by undertaking periodic tests as well as drills is essential.

With increased digitisation and development of FinTech, the traditional ways of credit evaluation are expected to be replaced by new-age credit evaluation methods that focus on a slew of non-financial and reliable transactional data. Many FinTech firms have already adopted such an approach but it is expected that in times to come, this may become more mainstream than remaining a niche. This will further facilitate the cause of financial inclusion. At the same time, however, it throws up a host of new challenges in terms of concerns of data privacy, consent, and security. Ethical behaviour of stakeholders in the payments value chain is important to surmount these concerns. Ability of financial sector entities to respond to these challenges may become a key factor in the determination of their competitive advantage.

Concluding observations

In the dynamic world of financial services, and more so after the pandemic, FinTech is expected to challenge the financial sector with innovations and its exponential growth. Harnessing FinTech for customer services will effectively control costs and expand the banking and non-banking businesses. The increased use of digital payments brought about by COVID-19 could fuel a rise in digital lending in the current decade as companies accumulate consumer data and enhance credit analytics. This in turn presents new and complex trade-offs between financial stability, competition and data protection; thereby, warranting new regulatory frameworks and novel ways of monitoring. It is imperative for the financial sector regulators to monitor global developments and formulate policy responses to the risks and the opportunities.

Going forward, banks need to address the financing needs of new sunrise sectors without undermining the traditional sectors of the economy. This conclave gives us an opportunity to look back on what has been accomplished and deliberate on what still needs to be done. I wish to reiterate that we at the Reserve Bank are fully committed to use all our policy tools to secure a robust recovery of the economy from the debilitating effects of the pandemic. The Reserve Bank remains devoted to build an enabling environment to develop the financial sector and create necessary preconditions for growth while preserving financial stability.

ARTICLES

State of the Economy

ARCs in India: A Study of their Business Operations and Role in NPA Resolution

The Relationship between Capacity Utilisation and Inflation: A Study of Indian Manufacturing Sector

Retail Payment Habits in India - Evidence from a Pilot Survey

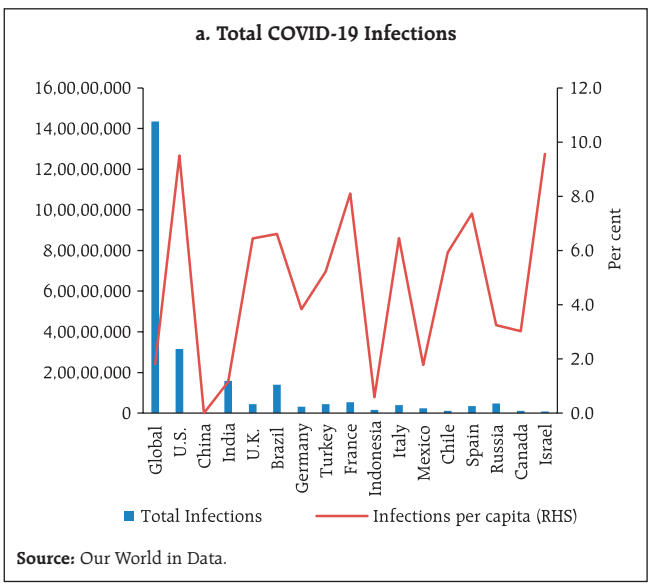
*State of the Economy**

As India battles the ferocious rise of new infections, a strong policy response is building. Economic activity in India is holding up against COVID-19's renewed onslaught. Apart from contact-intensive sectors, activity indicators largely remained resilient in March and grew beyond pre-pandemic levels. The resurgence in COVID-19, if not contained in time, risks protracted restrictions and disruptions in supply chains with consequent inflationary pressures. Pandemic protocols, speedier vaccination, ramping up hospital and ancillary capacity, and remaining resolutely focused on a post pandemic future of strong and sustainable growth with macroeconomic and financial stability is the way forward.

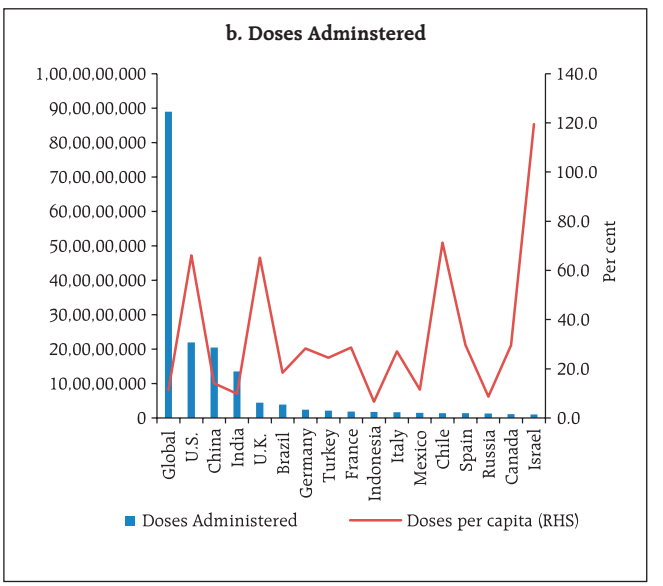
In the fourth month of the Year of the Recovery (2021)[1], humanity's future hangs on a pendulum, oscillating between hope – vaccination – and despair – vaccine nationalism; and vaccine hesitancy. On the side of hope, there is a glacial and unequal pace – with 890 million doses administered as on April 21, 2021, only 11.3 per cent of the global population has been vaccinated (Chart 1a and 1b). If global herd immunity requires two doses of vaccine for 75 per cent of the world's 6 billion adults, 9 billion doses have to be delivered of which 970 million have been supplied so far[2]. On April 1, India extended vaccination coverage to all citizens above 45 years of age and 18 years and above on May 1; still, the 300 million target by end-August will require an average of 3.5 million shots per day, about 13 per cent higher than the current pace.

Meanwhile, the virus morphs and mutates, deadlier and faster with every new strain (Chart 2). Alarmed by rising daily caseloads and the frantic need

Chart 1: COVID-19 Cases and Vaccinations



Source: Our World in Data.

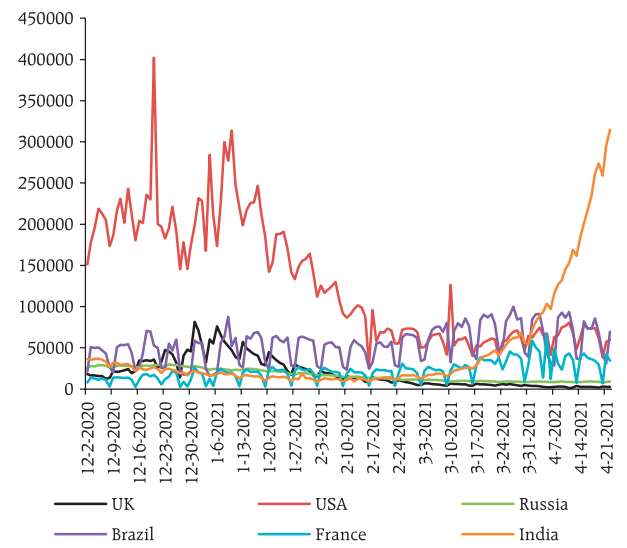


* This article has been prepared by Michael Debabrata Patra, Kunal Priyadarshi, Shashidhar M. Lokare, Dhirendra Gajbhiye, Krishna Mohan Kushawaha, Shahbaaz Khan, Abhinandan Borad, Jitendra Sokal, Manu Sharma, Barkha Gupta, Shobhit Goel, Ipsita Padhi, Rachit Solanki, Priyanka Sachdeva, Rishabh Kumar, Satyarth Singh, Rajas Saroy, Asish Thomas George, Deba Prasad Rath, Praggya Das and Samir Ranjan Behera. Views expressed in this article are those of the authors and do not necessarily represent the views of the Reserve Bank of India.

1 Coined by Christine Lagarde, President, European Central Bank in her speech at the European Parliament, March 18, 2021.

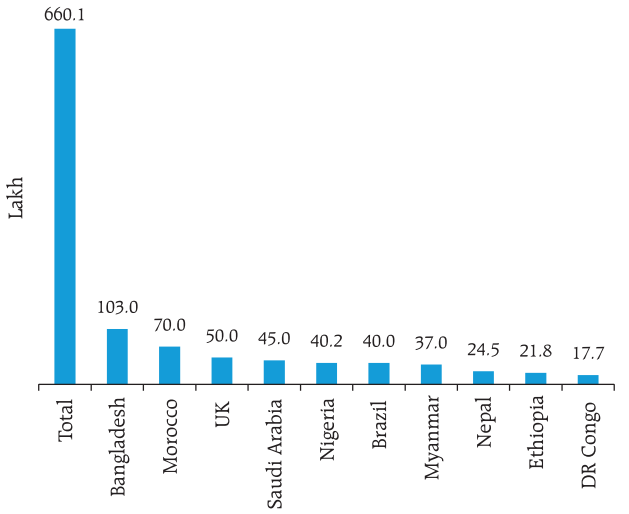
2 Martin Wolf in The Financial Times, March 23, 2021.

Chart 2: Daily New COVID-19 Cases



Source: Our World in Data.

Chart 3: COVID-19 Vaccine Doses Export from India (Top 10 Countries)

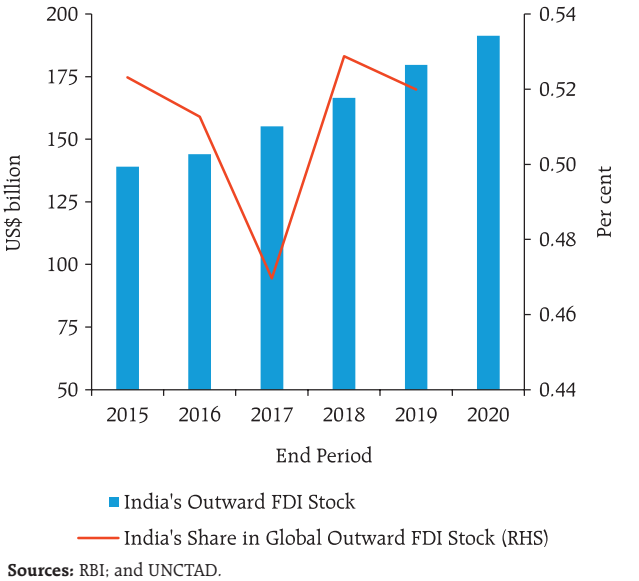


Source: Ministry of External Affairs, Government of India.

to vaccinate nationally, export restrictions have begun, alongside propaganda. In fear, several countries have suspended inoculation rollouts and vaccine scepticism is rife, compounding what was already a highly unequal distribution, and undermining confidence in a shared COVID-free future. We must cooperate and immunise all of us. The pandemic will not be over until it is over everywhere. India, with 60 per cent of global vaccine manufacturing capacity, the third highest number of doses administered domestically, and exports to 95 countries, can show the way (Chart 3).

India is showing the way, as pointed out recently, in investing overseas. The stock of outward investment from India is small, just US$ 180 billion at end 2019, 0.5 per cent of global stock of foreign direct investment (FDI) (Chart 4). While global stock of outward FDI for end 2020 is unavailable, India's outward FDI surged to US$ 191 billion by then. The Indian way shows that in foreign direct investment, it is never how much but how. India's image is strengthened by its FDI being favourably perceived by the world relative to peers, not as a geopolitical scheme or hegemonic ambition (The Economist, April 17, 2021). A key difference lies in the fact that Indian investments are led by the private sector, which undertakes these ventures purely for commercial reasons, unlike state-controlled enterprises where business and political intentions inevitably get intertwined. On top of this, India's large diaspora in these countries also adds positively to the image of India Inc.

Chart 4: India's Outward FDI Stock



Sources: RBI; and UNCTAD.

Four markers watched stormy March[3] give way to April's spirit of youth[4] that will keep hopes alive despite rising infections. First of all, the Central Government in exercise of the powers conferred by section 45ZA of the Reserve Bank of India Act, 1934 notified the inflation target for the period beginning from the first day of April, 2021 and ending on the March 31, 2026 in the Gazette of India as 4 per cent CPI headline inflation with an upper tolerance level of 6 per cent and a lower tolerance level of 2 per cent (Exhibit 1). By preferring continuity and consistency, the Government has 'bailed in' the gains in terms of a decline in inflation volatility and more credible anchoring of inflation expectations that has contributed to the macroeconomic stability and credibility it has earned since it instituted this monetary policy framework in 2016, including multilateral endorsement (Bauer, 2018).

The monetary policy framework is a shining example of monetary-fiscal coordination in which the Government sets the target and the Reserve Bank achieves it. In that sense, the inflation target of 4 per cent becomes a joint responsibility. It is a flexible framework with tolerance bands and a dynamic accountability requirement that abjures 'cold turkey' and disruptive losses of output. With inflation aligned with the target over the period 2016-17 to 2019-20 (excluding the period of the COVID-19, which saw severely distorted macroeconomic outcomes) and remaining below the emerging market and developing economies' (EMDEs') average, India engages with the global economy with the confidence of price stability. The novelty is forward-looking behaviour, which enhances policy credibility and room for manoeuvre. Does the focus on inflation targeting mean a neglect of other objectives such as growth

Exhibit 1: Gazette of India Notification

MINISTRY OF FINANCE

(Department of Economic Affairs)

NOTIFICATION

New Delhi, the 31st March, 2021

S.O. 1422(E).—In exercise of the powers conferred by section 45ZA of the Reserve Bank of India Act, 1934 (2 of 1934), the Central Government, in consultation with the Bank, hereby notifies the inflation target for the period beginning from the first day of April, 2021 and ending on the March 31, 2026, as under:

Inflation Target	:	Four per cent.
Upper tolerance level	:	Six per cent.
Lower tolerance level	:	Two per cent.

[F. No. e-12/1/2020-FSRL]

Dr. SHASHANK SAKSENA, Senior Economic Adviser

Source: Ministry of Finance, Government of India.

[3] William Cullen Bryant in *The Twenty Seventh of March*, 1855.

[4] William Shakespeare in sonnet XCVIII (1609).

and financial stability? When inflation goes beyond the comfort zone, the exclusive concern of monetary policy must be to bring it back to the target. When inflation is within the comfort zone, authorities can look to other objectives – the objective of control of inflation is not independent of the objective of growth, and this is enshrined in the amended RBI Act[5].

Globally, monetary policy has entered a twilight zone and until clarity emerges on the shape of the future, it is important to entrench India's nominal anchor at 4 per cent CPI headline inflation so that it can continue to perform its stabilising role. Threshold estimates work out to 6 per cent, beyond which tolerance of inflation can be harmful to growth and hence, the case for the current tolerance band of +/-2 per cent rests. The Government's decision has been well received by the media, which has welcomed inflation targeting remaining the centrepiece of the monetary policy framework and sees it as a signal that the fiscal and monetary authorities are in lockstep in ensuring the primacy of price stability as the bedrock for all macroeconomic development[6].

Second, the RBI turned the page on an eight decades old tradition of reckoning its accounting year from July to June and on April 7, it released its first monetary policy statement for its new accounting year April-March 2021-22. Every monetary policy is different, but this one was unique. Complementing the decision of the monetary policy committee (MPC) to keep the policy rate unchanged and persevere with its stance maintaining it low for longer, Governor Shri Shaktikanta Das unleashed the *Brahmastra* and the RBI stepped off into hitherto uncharted terrain. Named G-SAP, it commits the RBI upfront for the first time to the acquisition of a specified amount of government securities in a specified period of time. It is different from open market operations in that the RBI cedes discretion in the interest of supporting the market; it delivers on the RBI's promise of sustaining comfortable liquidity conditions in a flexible, state-contingent manner regardless of market movements; it helps market participants plan their engagement with the borrowing programme better. It is not monetisation of the budget deficit as it involves only secondary market operations. There are risks of asset bubbles, currency depreciation and capital flight associated with it, but the balance of risks lies in favour of G-SAP 1.0 engendering congenial prospects for financial conditions and paving the way for a durable economic recovery. It involved a testing judgment call; now, the die is cast. And it is named G-SAP[7] 1.0 with a purpose – it's just a begining![8]

It should bring about an ebbing of bond market tempests, especially the unwinding of trade positions caught offside and out of line with fundamentals (Chart 5). Policy makers know from painful experience that it is perilous to withdraw stimulus too soon; that inflation is less sensitive to demand pressures than once feared; that central banks will lean towards growth in pandemic times, knowing that inflation is still only catching up. But when markets cannot keep the faith and take the inverse bet - that monetary policy cannot stay loose for long – they are frontrunning the economy. By anticipating monetary policy tightening, markets may bring it about sooner than it is right. The most challenging moment can be as the recovery sets in - the hours before the dawn can be the darkest. Adam Smith saw markets as "living institutions, embedded in the culture, practice, traditions and trust of their day"[9]. With all central banks so heavily invested in the recovery, it is worthwhile for markets

5 Rangarajan, C. (2020), "The New Monetary Policy Framework: What it Means", Journal of Quantitative Economics, Springer, The Indian Econometric Society (TIES), Vol. 18(2), June.

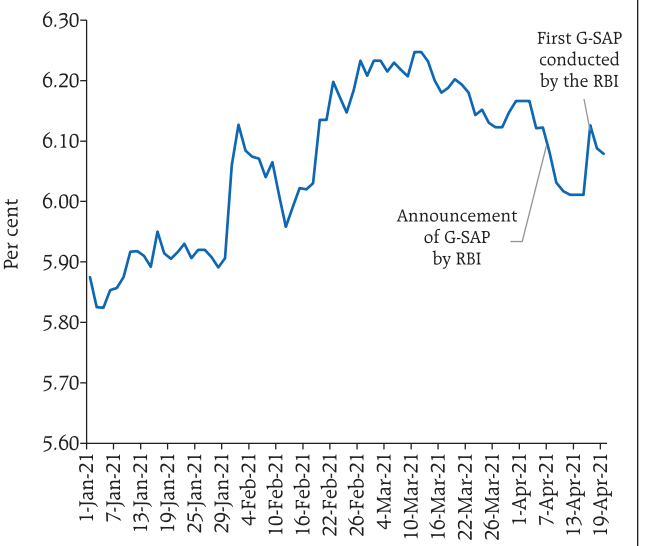
6 The Hindu, April 3, 2021.

7 In a lighter vein, market participants have coined the term Jee-ZAP implying that Governor Shri Shaktikanta Das zapped the market.

8 Governor's Statement, April 7, 2021. "For Q1 of 2021-22, therefore, it has been decided to announce a G-SAP of ₹1 lakh crore. The first purchase of government securities for an aggregate amount of ₹25,000 crore under G-SAP 1.0 was conducted on April 15, 2021".

9 Smith, A. (1759). *The theory of moral sentiments.*

Chart 5: 10-year G-sec Yield



Source: Bloomberg.

to pay heed to central bank speak. As Christine Lagarde, President of the European Central Bank, recently pointed out: "While we believe 2021 will be the year of the recovery, we don't see it happening until the second half of 2021, and any yield increase that could act as a bit of a brake is undesirable."[10] With economic activity still reeling from the historic magnitude of the COVID-19 shock, rising borrowing costs will pivot the narrative from the speed of a post-pandemic recovery to its sustainability. Governments will target sustainable growth now and backstop entire sectors of the economy that have undergone long-term scarring through the pandemic even at the cost of running high debts and deficits. Central banks have provided the indispensable channel for this *via* purchases of government debt in a historic symbiosis of fiscal and monetary policy.

Third, the April 12 release of the reading on consumer prices for March 2021 showed retail inflation edging up to 5.5 per cent but still within the tolerance band. This has an important bearing on the setting of monetary policy. The pandemic caused elevation in inflationary pressures stemming from input and intermediate cost increases and widening margins that essentially reflect supply disruptions rather than release of pent-up demand. CPI data for April-June 2020 were regarded by the MPC as a break in the series since price relatives could not be collected and had to be imputed. Since then, there were two consecutive quarters during which inflation breached the tolerance band. In Q4 (January-March 2021) - the crucial third quarter in succession that could have triggered the accountability clause – the outcome breaks that morbid spiral: inflation has averaged 4.9 per cent during the quarter. This releases monetary policy from the 'failure to maintain the inflation target[11]' clause enshrined in Section 45ZN of the RBI Act. In the event of a failure, the Reserve Bank has to set out in a report to the Central Government

(*a*) the reasons for failure to achieve the inflation target;

(*b*) remedial actions proposed to be taken by the Bank; and

(*c*) an estimate of the time-period within which the inflation target shall be achieved pursuant to timely implementation of proposed remedial actions.

Remedial actions to return inflation to target over a specified period during the time of the pandemic would surely have taken a deleterious toll on the formative and hesitant recovery. Notably and justifiably, the monetary policy framework has no escape clause!

Fourth, on March 31, a vital statistic quietly slipped its moorings and slid into the public domain, largely

[10] Speech at the European Parliament, March 18, 2021.

[11] On 27th June, 2016 the Central Government notified the following as factors that constitute failure to achieve the inflation target, namely:—(a) the average inflation is more than the upper tolerance level of the inflation target notified under section 45ZA of the said Act for any three consecutive quarters; or (b) the average inflation is less than the lower tolerance level of the inflation target notified under section 45ZA of the said Act for any three consecutive quarters.

unnoticed, but carrying considerable macroeconomic significance. India's current account balance, which had been recording surpluses from January 2020 through September, flipped and turned into a slender deficit of 0.2 per cent of GDP in Q3:2020-21 (Chart 6a). More recently available data on merchandise trade suggest that the deficit may widen modestly in Q4 of 2020-21 (January-March). The balance of payments has an introspective character in the national accounts – it holds up a mirror to the rest of the economy. The excesses or shortfalls of other sectors of the economy show up in these external accounts. It is in this context that the shift in the current account into a deficit after three quarters of surplus acquires meaning. Breaking down the national accounts identity reveals that the current account balance is the mirror image of the saving investment balance (Chart 6b). Accordingly, the current account deficit indicates that after a long hiatus, the investment rate could be finally coming to life, having exceeded the domestic saving rate as it should for an economy that is growing and not only using up all domestic resources but also supplementing them with inflows of foreign resources. The uptick in investment is also corroborated by the National Statistical Office's (NSO) estimates for Q3:2020-21 of gross fixed capital formation (GFCF), which have turned up into positive territory after being in contraction for two consecutive quarters. The share of GFCF in aggregate GDP inched up to a six-quarter high at 33.0 per cent in Q3:2020-21. Within saving too, there is a compositional shift underway among institutional sectors, reflecting the normalisation of economic activity. Preliminary estimates indicate that household financial saving plateaued to 8.1 per cent in Q3:2020-21 from a high of 21.4 per cent in Q1 as precautionary saving in response to the pandemic is being unwound. At the same time, a surge in retained earnings is boosting saving by the non-financial corporate sector, which registered a sharp increase in Q3. At this juncture, therefore, the Indian economy is at a cusp and a virtuous combination of public and private animal spirits can ignite a shift towards investment that is supported by the normalisation of panic saving by households and build-up of saving by businesses.

Amidst the rites of passage from March to April, the pandemic cleared the mind and focused attention on the quality of growth. As a result of the pandemic's

Chart 6: Current Account Balance

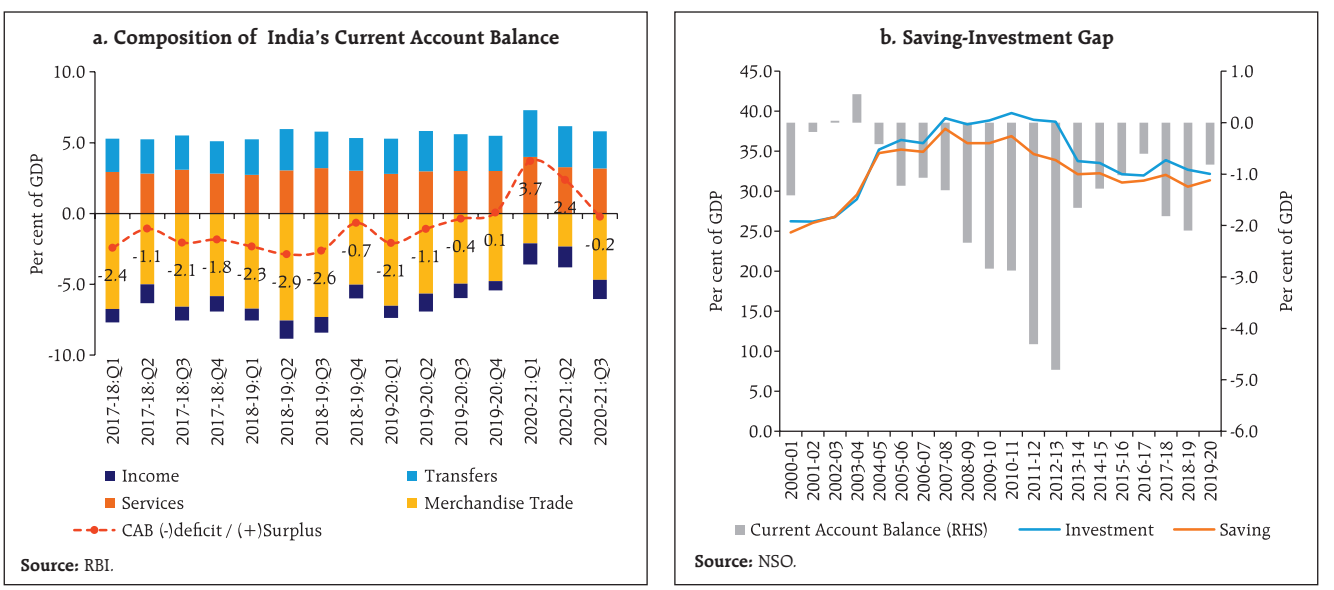
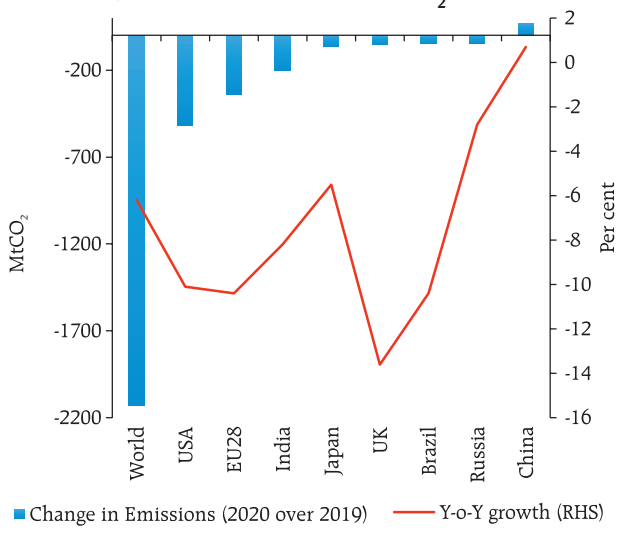
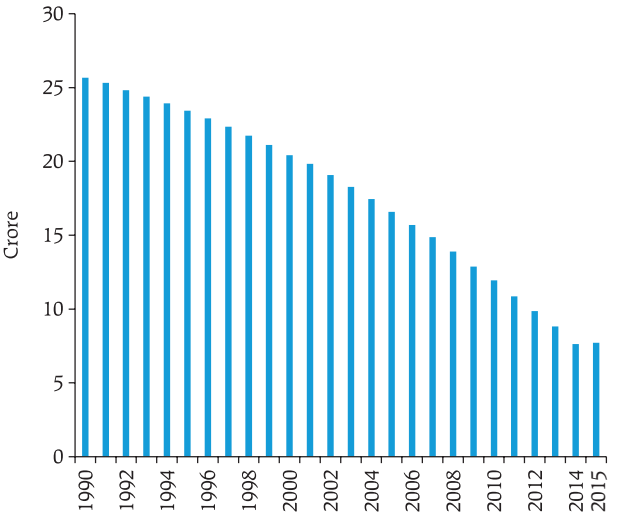


Chart 7: Annual Variation in CO_2 Emissions



Note: EU28 includes EU27 and UK.
Source: Carbon Monitor.

Chart 8: Population Without Access to Improved Water Source in India



Source: Our World in Data.

impact on economic and social activity worldwide, global carbon dioxide emissions fell by more than 2 billion tonnes in 2020 — roughly double of Japan's yearly emissions, after rising steadily for decades (Chart 7). The United States accounted for nearly a quarter of this reduction, with a drop in emissions by more than 600 million tonnes. India followed, with a reduction of around 200 million tonnes[12]. India's CO_2 emissions reduction in 2019-20 was the first year-on-year fall in four decades[13].

With heightened levels of the risk of the earth warming beyond a critical threshold, three elements will define the way we live, going forward: fresh water resources; green energy; and clean air. Water is precious; it touches every aspect of sustainable development. Managing water means access to drinking water, sanitation, hygiene, wastewater, environment and health – sustainable developmental goal number 6 (Chart 8). Commemorating World Water Day on March 22, India launched 'Catch the Rain Where it Falls, When it Falls'[14] emphasising the importance of water harvesting. Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) offers a way - rainwater harvesting pits; de-silting check dams and lakes; repairing tank bunds; rejuvenating storm water drains using Google Earth; constructing soak pits and *krishi hondas* in farms; constructing tanks for livestock; creating new tanks; and recharging borewells – with upward revisions in daily pay for these activities. It is sobering to note that of the mean annual precipitation India receives, more than 70 per cent is lost by way of evaporation and other factors. 75 percent of households in India lack access to drinking water on their premises. India stands at 120 out of 122 countries in the water quality index[15]. Fresh drinking water is within our reach, but we must make every drop count[16]. In this context, the *Jal Jeevan* Mission launched on August 15, 2019 with the goal of *"Har Ghar Jal"* could prove to be the gamechanger.

Using clean, renewable energy is going to be the most important action to reduce environmental degradation. Electricity production is the biggest

[12] Nature Journal, 15 January 2021.

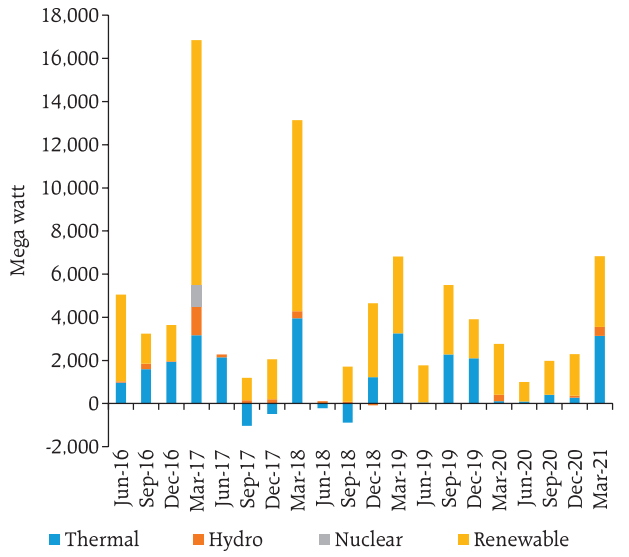
[13] Carbon Brief, 12 May 2020.

[14] Jal Shakti Abhiyaan.

[15] Composite Water Management Index, Niti Aayog, June 2018.

[16] Column by Professor Ashok Gulati in the Indian Express, March 29, 2021, which suggests several technological solutions backed by the right incentives.

Chart 9: Capacity Addition Fuel-wise by Utilities



Source: CMIE.

source of greenhouse gases. Renewable energy generation is, therefore, key to a world with a clean and sustainable energy future (Chart 9). India's efforts to expand the access of its population to green energy has been drawing international acclaim. On April 6, the US Presidential Envoy for climate, Mr. John Kerry, in his keynote address at the annual leadership summit of South Asia Women in Energy, referred to India as a "red hot investment opportunity because of its clean energy transition"[17]. As the deadline of December 2022 for achieving 175 gigawatt (GW) of renewable energy (RE) capacity draws closer, India faces a formidable task with an installed capacity of only 93 GW as of March 2021. Since the launch of the National Solar Mission plan in 2010, 39 GW of solar energy capacity has been installed, as against the target of 100 GW. The wind segment saw an addition of 37.7 GW in the last decade, as against the targeted capacity of 60 GW. Rooftop solar has seen the slowest growth, with capacity addition standing at a meagre 4.4 GW as of March 2021. Merely 430 megawatts (MW) of rooftop installations materialised in 2020, as against the year's target of 3,000 MW. The production-linked incentive scheme for high efficiency solar photovoltaic modules approved by the Cabinet on April 7 is expected to add 10,000 MW of integrated solar PV manufacturing capacity. If India has to meet expectations of being the largest contributor to the renewables upswing in 2021, with additions to capacity doubling from 2020, it needs to raise its act to a whole new level.

On April 5, the India Meteorological Department (IMD) declared the all India average monthly maximum temperature during March 2021 at 32.65 degrees Celsius as the warmest in the last 11 years, and the third warmest in the last 121 years. The economics of climate change in terms of the debilitating effects of global warming on economic activity have been recognised since the time of Alfred Marshall[18]. The emission of greenhouse gases[19] has the effect of trapping the heat in the atmosphere, stoking floods, droughts, and more. Reducing the emission of greenhouse gases could prevent up to 3 million premature deaths annually by the year 2100[20]. Reducing carbon emissions, replacing fossil fuels with cleaner alternatives, and improving energy efficiency is the way to go in this regard. Although India is now the planet's third-largest emitter of carbon dioxide, in per capita terms, India's emissions are ranked 140th in the world (the United States is 14th and China is 48th). In its third biennial update report (BUR-III) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) on February 20, India declared that the country's emission intensity (per unit of GDP) has reduced by

[17] *https://sawie.org/past-events/south-asia-women-in-energy-sawie-leadership-summit/*

[18] As adapted from Marshall, A. (1890). Principles of Economics - "Man being active, is the central force behind all activities relating to production and consumption, but nature plays a significant role as he is moulded by his surroundings and environment".

[19] Main greenhouse gases include carbon dioxide, methane, nitrous oxide, and fluorinated gases.

[20] Co-benefits of mitigating global greenhouse gas emissions for future air quality and human health, Nature Climate Change Journal, September 2013.

24 per cent between 2005 and 2016, and therefore, it is "on track to meet its voluntary declaration to reduce the emission intensity of GDP by 20-25 per cent from 2005 levels by 2020". Furthermore, India is focused on reaching its commitment made under nationally determined contributions (NDCs) to improve the emissions intensity of its GDP by 33 to 35 per cent by 2030 below 2005 levels. India's NDC estimates that the country will require ₹162.5 lakh crore (US$ 2.5 trillion) from 2015 to 2030, or roughly ₹11 lakh crore per year, for effective climate action. As against this requirement, Climate Policy Initiative finds that the average green finance flows amounted to ₹1.24 lakh crore per annum during 2016-18[21]. Attracting substantial green investment flows is thus key to realising the country's climate goals.

In central banks, a green revolution is underway. They grapple with the reality of climate change, which is affecting economic activity in ways that monetary authorities cannot ignore any longer, including in the context of their central remits – price and financial stability. The environment is slowly making its way into central bank mandates, as the March edition of this article pointed out. It is in this sense that the toolkit offered by the Network for Greening the Financial System (NGFS) assumes importance in guiding central banks on how to deal with climate change. The question is: should it be a passive approach of pricing climate risk or should it go beyond and tilt the allocation of capital in the economy towards decarbonisation?

Set against this backdrop, the remainder of the article is structured into five Sections. Section II captures in a nutshell the rapidly evolving developments in the global economy. The underlying impulses in the domestic economy are distilled in Section III. Section IV evaluates financial conditions, and the last Section sets out concluding observations.

[21] Landscape of Green Finance in India, Climate Policy Initiative, September 2020.

II. Global Setting

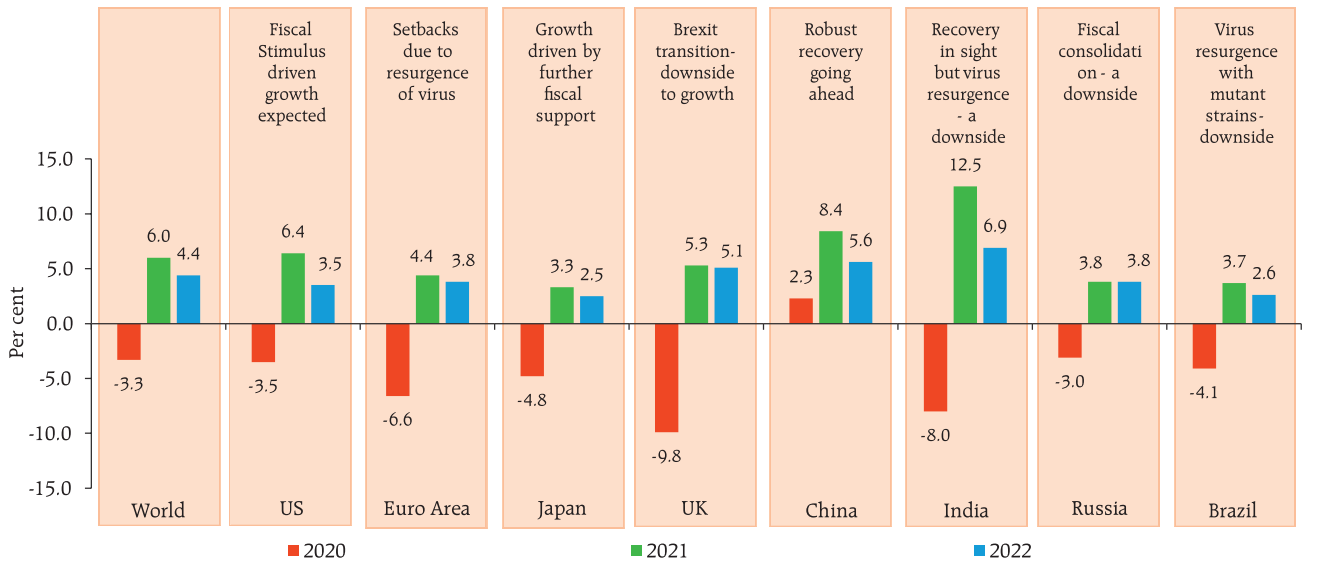
Global economic activity is besieged by the resurgence in caseloads and new mutations of the virus just as visceral effects of the slowdown in Q4:2020 were ebbing and improving prints of available high frequency indicators were suggesting that a gradual but uneven recovery might be underway in Q1:2021.

Rising vaccine rollouts, additional fiscal stimulus by a few large advanced economies (AEs), with positive spillovers expected for the rest of the world and relatively better adaptability of most countries to the recent waves of the virus, have infused optimism that the world will survive the new virulent visitations of COVID-19. Accordingly, the world economy is set to grow at its fastest pace in decades, as mirrored in the latest projections for 2021 by the International Monetary Fund (IMF) in its April 2021 release of its World Economic Outlook (WEO). Assuming broad vaccine availability in AEs and some emerging market economies (EMEs) by the summer of 2021 and in most other countries by the second half of 2022, the IMF has revised up the global growth projection for 2021 to 6.0 per cent from 5.5 per cent projected in its January update, followed by 4.4 per cent growth in 2022 (Chart 10). The strength and pace of the recovery is, however, expected to remain uneven across as well as within countries as it would largely hinge on the speed of vaccination, extent and effectiveness of policy support and country-specific structural factors.

Key measures from the IMF in its flagship publications, *viz.*, the WEO, the Global Financial Stability Report (GFSR) and the Fiscal Monitor indicate a phased approach to the pandemic.

The first phase should be geared towards breaking out of the current crisis by ensuring adequate vaccination. Fiscal policy should be targeted towards supporting affected households and firms. Monetary policy should remain accommodative, while providing clear forward guidance to the markets. It is critical to safeguard financial stability by early action targeting

Chart 10: Real GDP Growth (y-o-y) Projections



Sources: IMF; Official statistical agency of each country; and PIIE.

specific pockets of vulnerabilities through select macro-prudential tools.

In the second phase, as the pandemic recedes durably and recovery gains traction, short-time work programmes should be scaled back, supplemented with transitional income support, with an emphasis on reskilling and retraining of workforce. Non-performing assets management should be strengthened, and bankruptcy procedures expedited. Fiscal space should be rebuilt through increased revenue buoyancy, greater tax progressivity and by rationalising expenditure.

In phase three, as the health crisis ends, the focus should shift towards addressing climate change challenges, including by way of carbon pricing and building resilient, inclusive and greener economies, and on resolving the issue of debt.

With fresh rounds of fiscal stimulus by the Biden administration, the United States (US) economy is expected to surpass its pre-pandemic GDP level in 2021 itself, while most other AEs are expected to return to their pre-COVID levels not before 2022. Among EMEs, a similar divergence could be expected, with China having returned to its pre-COVID level in 2020 itself and most other economies of the group not expected to attain their end-2019 levels until well into 2023.

The American Rescue Plan (US$ 1.9 trillion), has bolstered optimism around a relatively faster global recovery, as it is expected to wipe out spare capacity in the US economy and create positive spillovers on demand and output in a number of other countries, especially its trading partners – when it rains on the priest, it drips on the parish clerk. China and India's exports to the US could be boosted by around US$ 60 billion and US$ 9 billion, respectively, in 2021-22[22].

Households across the US, the United Kingdom (UK), Japan, China and the biggest nations of the Euro area have built up excess savings during the pandemic period – consumers in the world's largest economies have saved around US$ 2.9 trillion during the pandemic period, with a significant portion in the form of liquid assets.[23] The unwinding of these savings in the current phase is expected to boost consumption demand and fuel overall growth.

[22] Financial times, March 21, 2021

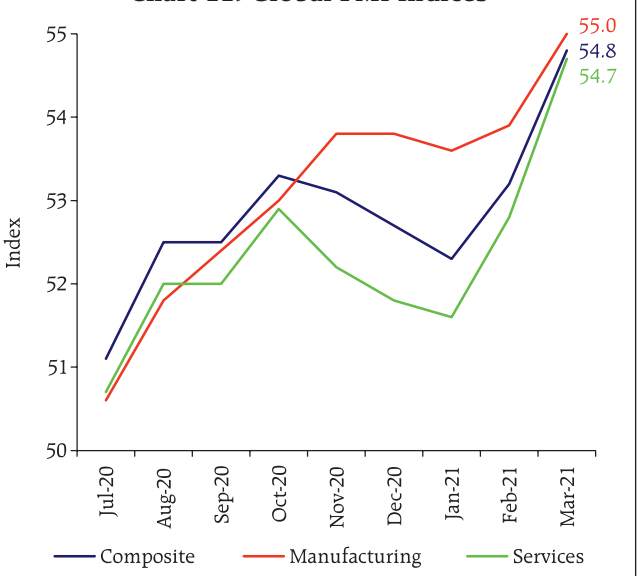
[23] Bloomberg, March 4, 2021.

Despite these early signs of stabilisation, the global economic outlook is increasingly mired in looming uncertainties, with the pace of vaccination diverging vastly across geographies. The European suspension of the vaccination programme has deepened tensions within the European Union (EU) over vaccine usage amidst delivery shortfalls. Even though the EU's vaccination rollout has picked up in recent weeks, the vaccine disparities between the rich and poor member states seem to be rising.[24] The US has invoked the Defence Production Act that grants the US President broad industrial mobilisation powers to increase vaccine production and control the export of raw material; thereby stifling shipment of raw materials for other manufacturers including India.

Among the available high frequency indicators, the global composite purchasing managers' index (PMI) for March 2021 scaled a 79-month high, marking one of the best readings in the past decade, as business activity picked up amidst robust manufacturing and reviving services sectors. The upturn was led by the US, with Germany, the UK, India and Australia following and registering expansion rates above the global average. Global manufacturing PMI increased to a ten-year high level with output, new orders and employment gaining further momentum, even as capacity pressures stemming from severely stretched supply chains pose a major headwind risk to the sector. The global services PMI too continued to improve, crossing a 33-month high level in March, with activity showing signs of revival across major AEs, barring the Euro area (Chart 11).

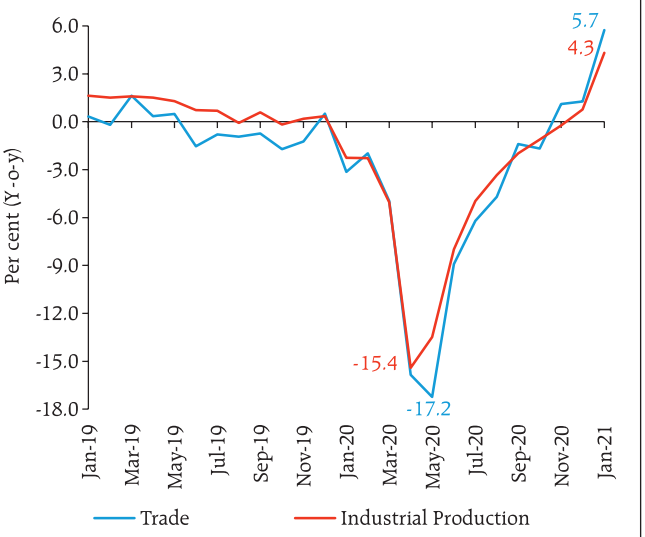
World industrial production has exhibited a marked improvement, growing by 4.3 per cent (y-o-y) in January and surpassing its pre-pandemic level. On the trade front, the latest release by the World Trade Organization (WTO) reported a 5.3 per cent decline in world merchandise trade volume in 2020, *albeit* less severe than the initial projection of a decline of 9.2 per cent. The recovery seems to have continued into 2021: the latest data release by the Central Planning Bureau (CPB) Netherlands points to a growth of 5.7 per cent in world merchandise trade in January 2021 over its level a year ago – its highest growth since October 2018 – underpinned by robust trade performance by China and developed Asia (Chart 12). For 2021, world merchandise trade is projected to grow by 8.0 per cent, followed by 4.0 per cent in 2022 (WTO).

Chart 11: Global PMI Indices



Source: IHS Markit.

Chart 12. Growth in World Industrial Production and World Trade Volume



Source: CPB Netherlands.

[24] Financial Times, April 16, 2021.

As for services trade, the latest reading of the WTO's Services Trade Barometer (104.7) reflects a turnaround in Q4:2020, although travel services registered an overall decline of 63 per cent in 2020 and is expected to stay weak till the effect of the pandemic wanes. Moreover, with the third wave of the virus striking, the tourism sector is likely to trail below pre-pandemic levels, prolonging the weakness in travel and transport services further. For Q1:2021, data available so far emit mixed signals, with financial services, container shipping and construction remaining above trend while air transport and information, computers and telecom (ICT) index showing weakness.

World trade is also hamstrung by fresh bouts of shipping hassles/delays, including the blockage of the Suez Canal by one of the largest container ship *Ever Given*, that lasted for six days and held up an estimated US$ 9.6 billion of trade per day as data from Lloyd's list suggest.[25]

In the US, the labour market continues to recover as reflected in non-farm payrolls increasing to a 7-month high at 9,16,000 in March, almost double the level recorded in February. The US economy is still about 8.4 million jobs short of the peak in February of 2020. In the UK, better than expected PMIs, business surveys and official data point to a strong uptick in activity in March. In February, the unemployment rate unexpectedly fell, and joblessness is now much lower than forecast earlier[26]. In the euro area, unemployment rate though stable, remains above the pre-pandemic level, with countries highly dependent on tourism, *viz.,* Spain and Greece recording highest rates of unemployment among their peers. Japan's unemployment rate has been hovering around 3 per cent since May 2020 – less than the level recorded during the global financial crisis, however, the sidelined workers[27] have increased by 5,00,000 to 2.44 million when compared to January 2020, with accommodation and food services industries being the hardest hit and recording most of such hidden unemployment[28]. As per the latest estimates by the IMF, the two-decade long trend of global poverty reduction seemed to have reversed with almost close to 95 million more people expected to have fallen below threshold poverty in 2020.

Crude oil prices, after rallying close to US$ 70 per barrel in mid-March following an attack on Saudi Arabia's oil facility, underwent corrections on near-term demand concerns amidst rising infections, suspension of vaccine rollouts in some parts of Europe, supply worries caused by the Organization of the Petroleum Exporting Countries (OPEC) *plus* decision to ease oil production cuts between May and July, and build up in US crude inventories. Prices pared some losses in the second week of April on upbeat economic data for China and the US, and higher demand forecasts by OPEC and International Energy Agency (IEA). At US$ 65.4 per barrel as on April 23, 2021, brent crude oil prices registered 27.8 per cent gain on year to date basis (Chart 13a). Gold prices have been easing on rising bond yields and the strengthening US dollar, registering a decline of 10.0 per cent in Q1:2021. In April so far, prices have shown some pickup as both US bond yields and the US dollar have eased, while rising inflation concerns and improving Chinese demand have added to the upside (Chart 13b). Base metal prices ruled at an elevated levels on robust industrial activity and persistent supply chain disruptions. Mounting demand worries, pullback in Chinese demand and the recent episode of the Suez Canal blockage, imparted some volatility, with most metal prices, barring aluminum, consolidating in March. In April so far, prices for most metals have edged up, supported by weak dollar and strong economic data (Chart 13c). There are increasing signs that yet another super-commodity price cycle might be building

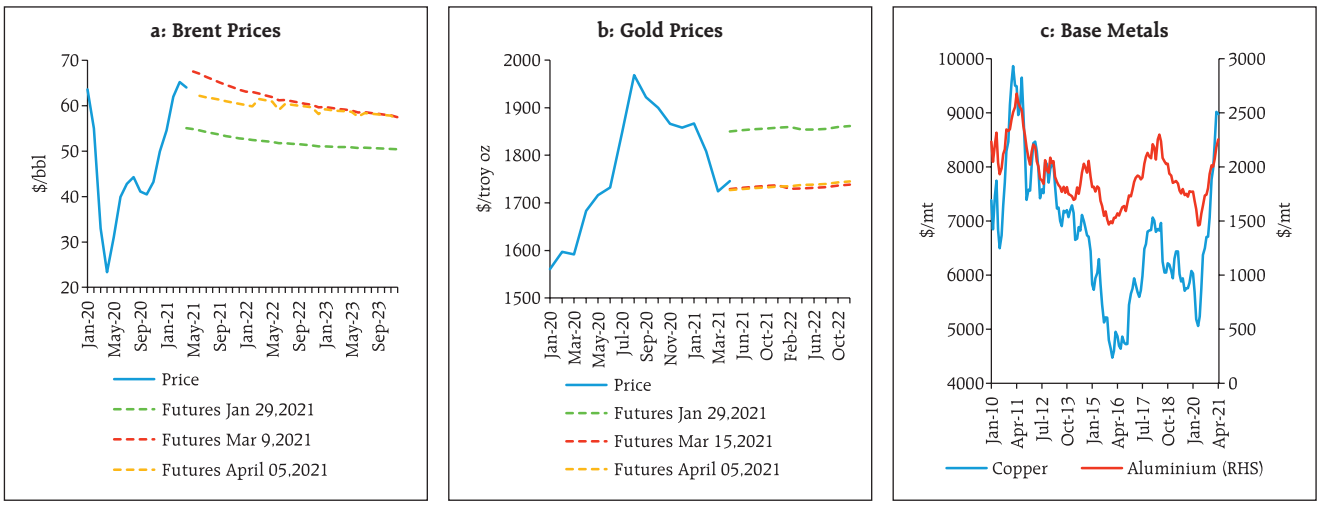
[25] *https://www.bbc.com/news/business-56559073*

[26] Financial Times, March 28, 2021

[27] Workers whose employment contract is still valid, but are not working and hence are not included in 'unemployed' category.

[28] *https://the-japan-news.com/news/article/0007210116*

Chart 13: Commodity Prices



Sources: World Bank pink sheet; and Bloomberg.

up, with several food and non-food commodity prices trading at elevated levels. Such synchronised increases in commodity prices, together with highly accommodative monetary policies and additional fiscal stimulus, have added to inflation concerns, resulting in the rise of market-based indicators of inflation expectations, *viz.*, the US 10-year break-even rate has climbed to 2.37 per cent in March - its highest level since 2013.

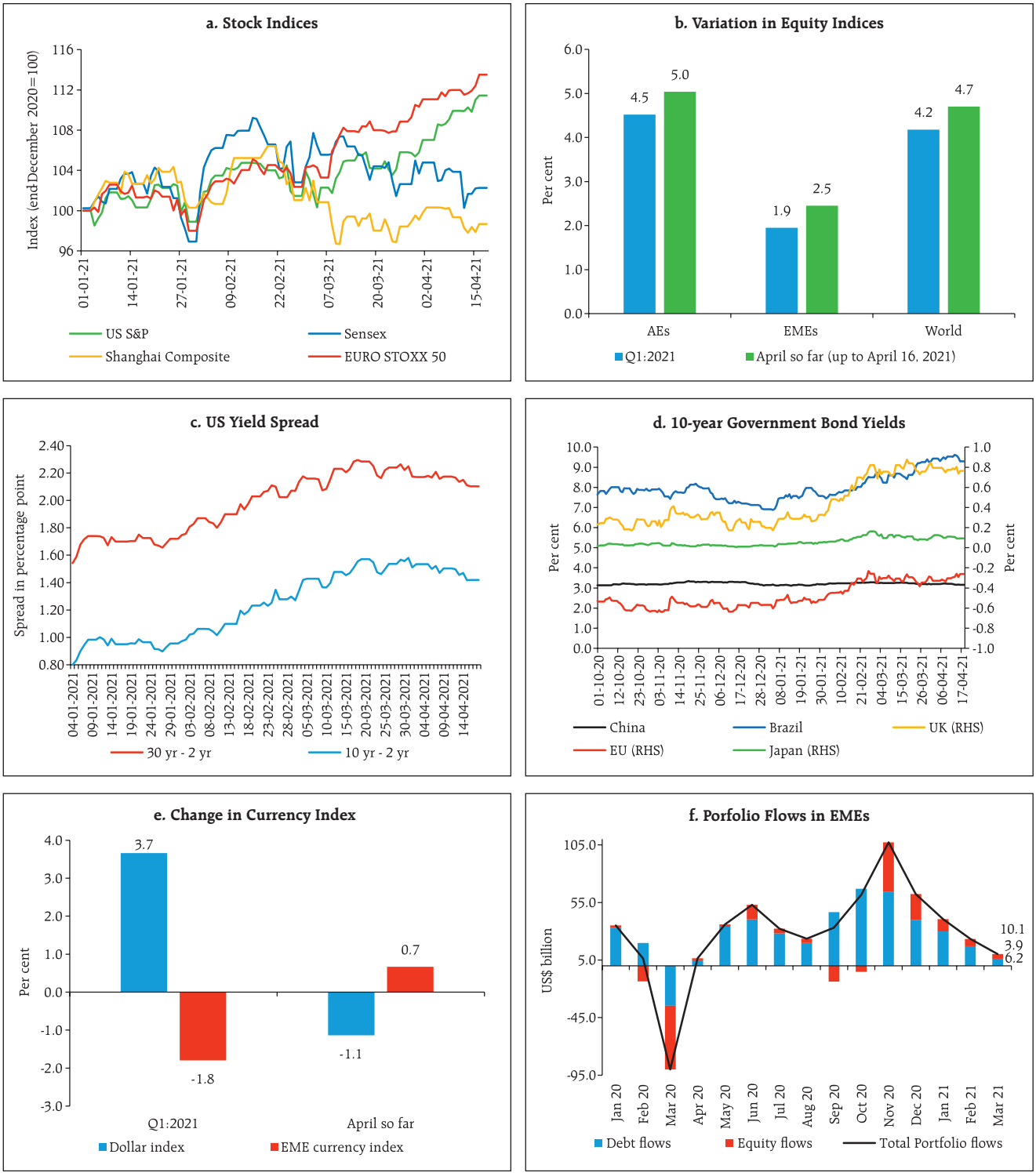
Financial markets remained buoyant, with vaccine and stimulus led recovery optimism fueling bullish sentiments. Following corrections during late February and early March, equity indices across major AEs surged, with the US S&P scaling a new peak in mid-April, spurred by improved recovery prospects in the wake of the American Rescue Plan, fast paced vaccination drive and strong data prints. Overall, the Morgan Stanley Capital International (MSCI) AE stock indices registered net gains of 4.5 per cent in Q1:2021 and 5.0 per cent gain in April so far (up to April 16, 2021). EME stock indices, on the other hand, have been shedding gains due to capital outflows since the latter part of February. In April, however, they exhibited mixed moves on country specific factors, with India's Sensex witnessing sharp sell-offs amid resurgence of COVID-19 infections. Notwithstanding the sell-off in the second half of Q1, the MSCI stock indices for EMEs ended the quarter with a net gain of 1.9 per cent, with April registering a gain of 2.5 per cent so far (Chart 14a and 14b). Global initial public offerings (IPOs) reached a record in Q1:2021, with 727 issuance raising US$202.9 billions in proceeds. Such pick up was underpinned by strong IPO activity by special purpose acquisition companies (SPAC) in the US, raising US$96.0 billion in proceeds through 298 issuances.[29]

In the bond markets, US long-term yields, after rising sharply to multi-month high level in March on high reflation trade and inflation expectations, eased in April following the Fed's indication to keep the policy rate low for long. Strong demand from Japanese investors and certain technical factors also added to the bond price rally, weakening yields further (Chart 14c). Other AEs, barring the Euro area, and most EMEs moved in sync (Chart 14d). In the currency market, the US dollar had rallied to a four-month high level in March marking a 3.7 per cent gain in Q1:2021. In April, so far it weakened on easing US treasury yields.

[29] Global IPO Watch Q1 2021, PwC

Concomitantly, EME currencies, after depreciating for most part of Q1 following capital outflows since the second half of February, recouped some losses as reflected in 0.7 per cent appreciation in the MSCI Emerging Markets (MSCI-EM) index in April so far (up to April 16, 2021) (Chart 14e).

Chart 14: Financial Markets



Sources: Bloomberg; Federal Reserve Bank of St. Louis; and IIF.

According to the Institute of International Finance (IIF), portfolio flows to EMEs stood at US$ 10.1 billion in March, with equity and debt inflows accounting for US$ 3.9 billion and US$ 6.2 billion, respectively (Chart 14f). Relatively strong inflows in China, both in equity (US$ 3.8 billion) and debt (US$ 5.0 billion), supported overall portfolio flows to EMEs. The rapid rise in long-term US treasury yields, risks of possible reversal of policy stance and idiosyncratic events like increasing uncertainty in Turkey weighed on the outlook for EMEs, disrupting flows across the board (IIF, 2021).

Grappling with inflation worries, some policy reversals were observed as central banks across a few EMEs resorted to rate hikes in March. Banco Central do Brasil (BCB) increased its policy rate by 75 basis points (bps) for the first time in six years with forward guidance of a likely similar magnitude of hike in the next meeting as inflation projections touched the upper bound of the target. The Bank of Russia (BoR), after maintaining a pause through Q4:2020, raised the policy rate by 25 bps, indicating that it is the beginning of a return to neutral monetary policy. Turkey, after maintaining a pause since its December rate hike, increased rates by a further 200 bps in March. The Bank of Japan, however, following a review of the measures taken under "quantitative and qualitative monetary easing with yield curve control", has announced further effective and sustainable monetary easing in March, which includes launching of an interest scheme to promote lending and removal of the numerical target for yearly purchases of exchange-traded funds (ETFs) and real estate investment trusts (REITs) while retaining a ceiling for the purchases. Furthermore, it has indicated that the target range of fluctuations of 10-year Japanese Government bonds will be plus/minus 0.25 percentage points around the target of 0 per cent.

On the fiscal front, total budgetary and below the line support offered globally amounted to US$ 16 trillion or 15.3 per cent of global GDP as of March 17, 2021 (IMF, Fiscal Monitor, April 2021), out of which US$ 10 trillion was in the form of additional spending or forgone revenue, and US$ 6 trillion in liquidity support, including government loans, guarantees, and capital injections. An adverse fall out has been that, global public debt has increased to 97.3 per cent of GDP in 2020, with AEs recording the largest deficits and debts, resulting from an equal decline in revenues and increases in government spending. In other regions, bulging deficits largely reflect plunges in revenues resulting from subdued economic activity.

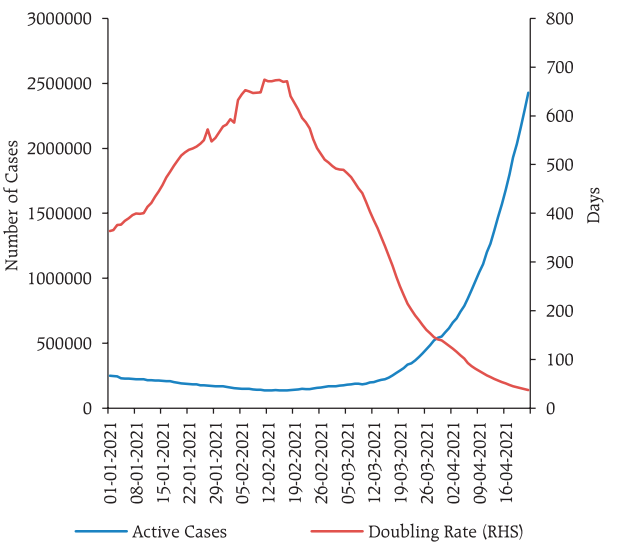
The near-term outlook remains fragile as rapid mutations of the virus, concerns over vaccine efficacy with regard to newer strains, mounting vaccine vacillation and uneven vaccine availability across economies pose downside risks. Furthermore, rallying commodity prices on demand-supply imbalances, together with continued monetary and fiscal support, entails upside risks for inflation, especially for EMEs, which squeezes policy headroom to support the recovery, going forward. Well calibrated policies aimed at facilitating a sustainable economic recovery is the need of the hour (IMF, 2021).

III. Domestic Developments

Several parts of India have been severely hit by the swift spread of the second wave of COVID-19. By April 23, 2021 the total number of active cases surged past the 25 lakh mark, from a low of 1.4 lakh in mid-February. The doubling rate[30] has worsened manifold to around 36 days from 675 days in mid-February (Chart 15). With COVID-19 cases continuing to breach daily new highs, India rolled out a four-day '*Tika Utsav*' or vaccination festival on April 11 – the 'second big war against the virus'. Growing infections and consequent restrictions, though still local/ regional in nature, have imparted high uncertainty

[30] The doubling rate is defined as ln2/ ln (1+r), where r is the average of last seven days of growth in cumulative cases.

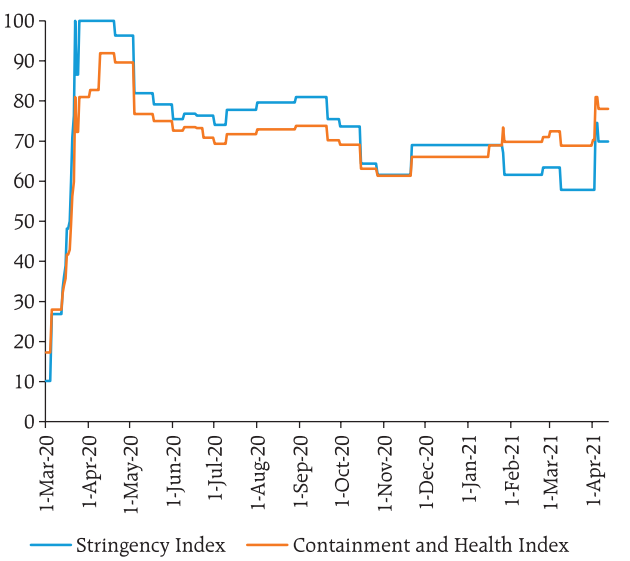
Chart 15: COVID-19 Cases



Source: Ministry of Health and Family Welfare (MoHFW).

to the outlook. The Oxford Stringency Index has surged to around 70 in April 2021 from 60 in the preceding month, though it is still below 100 in April 2020. The impact of restrictions is also evident in the containment and health index surging over 80 in April 2021 from around 70 in the preceding month (Chart 16).

Chart 16: COVID-induced Restrictions



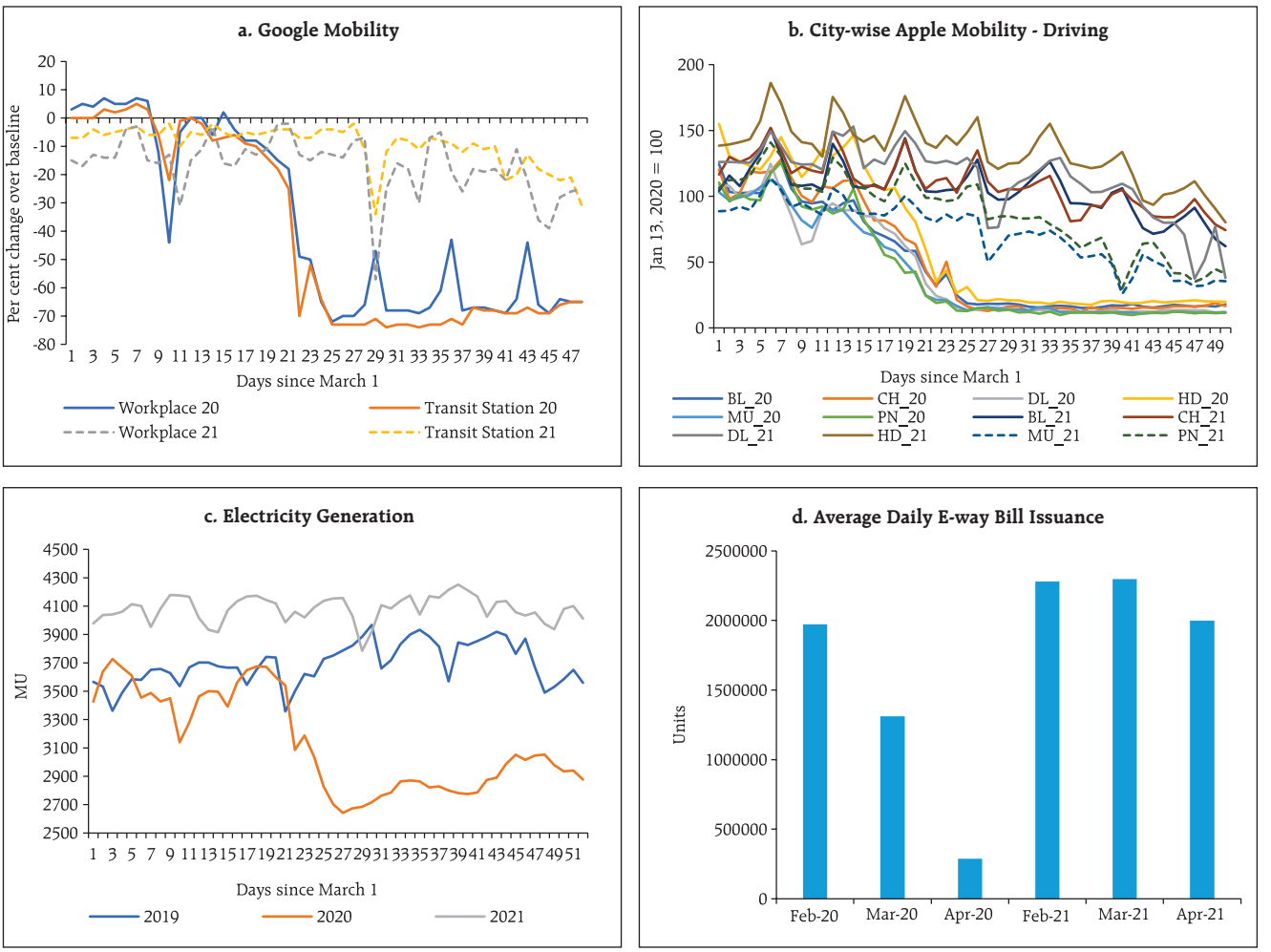
Source: Our World in Data

Overlapping the phased programme for vaccination, the Government has launched COVID Vaccine Intelligence Network (CoWIN), a digital platform where citizens can register themselves for the vaccination drive by booking an appointment at nearby vaccination centres. Vaccination is gaining pace, with cumulative administered doses surpassing the 13.5 crore mark on April 22, 2021. Of these, 3.3 crore doses have been administered to healthcare and frontline workers – the warriors combating the pandemic. While 5.5 crore doses have been administered to senior citizens, 4.7 crore doses have been administered to citizens aged 45 to 60 years. Initial vaccine hesitancy seems to have receded. In fact, in the month of April 2021, average daily doses were more than 32 lakh. Under Vaccine *Maitri*, 6.45 crore doses have been exported to 95 countries. Around 3.58 crore doses have been supplied to 25 countries under commercial contracts, 1.04 crore jabs to 44 countries as grants and 1.82 crore to 39 countries under the COVAX initiative[31]. In order to speed up the vaccination drive, the Drugs Controller General for India (DGCI) approved for emergency use of Russia's Sputnik V in India on April 13, 2021. It is essential at this moment to ramp up the vaccination drive.

Google mobility indicators indicate moderation in movement of people across all major cities in March 2021 compared to the baseline. The Apple mobility index also corroborates this moderation, particularly in Mumbai and Pune. Akin to a difference in difference analysis, changes in high frequency indicators for 2021 (March 01 to latest available data in April) are compared with their movement a year ago to obtain a comparative impact assessment of the second wave (Chart 17). While most of the indicators have registered moderation, it is guarded

[31] Business Line, April 9,2021

Chart 17: Impact of Second Wave of COVID-19 on Economic Activity



Sources: Google; CMIE; CEIC; and POSOCO.

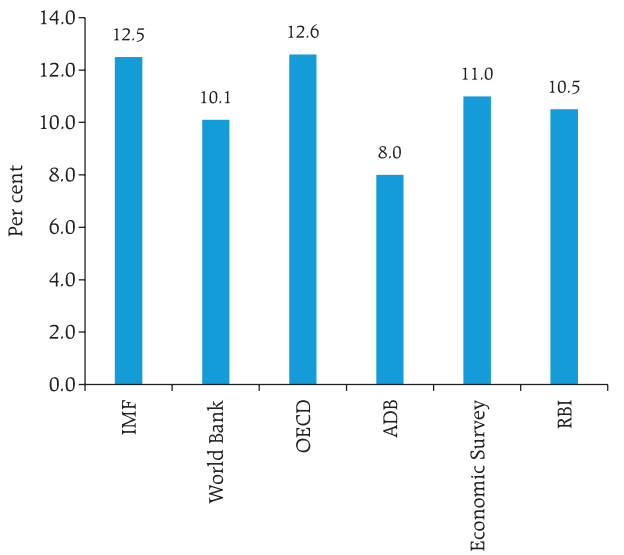
in 2021 so far – learning from the preceding year is coming in handy. On the other hand, the resilience of electricity generation so far is indicative of limited effects on consumer demand and industrial usage.

Aggregate Demand

Aggregate demand conditions have remained resilient. In its first monetary policy statement for 2021-22, the Reserve Bank retained its projection of real GDP growth for the year at 10.5 per cent (Chart 18).

Collections under the goods and services tax (GST) in March 2021 at ₹1.24 lakh crore marked the highest monthly level in the series, remaining above the ₹1 lakh crore mark for the sixth consecutive month (Chart 19). Underlying the growth of 27 per cent in collections – revenues from imports and domestic transactions recorded growth of 70 per cent and 17 per cent, respectively is growing economic activity as well as improved compliance on the back of close monitoring against fake invoicing by using deep data analytics.

Chart 18: India GDP Growth Forecasts for 2021-22

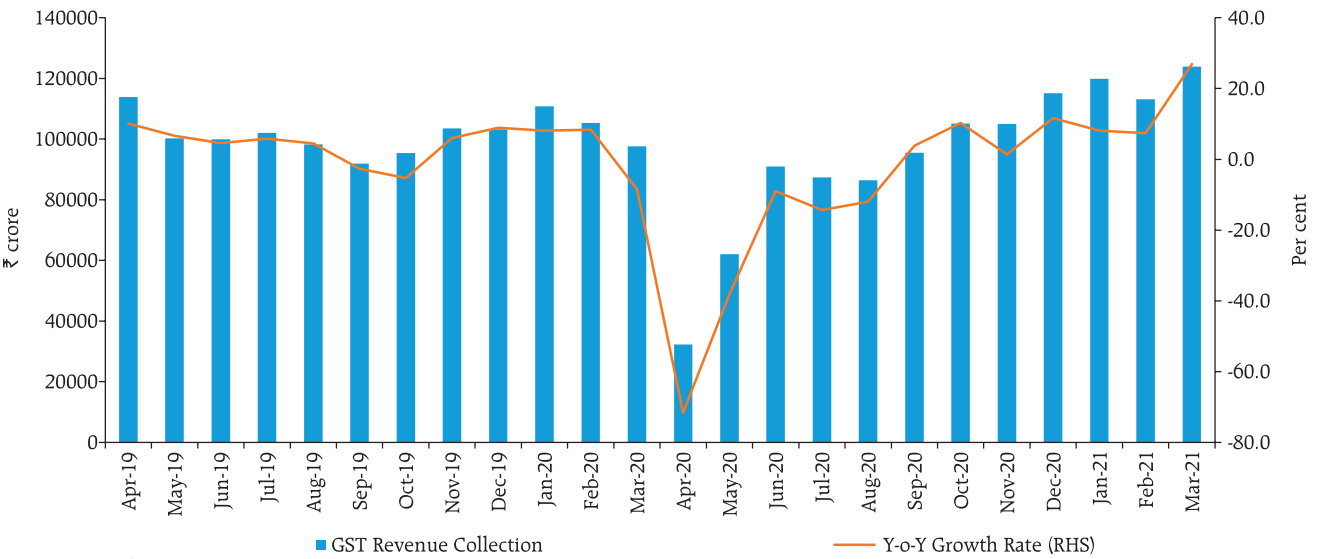


Sources: IMF; World Bank; OECD; ADB; Economic Survey 2020-21; and RBI.

The regional distribution of GST collections reveals a broad-based pick-up, with states such as Odisha, Jharkhand, Gujarat, Rajasthan, West Bengal, Chhattisgarh, Tamil Nadu and Andhra Pradesh posting double digit growth in H2:2020-21 mirroring goods movement (Chart 20). E-way bill issuances expanded sharply to 7.12 crore in March – the highest monthly increase recorded in its history in the last three years. On the back of a favourable base effect, growth in E-way bills was impressive at 75.2 per cent y-o-y – intra-state by 76.3 per cent and inter-state by 73.5 per cent – indicating robust domestic trading activity.

Turning to consumption demand, most indicators posted robust growth on a y-o-y basis. Fast moving consumer goods (FMCG) sales exhibited a growth of over 10 per cent during January-March 2021 – the highest in the last three years. FMCG sales, however, moderated in relation to October-December 2020.[32] Petrol consumption registered a growth by 6.3 per cent in March 2021, compared to pre-pandemic levels of March 2019, even as diesel consumption contracted by 3.2 per cent. Average daily electricity generation in March registered a sharp uptick, growing by 23.3 per cent y-o-y. In April so far (April 21, 2021); it recorded a 101.6 per cent growth over April 2020, the month of the complete nation-wide lockdown. In

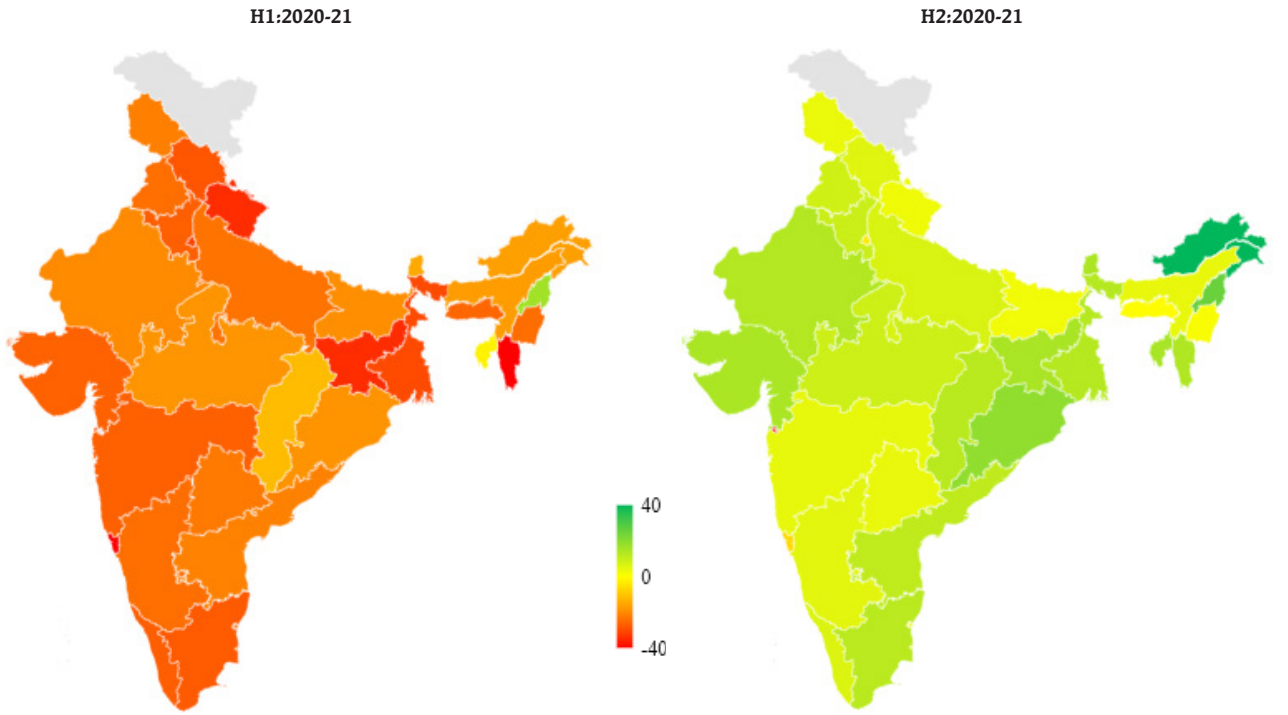
Chart 19: GST Collections



Source: Press Information Bureau, GoI

[32] Economic Time, April 6, 2021

Chart 20: State-wise GST Collections (Y-o-Y Growth)



Note: Includes CGST, SGST, IGST (excluding IGST on imports) and the GST compensation cess. State-wise GST data not available for January 2021.
Sources: gst.gov.in; and Press Information Bureau, GoI.

comparison to a pre-pandemic baseline of April 2019, it registered a growth of 53.6 per cent. In the Reserve Bank's March 2021 round of the consumer confidence survey, however, respondents expressed pessimism on the general economic situation, employment and prices. With higher essential spending recorded over a year ago, most consumers reported higher overall expenditure, which is expected to increase further going forward, despite continuing moderation in discretionary spending.

Most of the original equipment manufacturers (OEMs) of passenger vehicles (PVs) have reported triple digit growth in March, reflecting release of pent-up demand on the back of increased consumer preference for personal travel. On a sequential basis too, retail sales of PVs surged by over 10 per cent, according to the Federation of Automobile Dealers Association (FADA). Retail sales of commercial vehicles (CVs) continue to show signs of improvement after a slump of more than two years[33]. Two-wheelers' wholesale sales by top five manufacturers soared by over 75 per cent. On the back of robust rural demand, the tractor segment continued its dream run that commenced in June 2020. Domestic air passenger traffic at around 77-78 lakh in March remained flat in relation to a year ago. According to Knight Frank India, the residential real estate market exhibited a sharp rebound in Q4:2020-21 with sales of residential properties across eight major cities growing by 44 per cent to nearly 72,000 units. The sharpest revival was seen in the cities of Mumbai and Pune where the state government slashed the stamp duties.

[33] Mint, April 8, 2021

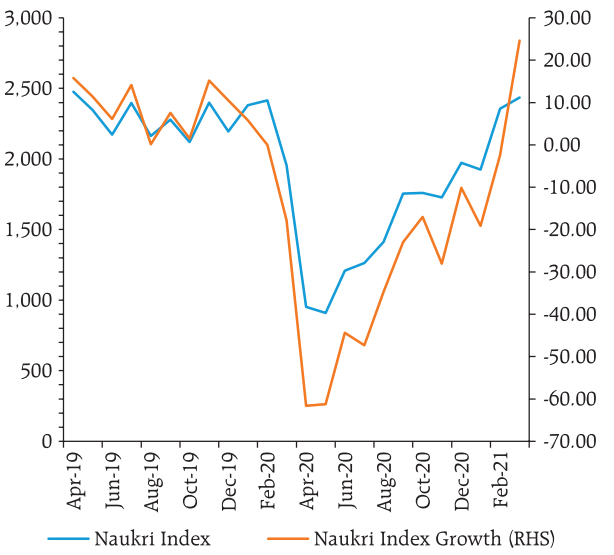
Chart 21: Employment, Unemployment and Labour Participation Rates

Source: CMIE.

As per the household survey of the Centre for Monitoring Indian Economy (CMIE), employment conditions brightened in March, with the unemployment rate sliding to 6.5 per cent from 6.9 per cent a month ago. In the rural areas, the unemployment rate dropped to 6.2 per cent, while for urban areas, it inched up to 7.2 per cent (Chart 21). With digitalisation gaining pace and Information Technology (IT) firms winning a slew of global deals, hiring in the sector in 2021-22 could exceed the levels that peaked in 2011-12.[34] The Boston Consulting Group (BCG) has estimated that the gig economy in India can support 90 million jobs in non-farm sectors and potentially add 1.3 per cent to the country's GDP in the long term. In the short-to-medium term, nearly 24 million jobs in skilled, semi-skilled and shared services roles could be delivered *via* the gig economy.

Latest data on the Naukri JobSpeak index show that hiring activity picked up in March 2021 (Chart 22). Job listings in March 2021 registered a growth of 24.7 per cent over a year ago on account of a favourable base effect and ongoing normalisation of economic activity. The retail sector also saw an uptick, with hiring improving by 15 per cent in March 2021 over the previous month. A spatial analysis shows that the growth in the index was broad-based across metros and major tier-II cities.

Chart 22: Hiring Activity



Source: CMIE.

[34] *https://economictimes.indiatimes.com/markets/stocks/news/it-sector-hiring-could-hit-decade-high-in-fy22-lead-to-margin-pressure/articleshow/81648865.cms*

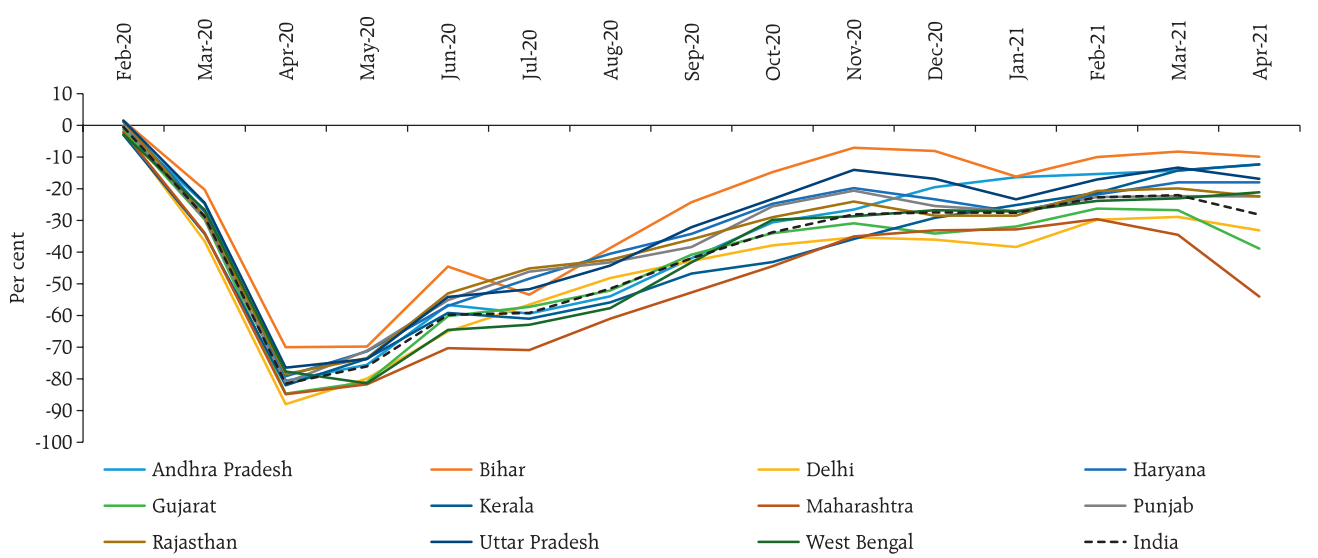
With the second wave of COVID-19 infections forcing authorities to restrict the movement of people, activity in contact intensive sectors such as hotels, airlines and travel is set to suffer again. The UK recently added India to its travel ban list and the US has also instructed its citizens to avoid travel to India. This will further affect domestic travel and tourism industries.

Google mobility for retail and recreations, which tracks mobility trends for places like restaurants, cafes, shopping centers, theme parks, museums, libraries and movie theatres shows a steady decline in activity across states (Chart 23). The latest Google Mobility Report shows that mobility across places of retail and recreation dropped 24.2 per cent in March-April so far (April 16, 2021) compared to a decline of 22.7 per cent below the baseline in February. States of Maharashtra, Gujarat and Delhi, with a wider spread of COVID-19 cases are also recording a sharper drop in mobility; significantly below the national average.

A cross-country comparison of unemployment rates reveals that in India, the unemployment rate has reverted to pre-pandemic levels after the sharp rise seen in April 2020. The current rate of unemployment in India is somewhat similar to that in the US, Canada and the EU (Chart 24).

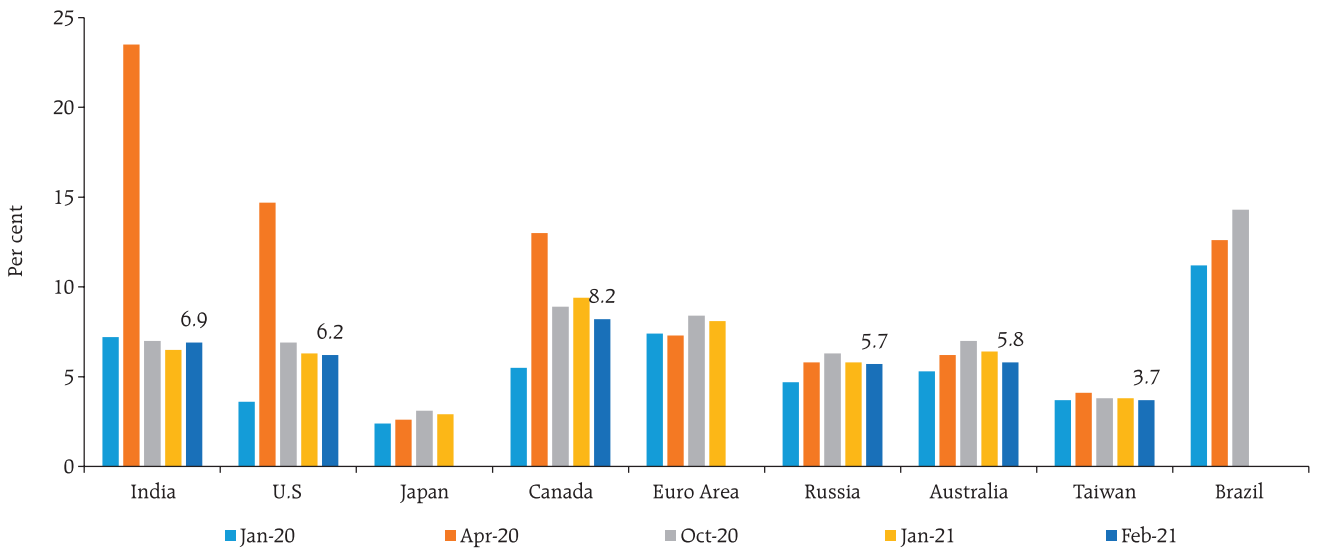
India's merchandise exports recorded an all-time monthly high of US$ 34.4 billion and imports of US$ 48.4 billion in March 2021, reflecting a rebound in global demand, revival in domestic activity and the impact of a favourable base effect. Consequently, exports clocked an impressive growth of 60.3 per cent in March (Chart 25a and 25b). Export growth was broad-based as 28 out of the 30 major sectors accounting for 92.1 per cent of total exports registered positive growth, with engineering goods, gems and jewellery, drugs and pharmaceuticals and chemicals being the lead contributors. Overall, merchandise exports contracted by 7.3 per cent to US$ 290.6 billion in 2020-21 from US$ 313.4 billion a year ago. Thus, despite the sharp contraction seen in Q1 on account of COVID-19 induced disruptions, the

Chart 23: Mobility - Retail and Recreation



Source: Google Mobility.

Chart 24: Unemployment Rate across Countries



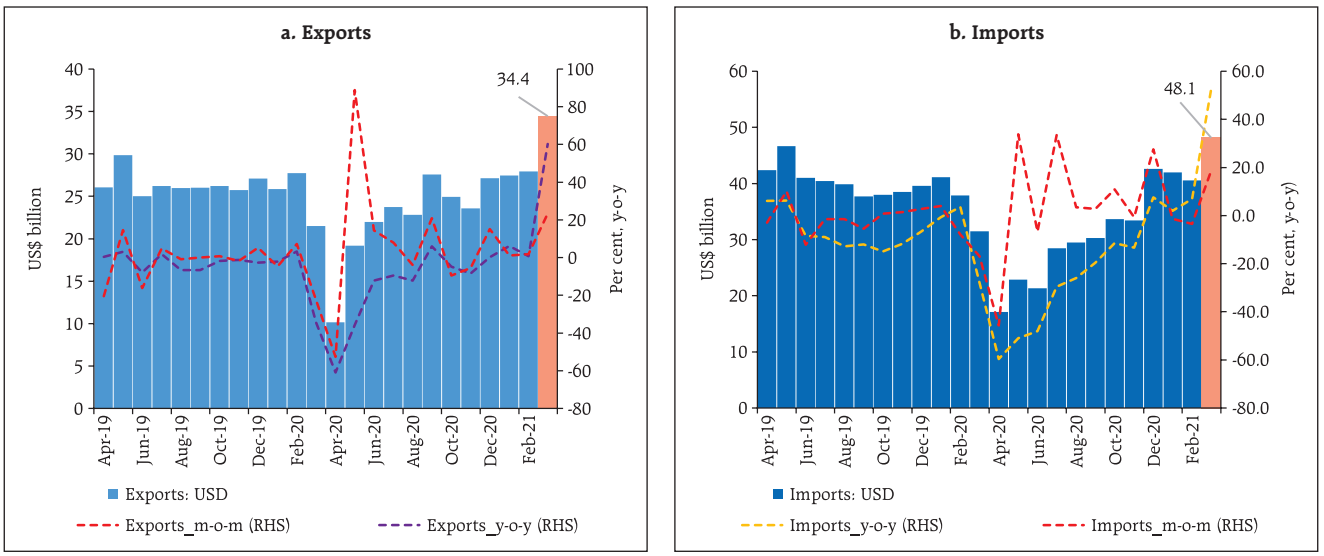
Source: The Economist.

contraction for the year as a whole turned out to be moderate, buoyed by a sharp recovery in Q3 and Q4.

Two major global trade developments have the potential to reshape India's foreign trade going forward. First, global chip shortages, which initially put a break on automobile production and is now permeating to other sectors. Second, elevated freight prices resulting from container shortages have become aggravated further due to the six-day mega blockage of the Suez Canal.

The current global chip shortage is due to inter-industry chip demand-supply mismatch caused by COVID-19 disruptions. This reflects a production shift from chips for automotives to chips for home/ office

Chart 25: India's Merchandise Trade



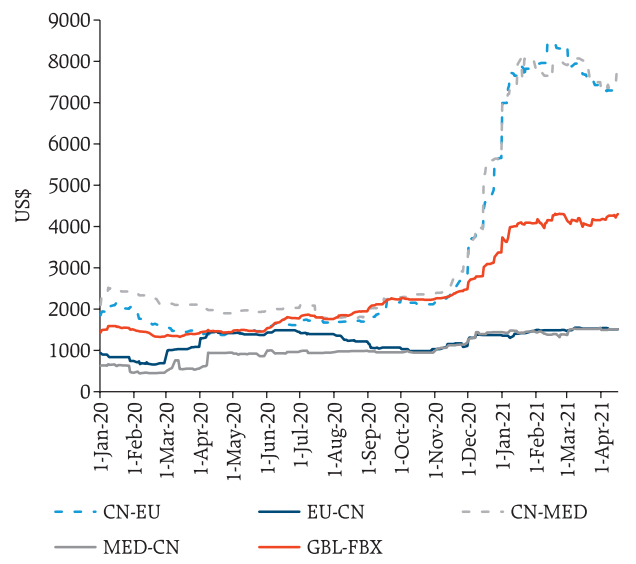
Source: DGCI&S.

items. With car sales picking up in several parts post lockdowns, the chip shortage has impacted all major industries dependent on semiconductors, leading to production suspension by major car markers across the world. India imported around US$ 54.3 billion worth of electronic goods in 2020-21 out of which chip imports constituted around 20 per cent, primarily from China and Hong Kong, followed by South Korea and Singapore. According to an India Electronics and Semiconductor Association (IESA) report, the Indian semi-conductor component market is expected to reach US$ 32.3 billion by 2025 on the back of development in smart industrial automation (industry 4.0), research and development (R&D) initiatives by big corporations, defence and rural broadband requirements.

Global freight prices have surged on the back of COVID-19 disruptions and the lopsided recovery led by China and South East Asia has rendered them uneven, with costs for outbound shipment from China rising more than four to five times than inbound shipments to China (Chart 26).

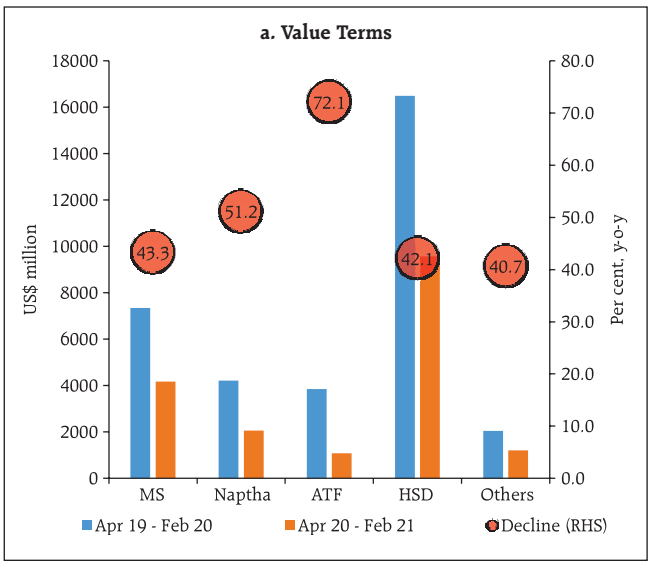
Petroleum product exports, a major constituent of India's export basket, have seen a sharp contraction in the current financial year, attributable to relatively softer international crude prices. In volume terms, the decline has been the steepest for aviation turbine fuel, demand for which has taken a major hit due to COVID-19 induced international travel restrictions (Chart 27a and 27b). With COVID-19 outbreaks continuing unabated, a full-scale resumption of international air travel looks unlikely unless radical

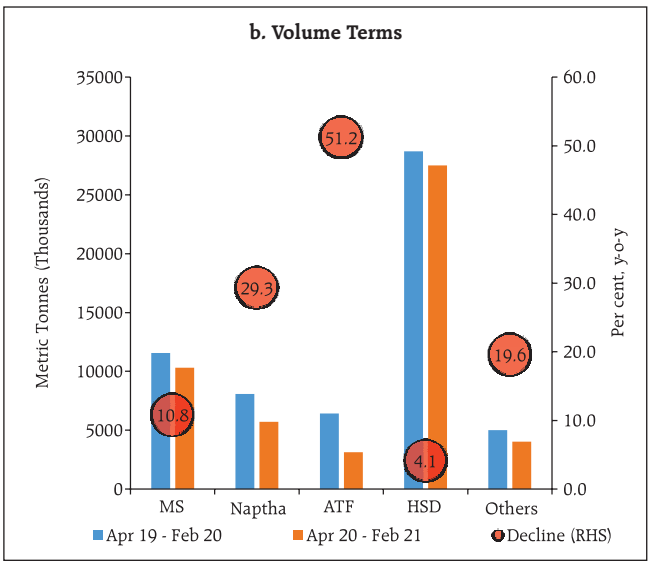
Chart 26: Route-wise Container Freight Prices



Source: Reuters.

Chart 27: Exports of Petroleum Products





Source: PPAC; and Authors' Calculations.

measures like vaccination passports are put in place. Several associations and non-profit agencies have commenced their own versions, with the International Air Transport Association developing an app called IATA Travel Pass, while the Non-profit Commons Project has introduced an app called CommonPass. However, there is a need for global recognition and a coordinated response.

Merchandise imports too staged a smart turnaround, growing by 53.7 per cent in March on an uptick in domestic economic activity. The growth in imports was broad-based, with 24 out of 30 commodities accounting for over 91.9 per cent of imports registered an expansion. Global crude oil prices have firmed up in recent months, following the OPEC *plus* decision to extend production cuts amidst optimism over global economic recovery. As a result, crude prices (Indian basket) have grown by nearly 100 per cent y-o-y in March. This has partly contributed to oil import growth turning positive in March after 12 months of successive contraction. In a bid to reduce dependence on middle east oil producers, India has recently indicated its inclination to diversify its oil imports. Towards this direction, it has recently received the first-ever shipment of crude oil from the South American nation of Guyana. In fact, India emerged as the top buyer of US crude in the first quarter of 2021 (calendar year)[35]. Gold continues to be a major driver of import growth, rising at over 592 per cent in March. According to industry analysts, reduction in customs duty in Union Budget 2021-22 combined with price correction from highs seen in 2020 have drawn in retail buyers and jewellers.

With imports at US$ 389.2 billion in 2020-21, their overall contraction was steeper than exports during the year; however, Q4:2020-21 imports have surpassed pre-COVID-19 levels. The sharper contraction in imports *vis-à-vis* exports resulted in a moderation of trade deficit to US$ 98.6 billion in 2020-21 from US$ 161.3 billion in 2019-20.

The last two editions of this article highlighted the distinctive pro-investment stance of the Union Budget 2021-22 and the push towards capex revival by the states. Incoming data for 17 states and union territories (UTs) that have presented their final budgets for 2021-22 show that the plan is to continue with the capex push in to the current fiscal year. States have combinedly budgeted a capex increase of 29.7 per cent in 2021-22 over the revised estimates for 2020-21. States' ability to incur productive expenditure, while adhering to the gross fiscal deficit (GFD) target of 4 per cent of gross state domestic product (GSDP) for 2021-22, will critically hinge on the revival of revenue receipts - primarily tax revenues. Monthly tax revenues, as reported by the Controller General of Accounts (CGA) for the centre and Comptroller and Auditor General of India (CAG) for states, reveal a distinct turnaround in collections during H2:2020-21, with the centre's direct and indirect tax collections registering growth of 18.4 per cent and 29.8 per cent, respectively during October-February and states experiencing a similar revival in direct and indirect tax collections (Chart 28).

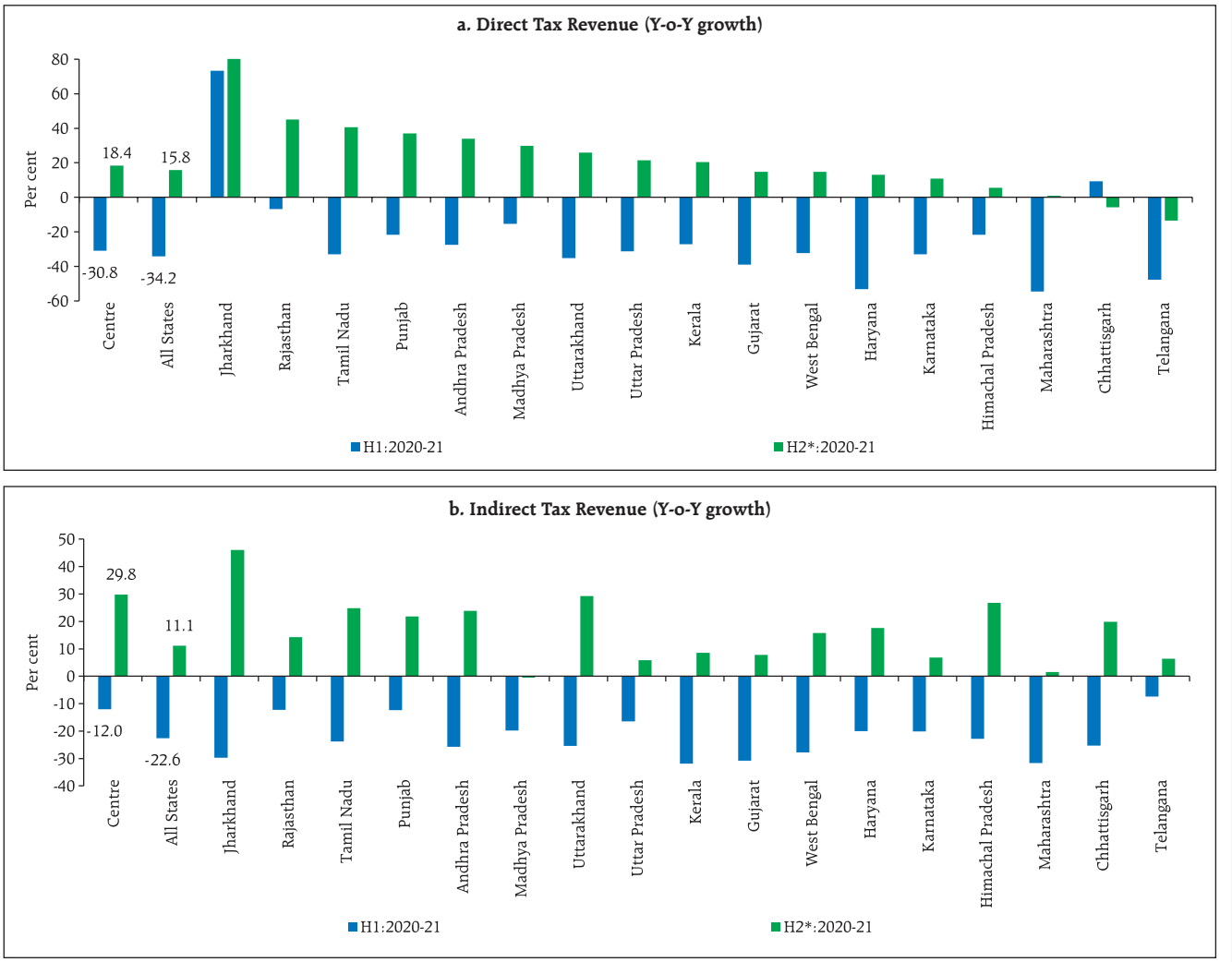
Aggregate Supply

Aggregate supply conditions were underpinned by agriculture's resilience and services shrugging off the debilitating impact of COVID-19 restrictions. In the industrial sector, manufacturing registered moderation in activity while electricity generation maintained its robust recovery.

Harvesting of *rabi* crops has been accomplished in 55 per cent of the total sown area (as on April 2, 2021). The crop-wise picture reveals that wheat (31.0 per cent of acreage), pulses (82.0 per cent) and oilseeds (91.0 per cent) have been harvested. As a

[35] Business Line, April 11, 2021

Chart 28: Tax Revenue Growth – Centre and Major States



*: Data for H2:2020-21 is till February 2021.
Note: Data for states pertains to 22 states for which data is available till February 2021. For centre, collections reported under the head 'Other Taxes' (Securities Transaction Tax, Fringe Benefit Tax etc.) have been apportioned between direct and indirect taxes in the ratio of 3:1 for February 2020 and February 2021.
Sources: Comptroller and Auditor General of India; and Controller General of Accounts.

result, public procurement for the upcoming *rabi* marketing season (April to March) has commenced well ahead of time and higher *mandi* arrivals are soon expected. This year, the government has set a target to procure 9.6 per cent higher wheat over the already record level achieved over a year ago. The ongoing rice procurement as of April 15, 2021 is 13.0 per cent higher over a year ago, benefitting more than 10 million farmers. Better price realisation by famers due to higher prices and increased public procurement is expected to boost rural demand. The supply side also remains supported by 3.7 times higher public stocks of cereals as compared to the buffer norms.

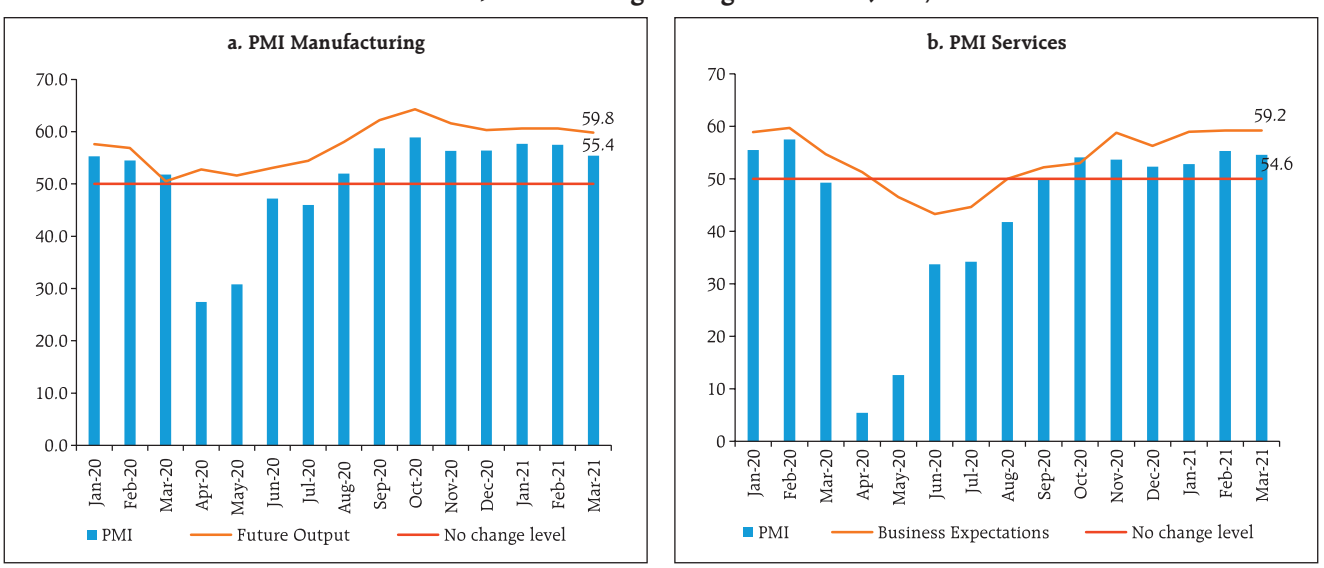
Timely harvesting of *rabi* crops has opened up space for summer sowing (*zaid* during March to June) which is already 17.0 per cent higher than in the previous year (as on April 15, 2021). Although summer crops (mainly paddy, pulses, coarse cereals and vegetables) account for a small share of total agricultural production, their importance

has increased in recent years as they constitute an additional source of income for farmers, besides contributing to fodder supply. According to the IMD, pre-monsoon thunderstorms are likely to cause heavy rains, leading to an above normal wet session indicated from April 23[36]. Live water storage in the 130 major reservoirs remained comfortable at 81 per cent of last year's levels and 119 per cent of the 10-year average.

The headline manufacturing PMI remained in expansion at 55.4 in March though moderately lower than 57.5 a month ago (Chart 29a). The index for new orders posted expansion for the eighth consecutive month. Though the pace of expansion softened as compared to February, it remained above the long run average. About 31 per cent of firms signalled expansion due to strong demand conditions; however, 12 per cent reported lower growth in new business due to the pandemic. New export orders held on to their upward trajectory for the seventh consecutive month. The 93rd round of the Reserve Bank's industrial outlook survey (IOS) conducted during Q4:2020-21 points to further strengthening of production, order books and employment. While respondents' sentiments on availability of finance through banks, internal accruals and overseas sources improved, they perceive higher cost pressures emanating from input purchases and salary outgoes. For the first three quarters of 2021-22, manufacturers are optimistic on improvement in production, capacity utilisation, employment conditions and the overall business situation.

The services sector continued to expand at a steady pace in March. The services PMI expanded for the sixth straight month in March to 54.6, supported by an increase in business activity and strong demand conditions (Chart 29b). The pace of expansion softened from the preceding month but remained above the long run average of 53.3. Due to subdued global demand and pandemic-related restrictions, the service export business index remained in contraction for the thirteenth consecutive month. The business expectations index - an indicator of future market sentiment - remained high at 59.2 in March on increased availability of COVID-19 vaccines and higher client enquiries received by firms. The recent surge in infections could endanger the recovery in

Chart 29: Purchasing Managers' Index (PMI)



Source: IHS Markit.

[36] Business Line, 9 April, 2021

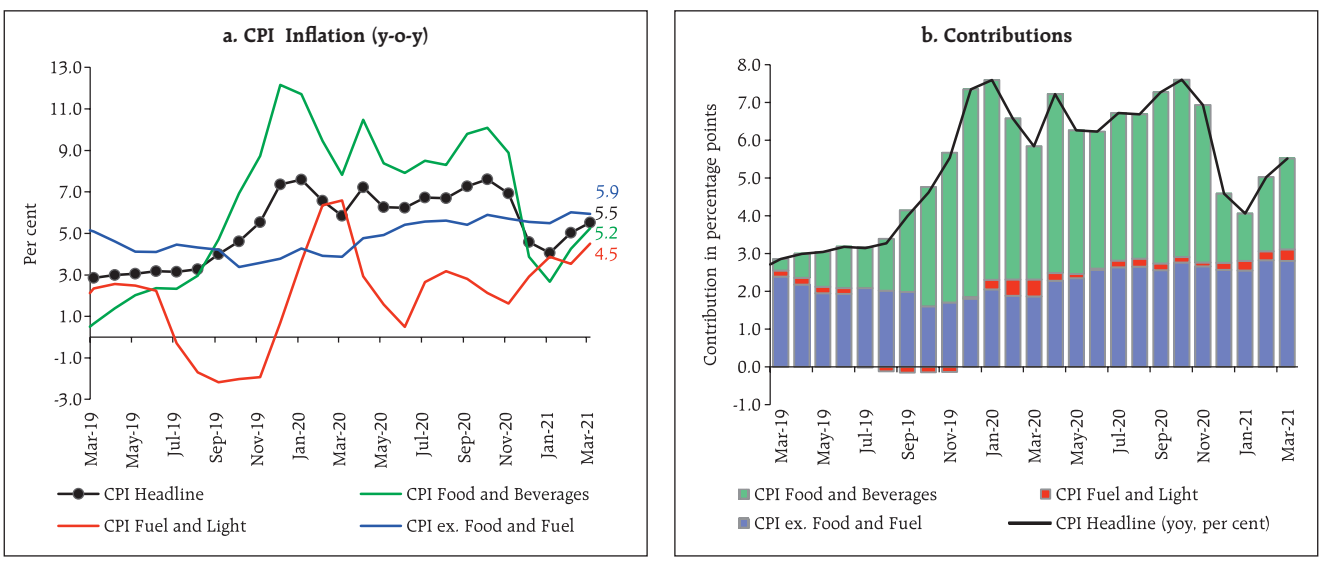
the services sector. These concerns were evident in the 28th round of the Reserve Bank's services and infrastructure outlook survey (SIOS) conducted during January-March 2021 in which enterprises assess some moderation in the overall business situation and turnover in Q4:2020-21 after a pace of strong recovery in Q3. For Q1 to Q3 of 2021-22, however, respondents exuded optimism with regard to the business situation, employment conditions and turnover. They expect an improvement in the job landscape for both part-time and full-time employees. Infrastructure companies were optimistic about Q4:2020-21 when they expect a sharp uptick in the overall business situation. In their assessment, input cost pressure could build up and contribute to rising prices.

Building on the momentum gained in Q2 and Q3 2020-21, IT companies are poised to stage their strongest performance in Q4 on the back of growing digitalisation, improving demand conditions, clinching of global deals, and migration to cloud computing and related technologies. As per Gartner, a global research and advisory firm, global IT spending is projected to increase to US$ 3.9 trillion in 2021, a growth of 6.2 per cent over the preceding year. As businesses are forced to accelerate their digital transformation plans, given their adoption of remote work and digital touchpoints, Indian IT firms are well placed to cater to the rising demand owing to payoff from investment in new-age technologies and talent base.

Inflation

CPI inflation in March 2021 edged up to 5.5 per cent from 5.0 per cent in February 2021 due to a sharp increases in food as well as fuel inflation. Core inflation (CPI excluding food and fuel inflation) remained elevated (Chart 30a). Food inflation increased to 5.2 per cent in March from 4.3 per cent in February, with vegetable price dynamics (especially in terms of a sizeable adverse base effect) largely determining this outcome. Among the food sub-groups, the inflation trajectory continued to exhibit considerable divergence. Five out of 12 food sub-groups, comprising meat and fish; eggs; edible oils; pulses; and non-alcoholic beverages exhibited double digit inflation. On the other hand, three sub-groups comprising cereals; vegetables; and sugar were in deflation. While cereal price deflation deepened, the rate of deflation in vegetables slowed down in March.

Chart 30: CPI Inflation

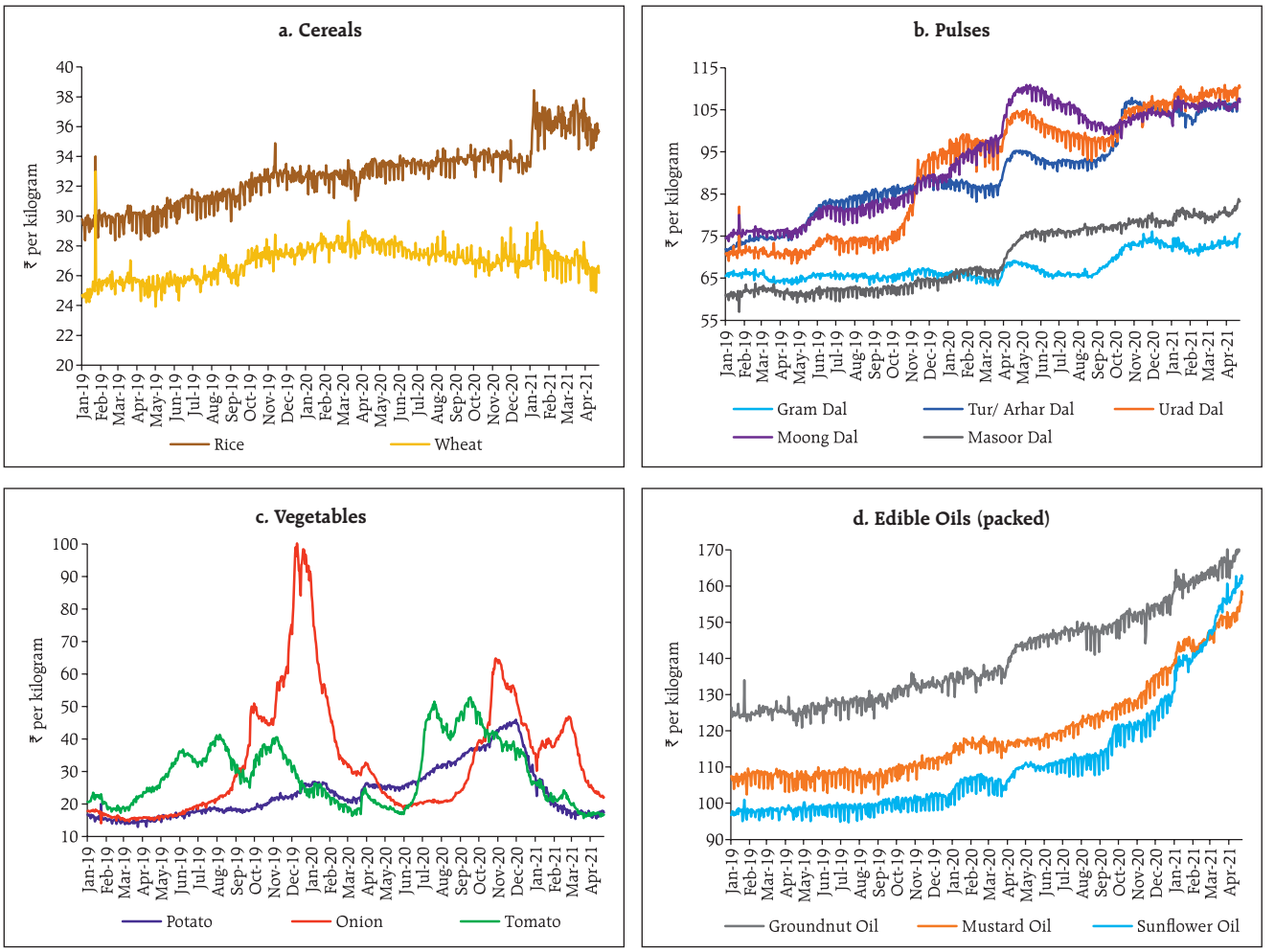


Sources: National Statistical Office (NSO); and RBI staff estimates.

Fuel price inflation surged to 4.5 per cent in March, an increase of 100 bps from February. CPI excluding food and fuel inflation remained elevated at 5.9 per cent in March, in spite of a modest softening of 10 bps from 6 per cent in February. While personal care and effects; pan, tobacco and intoxicants; and health inflation moderated, inflation in transport and communication; housing; clothing and footwear; household goods and services; recreation and amusement; and education edged up. CPI excluding food and fuel (with a weight of 47.3 per cent) contributed to 51 per cent of the headline inflation in March (Chart 30b).

High frequency food price data from the Ministry of Consumer Affairs, Food and Public Distribution (Department of Consumer Affairs) for April so far (April 1-23, 2021) indicate further softening in cereals prices. The winter softening of prices of tomatoes, onions and potatoes (TOP) continued into April. Prices of TOP in April 2021 are lower than the levels a year ago. However, prices of pulses, barring *moong*, edged up further in April and were at levels higher than a year ago. Edible oil price pressures also showed no signs of easing, with prices registering further increases, particularly in the case of sunflower oil (Chart 31).

Chart 31: DCA Essential Commodity Prices



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

Table 1: Petroleum Product Prices

Item	Unit	Domestic Prices			Month-over-month (per cent)	
		Apr-20	Mar-21	Apr-21^	Mar-21	Apr-21
Petrol	₹/litre	72.87	93.20	92.67	2.1	-0.6
Diesel	₹/litre	64.96	85.11	84.56	2.6	-0.6
Kerosene (subsidised)	₹/litre	22.39	29.37	30.32	7.4	3.2
LPG (non-subsidised)	₹/cylinder	748.63	829.63	819.63	7.6	-1.2

^ : For the period April 1-23, 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 subsidised prices in Kolkata, Mumbai and Chennai.

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

Following the decline in global crude oil prices, domestic pump prices eased in the second half of March and in April so far (April 1-23, 2021). Domestic kerosene prices edged up in April whereas liquefied petroleum gas (LPG) prices registered a decline (Table 1).

Going forward, the calculation of y-o-y CPI inflation prints for April and May 2021 is subject to uncertainty given that April and May CPIs a year ago were not based on actual price data collections but were imputed. Over the last month, there were two positive developments on the prices front. First, there is an increasing likelihood of a normal south-west monsoon in 2021, as alluded to in the concluding section of this article. Second, the retreat of crude oil prices from a peak level of around US$ 70 per barrel could result in some softening in domestic pump prices. Coordinated policy actions by the Centre and states to rationalise high taxes on petrol and diesel can help bring relief to households by lowering pump prices and mitigating second-round effects on the economy. Upside risk to inflation emanating from input price pressures in manufacturing and services, as evidenced from the PMIs, remain, however. The wholesale price index (WPI) inflation in March 2021 touched a 103 month high of 7.4 per cent, indicating a pickup in costs across farm and industrial sectors. Firms surveyed in the IOS and SIOS conducted by the Reserve Bank during January-March 2021 indicate a likely persistence of input prices pressures well into 2021-22 and a gradual increase in selling prices. The resurgence in COVID-19 infections, if not contained in time, risks protracted restrictions and disruptions in supply chains with consequent inflationary pressures.

IV. Financial Conditions

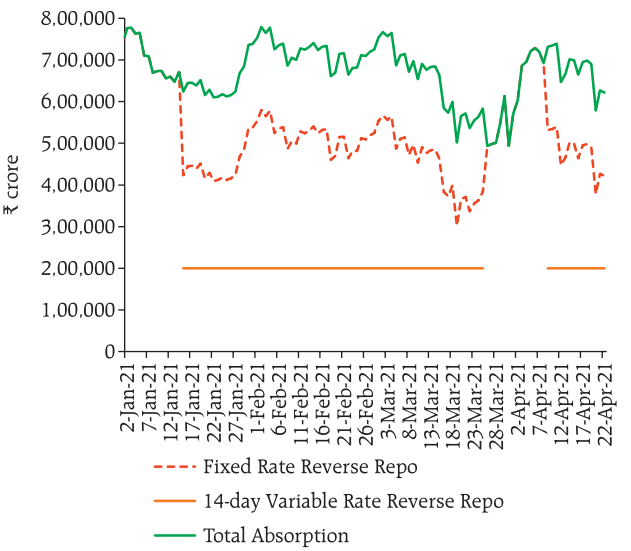
Domestic financial conditions remained easy on abundant system liquidity. In spite of advance tax outflows in the second half of March, the average daily net liquidity absorption under the liquidity adjustment facility (LAF) ranged between ₹5.40 lakh crore in March 2021 to ₹5.94 lakh crore in April 2021 (up to April 22, 2021). The Reserve Bank conducted a variable rate reverse repo auction on March 12, 2021 for an amount of ₹2 lakh crore. Furthermore, in order to meeting any additional/unforeseen demand for liquidity and to provide flexibility to the banking system for year-end balance sheet management, the Reserve Bank conducted two fine-tuning variable rate repo auctions of ₹25,000 crore each on March 26 and March 31, 2021 for 11 days and 5 days, respectively. At the same, the Reserve Bank decided, as a one-time measure, not to conduct any variable rate reverse repo auction for the fortnight beginning March 27, 2021 to ensure the availability of ample liquidity to manage year-end requirements, particularly with Cash Reserve Ratio (CRR) requirements increasing to 3.5 per cent of the net demand and time liabilities (NDTL) from the fortnight beginning from March 27, 2021. As a special case, Stand-alone Primary Dealers

(SPDs) were allowed to participate in these auctions. To ensure availability of appropriate liquidity to productive sectors of economy, the Reserve Bank, in its monetary policy statement on April 7, 2021, announced extension of TLTRO on Tap Scheme by a period of six months, *i.e.*, till September 30, 2021 and fresh support of ₹50,000 crore to the All India Financial Institutions (AIFIs) for new lending in 2021-22. Furthermore, the Reserve Bank put in place a secondary market G-sec acquisition programme or G-SAP 1.0 that will enable a stable and orderly evolution of the yield curve amidst comfortable liquidity conditions. Under the first tranche conducted on April 15, 2021, the Reserve Bank bought the entire notified amount of ₹25,000 worth of government securities for which the bid-cover ratio stood at 4.07. During April, the Reserve Bank conducted two 14-day variable rate reverse repo auctions on April 9, 2021 and April 23, 2021 for an amount of ₹2 lakh crore each.

The Reserve Bank conducted four special open market operations (OMOs) (operation twists): (i) for an enhanced amount of ₹15,000 crore on March 4, 2021; (ii) an innovative auction on March 10 involving asymmetric notified amounts: purchase of long-term securities worth ₹20,000 crore and sale of short-term securities worth ₹15,000 crore; and (iii) two auctions on March 18 and 25, 2021 for ₹10,000 crore each (Chart 32).

The overnight money market rates, *i.e.*, the weighted average call rate (WACR), the tri-party repo and the market repo rate trailed below the reverse repo rate but moved in close alignment. The spread of the tri-party repo rate and the market repo rate below the reverse repo rate moderated from 34 bps and 49 bps, respectively, in February to 11 bps and 20 bps in March. However, spreads widened again in April 2021 to 25 bps and 32 bps, respectively (up to April 22, 2021) due to an increase in surplus liquidity. Among

Chart 32: Surplus Liquidity - Absorption under LAF



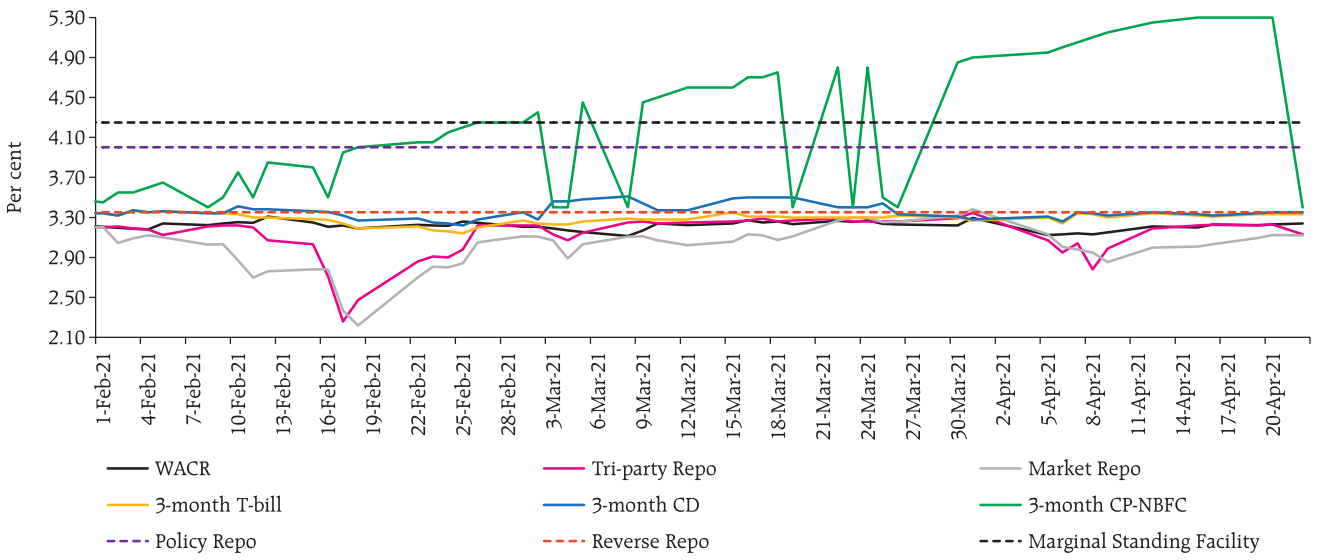
Source: RBI.

other key money market rates, the 3-month T-bill rate and 3-month certificates of deposit (CD) traded below or closer to the reverse repo rate, while the interest rate on 3-month commercial paper (CP) issued by non-bank financial companies (NBFC) rates ruled above the reverse repo rate in April 2021 (Chart 33).

Overall monetary and credit conditions in the economy remained accommodative. Reserve Money (RM) adjusted for the first-round impact of changes in the CRR increased by 13.9 per cent on a y-o-y basis as on April 16, 2021 (12.4 per cent a year ago) – its lowest y-o-y growth since May 2020 - as currency in circulation slumped to a 10-month low of 15.7 per cent (14.5 per cent a year ago) on the components side, while the rise in net foreign assets (NFA) on the sources side was subdued (Chart 34). Money supply (M3) grew by 11.3 per cent as on April 9, 2021 (10.2 per cent a year ago) and the currency to aggregate deposit ratio was at 17.3 per cent.

The financial year 2020-21 closed with credit extended by scheduled commercial banks (SCBs) clocking a feeble growth of 5.6 per cent y-o-y, pointing to continuing risk aversion amidst

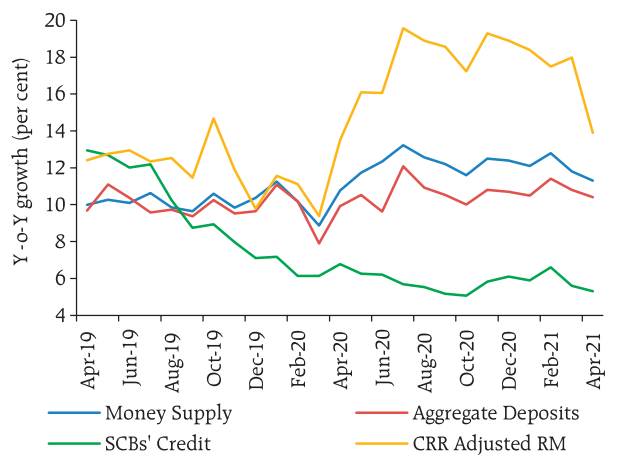
Chart 33: Policy Corridor and Money Market Rates



Sources: RBI; and Bloomberg.

pandemic linked impairment to their balance sheets. Deposit growth remained sturdy in double digits clocking 11.4 per cent at the year end. The banking system's role in supporting the credit needs of the economy is decelerating, with its funding of the market borrowing programme of the government on the rise. In 2020-21, banks' investment in government securities had risen by 22.1 per cent by mid-September and remained elevated thereafter (Chart 35a). Similar episodes of subdued credit growth and high growth in investment in government securities were seen post the global financial crisis and after demonetisation. Accordingly, the first half of 2020-21 saw a sharp decline in credit-deposit (C-D) ratios of banks and a corresponding pickup in investment-deposit ratios. The decline in C-D ratios was arrested in H2:2020-21 (Chart 35b).

Chart 34: Monetary and Credit Aggregates

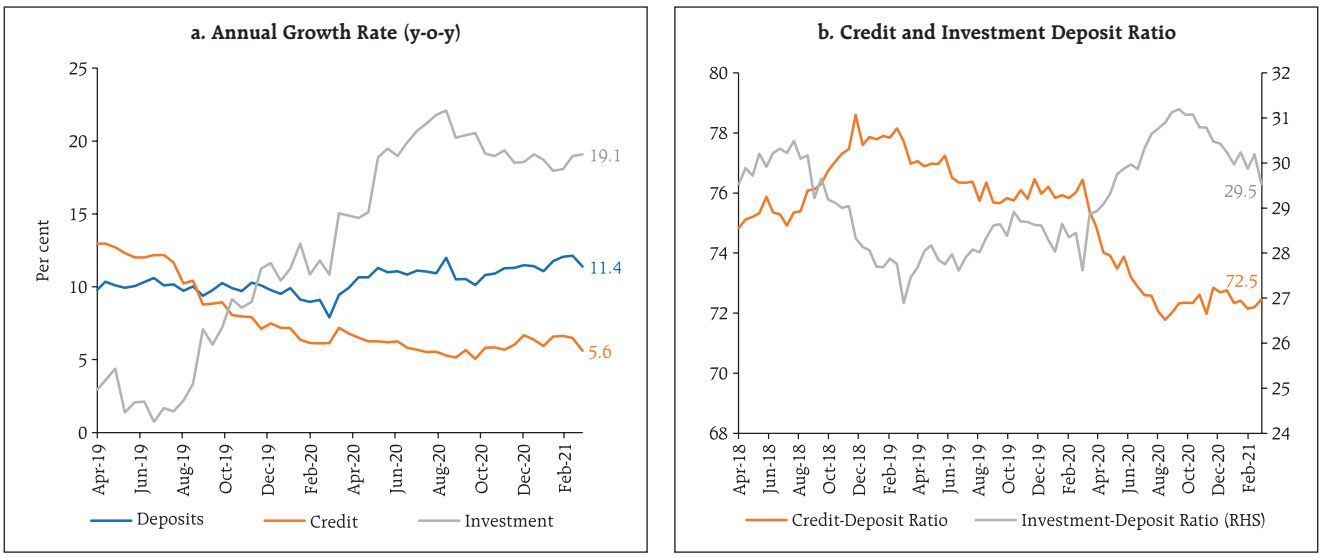


Note: 1. Data pertain to last reporting Friday of every month for money supply, aggregate deposits and SCBs' credit; and last Friday of every month for reserve money.
2. For the month of April, however, reserve money data as on April 16, 2021 and money supply data as on April 9, 2021 are included.

Source: RBI.

The year ended with a cumulative credit expansion of ₹5.8 lakh crore by scheduled commercial banks, a shade lower than the credit creation of ₹6.0 lakh crore in the previous year. During 2020-21, banks invested ₹7.2 lakh crore in government securities, nearly double of their investment in the previous year (Chart 36). Banks' investment in 2020-21 outpaced overall credit extended – a phenomenon not seen in nearly twenty years, barring the year of demonetisation.

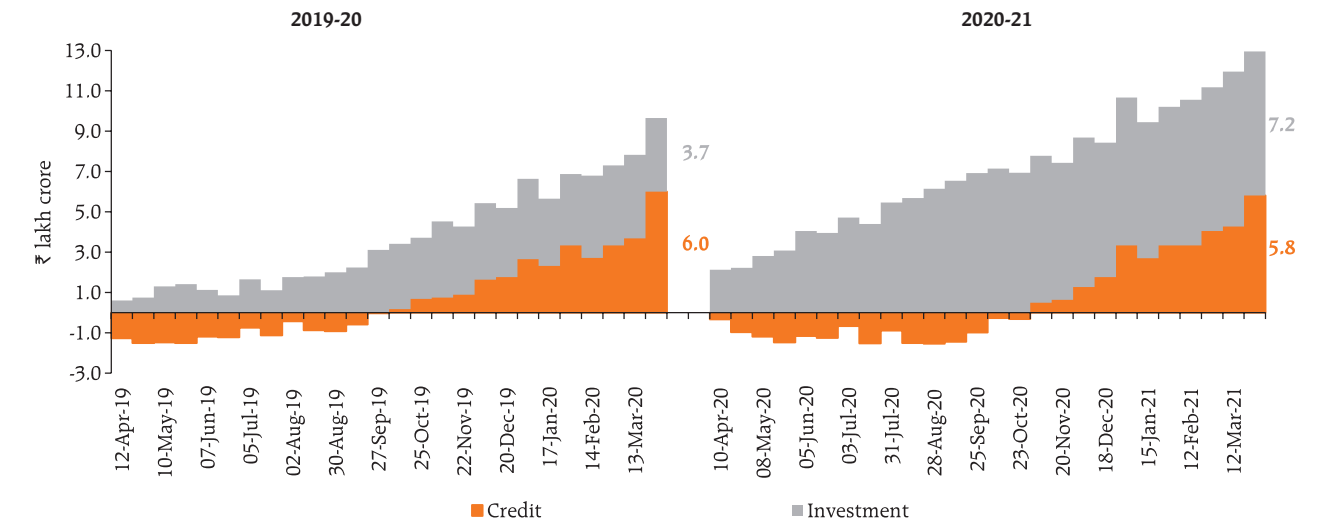
Chart 35: Banking Aggregates



Source: RBI.

Sectors that experienced expansion in bank credit were agriculture, benefitting from sequential years of record production; and the services sector, propelled by strong disbursals to trade, tourism, transport and to other services[37]. Within the personal loan segment, loans for consumer durables and other personal loans[38] posted robust growth, and there was a strong pick up in loans against gold jewellery. Credit to industry remained a drag. Taking advantage of the easy financing conditions, the corporate sector raised

Chart 36: Financial Year Build-up

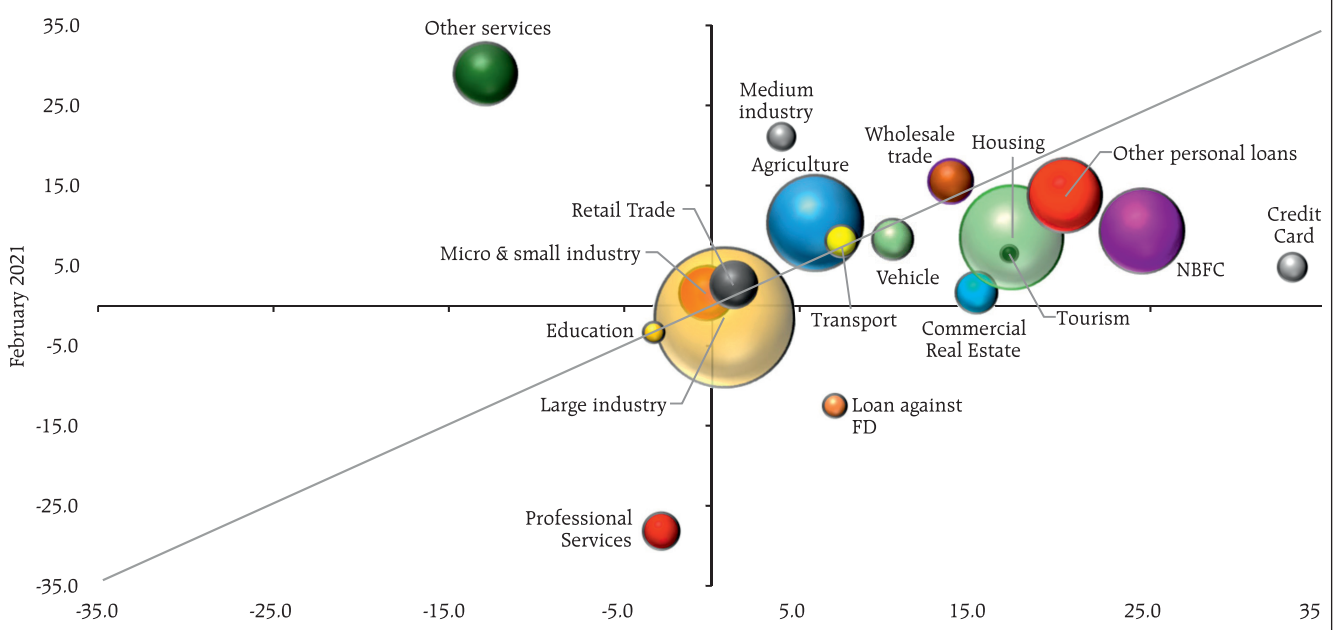


Source: RBI.

[37] Other services include Mutual Fund (MFs), Banking and Finance other than NBFCs and MFs, and other services which are not indicated elsewhere under services.

[38] Other personal loan includes, *inter alia*, loans for domestic consumption, medical expenses, travel, marriage and other social ceremonies.

Chart 37: Sectoral Credit Growth (y-o-y, per cent)



Source: RBI.

substantial funds from financial markets, which was mainly used for deleveraging. Credit growth to medium industry and micro and small industries turned out to be resilient and performed better year-on-year (Chart 37).

A sizeable decline in the median term deposit rate (representing card rates on new deposits) of 205 bps and 144 bps since February 2019 (beginning of easing phase) and March 2020, respectively (up to March, 2021) reflected the faster pace of adjustment in deposit rates relative to loan rates (Table 2) - during the same period, the 1-year median marginal cost of funds-based lending rate (MCLR) softened cumulatively by 150 bps and 95 bps, respectively.

Table 2: Transmission from the Repo Rate to Banks' Deposit and Lending Rates

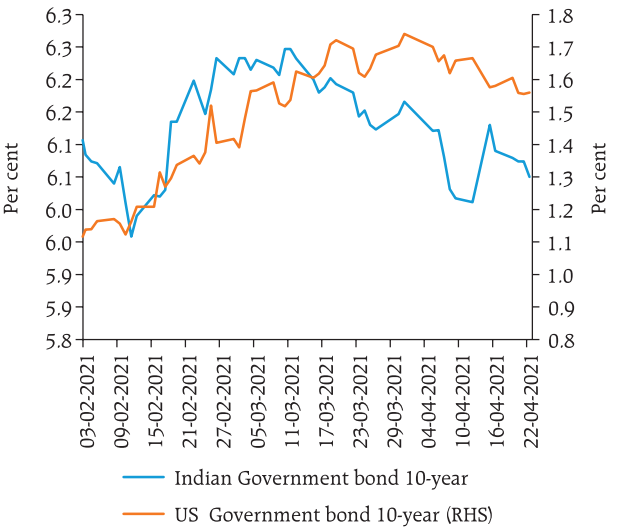
(Variations in basis points)

Period	Repo Rate	Term Deposit Rates		Lending Rates		
		Median Term Deposit Rate	WADTDR	1 - Year Median MCLR	WALR - Outstanding Rupee Loans	WALR - Fresh Rupee Loans
February - September 2019	-110	-9	-7	-30	2	-40
October 2019 – March, 2021*	-140	-175	-145	-120	-100	-138
March 2020 – March, 2021*	-115	-144	-106	-95	-82	-107
February 2019 – March, 2021*	-250	-205	-152	-150	-98	-178

*: Latest data on WALRs and WADTDR pertain to February 2021.
WALR: Weighted Average Lending Rate. WADTDR: Weighted Average Domestic Term Deposit Rate.
MCLR: Marginal Cost of Funds-based Lending Rate.
Source: RBI.

In the first half of March, G-sec yields in India had hardened at the longer end of the curve, with the 10-year generic G-sec yield scaling a peak of 6.25 per cent on March 10, driven mainly by global spillovers from hardening of US yields, rising crude oil prices, heightened inflation expectations and hence fears of reversals of accommodative stances of AE central banks (Chart 38). The second half of March brought some relief for bond traders: (i) the Reserve Bank accepted more than the notified amount exercising a green shoe option in the 5-year and the 10-year segment in the government stock auction conducted on March 19; and (ii) the government stock auction of March 26, 2021 was cancelled on a review of the Government's cash balance position. These developments, working on the back of the prevailing surplus liquidity conditions, had a soothing impact on market sentiments, with the 10-year generic G-sec yield declining by 8 bps as on March 31 from its peak of March 10, 2021. The softening bias extended into April 2021 particularly after the announcement of G-SAP 1.0 and the yield on 10-year G-sec eased to as low as 6.01 per cent on April 12, 2021 and traded range bound subsequently.

Chart 38: Government Bond Yield in India and the US



Source: Bloomberg.

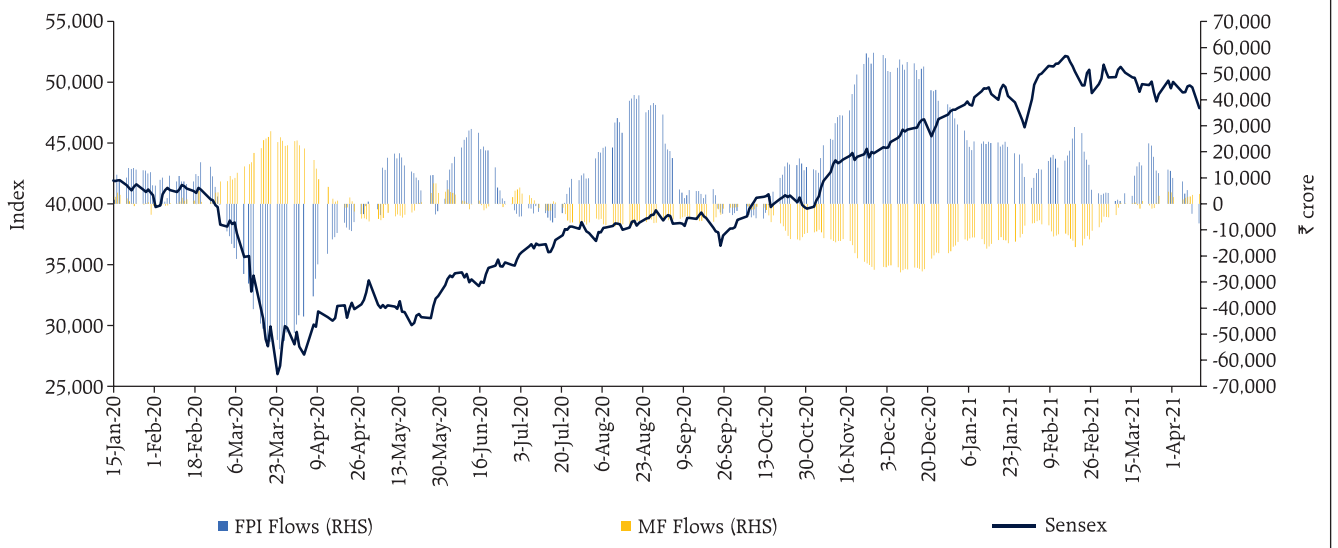
Tracking G-sec yields, corporate bond yields and spreads on average firmed up in March as compared with those in February across the rating spectrum and issuer categories. As the second wave of infections unfolded in several parts of the country, bond market sentiments sank, getting reflected in hardening of yields in April (Table 3).

Table 3: Corporate Bond Yield and Spread

Issuer	Rating	Yield					Spread				
		Mar-20	Feb 2021	Mar 2021	Variation (March 2021 over March 2020)	Variation (March 2021 over February 2021)	Mar-20	Feb 2021	Mar 2021	Variation (March 2021 over March 2020)	Variation (March 2021 over February 2021)
		(Per cent)			(bps)		(Per cent)			(bps)	
PSU, Banks and FIs	AAA	6.87	5.57	5.81	-106	24	122	52	60	-62	8
	AA	7.48	6.16	6.42	-106	26	183	111	122	-61	11
	BBB-	10.34	9.32	9.59	-75	27	469	427	438	-31	11
Corporates	AAA	7.34	5.2	5.56	-178	36	169	16	35	-134	19
	AA	8.06	5.99	6.31	-175	32	241	96	110	-131	14
	BBB-	11.2	9.89	10.17	-103	28	555	486	496	-59	10
NBFCs	AAA	7.68	5.3	5.69	-199	39	203	27	48	-155	21
	AA	8.45	6.58	6.92	-153	34	281	155	171	-110	16
	BBB-	11.73	10.86	11.18	-55	32	625	583	597	-28	14

Note: Yields and spreads are monthly averages.
Source: FIMMDA.

Chart 39: BSE Sensex and Institutional Flows



Note: FPI and MF investments are represented on 15 days rolling sum basis.
Source: Bloomberg.

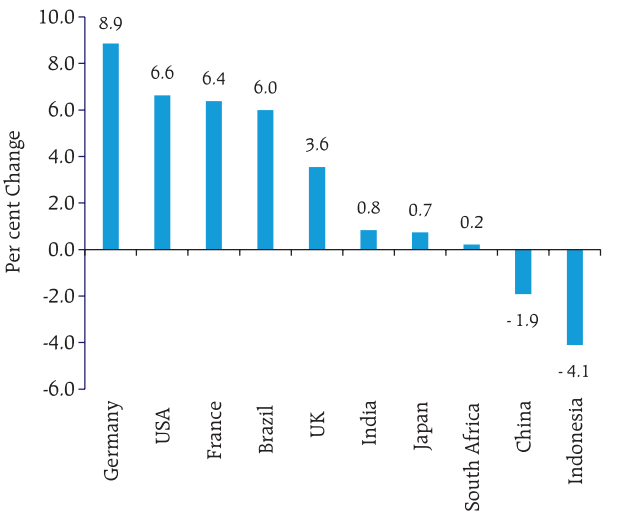
Equity markets, which had resumed an uptrend in March, underwent some corrections, tracking the sell-off in global markets on concerns over rising US Treasury yields. Market sentiment wilted, following the resurgence of COVID-19 cases in a second wave and imposition of fresh restrictive measures in certain parts of the states (Chart 39). Closing at 49,509 on March 31, however, the BSE Sensex increased by 0.8 per cent in March 2021, faring better than most of peer EMEs (Chart 40).

Markets continued trading in April 2021 on a negative note on COVID-19 related concerns and the decrease in India's manufacturing PMI to a seven-month low. The markets rebounded with the Reserve Bank's decision to continue with the accommodative stance as long as necessary to sustain growth on a durable basis. Furthermore, the optimistic GDP growth projection for 2021-22 by the Reserve Bank and the IMF also boosted investor sentiments.

Equity-oriented mutual funds registered net inflow in March 2021 after a period of eight months (Chart 41). Furthermore, contribution from systematic investment plans (SIPs) accounted for inflows of ₹9,182 crore in March 2021, a substantial jump over inflows of ₹7,528 crore registered during February 2021.

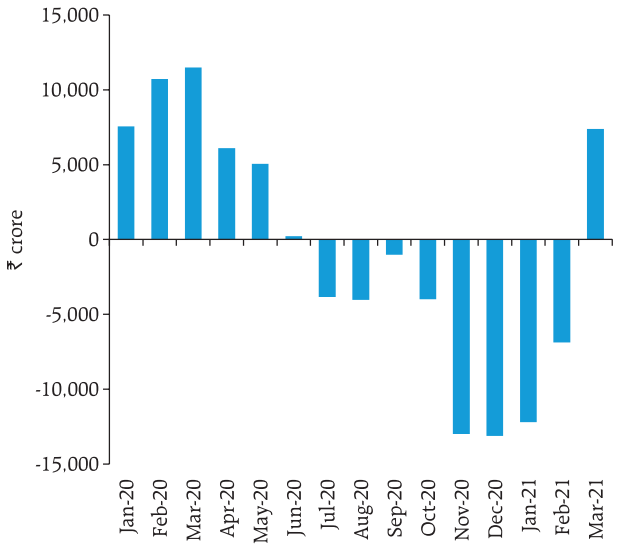
March turned out to be a busy month for investors in initial public offerings (IPOs), as nine companies came out with main board IPOs and raised ₹6,083 crore from the primary capital market, recording

Chart 40: Performance of Global Equity Markets during March 2021



Source: Bloomberg.

Chart 41: Net Inflows in Equity-Oriented MFs

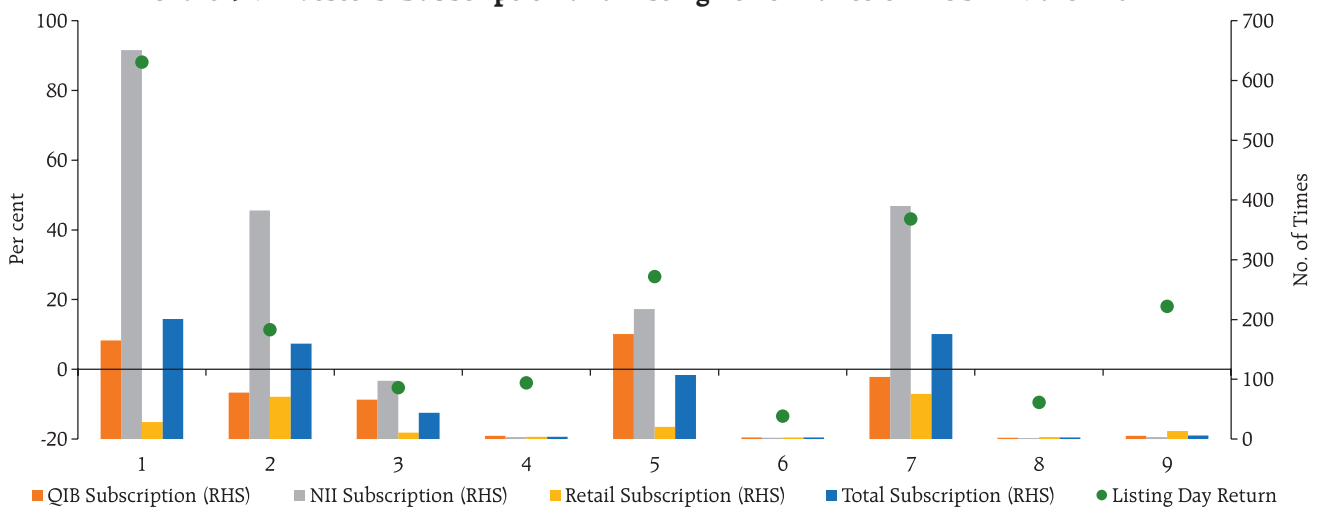


Source: SEBI.

sizable oversubscriptions, particularly from high net-worth individuals (HNIs), retail investors and mutual funds (Chart 42). With an average subscription of 78 times of the IPO amount, the average listing day returns of 17.3 per cent turned out to be moderate as secondary market conditions turned volatile in March. In view of the upbeat listing day performance of IPOs and buoyant secondary market conditions in the past few months, companies reportedly have been aggressively pricing their IPOs. Following the sharp increase in demat accounts opened during 2020-21, retail participation in IPOs has been impressive and is expected to remain strong going forward.

In a related development, the Securities and Exchange Board of India (SEBI)'s Board approved relaxation of conditions for listing on the Innovators Growth Platform of stock exchanges in order to encourage Indian start-ups to list in domestic markets rather than foreign capital markets. They include reduction in the holding period of 25 per cent of pre-issue capital to one year from two years, allowing discretionary allocation of up to 60 per cent of the issue size to eligible investors with a lock-in period of 30 days on such shares, changing the threshold for triggering open offers from the existing 25 per cent to 49 per cent and easing of rules for companies seeking to migrate to the Main Board from the Innovators Growth Platform. The move assumes significance as it comes at a time when various Indian start-ups are exploring the option to list overseas as the phenomenon of SPAC gains traction.

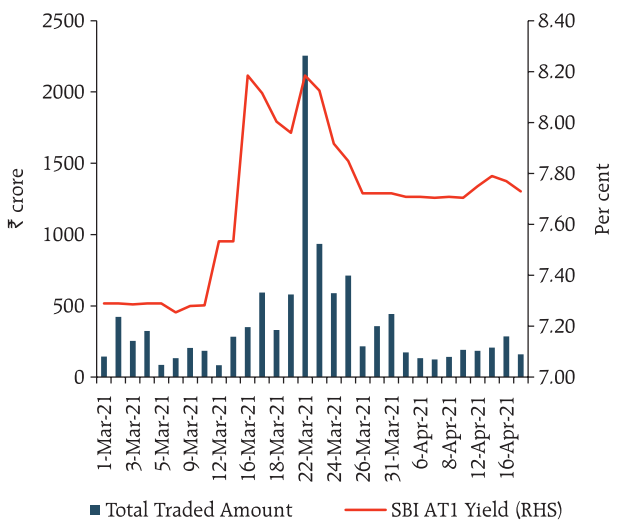
Chart 42: Investors' Subscription and Listing Performance of IPOs in March 2021



Note: QIB= Qualified Institutional Buyer, NII= Non-Institutional Investor includes Resident Indian individuals, non-resident Indians and Hindu Undivided Families investing more than ₹2 lakh, corporate bodies, trusts, science institutions, and societies.
Sources: BSE; NSE; and RBI staff calculations.

In the fixed income market segment, Additional Tier 1 (AT1) bonds became the talk of the town following the release of the SEBI's circular on March 10, 2021. It specified that the maturity of all perpetual bonds should be treated as 100 years from the date of issuance of the bond for the purpose of valuation by mutual funds. Earlier, perpetual bonds were priced to call option date. In addition, the SEBI also capped a mutual fund scheme's exposure to AT1 bonds and Tier 2 bonds issued by banks to 10 per cent of debt assets with a 5 per cent cap on single issuer exposure, allowing for grandfathering of existing excess investments. Furthermore, the SEBI also specified that closed ended debt schemes shall not invest in perpetual bonds[39]. Accordingly, yields on AT1 bonds, which are typically issued by public sector banks to shore up Tier 1 capital requirements, rose sharply in the secondary market (Chart 43). In response to demands from various quarters to roll back the measures, the SEBI released another circular on March 22, 2021 proposing the implementation of the new valuation methodology in a phased manner. Nonetheless the market for AT1 bonds is in disarray, and overcast with pessimistic sentiment.

Chart 43: Secondary Market Activity in AT1 Bonds

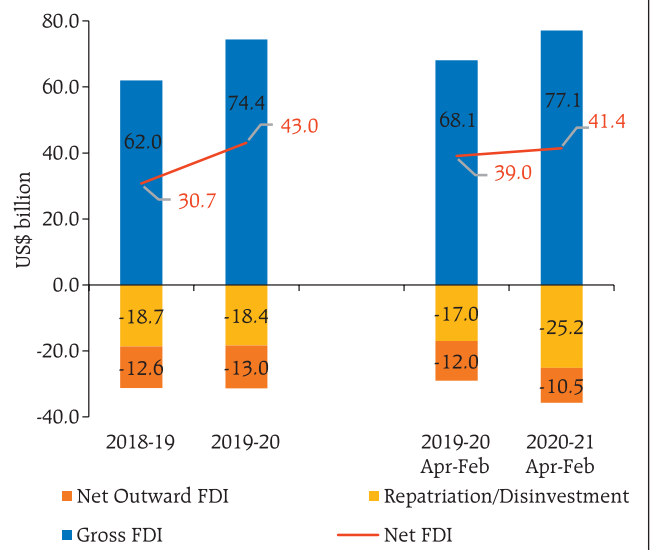


Sources: Central Depository Services Limited (CDSL); and RBI staff calculations.

Following the proposal in the Union Budget 2021-22 for a permanent institutional framework for instilling confidence amongst participants in the corporate bond market during times of stress and enhancement of secondary market liquidity, the Finance Minister made an announcement in March 2021 that the SEBI would set up a Corporate Debt Market Development Fund (CDMDF) to provide liquidity to mutual funds and other participating institutional investors in the corporate bond market. The key mandate of the fund would be to trade in corporate debt with a focus on below AAA rated paper. A special purpose vehicle (SPV) is proposed to be set up with contribution from mutual funds and other institutional investors, with the majority ownership lying with a subsidiary of a public sector mutual fund. The SPV shall act as the buyer of the last resort during stress times, and even act as a market maker during peace times.

Notwithstanding repatriation of equity exceeding fresh inflows in domestic companies in February 2021, net foreign direct investment flows at US$ 41.4 billion in 2020-21 (April-February) were higher than US$ 39.0 billion a year ago (Chart 44).

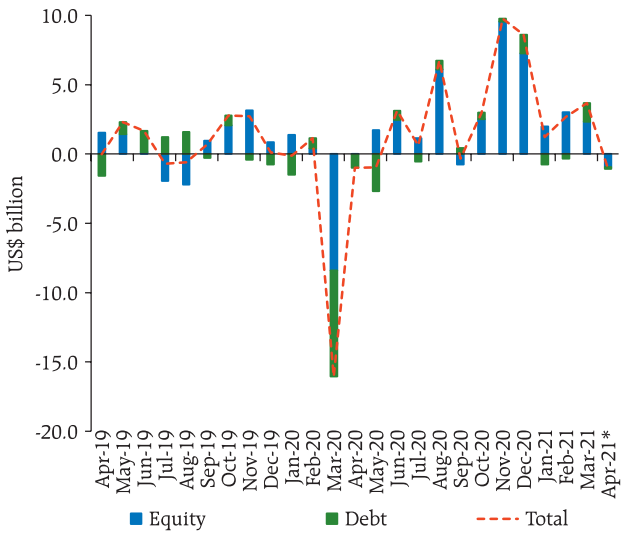
Chart 44: Foreign Direct Investment



Source: RBI.

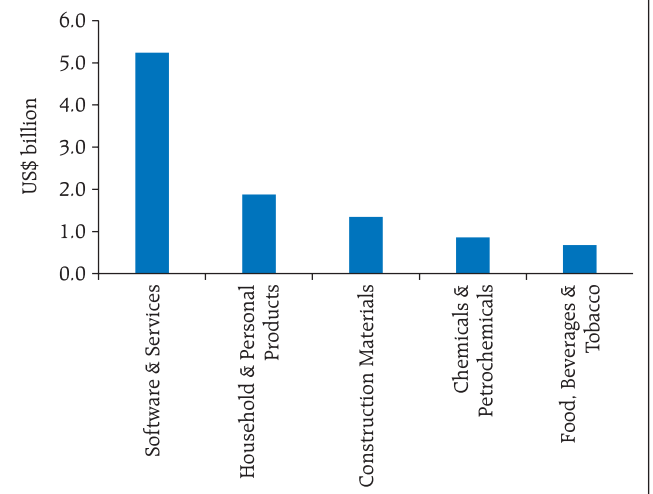
[39] Close ended debt schemes can invest only in such securities which mature on or before the date of the maturity of the scheme.

Chart 45: Net Foreign Portfolio Investment



*: Up to 22nd.
Source: National Securities Depository Limited (NSDL).

Chart 46: Change in FPIs' Exposure in Equity Market
(Between end-February 2021 and end-March 2021)



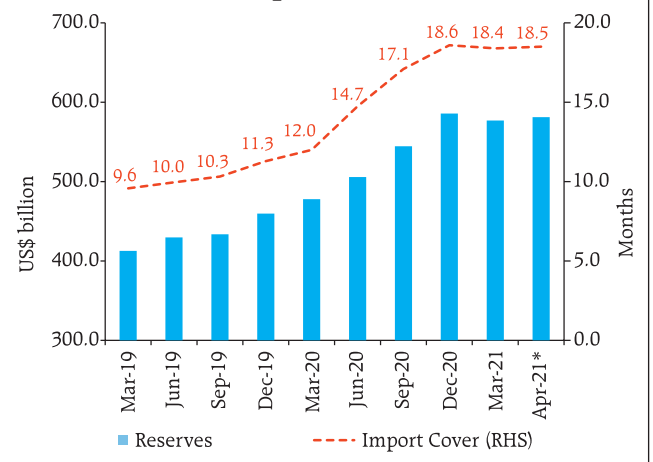
Source: National Securities Depository Limited (NSDL).

Amidst rising US treasury yields, the risk appetite of global investors for EMEs remained muted. Net purchases by foreign portfolio investors (FPIs) in the domestic equity market were modest in March 2021. In the debt segment, FPIs turned net purchasers in March 2021, following a sell-off in previous two months. Cumulatively, FPIs net investment in equities was to the tune of US$ 37.3 billion in 2020-21 (Chart 45). In the equity segment, majority of FPIs net investment in March 2021 was in software and services, household and personal products, and construction materials sectors (Chart 46). However, unnerved by sharp escalation in COVID-19 cases and the consequent restrictions imposed by various states, FPIs reduced their exposure by US$ 1.1 billion in April 2021 (up to 22) in domestic capital market.

Foreign exchange reserves, after reaching its all-time high of US$ 590.2 billion on January 29, 2021, were at US$ 582.4 billion on April 16, 2021, equivalent to 18.5 months of imports (Chart 47).

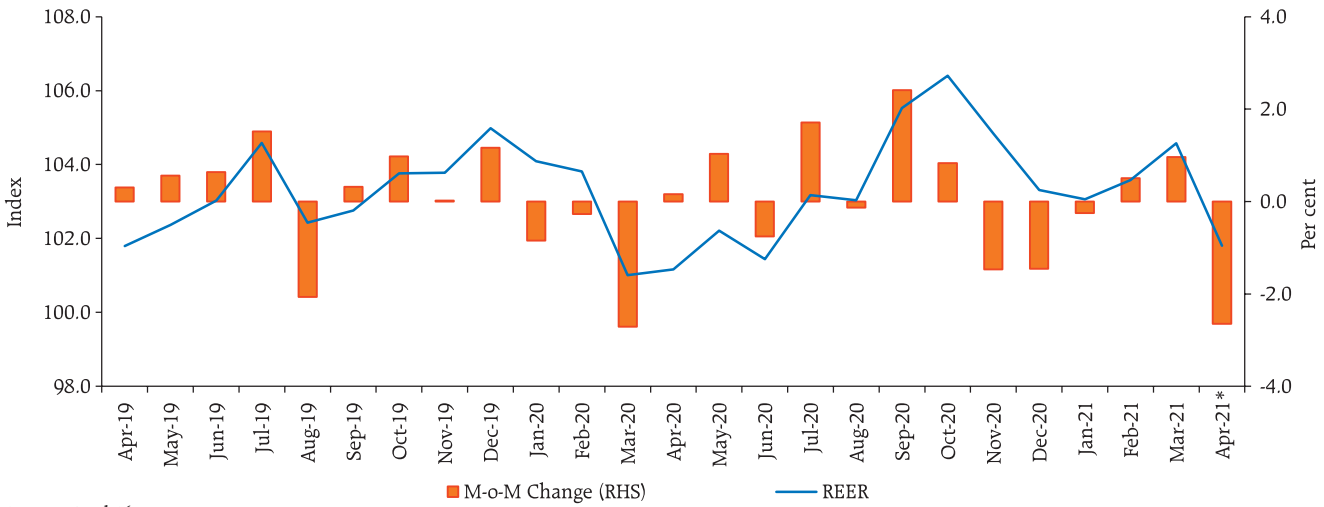
In the foreign exchange market, the Indian rupee (INR) strengthened against the US dollar in March on the back of FPI inflows. As at end-March 2021, the INR appreciated by 2.6 per cent against the US dollar over its level at end-March 2020. Thereafter, the INR depreciated against the US dollar amidst concerns over rising COVID-19 infections in India. In terms of the 40-currency real effective exchange rate (REER) index, the INR appreciated by 3.5 per cent in March

Chart 47: Foreign Exchange Reserves and Import Cover



*: As on April 16.
Note: Figure on import cover for April 2021 is based on balance of payments data released for Q3:2020-21 and earlier quarters.
Source: RBI.

Chart 48: Monthly Movement in 40-Currency Real Effective Exchange Rate (REER)
(Base: 2015-16 = 100)



*: Up to April 16.
Source: RBI.

over its level a year ago (Chart 48). However, the INR, in terms of REER index, depreciated by 2.6 per cent in April 2021 (up to 16) over its level in the previous month.

Payment System

Throughout 2020-21, digital transactions maintained a steady growth momentum (Table 4). Real Time Gross Settlement (RTGS) data point to a slowdown in wholesale transaction value in 2020-21. Notwithstanding this blip, volume growth withstood the pandemic. On the other hand, retail payments, in general, grew strongly compared to a year ago. Transactions through National Electronic Funds Transfer (NEFT), National Electronic Toll Collection (NETC) and the Bharat Bill Payment System (BBPS) registered acceleration over the previous year. Other digital retail payments like the Unified Payments Interface (UPI), Immediate Payment Service (IMPS) and National Automated Clearing House (NACH) exhibited resilience and demonstrated healthy growth. In fact, there was a near doubling of both transaction volume (from 12.5 billion to 22.3 billion) and value (from ₹21.3 lakh crore to ₹41 lakh crore) between FY2020 and 2021. On the cash front, withdrawals through Aadhaar enabled Payment System (AePS) hastened on account of direct benefit transfers (DBT) under the Government's social assistance programs. Owing to this COVID-19 induced push, the AePS has made rapid strides in India's digital payments, especially in rural areas, from humble beginnings. The Cheque Truncation System (CTS) had a dwindling number of takers – a testament to the shift towards digital modes.

Table 4: Growth Rates in Select Payment Systems in 2020-21

Payment System	Transaction Volume Growth (Y-o-Y, per cent)				Transaction Value Growth (Y-o-Y, per cent)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
RTGS	-26.2	3.1	10.2	31.1	-37.9	-28.6	-7.7	-2.9
NEFT	-3.9	9.8	23.2	17.8	-20.9	12.4	26.6	15.6
UPI	57.3	82.4	77.3	89.6	43.2	98.5	104.6	112.5
IMPS	-9.6	26.0	40.5	42.9	-4.8	27.9	34.6	40.6
NACH	32.8	13.0	0.9	-10.2	20.4	10.3	6.8	1.3
NETC	83.9	249.2	195.0	75.3	61.4	181.0	139.3	66.2
BBPS	66.0	103.2	84.4	102.7	62.4	108.9	83.5	131.9

Source: RBI.

Developments in March and April 2021 demonstrate some notable features of the turnaround

underway in India's digital ecosystem. RTGS transaction volume is swelling compared to March and April 2020. NEFT, UPI, IMPS, NETC and BBPS worked overtime and clocked acceleration in growth rates (y-o-y) in both transaction value and volume. The value of interbank cash withdrawals logged under the National Financial Switch witnessed significant growth in March and April after decelerating in most months of 2020-21, suggesting a return to normalcy and reinstatement of demand for currency notes. With FASTags becoming mandatory since February 2021, NETC growth numbers jumped in March (129 per cent in volume and 117 per cent in value terms, compared with 44 and 39 per cent last month) and are expected to show tremendously high growth (y-o-y) in April, due to the base effect from the stringent lockdown last year.

Recent innovations in digital payments include the RuPay SoftPoS [which transforms near-field communication (NFC) enabled smartphones into Point of Sale terminals for retailers, digitally enabling merchants to accept contactless payments] and the National Payments Corporation of India's (NPCI) initiative to revive digital payments on feature phones by initiating development of a voice-enabled payments product. These initiatives are in line with the mission of the Reserve Bank's Payments Infrastructure Development Fund to boost acceptance and lower the cost of digital payments in emerging India. There is palpable enthusiasm over the Reserve Bank's call to the private sector to establish Umbrella Entities for retail payments, which has piqued interest of well-established conglomerates and unicorns alike. This move bodes well for the Reserve Bank's long-standing endeavour to nurture innovation and competition in the sector. The Reserve Bank of India (Digital Payment Security Controls) directions 2021 will be pivotal in protecting the consumer in the move-fast-break-things world of digital business. In the Monetary Policy Statement of April 7, 2021 the RBI has enabled regulated payment system operators to take direct membership in the Centralised Payment Systems (NEFT and RTGS). This membership was earlier limited to banks; the move will help reduce settlement risk and expand digital financial services. With regards to Prepaid Payment Instruments (PPIs), the Reserve Bank has made interoperability mandatory for full-KYC compliant PPIs and for all acceptance infrastructure. Cash withdrawal from non-bank issued full-KYC PPIs has been allowed. For a balanced development of Digital India, the Ministry of Electronics and IT (MeitY) has provided a much-needed push on the hardware side with its production-linked incentive (PLI) scheme, for which it has started inviting applications for the second round of the scheme[40]. This will bolster the country's *aatma nirbharta* in motherboards, semiconductors, and other electronic components.

Going ahead, Digital India has potential to grow. A survey in the Asia-Pacific region (APAC) by Mastercard[41] reveals considerable optimism among Indians on this count. With the focus on safety, hygiene and convenience, there has been a sudden uptick in digital orders and contactless payments. 58 per cent of Indian respondents intend to increase their usage of contactless payments such as debit and credit cards, prepaid cards, and mobile wallets. Moreover, 81 per cent believe that contactless payment is here to stay. Two out of three Indians feel secure making online payments, which is 10 per cent higher than in other countries in the APAC region. These results also underline the need to ramp up efforts on digital education, privacy protection and online security. FinTechs, like many other businesses, can be sharp-elbowed and there is a need for strong

[40] *https://retail.economictimes.indiatimes.com/news/consumer-durables-and-information-technology/consumer-electronics/meity-invites-applications-for-second-round-of-large-scale-electronics-manufacturing-under-pli-scheme/81503217.*

[41] "*Preparing for the post-covid-19 world: India consumer sentiment tracker*", Mastercard, March 2021.

regulation, supervision and legal safeguards in the space, including but not limited to strong data privacy and security legislation.

V. Conclusion

India battles a ferocious rise of new infections and mortalities, perhaps the fastest for any country of continental dimensions. Healthcare infrastructure is strained and so are vaccine supplies, financial markets are reeling and earnings forecasts face downgrades. Yet this too shall pass. We have seen off the first wave, and we have largely adapted. Pandemic protocols, speedier vaccination, ramping up hospital and ancillary capacity, and remaining resolutely focused on a post pandemic future of strong and sustainable growth with macroeconomic and financial stability is the way forward. As Benjamin Franklin used to say, energy and persistence conquer all things. When we strive to become better than we are, everything around us becomes better too[42]. In the words of Fyodr Dostoyevsky, the secret of man's being is not only to live but to have something to live for. India has a lot to live for; among them is the strong likelihood of being the world's fastest growing economy in 2021 and 2022.

India is mobilising rapidly to rendezvous with this outlook. A strong response to the second surge is building up. On April 19, it was announced that vaccination will be opened up to all Indians above the age of 18 from May 1, 2021. Vaccine manufacturers have been empowered to release up to 50 per cent of their supplies to states through the open market at a pre-declared price. Vaccine pricing has been liberalised to incentivise a ramp up of supplies and to attract new manufacturers into vaccine production. A total of ₹4,500 crore has been approved for augmenting existing capacity. There are many ways of going forward, but only one way of standing still[43].

It is noteworthy that economic activity in India is holding up admirably against COVID -19's renewed onslaught. Much attention has been drawn to the wilting of incoming data in the face of the second wave and localised restrictions. Yet, it is important to note that it is the sentiment indicators that have moderated. Apart from contact-intensive sectors, activity indicators largely remained resilient in March and grew beyond pre-pandemic levels on the back of strong momentum rather than statistical base effects.

The April 16 forecast of the India Meteorological Department is the icing on the cake – once again, the monsoon's passion is set to captivate India. As the sage Valmiki wrote in the Ramayana, the sky 'will drink the waters of the ocean and give birth to a liquid offspring, the elixir of life. The scorched earth will wear a robe of brilliant green'. According to the US National Oceanic and Atmospheric Administration, a transition from La Niña to ENSO-neutral is likely in the next month, with an 80 per cent chance of ENSO-neutral prevailing during May-July 2021. The Australia Bureau of Meteorology has noted that the El Niño–Southern Oscillation (ENSO) is neutral, and with no sign of El Niño or La Niña developing. Its climate model suggests that the tropical Pacific Ocean will remain at neutral ENSO levels at least until September. These conditions are propitious for a life-giving normal south-west monsoon in India, irrigating 50 per cent of India's farmlands, boosting agricultural performance with ripple effects on rural demand (FMCG; tractors and other agriculture implements; fertilisers and two wheelers), stabilising food prices, and potentially saving fiscal revenues that would otherwise have had to be assigned to MGNREGA, drought relief, farm debt waivers and other incentives and subsidies. Agriculture and allied commodities exports showed resilience despite COVID-19 related disruption, growing in double digits overall during 2020-21. Exports, especially of wheat, non-*basmati* rice, oil meals, and spices, registered strong growth.

[42] Paul Coelho in *The Alchemist* (1988).

[43] Franklin Roosevelt

This has helped India further improve the favourable trade surplus it enjoys in agricultural commodities. According to industry representatives, agriculture exports are expected to continue on the robust growth path in future on account of access to newer markets combined with strong demand from traditional markets for Indian agricultural products.

Half a year has gone by since we re-launched this article in the RBI's monthly Bulletin after a hiatus of 25 years to keep its readership abreast of current macroeconomic and financial developments. We have sought to dispel the heightened uncertainty brought on in pandemic times by information asymmetry. The article has received a fair amount of interest, which has also included some constructive criticism. This has gratified us – as the heat and dust settles, there will be light. The very thought incentivises us to keep raising the bar with regard to information flow while upholding the readership's prerogative to hold diverging views so that an informed debate ensues. For instance, one view is that we are too optimistic[44]. Yes, confronted with a once-in-a-lifetime pandemic with no known cure so far, with infections and deaths that have drawn comparison to the Spanish flu of 1918, we have dared to keep the faith and dream about a COVID-vanquished world. There are several positives in this experience – the virus has shown us how globalised we are; the unprecedented and synchronised policy response we can mount when confronted with seemingly insurmountable odds; the swiftness with which the genome sequence of the virus was mapped and shared worldwide; the speed with which vaccines were developed. We are dealing with a pestilence that spreads not linearly but in waves, and peaks inevitably give way to troughs with learning experiences during and between that wound but also strengthen. And so, we 'hope in the face of difficulty. Hope in the face of uncertainty. The audacity of hope!'[45]

The prognosis made in the March 2021 edition of the capex cycle poised to turn up and of corporate earnings exceeding expectations are based on hard data on lead/coincident indicators that have been cited. Offsetting the decline in capital expenditure by state governments in 2020-21, the Centre and its public sector enterprises (CPSEs) held the fort. The combined capital expenditure of 37 large CPSEs and departmental undertakings – all with annual capex budgets above ₹500 crore – was ₹4.6 lakh crore in 2020-21. This was 92 per cent of the ₹5-lakh-crore target for the year and 4.3 per cent higher than the capital spending by these entities in the previous year.[46]

Early results of corporate performance in January-March 2021 indicate strong growth in revenues and net profits. Unlike in preceding quarters, this was driven by a pick-up in demand and order inflows. Rising digitalisation is the engine powering a stellar performance of IT companies in the quarter. Capacity utilisation is steadily rising, and the latest round of the RBI's Industrial Outlook survey envisages further expansion through the first three quarters of 2021-22. Electricity consumption, a real time indicator of economic activity since it cannot be stored, has risen sharply in April on top of steady growth in seven preceding months. Recent media reports, based on initial data collated by the Ministry of Commerce and Industry, indicate that India's merchandise exports have posted a robust uptick in the first week of April 2021, led by engineering goods, gems and jewellery, and petroleum products. Imports also have shown a similar spurt, owing largely to landings of crude petroleum, its products, and electronics.

[44] Business Standard, April 13, 2021; Deccan Herald, April 11, 2021

[45] Obama, B. (2006). *The Audacity of Hope: Thoughts on Reclaiming the American Dream.*

[46] PHD Research Bureau, PHD Chamber of Commerce and Industry.

[47] Francis William Bourdillon in *The Night has a Thousand Eyes, 1899.*

It is not out of place to hope that these positive monthly developments reinforce each other and extend into a continuum that spans the medium-term. There will be pitfalls along the way, but it is important to remain focused on the destination rather than the journey. The outlook for the Indian economy is bright by any projection. If the relatively conservative growth forecast of the Reserve Bank holds, India's GDP in 2021-22 will exceed its level in the pre-pandemic year of 2019-20. There will be scars, some taking longer than others to heal, but there will also be a celebration of life, with humankind building stately mansions of achievement, each new temple nobler than the last. And it is important to retain that light amidst the encircling gloom. It is said that the mind has a thousand eyes[47], but eyes are useless when the mind is blind.

ARCs in India: A Study of their Business Operations and Role in NPA Resolution *

India introduced asset reconstruction companies (ARCs) as private sector institutions as part of its financial sector reforms unlike many other countries that experimented with a public sector model of such institutions following banking crises. The evolution of Indian ARCs has been marked by phases of growth and lull, shaped by emerging macro-financial conditions and regulatory changes. The ARC sector remains reliant on domestic capital, particularly from banks. The cost of acquisition to book value ratio, although posting a slow rise, remains low and is marked by a wide variation across ARCs and sectors. There is a considerable concentration of security receipts of older vintage in ARCs' books.

1. Introduction

The deterioration in asset quality has been a subject of continued concern for the Indian banking sector since the last decade. The gross non-performing asset (NPA) ratio of banks, which had remained largely unchanged in the period immediately following the global financial crisis, started inching up from 2011 onwards, and increased sharply after 2015 (RBI, 2018). In 2015, the Reserve Bank undertook the Asset Quality Review (AQR) to encourage a proactive asset quality recognition by banks.

While proactive asset recognition is important for a correct assessment of the health of the banking system, it needs to be followed by an effective asset resolution and recovery by banks. The absence of an effective resolution and recovery (often referred to as asset reconstruction) mechanism can discourage recognition of NPAs by banks in the first place. The lack of recourse to timely recovery can also deteriorate the economic value of assets adding to the losses incurred by banks over time.

This article looks at asset reconstruction companies (ARCs), an important player in the asset resolution mechanism in India. Although introduced in 2002, the evolution of ARCs has been neither smooth nor steady. There have been phases of growth and lull for these institutions, explained by changes partly in macro-financial conditions and partly in regulatory environment surrounding these institutions. This article traces the evolution of these institutions, and analyses key features of their structure and business operations, and thereby their role in NPA resolution. Some of the relevant policy changes relating to these institutions have also been discussed. The article compares the Indian ARC model with those from other countries and highlights the international best practices emerging therefrom.

The rest of the article is divided into six sections. Section 2 discusses the broad contours of the NPA resolution mechanism in India with a focus on ARCs. Section 3 compares the Indian ARC model with those in other countries. Section 4 provides key features of the ARC industry in India, while Section 5 analyses the key features of the business operations of these companies. Section 6 provides the concluding observations, and highlights certain issues relating to the future development of ARCs.

2. Evolution of the Asset Resolution Mechanism with Special Reference to ARCs

An effective asset resolution mechanism is an integral part of a well-functioning financial system. It was with this understanding that the Recovery of Debts Due to Banks and Financial Institutions (RDDBFI) Act was passed in 1993 as part of financial sector reforms, following the recommendations of the Committee on the Financial System (CFS), popularly known as the Narasimham Committee I. With the

* Article prepared by Amarnath Yadav and Pallavi Chavan from the Department of Supervision (DoS). Guidance received from R. Ravikumar, formerly CGM, DoS, is gratefully acknowledged. The views expressed are those of the authors and not of the organisation to which they belong.

enactment of the RDDBFI, Debt Recovery Tribunals (DRTs) were established as special tribunals to deal with loan recovery of cases involving a pecuniary limit of ₹10 lakh (increased to ₹20 lakh in 2018). The DRTs were also authorised to form Lok Adalat to decide on cases involving an amount of up to ₹20 lakh.[1]

The DRTs had a promising start, with the amount recovered through these tribunals as per cent of amount involved being in double digits in the initial years and reaching as high as 81 per cent in 2008-09 (Table 1). However, the rate of recovery reduced to single digits in the subsequent years; in 2019-20, the percentage of amount recovered through DRTs was about 4 per cent of the amount involved. These specialised tribunals were created for a speedy settlement to take the burden off civil courts of debt-related matters. In reality however, there were considerable delays in settlement by these tribunals, owing partly to their over-stretched capacity and inadequate infrastructure (Bhagwati *et al.*, 2017).

The passage of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act (SARFAESI Act) in 2002 empowered banks and financial institutions to recover secured loans by enforcing the security interest, and auctioning borrowers' property without any court intervention. As part of the SARFAESI Act, ARCs were set up as another institutional alternative for NPA resolution in India. The ARCs, regulated and supervised by the Reserve Bank, were institutions created for the sale of financial assets by banks and financial institutions.

Table 1: Distribution of NPAs Recovered by Banks, Various Channels

Year	Lok Adalat			DRTs			ARCs			IBC			Total	
	Percentage of total amt involved	Percentage of total amt recovered	Amt recovered as per cent of amt involved	Percentage of total amt involved	Percentage of total amt recovered	Amt recovered as per cent of amt involved	Percentage of total amt involved	Percentage of total amt recovered	Amt recovered as per cent of amt involved	Percentage of total amt involved	Percentage of total amt recovered	Amt recovered as per cent of amt involved	Total amount involved (₹ crore)	Total amount recovered (₹ crore)
1	2	3	4	5	6	7	8	9	10	11	12	13	**14**	**15**
2003-04	5.1	3.3	13.5	53.3	79.1	30.9	41.5	17.6	8.9	-	-	-	**47535**	**9921**
2004-05	2.8	2.2	14.1	50.5	51.8	18.8	46.7	46.1	18.1	-	-	-	**28342**	**5192**
2005-06	6.5	2.7	20.3	35.9	56.4	76.9	57.6	41.0	34.8	-	-	-	**17055**	**8356**
2006-07	4.0	1.4	14.0	48.3	47.3	37.8	47.7	51.2	41.4	-	-	-	**18972**	**7318**
2007-08	14.1	2.3	8.2	38.2	39.6	51.9	47.7	58.1	61.0	-	-	-	**15224**	**7625**
2008-09	19.9	1.3	2.4	20.4	45.1	81.1	59.7	53.6	33.0	-	-	-	**20220**	**7426**
2009-10	23.1	1.5	1.5	31.3	41.7	32.0	45.6	56.8	30.0	-	-	-	**31281**	**7514**
2010-11	10.5	1.0	2.9	28.2	25.1	27.9	61.3	73.9	37.8	-	-	-	**49950**	**15642**
2011-12	2.8	1.4	11.8	39.4	28.5	17.0	57.8	70.1	28.6	-	-	-	**61100**	**14400**
2012-13	6.2	1.7	6.1	29.3	18.9	14.2	64.4	79.4	27.2	-	-	-	**105700**	**23300**
2013-14	13.3	4.4	6.0	31.8	16.6	9.6	54.8	79.1	26.5	-	-	-	**173800**	**32000**
2014-15	12.5	3.2	3.2	24.3	13.6	7.0	63.2	83.1	16.3	-	-	-	**248200**	**30800**
2015-16	32.5	14.0	4.4	31.3	28.1	9.2	36.2	57.9	16.5	-	-	-	**221400**	**22800**
2016-17	13.0	6.0	6.4	36.2	26.8	10.2	50.8	67.3	18.3	-	-	-	**278300**	**38500**
2017-18	16.9	4.5	4.0	49.2	17.9	5.4	30.3	65.4	32.2	3.7	12.2	49.6	**270631**	**40352**
2018-19	7.4	2.3	5.1	37.0	8.9	3.9	35.6	32.8	15.0	20.4	56.2	45.7	**725996**	**118647**
2019-20	9.1	2.4	6.2	33.1	5.8	4.1	26.5	30.5	26.7	31.3	61.3	45.5	**742431**	**172565**

* Amount recovered refers to amount recovered during a given year, which could be with reference to cases referred during the given year as well as earlier years.
Source: Report on Trend and Progress of Banking in India.

[1] Lok Adalat were developed as part of the Legal Services Authorities Act, 1987 for ensuring a civil settlement between banks and non-performing borrowers. Lok Adalat have been useful for settlement of dues in respect of smaller loans. In 2019-20, 59,86,790 cases involving ₹67,801 crore were pending before Lok Adalat, reflecting the small-size orientation of these institutions.

The creation of ARCs was an important financial sector reform following the recommendations of the Committee on Banking Sector Reforms (Narasimham Committee II), which was expected to speed up the process of resolution and recovery of secured assets. Finally, in 2016, came the Insolvency and Bankruptcy Code (IBC) that took the NPA resolution mechanism many steps further, as it was expected to streamline the insolvency resolution process for corporates and individuals, and protect the interests of not just secured but also unsecured creditors.[2]

The IBC has by far been the most significant reform concerning NPA resolution. In 2019-20, the amount recovered as per cent of the amount involved under IBC was 45.5 per cent, followed by 26.7 per cent for ARCs. While the amount recovered through ARCs as per cent of amount involved was significantly higher in the initial years of their inception, in the recent years, it has dipped below 30 per cent except for a spurt in 2017-18.

The ARCs, however, continue to be an important channel of loan recovery for banks and have a role to play in the field of asset management even in the post-IBC world.[3] Their share in total amount involved across all four channels of recovery has ranged between 25 per cent and 35 per cent since the introduction of the IBC. Furthermore, they account for about 30 per cent of the total amount recovered through all channels.

3. A Comparison of the Indian ARC Model with the Models in Other Countries

The term ARC has been in usage in the Indian context; the common global parallel of it is an asset management company (AMC). AMCs can take two forms, those with a focus on bank resolution and those dealing with NPA resolution (Cerruti, 2018).

There have been several experiments of AMCs dealing with NPA resolution in other countries. Some of the successful ones include, Securum of Sweden which was set up in 1992 and wound up in 1997, and which succeeded in recovering close to 86 per cent of the amount involved (Bergstrom *et al.*, 2003). Similarly, Danaharta of Malaysia, set up following the Asian financial crisis and operational between 1998 and 2005, managed to recover about 58 per cent of the amount involved (Dreyer, 2020). Among the AMC experiments reviewed by the World Bank, the performance of the Non-Performing Assets Trust (NPART) of Ghana that was in existence from 1989 to 1997 was regarded as satisfactory (World Bank, 1997).

While each of the above was a government-owned AMC, there have been experiments involving public-private partnership also. To illustrate, following the global financial crisis, Spain created Sareb in 2012 with a lifespan of 15 years, involving private (including Spanish banks and financial institutions) and public equity in a ratio of 55:45 (Cerruti, 2018 and EY, 2020). Similarly, Ireland set up National Asset Management Agency (NAMA) in 2009 following the global financial crisis with private investors and state treasury contributing 51 per cent and 49 per cent to its equity, respectively (*ibid.*).

AMCs in certain countries were also financed using government-backed bonds. For instance, AMCs in South Korea and Thailand, set up after the Asian financial crisis, relied predominantly on government-backed AMC bonds to reduce stress on budgetary resources (Fung *et al.*, 2004). There are cases, although a few, of entirely private sector AMCs, similar to that of India. For instance, Bankaktiengesellschaft (BAG) is a federal association of German cooperative banks that specialises in restructuring the problem loans of these banks.

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2 For details on IBC, see IBBI (2019).

3 In fact, it is important to view IBC as a complement than a substitute to the earlier institutional alternatives for asset resolution. This is because the IBC not just builds on these alternatives but can also support them. For instance, DRTs are designated as the adjudicating authorities for insolvency of individuals and partnership firms under the IBC. Similarly, the availability of an efficient bankruptcy regime has been identified as an important precondition for the success of asset management companies; see best practices from other countries discussed in Section 3.

The common features that emerge from the foregoing discussion on AMC experiments are the following: a. AMCs in most countries were set up following a domestic and/or global banking crisis or crisis-like situation that led to a surge in banks' non-performing loans; b. Most AMCs were in existence for a pre-defined period; c. Most AMCs were set up with either direct equity participation or support from the government.

Evidently, the Indian ARC model differs from the models in other countries in some fundamental ways. Firstly, ARCs in India were set up at a time when the NPA ratios of banks were significantly high; the gross NPA ratio was rising between 1998 and 2002 and was in the range of 10-14 per cent. While the increasing trend in NPAs could be deemed as a proximate cause for strengthening the asset resolution mechanism, the move to set up ARCs was ultimately linked to the broad process of financial sector reforms, and could be considered as being more proactive than reactive in nature. As already noted, the passage of the SARFAESI Act was a fallout of the recommendations of the Narasimham Committee II.[4]

Secondly, as they were not strictly tasked with addressing any specific crisis, ARCs in India did not come into being for a pre-defined period. Thirdly, Indian ARCs have been private sector entities registered with the Reserve Bank. Public sector AMCs in other countries have often enjoyed easy access to government funding or government-backed funding (Cerruti and Neyens, 2016). By contrast, capital constraints have often been highlighted as an area of concern for ARCs in India (Bhagwati *et al.*, 2017).

Very recently, the Government of India has announced an asset reconstruction and asset management company backed by government guarantee to address the problem of NPAs with public sector banks.[5] In setting up such a company, the international best practices on AMCs can be a useful guide. As per the World Bank and the Financial Stability Institute, the AMC experiments, including the ones discussed earlier, that succeeded in fulfilling their original mandate were the ones that had: (i) a narrow mandate (such as resolving NPAs) with clearly defined goals; (ii) a sunset clause defining their lifespan; (iii) supportive legal infrastructure involving bankruptcy and private property laws; (iv) a backing of a strong political will to recognise problem loans; (v) a commercial focus of the AMC including governance, transparency, and disclosure requirements (Cerruti and Neyens, 2016; Fung *et al.*, 2004).

4. Major Features of the ARC Industry in India

4.1 Growth of the Industry

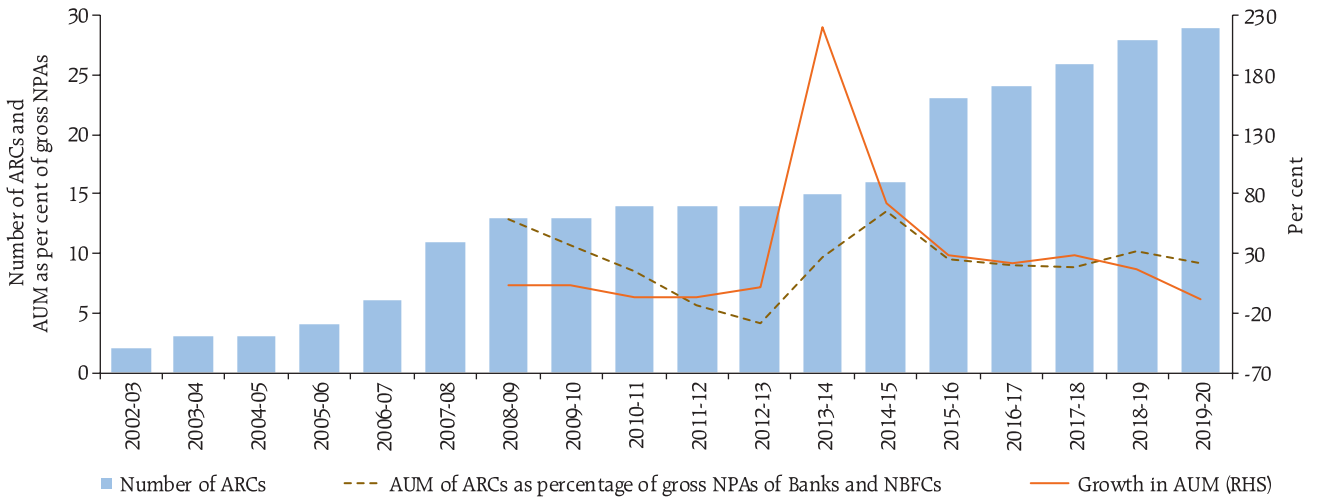
The growth of the ARC industry has not been consistent over time and not always been synchronous with the trends in NPAs of banks and non-banking financial companies (NBFCs). The ARC industry began with the establishment of the Asset Reconstruction Company India Limited (ARCIL) in 2003. After remaining subdued in the initial years of their inception, a jump was seen in the number of ARCs in 2008, and then in 2016 (Chart 1). Notwithstanding the increase in the number of ARCs, the growth in their assets under management (AUM) has been largely trendless except for a major spurt in 2013-14.[6] When compared with the volume of NPAs of banks and NBFCs, the AUM of ARCs has been on a declining trend except during the period of high growth in the AUM around 2013-14.

[4] The legal aspects about securitisation were studied further by the Committee set up under the chairmanship of Shri T R Andhyarujina. Hence, the SARFAESI Act is often regarded as an outcome of both Narasimham II and Andhyarujina committees.

[5] See Union Budget Speech – 2020-21 at https://www.indiabudget.gov.in/doc/budget_speech.pdf and "New ARC aimed at specific set of bad assets with PSBs: Das", *Financial Express*, February 26, 2021 and "Govt may provide some guarantee for bad bank, says FM", *Economic Times*, February 8, 2021.

[6] The spurt could be explained in part by the economic slowdown since 2011, which saw a rise in NPAs of banks, particularly in the infrastructural sector. Bhagwati *et al.*, (2017) argue that the changes in the ARC-related guidelines in 2014 also resulted in this spurt.

Chart 1: Number of ARCs and AUM Growth



Note: Data on AUM are not available for the years before 2008-09.
Sources: 1. Statistical Tables Relating to Banks in India.
2. Report on Trend and Progress of Banking in India.

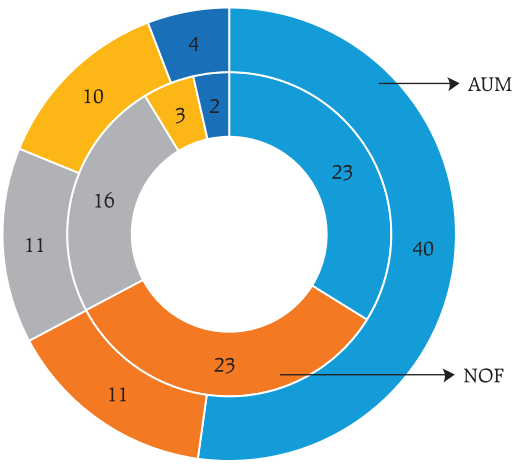
4.2 Concentration

Although the number of ARCs has increased over time, their business has remained highly concentrated. Of the total AUM, about 62 per cent and 76 per cent was held by the top-three and top-five ARCs in March 2020, respectively. Furthermore, in terms of the capital base of the industry, 62 per cent was held by top-three ARCs; the corresponding share was 67 per cent for the top-five ARCs (Chart 2).

4.3 Shareholding Pattern

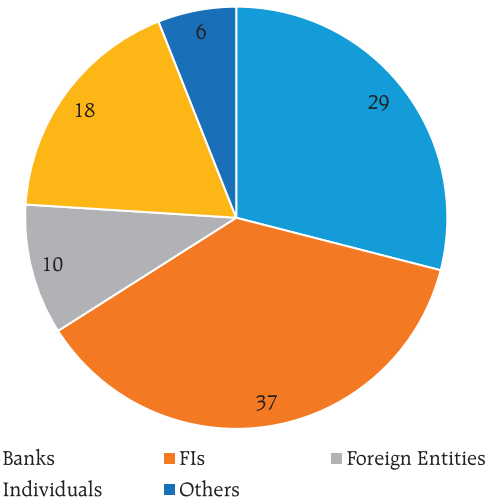
Being private sector entities, the key shareholders of ARCs are banks and other financial institutions (Chart 3). In order to boost their capital base, ARCs were allowed to accept 100 per cent of foreign direct

Chart 2: Market Share in per cent of Top-five ARCs (Net Owned Funds vs Assets under Management)



Note: Data relate to March 2020.
Source: RBI Supervisory returns.

Chart 3: Percentage Distribution of Total Capital of ARCs, by Shareholders



Note: Data relate to March 2019.
Source: RBI, Supervisory returns.

investment (FDI) through the automatic route in 2016.[7] Notwithstanding the liberalisation relating to FDI, foreign entities account for a small portion of the total capital of these companies.

5. Salient Features of the Business Operations of ARCs

The business model of ARCs consists of three stages, which are discussed below:

Stage 1: The ARCs acquire NPAs from banks or financial institutions either through bilateral deals or auctions. After acquisition of the asset, they formulate schemes for inviting subscription to security receipts (SRs) by Qualified Institutional Buyers (QIBs) through one or more trusts set up exclusively for the purpose.[8] The NPAs acquired are held in asset-specific or portfolio-specific schemes; the former is adopted when the size of the aggregate debt acquired from a bank or financial institution is large, while the latter type of scheme is invoked when the size of acquired debt is small, prompting the ARCs to create a portfolio of the debt from various banks or financial institutions. Debt can be acquired either through cash alone or a mix of cash and SRs. To ensure that ARCs have more skin in the game of acquisition, they are required to invest a minimum of 15 per cent of the SRs under each scheme on an ongoing basis till the redemption of all SRs.[9]

Stage 2: After asset acquisition, ARCs initiate the process of planning for resolution; the period for planning extends up to six months from the date of acquisition of assets from the originator. The resolution can take different forms, including change and takeover of the management of the business of the borrower, sale or lease of a part or whole of the business of the borrower, rescheduling of payment of debts payable by the borrower, enforcement of security interest, *etc.*

Stage 3: Following the resolution, ARCs start recovery of debt and work on the redemption of SRs. ARCs are allowed a period of five years to recover the dues. However, the period can be extended upto eight years subject to the approval of their Boards.

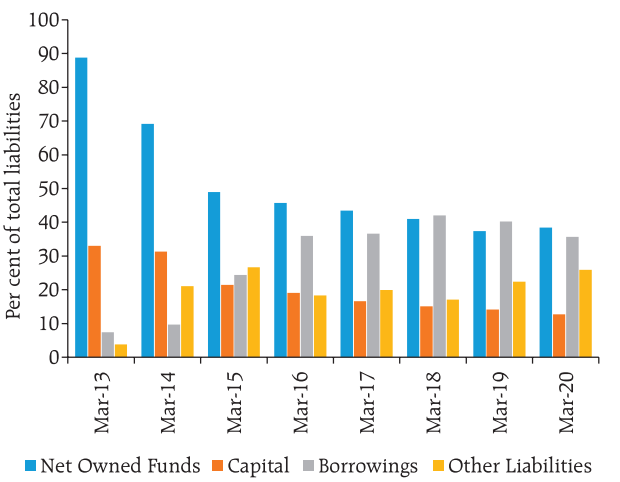
5.1 Features relating to the General Operations of ARCs

5.1.1 Sources of Funds

Borrowings constitute a major source of funds for ARCs, closely comparable with the net owned funds of these companies (Chart 4). Evidently, any constraints in raising capital may directly reflect in an increased reliance on borrowings by these companies.

Furthermore, the sources of funds of ARCs have been largely bank-centric in nature. As already noted, the capital base of ARCs is made up largely by domestic sources, particularly banks and financial institutions, with foreign sources remaining weak. A break-up of the borrowings by ARCs too reveals their dependence

Chart 4: Distribution of Liabilities of ARCs, by Major Sources



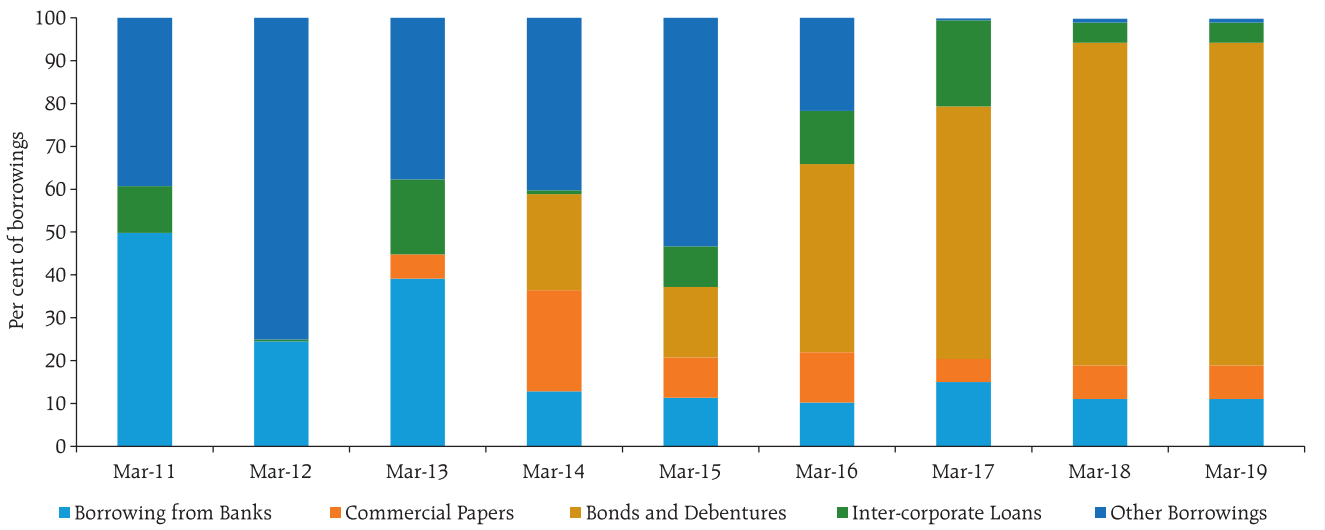
Note: Capital is a part of net owned funds but is shown separately to bring out its individual share.
Source: RBI, Supervisory returns.

[7] This increased FDI limit was subject to a condition that the shareholding of an individual foreign institutional/portfolio investor should not exceed 10 per cent of the total paid up capital of the ARC.

[8] See RBI guidelines on "Acquisition of financial assets by Asset Reconstruction Companies from sponsors and lenders", December 6, 2019.

[9] In August 2014, the minimum SR subscription for ARCs was raised to 15 per cent from 5 per cent earlier.

Chart 5: Distribution of Borrowings of ARCs, by Sources



Note: Data pertain to 12 major ARCs.
Source: CMIE Prowess database.

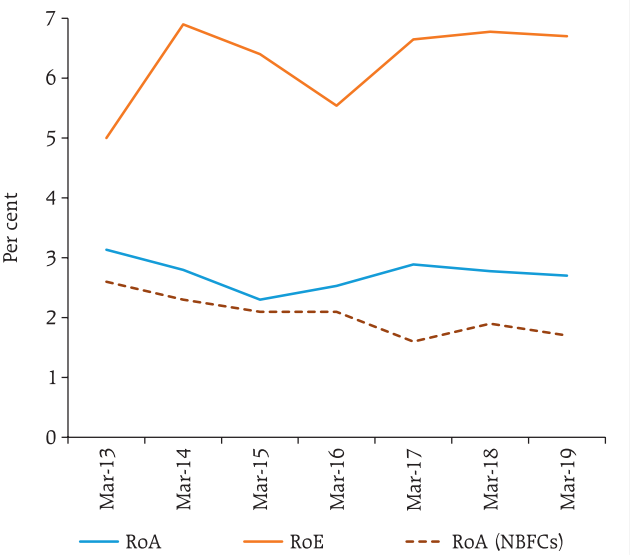
on banks. In recent years, there has been a decline in the share of bank borrowings, with bonds and debentures emerging as a major source of borrowings for these companies (Chart 5).

5.1.2 Profitability

The major source of earnings for ARCs are management/trusteeship fees, upside income arising out of the difference between recovery and acquisition cost of debt, and additional performance incentives given by banks for an early recovery. As per the extant guidelines, management fees are linked to the net asset value (NAV) of SRs (and not the volume of outstanding SRs as was the case earlier) to incentivise ARCs to focus on recoveries. Hence, any recovery rating downgrade for ARCs directly affects their management fees.[10] From the recoveries, expenses incurred by the trust are extracted first, followed by management fees and additional incentive to the ARCs, and the balance is used for redemption of SRs. A major part of the expenditure for ARCs arises from operational expenses relating to the acquisition of debt and fees incurred for valuation of trusts, apart from interest costs on the extent of their leverage.

The overall trends in profitability of ARCs suggests a largely stable return on assets (RoA) ranging close to 3 per cent (Chart 6). While the return on equity (RoE)

Chart 6: Trends in Profitability Ratios of ARCs



Source: RBI, Supervisory returns.

[10] Details about recovery rating are discussed in Section 5.2.3.

showed a significant dip after 2014, it has revived from 2016 onwards to be close to about 7 per cent. Notably, the RoA of ARCs is higher than their NBFC counterparts.

5.2 Features specific to the Stage of Operation of ARCs

5.2.1 Acquisition of Assets

ARCs generally acquire assets from banks and financial institutions. While bilateral deals with sponsor banks are prohibited, no such restrictions exist for bilateral deals with financial institutions or for auctions conducted by the banks and financial institutions. Of the two modes, auctions have dominated the ARC deals till now (Chart 7).

Valuation of acquired assets is a critical business concern for ARCs in the process of acquisition. Considering that ARCs and banks are on two sides of the sale deal, a higher acquisition ratio (defined as acquisition cost to book value of assets) works in favour of banks. It has often been argued that a low acquisition ratio, and consequently a higher haircut, has hindered banks from getting stressed assets off their books. Over time, although the average acquisition ratio has gradually risen, it remains in the range of 30-35 per cent. Moreover, there continues to be a wide variation in the acquisition ratio across ARCs, with the variation too increasing over time (Chart 8).

There is a wide variation in the acquisition ratio also across sectors. Iron and steel, and power sectors are the two sectors having a relatively high concentration in acquired assets, as they are also ridden with NPAs. The acquisition ratio in these two sectors has been much lower. By contrast, hospitality and real estate account for a smaller share in total assets acquired, but their acquisition ratio has been relatively high (Chart 9).

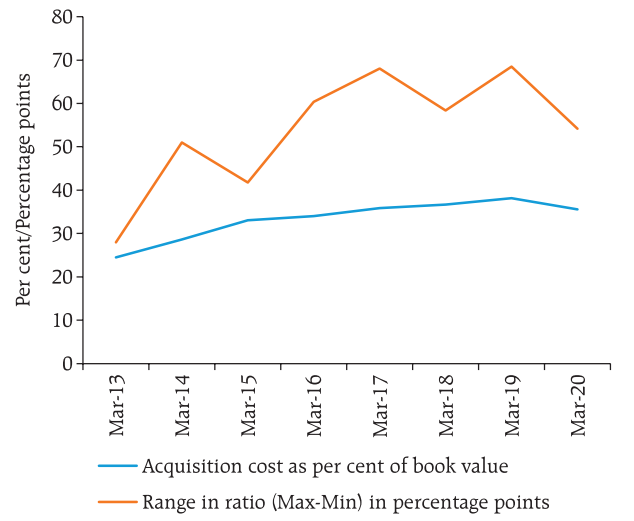
5.2.2 Resolution of Assets

The acquisition of assets only marks the beginning of the operations of the ARCs; the second stage is about the resolution of acquired assets. Broadly speaking, the approach to resolution taken by an ARC can be viewed as either a liquidation approach or a going concern approach or a combination of both. The exact choice of the approach is driven by the viability of the underlying assets.

Chart 7: Distribution of ARC Deals by Types

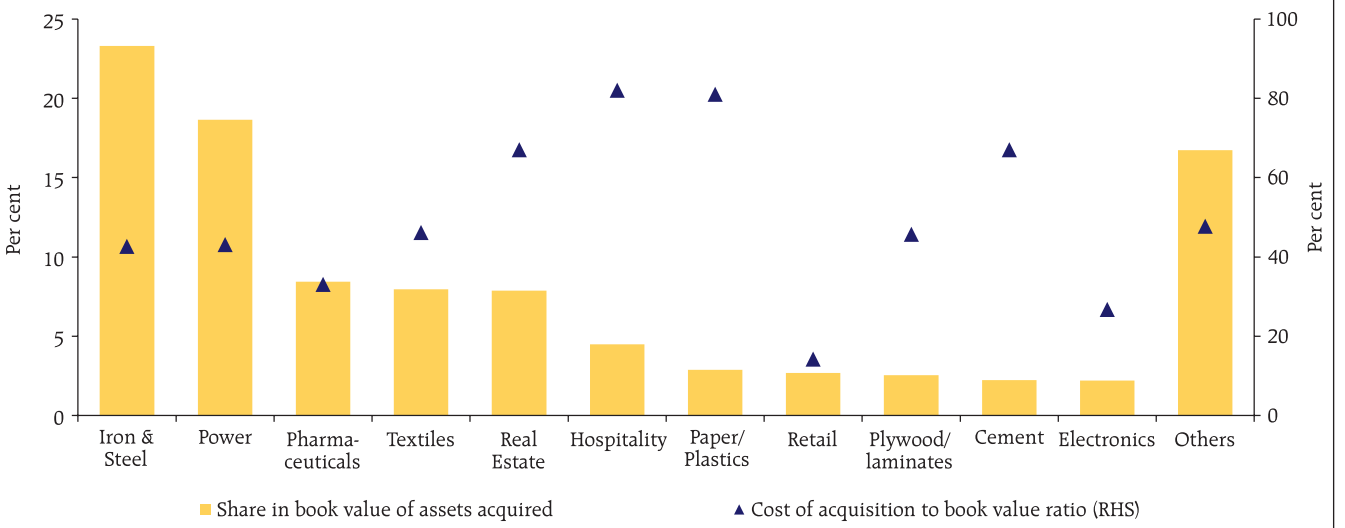
Source: RBI, Supervisory returns.

Chart 8: Trends in Average Acquisition Ratio of ARCs



Source: RBI, Supervisory returns.

Chart 9: Five-year Average of Share of Assets Acquired and Acquisition Ratio in Select Sectors



Note: Refers to cases with book value of Rs. 100 crore and above.
Source: Data reported by ARCs.

More specifically speaking, the resolution methods of ARCs can be divided into five categories as shown in Table 2, with ARCs preferring the method of rescheduling of the payment obligations over other methods. There has been a steady fall over time in the percentage of assets resolved by way of enforcing the security interest. Change in or takeover of management/taking possession of assets too has been used sparingly as a mode of resolution.

5.2.3 Recovery and Redemption of SRs

The third stage of operation of ARCs relates to the recovery and redemption of SRs. Recovery of SRs is a critical indicator of the performance of ARCs. As per the regulatory guidelines, ARCs have to disclose the NAV of the SRs issued by them, which are used for valuation of the SRs by investors. To determine the NAV, ARCs have to obtain a recovery rating from an accredited credit rating agency (CRA). The CRA generally decides its recovery rating based on an assessment of the resolution method adopted.

The concentration in net owned funds (NOF) and AUM that was discussed earlier is also reflected in the issuance of SRs; in March 2020, only two ARCs held about 62 per cent of the total SRs issued (Chart 10).

Furthermore, banks continue to hold close to 70 per cent of the total SRs despite a change in the regulation disincentivising them from holding SRs above a specific threshold (Chart 11).[11] The dominance of selling banks in holding SRs has often been

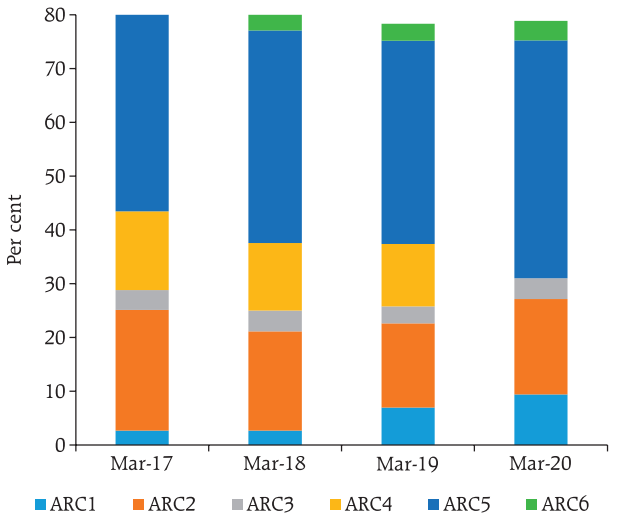
Table 2: Distribution of Total Resolved Assets, by Method of Resolution, in per cent

Resolution Method	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20
1 Rescheduling of payment of debt	37.0	36.5	36.8	35.7	32.0
2 Enforcement of security interest	32.0	35.1	31.5	28.6	26.6
3 Settlement of dues of borrower	30.0	24.8	25.2	28.4	26.0
4 Taking possession of assets	2.0	3.9	6.2	7.2	1.5
5 By sale of business	0.0	0.4	0.3	0.1	13.9

Source: RBI Supervisory returns.

[11] In order to make sure that the asset sale by banks results in actual sale, a threshold was specified for banks holding SRs backed by their sold assets. This threshold was progressively brought down to 10 per cent with effect from April 1, 2018. The holding of SRs more than the threshold is subject to a higher provisioning requirement.

Chart 10: Distribution of SRs Issued, by Select ARCs, in per cent

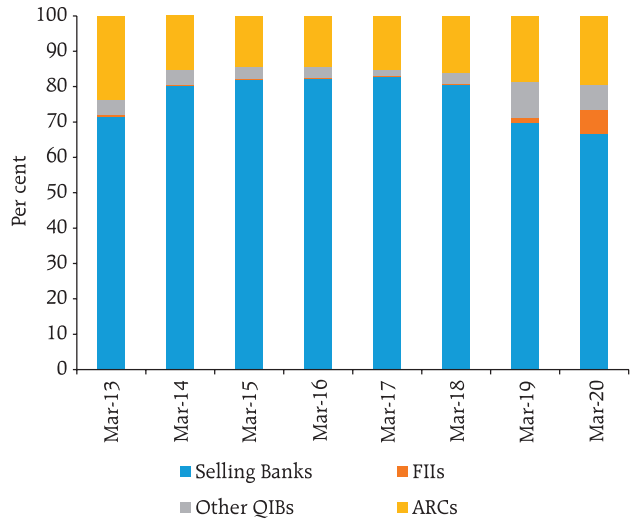


Source: RBI, Supervisory returns.

described as a reason for limited secondary trading of SRs, despite the regulatory push to incentivise listing and trading of these instruments.[12]

The age profile of outstanding SRs shows a concentration of older SRs in the books of ARCs.

Chart 11: Distribution of SRs, by Institution, in per cent



Source: RBI Supervisory returns.

[12] See the SEBI notification on June 26, 2018 on Public Offer and Listing of Securitised Debt Instruments.

Table 3: Age Profile of SRs
(As on March 2020)

Year	Total SRs outstanding (₹ crore)	Age (years)	Due for write-off in
2012-13 and before	3,910 (3.6)	More than 8	2020-21
2013-14	16,393 (15.3)	7	2021-22
2014-15	15,333 (14.2)	6	2022-23
2015-16	9,401 (8.7)	5	2023-24
2016-17	15,603 (14.5)	4	2024-25
2017-18	14,834 (13.8)	3	2025-26
2018-19	18,084 (16.8)	2	2026-27
2019-20	14,318 (13.3)	1	2027-28
Total	**1,07,877 (100.0)**	-	-
Weighted average age	-	**4.1**	-

Note: Figures in brackets indicate percentage share of SRs outstanding as on March 2020.
Source: RBI Supervisory returns.

Considering that the ARCs have a five-year horizon (extendable to eight years, as discussed earlier) to redeem the SRs, their redemption performance is expected to be driven by the age of the SRs issued. In other words, the outstanding stock of the SRs would be predominated by the younger SRs. However, about 42 per cent of the outstanding SRs as on March 2020 were more than five years of age and would have to be redeemed over the next four years to avoid write-offs (Table 3).

6. Concluding Observations

ARCs have been an integral part of the institutional infrastructure for asset resolution in India. Unlike many other countries that experimented with a public sector model of asset management companies marked by their existence for a pre-defined period following banking crises or crises-like situations, India introduced ARCs as private sector institutions as part of its financial sector reforms. Given the difference in the constitution and mandate, the course of evolution

of Indian ARCs has been distinct in many ways as compared to their counterparts in other countries.

The evolution of ARCs in India has been marked by phases of growth and lull in terms of both their number and the assets under management. Their evolution has been shaped by macro-financial conditions and regulatory environment. The regulatory changes by the Reserve Bank have been broadly geared towards strengthening the ARC industry, ensuring genuine sale of NPAs by banks, enhancing the involvement of ARCs in the process of resolution, and deepening the market for SRs, among others.

Following are the distinct features of the Indian ARC industry: Firstly, notwithstanding the increase in the number of ARCs over time, there has been a concentration in the industry in terms of AUM and relatedly SRs issued, and net owned funds. Secondly, despite the regulatory push to broaden, and thereby enhance, the capital base of these companies, they have remained reliant primarily on domestic sources of capital, particularly banks. Thirdly, given the private character of these companies, they have tended to rely heavily on borrowings, particularly from banks, as a major source of their funds. Considering that banks are not just the major shareholders of and lenders to ARCs but also sellers of NPAs to ARCs, it may be necessary to monitor if there is a circuitous movement of funds between banks and these institutions. A movement of this kind can have implications for the genuine sale of NPAs and the overall growth of the ARC industry.

The business operations of the ARCs can be divided into three major stages, *viz.*, acquisition of assets, resolution of assets, and finally, recovery and redemption of SRs. Each of these stages is marked by certain distinctive features. First, the current acquisition ratio for the ARC industry stands at around 35 per cent, marked by a wide variation across ARCs and sectors of economic activity. Secondly, ARCs have predominantly resorted to rescheduling of payment obligations as a method of resolution; resolution by way of enforcing the security interest has seen a decline over time. Thirdly, there is a considerable concentration of older SRs in the books of ARCs.

The IBC, 2016 has been a milestone in the development of the asset resolution infrastructure in India. The percentage of assets recovered through IBC has been on a rise in recent years, while the percentage of assets recovered through ARCs has shown a decline. However, ARCs account for about 30 per cent of the total assets recovered through various channels and remain a complementary mechanism for asset resolution even in the post-IBC world.

The movement in asset quality of banks and NBFCs following the COVID-19 pandemic could bring ARCs into greater focus and action. Going forward, the introduction of a new asset reconstruction company for addressing the NPAs of public sector banks may also shape the operations of the existing ARCs. There is a definite scope for the entry of a well-capitalised and well-designed entity in the Indian ARC industry; such an entity will strengthen the asset resolution mechanism further.

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*The Relationship between Capacity Utilisation and Inflation: A Study of Indian Manufacturing Sector**

Capacity utilization (CU) is an important economic indicator to assess demand and investment prospects of the economy and presumed to provide a reliable indication of incipient inflationary pressure. This article attempts to empirically investigate CU- manufacturing and price linkages by using CU estimated by the Order Books, Inventories and Capacity Utilisation Survey of the Reserve Bank and a longer time series of CU constructed using an alternate method. The findings suggest that the relationship between CU and WPI- manufacturing based inflation varies over different sample periods. The aggregate level CU needs to be interpreted prudently for gauging future path of manufacturing inflation.

Introduction

Capacity Utilisation (CU) is harnessing the installed capacity using available resources, to produce desired output during a given period. In simpler terms, CU is the ratio of actual output to the potential output that can be produced under normal conditions. The potential output capacity depends on available capital (*i.e.,* machine/ equipment, building/ factory, *etc.*) and labour to produce maximum level of output on sustainable basis within the framework of a realistic work schedule, taking into account normal downtime and assuming sufficient availability of inputs to operate machinery and equipments. In any manufacturing process, installation of production capacity and its utilization depends on the business prospects, prevailing and expected demand conditions. The CU reflects demand conditions in an economy where production processes respond to changing demand and CU fluctuates accordingly. Rising demand may translate into upward pressure on the general price level and so higher CU can be accompanied by rise in inflation. However, literature is also of the view that the relationship between CU and inflation vary over time. So empirical investigation is required to understand capacity utilization relationship with prices and its predictive power for inflation.

At present, in India, there is no single official estimate of CU in the manufacturing sector. The annual accounts of companies do not report required parameters uniformly. Use of industrial production data and surveys are alternate ways to get some insights into CU rates at plant or company level and then aggregated at the industry or economy level. Surveys, that provide insights into CU, can be broadly classified into two categories; qualitative: Business Tendency/ Conditions Surveys (*e.g.*, Industrial Outlook Survey of the Reserve Bank), and surveys which gather actual data (like, Order Books, Inventories and Capacity Utilisation Survey (OBICUS) of the Reserve Bank) on utilization of installed capacity. The OBICUS is a quarterly quantitative survey, commenced in 2008, which collects information on product-wise utilized production capacity at the firm level to derive aggregate level CU. Higher CU, accompanied by order book growth, signals robust demand conditions in the economy.

A study of country practices reveals that official estimate of CU rate is not released by many countries. However, in some countries, the compilation and dissemination of CU estimates for the manufacturing sector is undertaken either by the central bank or the government's statistics department and estimates are

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mainly based on various industrial surveys (Mukherjee and Misra, 2012)[1].

Linkages between CU derived from OBICUS with output gap and investment have been explored to some extent in a few research work, while this study attempts to validate the prices and CU relationship in the context of Indian manufacturing sector. The rest of the article is organised into four sections. Section II provides literature in brief about connection between utilisation of production capacity, prices and inflation. Section III presents the stylised facts of survey-based CU rate and its long-time series computed by an alternative method. Empirical results are presented in Section IV and concluding observations are summarised in Section V.

II. Capacity Utilisation and Prices Connection: Literature Review

Keynes in his *General Theory of Employment, Interest and Money* postulates that the intensity with which factors of productions like capital, labour are used has an impact on cost of production and in turn, on inflation. If the economy is functioning at well below full employment level, a monetary policy induced aggregate demand shock will not result in increased wages and additional labour required by firm would be available at the current wage rate. However, when firms reach their peak level of CU, with a small increase in aggregate demand, prices may rise at a faster pace.

Persistent demand conditions may induce producers to expand their capital stock or firms may try to secure higher profit margin by raising product prices. Thus, higher level of CU can be followed by the inflationary pressure. However, the rise in price will not necessarily equal the rise in marginal cost if the firm is able to exploit market power; in that case, the markup of price over marginal cost would not have a simple relationship to current output levels. On expectations of persistent demand in future as well, firms may go for addition of production capacity and do investment and hire labour, to fulfill market demand. With the addition of capacity, the CU rate will gradually return to its 'normal' level, based on current production levels. Moreover, the relationship between CU and price change need not be always in positive direction. In the presence of either market power or short-run increasing returns, economic theory admits the possibility of a negative correlation between capacity utilisation and price changes (Corrado and Mattey, 1997). That means firms would maximize profit by increasing utilisation and pushing down prices.

Further, when industry has excess capacity, market competition is likely to control price rise; and in weak demand conditions, CU rate would be lower, and it may not have any impact on prices. Thus, the relationship between CU and price change may not hold constant across time and across markets. There are many other economic factors which would influence this equation such as technological progress that may have positive impact on CU and output level, rising global trade, exchange rates, inflation caused by imported goods, monetary policy stance *etc.*, that may impact both CU and prices differently.

CU being cyclical, its relationship with prices could change depending on its position in the cycle. Business cycles are identified as having four distinct phases: trough, expansion, peak, and contraction. For a typical business cycle, potential links between four stages of CU cycle and prices are presented in the Table 1.

Generally, it is believed that increasing CU is indication of future inflationary pressure, but need not be always true. Relationship between both the indicators could vary and references about negative relationship is also found in literature. In the study of CU of the industry and CPI based annualized quarter-

[1] For details of country practices, select literature review of work done in Indian context and CU computation different methods refer to Mukherjee and Misra (2012).

Table 1: Relationship between business cycle-CU and Prices

Stage 1- Growth Phase CU rate may rise continually with rise in aggregate demand.	Prices would remain same until no increase in production costs.
Stage 2- Nearing Peak CU rates are high enough as economy moves towards full employment and production capacity.	Price rise is expected at this stage as additional factors (capital & labour) are employed.
Stage 3- Turing of cycle CU rate tends to fall on addition of production capacity.	Prices will not be affected too quickly as price adjustment can be slower than that of CU.
Stage 4- 'Normal' CU level CU is either low or working at average level as aggregate demand has either fallen or demand conditions are normal.	Price adjustment may happen.

to-quarter inflation for the United States, Finn (1996), devised a neoclassical theory to offer an explanation of inflation and CU relationships. It states that negative co-movement of inflation and utilization occurs in response to energy price shocks. A rise in energy prices, by making energy usage more costly, reduces energy input into production. As the utlilisation of capital requires energy, utilization must decline along with energy and this output contraction induces a rise in inflation in absence of an offsetting reduction in money growth. The author further showed how shocks to production technology that are directly accommodated by money growth are an important source of positive co-movement between utilization and inflation.

Although the Keynes theory was postulated as a relationship between the price level and utilisation, the recent literature links inflation with CU. While examining the relationship between the manufacturing CU by Federal Reserve Board and core inflation (personal consumption expenditures based), Dotsey and Stark (2005) argued that this relation is not a stable one. The joint behaviour of utilization and inflation could vary over time for a number of reasons. The relationship could be sensitive to fundamental factors which are driving the economy and the way in which monetary policy responds to those fundamentals. This makes the relationship quite complex and conditional on economic circumstances. Therefore, according to the authors, drawing inferences about how capacity utilisation will affect inflation is a bit tricky and it depends on both the types of shocks hitting the economy and the central bank's response to those shocks. This article tests the argument of non-stable relationship between CU and inflation using data specific to the Indian manufacturing sector.

III. Stylised Facts

CU estimation by survey method (OBICUS)

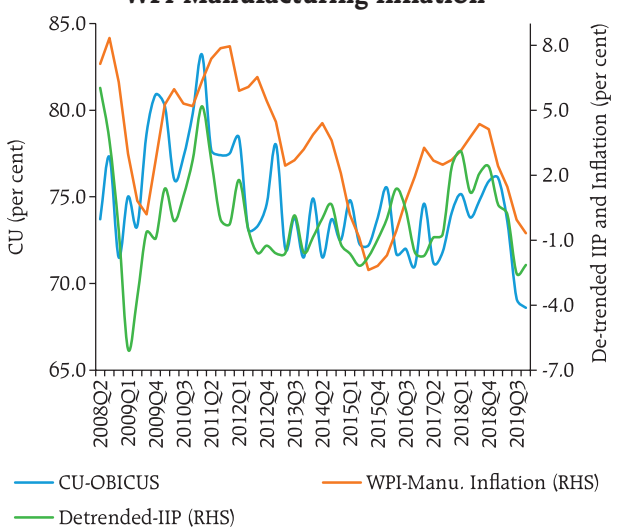
The OBICUS survey questionnaire is canvassed among a fixed panel of 2,500 manufacturing companies, which is common with business tendency survey. The sampling method used for the survey is purposive (non-random) and the companies have been empanelled to have a good size-mix of industries, both in public and private sector. The panel is updated periodically (with addition of new companies or deletion of closed/merged companies). However, responding to the survey is voluntary and response rate is around 45-50 per cent.

The survey questionnaire seeks data on order books (including export order), inventories (finished goods and work-in-progress), product-wise installed capacity, quantity produced in physical terms, utilization of installed capacity and actual production in value term, on a quarterly basis. The questionnaire has three blocks: block 1 is about identification details of the company; block 2 has order books and inventories information and block 3 is about collection of utilization of installed capacity details for products manufactured by companies. Currently, National Industrial Classification (NIC-2008) codes (5-digits) are being used for industry classification of manufactured products reported by companies.

The computation of CU rate at aggregate level is done with aggregation of product-wise utilization of installed capacity reported by companies from the 5-digit (NIC-2008) industry code level in first stage to the 3-digit group level. Weighted average is computed with the weights being proportional to the product's installed capacity, in terms of reported value. Then 2 digits and final aggregate CU rate computation is done by using Gross Value Added (GVA) as weights at 3-digit and 2-digit level NIC-2008 codes respectively, weights are being taken from Annual Survey of Industries (ASI), 2013-14[2].

The time series of OBICUS based CU rates, since its inception in year 2008, is presented in Chart 1 along with WPI-manufacturing based (y-o-y) inflation and de-trended Index of Industrial Production (IIP)-manufacturing[3]. CU rates are largely able to track the manufacturing activities in the economy, as reflected in their co-movement with the de-trended IIP for manufacturing sector[4]. Since June 2013 aggregate level CU has moved in the range of 70-75 per cent, except December 2018 and March 2019 quarter wherein CU was at 76 per cent.

Chart 1: CU-OBICUS, Detrended IIP and WPI-Manufacturing Inflation



Source: RBI, Central Statistical Organisation (CSO) and Office of Economic Adviser.

Furthermore, CU rate computed since June 2008, had contemporaneous significantly positive correlation with WPI-manufacturing based inflation at 46 per cent while the coefficient rises to 53 per cent and significant when CU rates are taken at a quarter lag. Higher rate of CU indicates strong demand in the economy and it may also be indication of likely rise in inflation in the near term. The firm level data indicates that quarterly changes in CU generally happen due to change in demand. Prices are stickier and firms may not reduce it instantly on decline in demand, they would wait to reduce prices while CU can go down more quickly. For instance, the OBICUS based CU rate during September 2018 to September 2019 declined by 5.7 percentage points from 74.8 per cent to 69.1 per cent while price level remained almost same during the period (with annual inflation of -0.06 per cent).

A longer time series of CU may help to explore this relationship further as the time series data of OBICUS may not be adequate for it. Therefore, an alternate method is used to compute the CU rates over a longer time horizon which allows studying the cyclical pattern in CU and its relation with price change.

CU estimation with an alternative method – Wharton method

As RBI's survey-based time series of CU is available only since June-2008 quarter, and in order to study cyclical pattern of CU, a longer time series is essential, an alternative CU series is derived by applying the Wharton method. The method is chosen

[2] The methodology of aggregation of survey responses and computation of CU was changed in 2017. The earlier methodology was published in the December 2011 issue of the Reserve Bank's Bulletin (*link- https://www.rbi.org.in/Scripts/BS_ViewBulletin.aspx?Id=12775)* while details about current method was published in RBI press release dated October 4, 2017 and available at *https://www.rbi.org.in/scripts/PublicationsView.aspx?Id=18031.*

[3] The trend component in IIP has been removed using Hodrick-Prescott (HP) filter method.

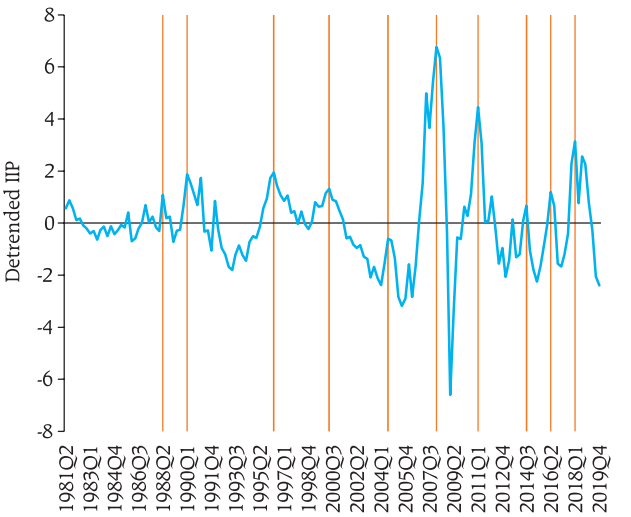
[4] The analysis in this article, which aims to study the long-run relationship between CU and inflation, is confined to pre-COVID-19 period only as data series used in the study were severely impacted due to pandemic.

as it requires production data which is available easily at monthly frequency. Quarterly averages of monthly IIP-manufacturing data released by National Statistical Office are taken as actual output[5]. Peak output points in the IIP cycle, where output in a period exceeds that in the predecessor and successor period, are then identified and it is assumed that the output at these cyclical peaks indicate the capacity output *i.e.*, the industry can produce at the time of the peak. Then CU rates are computed by expressing actual output as the percentage of estimated capacity output and the CU rate at peak points is 100 per cent.

During the intervening period *i.e.*, between two peaks, capacity output is obtained by interpolation. Interpolation is carried out simply by joining the successive peaks by straight line. Since the actual output is below the linearly generated potential output, utilization rates between peaks are less than 100 per cent. For the periods prior to first peak and after last peak, capacity output is estimated by extrapolation and capacity output is defined as lying on the line that has the same slope as that connected the closest two peaks.

The cycle for the IIP-manufacturing reference series is extracted using the de-seasonalised and de-trended series. X-12-ARIMA technique is applied to make series seasonally adjusted then it is de-trended using HP filter (for quarterly series λ is fixed at 1600 as per the standard practice). IIP-manufacturing production data series since 1981Q2 (April-June 1981) to 2019Q4 (October-December 2019) is used to derive CU rate by using Wharton method. In the IIP cycle, turning points *i.e.*, the peak output periods are determined by using the Bry-Boschan rule. The peak quarterly output was found in June 1988, March 1990, June 1996, June 2000, September 2004, March 2008, March 2011, September 2014, June 2016 and March 2018 (Chart 2).

Chart 2: Detrended (HP filtered) IIP and Peak Years - 1981-2019

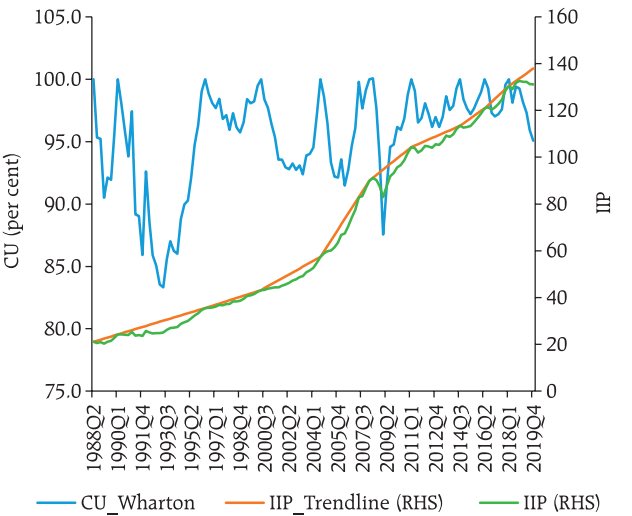


Source: Author's calculations.

Chart 3 presents the results of CU computed by Wharton method along with actual IIP and trend line drawn with help of identified peak output points.

First peak is being identified at June 1988, CU rate are computed through linear interpolation method

Chart 3: Wharton Method- Actual and Capacity Output and Rate of Capacity Utilisation



Source: CSO and Author's calculations.

[5] A long time series of IIP-manufacturing with latest base year (2011-12) is constructed using data series for 4 base years *viz.*, 1980-81,1993-94, 2004-05 and 2011-12 by applying linking factor computed by ratio method. Using same method, time series for WPI-manufacturing is constructed using data series for base years 1981-82, 1993-94, 2004-05 and 2011-12.

Table 2: Summary Statistics of CU Rate Computed by Alternate Methods

Variable	Data Period	ADF Test	PP Test	Mean	Standard Deviation	Coefficient of variation
CU-Wharton	1888Q2- 2019Q4	-3.05** (0.033)	-3.29** (0.018)	95.37	4.01	0.042
	2008Q2-2019 Q4	-3.88* (0.004)	-3.00** (0.043)	97.32	2.30	0.024
CU-OBICUS	2008Q2-2019 Q4	-1.34 (0.60)	-3.46** (0.013)	74.65	3.08	0.041

*, ** Significant at 1% and 5% level respectively. Parenthesis contains p values.

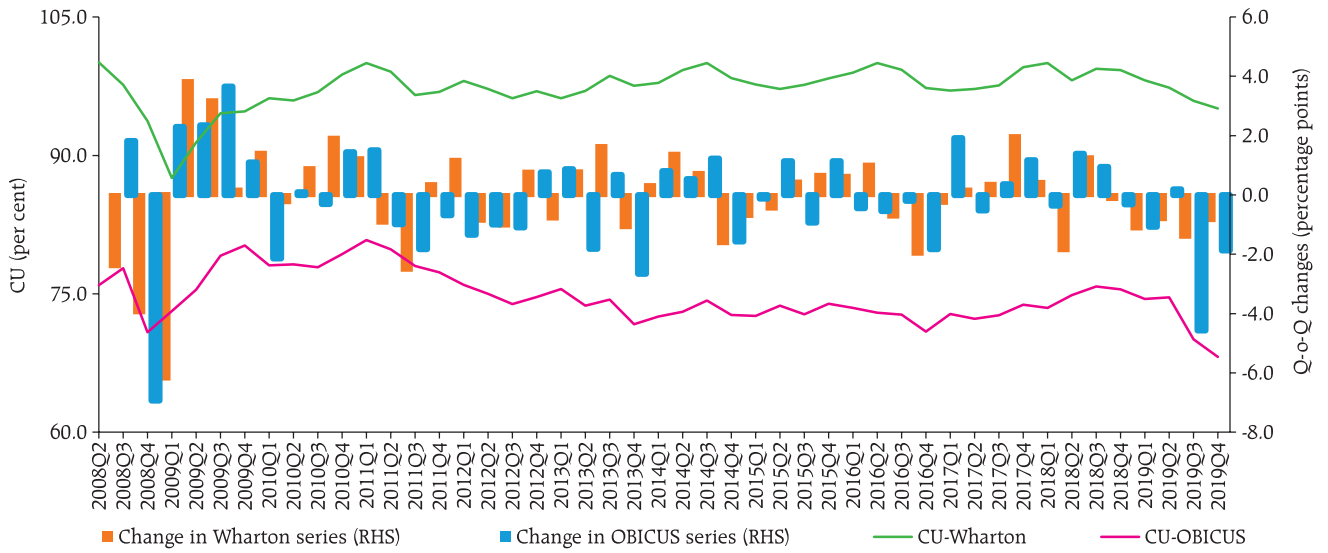
from that point onwards while CU rates since last identified peak point *i.e.,* March 2018 are computed through extrapolation of IIP trend line. The CU rate during June 1993 was at lowest level in the study period *i.e.,* around 83 per cent, while global financial crisis led to another low level of CU in the series at 87.6 per cent in March 2009, after that it had moved in a narrow range. The summary statistics of CU computed by both the methods are given in Table 2. The long-term series of CU is stationary which is established by both ADF and PP test and same is confirmed for CU rate estimated by survey method by PP test. Both the CU series had positive and significant correlation of 56 per cent since June-2013 quarter.

Although the Wharton method for computation of CU is simple one, it has drawbacks too. Notably, the methodology does not distinguish changes in the intensity of utlisation of resources at different peak points, it considers utilization rate same at 100 per cent. While in reality maximum utilisation of installed production capacity could vary at peak points, also from company to company and at aggregate level for different countries too. Therefore, Wharton method provides only the CU rate relative to other periods and not the actual CU estimate. For instance, four peak points detected in the production cycle during OBICUS period were March 2011, September 2014, June 2016 and March 2018 for which Wharton method assumes CU rate at 100 per cent whereas estimated CU based on OBICUS were at 83.2 per cent, 73.7 per cent, 71.7 per cent and 75.2 per cent respectively. Thus long term changes in CU rates do not get properly detected through Wharton method. Further, the CU rates in the Wharton method computed through extrapolation *i.e.,* after last peak are preliminary or provisional kind of estimates before the next peak is found in the series. Nevertheless, in absence of any other official estimate for CU, the utilization rates computed by this method are useful for cyclical study purposes derived from a longer time-series.

The survey method has advantages of detecting short and long term variations in the CU rate while it provides an indication of approximate spare capacity available in the economy. Company-wise and product-wise data of CU and value of production helps in understanding product-pricing decision of the firms across industry groups with changes in intensity of utilization of resources. CU computed by Wharton method is generally on higher side as compared to the survey method. The ratio of both series shows that CU by Wharton method is, on an average, 1.3 times higher than CU by survey method, thus 100 per cent utilisation by Wharton method could be equivalent to around 77 per cent of CU computed by survey method.

Although both the methods showed broadly similar movement in aggregate level CU, survey based CU is expected to be better indicative of actual CU in the economy as its estimation is based on a detailed methodology using product-wise installed capacity and its utilisation information, while Wharton CU is based on aggregate level production data only. Chart 4 depicts CU (seasonally adjusted) derived by both the methods since June 2008 *i.e.,* from the time of availability of survey data and shows that the direction

Chart 4: CU Derived by Alternative Methods and Q-o-Q Changes



Source: RBI and Author's calculations.

of quarterly changes in CU in both the methods are broadly similar one.

Characteristics of CU cycle

Capacity utilisation cycle shows the upward and downward trend of the production or business. It represents the general economic prospects, plays crucial role for policy and management decisions. In upward trends of CU, companies can be more aggressive in their investment plan while in descending period companies may postpone their plans. The cyclical phases can be characterised by duration, amplitude and slope. The amplitude of a downturn (upturn) measures the change in a variable from a peak to the next trough (from a trough to the next peak). The duration measures the length of a cycle or duration of contraction period is number of quarters between a peak and next trough (in expansion phase duration is measured from a trough to next peak). The slope is a ratio of the respective amplitude to its duration, which measures the speed of a cyclical phase.

To assess characteristics of CU cycle, the study adopted methodology outlined by Harding and Pagan (2002) to locate the turning points in a series. By definition, in a series Y_t, a peak happens at time t if $Y_{t-k},\ldots,Y_{t-k+1} < Y_t > Y_{t+1},\ldots,Y_{t+k}$, k is called the symmetric window parameter (turn phase). Bry-Boschan-Pagan-Harding BC dating algorithm employed here to identify peak and trough of the long-term CU time series. The method requires a pre-specified rule which defines a complete cycle in terms of minimum number of periods for expansion and contractions. Minimum 2 quarters for expansions and contractions are often applied, in line with the rules used by National Bureau of Economic Research (NBER) when dating these phases. The rule for a complete cycle length (contraction plus expansion duration) of minimum five quarters is common for quarterly data and same is used for the analysis. The results depict that CU had 9 peaks and trough each during 1988Q2 to 2019Q4 period (Table 3).

The amplitude of CU cycle was larger in expansion phase than in the contraction phase. The contraction phase of CU, on an average, lasts for a little longer period than in expansion phase. The average duration of a complete cycle (trough to trough) was about 14 quarters (*i.e.* around 3.5 years). For CU cycle, the slope was marginally higher in expansion phase than in the contraction phase.

Table 3: Characteristics of CU Cycle (Periods in quarters)

Characteristics of cycle				Peak	Trough	Expansion (Trough to Peak)	Contraction (Peak to Trough)	Cycle duration (Trough to Trough)
Amplitude	Expansion	7.63			1989Q1	--	--	--
	Contraction	-7.40		1990Q1	1993Q2	4	13	17
Duration	Expansion	6.56		1996Q2	1998Q4	12	10	22
	Contraction	7.13		2000Q2	2003Q2	6	12	18
Slope	Expansion	1.16		2004Q3	2006Q2	5	7	12
	Contraction	-1.04		2008Q2	2009Q1	8	3	11
				2011Q1	2012Q3	8	6	14
				2014Q3	2015Q2	8	3	11
				2016Q2	2017Q1	4	3	7
				2018Q1		4	--	--
				Average Duration		6.56	7.13	14.00

Source: Authors' calculations.

The duration of CU cycle, being computed using IIP production data, broadly matches with cycles found in other studies *i.e.*, of around 3 years. The cyclical analysis of the monthly index of industrial production (IIP) series identified 13 growth cycles of varying durations from 1970-71 to 2001-02 and the average duration of cycles was 27 months (Mohanty *et al.*, 2003). The average duration of IIP cycle (trough-to-trough) was about 36 months during the period March 1992-2006 (RBI, 2006). Although the average duration of CU cycle is found to be lower than generally believed business cycle of 5 years, incidentally it matches with duration of investment cycle. For the quarterly data from Q1:1996-97 to Q4:2017-18, the investment cycle was found of a duration of 14 quarters, *i.e.*, around 3.5 years, while the real investment rate in India followed a three-year cycle during the period from 1950-51 to 2017-18 (Janak Raj *et al.*, 2018).

IV. Empirical Analysis

CU and Price Change-Granger causality test

The causal relationship between CU rate, computed by both methods, is tested with change in WPI-manufacturing price indices (with first difference) using granger causality test. For long time series of CU, the result indicates that granger causality runs from CU to price change but not from price change to CU rate (Table 4). Although here results are presented for single lag, the test confirms the causal direction at other lags too for long time series of CU. The granger causality from CU to price change is also confirmed by survey based CU. Thus, the test directs that CU can be a leading indicator of price change. The association between CU and inflation is further empirically investigated in later part of the article.

Table 4: Causal Relationship between CU and Price Change

	(CU-Wharton)*		(CU-Wharton)**		(CU-OBICUS)*	
	Sample: 1988Q2 to 2019Q4		Sample: 2008Q2 to 2019Q4		Sample: 2008Q2 to 2019Q4	
Null Hypothesis:	F-Statistics	P-values	F-Statistics	P-values	F-Statistics	P-values
Price change does not Granger causes CU	1.622	0.160	2.586	0.087	2.853	0.031
CU does not Granger causes Price change	2.954	0.015	4.608	0.016	2.716	0.038

Note: Lag length is selected based on Akaike Information Criteria. *, **-lag length- 5 and 2 respectively.

Relationship between CU and WPI cycle

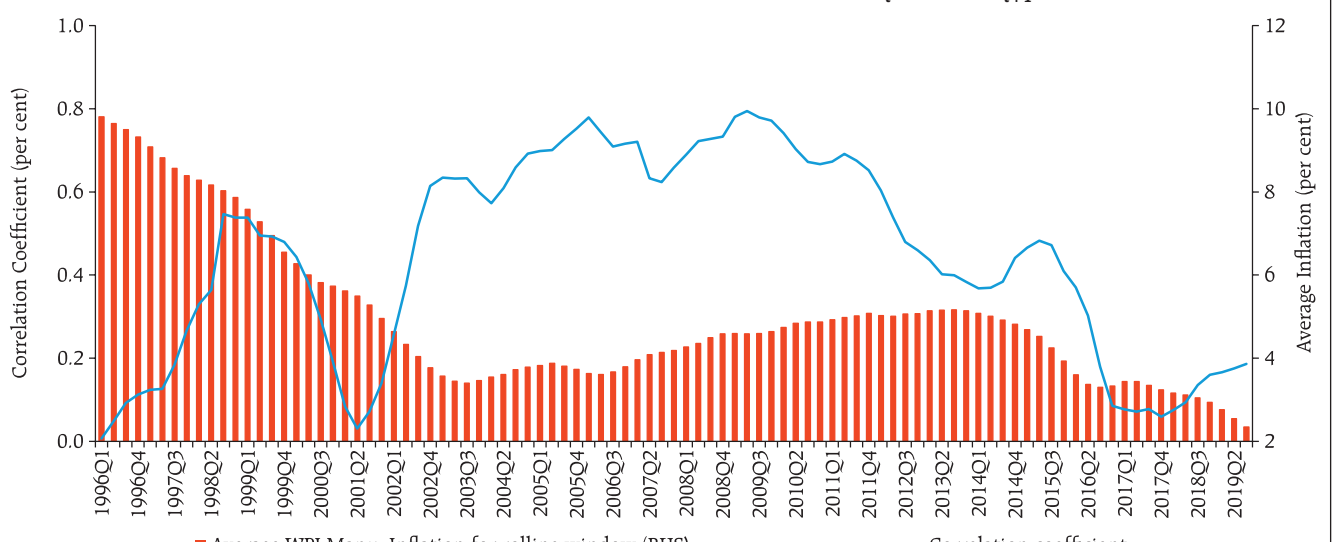
The link between CU and WPI is studied by extracting the underlying cycle from CU-Wharton and WPI-manufacturing, quarterly seasonally adjusted series, using HP filter (with $\lambda = 1600$) after removing trend component. Then the simple correlations between both cyclical components are checked at various lags of CU. The maximum correlation is found between cyclical component of WPI-manufacturing and one quarter lag of CU, but it is at very low level at 28 per cent. In order to check validity of this relationship over the years, correlation coefficients are computed for moving or rolling window of 30 quarterly data points. The result shows that the correlation is time-variant (Chart 5). During initial study period correlation coefficient was negligible while it had reached to higher level of 80 per cent during intermediate period. Thus, simply by computing correlation coefficient and drawing inference only on basis of it may not be always appropriate to establish linkage between CU and prices. Further, results are corroborated with other study findings *i.e.*, inflation in manufactured products during 2006Q2 to 2011Q4 had a significant correlation with one period lagged value of capacity utilization (correlation coefficient 0.66) (Mukherjee and Misra, 2012)

Relationship between Inflation and CU

Inflation and Wharton CU series during the study period is plotted in Chart 6 and *prima-facie*, it looks that there are certain episodes of co-movement of both the series while opposite movement is seen during beginning of the study period. Before testing any regression model, the CU series is tested for breakpoint, as the chart clearly shows that during 1995-96 the CU cycle has turned and also inflation started to decline gradually. Bai-Perron test of sequentially determined breaks is applied for testing of break points in CU-Wharton series (results are given in Annex). The test confirms September 1995 quarter is a breakpoint in the series. Hence regression equation between WPI-manufacturing based inflation and CU is tested for data from the breakpoint onwards.

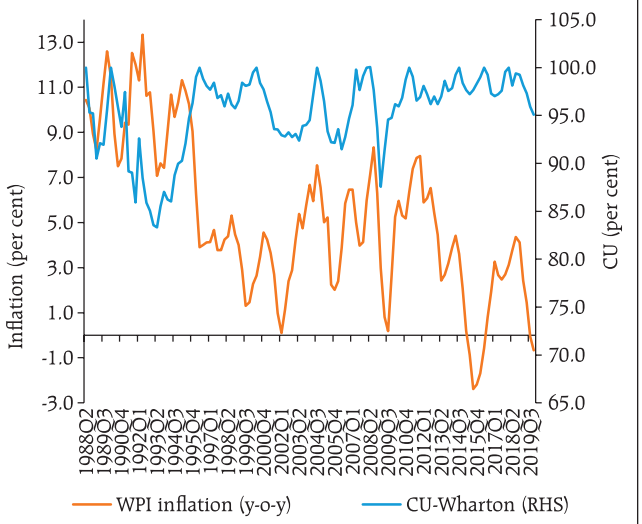
Now the predictive power of CU in forecasting of WPI-manufacturing based inflation is tested using simple regression model.

Chart 5: Business Cycle Correlation Between CU_t and WPI_{t+1}



Source: Author's calculations.

Chart 6: CU-Wharton and WPI- Manufactring based Inflation



Source: Author's calculations.

$$Y_t = \varphi + X_{t-1}\beta + e(t) \text{ -------- (A)}$$

where, Y_t is inflation, X_t is a vector of independent variables (including lagged inflation) and e(t) is error component.

In first regression model, the study has adopted approach of regressing y-o-y inflation during the quarter t ($\pi_{(t)}$) with its own lags and one quarter lag of CU. Both the CU rates, computed by Wharton method and survey method are tested here.

$$\pi_{(t)} = a + b1^* \pi_{(t-1)} + b2^*\pi_{(t-2)} + c1^*CU_{(t-1)} + \pi(t) \text{ ---- (I)}$$

The second regression model to forecast annualised q-o-q inflation with lag of CU refers to one used by Dotsey and Stark (2005) which was based on Stock and Watson (1999) study. This is as follows,

$$400[P_{(t)}-P_{(t-1)}] = a + b1^*[400(P_{(t-1)}-P_{(t-2)})] + \ldots + b2^* [400(P_{(t-1-n)}-P_{(t-2-n)})] + \ldots + c1^*CU_{(t-1)} + e(t) \quad \ldots(II)$$

where, n=0,1,2...., and P(t) is the log of the quarterly average of the WPI-manufacturing index at time t. For both the models lag selection for inflation is done on basis of Schwarz information criterion and all the variables are seasonally adjusted. The standard errors are corrected for heteroscedasticity and serial correlation using the methodology of Newey and West. Thus, through both the regression models, this study tries to test how far utilisation of capacity is effective in forecasting price changes at quarter t with different bases namely, first with respect to the same quarter one year ago (annual change) and second as compared to a quarter ago (quarterly change). The parameters estimated are presented in the table below:

The regression equations (1) and (2) in Table 5 for quarterly inflation (y-o-y) showed that coefficient of lagged CU was not statistically significant for long data series, while in the equation (3), OBICUS based CU had a significant positive relation with inflation during June 2008-December 2019 period. Thus, survey

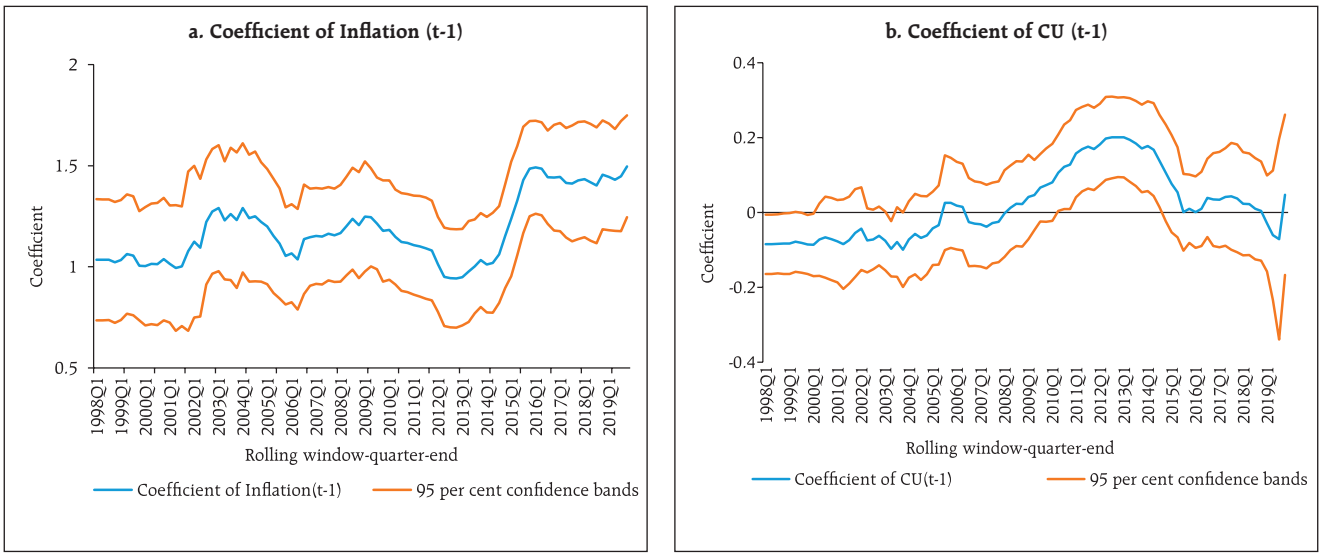
Table 5: Regression Estimates – OLS

Coefficients	Model I			Model II		
	CU-Wharton		CU-OBICUS	CU-Wharton-		CU-OBICUS
	1995Q4-2019Q4	2008Q2-2019Q4	2008Q2-2019Q4	1995Q4-2019Q4	2008Q2-2019Q4	2008Q2-2019Q4
	(1)	(2)	(3)	(4)	(5)	(6)
	Inflation (y-o-y)			Inflation (q-o-q)		
constant	0.57 (3.79)	0.10 (8.13)	-10.99** (4.36)	11.4 (8.6)	20.08 (15.26)	-18.70 (11.99)
Inflation $_{(t-1)}$	1.35* (0.09)	1.47* (0.13)	1.31* (0.12)	0.56* (0.09)	0.68* (0.10)	0.49* (0.13)
Inflation $_{(t-2)}$	-0.55* (0.08)	-0.65* (0.14)	-0.55* (0.09)			
CU $_{(t-1)}$	0.001 (0.04)	0.004 (0.08)	0.16** (0.06)	-0.10 (0.09)	-0.20 (0.16)	0.27 (0.17)
Adjusted R^2	0.83	0.88	0.89	0.29	0.42	0.40
DW-Statistics	1.96	1.74	1.98	1.98	1.86	1.82

*, **,***: Significant at 1%, 5% and 10% respectively. Parenthesis shows standard error.

Source: Authors' estimates.

Chart 7: Rolling Coefficient Estimates for Lagged Values of Inflation and CU-Wharton



Source: Author's calculations.

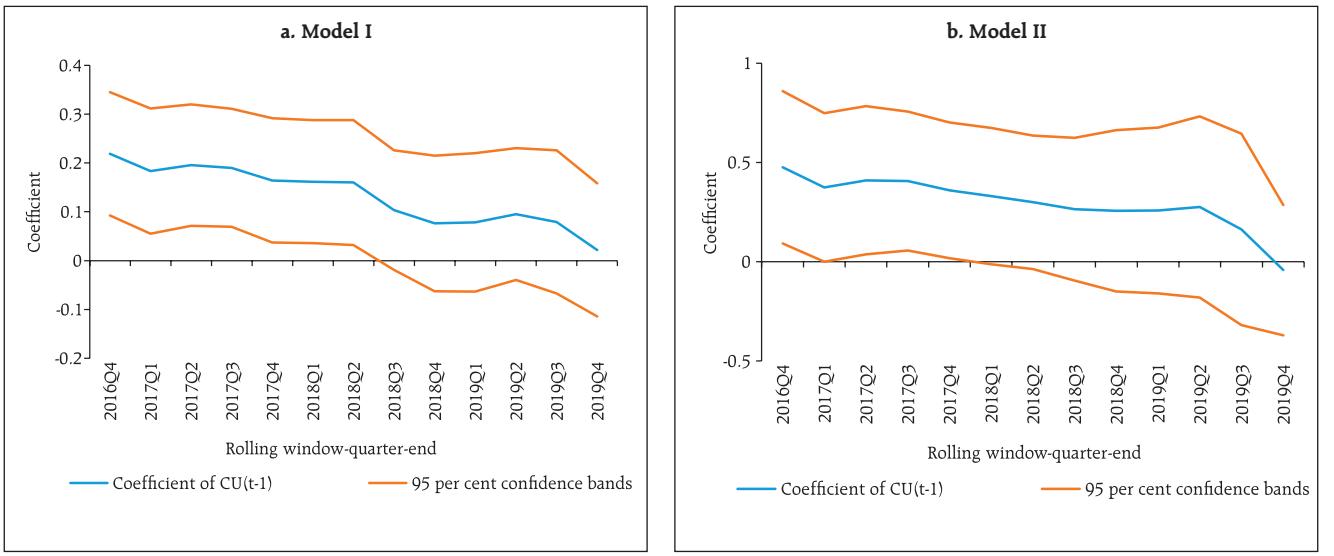
based CU measure has some information contents for projecting annual inflation path. While in the second regression model, for forecasting (q-o-q) annualised inflation in equations (4) to (6), lagged coefficient of CU was not found to be statistically significant for the period December 1995-December 2019, for both CU computed by Wharton and survey method.

In order to check validity of significance of CU coefficients across different sample periods, rolling regressions are estimated with a fixed number of sample observations. The y-o-y inflation is regressed on lagged values of inflation and CU-Wharton as per Model I of Table 5, with a rolling window 40 quarterly observations *i.e.*, data points covering decadal observations covering the entire study period data. The first regression covered period 1988Q2-1998Q1 while last regression tested for ten years sample covering 2010Q1 to 2019Q4. The coefficient of first lag of inflation and CU is presented in Chart 7 along with 95 per cent confidence interval for each of the estimated coefficient. The confidence band includes zero indicating that the coefficient is not statistically different from zero during those phases.

For all rolling windows, the coefficients of lagged inflation values are statistically significant and positive throughout the study period. The chart showing results of lagged coefficient of CU confirms that with change in sample period the statistical significance of coefficient of CU rate, contributing to the behaviour of WPI-manufacturing inflation, also vary. The sign of CU coefficient was negative too for a few sample periods. While for the samples starting from 2000Q3 till 2014Q3, the coefficient of lagged CU was positive and significantly contributed in inflation forecasting through simple regression equation. For other samples, coefficient of CU was although positive, it was not found to be statistically significant. The coefficients of rolling regressions using Model II of Table 5 also follow similar pattern *albeit*, in little lower ranges. This investigation further confirms that CU rate do influence inflation, but the relationship is not uniform, and it varies with time.

Finally, in the similar manner, the rolling regression is attempted using CU-survey based measure, with rolling window of 35 observations only as entire data series of OBICUS based CU has limited

Chart 8: Rolling Coefficient Estimates for Lagged Values of CU-OBICUS in two models



Source: Authors' calculations

number of observations so far. The first regression covered the sample period 2008Q2-2016Q4 and last regression is tested for the period 2011Q2-2019Q4. Chart 8 represents coefficient lagged OBICUS-CU in case of both the tested models in the study, which clearly indicates that significance of CU coefficient varies with sample and in the later part of sample, especially since 2018Q3, it was not found to be statistically significant in forecasting WPI-manufacturing based inflation, both for y-o-y as well as q-o-q basis.

This indicates use of the aggregate economy-wide capacity utilization measure in isolation is less useful as a predictor of inflation. And findings confirm the inferences drawn by Dotsey and Stark (2005), which also applies in Indian context that the impact of CU on inflation is not uniform, and the relationship is conditional on economic circumstances. An analysis including other influencing economic factors such as technological changes, energy prices, unemployment, monetary policy stance *etc.*, might provide additional inputs in further unfolding the historic path of linkages between utilization of capacity and inflation.

V. Conclusion

The OBICUS based CU rate in manufacturing sector provides useful insights into demand pressure in an economy, and also exhibit positive correlation with WPI manufacturing based inflation. At the same time, the long time series of CU, computed using Wharton method, granger causes price change, and provides additional information that the correlation between cyclical components of CU and price levels varies over period. The study also finds that the amplitude of CU cycle was larger in expansion phase than in the contraction phase while the average duration of a complete cycle (trough to trough) was about 14 quarters. The investigation confirms that although CU rate relates to prices both at the level as well as the inflation (rate of change in prices), the relationship varies with time.

The analysis concludes that while the movement in CU primarily shows impact of demand conditions, it also contains information for future inflationary pressures. Using information on CU, in addition to

other factors such as technological changes, energy prices, unemployment, monetary policy stance etc., may add value to the inflation forecasting abilities of models.

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Annex

Test for Structural Break CU-Wharton series

Dependent Variable: CU-Wharton Series

Sequential F-statistic determined breaks : 1

Breaking variables: C

Sample: 1988Q2 2019Q4

Break test options: Trimming 0.15, Max. breaks 5

Break Test	F-statistic	Scaled F-statistic	Critical Value**
0 vs. 1 *	75.34489	75.34489	12.29

* Significant at the 0.01 level.

** Bai-Perron (2003) critical values.

Break dates: 1995Q3

*Retail Payment Habits in India - Evidence from a Pilot Survey**

The Reserve Bank conducted a pilot survey on retail payment habits of individuals in six cities between December 2018 and January 2019 with a focus on the awareness and usage of digital payments. The survey results indicated a widespread awareness about digital payments among respondents, with the point in favour of digital payment being its convenience. The awareness was similar across men and women. The awareness was positively associated with ownership of bank accounts, levels of literacy and income of the users. However, there were concerns about a low level of awareness among respondents about the basic safety norms to be followed for digital payments.

Introduction

Retail payment system in India is undergoing radical transformation due to rapid technological changes and innovations in recent years. A proper understanding of payment behaviour and preference of consumers for various payment methods help in fine-tuning policies to maintain an apt regulatory framework. Against this backdrop, the Reserve Bank of India (RBI) conducted a pilot survey on retail payment habits of individuals in six cities *viz.*, Delhi, Mumbai, Kolkata, Chennai, Bengaluru and Guwahati between December 2018 and January 2019. The objective of the survey was to gauge the retail payment habits of individuals with a focus on their awareness and usage of digital payments.

This article presents the key findings from the pilot survey. The results presented should be treated as a case study and not be used to construct any population parameters. The article is organised as follows. The next section provides a review on the payment surveys conducted in a few advanced economies. Section III discusses the design and methodology adopted for the survey. Section IV discusses about the emerging importance of the retail digital payments in India in recent years and analyses the survey results. Conclusions are presented in Section V.

II. Review of Payment Surveys Conducted in a few Advanced Economies

The literature suggests that a broader adoption of digital payments significantly helps financial inclusion of the disadvantaged sections (World Bank Development Research Group *et al.*, 2014). With the growing usage of digital payments, central banks in several advanced economies have resorted to surveys on consumer payments to ascertain payment habits, behaviour and attitudes (Table 1). Such surveys help in designing suitable policies that can enhance financial inclusion through digital modes while not compromising on financial stability.

Certain interesting insights have emerged from the recent rounds of such surveys undertaken by various central banks. To illustrate, consumer payments survey conducted by the Reserve Bank of Australia in 2019 revealed continued decline in use of cash and increased preference for electronic payment modes by consumers (Caddy *et al.*, 2020). Similarly, the methods-of-payment survey conducted by the Bank of Canada in 2017 indicated declining trend in cash usage in terms of volume and value (Henry *et al.*, 2018). The Federal Reserve Bank of Atlanta in their survey of consumer payment choice conducted in 2019 found that three fourths of consumers make payments using electronic mode from bank account (Foster *et al.*, 2020). The Reserve Bank of New Zealand in their public survey on cash use conducted in 2019 found preference for payment method other than cash (Reserve Bank of New Zealand, 2019).

* This article is prepared by Pradip Bhuyan, Jolly Roy and Raja Ram Priyadarshi, Department of Statistics and Information Management (DSIM), Reserve Bank of India. Authors are thankful to Sangeeta Lalwani and Vivek Bansal in the Department of Payment and Settlement Systems for the suggestions received at various stages while conducting the survey. Authors are also thankful to Abhishek Kailasrao Deshmukh, DSIM for his assistance in compiling the article. The views expressed in this article are those of the authors and do not represent the views of Reserve Bank of India. The errors, if any, are those of the authors.

The results of the representative survey conducted by Oesterreichische Nationalbank (central bank of Austria) in 2018 revealed a "digital divide" with 58 per cent of Austrians (aged 14 or above) accessing online banking (Ritzberger-Grünwald and Stix, 2018). The Bundesbank in their survey in 2020 on use of payment instruments found growing use of cards during the covid 19 pandemic (Pietrowiak *et al.*, 2021). The Swiss National Bank found use of cash as well as cashless methods in their household survey on payment methods conducted for the first time in 2017 (Swiss National Bank, 2018).

III. Survey Design and Methodology

The objective of this pilot survey was to gauge retail payment habits of individuals in India, with a specific focus on use of digital payments. The survey primarily focussed on four aspects of digital payments, *viz.*, awareness, usage, risk perception and issues faced. Questions used for the interview of the respondents in the survey were organised as follows (Table 2). The pilot survey used quota sampling method to select the respondents from various categories. The survey adopted step up approach to interview the respondents (Chart 1). The pilot survey covered individuals of age 18 years or above across various socio-economic groups in six cities *viz.*, Delhi, Mumbai, Kolkata, Chennai, Bengaluru and Guwahati. A total of 6,192 individuals participated in the survey. Chart 2 briefly presents the profile of the respondents.

Table 1: Payment Surveys by Central Banks in Select Advanced Economies

Name of the Country	Name of the Central Bank	Payment Surveys relating to
Australia	Reserve Bank of Australia	Consumer payments
Austria	Oesterreichische National Bank	Use of financial innovations
Canada	Bank of Canada	Methods-of-payment
Germany	Deutsche Bundesbank	Use of payment instruments
New Zealand	Reserve Bank of New Zealand	Cash use
Switzerland	Swiss National Bank	Payment methods
USA	Federal Reserve Banks of Atlanta	Consumer payment choice

Note: The table is prepared based on the references cited in the Section, sourced from web sites of the respective central banks.

Table 2: Purposes and the Related Survey Questions

Purposes	Questions
A. Awareness	i. whether the respondents were aware of digital payments. ii. which of the following method(s) the respondents were aware of: Debit or Credit Card, Net Banking, National Electronic Funds Transfer (NEFT)/ Real Time Gross Settlement (RTGS), Mobile Banking, Bharat Interface for Money Unified Payment Interface (BHIM UPI), Prepaid Cards, Mobile Wallets, Immediate Payment Service (IMPS), others.
B. Usage	i. how do the respondents generally receive money for their regular expenses. ii. purposes of digital transactions done by the respondents. iii. preferred mode of the respondents for digital payments.
C. Risk perception	i. whether the respondents share their passwords/Personal Identification Number (PIN)/One Time Password (OTP) for cards, bank accounts, etc. with others. ii. how often do the respondents change PIN for their prepaid/debit or credit cards/mobile banking. iii. opinion of the respondents about using PIN/OTP for small value transactions.
D. Issues faced	i. hindrance faced by the respondents while making digital payments.

Chart 1: Approach followed to Interview the Respondents for the Survey

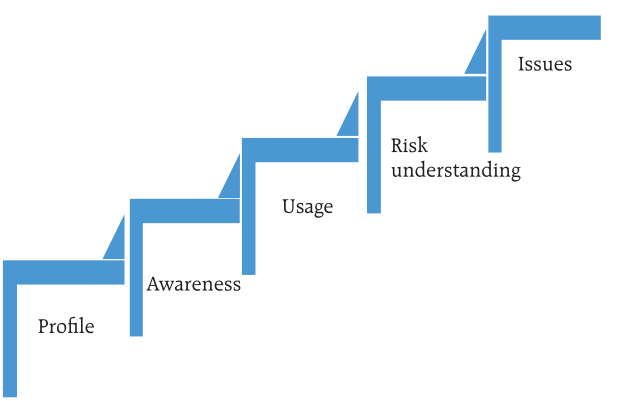
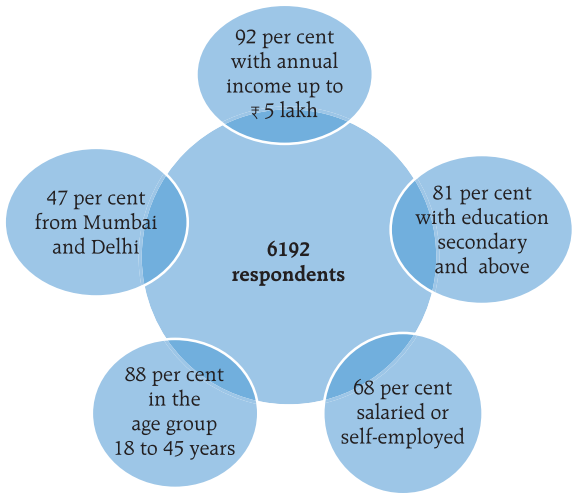


Chart 2: Profile of Respondents



IV. Findings from the Survey

IV.1 Stylised Facts on Retail Digital Payment in India

Retail payment landscape in India has undergone several changes in recent decades. The use of paper-based instruments such as cheques and demand drafts has declined significantly in volume as well as in terms of value, while retail digital payments increased significantly on both these measures (Charts 3a and 3b). In terms of volume, retail digital payments accounted for over 99 per cent in total digital payments and 97 per cent or above in total payments as well as in total retail payments during the period from January 2020 to March 2020 (Chart 3c). In terms of value, share of retail digital payments accounted for around 80 per cent or more in total retail payments and around one-fifth in total payments as well as in total digital payments in the same period (Chart 3d).

Chart 3

Chart 3a: Trends in Paper-based Instruments

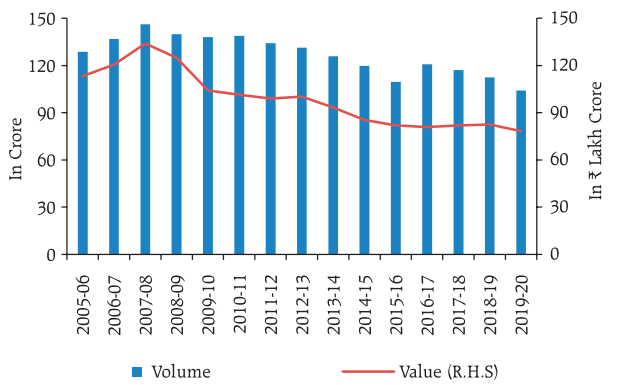


Chart 3b: Trends in Retail Digital Payments

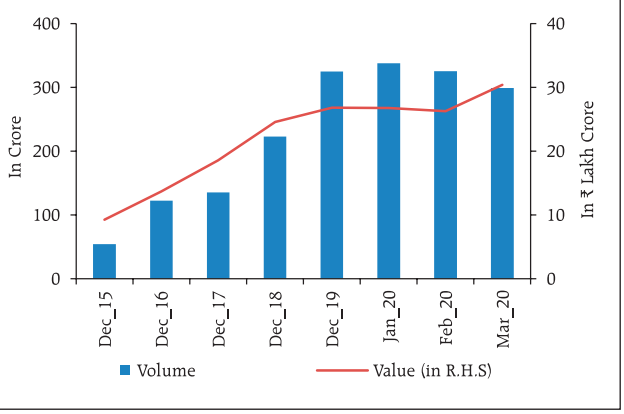


Chart 3c: Share of Retail Digital Payments in Payment System in India during the period from January 2020 to March 2020 - in Volume

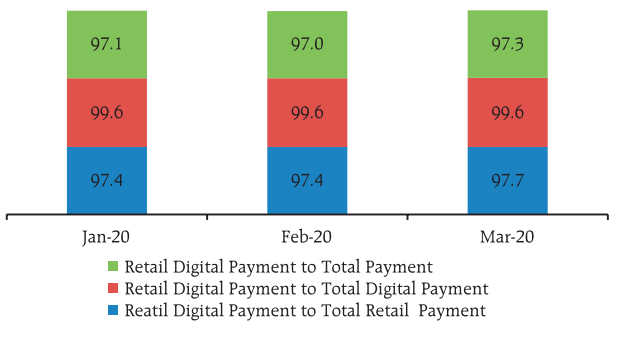
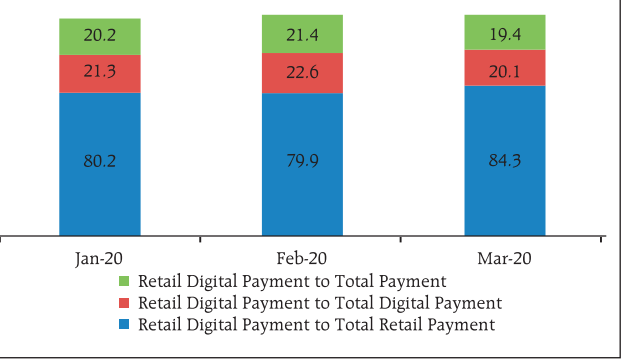


Chart 3d: Share of Retail Digital Payments in Payment System in India during the period from January 2020 to March 2020 - in Value



Source: (i) https://dbie.rbi.org.in for Charts 3a, 3c and 3d; (ii) RBI (2020) and https://dbie.rbi.org.in for chart 3b

Chart 4: Reasons for Using Digital Payments (in per cent)

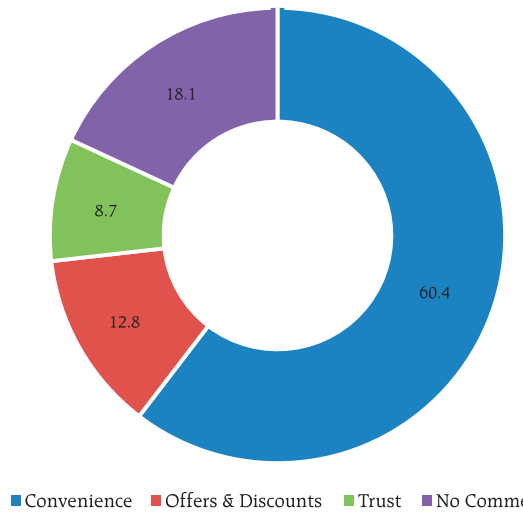
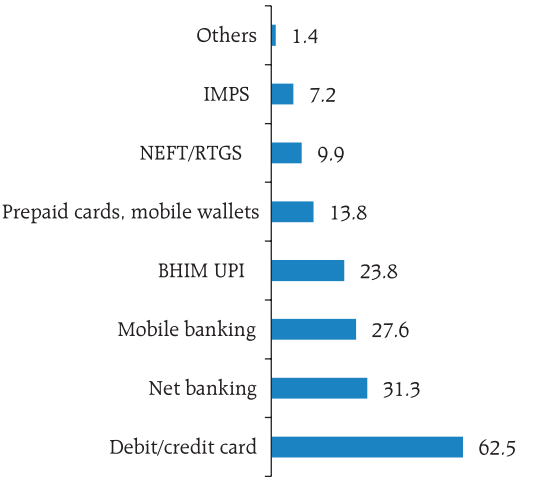


Chart 5: Preferred Mode for Digital Payments (in per cent)



Note: Data will not add to 100 as participants could select multiple options.

The findings of the pilot survey revealed that most of the respondents were aware of digital payments. Participants cited 'convenience' as the most important reason for use of digital payments (Chart 4). It indicated 'debit or credit card' as the most popular instrument for making digital payments followed by 'net banking', 'mobile banking' and 'BHIM UPI' (Chart 5). However, cash remained the most preferred mode of payment and for receiving money for regular expenses; it was followed by digital mode (Chart 6).

Participants also mentioned their use of cash for small value transactions (with amount up to ₹500) but indicated change of preference towards digital mode for payments involving higher amount of transactions (Chart 7). A substantial majority of

Chart 6: Preferred Mode of Payment & to Receive Money (in per cent)

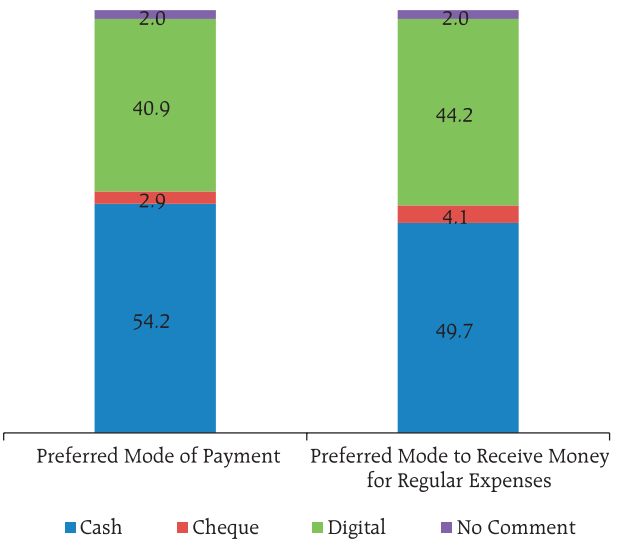
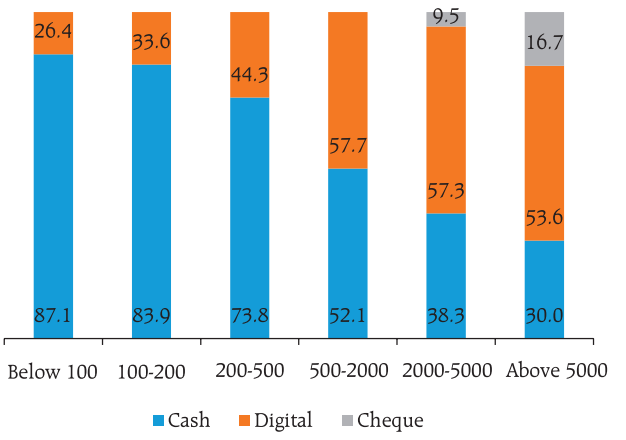


Chart 7: Preferred Mode for Small Value Transactions (amount of transaction in ₹) (in per cent)



Note: Data will not add to 100 as participants could select multiple options.

Table 3: Opinions on using PIN/OTP for Small Value Transactions

Types of Opinions	All Respondents
i. It is an inconvenience	11.6
ii. It makes transactions safe	70.3
iii. No response	18.1
Total	**100.0**

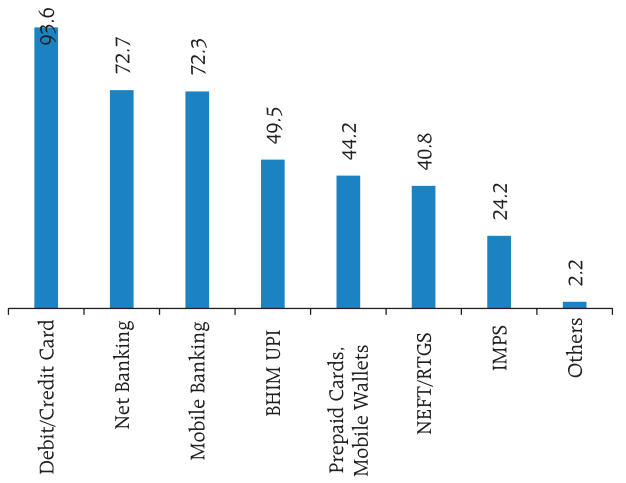
Note: Data are as per cent to total number of respondents in the survey.

the participants opined that the use of PIN/OTP for small value transactions for amount up to ₹2000 made transactions safe, although a few also found it inconvenient (Table 3).

IV.2 Digital Payment Awareness from the Survey

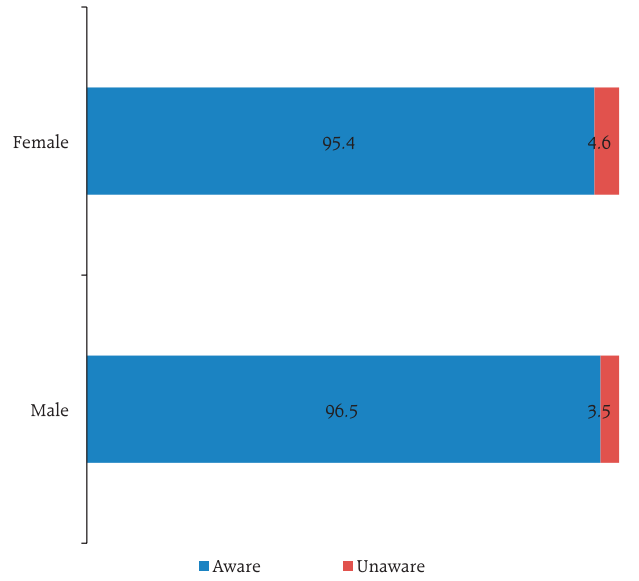
As per survey results, most of the respondents were aware about digital payments. Among various digital payment products, 'debit or credit card', 'net banking' and 'mobile banking' were the most well-known among all the respondents (Chart 8). The survey results also indicated that IMPS as a product was yet to receive wider acceptance.

Chart 8: Awareness on Digital Payment Products (in per cent)



Note: Data will not add to 100 as participants could select multiple options.

Chart 9: Gender wise Awareness (in per cent)



The level of awareness was almost similar across male and female respondents (Chart 9). The findings from the survey also indicated that awareness about digital payments increased with higher levels of literacy (Chart 10). Extent of awareness about digital payments was the highest among participants from the 'student community', while it was lower

Chart 10: Educational Qualification wise Awareness (in per cent)

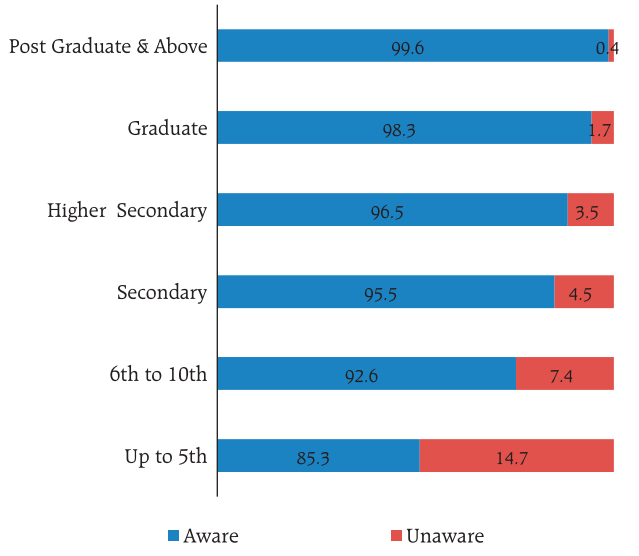


Chart 11: Occupation wise Awareness (in per cent)

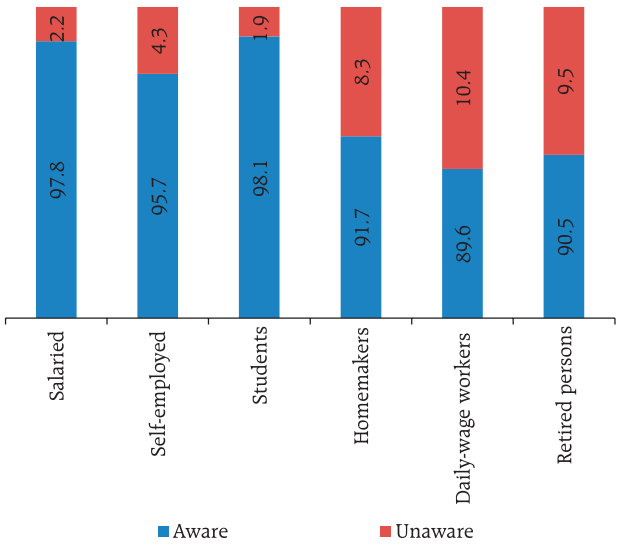
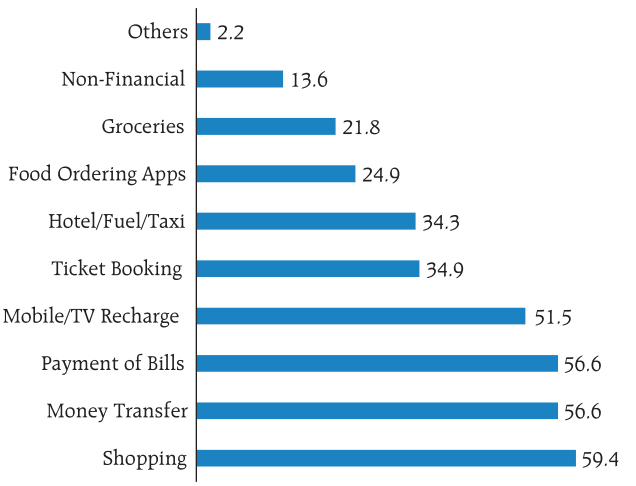


Chart 13: Purpose of Digital Transactions (in per cent)



Note: Data will not add to 100 as participants could select multiple options.

among 'daily-wage workers' and 'retired persons' (Chart 11). There was higher awareness among participants with higher annual income (Chart 12). The most important purpose for use of digital payments by the respondents were 'shopping', 'money transfer', 'payment of bills' and 'mobile/ TV recharges' (Chart 13). The results further revealed that most of the individuals having bank accounts were aware about digital payments (Chart 14). Respondents cited 'friends', 'banks' and 'advertisement' as the most important sources for their awareness about digital payments (Chart 15).

Around 62 per cent of the respondents reported that they did not face any major problems while making digital payments. Participants who reported facing

Chart 12: Income (annual) wise Awareness (in per cent)

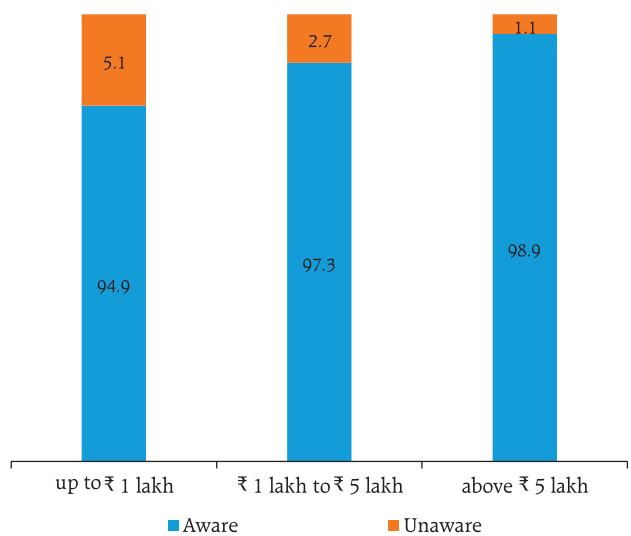


Chart 14: Bank Account holder wise Awareness (in per cent)

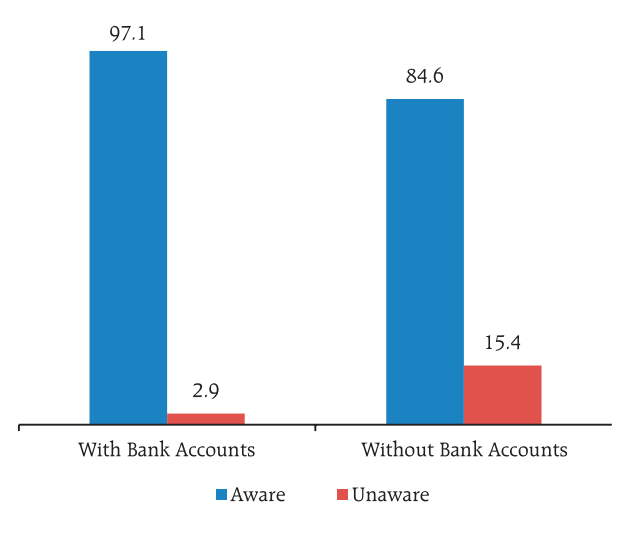
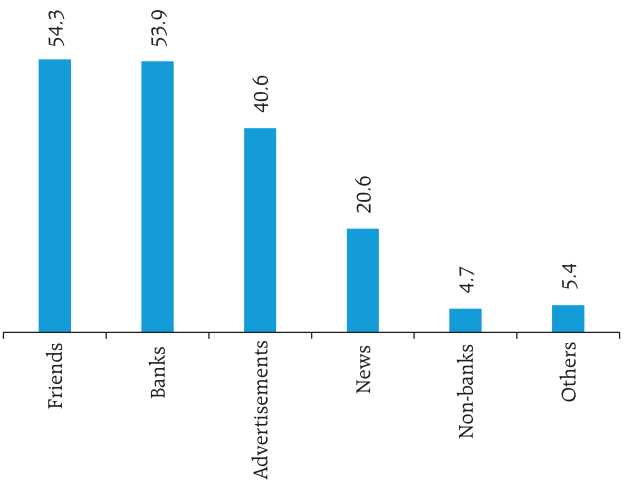
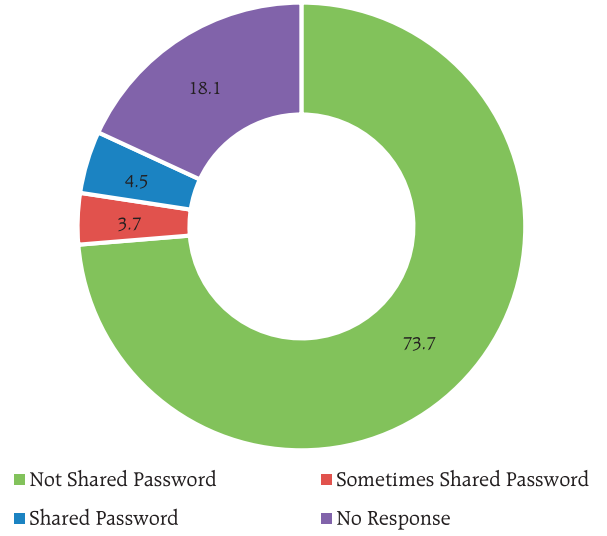


Chart 15: Sources of Knowledge about Digital Payments (in per cent)



Note: Data will not add to 100 as participants could select multiple options.

Chart 16: Sharing of Password/PIN/OTP (in per cent)



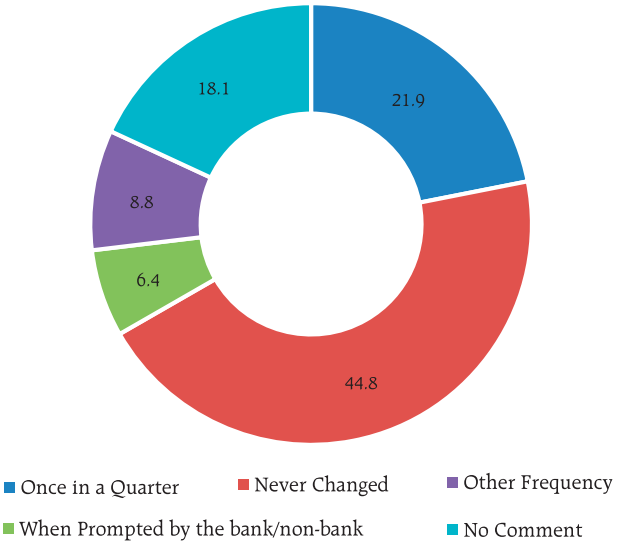
problems cited lack of proper infrastructure, more time taken, complexity, discomfort, non-familiarity as some of the hindrances in the use of digital payments (Table 4). There was a lack of awareness on the importance of basic safety norms to be followed for digital modes of payments among certain segments of participants. Around 8 per cent of the participants shared their passwords/PINs/OTPs used for digital payments (Chart 16). More importantly, majority of the participants either never changed passwords/PINs for their prepaid/debit or credit cards/mobile banking or changed them only when prompted (Chart 17).

Table 4: Hindrances Faced in Use of Digital Payments

Hindrances	Responses
i. Lack of point of sale machines/QR codes/internet connectivity	9.6
ii. Digital transactions take more time/complex as compared to cash	8.4
iii. Uncomfortable/unfamiliar with digital payments	7.5
iv. Less trust in digital transaction (unsafe, risky, decline of transaction, etc.)	5.2
v. Digital transactions costly as compared to cash	3.1
vi. Do not have payment products (cards, wallets) or devices (mobile, laptop)	1.6

Note: Data are as per cent to total number of respondents in the survey; participants could select multiple options.

Chart 17: Change of Password/PIN (in per cent)



IV.3 Econometric Assessment of Digital Payment Awareness

An econometric assessment of the factors determining these digital payments awareness is attempted in this sub-section in two steps. In the initial step, it is examined based on test of association method, *i.e.*, whether the awareness about digital payments is associated with gender, levels of education, levels of income and possession of bank accounts. In the next step, logistic regression method is applied to look at the significance of association of these variables with the awareness on digital payments.

IV.3.1 Chi-Square Test for Association with Awareness on Digital Payments

Using this method, association of digital payment awareness is individually tested with the four variables under observation mentioned above.[1] Null hypothesis tested along with the test results are presented in Table 5. The results suggested that awareness on digital payment was independent of gender but was associated with the levels of education, levels of income and possession of bank accounts by users at 1 per cent level of significance.

IV.3.2 Logistic Regressions on Digital Payments Awareness

The logistic or logit transformation is used when the outcome variable is dichotomous. The model used for analysing digital payments is as presented below:

$$log\frac{P}{1-P} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$$

where, P is expected probability of awareness on digital payment, x_1, x_2, x_3 and x_4 respectively are independent categorical variables representing gender, levels of education, levels of income (annual), ownership of bank accounts, β_i is the regression coefficient for x_i $(i = 1,2,3,4)$. All these variables along with their categories and values assigned to the categories are shown in Table 6.

Gender was not found to be statistically significant in determining digital payments awareness (Table 7). Education level and ownership of bank

Table 5: Chi-square Test for Association: Results

Null Hypothesis (H_0)	P-values	Remark on Acceptance or Rejection of H_0
i. Gender and awareness on digital payments are not associated	0.18	Accepted
ii. Education level and awareness on digital payments are not associated	0.00	Rejected
iii. Income level and awareness on digital payments are not associated	0.00	Rejected
iv. Having a bank account and awareness on digital payments are not associated	0.00	Rejected

Table 6: Logistic Regression – Variables, Categories and Values

Variables	Categories	Assigned Values
i. Awareness on digital payments	Awareness	1
	Unawareness	0
ii. Gender type	Male	1
	Female	0
iii. Education level[2]	Higher secondary and above	3
	Secondary	2
	6th to 10th Standard	1
	Up to 5th Standard	0
iv. Annual income level (in ₹ lakh)	Above 5	2
	1 to 5	1
	Up to 1	0
v. Having a bank Account	Has a bank account	1
	Does not have a bank account	0

[1] Chi-square test for association (contingency) is a widely used statistical method to examine association between two variables which are categorical in nature. The data collected through the survey were all categorical.

[2] Higher secondary, Graduate and Post Graduate are combined into one category for the model.

Table 7: Logistic Regression- Results

Dependent Variable (Dep): Awareness on digital payment

Independent variables	Coefficient	Std. Error	z-Statistic	P-values
C	0.66	0.21	3.17	0.00**
Gender type	0.05	0.17	0.27	0.79
Education level	0.58	0.06	8.98	0.00**
Income level	0.27	0.13	2.04	0.04*
Having a bank Account	1.41	0.17	8.41	0.00**
Total Observations	6192			
Observations with Dep=0	229			
Observations with Dep=1	5963			

Note: * and ** indicate statistical significance at 5% and 1% levels respectively.

accounts were significant at 1 per cent while income levels was significant at 5 per cent level. Values of the regression coefficients of all the significant variables were positive indicating their positive relationship with odds of awareness on digital payments (*i.e.* probability of awareness *vis-à-vis* probability on unawareness).

V. Conclusions

The results of the pilot survey on retail payment habits of individuals conducted in six cities revealed that most of the respondents were aware about digital payments, and awareness was nearly equal among male and female participants. It found that levels of education, levels of income and having bank account play an important role on awareness about digital payments, as observed from the survey. Evaluation of the findings carried out based on Chi-square test and logistic regression methods reaffirmed these observations.

The survey found there was a greater need for sensitisation among the public about basic safety norms while using digital modes of payment. The survey results also suggested that removal of certain infrastructure related bottlenecks would help in enhancing the use of digital payments.

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CURRENT STATISTICS

Select Economic Indicators

Reserve Bank of India

Money and Banking

Prices and Production

Government Accounts and Treasury Bills

Financial Markets

External Sector

Payment and Settlement Systems

Occasional Series

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

No. 1: Select Economic Indicators

Item	2019-20	2019-20		2020-21	
		Q2	Q3	Q2	Q3
	1	2	3	4	5
1 Real Sector (% Change)					
1.1 GVA at Basic Prices	4.1	4.6	3.4	-7.3	1.0
1.1.1 Agriculture	4.3	3.5	3.4	3.0	3.9
1.1.2 Industry	-2.0	-2.7	-3.0	-1.6	1.4
1.1.3 Services	6.4	7.3	5.8	-10.9	-0.04
1.1a Final Consumption Expenditure	5.9	7.0	6.8	-13.6	-2.2
1.1b Gross Fixed Capital Formation	5.4	3.9	2.4	-6.8	2.6
	2019-20	**2020**		**2021**	
		Jan.	**Feb.**	**Jan.**	**Feb.**
	1	2	3	4	5
1.2 Index of Industrial Production	-0.8	2.2	5.2	-1.6	-
2 Money and Banking (% Change)					
2.1 Scheduled Commercial Banks					
2.1.1 Deposits	7.9	9.9	9.0	11.1	12.1
2.1.2 Credit	6.1	7.2	6.1	5.9	6.6
2.1.2.1 Non-food Credit	6.1	7.1	6.1	5.9	6.6
2.1.3 Investment in Govt. Securities	10.6	11.2	10.6	18.8	18.3
2.2 Money Stock Measures					
2.2.1 Reserve Money (M0)	9.4	12.3	11.3	14.5	13.6
2.2.2 Broad Money (M3)	8.9	11.2	10.2	12.1	12.8
3 Ratios (%)					
3.1 Cash Reserve Ratio	3.00	4.00	4.00	3.00	3.00
3.2 Statutory Liquidity Ratio	18.25	18.25	18.25	18.00	18.00
3.3 Cash-Deposit Ratio	4.6	4.7	4.7	3.8	3.7
3.4 Credit-Deposit Ratio	76.4	75.8	75.8	72.3	72.2
3.5 Incremental Credit-Deposit Ratio	60.3	44.4	44.3	26.9	29.6
3.6 Investment-Deposit Ratio	27.6	28.0	28.3	29.9	29.9
3.7 Incremental Investment-Deposit Ratio	36.2	46.9	51.8	56.2	52.8
4 Interest Rates (%)					
4.1 Policy Repo Rate	4.40	5.15	5.15	4.00	4.00
4.2 Reverse Repo Rate	4.00	4.90	4.90	3.35	3.35
4.3 Marginal Standing Facility (MSF) Rate	4.65	5.40	5.40	4.25	4.25
4.4 Bank Rate	4.65	5.40	5.40	4.25	4.25
4.5 Base Rate	8.15/9.40	8.45/9.40	8.45/9.40	7.30/8.80	7.30/8.80
4.6 MCLR (Overnight)	7.40/7.90	7.50/7.95	7.50/7.90	6.55/7.05	6.55/7.05
4.7 Term Deposit Rate >1 Year	5.90/6.40	6.10/6.40	6.00/6.40	4.90/5.50	4.90/5.50
4.8 Savings Deposit Rate	3.00/3.50	3.25/3.50	3.25/3.50	2.70/3.00	2.70/3.00
4.9 Call Money Rate (Weighted Average)	5.05	4.94	4.96	3.23	3.25
4.10 91-Day Treasury Bill (Primary) Yield	4.36	5.13	5.08	3.35	3.17
4.11 182-Day Treasury Bill (Primary) Yield	4.97	5.24	5.18	3.56	3.48
4.12 364-Day Treasury Bill (Primary) Yield	4.94	5.29	5.16	3.68	3.70
4.13 10-Year G-Sec Par Yield (FBIL)	6.71	6.86	6.65	5.96	6.34
5 Reference Rate and Forward Premia					
5.1 INR-US$ Spot Rate (Rs. Per Foreign Currency)	74.84	71.51	72.19	72.95	73.04
5.2 INR-Euro Spot Rate (Rs. Per Foreign Currency)	82.64	78.82	79.44	88.30	88.80
5.3 Forward Premia of US$ 1-month (%)	8.98	3.52	3.82	4.19	5.59
3-month (%)	5.93	4.25	3.93	5.48	5.59
6-month (%)	5.05	4.21	3.91	5.13	5.19
6 Inflation (%)					
6.1 All India Consumer Price Index	4.76	7.6	6.6	4.1	5.0
6.2 Consumer Price Index for Industrial Workers	7.54	7.5	6.8	3.2	4.5
6.3 Wholesale Price Index	1.69	3.5	2.3	2.0	4.2
6.3.1 Primary Articles	6.77	10.0	6.5	-2.2	1.8
6.3.2 Fuel and Power	-1.63	5.4	3.1	-4.8	0.6
6.3.3 Manufactured Products	0.29	0.6	0.5	5.1	5.8
7 Foreign Trade (% Change)					
7.1 Imports	-7.66	-0.7	3.6	2.0	7.0
7.2 Exports	-5.06	-2.1	3.3	6.2	0.7

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				
		Mar.	Feb. 26	Mar. 5	Mar. 12	Mar. 19	Mar. 26
	1	2	3	4	5	6	7
1 Issue Department							
1.1 Liabilities							
1.1.1 Notes in Circulation	2831727	2412993	2809858	2816693	2834462	2822821	2831727
1.1.2 Notes held in Banking Department	11	10	21	15	16	16	11
1.1/1.2 Total Liabilities (Total Notes Issued) or Assets	**2831738**	**2413003**	**2809879**	**2816709**	**2834479**	**2822837**	**2831738**
1.2 Assets							
1.2.1 Gold	106555	103439	110589	105726	106162	105866	106555
1.2.2 Foreign Securities	2724437	2308718	2698474	2710183	2727528	2716194	2724437
1.2.3 Rupee Coin	746	846	816	799	788	778	746
1.2.4 Government of India Rupee Securities	–	–	–	–	–	–	–
2 Banking Department							
2.1 Liabilities							
2.1.1 Deposits	1504697	1187409	1532207	1519061	1511972	1531937	1504697
2.1.1.1 Central Government	100	100	101	101	101	100	100
2.1.1.2 Market Stabilisation Scheme							
2.1.1.3 State Governments	42	43	42	42	42	42	42
2.1.1.4 Scheduled Commercial Banks	542693	536186	462156	510330	461182	518807	542693
2.1.1.5 Scheduled State Co-operative Banks	6529	7603	5257	5415	5237	5589	6529
2.1.1.6 Non-Scheduled State Co-operative Banks	3204	3445	2430	2752	2537	2759	3204
2.1.1.7 Other Banks	31820	32641	27383	26835	27498	27037	31820
2.1.1.8 Others	895440	605100	1018787	954898	995145	955837	895440
2.1.1.9 Financial Institution Outside India	24868	2291	16050	18688	20229	21765	24868
2.1.2 Other Liabilities	1343670	1350333	1415428	1364217	1359287	1345201	1343670
2.1/2.2 Total Liabilities or Assets	**2848367**	**2537742**	**2947634**	**2883278**	**2871259**	**2877138**	**2848367**
2.2 Assets							
2.2.1 Notes and Coins	11	10	21	16	16	16	11
2.2.2 Balances held Abroad	1204135	1006357	1314777	1255962	1237131	1236198	1204135
2.2.3 Loans and Advances							
2.2.3.1 Central Government	–	50477	–	–	–	–	–
2.2.3.2 State Governments	1674	1967	3938	12114	8522	6972	1674
2.2.3.3 Scheduled Commercial Banks	90275	285623	84651	84624	84616	84599	90275
2.2.3.4 Scheduled State Co-op.Banks	–	–	35	–	–	–	–
2.2.3.5 Industrial Dev. Bank of India	–	–	–	–	–	–	–
2.2.3.6 NABARD	26422	–	26848	26877	26652	26692	26422
2.2.3.7 EXIM Bank	–	–	–	–	–	–	–
2.2.3.8 Others	6678	10064	6662	6678	6678	6678	6678
2.2.3.9 Financial Institution Outside India	24858	2300	29509	21072	20765	23812	24858
2.2.4 Bills Purchased and Discounted							
2.2.4.1 Internal	–	–	–	–	–	–	–
2.2.4.2 Government Treasury Bills	–	–	–	–	–	–	–
2.2.5 Investments	1331671	1042951	1322118	1322383	1331542	1336233	1331671
2.2.6 Other Assets	162643	137993	159077	153552	155336	155938	162643
2.2.6.1 Gold	146572	127644	149649	144081	145353	145286	146572

* Data are provisional

No. 3: Liquidity Operations by RBI

(₹ Crore)

Date	Repo	Reverse Repo	Variable Rate Repo	Variable Rate Reverse Repo	MSF	Standing Liquidity Facilities	Market Stabilisation Scheme	Sale	Purchase	Long Term Repo Operations &	Targeted Long Term Repo Operations #	Special Liquidity Facility for Mutual Funds	Special Liquidity Scheme for NBFCs/ HFCs **	Net Injection (+)/ Absorption (-) (1+3+5+6+9+10+ 11+12+13-2-4-7-8)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Feb. 1, 2021	-	553373	-	-	0	–	-	-	-	-	-	-	-	-553373
Feb. 2, 2021	-	579114	-	-	1	65	-	-	-	-	-	-	-	-579048
Feb. 3, 2021	-	564780	-	-	0	–	-	-	-	-	-	-	-	-564780
Feb. 4, 2021	-	577905	-	-	5	–	-	-	-	-	-	-	-	-577900
Feb. 5, 2021	-	525264	-	-	6	–	-	-	-	-	-	-	-	-525258
Feb. 6, 2021	-	10384	-	-	7285	–	-	-	-	-	-	-	-	-3099
Feb. 7, 2021	-	3238	-	-	408	–	-	-	-	-	-	-	-	-2830
Feb. 8, 2021	-	486594	-	-	0	–	-	-	2025	-	-	-	-	-484569
Feb. 9, 2021	-	505265	-	-	38	–	-	-	1150	-	-	-	-	-504077
Feb. 10, 2021	-	499903	-	-	9	–	-	-	1020	-	-	-	-	-498874
Feb. 11, 2021	-	528043	-	-	30	220	-	–	20000	-	-	-	-	-507793
Feb. 12, 2021	-	524304	-	200017	12	–	-	-	25974	-	-	-	-	-698335
Feb. 13, 2021	-	6198	-	-	1781	–	-	-	-	-	-	-	-	-4417
Feb. 14, 2021	-	10070	-	-	52	–	-	-	-	-	-	-	-	-10018
Feb. 15, 2021	-	523880	-	-	2	–	-	-	-	-	-	-	-	-523878
Feb. 16, 2021	-	531641	-	-	0	–	-	-	-	-	-	-	-	-531641
Feb. 17, 2021	-	534189	-	-	6	–	-	-	190	-	-	-	-	-533993
Feb. 18, 2021	-	460669	-	-	21	2632	-	-	325	-	-	-	-	-457691
Feb. 19, 2021	-	8899	-	-	5892	–	-	-	-	-	-	-	-	-3007
Feb. 20, 2021	-	45071	-	-	1775	–	-	-	-	-	-	-	-	-43296
Feb. 21, 2021	-	1193	-	-	122	–	-	-	-	-	-	-	-	-1071
Feb. 22, 2021	-	464400	-	-	0	220	-	-	410	-	-	-	-	-463770
Feb. 23, 2021	-	481204	-	-	4	–	-	-	225	-	-	-	-	-480975
Feb. 24, 2021	-	481568	-	-	56	–	-	-	240	-	-	-	-	-481272
Feb. 25, 2021	-	511863	-	-	2	–	-	-	170	-	-	-	-	-511691
Feb. 26, 2021	-	509556	-	200010	58	–	-	10000	10000	-	-	-	-	-709508
Feb. 27, 2021	-	9414	-	-	4	–	-	-	-	-	-	-	-	-9410
Feb. 28, 2021	-	6346	-	-	100	–	-	-	-	-	-	-	-	-6246

Notes: # Includes Targeted Long Term Repo Operations (TLTRO) and Targeted Long Term Repo Operations 2.0(TLTRO 2.0). Negative (-) sign indicates repayments done by Banks.
**As per RBI Notification No. 2020-21/01 dated July 01, 2020.
Negative (-) sign indicates maturity proceeds received for RBI's investment in the Special Liquidity Scheme.
& Negative (-) sign indicates repayments done by Banks.

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

i) Operations in onshore / offshore OTC segment

Item	2019-20	2020	2021	
		Feb.	Jan.	Feb.
	1	2	3	4
1 Net Purchase/ Sale of Foreign Currency (US $ Million) (1.1–1.2)	45097	9144	2854	-1219
1.1 Purchase (+)	72205	10604	18225	23352
1.2 Sale (–)	27108	1460	15371	24571
2 ₹ equivalent at contract rate (₹ Crores)	312005	64883	21486	-8475
3 Cumulative (over end-March) (US $ Million)	45097	49151	75233	74014
(₹ Crores)	312005	342979	560113	551639
4 Outstanding Net Forward Sales (–)/ Purchase (+) at the end of month (US $ Million)	-4939	-2295	47383	73201

ii) Operations in currency futures segment

Item	2019-20	2020	2021	
		Feb.	Jan.	Feb.
	1	2	3	4
1 Net Purchase/ Sale of Foreign Currency (US $ Million) (1.1–1.2)	0	0	0	0
1.1 Purchase (+)	7713	0	1962	4841
1.2 Sale (–)	7713	0	1962	4841
2 Outstanding Net Currency Futures Sales (–)/ Purchase (+) at the end of month (US $ Million)	-500	0	2196	0

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

Item	As on February 28, 2021		
	Long (+)	Short (-)	Net (1-2)
	1	2	3
1. Upto 1 month	15810	815	14995
2. More than 1 month and upto 3 months	10099	0	10099
3. More than 3 months and upto 1 year	56062	0	56062
4. More than 1 year	2065	10020	-7955
Total (1+2+3+4)	**84036**	**10835**	**73201**

No. 5: RBI's Standing Facilities

(₹ Crore)

Item	As on the Last Reporting Friday							
	2020-21	2020				2021		
		Mar. 27	Oct. 23	Nov. 20	Dec. 18	Jan. 29	Feb. 26	Mar. 26
	1	2	3	4	5	6	7	8
1 MSF	182	1262	6	266	1	0	58	182
2 Export Credit Refinance for Scheduled Banks								
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
3 Liquidity Facility for PDs								
3.1 Limit	4900	10000	4900	4900	4900	4900	4900	4900
3.2 Outstanding	–	4782	-	0	0	0	0	0
4 Others								
4.1 Limit	75000	-	65000	75000	82500	75000	75000	75000
4.2 Outstanding	32387	-	36488	33234	34760	32205	32842	32387
5 Total Outstanding (1+2.2+3.2+4.2)	32569	6044	36494	33500	34761	32205	32900	32569

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				
	2019-20	2020	2021		
		Feb. 28	Jan. 29	Feb. 12	Feb. 26
	1	2	3	4	5
1 Currency with the Public (1.1 + 1.2 + 1.3 – 1.4)	2349748	2255426	2707213	2745502	2735085
1.1 Notes in Circulation	2420964	2321924	2780045	2814203	2809858
1.2 Circulation of Rupee Coin	25605	25572	26004	26004	26076
1.3 Circulation of Small Coins	743	743	743	743	743
1.4 Cash on Hand with Banks	97563	92812	99579	95448	101592
2 Deposit Money of the Public	1776200	1613427	1857474	1796369	1869210
2.1 Demand Deposits with Banks	1737692	1578869	1814252	1753086	1824436
2.2 'Other' Deposits with Reserve Bank	38507	34558	43222	43284	44774
3 M_1 (1 + 2)	**4125948**	**3868854**	**4564687**	**4541871**	**4604295**
4 Post Office Saving Bank Deposits	150963	144744	150963	150963	150963
5 M_2 (3 + 4)	**4276911**	**4013598**	**4715650**	**4692834**	**4755258**
6 Time Deposits with Banks	12674016	12590173	13836979	13878231	13959469
7 M_3 (3 + 6)	**16799963**	**16459027**	**18401666**	**18420102**	**18563764**
8 Total Post Office Deposits	433441	421146	433441	433441	433441
9 M_4 (7 + 8)	**17233404**	**16880173**	**18835107**	**18853543**	**18997205**

No. 7: Sources of Money Stock (M_3)

(₹ Crore)

Sources	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2019-20	2020	2021		
		Feb. 28	Jan. 29	Feb. 12	Feb. 26
	1	2	3	4	5
1 Net Bank Credit to Government	**4960362**	**4983904**	**5735483**	**5852196**	**5770646**
1.1 RBI's net credit to Government (1.1.1–1.1.2)	992192	990539	1058048	1139638	1064827
1.1.1 Claims on Government	1047808	990681	1312493	1358539	1324907
1.1.1.1 Central Government	1045314	987799	1307724	1347621	1320970
1.1.1.2 State Governments	2494	2882	4769	10918	3938
1.1.2 Government deposits with RBI	55616	142	254445	218901	260080
1.1.2.1 Central Government	55573	100	254403	218859	260038
1.1.2.2 State Governments	43	42	42	42	42
1.2 Other Banks' Credit to Government	3968170	3993365	4677435	4712558	4705818
2 Bank Credit to Commercial Sector	**11038644**	**10759445**	**11362375**	**11361397**	**11433720**
2.1 RBI's credit to commercial sector	13166	3779	8601	8415	8625
2.2 Other banks' credit to commercial sector	11025478	10755666	11353774	11352981	11425094
2.2.1 Bank credit by commercial banks	10370861	10104866	10704637	10703541	10774742
2.2.2 Bank credit by co-operative banks	637776	633477	639026	639539	640793
2.2.3 Investments by commercial and co-operative banks in other securities	16842	17323	10111	9901	9559
3 Net Foreign Exchange Assets of Banking Sector (3.1 + 3.2)	**3801036**	**3681669**	**4609126**	**4572063**	**4616641**
3.1 RBI's net foreign exchange assets (3.1.1–3.1.2)	3590402	3473169	4279192	4242129	4286707
3.1.1 Gross foreign assets	3590636	3473388	4279437	4242371	4286948
3.1.2 Foreign liabilities	234	219	245	241	241
3.2 Other banks' net foreign exchange assets	210634	208500	329934	329934	329934
4 Government's Currency Liabilities to the Public	**26348**	**26315**	**26747**	**26747**	**26819**
5 Banking Sector's Net Non-monetary Liabilities	**3026427**	**2992306**	**3332063**	**3392301**	**3284061**
5.1 Net non-monetary liabilities of RBI	1378342	1214879	1436430	1417401	1410269
5.2 Net non-monetary liabilities of other banks (residual)	1648085	1777427	1895633	1974900	1873792
M_3 (1+2+3+4–5)	**16799963**	**16459027**	**18401666**	**18420102**	**18563764**

No. 8: Monetary Survey

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2019-20	2020	2021		
		Feb. 28	Jan. 29	Feb. 12	Feb. 26
	1	2	3	4	5
Monetary Aggregates					
NM_1 (1.1 + 1.2.1+1.3)	4125948	3868854	4564687	4541871	4604299
NM_2 (NM_1+ 1.2.2.1)	9745776	9454291	10716907	10713171	10811823
NM_3 (NM_2 + 1.2.2.2 + 1.4 = 2.1 + 2.2 + 2.3 – 2.4 – 2.5)	16923893	16589306	18479351	18499355	18643534
1 Components					
1.1 Currency with the Public	2349748	2255426	2707213	2745502	2735090
1.2 Aggregate Deposits of Residents	14226198	13990952	15485853	15467085	15618933
1.2.1 Demand Deposits	1737692	1578869	1814252	1753086	1824434
1.2.2 Time Deposits of Residents	12488506	12412082	13671601	13714000	13794499
1.2.2.1 Short-term Time Deposits	5619828	5585437	6152220	6171300	6207525
1.2.2.1.1 Certificates of Deposit (CDs)	169419	181028	63159	60439	55560
1.2.2.2 Long-term Time Deposits	6868678	6826645	7519380	7542700	7586974
1.3 'Other' Deposits with RBI	38507	34558	43222	43284	44774
1.4 Call/Term Funding from Financial Institutions	309439	308370	243063	243484	244737
2 Sources					
2.1 Domestic Credit	16857025	16620024	18048596	18175514	18169968
2.1.1 Net Bank Credit to the Government	4960362	4983904	5735483	5852196	5770643
2.1.1.1 Net RBI credit to the Government	992192	990539	1058048	1139638	1064827
2.1.1.2 Credit to the Government by the Banking System	3968170	3993365	4677435	4712558	4705816
2.1.2 Bank Credit to the Commercial Sector	11896663	11636120	12313113	12323318	12399325
2.1.2.1 RBI Credit to the Commercial Sector	13166	3779	34782	32411	35473
2.1.2.2 Credit to the Commercial Sector by the Banking System	11883497	11632341	12278331	12290907	12363852
2.1.2.2.1 Other Investments (Non-SLR Securities)	846284	866695	914781	918861	920260
2.2 Government's Currency Liabilities to the Public	26348	26315	26747	26747	26819
2.3 Net Foreign Exchange Assets of the Banking Sector	3612303	3438198	4486180	4453809	10439810
2.3.1 Net Foreign Exchange Assets of the RBI	3590402	3473169	4279192	4242129	4286707
2.3.2 Net Foreign Currency Assets of the Banking System	21900	-34971	206988	211680	6153103
2.4 Capital Account	2670439	2545604	2839875	2834910	2868954
2.5 Other items (net)	901344	949627	1242296	1321804	7124109

No. 9: Liquidity Aggregates

(₹ Crore)

Aggregates	2019-20	2020		2021	
		Feb.	Dec.	Jan.	Feb.
	1	2	3	4	5
1 NM_3	**16923893**	**16589306**	**18142690**	**18479350**	**18643530**
2 Postal Deposits	433441	421146	433441	433441	433441
3 L_1 (1 + 2)	**17357334**	**17010452**	**18576131**	**18912791**	**19076971**
4 Liabilities of Financial Institutions	57479	57964	34795	31930	31930
4.1 Term Money Borrowings	7928	2851	2645	2645	2645
4.2 Certificates of Deposit	46249	51556	28865	25065	25065
4.3 Term Deposits	3302	3557	3285	4220	4220
5 L_2 (3 + 4)	**17414812**	**17068416**	**18610926**	**18944721**	**19108901**
6 Public Deposits with Non-Banking Financial Companies	31905	..	31905	..	..
7 L_3 (5 + 6)	**17446717**	..	**18642831**	..	..

Note : 1. Since November 2019, updated data on liabilities of financial institutions have been incorporated in this table , and hence, are not comparable with past data.

2. 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				
	2019-20	2020	2021		
		Feb. 28	Jan. 29	Feb. 12	Feb. 26
	1	2	3	4	5
1 Components					
1.1 Currency in Circulation	2447312	2348239	2806792	2840950	2836677
1.2 Bankers' Deposits with the RBI	543888	591504	511901	499835	497226
1.2.1 Scheduled Commercial Banks	505131	550033	476349	464804	462156
1.3 'Other' Deposits with the RBI	38507	34558	43222	43284	44774
Reserve Money (1.1 + 1.2 + 1.3 = 2.1 + 2.2 + 2.3 – 2.4 – 2.5)	3029707	2974301	3361915	3384069	3378677
2 Sources					
2.1 RBI's Domestic Credit	791299	689696	492406	532594	475420
2.1.1 Net RBI credit to the Government	992192	990539	1058048	1139638	1064827
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)	989741	987699	1053321	1128762	1060932
2.1.1.1.1 Loans and Advances to the Central Government	–	5081	–	–	–
2.1.1.1.2 Investments in Treasury Bills	–	–	–	–	–
2.1.1.1.3 Investments in dated Government Securities	1044468	981839	1306845	1346777	1320154
2.1.1.1.3.1 Central Government Securities	1044468	981839	1306845	1346777	1320154
2.1.1.1.4 Rupee Coins	846	879	879	844	816
2.1.1.1.5 Deposits of the Central Government	55573	100	254403	218859	260038
2.1.1.2 Net RBI credit to State Governments	2451	2840	4727	10876	3895
2.1.2 RBI's Claims on Banks	-214059	-304622	-600423	-639455	-624880
2.1.2.1 Loans and Advances to Scheduled Commercial Banks	-214059	-304622	-574242	-615460	-598033
2.1.3 RBI's Credit to Commercial Sector	13166	3779	34782	32411	35473
2.1.3.1 Loans and Advances to Primary Dealers	5920	1815	1	1	1
2.1.3.2 Loans and Advances to NABARD	–	–	26181	23996	26848
2.2 Government's Currency Liabilities to the Public	26348	26315	26747	26747	26819
2.3 Net Foreign Exchange Assets of the RBI	3590402	3473169	4279192	4242129	4286707
2.3.1 Gold	230527	221399	264803	263585	260239
2.3.2 Foreign Currency Assets	3359893	3251787	4014406	3978562	4026486
2.4 Capital Account	1165066	1047453	1250074	1239016	1273838
2.5 Other Items (net)	213276	167426	186356	178386	136431

No. 11: Reserve Bank - Components and Sources

(₹ Crore)

Item	2019-20	Outstanding as on March 31/ last Fridays of the month/ Fridays					
		2020	2021				
		Feb. 28	Jan. 29	Feb. 5	Feb. 12	Feb. 19	Feb. 26
	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)	3029707	2974301	3361915	3384190	3384069	3414662	3378677
1 Components							
1.1 Currency in Circulation	2447312	2348239	2806792	2823015	2840950	2836655	2836677
1.2 Bankers' Deposits with RBI	543888	591504	511901	517774	499835	535098	497226
1.3 'Other' Deposits with RBI	38507	34558	43222	43400	43284	42909	44774
2 Sources							
2.1 Net Reserve Bank Credit to Government	992192	990539	1058048	1137076	1139638	1098831	1064827
2.2 Reserve Bank Credit to Banks	-214059	-304622	-574242	-616882	-615460	-551147	-598033
2.3 Reserve Bank Credit to Commercial Sector	13166	3779	8601	8625	8415	7370	8625
2.4 Net Foreign Exchange Assets of RBI	3590402	3473169	4279192	4237609	4242129	4237500	4286707
2.5 Government's Currency Liabilities to the Public	26348	26315	26747	26747	26747	26747	26819
2.6 Net Non- Monetary Liabilities of RBI	1378342	1214879	1436430	1408986	1417401	1404640	1410269

No. 12: Commercial Bank Survey

(₹ Crore)

Item	Outstanding as on last reporting Fridays of the month/ reporting Fridays of the month				
	2019-20	2020	2021		
		Feb. 28	Jan. 29	Feb. 12	Feb. 26
	1	2	3	4	5
1 Components					
1.1 Aggregate Deposits of Residents	13381983	13148177	14632387	14617115	14768613
1.1.1 Demand Deposits	1617003	1459926	1691542	1630999	1703094
1.1.2 Time Deposits of Residents	11764979	11688252	12940845	12986116	13065519
1.1.2.1 Short-term Time Deposits	5294241	5259713	5823380	5843752	5879484
1.1.2.1.1 Certificates of Deposits (CDs)	169419	181028	63159	60439	55560
1.1.2.2 Long-term Time Deposits	6470739	6428538	7117465	7142364	7186035
1.2 Call/Term Funding from Financial Institutions	309439	308370	243063	243484	244737
2 Sources					
2.1 Domestic Credit	14967529	14751128	16055128	16102345	16166115
2.1.1 Credit to the Government	3738696	3769060	4432987	4468178	4460126
2.1.2 Credit to the Commercial Sector	11228833	10982069	11622141	11634167	11705989
2.1.2.1 Bank Credit	10370861	10104866	10704637	10703541	10774742
2.1.2.1.1 Non-food Credit	10319097	10039270	10617527	10628254	10699536
2.1.2.2 Net Credit to Primary Dealers	11997	10242	10040	19328	18752
2.1.2.3 Investments in Other Approved Securities	8653	9227	1646	1400	1197
2.1.2.4 Other Investments (in non-SLR Securities)	837321	857733	905819	909899	911298
2.2 Net Foreign Currency Assets of Commercial Banks (2.2.1–2.2.2–2.2.3)	21900	-34971	206988	211680	6153103
2.2.1 Foreign Currency Assets	315641	250745	428781	431336	6371155
2.2.2 Non-resident Foreign Currency Repatriable Fixed Deposits	185510	178091	165378	164231	164967
2.2.3 Overseas Foreign Currency Borrowings	108231	107625	56415	55426	53085
2.3 Net Bank Reserves (2.3.1+2.3.2–2.3.3)	899410	937016	1140062	1165747	1151726
2.3.1 Balances with the RBI	536186	550033	476349	464804	462156
2.3.2 Cash in Hand	87260	82361	89471	85483	91537
2.3.3 Loans and Advances from the RBI	-275964	-304622	-574242	-615460	-598033
2.4 Capital Account	1481202	1473980	1565630	1571724	1570946
2.5 Other items (net) (2.1+2.2+2.3–2.4–1.1–1.2)	716216	722646	961097	1047449	6886648
2.5.1 Other Demand and Time Liabilities (net of 2.2.3)	495445	476843	558300	563684	571210
2.5.2 Net Inter-Bank Liabilities (other than to PDs)	66273	66744	73170	77421	77310

No. 13: Scheduled Commercial Banks' Investments

(₹ Crore)

Item	As on March 27, 2020	2020	2021		
		Feb. 28	Jan. 29	Feb. 12	Feb. 26
	1	2	3	4	5
1 SLR Securities	3747349	3778287	4434632	4469578	4461323
2 Commercial Paper	104526	99608	74509	81329	81193
3 Shares issued by					
3.1 PSUs	14106	13690	12011	11753	11366
3.2 Private Corporate Sector	75415	66249	69780	69319	65681
3.3 Others	5734	5766	5450	5329	5254
4 Bonds/Debentures issued by					
4.1 PSUs	125710	123635	126329	126659	121080
4.2 Private Corporate Sector	226559	223145	311745	310681	299662
4.3 Others	191690	191889	140989	140687	143843
5 Instruments issued by					
5.1 Mutual funds	35610	47644	30469	29212	30584
5.2 Financial institutions	97665	85312	134474	134931	152634

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			
	2019-20	2020	2021		2019-20	2020	2021	
		Feb.	Jan.	Feb.		Feb.	Jan.	Feb.
	1	2	3	4	5	6	7	8
Number of Reporting Banks	219	219	208	209	142	142	132	133
1 Liabilities to the Banking System	**320240**	**323676**	**261259**	**254779**	**314513**	**318460**	**256374**	**249780**
1.1 Demand and Time Deposits from Banks	239943	233085	202813	197528	234348	228063	198144	192925
1.2 Borrowings from Banks	64001	77273	41913	39370	64001	77232	41913	39194
1.3 Other Demand and Time Liabilities	16295	13318	16533	17881	16163	13166	16316	17661
2 Liabilities to Others	**14905949**	**14639011**	**16089999**	**16236353**	**14480607**	**14219106**	**15655408**	**15802612**
2.1 Aggregate Deposits	13975551	13729250	15221717	15350583	13567492	13326268	14802765	14933580
2.1.1 Demand	1653242	1493578	1728459	1738300	1617003	1459926	1691559	1703094
2.1.2 Time	12322309	12235671	13493258	13612283	11950489	11866342	13111206	13230486
2.2 Borrowings	313908	312663	247395	249469	309439	308370	243063	244737
2.3 Other Demand and Time Liabilities	616491	597097	620887	636300	603676	584468	609580	624295
3 Borrowings from Reserve Bank	**285623**	**54186**	**84597**	**84686**	**285623**	**54186**	**84597**	**84651**
3.1 Against Usance Bills /Promissory Notes	–	–	–	–	–	–	–	–
3.2 Others	285623	54186	84597	84686	285623	54186	84597	84651
4 Cash in Hand and Balances with Reserve Bank	643038	650829	581938	568449	623446	632394	565820	553693
4.1 Cash in Hand	89671	84805	91572	93586	87260	82361	89471	91537
4.2 Balances with Reserve Bank	553367	566024	490366	474863	536186	550033	476349	462156
5 Assets with the Banking System	**323680**	**321877**	**254569**	**254694**	**260238**	**261959**	**193056**	**191222**
5.1 Balances with Other Banks	181460	192304	174179	175643	155401	166052	140128	141757
5.1.1 In Current Account	17204	36251	16068	17196	14457	33371	13638	15044
5.1.2 In Other Accounts	164256	156053	158111	158447	140945	132682	126491	126713
5.2 Money at Call and Short Notice	43335	37035	32342	31427	20273	18239	10113	8075
5.3 Advances to Banks	38266	35227	19319	20544	30531	27488	17286	17435
5.4 Other Assets	60619	57311	28730	27079	54032	50180	25529	23955
6 Investment	**3865544**	**3890054**	**4566898**	**4594743**	**3747349**	**3778287**	**4434632**	**4461323**
6.1 Government Securities	3850819	3874671	4558728	4587124	3738696	3769060	4432986	4460126
6.2 Other Approved Securities	14724	15383	8170	7619	8653	9227	1646	1197
7 Bank Credit	**10705336**	**10433819**	**11046037**	**11122143**	**10370861**	**10104866**	**10703752**	**10774742**
7a Food Credit	82172	94717	117510	105605	51763	65596	87110	75206
7.1 Loans, Cash-credits and Overdrafts	10480934	10213608	10865787	10932251	10149509	9887932	10525542	10586842
7.2 Inland Bills-Purchased	26214	26052	23728	26562	25658	25463	23465	26275
7.3 Inland Bills-Discounted	147209	141937	108219	113084	145683	140341	107357	112204
7.4 Foreign Bills-Purchased	20866	21734	17722	18922	20458	21239	17357	18675
7.5 Foreign Bills-Discounted	30114	30489	30581	31324	29554	29892	30031	30746

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

(₹ Crore)

Sector	Outstanding as on				Growth (%)	
	Mar.27, 2020	2020	2021		Financial year so far	Y-o-Y
		Feb.28	Jan.29	Feb.26	2020-21	2021
	1	2	3	4	%	%
1 Gross Bank Credit	**9263132**	**8980093**	**9497150**	**9569167**	**3.3**	**6.6**
1.1 Food Credit	**51590**	**65384**	**86817**	**74943**	**45.3**	**14.6**
1.2 Non-food Credit	**9211542**	**8914709**	**9410333**	**9494225**	**3.1**	**6.5**
1.2.1 Agriculture & Allied Activities	**1157795**	**1155990**	**1267714**	**1274075**	**10.0**	**10.2**
1.2.2 Industry	**2905151**	**2792811**	**2781575**	**2786202**	**-4.1**	**-0.2**
1.2.2.1 Micro and Small [1]	381825	371333	376297	376919	-1.3	1.5
1.2.2.2 Medium	105597	107502	127227	130105	23.2	21.0
1.2.2.3 Large	2417729	2313976	2278051	2279177	-5.7	-1.5
1.2.3 Services	**2594947**	**2433859**	**2636628**	**2660022**	**2.5**	**9.3**
1.2.3.1 Transport Operators	137815	137662	151553	148681	7.9	8.0
1.2.3.2 Computer Software	20050	19205	18731	18520	-7.6	-3.6
1.2.3.3 Tourism, Hotels & Restaurants	45978	45184	49413	48102	4.6	6.5
1.2.3.4 Shipping	5469	5439	7183	7557	38.2	38.9
1.2.3.5 Aviation	17983	17245	12280	21440	19.2	24.3
1.2.3.6 Professional Services	176997	172816	129080	124228	-29.8	-28.1
1.2.3.7 Trade	552391	538607	600957	584996	5.9	8.6
1.2.3.7.1 Wholesale Trade	263396	254832	298232	294029	11.6	15.4
1.2.3.7.2 Retail Trade	288995	283774	302725	290967	0.7	2.5
1.2.3.8 Commercial Real Estate	229770	228826	233671	232473	1.2	1.6
1.2.3.9 Non-Banking Financial Companies (NBFCs) [2]	904638	820725	885852	896459	-0.9	9.2
of which,						
1.2.3.9.1 Housing Finance Companies (HFCs)	159758	154855	150390	168883	5.7	9.1
1.2.3.9.2 Public Financial Institutions (PFIs)	39642	37283	71109	80091	102.0	114.8
1.2.3.10 Other Services [3]	503855	448150	547910	577564	14.6	28.9
1.2.4 Personal Loans	**2553649**	**2532048**	**2724415**	**2773926**	**8.6**	**9.6**
1.2.4.1 Consumer Durables	9299	6495	7397	7242	-22.1	11.5
1.2.4.2 Housing	1337899	1327920	1417538	1440095	7.6	8.4
1.2.4.3 Advances against Fixed Deposits	79494	75469	67176	66073	-16.9	-12.5
1.2.4.4 Advances to Individuals against share & bonds	5334	5183	4163	4319	-19.0	-16.7
1.2.4.5 Credit Card Outstanding	108097	110946	116361	116290	7.6	4.8
1.2.4.6 Education	65744	66563	64364	64346	-2.1	-3.3
1.2.4.7 Vehicle Loans	220610	221129	235882	239406	8.5	8.3
1.2.4.8 Loan against gold jewellery	33303	31993	43141	56263	68.9	75.9
1.2.4.9 Other Personal Loans	693870	686348	768392	779891	12.4	13.6
1.2A Priority Sector *(Memo)*						
1.2A.1 Agriculture & Allied Activities [4]	1131285	1122642	1246880	1249160	10.4	11.3
1.2A.2 Micro & Small Enterprises [5]	1080373	1058606	1148502	1131832	4.8	6.9
1.2A.3 Medium Enterprises [6]	130588	127125	163182	193765	48.4	52.4
1.2A.4 Housing	459574	499415	470361	474863	3.3	-4.9
1.2A.5 Education Loans	50335	53858	50014	48552	-3.5	-9.9
1.2A.6 Renewable Energy	1037	841	1282	1411	36.1	67.8
1.2A.7 Social Infrastructure	997	923	1971	2144	115.0	132.3
1.2A.8 Export Credit [7]	16575	14357	17151	15070	-9.1	5.0
1.2A.9 Others	15393	18253	14765	20073	30.4	10.0
1.2A.10 Weaker Sections including net PSLC- SF/MF	727810	687233	766466	781858	7.4	13.8

Note 1: Data are provisional and relate to select banks which cover about 90 per cent of total non-food credit extended by all scheduled commercial banks.
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. 27, 2020	2020	2021		Financial year so far	Y-o-Y
		Feb. 28	Jan.29	Feb. 26	2020-21	2021
	1	2	3	4	%	%
1 Industries (2.1 to 2.19)	**2905151**	**2792811**	**2781575**	**2786202**	**–4.1**	**–0.2**
1.1 Mining & Quarrying (incl. Coal)	**43926**	**41600**	**45477**	**44393**	**1.1**	**6.7**
1.2 Food Processing	**154145**	**149851**	**155367**	**152568**	**–1.0**	**1.8**
1.2.1 Sugar	27382	26623	21261	22049	–19.5	–17.2
1.2.2 Edible Oils & Vanaspati	19239	19461	19678	19799	2.9	1.7
1.2.3 Tea	5374	5290	5728	5506	2.5	4.1
1.2.4 Others	102149	98476	108700	105214	3.0	6.8
1.3 Beverage & Tobacco	**16523**	**15063**	**15084**	**16117**	**–2.5**	**7.0**
1.4 Textiles	**192423**	**188066**	**209457**	**203029**	**5.5**	**8.0**
1.4.1 Cotton Textiles	89283	86275	94115	92874	4.0	7.6
1.4.2 Jute Textiles	2116	2117	2606	2686	27.0	26.9
1.4.3 Man-Made Textiles	26074	25822	29779	30173	15.7	16.9
1.4.4 Other Textiles	74951	73852	82957	77295	3.1	4.7
1.5 Leather & Leather Products	**11098**	**10720**	**11203**	**11358**	**2.3**	**6.0**
1.6 Wood & Wood Products	**12234**	**12102**	**13285**	**13272**	**8.5**	**9.7**
1.7 Paper & Paper Products	**30965**	**30607**	**34933**	**35353**	**14.2**	**15.5**
1.8 Petroleum, Coal Products & Nuclear Fuels	**75834**	**58679**	**56586**	**59991**	**–20.9**	**2.2**
1.9 Chemicals & Chemical Products	**202949**	**184239**	**181423**	**179163**	**–11.7**	**–2.8**
1.9.1 Fertiliser	49066	37028	40642	32455	–33.9	–12.3
1.9.2 Drugs & Pharmaceuticals	53427	50685	49688	50023	–6.4	–1.3
1.9.3 Petro Chemicals	42233	40188	37497	41602	–1.5	3.5
1.9.4 Others	58223	56339	53596	55082	–5.4	–2.2
1.10 Rubber, Plastic & their Products	**50415**	**48752**	**50630**	**51951**	**3.0**	**6.6**
1.11 Glass & Glassware	**8777**	**8494**	**9147**	**9209**	**4.9**	**8.4**
1.12 Cement & Cement Products	**58689**	**56634**	**57536**	**57655**	**–1.8**	**1.8**
1.13 Basic Metal & Metal Product	**350325**	**333598**	**328174**	**329889**	**–5.8**	**–1.1**
1.13.1 Iron & Steel	262396	250942	240332	240559	–8.3	–4.1
1.13.2 Other Metal & Metal Product	87930	82656	87841	89330	1.6	8.1
1.14 All Engineering	**157258**	**155426**	**142592**	**143925**	**–8.5**	**–7.4**
1.14.1 Electronics	30159	32900	30866	31533	4.6	–4.2
1.14.2 Others	127100	122526	111726	112392	–11.6	–8.3
1.15 Vehicles, Vehicle Parts & Transport Equipment	**82606**	**79111**	**83784**	**82573**	**0.0**	**4.4**
1.16 Gems & Jewellery	**59515**	**59147**	**61347**	**61175**	**2.8**	**3.4**
1.17 Construction	**104288**	**103972**	**99542**	**97133**	**–6.9**	**–6.6**
1.18 Infrastructure	**1053913**	**1019393**	**996326**	**1003000**	**–4.8**	**–1.6**
1.18.1 Power	559774	538994	557395	553216	–1.2	2.6
1.18.2 Telecommunications	143760	141171	85984	89972	–37.4	–36.3
1.18.3 Roads	176323	173912	194843	201052	14.0	15.6
1.18.4 Airports	4856	4507	5840	6333	30.4	40.5
1.18.5 Ports	11547	9788	7481	7069	–38.8	–27.8
1.18.6 Railways	10680	10006	10723	10839	1.5	8.3
1.18.7 Other Infrastructure	146972	141015	134059	134520	–8.5	–4.6
1.19 Other Industries	**239269**	**237356**	**229682**	**234446**	**–2.0**	**–1.2**

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								
	2019-20	2020					2021		
		Jan, 31	Nov, 27	Dec, 04	Dec, 18	Dec, 25	Jan, 01	Jan, 15	Jan, 29
	1	2	3	4	5	6	7	8	9
Number of Reporting Banks	32	32	32	32	32	32	32	32	32
1 Aggregate Deposits (2.1.1.2+2.2.1.2)	**124101.8**	**123353.4**	**124549.5**	**125066.2**	**128204.7**	**128069.6**	**129799.1**	**127765.4**	**126732.3**
2 Demand and Time Liabilities									
2.1 Demand Liabilities	**26213.8**	**22683.3**	**22922.9**	**23245.5**	**22746.4**	**22701.0**	**23521.4**	**22039.6**	**21955.8**
2.1.1 Deposits									
2.1.1.1 Inter-Bank	5295.0	4195.9	3926.9	4406.7	4330.2	4320.8	4029.7	4267.1	3939.0
2.1.1.2 Others	14,523.6	12032.4	13488.9	13616.1	14298.1	13899.7	14236.5	13447.2	13869.6
2.1.2 Borrowings from Banks	100.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	342.5
2.1.3 Other Demand Liabilities	6295.2	6414.9	5507.1	5222.7	4118.0	4480.4	5255.2	4325.3	3804.7
2.2 Time Liabilities	**167684.5**	**167118.6**	**170541.9**	**170362.4**	**173110.4**	**174092.7**	**176086.7**	**176871.2**	**175205.9**
2.2.1 Deposits									
2.2.1.1 Inter-Bank	56564.0	54245.2	57870.7	57309.3	56572.7	57412.6	58778.8	59552.0	59535.3
2.2.1.2 Others	109578.2	111320.9	111060.7	111450.0	113906.6	114169.8	115562.6	114318.2	112862.8
2.2.2 Borrowings from Banks	630.2	629.9	629.9	629.9	630.0	630.0	629.9	629.9	629.9
2.2.3 Other Time Liabilities	912.1	922.6	980.6	973.1	2001.1	1880.4	1115.4	2371.1	2177.8
3 Borrowing from Reserve Bank	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 Borrowings from a notified bank / Government	52772.2	47543.2	58609.1	57790.1	57823.7	58860.6	59754.7	59935.9	57881.3
4.1 Demand	13764.4	13669.2	14440.6	13705.2	13030.4	13515.1	13117.3	13543.8	13137.7
4.2 Time	39007.8	33874.0	44168.5	44085.0	44793.3	45345.5	46637.4	46392.1	44743.5
5 Cash in Hand and Balances with Reserve Bank	**9428.2**	**9101.5**	**7139.8**	**7142.3**	**7062.2**	**7125.5**	**7579.7**	**7371.9**	**8310.8**
5.1 Cash in Hand	750.5	766.7	554.2	546.3	594.3	568.6	619.1	615.5	591.6
5.2 Balance with Reserve Bank	8677.8	8334.7	6585.6	6596.0	6467.9	6556.9	6960.6	6756.4	7719.2
6 Balances with Other Banks in Current Account	**1521.7**	**1097.9**	**947.3**	**1004.0**	**802.0**	**990.4**	**933.4**	**881.9**	**871.6**
7 Investments in Government Securities	**50626.9**	**49785.7**	**60795.8**	**61404.9**	**60836.1**	**61776.2**	**61168.7**	**61387.5**	**60775.8**
8 Money at Call and Short Notice	**25283.9**	**19817.4**	**24696.5**	**24157.5**	**25484.9**	**25995.4**	**27501.0**	**27428.4**	**25277.1**
9 Bank Credit (10.1+11)	**110905.5**	**105176.3**	**110586.0**	**109224.7**	**110488.8**	**111808.2**	**110706.8**	**112016.2**	**112134.6**
10 Advances									
10.1 Loans, Cash-Credits and Overdrafts	**110901.5**	**105146.2**	**110566.8**	**109205.6**	**110469.5**	**111788.9**	**110687.5**	**111996.9**	**112115.1**
10.2 Due from Banks	81300.1	78091.6	84270.3	84699.4	86694.6	86450.6	88502.4	88603.4	88670.2
11 Bills Purchased and Discounted	4.0	30.1	19.1	19.1	19.3	19.3	19.3	19.4	19.5

Prices and Production

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

Group/Sub group	2019-20			Rural			Urban			Combined		
	Rural	Urban	Combined	Feb. 20	Jan. 21	Feb 21(P)	Feb. 20	Jan. 21	Feb 21(P)	Feb. 20	Jan. 21	Feb 21(P)
	1	2	3	4	5	6	7	8	9	10	11	12
1 Food and beverages	**146.3**	**149.6**	**147.5**	**149.8**	**155.7**	**154.7**	**151.7**	**160.8**	**160.8**	**150.5**	**157.6**	**156.9**
1.1 Cereals and products	140.7	143.2	141.4	144.2	142.9	142.8	146.2	147.8	147.6	144.8	144.5	144.3
1.2 Meat and fish	163.3	161.4	162.6	167.5	186.1	184.0	167.6	192.5	191.2	167.5	188.4	186.5
1.3 Egg	142.1	145.7	143.5	150.9	174.4	168.0	153.1	175.7	169.9	151.8	174.9	168.7
1.4 Milk and products	146.5	146.0	146.3	150.9	154.1	154.4	150.7	154.4	155.1	150.8	154.2	154.7
1.5 Oils and fats	127.1	121.8	125.1	133.7	159.7	163.0	127.4	148.5	151.4	131.4	155.6	158.7
1.6 Fruits	144.0	148.8	146.2	140.7	147.9	147.8	143.1	153.1	154.0	141.8	150.3	150.7
1.7 Vegetables	163.5	187.8	171.7	165.1	157.1	149.7	181.7	182.8	180.2	170.7	165.8	160.0
1.8 Pulses and products	133.7	132.0	133.1	141.8	158.6	158.3	139.6	160.2	159.8	141.1	159.1	158.8
1.9 Sugar and confectionery	112.0	113.4	112.5	113.1	112.9	111.8	114.6	115.5	114.9	113.6	113.8	112.8
1.10 Spices	145.6	145.1	145.5	152.8	165.1	165.0	150.4	163.0	162.5	152.0	164.4	164.2
1.11 Non-alcoholic beverages	138.8	130.2	135.2	140.1	158.5	160.0	131.5	147.7	149.2	136.5	154.0	155.5
1.12 Prepared meals, snacks, sweets	157.6	156.7	157.2	159.2	165.1	165.8	159.0	168.5	169.4	159.1	166.7	167.5
2 Pan, tobacco and intoxicants	**166.3**	**169.0**	**167.0**	**169.4**	**185.8**	**186.5**	**172.0**	**192.7**	**193.3**	**170.1**	**187.6**	**188.3**
3 Clothing and footwear	**151.3**	**143.7**	**148.3**	**152.3**	**157.5**	**158.4**	**145.2**	**151.0**	**151.8**	**149.5**	**154.9**	**155.8**
3.1 Clothing	152.0	145.7	149.5	153.0	158.2	159.1	147.3	153.4	154.2	150.8	156.3	157.2
3.2 Footwear	146.9	132.4	140.9	147.5	153.1	153.9	133.5	137.9	138.2	141.7	146.8	147.4
4 Housing	**--**	**152.2**	**152.2**	**--**	**--**	**--**	**154.8**	**158.9**	**159.8**	**154.8**	**158.9**	**159.8**
5 Fuel and light	**148.6**	**131.5**	**142.2**	**152.3**	**152.9**	**154.4**	**138.9**	**145.7**	**149.1**	**147.2**	**150.2**	**152.4**
6 Miscellaneous	**145.6**	**135.9**	**140.9**	**148.4**	**156.7**	**157.2**	**138.4**	**148.5**	**149.3**	**143.6**	**152.7**	**153.4**
6.1 Household goods and services	150.6	138.7	145.0	151.8	154.3	154.8	140.4	146.0	146.5	146.4	150.4	150.9
6.2 Health	153.6	142.1	149.3	156.2	163.5	164.3	144.4	155.2	156.3	151.7	160.4	161.3
6.3 Transport and communication	132.6	122.2	127.1	136.0	148.7	150.2	125.2	138.2	140.5	130.3	143.2	145.1
6.4 Recreation and amusement	148.3	135.9	141.3	150.4	156.1	157.0	137.7	146.4	147.3	143.2	150.6	151.5
6.5 Education	159.8	150.9	154.5	161.9	163.1	163.6	152.2	156.8	156.6	156.2	159.4	159.5
6.6 Personal care and effects	139.2	138.4	138.9	143.4	156.9	155.2	143.5	158.3	156.7	143.4	157.5	155.8
General Index (All Groups)	**147.3**	**145.1**	**146.3**	**150.4**	**156.8**	**156.7**	**147.7**	**155.8**	**156.5**	**149.1**	**156.3**	**156.6**

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	2019-20	2020	2021	
				Feb.	Jan.	Feb.
	1	2	3	4	5	6
1 Consumer Price Index for Industrial Workers	2016	2.88	--	–	118.2	119
2 Consumer Price Index for Agricultural Labourers	1986-87	5.89	980	1010	1038	1037
3 Consumer Price Index for Rural Labourers	1986-87	–	986	1016	1045	1044

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

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

Item	2019-20	2020	2021	
		Feb.	Jan.	Feb.
	1	2	3	4
1 Standard Gold (₹ per 10 grams)	37018	41195	49612	47107
2 Silver (₹ per kilogram)	42514	46567	66785	69065

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	2019-20	2020		2021	
			Feb.	Dec.	Jan. (P)	Feb. (P)
	1	2	3	4	5	6
1 ALL COMMODITIES	**100.000**	**121.8**	**122.2**	**125.4**	**125.9**	**127.3**
1.1 PRIMARY ARTICLES	**22.618**	**143.3**	**142.8**	**148.0**	**143.9**	**145.4**
1.1.1 FOOD ARTICLES	**15.256**	**155.8**	**154.7**	**161.1**	**156.0**	**156.8**
1.1.1.1 Food Grains (Cereals+Pulses)	3.462	159.6	163.4	157.4	157.2	157.4
1.1.1.2 Fruits & Vegetables	3.475	174.7	157.2	180.7	158.6	160.7
1.1.1.3 Milk	4.440	146.7	149.6	154.1	154.3	154.4
1.1.1.4 Eggs,Meat & Fish	2.402	147.0	153.7	151.2	150.4	152.5
1.1.1.5 Condiments & Spices	0.529	143.9	150.0	153.2	151.4	151.5
1.1.1.6 Other Food Articles	0.948	144.0	142.7	164.4	166.2	165.0
1.1.2 NON-FOOD ARTICLES	**4.119**	**128.7**	**131.7**	**138.0**	**137.6**	**136.9**
1.1.2.1 Fibres	0.839	128.2	124.4	123.5	125.9	130.1
1.1.2.2 Oil Seeds	1.115	151.4	153.7	164.4	171.0	175.3
1.1.2.3 Other non-food Articles	1.960	104.8	105.4	113.8	114.2	113.9
1.1.2.4 Floriculture	0.204	238.0	294.6	285.0	228.7	176.7
1.1.3 MINERALS	**0.833**	**154.5**	**157.4**	**172.2**	**157.4**	**172.2**
1.1.3.1 Metallic Minerals	0.648	147.4	148.0	168.2	150.1	168.2
1.1.3.2 Other Minerals	0.185	179.0	190.1	186.3	183.0	186.3
1.1.4 CRUDE PETROLEUM & NATURAL GAS	**2.410**	**85.3**	**81.3**	**74.1**	**73.9**	**78.7**
1.2 FUEL & POWER	**13.152**	**102.2**	**103.6**	**96.9**	**99.7**	**104.2**
1.2.1 COAL	**2.138**	**125.3**	**126.5**	**127.0**	**127.0**	**127.0**
1.2.1.1 Coking Coal	0.647	138.1	141.9	141.9	141.9	141.9
1.2.1.2 Non-Coking Coal	1.401	119.0	119.0	119.8	119.8	119.8
1.2.1.3 Lignite	0.090	129.1	131.1	131.1	131.1	131.1
1.2.2 MINERAL OILS	**7.950**	**92.3**	**92.4**	**81.1**	**85.6**	**93.2**
1.2.3 ELECTRICITY	**3.064**	**111.8**	**116.6**	**116.9**	**117.4**	**116.9**
1.3 MANUFACTURED PRODUCTS	**64.231**	**118.3**	**118.8**	**123.3**	**124.9**	**125.7**
1.3.1 MANUFACTURE OF FOOD PRODUCTS	**9.122**	**133.9**	**137.0**	**144.0**	**144.9**	**146.7**
1.3.1.1 Processing and Preserving of meat	0.134	137.5	136.8	137.6	139.0	138.1
1.3.1.2 Processing and Preserving of fish, Crustaceans, Molluscs and products thereof	0.204	136.1	136.0	135.4	139.1	141.9
1.3.1.3 Processing and Preserving of fruit and Vegetables	0.138	114.3	114.9	121.8	121.5	121.7
1.3.1.4 Vegetable and Animal oils and Fats	2.643	119.3	129.3	155.0	158.3	163.7
1.3.1.5 Dairy products	1.165	145.0	151.0	146.6	147.4	148.4
1.3.1.6 Grain mill products	2.010	146.3	146.2	141.6	141.9	142.1
1.3.1.7 Starches and Starch products	0.110	135.5	133.4	119.1	119.7	118.6
1.3.1.8 Bakery products	0.215	133.5	136.4	138.9	139.1	139.1
1.3.1.9 Sugar, Molasses & honey	1.163	118.3	119.2	118.2	116.9	116.7
1.3.1.10 Cocoa, Chocolate and Sugar confectionery	0.175	127.2	126.4	128.1	126.0	126.8
1.3.1.11 Macaroni, Noodles, Couscous and Similar farinaceous products	0.026	132.7	130.5	131.6	130.2	130.9
1.3.1.12 Tea & Coffee products	0.371	139.7	126.2	161.1	159.1	155.2
1.3.1.13 Processed condiments & salt	0.163	132.4	140.4	149.1	150.5	152.4
1.3.1.14 Processed ready to eat food	0.024	128.7	130.3	133.2	133.1	134.7
1.3.1.15 Health supplements	0.225	159.9	156.4	137.9	138.8	139.1
1.3.1.16 Prepared animal feeds	0.356	173.6	170.0	171.4	170.7	173.1
1.3.2 MANUFACTURE OF BEVERAGES	**0.909**	**123.6**	**123.9**	**123.0**	**124.4**	**125.3**
1.3.2.1 Wines & spirits	0.408	117.8	119.1	119.3	121.4	122.2
1.3.2.2 Malt liquors and Malt	0.225	125.7	126.5	124.3	124.6	125.4
1.3.2.3 Soft drinks; Production of mineral waters and Other bottled waters	0.275	130.5	129.1	127.6	128.5	129.7
1.3.3 MANUFACTURE OF TOBACCO PRODUCTS	**0.514**	**153.4**	**155.0**	**157.2**	**157.7**	**159.0**
1.3.3.1 Tobacco products	0.514	153.4	155.0	157.2	157.7	159.0

No. 21: Wholesale Price Index (Contd.)

(Base: 2011-12 = 100)

Commodities	Weight	2019-20	2020		2021	
			Feb.	Dec.	Jan. (P)	Feb. (P)
1.3.4 MANUFACTURE OF TEXTILES	**4.881**	**117.7**	**116.9**	**119.1**	**122.4**	**124.4**
1.3.4.1 Preparation and Spinning of textile fibres	2.582	107.9	105.8	108.5	113.2	116.2
1.3.4.2 Weaving & Finishing of textiles	1.509	130.1	130.9	133.3	135.3	136.1
1.3.4.3 Knitted and Crocheted fabrics	0.193	114.5	113.8	114.2	114.9	115.8
1.3.4.4 Made-up textile articles, Except apparel	0.299	134.5	133.5	132.5	133.5	133.0
1.3.4.5 Cordage, Rope, Twine and Netting	0.098	143.1	146.0	159.4	160.7	165.1
1.3.4.6 Other textiles	0.201	116.8	116.7	115.1	115.5	117.1
1.3.5 MANUFACTURE OF WEARING APPAREL	**0.814**	**138.3**	**138.1**	**139.2**	**139.5**	**139.3**
1.3.5.1 Manufacture of Wearing Apparel (woven), Except fur Apparel	0.593	139.2	138.8	138.0	138.6	138.3
1.3.5.2 Knitted and Crocheted apparel	0.221	135.9	136.2	142.2	142.0	142.1
1.3.6 MANUFACTURE OF LEATHER AND RELATED PRODUCTS	**0.535**	**118.6**	**118.1**	**118.6**	**117.6**	**117.3**
1.3.6.1 Tanning and Dressing of leather; Dressing and Dyeing of fur	0.142	105.5	103.6	100.9	100.6	99.6
1.3.6.2 Luggage, HandbAgs, Saddlery and Harness	0.075	136.3	137.6	138.6	139.6	139.0
1.3.6.3 Footwear	0.318	120.3	119.9	121.8	120.0	120.0
1.3.7 MANUFACTURE OF WOOD AND PRODUCTS OF WOOD AND CORK	**0.772**	**133.7**	**132.7**	**135.3**	**136.3**	**137.3**
1.3.7.1 Saw milling and Planing of wood	0.124	122.2	120.1	121.1	122.1	121.3
1.3.7.2 Veneer sheets; Manufacture of plywood, Laminboard, Particle board and Other panels and Boards	0.493	135.5	135.4	137.1	138.2	138.7
1.3.7.3 Builder's carpentry and Joinery	0.036	176.2	178.0	188.5	190.2	190.4
1.3.7.4 Wooden containers	0.119	125.7	121.5	126.6	127.1	132.6
1.3.8 MANUFACTURE OF PAPER AND PAPER PRODUCTS	**1.113**	**121.1**	**120.3**	**121.3**	**123.2**	**124.5**
1.3.8.1 Pulp, Paper and Paperboard	0.493	125.0	123.6	123.1	125.3	127.4
1.3.8.2 Corrugated paper and Paperboard and Containers of paper and Paperboard	0.314	115.0	115.3	124.1	125.5	126.8
1.3.8.3 Other articles of paper and Paperboard	0.306	121.2	120.1	115.5	117.3	117.4
1.3.9 PRINTING AND REPRODUCTION OF RECORDED MEDIA	**0.676**	**150.6**	**152.3**	**155.5**	**155.1**	**155.2**
1.3.9.1 Printing	0.676	150.6	152.3	155.5	155.1	155.2
1.3.10 MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS	**6.465**	**117.5**	**115.8**	**119.7**	**120.4**	**122.4**
1.3.10.1 Basic chemicals	1.433	119.9	117.1	119.8	122.0	125.5
1.3.10.2 Fertilizers and Nitrogen compounds	1.485	123.1	122.4	123.7	123.6	123.9
1.3.10.3 Plastic and Synthetic rubber in primary form	1.001	112.4	109.3	121.7	122.3	126.7
1.3.10.4 Pesticides and Other agrochemical products	0.454	122.6	121.7	125.8	125.3	125.6
1.3.10.5 Paints, Varnishes and Similar coatings, Printing ink and Mastics	0.491	114.7	113.2	115.7	116.9	118.6
1.3.10.6 Soap and Detergents, Cleaning and Polishing preparations, Perfumes and Toilet preparations	0.612	118.6	117.7	121.7	121.5	121.8
1.3.10.7 Other chemical products	0.692	114.2	113.5	115.1	116.0	117.9
1.3.10.8 Man-made fibres	0.296	97.9	95.8	95.7	96.7	99.1
1.3.11 MANUFACTURE OF PHARMACEUTICALS, MEDICINAL CHEMICAL AND BOTANICAL PRODUCTS	**1.993**	**127.3**	**131.7**	**131.9**	**131.2**	**131.0**
1.3.11.1 Pharmaceuticals, Medicinal chemical and Botanical products	1.993	127.3	131.7	131.9	131.2	131.0
1.3.12 MANUFACTURE OF RUBBER AND PLASTICS PRODUCTS	**2.299**	**108.5**	**107.9**	**114.4**	**116.0**	**116.3**
1.3.12.1 Rubber Tyres and Tubes; Retreading and Rebuilding of Rubber Tyres	0.609	98.9	98.7	98.7	99.4	99.5
1.3.12.2 Other Rubber Products	0.272	93.5	93.5	93.3	94.1	95.2
1.3.12.3 Plastics products	1.418	115.4	114.5	125.2	127.4	127.5
1.3.13 MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS	**3.202**	**116.7**	**116.5**	**117.4**	**115.9**	**117.4**
1.3.13.1 Glass and Glass products	0.295	124.5	125.5	127.8	129.4	129.5
1.3.13.2 Refractory products	0.223	108.7	108.6	109.7	110.1	110.9
1.3.13.3 Clay Building Materials	0.121	102.8	102.7	110.8	108.4	111.2
1.3.13.4 Other Porcelain and Ceramic Products	0.222	113.9	114.7	109.7	111.1	111.3
1.3.13.5 Cement, Lime and Plaster	1.645	119.5	119.4	119.7	118.9	119.1

No. 21: Wholesale Price Index (Contd.)

(Base: 2011-12 = 100)

Commodities	Weight	2019-20	2020		2021	
			Feb.	Dec.	Jan. (P)	Feb. (P)
1.3.13.6 Articles of Concrete, Cement and Plaster	0.292	121.6	122.9	127.1	125.9	126.1
1.3.13.7 Cutting, Shaping and Finishing of Stone	0.234	120.2	121.1	121.0	122.9	122.3
1.3.13.8 Other Non-Metallic Mineral Products	0.169	86.6	78.1	81.3	55.3	79.9
1.3.14 MANUFACTURE OF BASIC METALS	**9.646**	**106.2**	**107.0**	**115.8**	**121.9**	**120.9**
1.3.14.1 Inputs into steel making	1.411	100.6	104.3	116.2	122.8	121.4
1.3.14.2 Metallic Iron	0.653	107.7	109.7	120.8	128.0	124.6
1.3.14.3 Mild Steel - Semi Finished Steel	1.274	95.1	96.0	103.2	106.6	105.8
1.3.14.4 Mild Steel -Long Products	1.081	105.5	105.6	118.2	124.5	124.9
1.3.14.5 Mild Steel - Flat products	1.144	108.7	109.5	123.5	135.2	133.2
1.3.14.6 Alloy steel other than Stainless Steel- Shapes	0.067	102.8	101.5	113.5	119.8	120.2
1.3.14.7 Stainless Steel - Semi Finished	0.924	102.9	104.1	107.7	125.2	115.9
1.3.14.8 Pipes & tubes	0.205	126.2	127.4	129.8	132.4	135.8
1.3.14.9 Non-ferrous metals incl. precious metals	1.693	107.0	105.7	117.7	118.8	120.4
1.3.14.10 Castings	0.925	112.8	112.4	109.2	110.1	113.3
1.3.14.11 Forgings of steel	0.271	146.5	146.6	146.5	147.6	146.1
1.3.15 MANUFACTURE OF FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT	**3.155**	**115.5**	**114.6**	**117.9**	**119.6**	**120.5**
1.3.15.1 Structural Metal Products	1.031	113.9	112.8	116.3	117.7	120.0
1.3.15.2 Tanks, Reservoirs and Containers of Metal	0.660	124.4	123.0	132.8	136.4	138.8
1.3.15.3 Steam generators, Except Central Heating Hot Water Boilers	0.145	104.7	107.7	97.2	97.2	97.2
1.3.15.4 Forging, Pressing, Stamping and Roll-Forming of Metal; Powder Metallurgy	0.383	100.5	99.0	95.1	96.5	95.0
1.3.15.5 Cutlery, Hand Tools and General Hardware	0.208	100.5	100.9	103.6	103.9	104.2
1.3.15.6 Other Fabricated Metal Products	0.728	124.0	122.9	126.8	128.0	127.2
1.3.16 MANUFACTURE OF COMPUTER, ELECTRONIC AND OPTICAL PRODUCTS	**2.009**	**110.4**	**109.4**	**109.7**	**110.1**	**110.9**
1.3.16.1 Electronic Components	0.402	98.1	98.1	99.9	99.3	100.1
1.3.16.2 Computers and Peripheral Equipment	0.336	135.0	135.0	134.4	134.4	134.4
1.3.16.3 Communication Equipment	0.310	117.0	115.0	114.6	115.1	115.0
1.3.16.4 Consumer Electronics	0.641	98.8	96.5	97.5	99.2	101.2
1.3.16.5 Measuring, Testing, Navigating and Control equipment	0.181	111.5	110.6	109.6	108.8	109.0
1.3.16.6 Watches and Clocks	0.076	139.1	140.9	141.7	141.8	141.7
1.3.16.7 Irradiation, Electromedical and Electrotherapeutic equipment	0.055	103.6	108.3	102.8	101.5	101.5
1.3.16.8 Optical instruments and Photographic equipment	0.008	110.2	112.0	95.2	95.2	95.2
1.3.17 MANUFACTURE OF ELECTRICAL EQUIPMENT	**2.930**	**111.3**	**110.7**	**115.1**	**116.0**	**115.5**
1.3.17.1 Electric motors, Generators, Transformers and Electricity distribution and Control apparatus	1.298	109.0	108.6	114.9	115.2	113.6
1.3.17.2 Batteries and Accumulators	0.236	117.0	115.9	115.4	118.4	117.3
1.3.17.3 Fibre optic cables for data transmission or live transmission of images	0.133	109.9	105.9	100.2	102.7	99.5
1.3.17.4 Other electronic and Electric wires and Cables	0.428	109.7	109.4	119.5	122.0	123.2
1.3.17.5 Wiring devices, Electric lighting & display equipment	0.263	111.1	111.7	111.6	111.4	111.8
1.3.17.6 Domestic appliances	0.366	119.9	118.1	120.4	120.6	122.9
1.3.17.7 Other electrical equipment	0.206	108.6	109.5	111.6	111.8	110.5
1.3.18 MANUFACTURE OF MACHINERY AND EQUIPMENT	**4.789**	**113.1**	**113.2**	**114.6**	**115.2**	**115.3**
1.3.18.1 Engines and Turbines, Except aircraft, Vehicle and Two wheeler engines	0.638	104.8	105.3	107.4	106.9	109.7
1.3.18.2 Fluid power equipment	0.162	119.9	119.6	120.8	120.9	120.2
1.3.18.3 Other pumps, Compressors, Taps and Valves	0.552	111.2	111.8	111.5	111.8	112.2
1.3.18.4 Bearings, Gears, Gearing and Driving elements	0.340	110.1	107.9	113.5	112.8	112.3
1.3.18.5 Ovens, Furnaces and Furnace burners	0.008	80.0	81.0	83.6	84.3	82.4
1.3.18.6 Lifting and Handling equipment	0.285	111.5	111.2	114.4	115.9	115.5

No. 21: Wholesale Price Index (Concld.)

(Base: 2011-12 = 100)

Commodities	Weight	2019-20	2020		2021	
			Feb.	Dec.	Jan. (P)	Feb. (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	130.9	128.5	127.3	130.6	128.1
1.3.18.9 Agricultural and Forestry machinery	0.833	120.6	121.4	121.3	123.0	123.0
1.3.18.10 Metal-forming machinery and Machine tools	0.224	108.1	109.7	107.6	108.2	107.2
1.3.18.11 Machinery for mining, Quarrying and Construction	0.371	75.1	75.0	75.8	76.4	76.3
1.3.18.12 Machinery for food, Beverage and Tobacco processing	0.228	125.2	128.6	131.9	131.1	128.0
1.3.18.13 Machinery for textile, Apparel and Leather production	0.192	119.7	117.9	123.4	124.1	126.2
1.3.18.14 Other special-purpose machinery	0.468	126.3	126.9	130.4	129.3	131.1
1.3.18.15 Renewable electricity generating equipment	0.046	66.0	65.4	65.7	66.0	66.2
1.3.19 MANUFACTURE OF MOTOR VEHICLES, TRAILERS AND SEMI-TRAILERS	**4.969**	**114.5**	**115.6**	**118.4**	**118.5**	**119.3**
1.3.19.1 Motor vehicles	2.600	115.2	116.3	120.6	120.8	121.0
1.3.19.2 Parts and Accessories for motor vehicles	2.368	113.7	114.8	116.1	116.0	117.5
1.3.20 MANUFACTURE OF OTHER TRANSPORT EQUIPMENT	**1.648**	**118.0**	**120.5**	**127.5**	**127.9**	**128.8**
1.3.20.1 Building of ships and Floating structures	0.117	158.8	158.8	158.8	158.8	158.9
1.3.20.2 Railway locomotives and Rolling stock	0.110	106.4	105.8	104.8	104.6	104.6
1.3.20.3 Motor cycles	1.302	114.3	117.6	126.1	126.8	127.7
1.3.20.4 Bicycles and Invalid carriages	0.117	128.9	128.3	132.7	130.9	134.5
1.3.20.5 Other transport equipment	0.002	126.1	127.5	129.3	129.3	131.2
1.3.21 MANUFACTURE OF FURNITURE	**0.727**	**130.9**	**131.3**	**135.1**	**135.7**	**136.1**
1.3.21.1 Furniture	0.727	130.9	131.3	135.1	135.7	136.1
1.3.22 OTHER MANUFACTURING	**1.064**	**112.7**	**117.0**	**134.4**	**133.1**	**137.9**
1.3.22.1 Jewellery and Related articles	0.996	109.9	114.4	132.7	131.2	136.4
1.3.22.2 Musical instruments	0.001	174.0	175.1	164.3	175.1	175.6
1.3.22.3 Sports goods	0.012	129.7	131.3	131.9	131.3	131.4
1.3.22.4 Games and Toys	0.005	136.9	135.5	143.1	143.0	146.9
1.3.22.5 Medical and Dental instruments and Supplies	0.049	162.1	163.2	168.1	168.9	168.8
2 FOOD INDEX	**24.378**	**147.6**	**148.1**	**154.7**	**151.8**	**153.0**

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	2018-19	2019-20	April-January		January	
				2019-20	2020-21	2020	2021
	1	2	3	4	5	6	7
General Index	100.00	130.1	129.0	129.7	113.9	137.4	135.2
1 Sectoral Classification							
1.1 Mining	14.37	107.9	109.6	106.0	95.0	124.3	119.7
1.2 Manufacturing	77.63	131.5	129.6	130.9	113.1	137.9	135.1
1.3 Electricity	7.99	156.9	158.4	160.0	155.7	155.6	164.2
2 Use-Based Classification							
2.1 Primary Goods	34.05	126.1	127.0	125.9	114.6	133.4	133.7
2.2 Capital Goods	8.22	108.4	93.3	95.0	70.7	102.4	92.6
2.3 Intermediate Goods	17.22	126.2	137.7	138.0	120.1	146.8	147.6
2.4 Infrastructure/ Construction Goods	12.34	141.7	136.6	137.7	119.4	146.7	147.1
2.5 Consumer Durables	12.84	130.4	119.0	122.7	95.6	124.0	123.7
2.6 Consumer Non-Durables	15.33	145.5	145.3	146.8	139.6	158.3	147.5

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 - February			
	2020-21 (Revised Estimates)	2020-21 (Actuals)	2019-20 (Actuals)	Percentage to Revised Estimates	
				2020-21	2019-20
	1	2	3	4	5
1 Revenue Receipts	**1555153**	**1370272**	**1377777**	**88.1**	**74.5**
1.1 Tax Revenue (Net)	1344501	1216086	1114636	90.4	74.1
1.2 Non-Tax Revenue	210652	154186	263141	73.2	76.2
2 Non-Debt Capital Receipt	**46497**	**42824**	**51092**	**92.1**	**62.6**
2.1 Recovery of Loans	14497	17156	15849	118.3	95.4
2.2 Other Receipts	32000	25668	35243	80.2	54.2
3 Total Receipts (excluding borrowings) (1+2)	**1601650**	**1413096**	**1428869**	**88.2**	**74.0**
4 Revenue Expenditure	3011142	2413375	2160701	80.1	92.0
4.1 Interest Payments	692900	559483	512984	80.7	82.1
5 Capital Expenditure	439163	405268	304653	92.3	87.3
6 Total Expenditure (4+5)	**3450305**	**2818643**	**2465354**	**81.7**	**91.4**
7 Revenue Deficit (4-1)	**1455989**	**1043103**	**782924**	**71.6**	**156.7**
8 Fiscal Deficit (6-3)	**1848655**	**1405547**	**1036485**	**76.0**	**135.2**
9 Gross Primary Deficit (8-4.1)	**1155755**	**846064**	**523501**	**73.2**	**369.3**

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	2019-20	2020	2021					
		Feb. 28	Jan. 22	Jan. 29	Feb. 5	Feb. 12	Feb. 19	Feb. 26
	1	2	3	4	5	6	7	8
1 91-day								
1.1 Banks	10165	11205	2857	2964	2656	2395	2399	2438
1.2 Primary Dealers	9190	10259	19497	20930	21170	21196	22215	20266
1.3 State Governments	8173	18532	65857	62912	58712	55737	52737	49738
1.4 Others	48004	66467	98525	92430	87433	82318	76390	73109
2 182-day								
2.1 Banks	66419	71102	75620	68922	62393	55139	49607	47294
2.2 Primary Dealers	43302	36667	28750	31222	30316	31400	30630	31476
2.3 State Governments	13386	18600	3871	3816	3816	3791	791	786
2.4 Others	22465	15656	70654	68945	70484	70685	71344	66900
3 364-day								
3.1 Banks	49660	52590	154885	154467	155139	143193	132942	120536
3.2 Primary Dealers	70672	61612	131993	136064	137891	142169	147304	146544
3.3 State Governments	11945	11870	15855	15855	15855	15855	15855	18360
3.4 Others	70576	62394	133796	135156	137971	149705	159830	175183
4 14-day Intermediate								
4.1 Banks								
4.2 Primary Dealers								
4.3 State Governments	155112	179421	175452	193438	151286	127514	173627	188361
4.4 Others	617	281	117	198	326	428	457	91
Total Treasury Bills (Excluding 14 day Intermediate T Bills) #	423957	436955	802159	793683	783838	773583	762044	752630

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										
2020-21										
Jan. 27	4000	76	23362	5044	19	3986	5044	9030	99.17	3.3468
Feb. 3	4000	92	20606	2509	29	3991	2509	6500	99.17	3.3700
Feb. 10	4000	86	28559	1704	11	3996	1704	5700	99.18	3.3341
Feb. 17	4000	80	29529	2120	10	3980	2120	6100	99.21	3.1845
Feb. 24	4000	75	29213	1808	25	3992	1808	5800	99.22	3.1699
182-day Treasury Bills										
2020-21										
Jan. 27	7000	98	16805	10	46	6990	10	7000	98.26	3.5607
Feb. 3	7000	107	23447	0	25	7000	0	7000	98.24	3.5900
Feb. 10	7000	98	25867	2	22	6998	2	7000	98.24	3.5833
Feb. 17	7000	139	45225	0	22	7000	0	7000	98.28	3.5202
Feb. 24	7000	110	34637	10	23	6990	10	7000	98.29	3.4808
364-day Treasury Bills										
2020-21										
Jan. 27	8000	73	19151	0	36	8000	0	8000	96.46	3.6757
Feb. 3	8000	91	24138	0	21	8000	0	8000	96.41	3.7339
Feb. 10	8000	85	27475	0	25	8000	0	8000	96.40	3.7447
Feb. 17	8000	102	28401	1	12	7999	1	8000	96.43	3.7099
Feb. 24	8000	101	26142	2500	59	8000	2500	10500	96.44	3.7000

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
February 1, 2021	1.90-3.55	3.20
February 2, 2021	1.90-3.55	3.20
February 3, 2021	1.90-3.55	3.19
February 4, 2021	1.90-3.55	3.18
February 5, 2021	1.90-3.55	3.24
February 6, 2021	2.50-3.55	3.15
February 8, 2021	1.90-3.50	3.22
February 9, 2021	1.90-3.50	3.24
February 10, 2021	1.90-3.50	3.25
February 11, 2021	1.90-3.50	3.24
February 12, 2021	1.90-3.50	3.31
February 15, 2021	1.90-3.50	3.25
February 16, 2021	1.90-3.50	3.20
February 17, 2021	1.90-3.50	3.22
February 18, 2021	1.90-3.50	3.19
February 20, 2021	2.40-3.75	3.54
February 22, 2021	1.90-3.50	3.22
February 23, 2021	2.10-3.50	3.21
February 24, 2021	1.90-3.50	3.22
February 25, 2021	1.90-3.50	3.26
February 26, 2021	1.90-3.50	3.25
March 1, 2021	1.90-3.50	3.21
March 2, 2021	1.90-3.50	3.20
March 3, 2021	1.90-3.50	3.19
March 4, 2021	1.90-3.50	3.17
March 5, 2021	1.90-3.45	3.15
March 6, 2021	2.55-3.40	2.92
March 8, 2021	1.90-3.40	3.11
March 9, 2021	1.90-3.40	3.17
March 10, 2021	1.90-3.50	3.24
March 12, 2021	1.90-3.50	3.22
March 15, 2021	1.90-3.50	3.24

Note: Includes Notice Money.

No. 27: Certificates of Deposit

Item	2020	2021			
	Feb. 28	Jan. 15	Jan. 29	Feb. 12	Feb. 26
	1	2	3	4	5
1 Amount Outstanding (₹ Crore)	185932.00	67980.00	64080.00	58195.00	56390.00
1.1 Issued during the fortnight (₹ Crore)	16537.00	396.13	530.14	1878.96	4415.32
2 Rate of Interest (per cent)	5.22-6.76	3.14-3.85	3.82-4.72	3.62-4.77	3.34-5.12

No. 28: Commercial Paper

Item	2020	2021			
	Feb. 29	Jan. 15	Jan. 31	Feb. 15	Feb. 28
	1	2	3	4	5
1 Amount Outstanding (₹ Crore)	400200.25	386216.30	410651.90	399404.00	390852.95
1.1 Reported during the fortnight (₹ Crore)	56287.50	49901.80	89040.60	88216.10	69500.35
2 Rate of Interest (per cent)	5.11-13.45	2.94-8.53	3.18-11.32	3.22-13.52	3.10-12.60

No. 29: Average Daily Turnover in Select Financial Markets

(₹ Crore)

Item	2019-20	2020	2021					
		Feb. 28	Jan. 22	Jan. 29	Feb. 5	Feb. 12	Feb. 19	Feb. 26
	1	2	3	4	5	6	7	8
1 Call Money	26815	27447	16992	17057	12737	18098	13315	16616
2 Notice Money	3660	8014	672	4876	3381	279	4956	424
3 Term Money	790	973	549	576	587	1107	499	568
4 CBLO/TRIPARTY REPO	300691	360008	546341	589855	587782	589048	672716	560631
5 Market Repo	221719	297486	336136	363896	298099	338384	378296	341540
6 Repo in Corporate Bond	2468	80	2550	2957	2757	2664	430	740
7 Forex (US $ million)	67793	83533	62051	86840	72660	64940	62462	100046
8 Govt. of India Dated Securities	93960	117379	46474	36158	60152	71215	36808	38987
9 State Govt. Securities	5800	6094	4353	5991	4327	5467	7626	7647
10 Treasury Bills								
10.1 91-Day	3720	2315	2055	2970	1686	2423	3028	3166
10.2 182-Day	2380	863	3217	5074	2546	1083	3105	2190
10.3 364-Day	2900	840	3467	4138	2084	7151	7607	8736
10.4 Cash Management Bills	2310	4596						
11 Total Govt. Securities (8+9+10)	111070	132087	59566	54330	70795	87339	58173	60726
11.1 RBI	–	211	3061	242	146	6374	3876	4322

Note : Collateralised Borrowing and Lending Obligation (CBLO) segment of the money market has been discontinued and replaced with Triparty Repo with effect from November 05, 2018.

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

(Amount in ₹ Crore)

Security & Type of Issue	2019-20		2019-20 (Apr.-Feb.)		2020-21 (Apr.-Feb.) *		Feb. 2020		Feb. 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	**72**	**64926**	**65**	**64536**	**55**	**95660**	**2**	**14**	**6**	**5837**
1A Premium	70	43259	63	42888	55	91432	2	10	6	5351
1.1 Public	57	9867	53	9851	37	31666	2	14	5	2839
1.1.1 Premium	55	9434	51	9425	37	28685	2	10	5	2813
1.2 Rights	15	55059	12	54685	18	63994	–	–	1	2999
1.2.1 Premium	15	33825	12	33463	18	62747	–	–	1	2537
2 Preference Shares	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
2.1 Public	–	–	–	–	–	–	–	–	–	–
2.2 Rights	–	–	–	–	–	–	–	–	–	–
3 Bonds & Debentures	**34**	**14984**	**32**	**14659**	**14**	**4906**	**2**	**498**	**1**	**216**
3.1 Convertible	–	–	–	–	–	–	–	–	–	–
3.1.1 Public	–	–	–	–	–	–	–	–	–	–
3.1.2 Rights	–	–	–	–	–	–	–	–	–	–
3.2 Non-Convertible	34	14984	32	14659	14	4906	2	498	1	216
3.2.1 Public	34	14984	32	14659	14	4906	2	498	1	216
3.2.2 Rights	–	–	–	–	–	–	–	–	–	–
4 Total(1+2+3)	**106**	**79910**	**97**	**79195**	**69**	**100566**	**4**	**512**	**7**	**6054**
4.1 Public	91	24851	85	24510	51	36572	4	512	6	3055
4.2 Rights	15	55059	12	54685	18	63994	–	–	1	2999

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

Source : Securities and Exchange Board of India.

* : Data is Provisional

External Sector

No. 31: Foreign Trade

Item	Unit	2019-20	2020				2021	
			Feb.	Oct.	Nov.	Dec.	Jan.	Feb.
		1	2	3	4	5	6	7
1 Exports	₹ Crore	2219854	198329	183111	174920	200336	200673	203202
	US $ Million	313361	27743	24927	23568	27222	27448	27929
1.1 Oil	₹ Crore	292340	24606	11606	11401	17258	15854	19817
	US $ Million	41289	3442	1580	1536	2345	2169	2724
1.2 Non-oil	₹ Crore	1927514	173723	171505	163520	183078	184818	183384
	US $ Million	272072	24301	23347	22032	24877	25280	25205
2 Imports	₹ Crore	3360954	270973	247051	247857	315671	306976	294985
	US $ Million	474709	37904	34014	33779	42894	41989	40544
2.1 Oil	₹ Crore	925168	77068	44081	46525	70561	68741	65392
	US $ Million	130550	10781	6001	6269	9588	9402	8988
2.2 Non-oil	₹ Crore	2435787	193905	202970	201332	245110	238235	229593
	US $ Million	344159	27124	28013	27511	33306	32586	31556
3 Trade Balance	₹ Crore	-1141100	-72645	-63941	-72937	-115335	-106303	-91783
	US $ Million	-161348	-10162	-9086	-10211	-15672	-14540	-12615
3.1 Oil	₹ Crore	-632828	-52462	-32476	-35125	-53303	-52886	-45575
	US $ Million	-89262	-7339	-4421	-4733	-7243	-7234	-6264
3.2 Non-oil	₹ Crore	-508273	-20182	-31465	-37812	-62032	-53417	-46209
	US $ Million	-72087	-2823	-4665	-5479	-8429	-7306	-6351

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

No. 32: Foreign Exchange Reserves

Item	Unit	2020	2021					
		Mar. 20	Feb. 12	Feb. 19	Feb. 26	Mar. 5	Mar. 12	Mar. 19
		1	2	3	4	5	6	7
1 Total Reserves	**₹ Crore**	**3529606**	**4246990**	**4242355**	**4294511**	**4236665**	**4236881**	**4222759**
	US $ Million	**469909**	**583697**	**583865**	**584554**	**580299**	**582037**	**582271**
1.1 Foreign Currency Assets	₹ Crore	3283222	3935956	3938898	3986598	3939741	3938366	3924756
	US $ Million	437102	540951	542106	542615	539613	541022	541179
1.2 Gold	₹ Crore	209238	263585	256120	260239	249807	251515	251152
	US $ Million	27856	36227	35250	35421	34215	34551	34631
	Volume (Metric Tonnes)	653.01	680.38	684.12	687.85	690.65	692.51	693.45
1.3 SDRs	SDRs Million	1045	1049	1049	1049	1049	1049	1049
	₹ Crore	10582	11005	10958	11145	10993	10928	10873
	US $ Million	1409	1513	1508	1517	1506	1501	1499
1.4 Reserve Tranche Position in IMF	₹ Crore	26564	36444	36378	36529	36124	36072	35978
	US $ Million	3542	5006	5002	5001	4965	4963	4961

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

No. 33: NRI Deposits

(US$ Million)

Scheme	Outstanding				Flows	
	2019-20	2020	2021		2019-20	2020-21
		Feb.	Jan.	Feb.	Apr.-Feb.	Apr.-Feb.
	1	2	3	4	5	6
1 NRI Deposits	**130581**	**132511**	**141623**	**142352**	**6705**	**8879**
1.1 FCNR(B)	24244	24242	21506	22094	1071	-2150
1.2 NR(E)RA	90367	92049	101981	101797	3972	8957
1.3 NRO	15969	16220	18136	18461	1662	2072

No. 34: Foreign Investment Inflows

(US$ Million)

Item	2019-20	2019-20	2020-21	2020	2021	
		Apr.-Feb.	Apr.-Feb.	Feb.	Jan.	Feb.
	1	2	3	4	5	6
1.1 Net Foreign Direct Investment (1.1.1–1.1.2)	**43013**	**39039**	**41402**	**2737**	**3464**	**-2881**
1.1.1 Direct Investment to India (1.1.1.1–1. 1.1.2)	**56006**	**51069**	**51931**	**4020**	**3859**	**-1094**
1.1.1.1 Gross Inflows/Gross Investments	**74390**	**68097**	**77126**	**5377**	**4533**	**4310**
1.1.1.1.1 Equity	51734	47218	58313	3599	2945	2825
1.1.1.1.1.1 Government (SIA/FIPB)	3265	3077	942	26	585	36
1.1.1.1.1.2 RBI	39364	36361	49345	3149	1789	1917
1.1.1.1.1.3 Acquisition of shares	7348	6262	6477	186	332	633
1.1.1.1.1.4 Equity capital of unincorporated bodies	1757	1519	1549	238	238	238
1.1.1.1.2 Reinvested earnings	14175	12917	14959	1257	1257	1257
1.1.1.1.3 Other capital	8482	7962	3854	520	330	227
1.1.1.2 Repatriation/Disinvestment	**18384**	**17028**	**25195**	**1357**	**674**	**5403**
1.1.1.2.1 Equity	18212	16858	25160	1354	674	5397
1.1.1.2.2 Other capital	173	170	35	3	1	6
1.1.2 Foreign Direct Investment by India (1.1.2.1+1.1.2.2+1.1.2.3–1.1.2.4)	**12993**	**12030**	**10529**	**1283**	**395**	**1787**
1.1.2.1 Equity capital	7572	6958	5090	615	238	325
1.1.2.2 Reinvested Earnings	3151	2888	2970	263	263	263
1.1.2.3 Other Capital	5674	5049	5741	943	472	1295
1.1.2.4 Repatriation/Disinvestment	3403	2864	3271	539	578	95
1.2 Net Portfolio Investment (1.2.1+1.2.2+1.2.3–1.2.4)	**1403**	**16039**	**33210**	**-1148**	**1508**	**2845**
1.2.1 GDRs/ADRs	–	–	–	–	–	–
1.2.2 FIIs	552	15520	34434	-1481	1228	2670
1.2.3 Offshore funds and others	–	–	–	–	–	–
1.2.4 Portfolio investment by India	-851	-519	1224	-333	-281	-174
1 Foreign Investment Inflows	**44417**	**55078**	**74612**	**1589**	**4972**	**-36**

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

(US$ Million)

Item	2019-20	2020			2021
		Jan.	Nov.	Dec.	Jan.
	1	2	3	4	5
1 Outward Remittances under the LRS	**18760.69**	**1804.50**	**942.44**	**1149.17**	**1253.63**
1.1 Deposit	623.37	55.94	23.32	35.33	40.85
1.2 Purchase of immovable property	86.43	6.67	3.53	5.05	5.64
1.3 Investment in equity/debt	431.41	26.20	25.39	38.76	34.89
1.4 Gift	1907.71	158.44	110.55	145.15	134.16
1.5 Donations	22.33	1.10	0.65	0.67	0.67
1.6 Travel	6955.98	712.56	253.26	322.25	356.92
1.7 Maintenance of close relatives	3439.74	310.83	160.81	217.30	216.64
1.8 Medical Treatment	33.90	2.59	2.92	2.82	2.56
1.9 Studies Abroad	4991.07	510.26	355.77	373.32	455.51
1.10 Others	268.75	19.90	6.24	8.54	5.79

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

Item	2018-19	2019-20	2020	2021	
			March	February	March
	1	2	3	4	5
40-Currency Basket (Base: 2015-16=100)					
1 Trade-weighted					
1.1 NEER	97.45	98.00	95.25	94.24	95.14
1.2 REER	100.63	103.20	101.00	103.58	104.57
2 Export-weighted					
2.1 NEER	97.13	97.38	94.43	93.78	94.67
2.2 REER	100.29	102.88	100.64	103.08	104.03
6-Currency Basket (Trade-weighted)					
1 Base: 2015-16 = 100					
1.1 NEER	94.19	94.92	90.77	87.88	88.54
1.2 REER	100.29	103.60	99.94	101.06	101.56
2 Base: 2018-19 = 100					
2.1 NEER	100.00	100.78	96.37	93.30	94.00
2.2 REER	100.00	103.30	99.65	100.77	101.27

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

(Amount in US$ Million)

Item	2019-20	2020	2021	
		Feb.	Jan.	Feb.
	1	2	3	4
1 Automatic Route				
1.1 Number	1292	84	95	78
1.2 Amount	38011	1159	3744	2077
2 Approval Route				
2.1 Number	41	7	-	1
2.2 Amount	14921	3017	-	500
3 Total (1+2)				
3.1 Number	1333	91	95	79
3.2 Amount	52932	4175	3744	2577
4 Weighted Average Maturity (in years)	6.00	8.66	7.50	8.74
5 Interest Rate (per cent)				
5.1 Weighted Average Margin over 6-month LIBOR or reference rate for Floating Rate Loans	1.34	2.01	2.74	2.61
5.2 Interest rate range for Fixed Rate Loans	0.00-25.00	0.00-11.00	0.00-10.25	0.00-10.25

No. 38: India's Overall Balance of Payments

(US $ Million)

Item	Oct-Dec 2019			Oct-Dec 2020(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
Overall Balance of Payments(1+2+3)	**316590**	**294989**	**21601**	**337696**	**305213**	**32483**
1 CURRENT ACCOUNT (1.1+ 1.2)	**162793**	**165423**	**-2630**	**157442**	**159188**	**-1746**
1.1 MERCHANDISE	**81245**	**117285**	**-36040**	**77231**	**111774**	**-34542**
1.2 INVISIBLES (1.2.1+1.2.2+1.2.3)	**81548**	**48138**	**33410**	**80211**	**47414**	**32796**
1.2.1 Services	55158	33280	21879	53741	30131	23610
1.2.1.1 Travel	8545	5569	2977	2170	2833	-664
1.2.1.2 Transportation	5448	6411	-963	5602	5147	455
1.2.1.3 Insurance	617	549	68	575	577	-2
1.2.1.4 G.n.i.e.	157	218	-62	179	260	-82
1.2.1.5 Miscellaneous	40391	20533	19859	45216	21314	23901
1.2.1.5.1 Software Services	23760	2305	21455	25687	2312	23375
1.2.1.5.2 Business Services	11889	12027	-138	12534	12799	-265
1.2.1.5.3 Financial Services	1183	550	633	1068	1192	-124
1.2.1.5.4 Communication Services	757	308	449	738	381	357
1.2.2 Transfers	20827	1935	18893	20757	1498	19258
1.2.2.1 Official	50	290	-240	62	298	-236
1.2.2.2 Private	20777	1645	19132	20695	1200	19494
1.2.3 Income	5562	12923	-7361	5713	15785	-10072
1.2.3.1 Investment Income	4122	12229	-8107	4179	15070	-10891
1.2.3.2 Compensation of Employees	1440	694	746	1534	715	819
2 CAPITAL ACCOUNT (2.1+2.2+2.3+2.4+2.5)	**153192**	**129566**	**23626**	**179536**	**146025**	**33511**
2.1 Foreign Investment (2.1.1+2.1.2)	**94412**	**76840**	**17572**	**119992**	**81803**	**38190**
2.1.1 Foreign Direct Investment	19717	9974	9743	28387	11414	16973
2.1.1.1 In India	19089	5856	13233	26907	6932	19974
2.1.1.1.1 Equity	11033	5747	5286	21846	6919	14926
2.1.1.1.2 Reinvested Earnings	3590		3590	4398		4398
2.1.1.1.3 Other Capital	4467	109	4358	663	13	650
2.1.1.2 Abroad	628	4118	-3490	1480	4482	-3002
2.1.1.2.1 Equity	628	2169	-1541	1480	1963	-483
2.1.1.2.2 Reinvested Earnings	0	788	-788	0	815	-815
2.1.1.2.3 Other Capital	0	1162	-1162	0	1704	-1704
2.1.2 Portfolio Investment	74695	66866	7829	91605	70388	21217
2.1.2.1 In India	71761	63627	8133	91216	69514	21703
2.1.2.1.1 FIIs	71761	63627	8133	91216	69514	21703
2.1.2.1.1.1 Equity	56356	50342	6014	80566	60741	19825
2.1.2.1.1.2 Debt	15405	13285	2119	10650	8772	1877
2.1.2.1.2 ADR/GDRs	0		0	0	0	0
2.1.2.2 Abroad	2934	3239	-304	389	875	-485
2.2 Loans (2.2.1+2.2.2+2.2.3)	**23041**	**19907**	**3135**	**19517**	**19354**	**164**
2.2.1 External Assistance	2511	1243	1268	2567	1383	1184
2.2.1.1 By India	2	28	-26	10	21	-11
2.2.1.2 To India	2509	1215	1294	2557	1362	1195
2.2.2 Commercial Borrowings	11007	7771	3237	6497	7747	-1249
2.2.2.1 By India	2692	2687	5	970	484	486
2.2.2.2 To India	8315	5084	3231	5528	7263	-1735
2.2.3 Short Term to India	9523	10893	-1370	10453	10224	229
2.2.3.1 Buyers' credit & Suppliers' Credit >180 days	9523	10129	-606	9538	10224	-686
2.2.3.2 Suppliers' Credit up to 180 days	0	764	-764	915	0	915
2.3 Banking Capital (2.3.1+2.3.2)	**21012**	**23336**	**-2324**	**21093**	**28707**	**-7614**
2.3.1 Commercial Banks	21012	23279	-2266	20700	28707	-8007
2.3.1.1 Assets	5753	7260	-1507	5384	15872	-10489
2.3.1.2 Liabilities	15259	16019	-760	15316	12834	2481
2.3.1.2.1 Non-Resident Deposits	14407	13579	828	14151	11183	2969
2.3.2 Others	0	58	-58	393	0	393
2.4 Rupee Debt Service		0	0	0	0	0
2.5 Other Capital	14726	9483	5243	18934	16162	2772
3 Errors & Omissions	**605**		**605**	**718**		**718**
4 Monetary Movements (4.1+ 4.2)	0	**21601**	**-21601**	0	**32483**	**-32483**
4.1 I.M.F.						
4.2 Foreign Exchange Reserves (Increase - / Decrease +)		21601	-21601		32483	-32483

Note : P : Preliminary

No. 39: India's Overall Balance of Payments

(₹ Crore)

Item	Oct-Dec 2019			Oct-Dec 2020(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
Overall Balance of Payments(1+2+3)	**2255004**	**2101143**	**153861**	**2490751**	**2251168**	**239583**
1 CURRENT ACCOUNT (1.1+ 1.2)	**1159541**	**1178274**	**-18733**	**1161249**	**1174126**	**-12877**
1.1 MERCHANDISE	**578694**	**835399**	**-256706**	**569637**	**824411**	**-254774**
1.2 INVISIBLES (1.2.1+1.2.2+1.2.3)	**580847**	**342875**	**237973**	**591612**	**349715**	**241897**
1.2.1 Services	392882	237044	155838	396378	222240	174138
1.2.1.1 Travel	60866	39664	21202	16002	20896	-4894
1.2.1.2 Transportation	38806	45662	-6856	41322	37963	3359
1.2.1.3 Insurance	4395	3914	481	4238	4254	-16
1.2.1.4 G.n.i.e.	1116	1555	-438	1317	1918	-601
1.2.1.5 Miscellaneous	287699	146249	141450	333498	157208	176290
1.2.1.5.1 Software Services	169238	16420	152819	189459	17051	172408
1.2.1.5.2 Business Services	84680	85666	-986	92447	94400	-1953
1.2.1.5.3 Financial Services	8427	3917	4510	7879	8793	-914
1.2.1.5.4 Communication Services	5390	2194	3196	5440	2809	2632
1.2.2 Transfers	148348	13780	134568	153095	11051	142044
1.2.2.1 Official	358	2066	-1708	457	2199	-1742
1.2.2.2 Private	147990	11714	136276	152638	8852	143786
1.2.3 Income	39617	92050	-52433	42139	116425	-74285
1.2.3.1 Investment Income	29362	87107	-57745	30824	111150	-80326
1.2.3.2 Compensation of Employees	10255	4943	5312	11315	5274	6041
2 CAPITAL ACCOUNT (2.1+2.2+2.3+2.4+2.5)	**1091155**	**922869**	**168286**	**1324209**	**1077042**	**247167**
2.1 Foreign Investment (2.1.1+2.1.2)	**672478**	**547315**	**125163**	**885030**	**603352**	**281678**
2.1.1 Foreign Direct Investment	140440	71043	69398	209376	84190	125186
2.1.1.1 In India	135969	41710	94259	198458	51132	147326
2.1.1.1.1 Equity	78585	40936	37649	161128	51035	110092
2.1.1.1.2 Reinvested Earnings	25569	0	25569	32436	0	32436
2.1.1.1.3 Other Capital	31815	774	31041	4894	96	4797
2.1.1.2 Abroad	4472	29333	-24861	10918	33058	-22140
2.1.1.2.1 Equity	4472	15446	-10975	10918	14479	-3561
2.1.1.2.2 Reinvested Earnings	0	5611	-5611	0	6010	-6010
2.1.1.2.3 Other Capital	0	8276	-8276	0	12570	-12570
2.1.2 Portfolio Investment	532037	476272	55765	675655	519162	156492
2.1.2.1 In India	511136	453204	57933	672784	512712	160072
2.1.2.1.1 FIIs	511136	453204	57933	672784	512712	160072
2.1.2.1.1.1 Equity	401412	358574	42838	594234	448009	146225
2.1.2.1.1.2 Debt	109725	94630	15095	78550	64703	13847
2.1.2.1.2 ADR/GDRs	0	0	0	0	0	0
2.1.2.2 Abroad	20901	23068	-2168	2871	6450	-3580
2.2 Loans (2.2.1+2.2.2+2.2.3)	**164119**	**141790**	**22329**	**143955**	**142748**	**1207**
2.2.1 External Assistance	17887	8856	9031	18933	10202	8731
2.2.1.1 By India	14	201	-187	71	153	-82
2.2.1.2 To India	17873	8655	9218	18862	10049	8813
2.2.2 Commercial Borrowings	78404	55349	23055	47922	57137	-9214
2.2.2.1 By India	19175	19136	39	7153	3567	3586
2.2.2.2 To India	59229	36212	23016	40770	53570	-12800
2.2.3 Short Term to India	67829	77586	-9757	77100	75409	1690
2.2.3.1 Buyers' credit & Suppliers' Credit >180 days	67829	72147	-4318	70350	75409	-5059
2.2.3.2 Suppliers' Credit up to 180 days	0	5439	-5439	6749	0	6749
2.3 Banking Capital (2.3.1+2.3.2)	**149666**	**166220**	**-16553**	**155574**	**211734**	**-56160**
2.3.1 Commercial Banks	149666	165808	-16142	152674	211734	-59060
2.3.1.1 Assets	40978	51709	-10731	39708	117071	-77362
2.3.1.2 Liabilities	108688	114099	-5411	112966	94663	18303
2.3.1.2.1 Non-Resident Deposits	102621	96723	5898	104375	82480	21896
2.3.2 Others	0	411	-411	2900	0	2900
2.4 Rupee Debt Service	0	0	0	0	0	0
2.5 Other Capital	104892	67545	37347	139650	119208	20442
3 Errors & Omissions	**4308**	0	**4308**	**5293**	0	**5293**
4 Monetary Movements (4.1+ 4.2)	0	**153861**	**-153861**	0	**239583**	**-239583**
4.1 I.M.F.	0	0	0			
4.2 Foreign Exchange Reserves (Increase - / Decrease +)	0	153861	-153861	0	239583	-239583

Note : P: Preliminary

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

(US $ Million)

Item	Oct-Dec 2019			Oct-Dec 2020(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
1 Current Account (1.A+1.B+1.C)	**162791**	**165395**	**-2605**	**157438**	**159161**	**-1724**
1.A Goods and Services (1.A.a+1.A.b)	**136404**	**150565**	**-14161**	**130972**	**141905**	**-10933**
1.A.a Goods (1.A.a.1 to 1.A.a.3)	**81245**	**117285**	**-36040**	**77231**	**111774**	**-34542**
1.A.a.1 General merchandise on a BOP basis	80308	110034	-29726	76317	101765	-25448
1.A.a.2 Net exports of goods under merchanting	938	0	938	914	0	914
1.A.a.3 Nonmonetary gold		7252	-7252		10008	-10008
1.A.b Services (1.A.b.1 to 1.A.b.13)	**55158**	**33280**	**21879**	**53741**	**30131**	**23610**
1.A.b.1 Manufacturing services on physical inputs owned by others	76	9	67	49	5	45
1.A.b.2 Maintenance and repair services n.i.e.	64	207	-143	38	291	-253
1.A.b.3 Transport	5448	6411	-963	5602	5147	455
1.A.b.4 Travel	8545	5569	2977	2170	2833	-664
1.A.b.5 Construction	734	570	164	619	705	-86
1.A.b.6 Insurance and pension services	617	549	68	575	577	-2
1.A.b.7 Financial services	1183	550	633	1068	1192	-124
1.A.b.8 Charges for the use of intellectual property n.i.e.	184	2197	-2013	359	2297	-1937
1.A.b.9 Telecommunications, computer, and information services	24592	2712	21880	26498	2810	23688
1.A.b.10 Other business services	11889	12027	-138	12534	12799	-265
1.A.b.11 Personal, cultural, and recreational services	535	757	-222	579	768	-190
1.A.b.12 Government goods and services n.i.e.	157	218	-62	179	260	-82
1.A.b.13 Others n.i.e.	1134	1503	-369	3471	448	3023
1.B Primary Income (1.B.1 to 1.B.3)	**5562**	**12923**	**-7361**	**5713**	**15785**	**-10072**
1.B.1 Compensation of employees	1440	694	746	1534	715	819
1.B.2 Investment income	3312	12075	-8764	3188	14720	-11533
1.B.2.1 Direct investment	1369	5760	-4391	1693	9699	-8007
1.B.2.2 Portfolio investment	28	2435	-2408	67	1974	-1906
1.B.2.3 Other investment	138	3868	-3730	130	3046	-2917
1.B.2.4 Reserve assets	1777	12	1764	1298	1	1297
1.B.3 Other primary income	811	154	657	992	349	642
1.C Secondary Income (1.C.1+1.C.2)	**20825**	**1907**	**18918**	**20752**	**1472**	**19281**
1.C.1 Financial corporations, nonfinancial corporations, households, and NPISHs	20777	1645	19132	20695	1200	19494
1.C.1.1 Personal transfers (Current transfers between resident and/	20062	1189	18873	19969	847	19122
1.C.1.2 Other current transfers	715	455	260	725	353	373
1.C.2 General government	48	262	-214	58	272	-214
2 Capital Account (2.1+2.2)	**108**	**258**	**-150**	**98**	**265**	**-167**
2.1 Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	19	108	-89	4	109	-105
2.2 Capital transfers	89	150	-61	94	156	-62
3 Financial Account (3.1 to 3.5)	**153086**	**150937**	**2150**	**179442**	**178270**	**1173**
3.1 Direct Investment (3.1A+3.1B)	**19717**	**9974**	**9743**	**28387**	**11414**	**16973**
3.1.A Direct Investment in India	19089	5856	13233	26907	6932	19974
3.1.A.1 Equity and investment fund shares	14623	5747	8875	26243	6919	19324
3.1.A.1.1 Equity other than reinvestment of earnings	11033	5747	5286	21846	6919	14926
3.1.A.1.2 Reinvestment of earnings	3590		3590	4398		4398
3.1.A.2 Debt instruments	4467	109	4358	663	13	650
3.1.A.2.1 Direct investor in direct investment enterprises	4467	109	4358	663	13	650
3.1.B Direct Investment by India	628	4118	-3490	1480	4482	-3002
3.1.B.1 Equity and investment fund shares	628	2956	-2328	1480	2778	-1298
3.1.B.1.1 Equity other than reinvestment of earnings	628	2169	-1541	1480	1963	-483
3.1.B.1.2 Reinvestment of earnings		788	-788		815	-815
3.1.B.2 Debt instruments	0	1162	-1162	0	1704	-1704
3.1.B.2.1 Direct investor in direct investment enterprises		1162	-1162		1704	-1704
3.2 Portfolio Investment	**74695**	**66866**	**7829**	**91605**	**70388**	**21217**
3.2.A Portfolio Investment in India	71761	63627	8133	91216	69514	21703
3.2.1 Equity and investment fund shares	56356	50342	6014	80566	60741	19825
3.2.2 Debt securities	15405	13285	2119	10650	8772	1877
3.2.B Portfolio Investment by India	2934	3239	-304	389	875	-485
3.3 Financial derivatives (other than reserves) and employee stock options	**7328**	**7194**	**134**	**9304**	**12458**	**-3154**
3.4 Other investment	**51346**	**45302**	**6044**	**50146**	**51526**	**-1381**
3.4.1 Other equity (ADRs/GDRs)	0	0	0	0	0	0
3.4.2 Currency and deposits	14407	13637	770	14544	11183	3362
3.4.2.1 Central bank (Rupee Debt Movements; NRG)	0	58	-58	393	0	393
3.4.2.2 Deposit-taking corporations, except the central bank (NRI Deposits)	14407	13579	828	14151	11183	2969
3.4.2.3 General government						
3.4.2.4 Other sectors						
3.4.3 Loans (External Assistance, ECBs and Banking Capital)	20124	18713	1411	15613	26654	-11041
3.4.3.A Loans to India	17430	15998	1431	14633	26150	-11517
3.4.3.B Loans by India	2694	2715	-21	979	504	475
3.4.4 Insurance, pension, and standardized guarantee schemes	190	660	-469	55	44	11
3.4.5 Trade credit and advances	9523	10893	-1370	10453	10224	229
3.4.6 Other accounts receivable/payable - other	7102	1399	5703	9481	3422	6059
3.4.7 Special drawing rights			0			0
3.5 Reserve assets	0	**21601**	**-21601**	0	**32483**	**-32483**
3.5.1 Monetary gold						
3.5.2 Special drawing rights n.a.						
3.5.3 Reserve position in the IMF n.a.						
3.5.4 Other reserve assets (Foreign Currency Assets)	0	21601	-21601	0	32483	-32483
4 Total assets/liabilities	**153086**	**150937**	**2150**	**179442**	**178270**	**1173**
4.1 Equity and investment fund shares	82059	70137	11922	118038	83815	34223
4.2 Debt instruments	63925	57799	6126	51923	58550	-6627
4.3 Other financial assets and liabilities	7102	23001	-15898	9481	35904	-26424
5 Net errors and omissions	**605**		**605**	**718**		**718**

Note : P : Preliminary

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

(₹ Crore)

Item	Oct-Dec 2019			Oct-Dec 2020(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
1 Current Account (1.A+1.B+1.C)	**1159525**	**1178077**	**-18552**	**1161217**	**1173930**	**-12713**
1.A Goods and Services (1.A.a+1.A.b)	**971576**	**1072443**	**-100867**	**966014**	**1046650**	**-80636**
1.A.a Goods (1.A.a.1 to 1.A.a.3)	**578694**	**835399**	**-256706**	**569637**	**824411**	**-254774**
1.A.a.1 General merchandise on a BOP basis	572015	783748	-211733	562893	750592	-187699
1.A.a.2 Net exports of goods under merchanting	6679	0	6679	6744	0	6744
1.A.a.3 Nonmonetary gold	0	51652	-51652	0	73819	-73819
1.A.b Services (1.A.b.1 to 1.A.b.13)	**392882**	**237044**	**155838**	**396378**	**222240**	**174138**
1.A.b.1 Manufacturing services on physical inputs owned by others	543	63	480	364	34	330
1.A.b.2 Maintenance and repair services n.i.e.	456	1477	-1021	281	2143	-1863
1.A.b.3 Transport	38806	45662	-6856	41322	37963	3359
1.A.b.4 Travel	60866	39664	21202	16002	20896	-4894
1.A.b.5 Construction	5227	4057	1170	4565	5197	-633
1.A.b.6 Insurance and pension services	4395	3914	481	4238	4254	-16
1.A.b.7 Financial services	8427	3917	4510	7879	8793	-914
1.A.b.8 Charges for the use of intellectual property n.i.e.	1312	15650	-14338	2651	16941	-14290
1.A.b.9 Telecommunications, computer, and information services	175162	19318	155844	195443	20727	174716
1.A.b.10 Other business services	84680	85666	-986	92447	94400	-1953
1.A.b.11 Personal, cultural, and recreational services	3813	5395	-1582	4269	5668	-1398
1.A.b.12 Government goods and services n.i.e.	1116	1555	-438	1317	1918	-601
1.A.b.13 Others n.i.e.	8079	10707	-2628	25599	3305	22294
1.B Primary Income (1.B.1 to 1.B.3)	**39617**	**92050**	**-52433**	**42139**	**116425**	**-74285**
1.B.1 Compensation of employees	10255	4943	5312	11315	5274	6041
1.B.2 Investment income	23588	86010	-62422	23511	108573	-85062
1.B.2.1 Direct investment	9753	41027	-31274	12484	71538	-59054
1.B.2.2 Portfolio investment	199	17347	-17148	497	14556	-14059
1.B.2.3 Other investment	982	27548	-26566	957	22470	-21513
1.B.2.4 Reserve assets	12655	88	12567	9573	9	9564
1.B.3 Other primary income	5774	1097	4677	7313	2577	4736
1.C Secondary Income (1.C.1+1.C.2)	**148332**	**13584**	**134749**	**153064**	**10855**	**142209**
1.C.1 Financial corporations, nonfinancial corporations, households, and NPISHs	147990	11714	136276	152638	8852	143786
1.C.1.1 Personal transfers (Current transfers between resident and/	142897	8471	134426	147287	6249	141038
1.C.1.2 Other current transfers	5093	3243	1850	5351	2603	2748
1.C.2 General government	342	1869	-1527	426	2003	-1577
2 Capital Account (2.1+2.2)	**770**	**1837**	**-1068**	**724**	**1955**	**-1232**
2.1 Gross acquisitions (DR.)/disposals (CR.) of non-produced nonfinancial assets	132	768	-636	32	803	-772
2.2 Capital transfers	637	1069	-432	692	1152	-460
3 Financial Account (3.1 to 3.5)	**1090402**	**1075090**	**15312**	**1323517**	**1314866**	**8651**
3.1 Direct Investment (3.1A+3.1B)	**140440**	**71043**	**69398**	**209376**	**84190**	**125186**
3.1.A Direct Investment in India	135969	41710	94259	198458	51132	147326
3.1.A.1 Equity and investment fund shares	104154	40936	63218	193564	51035	142529
3.1.A.1.1 Equity other than reinvestment of earnings	78585	40936	37649	161128	51035	110092
3.1.A.1.2 Reinvestment of earnings	25569	0	25569	32436	0	32436
3.1.A.2 Debt instruments	31815	774	31041	4894	96	4797
3.1.A.2.1 Direct investor in direct investment enterprises	31815	774	31041	4894	96	4797
3.1.B Direct Investment by India	4472	29333	-24861	10918	33058	-22140
3.1.B.1 Equity and investment fund shares	4472	21057	-16585	10918	20489	-9571
3.1.B.1.1 Equity other than reinvestment of earnings	4472	15446	-10975	10918	14479	-3561
3.1.B.1.2 Reinvestment of earnings	0	5611	-5611	0	6010	-6010
3.1.B.2 Debt instruments	0	8276	-8276	0	12570	-12570
3.1.B.2.1 Direct investor in direct investment enterprises	0	8276	-8276	0	12570	-12570
3.2 Portfolio Investment	**532037**	**476272**	**55765**	**675655**	**519162**	**156492**
3.2.A Portfolio Investment in India	511136	453204	57933	672784	512712	160072
3.2.1 Equity and investment fund shares	401412	358574	42838	594234	448009	146225
3.2.2 Debt securities	109725	94630	15095	78550	64703	13847
3.2.B Portfolio Investment by India	20901	23068	-2168	2871	6450	-3580
3.3 Financial derivatives (other than reserves) and employee stock options	**52196**	**51239**	**957**	**68626**	**91886**	**-23260**
3.4 Other investment	**365729**	**322675**	**43053**	**369860**	**380044**	**-10183**
3.4.1 Other equity (ADRs/GDRs)	0	0	0	0	0	0
3.4.2 Currency and deposits	102621	97135	5486	107275	82480	24796
3.4.2.1 Central bank (Rupee Debt Movements; NRG)	0	411	-411	2900	0	2900
3.4.2.2 Deposit-taking corporations, except the central bank (NRI Deposits)	102621	96723	5898	104375	82480	21896
3.4.2.3 General government	0	0	0	0	0	0
3.4.2.4 Other sectors	0	0	0	0	0	0
3.4.3 Loans (External Assistance, ECBs and Banking Capital)	143336	133289	10047	115154	196593	-81439
3.4.3.A Loans to India	124147	113952	10195	107930	192873	-84943
3.4.3.B Loans by India	19189	19337	-148	7224	3720	3504
3.4.4 Insurance, pension, and standardized guarantee schemes	1355	4699	-3344	404	326	78
3.4.5 Trade credit and advances	67829	77586	-9757	77100	75409	1690
3.4.6 Other accounts receivable/payable - other	50588	9967	40621	69928	25237	44691
3.4.7 Special drawing rights	0	0	0	0	0	0
3.5 Reserve assets	**0**	**153861**	**-153861**	**0**	**239583**	**-239583**
3.5.1 Monetary gold	0	0	0	0	0	0
3.5.2 Special drawing rights n.a.	0	0	0	0	0	0
3.5.3 Reserve position in the IMF n.a.	0	0	0	0	0	0
3.5.4 Other reserve assets (Foreign Currency Assets)	0	153861	-153861	0	239583	-239583
4 Total assets/liabilities	**1090402**	**1075090**	**15312**	**1323517**	**1314866**	**8651**
4.1 Equity and investment fund shares	584489	499573	84916	870616	618195	252421
4.2 Debt instruments	455325	411689	43636	382973	431851	-48878
4.3 Other financial assets and liabilities	50588	163828	-113240	69928	264820	-194892
5 Net errors and omissions	**4308**	**0**	**4308**	**5293**	**0**	**5293**

Note : P: Preliminary

No. 42: International Investment Position

(US$ Million)

Item	As on Financial Year /Quarter End							
	2019-20		2019		2020			
			Dec.		Sep.		Dec.	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	1	2	3	4	5	6	7	8
1 Direct Investment Abroad/in India	182957	418239	179734	426944	188302	455972	191304	480298
1.1 Equity Capital and Reinvested Earnings	118442	395426	117163	404393	121516	430742	122814	454640
1.2 Other Capital	64515	22813	62572	22552	66786	25231	68490	25658
2 Portfolio Investment	3847	246699	4845	266705	5041	253289	5527	274053
2.1 Equity	602	134778	2619	148859	1906	149095	1732	170630
2.2 Debt	3246	111921	2226	117846	3136	104194	3795	103423
3 Other Investment	52422	427242	53415	429326	64921	431149	69530	438322
3.1 Trade Credit	1460	104271	2224	105210	2917	102190	3333	102597
3.2 Loan	6741	179577	6180	177315	9048	180599	10620	183526
3.3 Currency and Deposits	26011	130761	27099	133331	34864	137519	37343	140683
3.4 Other Assets/Liabilities	18210	12634	17912	13469	18092	10841	18234	11516
4 Reserves	477807		459863		544687		585771	
5 Total Assets/ Liabilities	717033	1092180	697858	1122975	802952	1140410	852131	1192673
6 IIP (Assets - Liabilities)		-375147		-425117		-337458		-340542

Payment and Settlement Systems

No.43: Payment System Indicators

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

System	Volume (Lakh)				Value (₹ Crore)			
	FY 2019-20	2020	2021		FY 2019-20	2020	2021	
		Feb.	Jan.	Feb.		Feb.	Jan.	Feb.
	1	2	3	4	5	6	7	8
A. Settlement Systems								
Financial Market Infrastructures (FMIs)								
1 CCIL Operated Systems (1.1 to 1.3)	–	2.80	2.32	2.44	–	10821111	15723500	15872384
1.1 Govt. Securities Clearing (1.1.1 to 1.1.3)	–	1.17	0.93	0.95	–	6868007	10875915	10901991
1.1.1 Outright	–	0.82	0.48	0.47	–	1209395	657843	681845
1.1.2 Repo	–	0.19	0.22	0.24	–	2604693	3848935	3678988
1.1.3 Tri-party Repo	–	0.16	0.24	0.24	–	3053919	6369137	6541158
1.2 Forex Clearing	–	1.59	1.35	1.44	–	3603514	4576570	4629628
1.3 Rupee Derivatives @	–	0.04	0.04	0.05	–	349590	271015	340765
B. Payment Systems								
I Financial Market Infrastructures (FMIs)	–	–	–	–	–	–	–	–
1 Credit Transfers - RTGS (1.1 to 1.2)	–	133.15	156.68	157.70	–	8990097	9170162	9050425
1.1 Customer Transactions	–	131.07	155.07	156.20	–	7718135	7854553	7645510
1.2 Interbank Transactions	–	2.08	1.61	1.50	–	1271962	1315609	1404916
II Retail								
2 Credit Transfers - Retail (2.1 to 2.6)	–	20409.50	31708.13	30592.16	–	2396212	2991919	2936833
2.1 AePS (Fund Transfers) @	–	0.74	1.09	0.92	–	40	65	54
2.2 APBS $	–	1400.59	1224.28	835.54	–	8889	9642	5369
2.3 IMPS	–	2477.98	3465.52	3189.73	–	214566	288538	275230
2.4 NACH Cr $	–	789.68	1115.03	815.96	–	79707	96624	78273
2.5 NEFT	–	2483.57	2874.93	2821.07	–	1870494	2165869	2152844
2.6 UPI @	–	13256.93	23027.28	22928.94	–	222517	431182	425063
2.6.1 of which USSD @	–	0.70	0.92	0.82	–	12	15	13
3 Debit Transfers and Direct Debits (3.1 to 3.3)	–	825.70	928.08	861.58	–	73478	78230	76497
3.1 BHIM Aadhaar Pay @	–	9.67	10.29	9.33	–	149	214	223
3.2 NACH Dr $	–	789.31	839.08	781.07	–	73277	77903	76185
3.3 NETC (linked to bank account) @	–	26.72	78.71	71.18	–	53	113	88
4 Card Payments (4.1 to 4.2)	–	6128.68	5481.86	5067.32	–	120708	129240	119582
4.1 Credit Cards (4.1.1 to 4.1.2)	–	1882.94	1744.20	1613.77	–	62147	64737	60105
4.1.1 PoS based $	–	1072.50	926.09	863.91	–	33446	29409	27754
4.1.2 Others $	–	810.44	818.11	749.87	–	28701	35328	32350
4.2 Debit Cards (4.2.1 to 4.2.1)	–	4245.74	3737.66	3453.55	–	58561	64502	59478
4.2.1 PoS based $	–	2455.92	2148.07	2013.95	–	36258	39551	37465
4.2.2 Others $	–	1789.83	1589.59	1439.60	–	22302	24951	22013
5 Prepaid Payment Instruments (5.1 to 5.2)	–	5026.37	4386.68	4519.80	–	17296	19419	18274
5.1 Wallets	–	3782.82	3499.66	3652.79	–	14461	13577	12742
5.2 Cards (5.2.1 to 5.2.2)	–	1243.55	887.02	867.00	–	2836	5842	5532
5.2.1 PoS based $	–	115.30	39.51	35.79	–	1116	1585	1257
5.2.2 Others $	–	1128.25	847.51	831.21	–	1719	4257	4275
6 Paper-based Instruments (6.1 to 6.2)	–	884.95	657.01	636.07	–	659458	551207	547109
6.1 CTS (NPCI Managed)	–	884.58	657.01	636.07	–	659157	551207	547109
6.2 Others	–	0.37	0.00	0.00	–	301	–	–
Total - Retail Payments (2+3+4+5+6)	–	33275.20	43161.77	41676.93	–	3267153	3770015	3698295
Total Payments (1+2+3+4+5+6)	–	33408.35	43318.45	41834.63	–	12257249	12940177	12748721
Total Digital Payments (1+2+3+4+5)	–	32523.40	42661.44	41198.56	–	11597791	12388971	12201612

PART II - Payment Modes and Channels

System	Volume (Lakh)				Value (₹ Crore)			
	FY 2019-20	2020	2021		FY 2019-20	2020	2021	
		Feb.	Jan.	Feb.		Feb.	Jan.	Feb.
	1	2	3	4	5	6	7	8
A. Other Payment Channels								
1 Mobile Payments (mobile app based) (1.1 to 1.2)	–	14284.28	25943.23	24274.50	–	525845	1020333	931529
1.1 Intra-bank $	–	1304.52	2571.61	2345.81	–	108332	212336	186602
1.2 Inter-bank $	–	12979.75	23371.62	21928.69	–	417513	807997	744927
2 Internet Payments (Netbanking / Internet Browser Based) @ (2.1 to 2.2)	–	2837.88	3084.98	2900.22	–	2881819	4158234	3999196
2.1 Intra-bank @	–	630.85	617.29	580.98	–	1313016	2184556	2076458
2.2 Inter-bank @	–	2207.03	2467.69	2319.24	–	1568803	1973678	1922739
B. ATMs								
3 Cash Withdrawal at ATMs $ (3.1 to 3.3)	–	6189.11	5842.81	5534.33	–	283280	271077	259249
3.1 Using Credit Cards $	–	7.97	5.04	4.98	–	379	251	253
3.2 Using Debit Cards $	–	6153.17	5813.34	5506.07	–	281927	269892	258100
3.3 Using Pre-paid Cards $	–	27.96	24.43	23.28	–	974	934	895
4 Cash Withdrawal at PoS $ (4.1 to 4.2)	–	65.97	32.29	21.79	–	195	136	117
4.1 Using Debit Cards $	–	59.42	30.45	19.81	–	132	134	114
4.2 Using Pre-paid Cards $	–	6.55	1.84	1.98	–	63	2	3
5 Cash Withrawal at Micro ATMs @	–	386.44	777.16	656.57	–	11201	21700	18381
5.1 AePS @	–	386.44	777.16	656.57	–	11201	21700	18381

PART III - Payment Infrastructures (Lakh)

System	FY 2019-20	2020	2021	
		Feb.	Jan.	Feb.
	1	2	3	4
Payment System Infrastructures				
1 Number of Cards (1.1 to 1.2)	–	8801.81	9491.63	9556.49
1.1 Credit Cards	–	571.58	610.98	616.47
1.2 Debit Cards	–	8230.23	8880.65	8940.02
2 Number of PPIs @ (2.1 to 2.2)	–	18000.38	21212.16	21556.23
2.1 Wallets @	–	16809.60	19461.26	19733.68
2.2 Cards @	–	1190.78	1750.90	1822.56
3 Number of ATMs (3.1 to 3.2)	–	2.34	2.34	2.35
3.1 Bank owned ATMs $	–	2.11	2.09	2.10
3.2 White Label ATMs $	–	0.23	0.25	0.25
4 Number of Micro ATMs @	–	2.64	3.73	3.73
5 Number of PoS Terminals	–	50.99	60.27	58.15
6 Bharat QR @	–	18.96	33.60	34.92
7 UPI QR *	–	–	805.89	875.86

@: 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		2018-19	2019		2020	
			Feb.	Dec.	Jan.	Feb.
		1	2	3	4	5
1 Small Savings	**Receipts**	**115714**	**9839**	**15814**	**15184**	**16911**
	Outstanding	**918459**	**899191**	**1015010**	**1030037**	**1046766**
1.1 Total Deposits	**Receipts**	**91108**	**7130**	**12117**	**11091**	**11460**
	Outstanding	**618418**	**606920**	**693812**	**704903**	**716363**
1.1.1 Post Office Saving Bank Deposits	Receipts	31037	2360	3455	3106	2690
	Outstanding	140247	134863	150462	153568	156258
1.1.2 MGNREG	Receipts					
	Outstanding					
1.1.3 National Saving Scheme, 1987	Receipts	-31	-19	-31	-25	-20
	Outstanding	3107	2877	2984	2959	2939
1.1.4 National Saving Scheme, 1992	Receipts	53	0	-827	-2	-3
	Outstanding	10	-8	-18	-20	-23
1.1.5 Monthly Income Scheme	Receipts	10967	928	1753	1712	1887
	Outstanding	192658	191653	203460	205172	207059
1.1.6 Senior Citizen Scheme 2004	Receipts	13990	1184	2070	2133	2131
	Outstanding	55708	54446	69464	71597	73728
1.1.7 Post Office Time Deposits	Receipts	25000	2451	4296	3999	4494
	Outstanding	124292	121687	152622	156621	161115
1.1.7.1 1 year Time Deposits	Outstanding	71534	70179	86344	88247	90327
1.1.7.2 2 year Time Deposits	Outstanding	5910	5824	6749	6854	6970
1.1.7.3 3 year Time Deposits	Outstanding	6901	6910	7328	7397	7464
1.1.7.4 5 year Time Deposits	Outstanding	39947	38774	52201	54123	56354
1.1.8 Post Office Recurring Deposits	Receipts	10081	215	1401	168	281
	Outstanding	102401	101407	114842	115010	115291
1.1.9 Post Office Cumulative Time Deposits	Receipts	11	11	0	0	0
	Outstanding	-26	-26	-25	-25	-25
1.1.10 Other Deposits	Receipts	0	0	0	0	0
	Outstanding	21	21	21	21	21
1.2 Saving Certificates	**Receipts**	**16067**	**1732**	**3326**	**3524**	**3937**
	Outstanding	**221517**	**219257**	**240900**	**244267**	**248022**
1.2.1 National Savings Certificate VIII issue	Receipts	11318	1262	2272	2458	2619
	Outstanding	98492	94795	110050	112508	115127
1.2.2 Indira Vikas Patras	Receipts	334	3	0	0	1
	Outstanding	263	300	-289	-289	-288
1.2.3 Kisan Vikas Patras	Receipts	-18678	-1609	-971	-1713	-1120
	Outstanding	19303	21232	6782	5069	3949
1.2.4 Kisan Vikas Patras - 2014	Receipts	23018	2065	2025	2782	2452
	Outstanding	93630	91314	113273	116055	118507
1.2.5 National Saving Certificate VI issue	Receipts	93	12	0	-1	0
	Outstanding	2	-47	-179	-180	-180
1.2.6 National Saving Certificate VII issue	Receipts	-18	-1	0	-2	-15
	Outstanding	-80	-82	-82	-84	-99
1.2.7 Other Certificates	Outstanding	9907	11745	11345	11188	11006
1.3 Public Provident Fund	**Receipts**	**8539**	**977**	**371**	**569**	**1514**
	Outstanding	**78524**	**73014**	**80298**	**80867**	**82381**

Source: Accountant General, Post and Telegraphs.

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

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

(Per cent)

Central Government Dated Securities					
Category	2019	2020			
	Dec.	Mar.	Jun.	Sep.	Dec.
	1	2	3	4	5
(A) Total (in ₹. Crore)	**6512659**	**6486585**	**6704983**	**7137069**	**7357111**
1 Commercial Banks	39.05	40.41	38.98	38.55	37.81
2 Non-Bank PDs	0.39	0.39	0.36	0.34	0.25
3 Insurance Companies	24.90	25.09	26.24	25.33	25.64
4 Mutual Funds	1.53	1.43	2.02	2.42	2.62
5 Co-operative Banks	1.97	1.90	1.86	1.86	1.83
6 Financial Institutions	1.14	0.53	1.19	1.42	1.00
7 Corporates	0.84	0.81	0.78	0.94	1.05
8 Foreign Portfolio Investors	3.33	2.44	1.79	2.05	2.10
9 Provident Funds	4.93	4.72	4.96	4.77	4.61
10 RBI	14.72	15.13	14.70	15.00	15.71
11. Others	7.23	7.17	7.11	7.32	5.61
11.1 State Governments	1.97	2.05	1.99	1.86	1.76

State Governments Securities					
Category	2019	2020			
	Dec.	Mar.	Jun.	Sep.	Dec.
	1	2	3	4	5
(B) Total (in ₹. Crore)	**3047353**	**3265990**	**3393099**	**3564979**	**3721573**
1 Commercial Banks	32.46	34.99	33.54	34.60	34.19
2 Non-Bank PDs	0.64	0.76	0.74	0.54	0.36
3 Insurance Companies	32.50	31.63	30.85	30.26	30.25
4 Mutual Funds	1.20	1.14	1.74	1.96	1.92
5 Co-operative Banks	4.16	4.12	4.38	4.19	4.11
6 Financial Institutions	0.31	0.11	1.96	1.92	1.88
7 Corporates	0.31	0.30	0.31	0.39	0.45
8 Foreign Portfolio Investors	0.04	0.02	0.02	0.02	0.02
9 Provident Funds	23.66	22.22	21.70	21.31	21.20
10 RBI	0.00	0.00	0.00	0.00	0.81
11. Others	4.73	4.71	4.78	4.80	4.64
11.1 State Governments	0.17	0.18	0.18	0.18	0.18

Treasury Bills					
Category	2019	2020			
	Dec.	Mar.	Jun.	Sep.	Dec.
	1	2	3	4	5
(C) Total (in ₹. Crore)	**514588**	**538409**	**881362**	**982286**	**839729**
1 Commercial Banks	45.19	61.06	46.11	53.50	54.75
2 Non-Bank PDs	2.07	2.26	1.48	2.16	1.65
3 Insurance Companies	5.76	7.45	4.64	4.06	4.50
4 Mutual Funds	20.42	13.24	23.45	19.90	18.98
5 Co-operative Banks	2.07	2.55	1.95	1.63	1.61
6 Financial Institutions	2.12	0.58	1.67	1.34	1.11
7 Corporates	1.66	1.89	1.43	1.63	2.01
8 Foreign Portfolio Investors	0.00	0.00	0.00	0.00	0.00
9 Provident Funds	0.01	0.02	0.05	0.00	0.09
10 RBI	0.00	0.00	11.27	4.80	0.68
11. Others	20.70	10.95	7.95	10.99	1.36
11.1 State Governments	16.36	6.22	4.35	7.76	13.27

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 February-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	1099	27	2142	24	1193	17
2	Arunachal Pradesh	-	-	-	-	-	-
3	Assam	-	-	-	-	-	-
4	Bihar	-	-	-	-	-	-
5	Chhattisgarh	-	-	-	-	-	-
6	Goa	-	-	-	-	-	-
7	Gujarat	-	-	-	-	-	-
8	Haryana	-	-	-	-	-	-
9	Himachal Pradesh	453	1	-	-	-	-
10	Jammu & Kashmir UT	-	-	855	16	-	-
11	Jharkhand	-	-	-	-	-	-
12	Karnataka	-	-	-	-	-	-
13	Kerala	174	5	125	2	-	-
14	Madhya Pradesh	-	-	-	-	-	-
15	Maharashtra	-	-	-	-	-	-
16	Manipur	-	-	228	28	29	9
17	Meghalaya	-	-	-	-	-	-
18	Mizoram	-	-	80	12	-	-
19	Nagaland	126	27	165	11	-	-
20	Odisha	-	-	-	-	-	-
21	Puducherry	-	-	-	-	-	-
22	Punjab	545	17	203	4	-	-
23	Rajasthan	118	1	-	-	-	-
24	Tamil Nadu	-	-	-	-	-	-
25	Telangana	967	28	1494	27	1670	17
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 February 2021			
		Consolidated Sinking Fund (CSF)	Guarantee Redemption Fund (GRF)	Government Securities	Auction Treasury Bills (ATBs)
	1	2	3	4	5
1	Andhra Pradesh	8558	844	--	-
2	Arunachal Pradesh	1635	2	--	-
3	Assam	4495	56	--	-
4	Bihar	6319	--	--	-
5	Chhattisgarh	4700	--	1	-
6	Goa	615	309	--	-
7	Gujarat	5448	497	--	4550
8	Haryana	801	1243	--	-
9	Himachal Pradesh	--	--	--	3100
10	Jammu & Kashmir UT	--	--	--	-
11	Jharkhand	286	--	--	-
12	Karnataka	5633	--	--	-
13	Kerala	2218	--	--	12000
14	Madhya Pradesh	--	948	--	-
15	Maharashtra	42512	651	--	-
16	Manipur	230	104	--	10000
17	Meghalaya	749	43	9	-
18	Mizoram	433	47	--	-
19	Nagaland	1695	34	--	-
20	Odisha	12007	1506	87	-
21	Puducherry	303	--	--	16665
22	Punjab	1137	--	8	806
23	Rajasthan	--	--	129	-
24	Tamil Nadu	6853	--	40	2000
25	Telangana	5847	1272	--	19762
26	Tripura	385	9	--	-
27	Uttar Pradesh	863	--	180	-
28	Uttarakhand	3261	82	--	-
29	West Bengal	9096	551	214	-
	Total	**126080**	**8199**	**667**	**68884**

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	2018-19		2019-20		2020-21						Total amount raised, so far in 2020-21	
						December		January		February			
		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	30200	23824	42415	33444	5000	4708	3000	2417	3646	1926	50896	43052
2	Arunachal Pradesh	719	693	1366	1287	-	-	-	-	-	-	481	481
3	Assam	10595	8089	12906	10996	1100	1100	500	500	3500	3500	12900	12900
4	Bihar	14300	10903	25601	22601	-	-	4000	3000	1993	1993	25993	23993
5	Chhattisgarh	12900	12900	11680	10980	2000	2000	2000	500	1000	1000	11000	8500
6	Goa	2350	1850	2600	2000	354	354	200	200	300	300	2854	2554
7	Gujarat	36971	27437	38900	28600	1500	1500	1500	500	1500	500	32780	22823
8	Haryana	21265	17970	24677	20677	-	-	2000	2000	3500	2300	28000	24200
9	Himachal Pradesh	4210	2108	6580	4460	1000	1000	1000	700	1000	820	6000	4720
10	Jammu & Kashmir UT	6684	4927	7869	6760	500	500	500	21	700	-50	8510	5781
11	Jharkhand	5509	4023	7500	5656	1000	1000	1400	1400	1400	1400	6400	5900
12	Karnataka	39600	32183	48500	42500	10000	7500	2000	2000	3000	3000	60000	52900
13	Kerala	19500	13984	18073	12617	3000	1500	-	-	2000	-	21566	17066
14	Madhya Pradesh	20496	15001	22371	16550	4000	2000	2000	1000	11000	11000	35000	32000
15	Maharashtra	20869	3107	48498	32998	-	-	-	-1875	1000	-1471	66000	49454
16	Manipur	970	667	1757	1254	180	180	150	-	152	152	1182	1032
17	Meghalaya	1122	863	1344	1070	365	325	106	106	-	-	1521	1331
18	Mizoram	0	-123	900	745	100	100	90	50	50	50	914	774
19	Nagaland	822	355	1000	423	220	220	-	-	437	437	1721	1521
20	Odisha	5500	4500	7500	6500	-	-	-	-	-	-1000	3000	1000
21	Puducherry	825	475	970	470	100	100	250	250	150	-100	1050	600
22	Punjab	22115	17053	27355	18470	3307	1507	2200	1400	1500	972	25223	15695
23	Rajasthan	33178	20186	39092	24686	5000	5000	3700	3700	8500	6646	51411	42475
24	Sikkim	1088	795	809	481	-	-	204	204	100	100	1231	1231
25	Tamil Nadu	43125	32278	62425	49826	5000	3175	6500	5875	10000	9700	79500	68319
26	Telangana	26740	22183	37109	30697	7000	6792	3000	2583	2000	770	41534	35928
27	Tripura	1543	1387	2928	2578	600	600	-	-	142	142	1855	1755
28	Uttar Pradesh	46000	33307	69703	52744	8000	6922	12000	11500	14000	14000	59500	45213
29	Uttarakhand	6300	5289	5100	4500	-	-	500	208	-	-	4200	3208
30	West Bengal	42828	30431	56992	40882	5500	5500	7000	7000	7000	7000	49000	39500
	Grand Total	478323	348643	634521	487454	64826	53583	55800	45239	79570	65087	691222	565906

- : 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 (including RRBs) and for column Nos. (4) & (5) data are Provisional (excluding RRBs)

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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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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