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GOVERNOR'S STATEMENT

Governor's Statement

*Governor's Statement**

Shaktikanta Das

The newly appointed Monetary Policy Committee (MPC) with Dr. Ashima Goyal, Professor Jayanth R. Varma and Dr. Shashanka Bhide as external members met on 7th, 8th and 9th October, 2020 in its first meeting and the 25th under the monetary policy framework that was instituted in June 2016. I welcome the new members and thank them for their valuable contributions to the setting and conduct of monetary policy in India. I take this opportunity to thank our teams in the Reserve Bank of India (RBI) for their analytical support and logistic assistance.

The MPC evaluated domestic and global macroeconomic and financial conditions and voted unanimously to leave the policy repo rate unchanged at 4 per cent. It also decided to continue with the accommodative stance of monetary policy as long as necessary – at least during the current financial year and into the next year – to revive growth on a durable basis and mitigate the impact of COVID-19, 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 take this opportunity to briefly review the state of the economy and its prospects. I have always dared to be an optimist, believing firmly in the ability of humankind to overcome the pandemic. In the months gone by, when COVID-19 raged in fury across the world, our hopefulness might have appeared impudent, like a flame flickering amidst a gathering storm. Today, there is a turn in the wind, which suggests that it is not imprudent to dream of

a brighter tomorrow even in the bleakest of times. As Dr. A.P.J Abdul Kalam, our visionary former President said: *"You have to dream before your dreams can come true...A dream is not that which you see while sleeping, it is something that does not let you sleep."*

Charting the Recovery

After the steep decline into which the global economy plunged in the second quarter of 2020, global economic activity appears to have rebounded sequentially in the third quarter, but unevenly among and within economies. Improvement in manufacturing, labour markets and retail sales powered strong recoveries in some countries; whereas in others, a rise in new infections prompted a slower pace of unlocking or re- imposition of restrictions which, in turn, stalled the upturn. Generally, investment has remained in retrenchment while consumption and exports have started to improve. Massive policy support across all countries has prevented a deeper downslide, providing a floor underneath employment, household incomes and businesses. Financial conditions continue to remain benign.

The Indian economy is entering into a decisive phase in the fight against the pandemic. Relative to pre-COVID levels, several high- frequency indicators are pointing to the easing of contractions in various sectors of the economy and the emergence of impulses of growth. Rather than enumerating them, I have, in the interest of time, set them out in an Annex to this statement. By all indications, the deep contractions of Q1:2020-21 are behind us; silver linings are visible in the flattening of the active caseload curve across the country. Barring the incidence of a second wave, India stands poised to shrug off the deathly grip of the virus and renew its tryst with its pre-COVID growth trajectory.

In this environment, the focus must now shift from containment to revival. Undeterred by the

* Governor's Statement - October 9, 2020

pandemic, the rural economy looks resilient. *Kharif* sowing has already surpassed last year's acreage as well as the normal sown area. Improved soil moisture conditions, along with healthy reservoir levels, have brightened the outlook for the *rabi* season. Early estimates suggest that food grains production is set to cross another record in 2020-21. Job creation under the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) has provided incomes and employment in rural areas. Meanwhile, migrant labour is returning to work in urban areas, and factories and construction activity are coming back to life. This is also reflected in rising levels of energy consumption and population mobility. In cities, traffic intensity is rising rapidly; online commerce is booming; and people are getting back to offices. The mood of the nation has shifted from fear and despair to confidence and hope.

Some of this optimism is being reflected in people's expectations. In the September 2020 round of the RBI's survey, households expect inflation to decline modestly over the next three months, indicative of hope that supply chains are mending. Our projections indicate that inflation would ease closer to the target by Q4:2020-21. Our other surveys, also conducted in September, indicate that consumer confidence is turning upbeat on the general economic situation, employment and income over a one year ahead horizon. While the current assessment of the overall business situation remains in contraction in Q2, it has moved up from a low in Q1. Forward-looking business expectations are optimistic on the overall business situation, production, order books, employment, exports and capacity utilisation.

The manufacturing purchasing managers' index (PMI) for September 2020 rose to 56.8, its highest mark since January 2012, supported by acceleration in new orders and production. The services PMI for September at 49.8 remained in contraction but has risen from 41.8 in August. These expectations are also

reflected in our growth projections which suggest that GDP growth may break out of contraction and turn positive by Q4.

There is currently an animated debate about the shape of the recovery. Will it be V, U, L, or W? More recently, there has also been talk of a K-shaped recovery. In my view, it is likely to predominantly be a three-speed recovery, with individual sectors showing varying paces, depending on sector-specific realities. Sectors that would 'open their accounts' the earliest are expected to be those that have shown resilience in the face of the pandemic and are also labour-intensive. Agriculture and allied activities; fast moving consumer goods; two wheelers, passenger vehicles and tractors; drugs and pharmaceuticals; and electricity generation, especially renewables, are some of the sectors in this category. In several of these areas, reforms such as in agricultural marketing and value chains encompassing cold storage, transport and processing; changes in labour laws; and creation of capacity for production and distribution of vaccines have already opened up new vistas for fresh investment to step in.

The second category of sectors to 'strike form' would comprise sectors where activity is normalising gradually. The third category of sectors would include the ones which face the 'slog overs', but they can rescue the innings. These are sectors that are most severely affected by social distancing and are contact-intensive.

The modest recovery in various high-frequency indicators in September 2020 could strengthen further in the second half of 2020-21 with progressive unlocking of economic activity. Agriculture and allied activities could well lead the revival by boosting rural demand. Manufacturing firms expect capacity utilisation to recover in Q3:2020-21 and activity to gain some traction from Q3 onwards. Both private investment and exports are likely to be subdued, especially as external demand is still anaemic. For

the year 2020-21 as a whole, therefore, real GDP is expected to decline by 9.5 per cent, with risks tilted to the downside. If, however, the current momentum of upturn gains ground, a faster and stronger rebound is eminently feasible.

Financial Market Guidance

Over the last few weeks, there has been some disconnect between the rationale underlying the RBI's debt management and monetary operations on the one hand, and expectations in the market, on the other. I thought I should take this opportunity to address these issues squarely so that market participants and the RBI share a common set of expectations, which, in turn, should engender orderly market conditions.

As the monetary policy authority with the responsibilities for development and regulation of financial markets and the management of public debt, the RBI has prioritised the orderly functioning of markets and financial institutions, easing of financing conditions and the provision of adequate system-level as well as targeted liquidity. This is important from the point of view of smooth and seamless transmission of monetary policy impulses as well as the completion of market borrowing programmes of the centre and states in a non-disruptive manner with a normal evolution of the yield curve. Since February 2020, the RBI has taken a series of measures in this direction. The RBI stands ready to undertake further measures as necessary to assure market participants of access to liquidity and easy financing conditions.

Notwithstanding an augmented market borrowing programme for 2020-21, the issuances for the first half of the year have been seamlessly managed both for the centre and the states. The weighted average cost of borrowings by the central government during the first half of 2020-21 at 5.82 per cent is the lowest in the last 16 years. The weighted average maturity of the outstanding stock of the centre has also been the highest so far. The RBI has assured that the borrowing

programme of the centre and states for rest of 2020-21 will be completed in a non-disruptive manner without compromising on price and financial stability. In pursuit of this objective, the limit for Ways and Means Advances (WMA) for the centre has been kept higher at ₹1.25 lakh crore compared to ₹35,000 crore in H2 of the previous year. Similarly, the 60 per cent increase in WMA limit for states in the first half of 2020-21 has been extended for a further period of 6 months till March 31, 2021.

Market participants should be assured that in keeping with the monetary policy stance announced today, the RBI will maintain comfortable liquidity conditions and will conduct market operations in the form of outright and special open market operations. In response to feedback from market participants, the size of these auctions will be increased to ₹20,000 crore. It is expected that the market participants will respond positively to this initiative.

Yields in the government securities (g-sec) market, both primary and secondary segments, also need to evolve in alignment with the comfortable liquidity conditions. This is important for those segments of the financial markets that rely on the g-sec yield curve as a benchmark for pricing financial instruments so as to benefit from the easy financing conditions engendered by the RBI's policy measures and operations.

Financial market stability and the orderly evolution of the yield curve are public goods and both market participants and the RBI have a shared responsibility in this regard. The augmented borrowing programme for 2020-21 has been necessitated due to the exigencies imposed by the pandemic in the form of the fiscal stimulus and the loss of tax revenue. While this has imposed pressures on the market in the form of expanded supply of paper, the RBI stands ready to conduct market operations as required through a variety of instruments to assuage these pressures,

dispel any illiquidity in financial markets and maintain orderly market conditions. Market participants, on their part, need to take a broader time perspective and display bidding behaviour that reflects a sensitivity to the signals from the RBI in the conduct of monetary policy and debt management. We look forward to cooperative solutions for the borrowing programme for the second half of the year. It is said that it takes at least two views to make a market, but these views can be competitive without being combative.

In this context, it is appropriate that I set out our assessment of underlying inflation dynamics and the outlook. Abstracting from the period April-May, 2020 when imputations imposed a break in the CPI inflation series, headline inflation has moved up from March 2020 levels and has persisted above the tolerance band of the target. Our assessment is that it will remain elevated in the September print, but ease gradually towards the target over Q3 and Q4. Our analysis suggests that supply disruptions and associated margins/mark-ups are the major factors driving up inflation. As supply chains are restored, these wedges should dissipate. Meanwhile, aggregate demand remains subdued and there is evidence of considerable resource slack. Large excess supply conditions characterise food grains and horticulture production, and the outlook for agriculture is bright. Crude prices remain range-bound. The MPC has hence decided to look through the current inflation hump as transient and address the more urgent need to revive growth and mitigate the impact of COVID-19. This has provided the space for continuing with the accommodative stance with forward guidance as set out in the MPC's resolution.

Additional Measures

Against this backdrop and to provide impetus towards reviving the economy, certain additional measures are being announced today. These measures are intended to (i) enhance liquidity support for

financial markets; (ii) regulatory support to improve the flow of credit to specific sectors within the ambit of the norms for credit discipline; (iii) provide a boost to exports; and (iv) deepen financial inclusion and facilitate ease of doing business by upgrading payment system services.

(i) Liquidity Measures

(a) On Tap TLTRO

The focus of liquidity measures by the RBI will now include revival of activity in specific sectors that have both backward and forward linkages, and multiplier effects on growth. Accordingly, it has been decided to conduct on tap TLTRO with tenors of up to three years for a total amount of up to ₹1,00,000 crore at a floating rate linked to the policy repo rate. The scheme will be available up to March 31, 2021 with flexibility with regard to enhancement of the amount and period after a review of the response to the scheme. Liquidity availed by banks under the scheme has to be deployed in corporate bonds, commercial papers, and non-convertible debentures issued by entities in specific sectors over and above the outstanding level of their investments in such instruments as on September 30, 2020. The liquidity availed under the scheme can also be used to extend bank loans to these sectors. Moreover, banks that had availed of funds earlier under targeted long-term repo operations (TLTRO and TLTRO 2.0) will be given the option of reversing these transactions before maturity. In view of the borrowing requirements of the centre and states in the second half of 2020-21 and the likely pick-up in demand for credit as the recovery gathers strength, on tap TLTROs are intended to enable banks to conduct their operations smoothly and seamlessly without being hindered by illiquidity frictions. The objective is to ensure that liquidity in the system remains comfortable.

(b) SLR Holdings in Held to Maturity Category

On September 1, 2020 the RBI increased the investments permitted to be classified as Held to Maturity (HTM) from 19.5 per cent to 22 per cent of NDTL in respect of SLR securities acquired on or after September 1, 2020 up to March 31, 2021. In order to provide certainty to banks as regards their investments and to foster orderly market conditions while ensuring congenial financing costs, it has been decided to extend the dispensation of the enhanced HTM limit of 22 percent up to March 31, 2022 for securities acquired between September 1, 2020 and March 31, 2021. It is expected that banks will be able to plan their investments in SLR securities in an optimal manner.

(c) Open Market Operations (OMOs) in State Development Loans (SDLs)

In order to impart liquidity to SDLs and thereby facilitate efficient pricing, it has been decided to conduct open market operations (OMOs) in SDLs as a special case during the current financial year. This would improve secondary market activity and rationalize spreads of SDLs over central government securities of comparable maturities. This measure, along with the extension of HTM till March 2022, should ease concerns about illiquidity and absorptive capacity for the total government borrowing in the current year.

(ii) Export Support: Review of System-based Automatic Caution**Listing of Exporters**

Exports have been adversely impacted by the pandemic-related contraction in external demand. In this environment, it is crucial to provide flexibility to exporters in the realisation of export proceeds and to empower them to negotiate better terms with overseas buyers. In order to facilitate the same, and

make the caution-listing process exporter-friendly and equitable, it has been decided to discontinue the system-based automatic caution-listing. The RBI will henceforth undertake caution-listing on the basis of case-specific recommendations of the Authorised Dealer (AD) banks.

Regulatory Measures

At the current juncture, the financial sector has a crucial role in leading the nascent economic revival. It is in this context that the RBI is announcing certain measures aimed at catalysing augmented credit flows to the productive sectors of the economy.

(a) Revised Regulatory Limits for Retail Portfolio of Banks

Under the extant framework, the maximum aggregated retail exposure to one counterparty should not exceed the absolute threshold limit of ₹5 crore. In order to facilitate higher credit flow to this segment, which mainly consists of individuals and small businesses (*i.e.* with turnover of upto ₹50 crore), and in harmonization with the Basel guidelines, it has been decided to increase this threshold to ₹7.5 crore in respect of all fresh as well as incremental qualifying exposures. This measure is expected to expand credit flow to small businesses.

(b) Rationalisation of Risk Weights on Individual Housing Loans

Under the extant regulations, differential risk weights are applicable to individual housing loans, based on the size of the loan as well as the loan-to-value ratio (LTV). In recognition of the role of the real estate sector in generating employment and economic activity, it has been decided to rationalise the risk weights and link them to LTV ratios only for all new housing loans sanctioned up to March 31, 2022. This measure is expected to give a fillip to the real estate sector.

(iv) Financial Inclusion*Review of the Co-origination Model*

In 2018, the RBI put in place a framework for co-origination of loans by banks and a category of Non Banking Financial Companies (NBFCs) for lending to the priority sector, subject to certain conditions. Based on the feedback received from stakeholders, it has been decided to extend the scheme to all NBFCs, including HFCs, in respect of all eligible priority sector loans, and allow greater operational flexibility to the lending institutions. This "Co-Lending Model" is expected to leverage the comparative advantages of banks and NBFCs in a collaborative effort, and improve the flow of credit to the unserved and underserved sectors of the economy.

(v) Payment and Settlement Systems*(a) Round-the-Clock Availability of Real Time Gross Settlement (RTGS) System*

In December 2019, the RBI made available the National Electronic Funds Transfer (NEFT) system on a 24x7x365 basis and the system has been operating smoothly since then. In order to facilitate swift and seamless payments in real time for domestic businesses and institutions, it has been decided to make available the RTGS system round the clock on all days from December 2020. India will be among very few countries globally with a 24x7x365 large value real time payment system. This will facilitate innovations in the large value payments ecosystem and promote ease of doing business.

(b) Perpetual Validity for Certificate of Authorisation (CoA) issued to Payment System Operators (PSOs)

Under the Payment and Settlement Systems Act, 2007 the RBI currently gives on tap authorisation to payment system operators (PSOs) for limited periods of up to five years. In order to obviate licensing and business uncertainty for PSOs, it has been decided to grant authorisation for all PSOs (new applicants as well as existing PSOs) on a perpetual basis, subject to certain conditions. This will reduce compliance costs and create a climate conducive for investment activities, increased employment, and infusion of new talent and technologies into value chains.

Conclusion

COVID-19 has tested and severely stretched our resources and our endurance. Our travails are not over yet and a renewed rise in infections remains a serious risk. We have, however, come far on an untravelled road, with self-belief and the courage of hope. We will reach deep into our fortitude and inner strength to overcome whatever formidable challenges COVID-19 may unleash going forward. If we have the resolve to be steadfast till we emerge victorious, I am confident we will muster the forces needed to subdue the pandemic. In the words of Mahatma Gandhi, and I quote "...if I have the belief that I can do it, I shall surely acquire the capacity to do it..."¹. Against all odds, we shall strive and revive. Thank you. Stay safe and stay well. Namaskar.

¹ The Collected Works of Mahatma Gandhi (Electronic Book), New Delhi, Publications Division, Government of India, 1999, Volume 79.

Annex: High Frequency Indicators - as on October 8, 2020 (Contd.)									
February 2020 = 100 unless specified otherwise									
Sr. No.	Indicators	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Agriculture / Rural demand								
	Domestic Sales of tractors*	100	41	15	76	89	101	137	
	Two wheelers Sales*	100	69	0	20	72	94	104	
	Three wheelers Sales*	100	64	0	7	29	33	30	
	Agriculture Export*	100	78	63	88	95	109	100	
	Fertiliser Sales*	100	80	135	105	93	107	96	
	Agriculture Credit (Outstanding)	100	100	100	99	100	101	101	
	MGNREGA work demand (households)	100	93	60	168	201	144	109	109
2	Industrial Production								
	Index of Industrial Production*	100	79	42	65	82	88		
	IIP: Manufacturing*	100	77	33	61	82	88		
	IIP: Capital Goods*	100	68	9	40	69	83		
	IIP: Infrastructure & Construction Goods*	100	75	15	60	78	87		
	IIP: Consumer Durables Goods*	100	66	5	33	67	80		
	IIP: Consumer Non-Durables Goods*	100	78	53	91	114	109		
	Eight Core Industries (ECI) Index*	100	88	60	76	83	88	85	
	ECI: Steel*	100	78	18	63	75	92	90	
	ECI: Cement*	100	73	14	71	83	81	74	
	Electricity Demand*	100	95	82	99	101	108	105	108
	Production of Automobiles								
	Passenger Vehicles*	100	67	0	11	43	72	84	
	Two wheelers*	100	77	0	17	59	87	105	
	Three wheelers*	100	69	0	37	43	39	58	
	Production of tractors*	100	52	0	37	104	92	98	
3	Construction								
	Steel Consumption*	100	82	20	58	79	105	94	101
	Cement production*	100	73	16	71	82	80	74	
4	Transport								
	Automobiles sales*	100	65	0	19	67	88	98	
	Passenger vehicles sales*	100	53	0	14	47	74	86	
	Domestic air passenger traffic*	100	66	0	3	18	18	29	
	Domestic air cargo*	100	66	7	17	49	58	63	
	International air cargo*	100	70	24	42	61	71	72	
	Freight traffic net tonne kilometre*	100	81	60	70	84	87	91	102
	Port Cargo*	100	92	78	73	84	86	88	94
	Toll Collection: Volume	100	77	9	50	74	79	88	100
	Petroleum consumption*	100	81	50	77	86	86	79	
5	Domestic trade								
	GST E-way bill	100	71	15	45	76	85	86	100
	GST revenue	100	93	31	59	86	83	82	91

Annex: High Frequency Indicators - as on October 8, 2020 (Concl'd.)									
Sr. No.	Indicators	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
6	Tourism and hospitality								
	Foreign tourist arrivals	100	32	0	0	0	0	0	
7	External Trade								
	Merchandise Exports	100	77	37	69	79	85	82	
	Merchandise Imports	100	83	46	59	56	76	79	
	Non-Oil Non-Gold Imports	100	82	50	75	63	81	78	
	Services Exports	100	102	93	95	96	96		
	Services Imports	100	100	84	90	90	91		
8	Apple Mobility Index	100	60	15	28	46	51	65	79
9	Payment and Settlements Indicators (Volume)								
	RTGS	100	89	41	68	90	94	88	
10	Monetary, Banking and financial aggregates								
	Credit outstanding	100	103	102	101	102	102	101	102
	Bank Deposits	100	102	103	105	104	106	106	107
	Life insurance first year premium	100	137	36	74	156	124	146	137
	Non-life insurance premium	100	113	0	0	100	122	126	
	M3	100	102	103	105	105	107	107	108
	Reserve Money	100	102	102	105	107	107	107	108
	CP: Monthly Outstanding	100	86	104	106	98	94	93	105
	CD: Monthly Outstanding	100	93	97	86	65	56	49	
	FPI Net (US\$ million)	1271	-15924	-1961	-973	3441	451	6662	-157
	MF Investment - Equity (INR crore)	9863	30131	-7966	6523	-502	-9195	-8400	-3982
	MF Investment - Debt (INR crore)	18026	-16190	-9795	10699	41365	31898	24494	16009
	Corporate Bond Issuance (INR crores)	80555	75734	54741	84871	70536	48122	58419	
	Corporate Bond Spread: AAA (3-year) (Basis Points)	90	159	239	173	103	50	54	43
11	PMI								
	PMI: Manufacturing (>50 indicates growth over previous month)	54.5	51.8	27.4	30.8	47.2	46.0	52.0	56.8
	PMI: Services (>50 indicates growth over previous month)	57.5	49.3	5.4	12.6	33.7	34.2	41.8	49.8
	PMI: Composite (>50 indicates growth since previous month)	57.6	50.6	7.2	14.8	37.8	37.2	46.0	54.6
12	Employment								
	CMIE Unemployment rate (%)	7.8	8.8	23.5	21.7	10.2	7.4	8.4	6.7

* indicates seasonally adjusted data.

Sources: CMIE, CEIC, NSO, MOSPI, RBI, SEBI, FIMMDA

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

MONETARY POLICY STATEMENT FOR 2020~21

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

*Monetary Policy Statement, 2020-21 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 (October 9, 2020) 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 – 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 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

2. Incoming data point to a recovery in global economic activity in Q3 of 2020 in sequential terms,

although downside risks have risen with the renewed surge in infections in many countries. Global trade is expected to be subdued. The rebound could turn out to be stronger among advanced economies (AEs) than in emerging market economies (EMEs). Global financial markets remain supported by highly accommodative monetary and liquidity conditions. Soft fuel prices and weak aggregate demand have kept inflation below target in AEs, although in some EMEs, supply disruptions have imparted upward price pressures.

Domestic Economy

3. On the domestic front, high frequency indicators suggest that economic activity is stabilising in Q2:2020-21 after the 23.9 per cent year-on-year (y-o-y) decline in real GDP in Q1 (April-June). Cushioned by government spending and rural demand, manufacturing – especially consumer non-durables – and some categories of services, such as passenger vehicles and railway freight, have gradually recovered in Q2. The outlook for agriculture is robust. With merchandise exports slowly catching up to pre-COVID levels and some moderation in the pace of contraction of imports, the trade deficit widened marginally sequentially in Q2.

4. Headline CPI inflation increased to 6.7 per cent during July-August 2020 as pressures accentuated across food, fuel and core constituents on account of supply disruptions, higher margins and taxes. One year ahead inflation expectations of households suggest some softening in inflation from three months ahead levels. Selling prices of firms remain muted, reflecting the weak demand conditions.

5. Domestic financial conditions have eased substantially, with systemic liquidity remaining in large surplus. Reserve money increased by 13.5 per cent on a year-on-year basis (as on October 2, 2020), driven by a surge in currency demand (21.5 per cent). Growth in money supply (M3), however, was

* Released on October 9, 2020.

contained at 12.2 per cent as on September 25, 2020. Banks' non-food credit growth remains subdued. India's foreign exchange reserves stood at US\$ 545.6 billion on October 2, 2020.

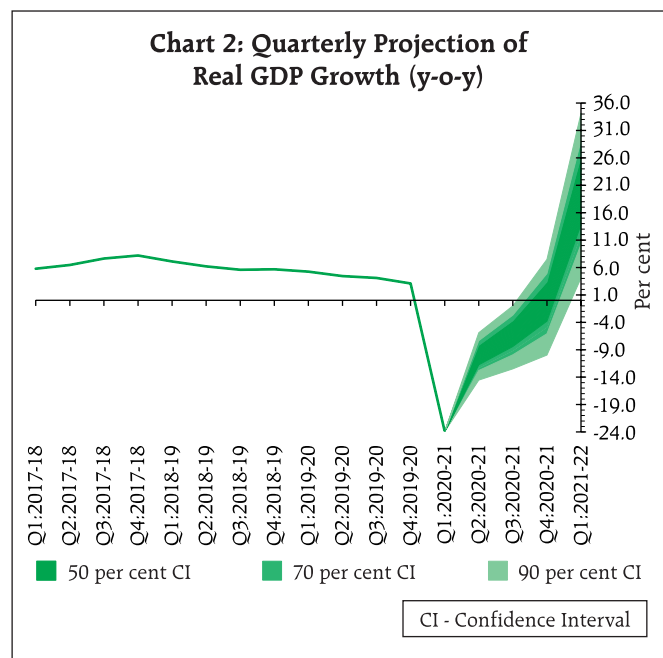
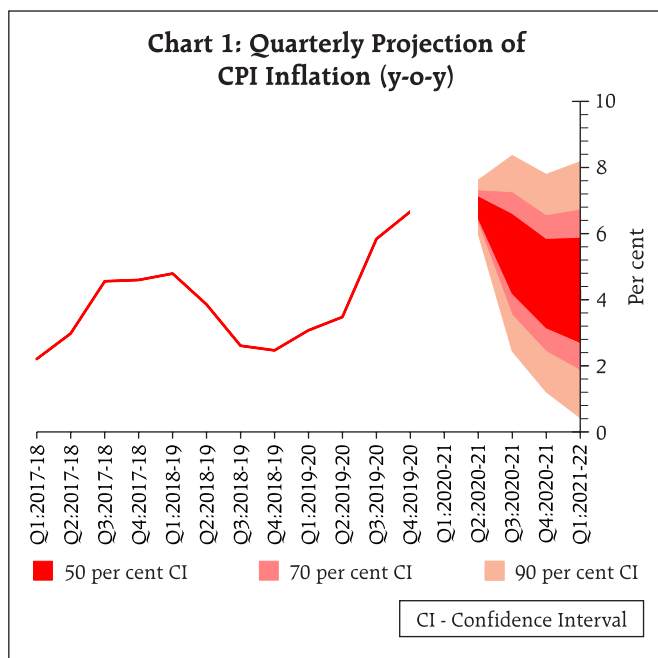
Outlook

6. Turning to the outlook for inflation, *kharif* sowing portends well for food prices. Pressures on prices of key vegetables like tomatoes, onions and potatoes should also ebb by Q3 with *kharif* arrivals. On the other hand, prices of pulses and oilseeds are likely to remain firm due to elevated import duties. International crude oil prices have traded with a softening bias in September on a weak demand outlook, but domestic pump prices may remain elevated in the absence of any roll back of taxes. Pricing power of firms remains weak in the face of subdued demand. COVID-19-related supply disruptions, including labour shortages and high transportation costs, could continue to impose cost-push pressures, but these risks are getting mitigated by progressive easing of lockdowns and removal of restrictions on inter-state movements. Taking into consideration all these factors, CPI inflation is projected at 6.8 per cent for Q2:2020-21, at 5.4-4.5 per cent for H2:2020-

21 and 4.3 per cent for Q1:2021-22, with risks broadly balanced (Chart 1).

7. Turning to the growth outlook, the recovery in the rural economy is expected to strengthen further, while the turnaround in urban demand is likely to be lagged in view of social distancing norms and the elevated number of COVID-19 infections. While the contact-intensive services sector will take time to regain pre-COVID levels, manufacturing firms expect capacity utilisation to recover in Q3:2020-21 and activity to gain some traction from Q4 onwards. Both private investment and exports are likely to be subdued, especially as external demand is still anaemic. Taking into consideration the above factors and the uncertain COVID-19 trajectory, real GDP growth in 2020-21 is expected to be negative at (-)9.5 per cent, with risks tilted to the downside: (-)9.8 per cent in Q2:2020-21; (-)5.6 per cent in Q3; and 0.5 per cent in Q4. Real GDP growth for Q1:2021-22 is placed at 20.6 per cent (Chart 2).

The MPC is of the view that revival of the economy from an unprecedented COVID-19 pandemic assumes the highest priority in the conduct of monetary policy. While inflation has been above the tolerance band for



several months, the MPC judges that the underlying factors are essentially supply shocks which should dissipate over the ensuing months as the economy unlocks, supply chains are restored, and activity normalises. Accordingly, they can be looked through at this juncture while setting the stance of monetary policy. Taking into account all these factors, the MPC decides to maintain *status quo* on the policy rate in this meeting and await the easing of inflationary pressures to use the space available for supporting growth further.

All members of the MPC – Dr. Shashanka Bhide, Dr. Ashima Goyal, Prof. Jayanth R. Varma, Dr. Mridul K. Sagar, Dr. Michael Debabrata Patra

and Shri Shaktikanta Das – unanimously voted for keeping the policy repo rate unchanged and continue with the accommodative stance as long as necessary to revive growth on a durable basis and mitigate the impact of COVID-19 on the economy, while ensuring that inflation remains within the target going forward. Dr. Shashanka Bhide, Dr. Ashima Goyal, Dr. Mridul K. Sagar, Dr. Michael Debabrata Patra and Shri Shaktikanta Das voted to continue with this accommodative stance at least during the current financial year and into the next financial year, with Prof. Jayanth R. Varma voting against this formulation.

The minutes of the MPC's meeting will be published by October 23, 2020.

STATEMENT ON DEVELOPMENTAL AND REGULATORY POLICIES

Statement on Developmental and Regulatory Policies

Statement on Developmental and Regulatory Policies

Even as the threat of COVID-19 is yet to abate, with the gradual lifting of restrictions on movement of people and opening of business establishments across the country, a resumption of economic activities is well underway. The role of the financial sector during this phase of recovery will continue to remain important in facilitating businesses to reach the pre-COVID levels of economic activity. The focus of the Reserve Bank's regulatory actions over the past few months was to first, provide an immediate relief to the borrowers from the impact of COVID-19, through extension of moratorium and other measures, and then to facilitate resolutions through the Resolution Framework for COVID-19 related Stress. Concomitantly, the lending institutions will need to start focusing on revival of activity and their core activity of lending. Accordingly, the measures are intended to (i) enhance liquidity support for financial markets so as to revive activity in targeted sectors of the economy with linkages to other sectors; (ii) provide a boost to exports; (iii) regulatory support to improve the flow of credit to specific sectors within the ambit of the norms for credit discipline; (iv) deepen financial inclusion; and (v) facilitate ease of doing business by upgrading payment system services so as to improve customer satisfaction, while supporting growth.

I. Liquidity Measures and Financial Markets

1. On Tap TLTRO

The focus of liquidity measures by the RBI will now include revival of activity in specific sectors that have both backward and forward linkages, and multiplier effects on growth. Accordingly, it has been decided to conduct on tap TLTRO with tenors of up to three years for a total amount of up to ₹1,00,000 crore at a floating rate linked to the policy repo rate.

The scheme will be available up to March 31, 2021 with flexibility with regard to enhancement of the amount and period after a review of the response to the scheme. Liquidity availed by banks under the scheme has to be deployed in corporate bonds, commercial papers, and non-convertible debentures issued by the entities in specific sectors over and above the outstanding level of their investments in such instruments as on September 30, 2020. The liquidity availed under the scheme can also be used to extend bank loans and advances to these sectors. Investments made by banks under this facility will be classified as held to maturity (HTM) even in excess of 25 percent of total investment permitted to be included in the HTM portfolio. All exposures under this facility will also be exempted from reckoning under the large exposure framework (LEF). Moreover, banks that had availed of funds earlier under targeted long-term repo operations (TLTRO and TLTRO 2.0) will be given the option of reversing these transactions before maturity. In view of the borrowing requirements of the centre and states in the second half of 2020-21 and the likely pick-up in demand for credit as the recovery gathers strength, on tap TLTROs are intended to enable banks to conduct their operations smoothly and seamlessly without being hindered by illiquidity frictions. The objective is to ensure that liquidity in the system remains comfortable. The details of the scheme would be announced separately

2. SLR Holdings in Held to Maturity (HTM) category

To engender orderly market conditions and ensure congenial financing costs, the Reserve Bank on September 1, 2020, increased the limits under Held to Maturity (HTM) category from 19.5 per cent to 22 percent of NDTL, in respect of SLR securities acquired on or after September 1, 2020, up to March 31, 2021. To give more certainty to the markets about the status of these investments in SLR securities after March 31, 2021, it has been decided to extend the dispensation of enhanced HTM limits of 22 percent up to March

31, 2022 for securities acquired between September 1, 2020 and March 31, 2021. The HTM limits would be restored from 22 per cent to 19.5 percent in a phased manner starting from the quarter ending June 30, 2022. It is expected that banks will be able to plan their investments in SLR securities in an optimal manner with a clear glide path for restoration of HTM limits.

3. Open Market operations (OMOs) in State Developments Loans (SDLs)

At present, SDLs are eligible collateral for Liquidity Adjustment Facility (LAF) along with T-bills, dated government securities and oil bonds. To improve liquidity and facilitate efficient pricing, it has been decided to conduct open market operations (OMOs) in SDLs as a special case during the current financial year. The OMOs would be conducted for a basket of SDLs comprising securities issued by states.

II. Support to Exports

4. Automatic Caution Listing of Exporters- Review

As part of automation of Export Data Processing and Monitoring System (EDPMS), the 'Caution / De-caution Listing' of exporters was automated in 2016. Accordingly, the exporters were to be caution-listed automatically, if any shipping bill against them remained outstanding for more than 2 years in EDPMS and no extension was granted for realisation of export proceeds against the outstanding shipping bill. Additionally, the normal system of caution-listing based on the recommendations of the Authorised Dealer (AD) bank before the expiry of 2 years in certain cases continued. In order to make the system more exporter friendly and equitable, it has been decided to discontinue the Automatic Caution-listing. The Reserve Bank will continue with caution-listing based on the case-specific recommendations of the AD bank. Related instructions in this regard will be issued shortly.

III. Regulatory Measures

5. Regulatory Retail Portfolio – Revised Limit for Risk Weight

As per the present RBI instructions, the exposures included in the regulatory retail portfolio of banks are assigned a risk weight of 75 per cent. For this purpose, the qualifying exposures need to meet certain specified criteria, including low value of individual exposures. In terms of the value of exposures, it has been prescribed that the maximum aggregated retail exposure to one counterparty should not exceed the absolute threshold limit of ₹5 crore. In order to reduce the cost of credit for this segment consisting of individuals and small businesses (*i.e.* with turnover of upto ₹50 crore), and in harmonisation with the Basel guidelines, it has been decided to increase this threshold to ₹7.5 crore in respect of all fresh as well as incremental qualifying exposures. This measure is expected to increase the much needed credit flow to the small business segment.

6. Individual Housing Loans – Rationalisation of Risk Weights

In terms of the extant regulations on capital charge for credit risk of individual housing loans by banks, differential risk weights are applicable based on the size of the loan as well as the loan to value ratio (LTV). Recognising the criticality of real estate sector in the economic recovery, given its role in employment generation and the interlinkages with other industries, it has been decided, as a countercyclical measure, to rationalise the risk weights by linking them only with LTV ratios for all new housing loans sanctioned up to March 31, 2022. Such loans shall attract a risk weight of 35 per cent where LTV is less than or equal to 80 per cent, and a risk weight of 50 per cent where LTV is more than 80 per cent but less than or equal to 90 percent. This measure is expected to give a fillip to bank lending to the real estate sector.

IV. Financial Inclusion

7. Review of the Co-origination Model

The Reserve Bank had, in 2018, put in place a framework for co-origination of loans by banks and a category of Non Banking Financial Companies (NBFCs) for lending to the priority sector subject to certain conditions. The arrangement entailed joint contribution of credit at the facility level, by both the lenders as also sharing of risks and rewards between them for ensuring appropriate alignment of respective business objectives. Based on the feedback received from the stakeholders, to better leverage the respective comparative advantages of the banks and NBFCs in a collaborative effort, and to improve the flow of credit to the unserved and underserved sector of the economy, it has been decided to extend the scheme to all the NBFCs (including HFCs), to make all priority sector loans eligible for the scheme and give greater operational flexibility to the lending institutions, while requiring them to conform to the regulatory guidelines on outsourcing, KYC, *etc.* The proposed framework will be called as "Co-Lending Model". The revised guidelines will be issued by end of October 2020.

V. Payment and Settlement Systems

8. Round-the-Clock availability of Real Time Gross Settlement System (RTGS)

In December 2019, the National Electronic Funds Transfer (NEFT) system was made available on a 24x7x365 basis and the system has been operating smoothly since then. The large-value RTGS system is currently available for customers from 7.00 am to 6.00 pm on all working days of a week (except 2nd and 4th Saturdays of the month). To support the ongoing efforts aimed at global integration of Indian financial markets, facilitate India's efforts to develop

international financial centers and to provide wider payment flexibility to domestic corporates and institutions, it has been decided to make available the RTGS system round the clock on all days. With this, India will be one of the very few countries globally with a 24x7x365 large value real time payment system. This facility will be made effective from December 2020.

9. Perpetual Validity for Certificate of Authorisation (CoA) issued to Payment System Operators (PSOs)

Currently, the Reserve Bank issues "on-tap" authorisation under the Payment and Settlement Systems Act, 2007 to non-banks issuing Prepaid Payment Instruments (PPIs), operating White Label ATMs (WLAs) or the Trade Receivables Discounting Systems (TReDS), or participating as Bharat Bill Payment Operating Units (BBPOUs). Authorisation (including renewal of authorisation) of such PSOs has been largely for specified periods up to five years. While such limited period licences were necessitated in the initial period of evolution of the payment system, it can lead to business uncertainty for the PSOs and involves avoidable use of regulatory resources in the process of renewal. Furthermore, the Reserve Bank's oversight framework has gradually developed into a more mature and comprehensive system, which clearly lays out its oversight expectations and the methodologies adopted for oversight of PSOs. To reduce licensing uncertainties and enable PSOs to focus on their business and optimise utilisation of scarce regulatory resources, it has been decided to grant authorisation for all PSOs (both new applicants as well as existing PSOs) on a perpetual basis, subject to certain conditions. Detailed instructions will be issued separately.

MONETARY POLICY REPORT FOR 2020-21

Monetary Policy Report - October 2020

I. Macroeconomic Outlook

The global economy plunged into its deepest contraction in living memory in April-June 2020 as COVID-19 took its toll. In India, real GDP fell by a record low. Supply bottlenecks and higher taxes pushed inflation above the upper tolerance band of the target. Downside risks from a delayed vaccine, persistence of supply bottlenecks, volatile international financial markets and high food inflation acquiring a structural character are clear and present dangers to the macroeconomic outlook.

1.1 Key Developments Since the April 2020 MPR

The COVID-19 pandemic has fundamentally altered the setting and conduct of monetary policy across the world. With the global economy having plunged into its deepest contraction in living memory in Q2:2020, with over 3.5 crore infections, including 10.4 lakh confirmed deaths as on October 7, 2020, with massive supply disruptions and demand destruction from employment and income losses on a scale not seen before, the unconventional has become conventional in the ethos of monetary policy making. Central banks have gone where they have feared to tread before: below the so-called zero lower bound on interest rates; to the outer limits of quantitative and credit easing and beyond. They have undertaken what even until recently they considered as the commission of original sins – the monetisation of fiscal deficits and the management of yield curves.

Central bank communication has also turned a radical corner. Ultra-accommodative stances and more policy actions to fight the pandemic have been assured into the foreseeable future, even at the cost of volatility in financial markets shaken by this resolve, and untoward currency movements. This unprecedented monetary policy activism appears to have put equally unprecedented fiscal stimuli in the shade.

In the event, their combined impulses have eased financial conditions substantially, helped buoy up global financial markets, and have driven up asset and commodity prices to a point widely regarded as a disconnect with the real economy. Crude oil prices have recovered since May on a gradual rise in demand and production cuts, before softening in September on concerns arising out of the surge in new infections. Gold prices remained elevated as heightened uncertainty continues to boost its safe haven appeal. Inflation, too, has rebounded, although it remains well below targets in advanced economies (AEs), but has risen more strongly on food prices in some emerging market economies (EMEs).

The efficacy of these actions in reconstructing economic activity from the ravages of COVID-19 is yet to gain traction on a broad scale. In several economies, rebounds from troughs have begun in Q3, but the resurgence of infections and the lingering risk of a second wave in the absence of the elusive vaccine overshadows these early signs of revival, and contractions persist in several sectors. The balance of risks remains slanted to the downside. The next few quarters can be challenging. Global public debt is projected by the International Monetary Fund (IMF) at over 100 per cent of gross domestic product (GDP) in 2020. The G20 has supported time-bound suspension of the debt service obligations of the poorest countries. Model-based projections suggest that it could take several years for output and activity to recover to pre-pandemic levels in view of the lasting impact on potential output from the loss of human and physical capital.

In India, with the second highest caseload in the world – over 67 lakh infections including 1 lakh deaths as of October 7, 2020, the highest daily infections, the severest lockdown in the world during April-May, and re-clamping of containment measures and localised lockdowns thereafter as infections surged into the interior, real GDP fell by a record 23.9 per cent year-

on-year (y-o-y) in Q1:2020-21 (April-June 2020). Private consumption and investment slumped precipitously, only partly cushioned by government spending. On the supply side, industry as well as services sectors recorded deep contractions, and only agriculture exhibited resilience. Meanwhile, supply bottlenecks exacerbated by social distancing and higher taxes pushed up inflation sharply, with pressures evident in prices of both food and non-food items. At 6.7 per cent in August, consumer price index (CPI) inflation was ruling above the upper tolerance band of the inflation target, posing testing challenges for the conduct of monetary policy, going forward.

Monetary Policy Committee: April-September 2020

The Monetary Policy Committee (MPC) met off-cycle on May 20-22, 2020 advancing its scheduled meeting in view of the exigencies imposed by COVID-19. The MPC noted that various sectors of the economy were experiencing more acute stress than initially anticipated and financial conditions needed further easing to prevent the deep distress in the economy, especially among the vulnerable and disadvantaged. While the inflation outlook remained uncertain, the forecast of a normal monsoon, subdued international commodity prices, deficient demand and favourable base effects offered some policy space. Against this backdrop, the MPC decided to cut the policy repo rate by 40 basis points (bps) to 4.0 per cent (5 members voted for a reduction of 40 bps while one member voted for a reduction of 25 bps) on top of the sizeable cut of 75 bps in its March 27 off-cycle meeting.

Inflation surprised on the upside in the run up to the August 2020 meeting of the MPC. The persistence of supply chain disruptions and broad-based cost-push pressures were seen as keeping inflation elevated in Q2:2020-21 with some moderation only in H2:2020-21, aided by large favourable base effects. Real GDP growth for 2020-

21 was expected to be negative. In these conditions, the recovery of the economy assumed primacy, but the MPC noted that the headline CPI prints of April-May 2020 required more clarity as the National Statistical Office (NSO) had to resort to imputations for many items as data collection was affected by the lockdowns. Given the uncertainty surrounding the inflation outlook and taking into consideration the extremely weak state of the economy in the midst of the unprecedented shock from the pandemic, the MPC decided unanimously that it was prudent to pause and remain watchful for a durable reduction in inflation to use the available space to support the revival of the economy. All members also voted to continue with the accommodative stance as long as necessary to revive growth and mitigate the impact of COVID-19 on the economy, while ensuring that inflation remains within the target going forward.

The MPC's voting pattern reflects the diversity in individual members' assessments, expectations and policy preferences, a feature that is also reflected in voting patterns of other central banks (Table I.1).

Table I.1 Monetary Policy Committees and Voting Patterns

Country	Policy Meetings: April - September 2020		
	Total Meetings	Meetings with Full Consensus	Meetings without Full Consensus
Brazil	4	4	0
Chile	4	4	0
Colombia	6	3	3
Czech Republic	4	3	1
Hungary	6	6	0
India	2	1	1
Israel	4	0	4
Japan	5	0	5
South Africa	4	1	3
Sweden	3	3	0
Thailand	4	3	1
UK	4	4	0
US	4	4	0

Source: Central bank websites.

Macroeconomic Outlook

Chapters II and III analyse macroeconomic developments during H1:2020-21 (April-September). For the projections set out in this Chapter, the evolution of key macroeconomic and financial variables over the past six months warrants revisions in the baseline assumptions made in the April 2020 MPR (Table I.2).

First, global crude prices have remained volatile on COVID-19-related uncertainty. An unprecedented spike occurred on April 20 when, for the first time ever, West Texas Intermediate (WTI) front month prices turned negative (US\$ (-) 37.6 per barrel). Supported by the agreement between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC partners (OPEC plus) in April 2020 to cut oil production by a record 9.7 million barrels a day, Brent prices recovered from US\$ 19 per barrel in April to around US\$ 45 in August, before softening in September (Chart I.1). Considering these developments, crude prices (Indian basket) are assumed at US\$ 40.9 in the baseline, 17 per cent above the April MPR baseline.

Second, the nominal exchange rate (the Indian

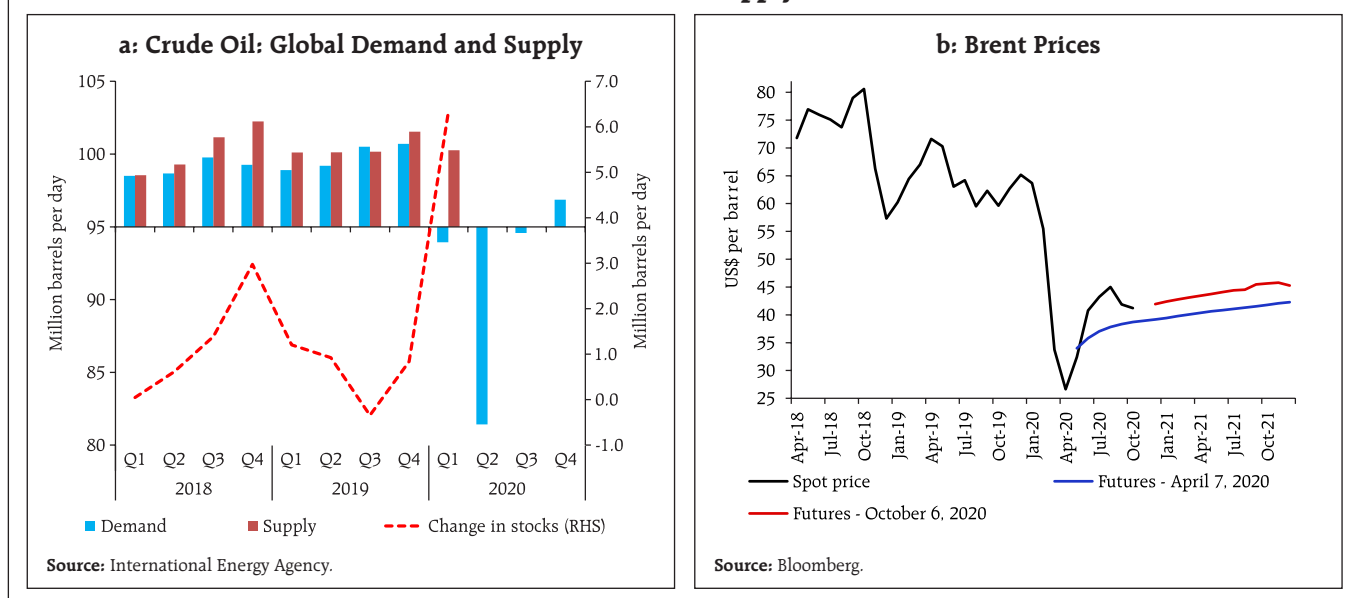
Table I.2: Baseline Assumptions for Projections

Indicator	MPR April 2020	MPR October 2020
Crude Oil (Indian basket)	US\$ 35 per barrel during 2020-21	US\$ 40.9 per barrel during 2020-21
Exchange rate	₹ 75/US\$	₹ 73.6/US\$
Monsoon	Normal for 2020	9 per cent above long period average
Global growth	Contraction in 2020	-4.9 per cent in 2020 5.4 per cent in 2021
Fiscal deficit (per cent of GDP)	To remain within BE 2020-21 Centre: 3.5 Combined: 6.1	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
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.

Chart I.1: Crude Oil: Demand-Supply Balance and Prices



rupee or INR *vis-à-vis* the US dollar) has moved in both directions since April 2020. The INR remained under depreciating pressures in April due to the generalised flight out of EMEs to the safety of the US dollar amidst COVID-related concerns. After being largely range-bound during May-July, the INR exhibited an appreciating bias in August. This was driven by the surge in portfolio inflows to India on expectations of highly accommodative monetary policies in advanced economies continuing for longer, and improving prospects of potential vaccines for COVID-19. In the light of these developments, the exchange rate is assumed at INR 73.6 per US dollar in the baseline.

Third, global economic activity has underperformed significantly relative to the April outlook. Global merchandise trade volumes fell by 14.3 per cent in Q2:2020 and the World Trade Organization’s *Goods Trade Barometer* points to only partial upticks in Q3. The global composite *Purchasing Managers’ Index* (PMI) moved into expansion zone in July-September after remaining in contraction for five months, but the outlook remains uncertain in view of the resurgence in infections in some AEs and EMEs. The IMF expects the global economy to contract by 4.9 per cent in 2020 (Chart I.2), while the World Bank and

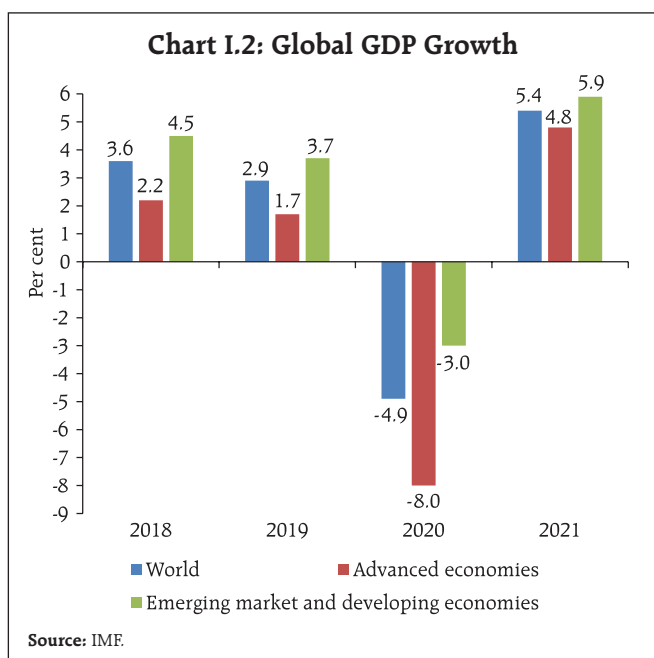
the OECD have projected a decline of 5.2 per cent and 4.5 per cent, respectively.

1.2 The Outlook for Inflation

Headline CPI inflation breached the upper tolerance band of the target during June-August 2020, propelled by a broad-based propagation of strong upside pressures (Chapter II). Supply chain disruptions and higher taxes on petroleum products and other items imparted these upward pressures on inflation in spite of muted demand conditions. Data-related uncertainties, as complete coverage of markets and quotes was disrupted by lockdowns, complicate the assessment of the outlook.

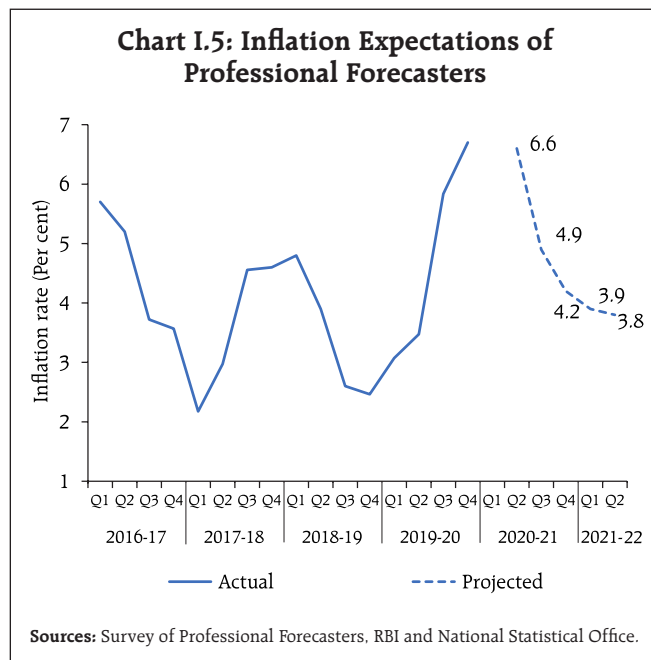
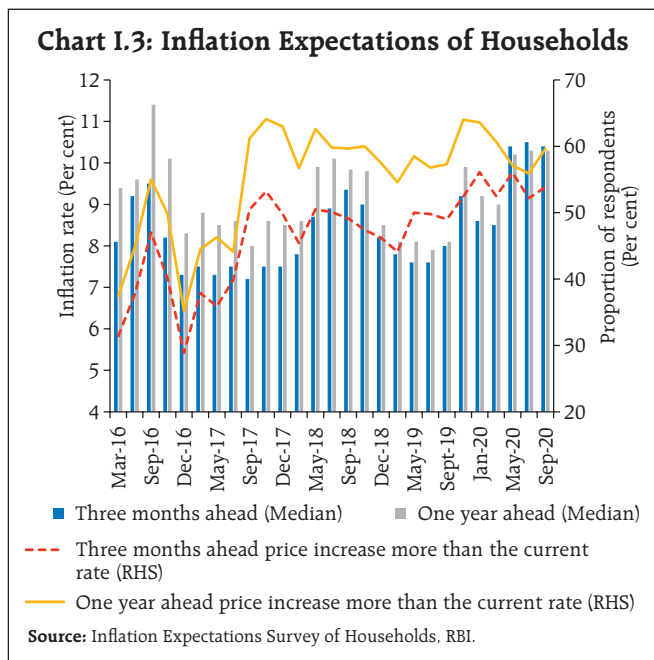
Looking ahead, three months ahead median inflation expectations of urban households fell by 10 bps in the September 2020 round of the Reserve Bank’s survey while one year ahead median inflation expectations remained unchanged.¹ The proportion of respondents expecting the general price level to increase by more than the current rate rose for both horizons *vis-à-vis* the previous round (Chart I.3). According to the Reserve Bank’s consumer confidence survey for September 2020, one year ahead inflation expectations remained at elevated level.

Manufacturing firms polled in the July-September 2020 round of the Reserve Bank’s industrial outlook survey expected selling prices to remain unchanged in Q3:2020-21 on the back of benign input cost pressures (Chart I.4).² The PMI for the manufacturing sector reported higher input prices in September though the rate of cost inflation softened from August 2020; output prices broadly stabilised in September after falling for five months in a row. Services sector firms also reported higher input costs due to fuel, meat and vegetables and some increase in output prices.



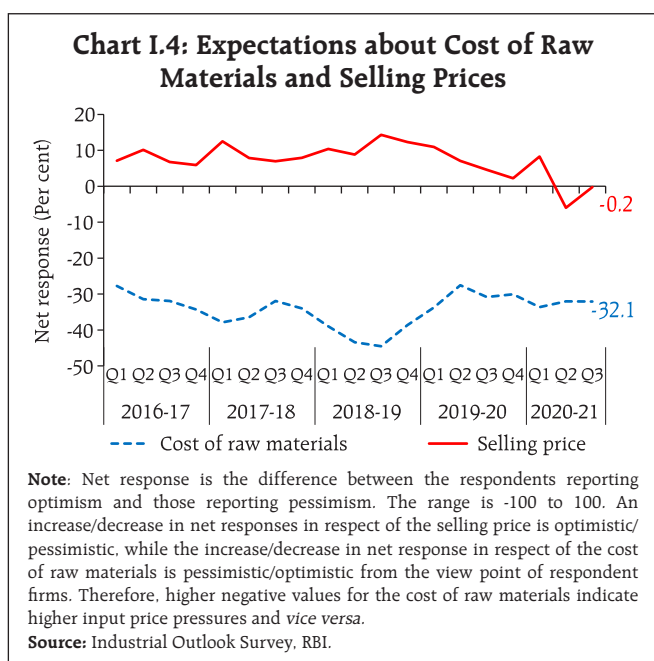
¹ The Reserve Bank’s inflation expectations survey of households is conducted in 18 cities and the results of the September 2020 survey are based on responses from 5,652 households.

² The results of the July-September 2020 round of the industrial outlook survey are based on responses from 959 companies.



Professional forecasters surveyed by the Reserve Bank in September 2020 expected CPI inflation to moderate from 6.7 per cent in August 2020 to 4.2 per cent in Q4:2020-21 and 3.8 per cent in Q2:2021-22 (Chart I.5).³

A bumper *rabi* crop, moderate increases in minimum support prices (MSPs) for *kharif* crops, a normal monsoon, sizeable buffer stocks and good water storage levels in major reservoirs augur well for the inflation outlook. At the same time, the persistence of COVID-related supply bottlenecks, higher taxes and their cost-push implications could impart upward pressures on inflation. The inflation outlook will also depend on trade policies and effective supply management measures with respect to key inflation-sensitive items. As noted in the Monetary Policy Report of April 2020, the uncertainty about the depth, spread and duration of COVID-19 can produce drastic changes in the outlook. Hence, macroeconomic forecasts are subject to large revisions with every incoming data on the pandemic. The RBI Act, however, enjoins the Reserve Bank to, *inter alia*, publish and explain in the MPR the forecasts of inflation for 6-18 months from the date of its publication. Taking into consideration the statutory requirements, the initial conditions, the signals from forward-looking surveys and estimates from time-series and structural models, CPI inflation is projected at 6.8 per cent in Q2:2020-

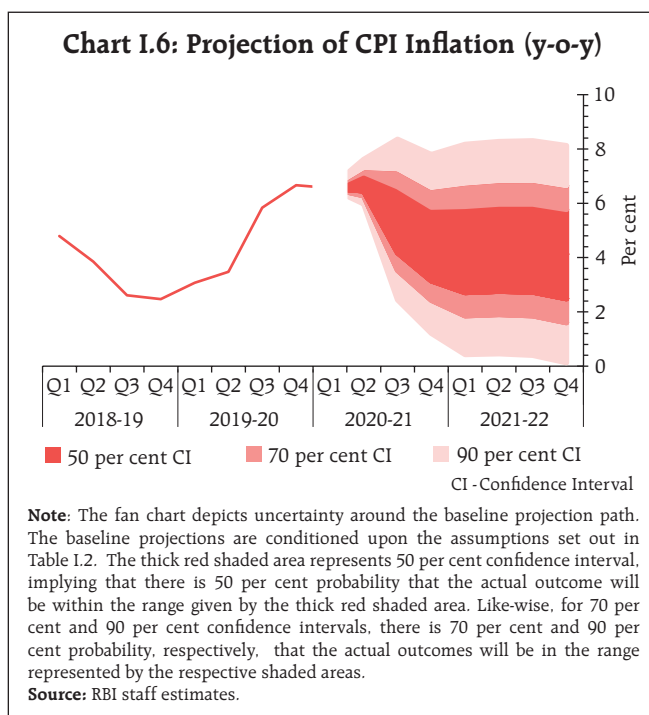


³ 33 panellists participated in the September 2020 round of the Reserve Bank's survey of professional forecasters.

21; subsequently, large favourable base effects are expected to pull it down to 5.4 per cent in Q3, and 4.5 per cent in Q4 (Chart I.6). The 50 per cent and the 70 per cent confidence intervals for headline inflation in Q4:2020-21 are 3.2-5.9 per cent and 2.4-6.6 per cent, respectively.

For 2021-22, assuming a normalisation of supply chains with the availability of effective vaccines against COVID-19, a normal monsoon, and no major exogenous or policy shocks, structural model estimates indicate that inflation will move in a range of 4.1-4.4 per cent. The 50 per cent and the 70 per cent confidence intervals for Q4:2021-22 are 2.5-5.8 per cent and 1.6-6.6 per cent, respectively.

As explained earlier, an unusually high amount of uncertainty surrounds the inflation outlook. In particular, the persistence of the pandemic and delay in vaccine development could render projections of



key macroeconomic variables even more uncertain (Box I.1).

Box I.1: What will the Post-COVID Growth-Inflation Trajectory Look Like? Illustrative Simulations from the Quarterly Projection Model

Under COVID-19 conditions, real GDP in India is projected to contract in 2020-21 under the baseline scenario, reflecting both demand and supply shocks. In contrast, consumer price inflation remains elevated, suggesting that supply bottlenecks are outweighing the softening impact expected from weaker demand. These counterintuitive inflation dynamics have complicated the macroeconomic outlook.

The baseline scenario assumes that the recent spike in inflation is transient, and that there is no second wave of infections. Accordingly, two alternate scenarios are explored. A favourable scenario (Scenario 1) assumes a faster normalisation of supply chains on the back of an early breakthrough in the development of vaccines. On the other hand, an adverse scenario (Scenario 2) is built on assumptions of (i) a second wave of infections, pulling down global and domestic growth even further;

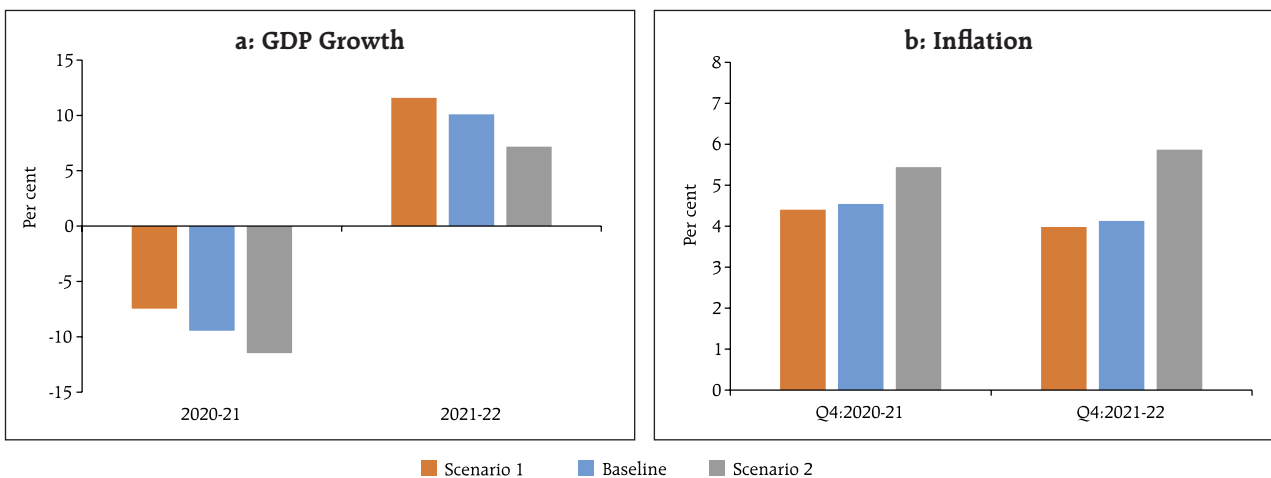
(ii) recent inflation pressures taking a more persistent path *a la* 2009-10; (iii) a structural component crystallising in higher fiscal deficit and public debt, with implications for the inflation outlook; and (iv) heightened volatility in capital flows and exchange rates. The Quarterly Projection Model (QPM)⁴ - a semi-structural, forward-looking, open economy, calibrated, gap model in the New Keynesian tradition - is used to explore these alternate scenarios.

In Scenario 1, the faster normalisation of supply chains leads to lower output losses in 2020-21 relative to the baseline. Real GDP contracts by 7.5 per cent in this scenario *vis-à-vis* the baseline of 9.5 per cent (Chart I.1.1). The GDP growth rebound in 2021-22 is stronger at 11.6 per cent in this benign scenario relative to 10.1 per cent in the baseline. Favourable base effects, normal supply chains and anchored inflation expectations contribute

(contd.)

⁴ Benes, Jaromir, et al. (2016), "Quarterly Projection Model for India: Key Elements and Properties", RBI Working Paper Series, No. 08/2016.

Chart I.1.1. COVID-19 Outbreak: Illustrative Growth and Inflation Scenarios



Source: RBI staff estimates.

to a reduction in inflation from 4.1 per cent in the baseline to 4.0 per cent in Q4:2021-22, aligning it with the target.

In the adverse case (Scenario 2), real GDP records a deeper contraction in 2020-21 (-11.5 per cent) and the recovery is tepid in 2021-22 (7.2 per cent). Persistent supply distortions, pressures on operating costs and unhinged expectations keep inflation elevated, more

than offsetting the impact of weak demand conditions both in 2020-21 and 2021-22. Volatile capital flows and downward pressure on the exchange rate add to pressure on inflation, keeping it at 5.9 per cent in Q4:2021-22, close to the upper tolerance band, and 1.8 percentage points above the baseline. Overall, this scenario brings to the fore the trade-offs between the inflation objective and that of stabilising output.

1.3 The Outlook for Growth

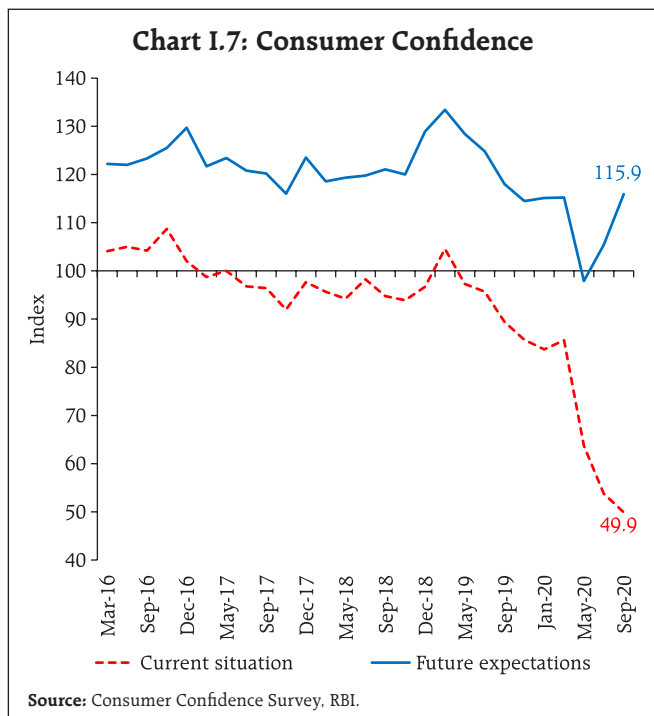
Real GDP declined by an unprecedented 23.9 per cent in Q1:2020-21 and domestic economic activity remains badly hit by the unrelenting pandemic. High frequency indicators, which were looking up in June with the phased unlocking of the economy, levelled off in July amidst re-imposition of local lockdowns due to a surge in fresh cases. In August, some indicators started improving again and strengthened in September. The agricultural sector remains a bright spot, supported by a normal monsoon, robust *kharif* sowing and adequate reservoir levels. The *Pradhan Mantri Garib Kalyan Rojgar Yojana* and increased wages under the *Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)* are also supporting rural demand. On the other hand, urban

demand remains weak. Indicators relating to industry and services present a mixed picture.

Turning to the forward-looking surveys, consumer confidence for the year ahead improved in the September 2020 round, driven by improved sentiments on the general economic situation, the employment scenario and income (Chart I.7).⁵ The current situation index, however, fell to an all-time low in September 2020.

Sentiments in the manufacturing sector for the quarter ahead bounced back into the expansion zone in the July-September 2020 round of the Reserve Bank's industrial outlook survey, reflecting optimism

⁵ The survey is conducted by the Reserve Bank in 13 major cities and the September 2020 round is based on responses from 5,364 respondents.



on the overall business situation, production, order books, employment, exports and capacity utilisation (Chart I.8).

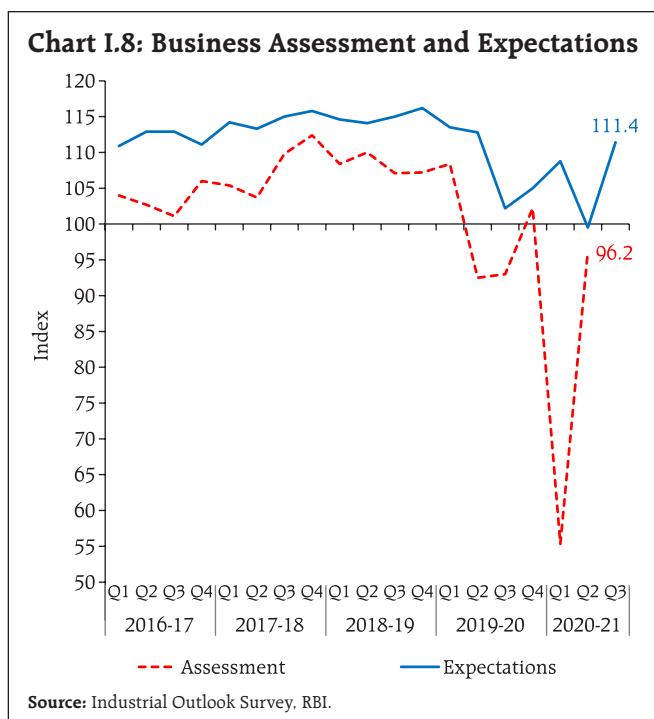


Table I.3: Business Expectations Surveys

Item	NCAER Business Confidence Index (August 2020)	FICCI Overall Business Confidence Index (August 2020)	Dun and Bradstreet Composite Business Optimism Index (August 2020)	CII Business Confidence Index (July 2020)
Current level of the index	46.4	50.6	29.4	41.0
Index as per previous survey	77.4	42.9	49.4	53.4
% change (q-o-q) sequential	-40.1	17.9	-40.6	-23.2
% change (y-o-y)	-62.0	-14.4	-58.0	-31.2

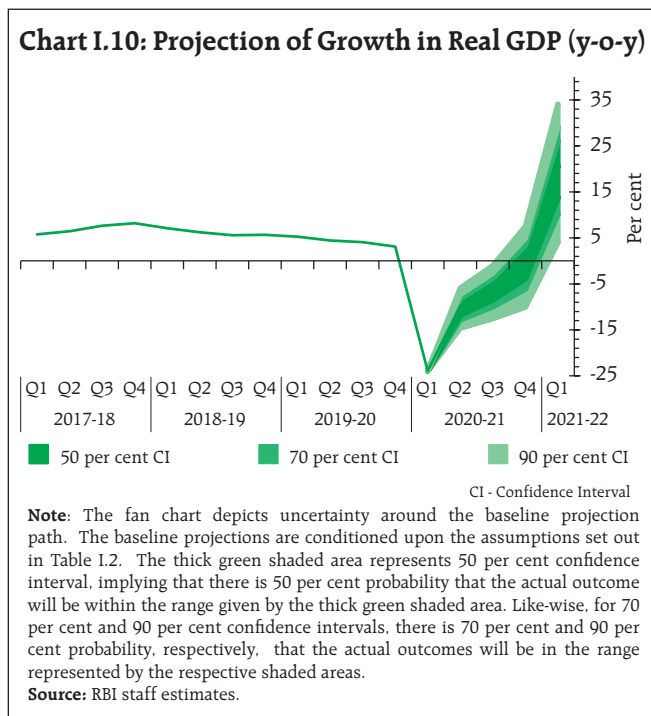
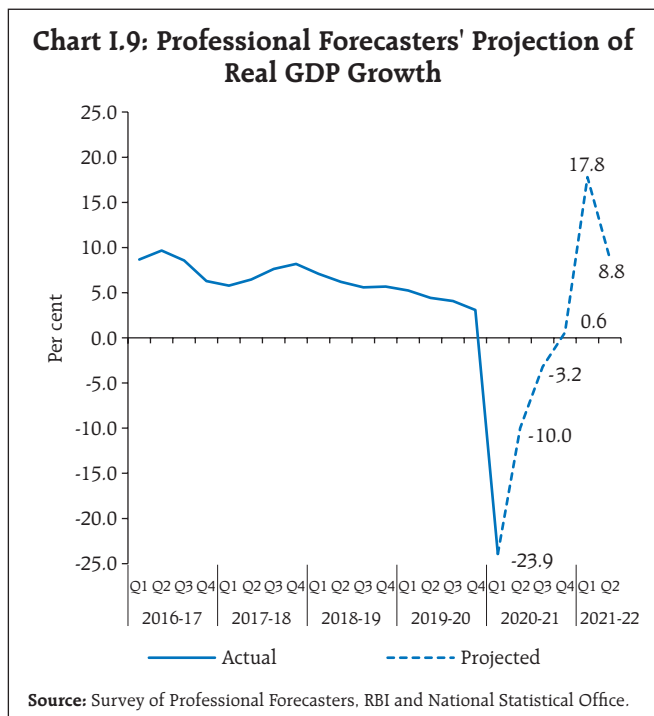
Notes:

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

Surveys by other agencies indicate a mixed picture on future business expectations (Table I.3). According to the PMI for September 2020, the one year ahead business expectations of firms in the manufacturing sector strengthened on hopes of improvement in demand, while the expectations of firms in the services sector also turned somewhat optimistic after four months of negative or neutral sentiment.

Professional forecasters polled in the September 2020 round of the Reserve Bank's survey expected real GDP growth to remain in negative territory through Q3:2020-21, with a sharp pick up in Q1:2021-22 driven by base effects (Chart I.9 and Table I.4).

Overall, the uncertainty about COVID-19's spread and trajectory continues to fog the outlook and makes forecasts of real GDP growth extremely challenging. The baseline assumes that economic activity will gradually normalise in H2:2020-21, but a wide range of outcomes is possible. Taking into account the baseline assumptions, the survey indicators, and model forecasts, real GDP is projected to contract by 9.5 per cent in 2020-21, with risks tilted to the downside: (-)9.8 per cent in Q2, (-)5.6 per cent



in Q3 and 0.5 per cent in Q4 (Chart I.10 and Table I.4). For 2021-22, assuming supply chains are fully

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

	(Per cent)	
	2020-21	2021-22
Reserve Bank's Baseline Projections		
Inflation, Q4 (y-o-y)	4.5	4.1
Real GDP growth	-9.5	10.1
Median Projections of Professional Forecasters		
Inflation, Q4 (y-o-y)	4.2	-
Real GDP growth	-9.1	8.2
Gross domestic saving (per cent of GNDI)	26.0	27.0
Gross capital formation (per cent of GDP)	25.4	27.7
Credit growth of scheduled commercial banks	5.0	8.5
Combined gross fiscal deficit (per cent of GDP)	12.0	9.0
Central government gross fiscal deficit (per cent of GDP)	7.5	5.5
Repo rate (end-period)	4.0	-
Yield on 91-days treasury bills (end-period)	3.4	4.0
Yield on 10-year central government securities (end-period)	6.0	6.5
Overall balance of payments (US\$ billion)	71.3	50.0
Merchandise exports growth	-14.7	10.2
Merchandise imports growth	-22.7	20.6
Current account balance (per cent of GDP)	0.5	-0.6

Note: GNDI: Gross National Disposable Income.
Sources: RBI staff estimates; and Survey of Professional Forecasters (September 2020).

restored with the availability of effective vaccines, a normal monsoon, no major exogenous or policy shocks and a large favourable base effect, structural model estimates indicate real GDP growth at 10.1 per cent. In such an environment, the significant monetary accommodation already provided through cuts in the policy repo rate, and ample liquidity infusion through conventional and unconventional measures and fiscal stimulus and other structural reform measures announced by the government would be expected to add to the upside. On the other hand, a more protracted spread of the pandemic, delayed development and availability of vaccines, deviations from the forecast of a normal monsoon in 2021-22 and global financial market volatility are the key downside risks. The recent inflation elevation acquiring a persistent character also poses downside risks to the baseline.

I.4 Balance of Risks

The baseline projections of inflation and growth are conditional on the assumptions relating to the key variables set out in the preceding sections.

Uncertainties surrounding these assumptions, especially relating to COVID-19, could lead to large deviations in either direction. This section assesses the balance of risks to the baseline projections in plausible alternative scenarios.

(i) Global Growth Uncertainties

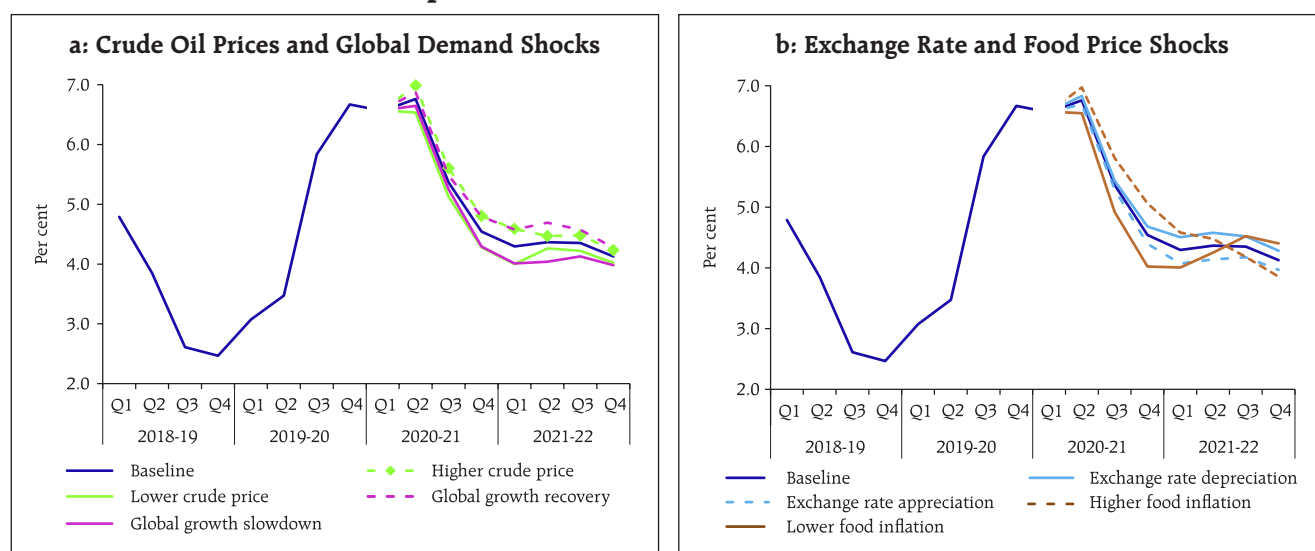
The global output losses from COVID-19 have turned out to be more severe than anticipated, despite sizeable monetary and fiscal stimuli by many countries. Given the spread of the pandemic and recurrent bouts of resurgence, the recovery is expected to be protracted and there are large downside risks to the baseline assumptions. In such a scenario, the quarterly projection model’s simulations suggest that if global growth slips by 100 bps *vis-à-vis* the baseline, domestic growth and inflation could be lower by around 40 bps and 20 bps, respectively, from the baseline trajectories. Conversely, an early breakthrough in the development of an effective COVID-19 vaccine and its widespread distribution could boost global trade and demand. In this scenario, assuming global growth surprises by 100 bps on the upside, domestic growth and inflation could edge

higher by around 40 bps and 20 bps, respectively (Charts I.11a and I.12a).

(ii) International Crude Oil Prices

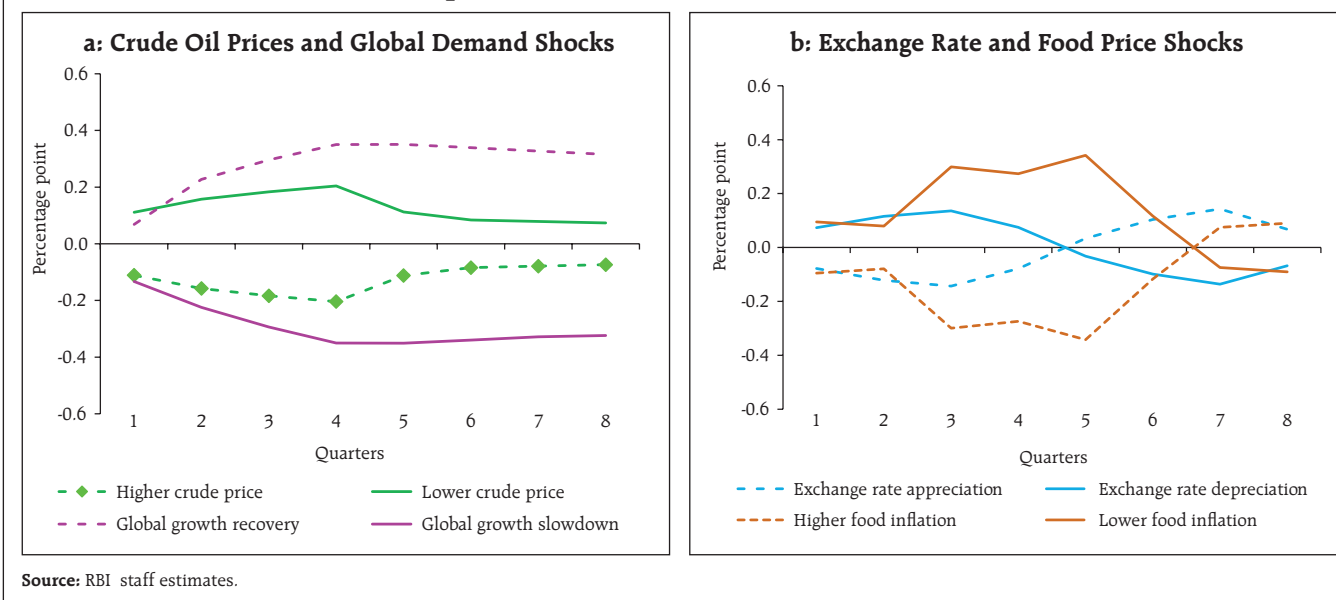
Crude prices rebounded from May 2020 on the back of supply cuts by oil producing countries (OPEC *plus*) and improved demand prospects due to the gradual easing of lockdown restrictions. Looking ahead, international crude prices may increase more than expected in the event of a quicker containment of COVID-19, a sharper global recovery or an agreement among suppliers on further production cuts. For a net energy importer like India, the dynamics of international crude price movements have significant macroeconomic implications. Assuming crude prices are 10 per cent higher, inflation could increase by 30 bps and growth could be weaker by around 20 bps over the baseline. Conversely, crude prices could soften from the current levels if the agreed production cuts are not adhered to or a second wave of the pandemic further weakens the demand for oil. In this event, if crude prices fall by 10 per cent, 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.

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



(iii) Exchange Rate

The INR has exhibited two-way movements over the past six months, reflecting global risk-on risk-off sentiments driven by vacillating views on the spread and containment of COVID-19. A renewed surge in COVID-19 infections and safe haven demand could induce capital outflows across EMEs, putting depreciation pressure on the INR. If the INR depreciates by 5 per cent from the baseline, inflation could edge up by around 20 bps and GDP growth could be higher by 15 bps (Charts I.11b and I.12b). On the other hand, if COVID-19 normalises quicker than assumed under the baseline, strong capital inflows could put appreciating pressure on the INR. In such a scenario, if the INR appreciates by 5 per cent, 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 remained elevated in recent months driven by price pressures in vegetables, cereals and protein items such as pulses, eggs and meat. The normal south-west monsoon, increased sowing of *kharif* crops, moderate MSP hikes, and high

reservoir storage are expected to soften food inflation going forward. However, a delayed normalisation of supply chains, heavy rains and floods in some states and demand-supply imbalances in key items such as pulses could exert further upward pressure on the headline inflation and keep it higher by around 50 bps (Charts I.11b and I.12b). On the other hand, an accelerated softening of food inflation due to an early restoration of supply chains, ample buffer stocks and efficient food stock management by the Government could bring headline inflation below the baseline by up to 50 bps.

I.5 Conclusion

At this juncture, global outlook is heavily contingent upon the uncertain trajectory of COVID-19, with significant implications for key variables such as crude oil and commodity prices, global growth, and financial markets. Consequently, the forecasts for domestic inflation and output could change significantly relative to baseline expectations. The behaviour of inflation holds the key to the conduct of monetary policy going forward. The gradual restoration of supply lines, good progress of *kharif* sowing, sizeable buffer stocks, effective food supply

management and a faster progress on the vaccine could pull inflation down from current elevated levels and open up space for addressing the urgent need to repair and revive the economy from the blows it has suffered from the pandemic. Yet, the downside risks from a delayed vaccine, more than expected persistence of supply bottlenecks, volatile international financial markets and high food inflation acquiring a structural

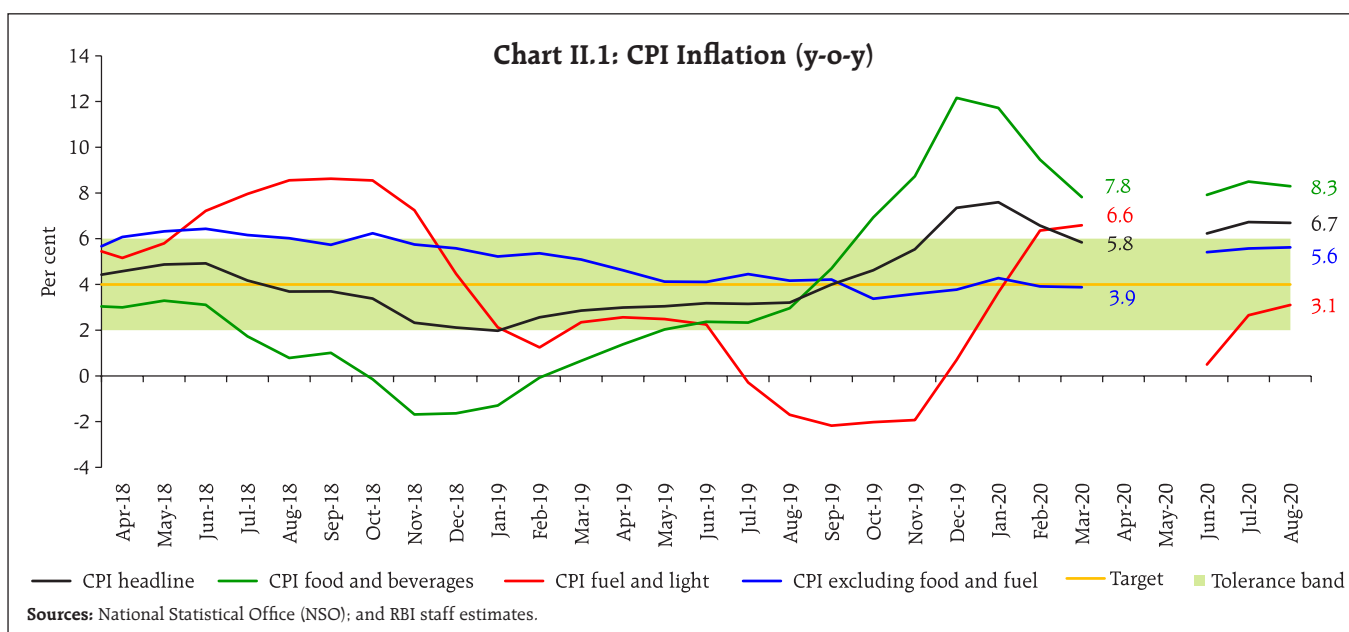
character and spilling to non-food items are clear and present dangers that could potentially push inflation above the baseline. By current assessment, real GDP growth can post a modest recovery during H2:2020-21, aided by early containment of COVID-19 and the monetary and fiscal stimuli. Nonetheless, it is prudent to recognise and brace up for the downside risks described earlier.

II. Prices and Costs

A broad-based elevation in consumer price index (CPI) inflation between March and July 2020 emanated from tight demand supply balances in protein-based food items, floods damaging the output of vegetables, increase in retail margins due to the pandemic, tax increases in petrol and diesel, safe haven demand for gold and cost-push pressures.

At the time of the Monetary Policy Report (MPR) of April 2020, headline inflation¹, which was ruling above the upper tolerance level of the inflation target, was projected to decline, with *rabi* crop arrivals inducing a softening of food inflation. COVID-19 has drastically altered that prognosis. The pandemic and the response in the form of social distancing and the severest lockdown in the world caused a virtual seizure of transactions in non-essential items and threw into complete disarray the price collection system. The National Statistical Office (NSO) suspended the publication of the headline consumer price index (CPI) for April and May. It was not until

July 13, 2020 with the lifting of some pandemic-related restrictions and the partial restoration of non-essential activities that the provisional index for June 2020 could be compiled. Even so, prices could be collected from 1030 urban markets and 998 villages that accounted for only 88 per cent of the total sample. As such, the data collected did not meet the adequacy criteria for generating robust estimates of CPI at the state level. Headline indices for April and May were imputed for business continuity purposes. In its resolution of August 6, 2020, the monetary policy committee (MPC) expressed the view that for the purpose of monetary policy formulation and conduct, the imputed prints for April and May can be regarded as a break in the CPI series. In terms of acceptable standards of data collection, it is appropriate to compare the headline inflation reading for July 2020 with that of March 2020. The surge in inflation by 90 basis points between these reference dates was diffused across the board, partly offset by a significant moderation in fuel inflation (Chart II.1).

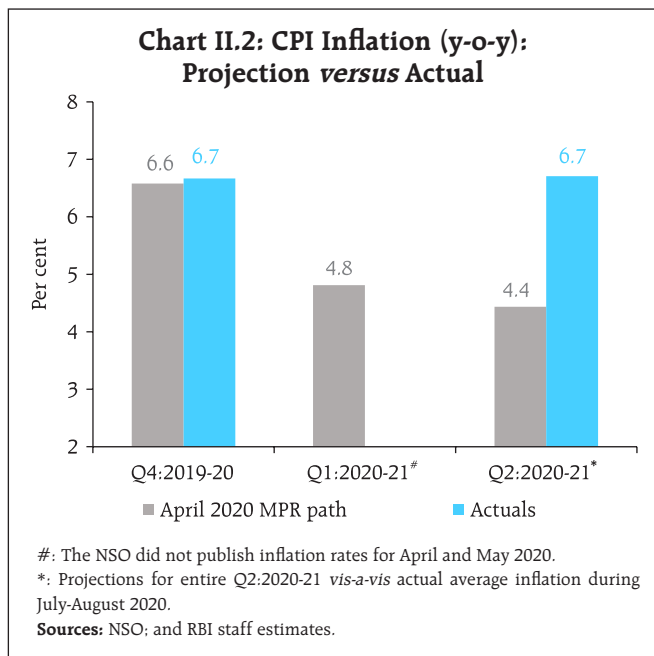


¹ Headline inflation is measured by year-on-year changes in all India CPI Combined (Rural and Urban).

The Reserve Bank of India (RBI) Act, 1934 (amended in 2016) enjoins the RBI to set out deviations of actual inflation outcomes from projections, if any, and explain the underlying reasons thereof. The April 2020 MPR had projected a moderation in CPI inflation during H1:2020-21 from 6.6 per cent in Q4:2019-20 to 4.8 per cent in Q1:2020-21 and to 4.4 per cent in Q2:2020-21, with the caveat that the uncertainty about the depth, spread and duration of COVID-19 could produce drastic changes in these forecasts. With data for Q1 being regarded as a break in the CPI series as cited above, actual inflation outcomes overshoot projections by 2.3 percentage points in Q2 (Chart II.2), largely reflecting the destructive impact of COVID-19.

Price spikes became evident in April during the nation-wide lockdown as usurious margins chased panic buying and stocking. Although there was some ebbing in May, these price pressures resurfaced in June and persisted in July-August due to a variety of

shocks: an increase in the prices of vegetables due to floods in eastern India; elevated edible oils prices on the back of higher international prices; pressures on meat and fish prices once the initial apprehension of their link with COVID-19 infections was allayed; and supply bottlenecks in the availability of cereals and pulses. From February 2020, international gold prices increased to historic highs on safe haven demand, pushing up prices of personal care and effects by around 10 per cent. International crude oil prices jumped from US \$35 per barrel assumed in the April MPR to US \$44 per barrel by end-August. Domestic petrol and diesel pump prices rose more than proportionately in view of the sharp increase in excise duties on petrol and diesel by ₹10 per litre and ₹13 per litre, respectively, and state VAT by up to ₹7 per litre in the post-lockdown period. Inflation excluding food, fuel, petrol, diesel and gold from the CPI edged up as costs associated with disruption of supply chains, labour shortages and transportation fed into a host of goods and services. Overall, the supply shocks caused by COVID-19 overwhelmed the collapse in demand.

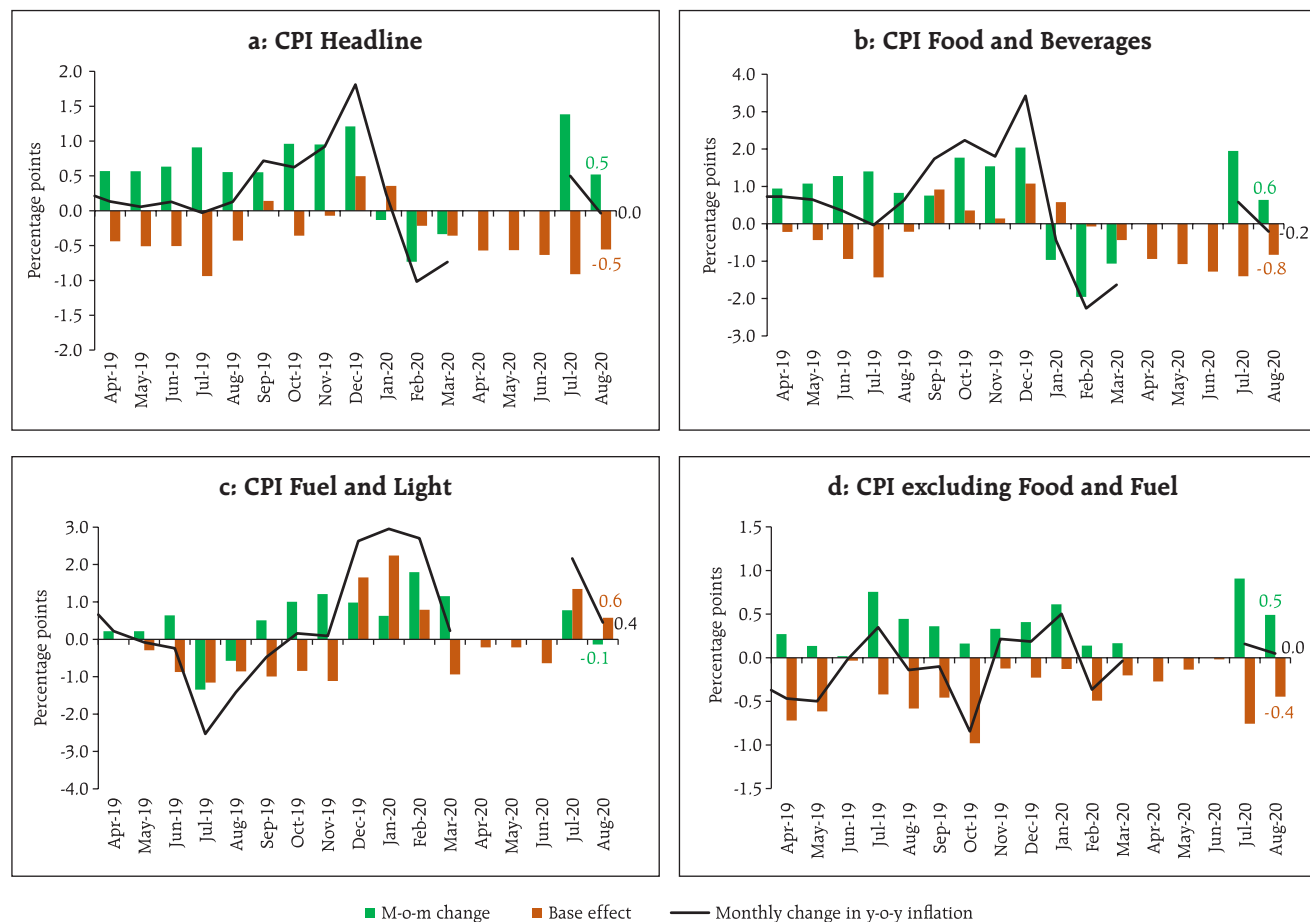


II.1 Base Effect and Momentum

A decomposition of changes in year-on-year (y-o-y) inflation² indicates that the sharp increase in headline inflation between March and July was the result of a substantial and broad-based jump in price momentum. By August, the price momentum moderated across food and core groups, and declined in respect of the fuel group; however, favourable

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.

base effects across food and core also diminished in August, resulting in headline inflation remaining broadly unchanged at 6.7 per cent during July and August (Chart II.3).

The distribution of CPI inflation over January-August 2020³ reveals that the median inflation rate shifted up to 4.6 per cent from around 4 per cent in recent years, indicating a broad-based increase in price pressures (Chart II.4). The diffusion indices of price changes in CPI items⁴ on a non-seasonally

³ Excluding April-May 2020 imputed inflation data.

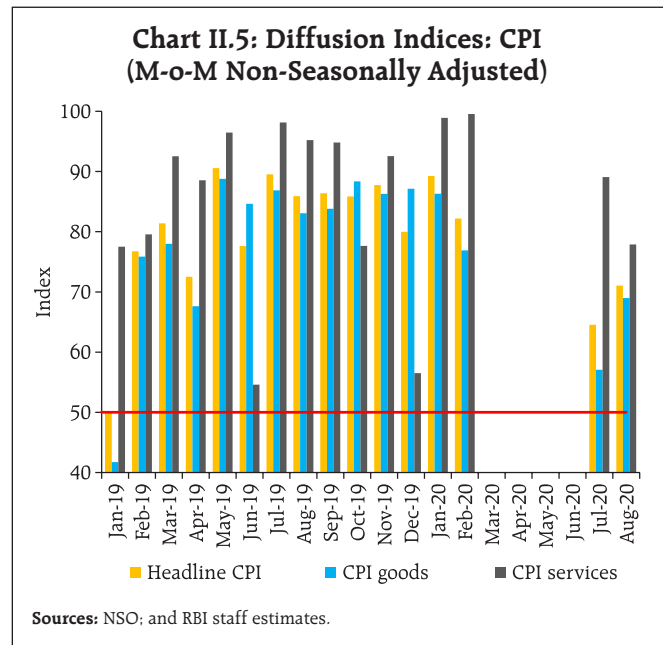
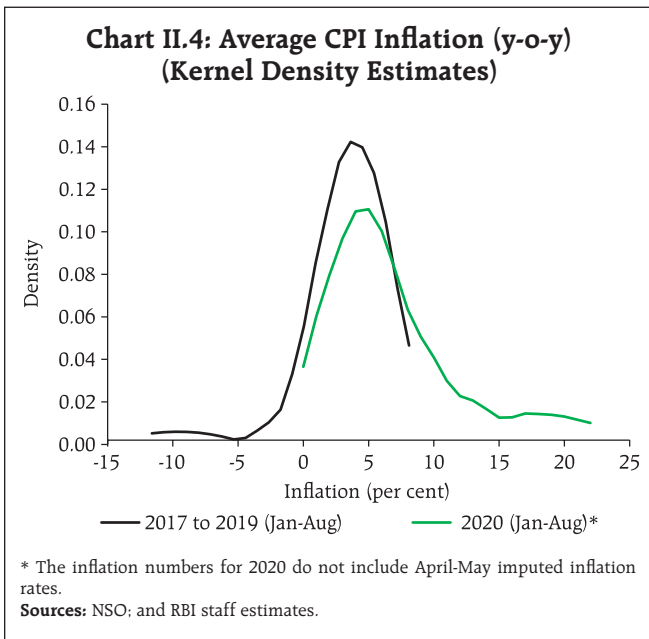
⁴ The CPI diffusion index, a measure of dispersion of price changes, categorises items in the CPI basket according to whether their prices have risen, remained stagnant or fallen over the previous month. A reading above 50 for the diffusion index signals a broad expansion or generalisation of price increases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

adjusted basis⁵ also attest to this cross-sectional spread of price increases in the post-lockdown period (Chart II.5).

II.2 Drivers of Inflation

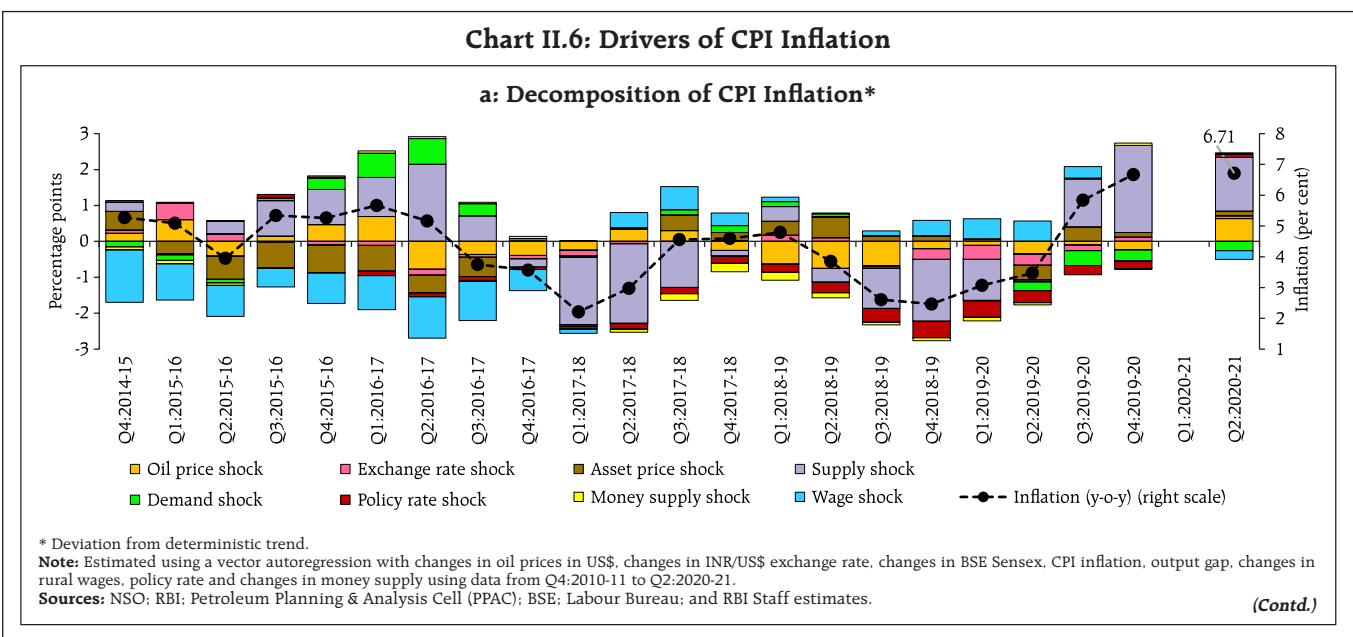
A historical decomposition in a vector autoregression (VAR) framework can help to disentangle the relative role of various factors driving the inflation process. This empirical analysis indicates the predominant role of unfavourable supply side shocks in keeping inflation at elevated levels in recent quarters. Food supply and crude

⁵ The non-availability of CPI item level data for the period March-May 2020 hindered seasonal adjustments in the item level series for the recent period.

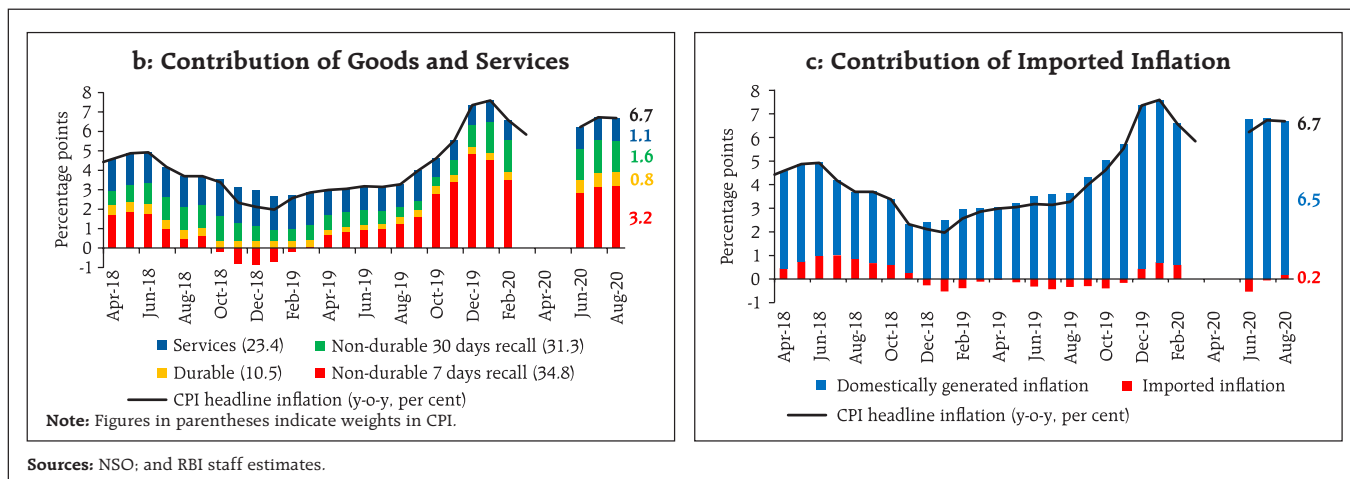


oil price shocks together contributed around 80 per cent of the deviation in inflation from target in Q2:2020-21 (Chart II.6a). Muted demand conditions contributed negatively to the inflation deviation by around 10 per cent in Q2 but were dwarfed by

the supply-side shocks. The sizeable repo rate cuts, expansion in money supply and the firming up of equity prices – representing asset prices – together contributed around 10 per cent to the inflation deviation in Q2.⁶



⁶ Historical decomposition is used to estimate the individual impact of shocks on movements in inflation over a sample period, based on a vector auto regression (VAR). 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 [oil price shock; exchange rate shock; asset price shock; supply shock (inflation shock); demand shock; wage shock; policy rate shock; and money supply shock]. 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. The supply shocks represent the unexplained component of the CPI inflation.



The contribution of perishable goods (non-durable goods with a 7-day recall⁷) in overall inflation, during June-August 2020, remained elevated at 46.8 per cent due to supply disruptions. Semi-perishable goods (non-durable goods with a 30-day recall) and durable goods contributed to headline inflation to the extent of 35.7 per cent. During June-August 2020, the contribution of services to headline inflation also edged up to 17.5 per cent compared to February 2020 (15.1 per cent), indicating generalised cost-push pressures (Chart II.6b). Contributions to headline inflation from imported components⁸ turned positive and amounted to 0.2 percentage points in August 2020 (Chart II.6c).

Food Group

Food inflation, which was at 7.8 per cent in March, increased to 8.4 per cent by July-August, reflecting

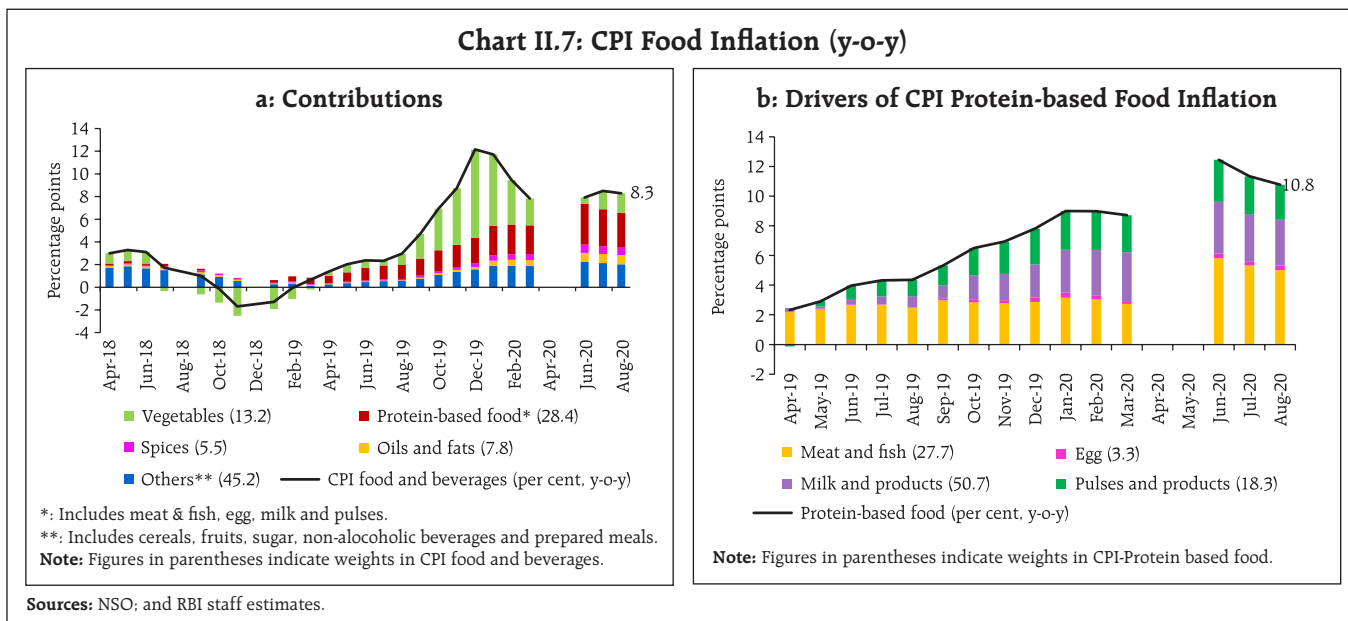
primarily the impact of adverse supply shocks. Protein-based food items, especially meat products and pulses, emerged as the key driver and their contribution to overall food inflation also remained elevated (Chart II.7a). Elevated inflation pressures in milk prices also contributed to the surge (Chart II.7b). Inflation in prices of oils and fats and spices was in double digits in H1:2020-21 creating another pressure point. Taken together, the price build-up was close to historical average (Chart II.8).

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), the conundrum of co-existing supply gluts and price pressures complicated inflation dynamics. Cereals inflation remained elevated despite massive buffer stockpiling after the nation-wide lockdown on account of higher procurement. With the easing of lockdown conditions, cereals prices moderated in July-August 2020.

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) exhibited high volatility (Chart II.9). Potato price inflation remained elevated at 79.5 per cent in August 2020, contributing 10.6 per cent to headline inflation. Unseasonal rain in Uttar Pradesh in March 2020 and cyclone-related damage to the crop in West Bengal in May 2020, the two major potato

⁷ 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.

⁸ Petrol; diesel; liquefied petroleum gas (LPG); kerosene; electronic goods; gold; silver; chemical and chemical products; metal and metal products; and vegetables oils.

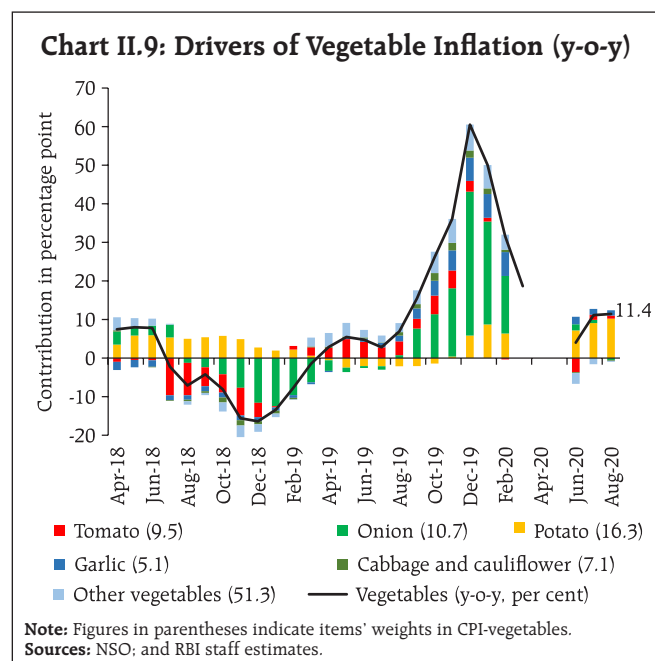
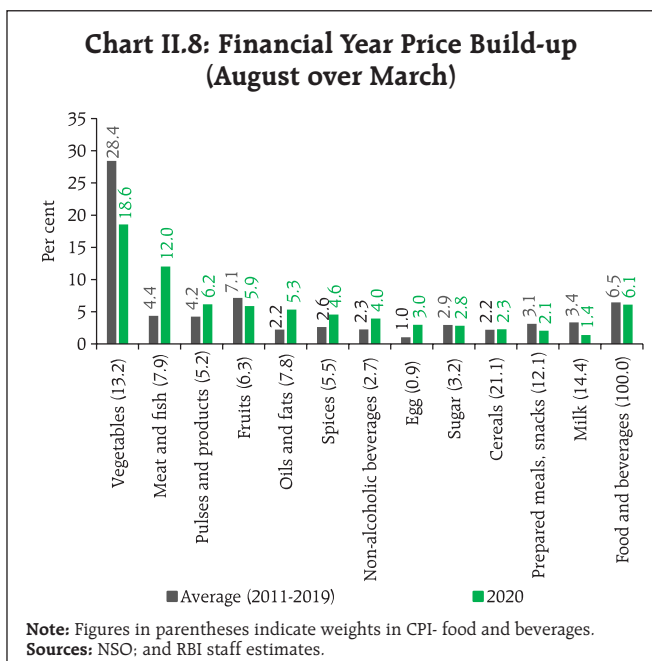


producing states, resulted in considerable supply disruptions. Price pressure in potatoes were further exacerbated by labour shortages at *mandis*, lower stock availability in cold storage and higher exports during 2019-20.

Inflation in onion prices surged from September 2019 onwards and reached a peak of 327.4 per cent in December 2019, contributing 4.8 percentage points to food inflation and 2.1 percentage points to headline

inflation. These spikes generally occur in the lean months of July-September during which the entire domestic supply is met through onions procured in the *rabi* season. With the arrival of the late *kharif* crop and a large *rabi* crop, onion prices went into deflation of (-) 4.0 per cent in August 2020.

Prices of tomatoes picked up during June-July 2020 due to lower supplies coming from damage to crops in some regions from pre-monsoon rains. Anecdotal



evidence suggests that farmers in some states/areas planted less area with tomatoes than a year ago due to the collapse of prices in major centres in May 2020, which might have also contributed to the spike in prices in July. Tomato prices eased slightly in August 2020, with fresh supplies coming into the market.

Inflation in prices of fruits (weight of 2.9 per cent in the CPI and 6.3 per cent within the food and beverages group) declined from a peak of 5.8 per cent in January 2020 to 0.1 per cent in July 2020 but picked up to 1.0 per cent in August 2020 due to higher demand for dry fruits during the pandemic.

Within protein-based food items (weight of 13.0 per cent in the CPI and 28.4 per cent in the food and beverages group), inflation in prices of pulses (weight of 2.4 per cent in the CPI and 5.2 per cent in the food and beverages group) exhibits a cobweb phenomenon – lower production and higher prices in a deficit season spur increased acreage in the following season, leading to excess supply and consequent fall in prices. In the short-run, demand-supply mismatches are met mainly through imports, the transit time varying and imposing volatility (Chart II.10). The decline in *kharif* pulses production (by 4.6 per cent in the 4th advance estimates for

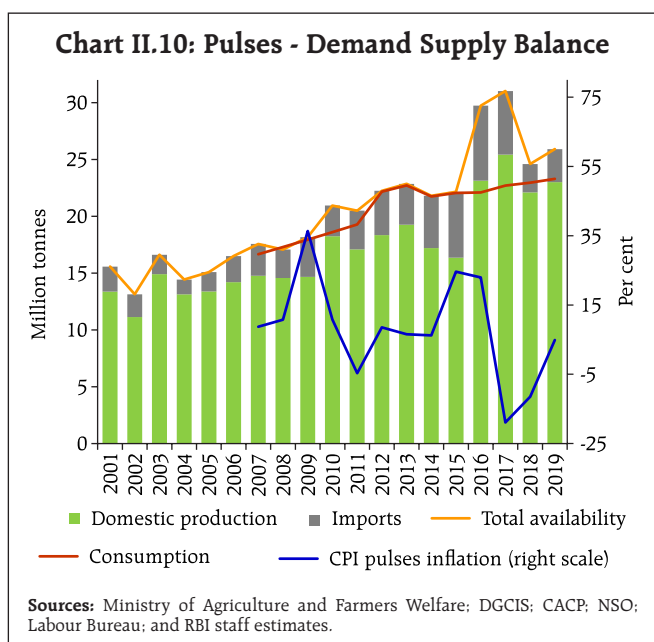
2019-20 over 2018-19 final estimates) and especially, *urad* production (by 44.9 per cent) led to persistent price pressures, which were accentuated by lockdown-related supply uncertainties and stockpiling by consumers during April-May 2020. With the easing of the lockdown and improved *kharif* sowing, pulses inflation eased to 14.4 per cent in August.

Inflation in prices of meat and fish (weight of 3.6 per cent in the CPI and 7.9 per cent within the food and beverages group) increased from 9.2 per cent in March to 18.9 per cent in June 2020 before moderating to 16.5 per cent in August 2020. Prices of chicken and eggs eased during February-March 2020 due to a fall in consumption demand on pandemic fears, with poultry farmers culling to avoid feeding costs. With demand recovering from May, inflation in prices of chicken rose to 25.4 per cent in June 2020 while inflation in prices of eggs increased to 10.1 per cent in August 2020. With the onset of the rainy season, prices of mutton, fish and chicken eased as per the usual seasonal pattern in July-August 2020.

Milk and products price inflation (weight of 6.6 per cent in the CPI and 14.4 per cent in the food and beverages group), which were impacted by price hikes by major co-operatives last year (in May 2019 and December 2019), remained elevated at 6.2 per cent in August due to supply disruptions. Higher global prices of skimmed milk products also impacted domestic prices.

Inflation in 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) moderated from 3.9 per cent in March to 2.9 per cent in June due to the decline in demand from bulk segments (hotels and restaurants). In July 2020, Andhra Pradesh increased the PDS sugar prices from ₹20 per kg to ₹34 per kg imparting pressures to both PDS and non-PDS sugar prices.

Inflation in 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) increased in January 2020 and



remained elevated, reaching 12.4 per cent in August 2020. The rise in global prices of this highly import dependent item was the major reason for the firming up of domestic prices. Domestically, lower production of rapeseed, mustard and soybeans (as per the 4th advance estimates for 2019-20) added to the price pressures.

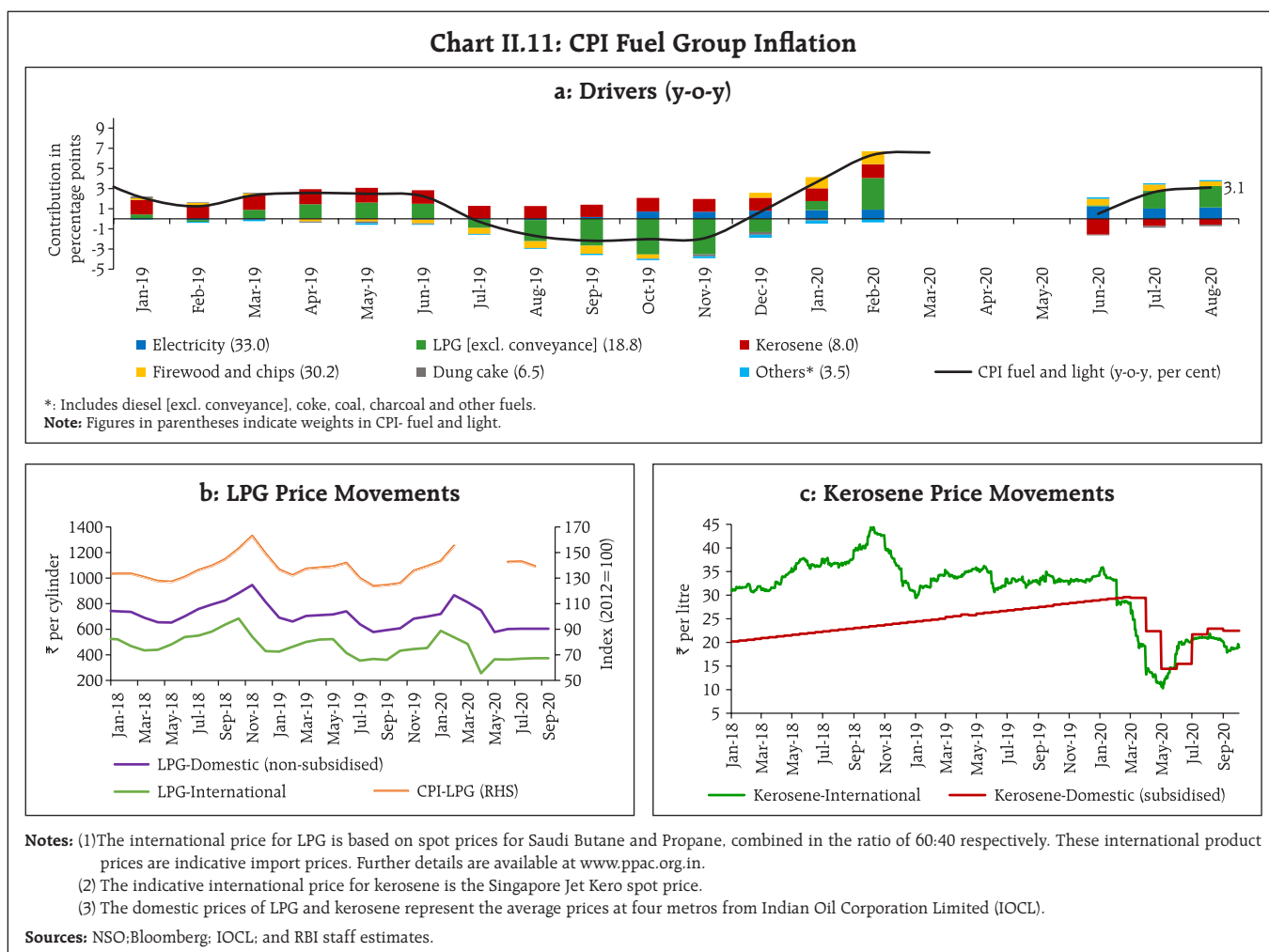
Fuel Group

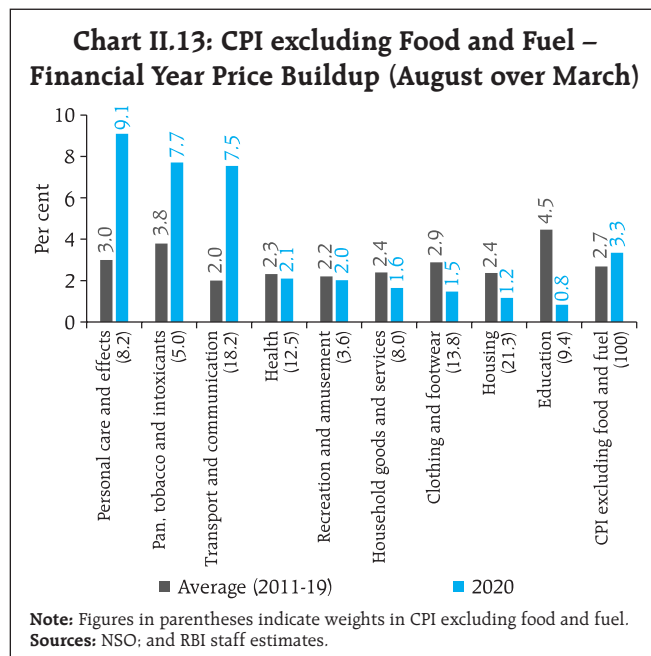
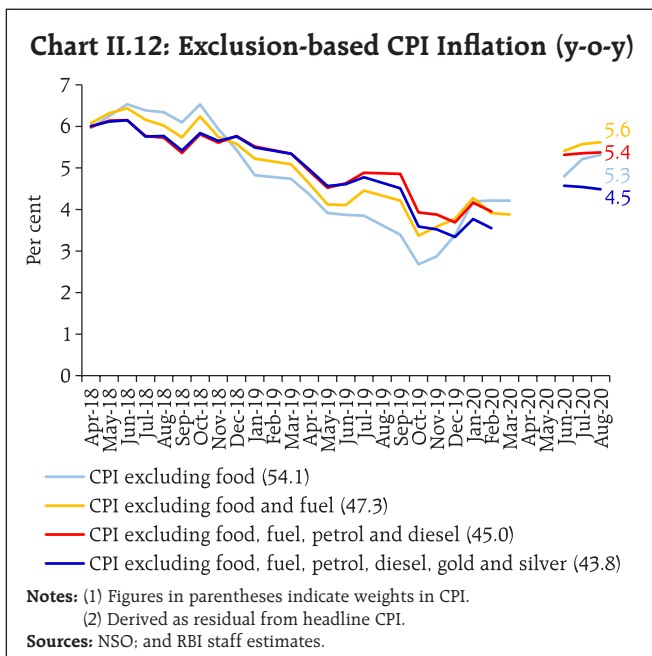
Inflation in fuel prices moderated from 6.4 per cent in February 2020 to 0.5 per cent in June due to a steep fall in domestic LPG and kerosene prices in tandem with the collapse in international benchmark product prices (Chart II.11a). Subsidised domestic kerosene prices firmed up till March and the domestic kerosene price was higher than international prices for the first time. Accordingly, oil marketing companies (OMCs) stopped the calibrated

increase in administered kerosene prices from April and linked them to international prices movements with price revisions at the start of every month. As a result, domestic kerosene prices fell sharply during April-May, tracking international prices. By July 2020, international prices reversed, and domestic LPG and kerosene prices edged up (Chart II.11b and Chart II.11c). Prices of items of rural fuel consumption registered some moderation in the post-lockdown period, but the contribution of electricity prices to overall fuel inflation increased (Chart II.11a).

CPI excluding Food and Fuel

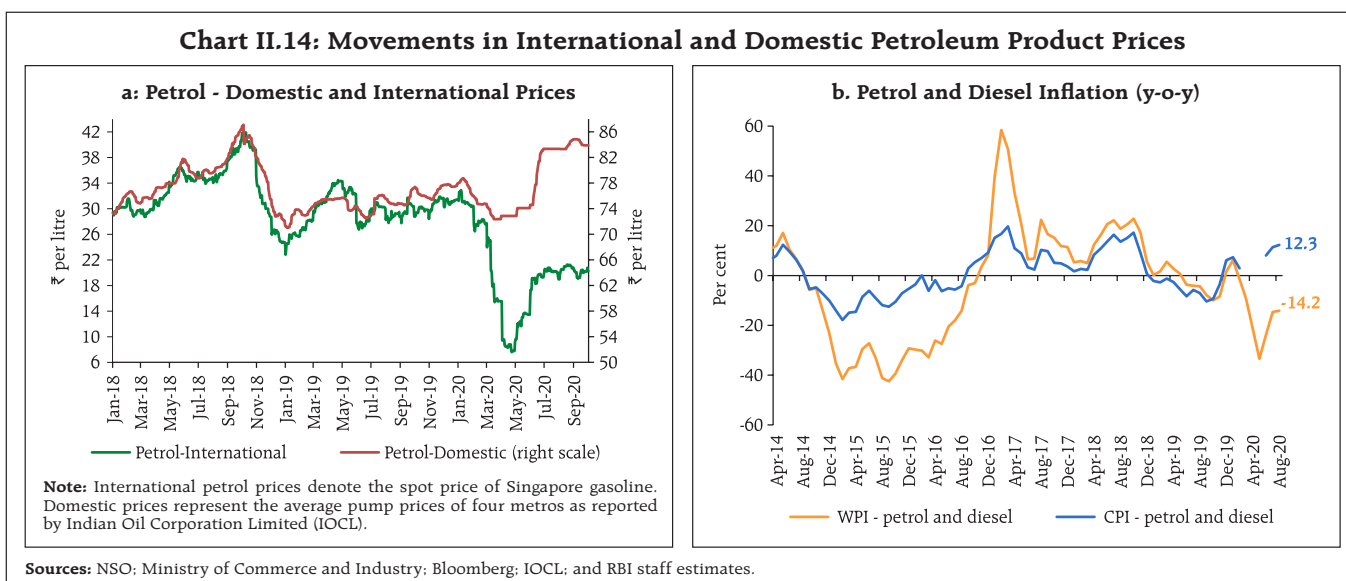
CPI inflation excluding food and fuel (core inflation) rose from 3.9 per cent in February-March 2020 to 5.6 per cent in July-August (Chart II.12). This price build-up was much higher than the historical average (Chart II.13).





International crude oil prices plummeted after the imposition of lockdowns globally, pulling down the price of Indian basket of crude oil to around US\$16 per barrel on April 21, 2020. Thereafter, the Indian basket crude oil price increased to US\$ 44 per barrel by end-August 2020. With the incidence of higher taxes, domestic petrol pump prices⁹ increased from ₹72.4

per litre at end-March to ₹84.8 per litre by end-August (Chart II.14a). On May 6, 2020, the central government raised the excise duty on petrol and diesel again¹⁰ by ₹10 per litre and ₹13 per litre, respectively. There was, however, no commensurate increase in the pump prices, as it was absorbed into the large mark-up over international prices.¹¹ Faced with large



⁹ Proxied by the average pump prices for petrol in the 4 major metros.

¹⁰ Excise duty on petrol and diesel was earlier increased by ₹ 3 per litre each on March 14, 2020.

¹¹ Petrol and diesel pump prices were largely unchanged during the lockdown period by the OMCs.

revenue shortfalls, various states also increased value added taxes (VATs) since early April¹². Coupled with the increase in international prices, this pushed up domestic pump prices sharply during June. CPI petrol inflation jumped from 3.2 per cent in February to 12.1 per cent in August 2020. On the other hand, inflation in respect of wholesale prices of petrol and diesel, which captures prices net of any tax impact, moved from (-) 1.5 per cent in February to (-) 33.4 per cent in May and to (-) 14.2 per cent in August, broadly mirroring international price movements (Chart II.14b).

Even abstracting from the effects of prices of petroleum products, CPI inflation excluding food,

fuel, petrol and diesel increased from 4.0 per cent in February to 5.4 per cent in July-August 2020. A major contributor was the increase in gold prices to historic highs by August 2020. CPI inflation excluding food, fuel, petrol, diesel, gold and silver also increased from 3.6 per cent in February 2020 to 4.5 per cent in July-August 2020, indicating broad-based cost-push pressures in the post-lockdown period that were more acute in urban areas than in rural areas (Box II.1).

Inflation in the prices of goods component of CPI excluding food, fuel, petrol, diesel, gold and silver (with a weight of 20.7 per cent in CPI) rose from 2.9 per cent in February 2020 to 4.7 per cent in August

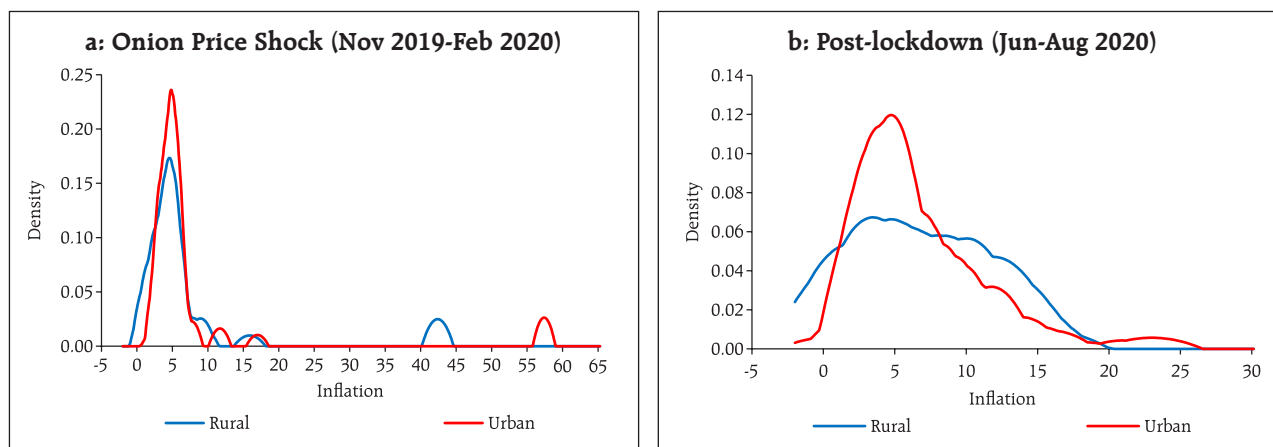
Box II.1: Whose Inflation is It? The Rural-Urban Divide

Compilation of all-India CPI entails a bottom-up aggregation process, starting from state-wise price indices for rural and urban areas. Any inflation impulse at the national level has thus an underlying rural-urban distinction as was evident in the onion price shock of November 2019-February 2020 and the COVID-19 related lockdown shock of June-August 2020. The former saw similar inflation distributions in the rural and urban areas with fat tails due to spike in vegetable inflation, whereas the rural-urban inflation distributions showed divergence post lockdown (Chart II.1.1).

During June-August, 2020 urban inflation was predominantly concentrated in the non-food sub-groups. Inflation in the prices of household goods and services was higher in urban areas by 2.9 percentage points. On the other hand, rural areas saw substantially higher vegetables inflation in the post-lockdown period (Chart II.1.2).

In the past, these divergences have been short-lived; over time, there is an inherent tendency for rural and urban inflation to converge and this is reflected in data for most recent months (Bhoi *et al.*, 2020). An

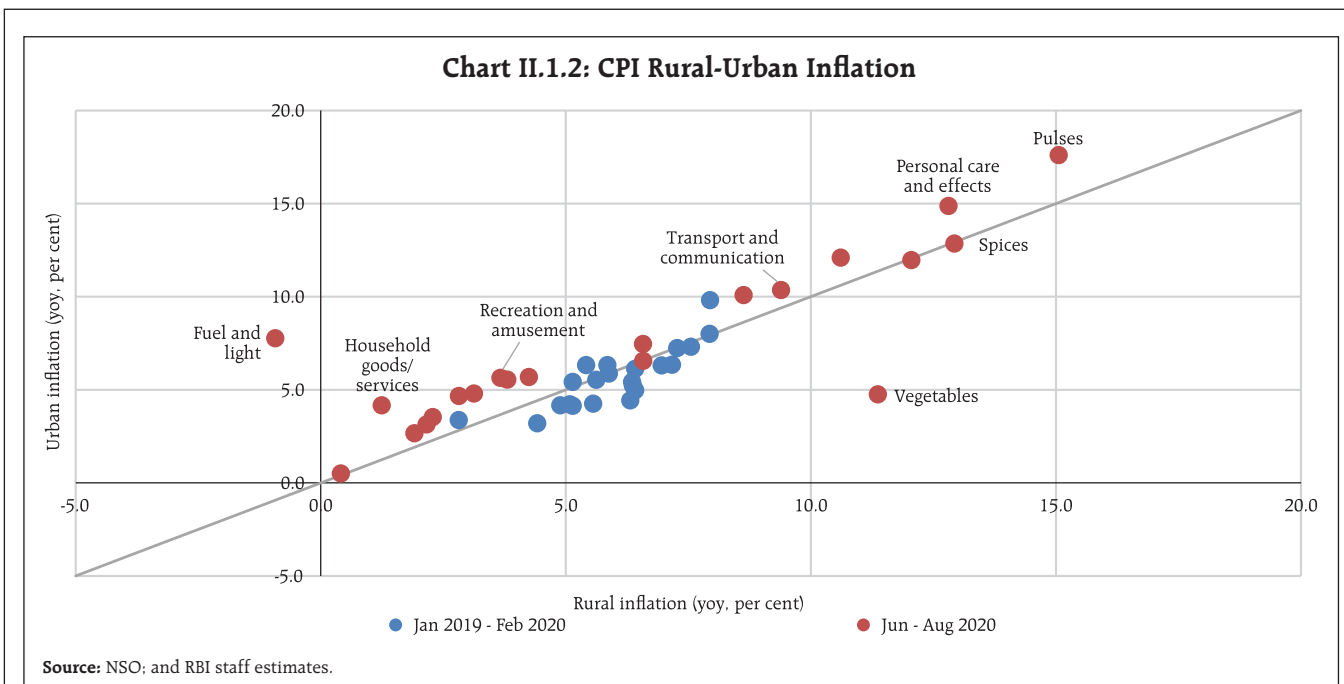
Chart II.1.1: Distribution of Rural and Urban Inflation during Recent Price Shocks



Sources: NSO; and RBI staff estimates.

(Contd.)

¹² During April-May 2020, VAT on petrol was increased in a range of ₹1 per litre to ₹3.25 per litre while that on diesel was increased in a range of ₹1 per litre to ₹7.10 per litre in the four metropolitan cities (Chennai, Delhi, Mumbai and Kolkata). On July 31, 2020, Delhi reduced the VAT on diesel, effectively reducing its prices by ₹8.4 per litre.



empirical exercise using fully modified ordinary least squares (FMOLS), based on monthly inflation data for January 2012-July 2020 confirms a co-integrating relationship, *i.e.*, there exists a long-run co-movement between rural and urban inflation at the all-India level. Moreover, the significant error correction term [(-) 0.12] suggests that 12 per cent of the previous period's deviation between actual and long-run inflation is corrected every month.

Long run-cointegration Equation

$$\text{urban inflation} = 0.11 + 0.87 \text{rural inflation} + 1.62 \text{DUM 2013} + 1.90 \text{DUM 2018} \dots(1)$$

(0.73) (0.00) (0.00) (0.00)

Adj. R² = 0.93; Engle-Granger tau-statistic and z-statistic confirms cointegration at 1 per cent level of significance.

Error Correction Mechanism

$$\Delta \text{urban inflation} = -0.00 - 0.12 \hat{u}_{t-1} + 0.78 \Delta \text{rural inflation} + 0.19 \Delta \text{urban inflation} (-1) - 0.18 \Delta \text{rural inflation} (-1) \dots(2)$$

(0.99) (0.02) (0.00) (0.07) (0.04)

Adj. R² = 0.78; LM test for the null hypothesis of no serial correlation up to 3 lags (p-value) = 0.26.

Note: Figures in parentheses denote p-values.

References:

Bhoi, Binod. *et al.* (2020) "Rural Urban Inflation Dynamics", *mimeo*.

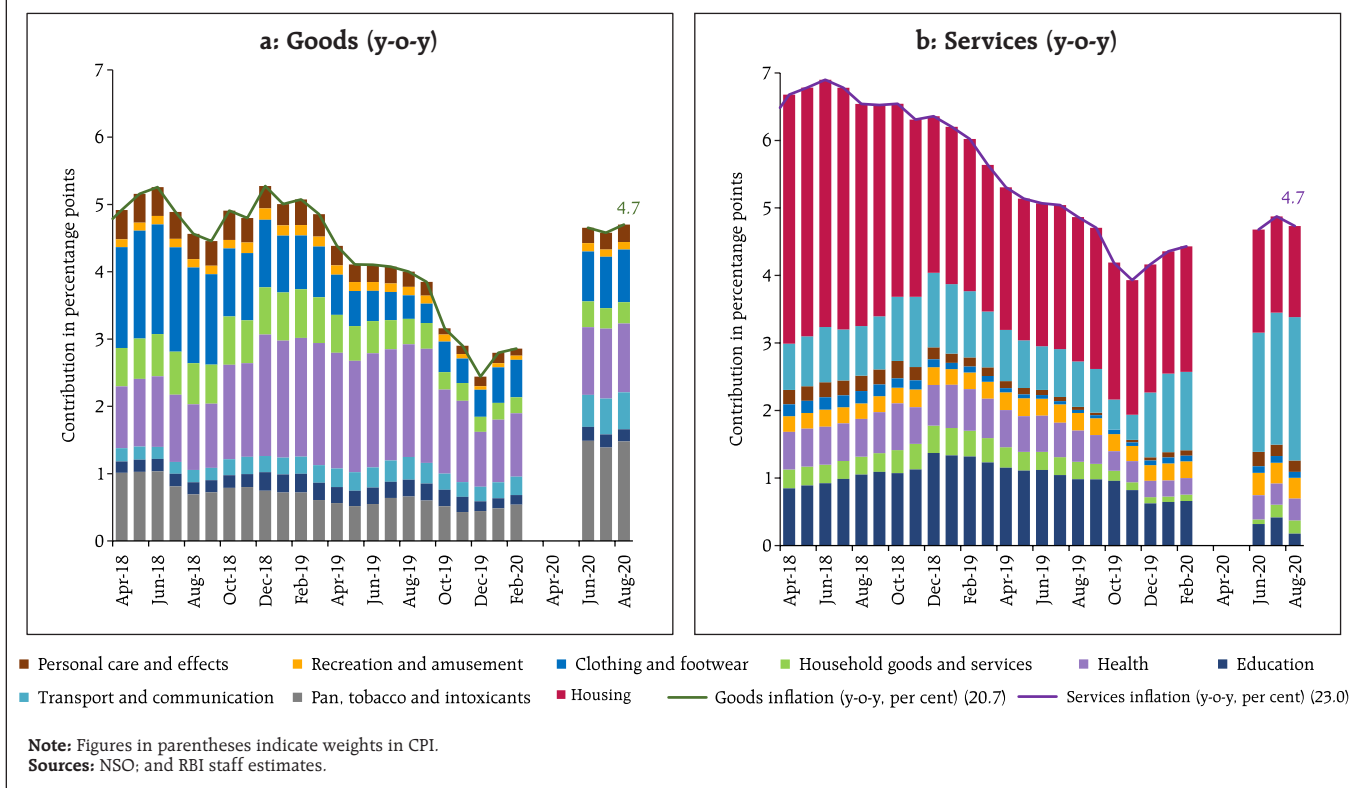
2020 due to pan, tobacco and intoxicants, transport and communications goods, clothing and footwear and household goods (Chart II.15a).

Core services inflation (with a weight of 23.0 per cent in CPI) rose from 4.4 per cent in February 2020 to 4.7 per cent in August 2020, led by prices of transportation and communications services as well as those of household services, the latter due to an increase in price of services provided by domestic servants, cooks and sweepers (Chart II.15b).

Other Measures of Inflation

Inflation measured by sectoral CPIs for agricultural labourers (CPI-AL) and rural labourers (CPI-RL) after hovering above the headline CPI inflation during 2019-20, with a sharp fall in food and fuel components, fell below CPI-Combined inflation during July and August 2020. Inflation in terms of CPI for industrial workers (CPI-IW) also fell below headline CPI inflation in March 2020 with a steep decline in food inflation. Thereafter, a

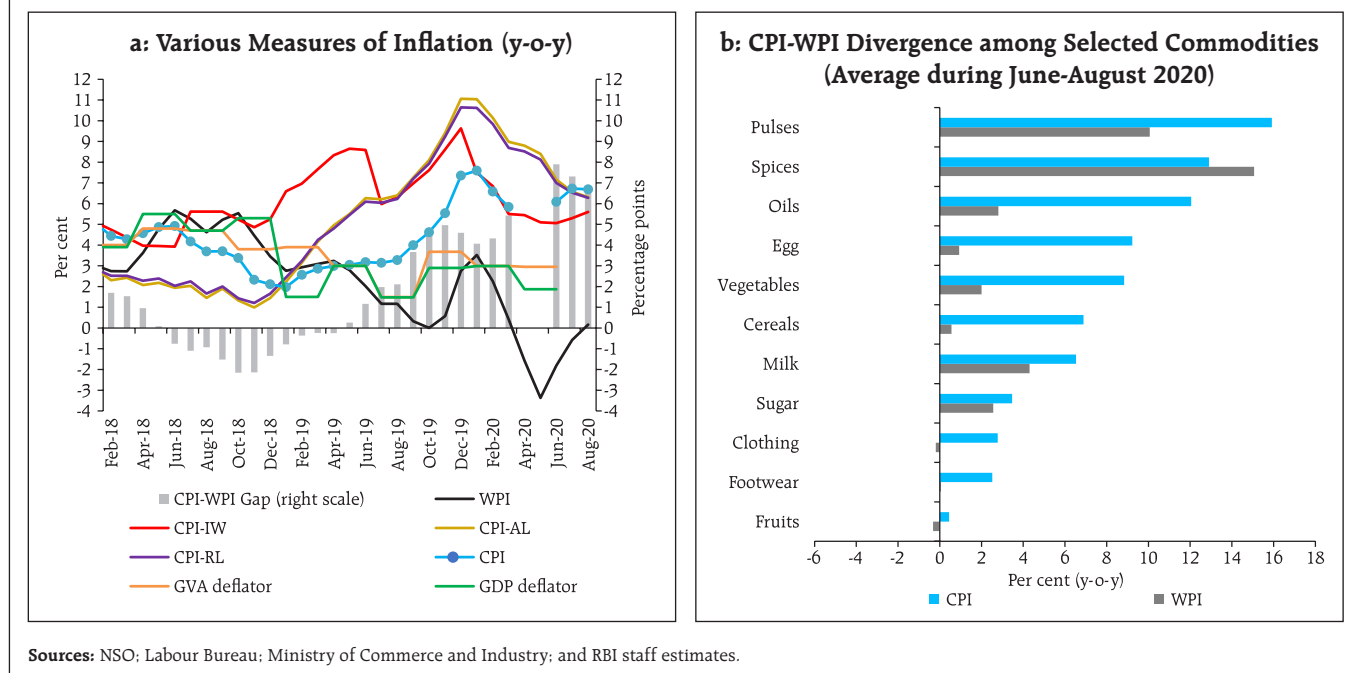
Chart II.15: Contribution to CPI Inflation excluding Food, Fuel, Petrol, Diesel, Gold and Silver



further moderation in inflation in the food group, coupled with disinflation in the clothing group,

kept CPI-IW inflation below headline CPI (Chart II.16a).

Chart II.16: Alternative Inflation Measures



Inflation in terms of the wholesale price index (WPI) was on a different trail altogether. It sank into deflation in April, which persisted through till July, with non-food manufactured products in deflation for over a year. Fuel inflation moved into negative territory in March 2020 as a result of the large contraction in mineral oil inflation during March that persisted till August 2020. In August, WPI inflation turned marginally positive (0.2 per cent) due to a sharp uptick in inflation in non-food manufactured products. WPI food inflation remained above 4 per cent but exhibited lower inflationary pressures than in CPI across major sub-groups (Charts II.16b). The WPI measures basic prices less trade discounts, thereby leaving out indirect taxes by definition while retail prices are inclusive of taxes. Gross domestic product (GDP) and gross value added (GVA) deflators sank in Q1:2020-21 in line with the WPI.

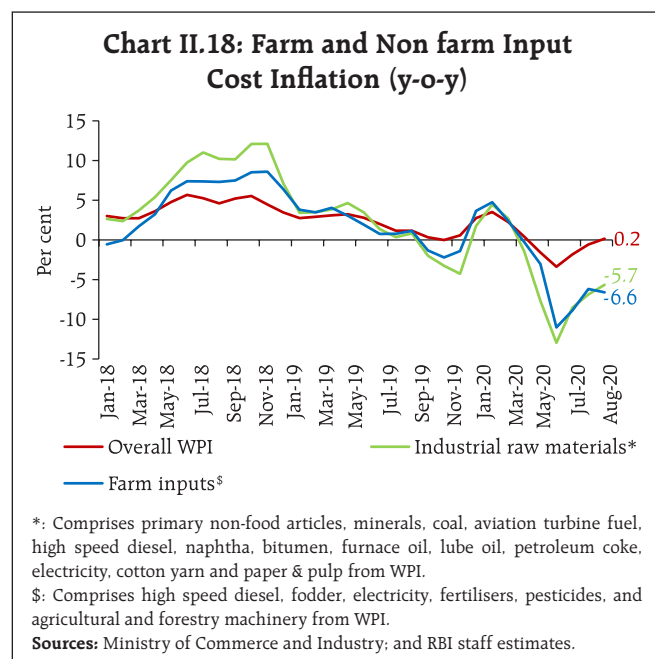
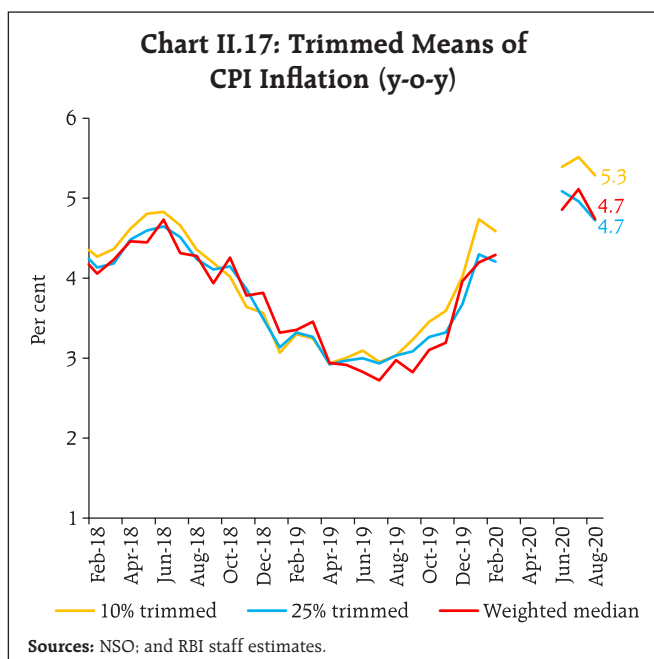
Trimmed means of inflation provide a measure of underlying inflation dynamics and are computed by statistically eliminating large positive and negative changes. Exclusion based measures of CPI also capture persistent trends in inflation by removing volatile components. Both trimmed means and

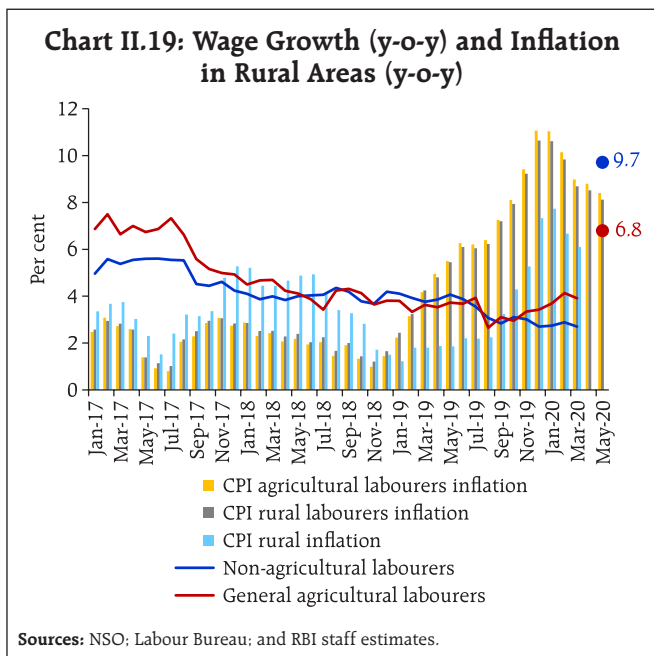
exclusion-based measures have moved up – barring a slight reversal in August – suggesting generalised inflationary pressures (Charts II.12 and II.17).

II.3 Costs

The wholesale cost of farm inputs and industrial raw materials entered into deflationary territory in March and dipped to a 55-month low in May 2020, mirroring soft global oil and other commodity prices, and subdued demand (Chart II.18). There was a moderation in coal inflation, given low demand from end-user industries for steel and power, and contraction in international coal prices. Among other non-food items, deflation in prices of fibres intensified during April-August 2020 on account of subdued exports and domestic demand.

Amongst farm sector inputs, inflation in the case of fodder prices moderated during June-August 2020, owing to the early onset and good distribution of monsoon. In the case of fertilisers and pesticides, inflation remained muted, reflecting deflation in international prices of phosphate, di-ammonium phosphate (DAP), triple superphosphate (TSP) and urea. Electricity prices have eased since April in view



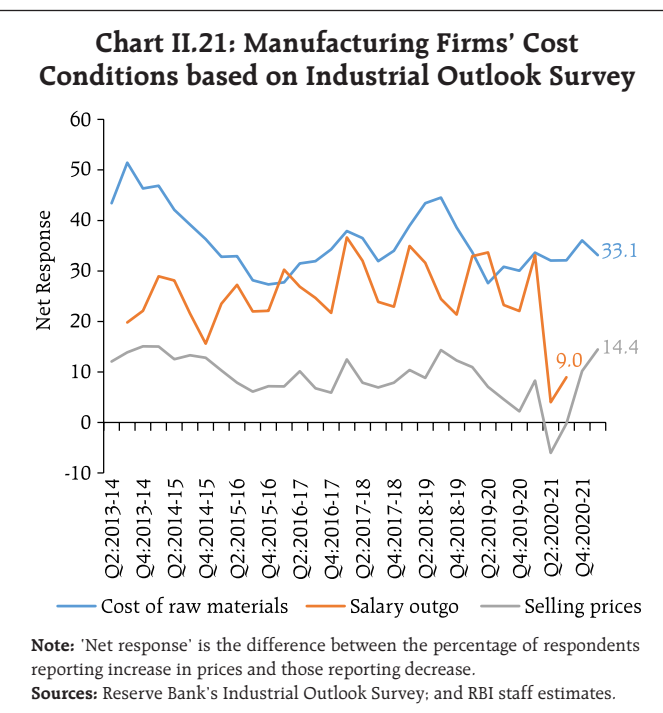
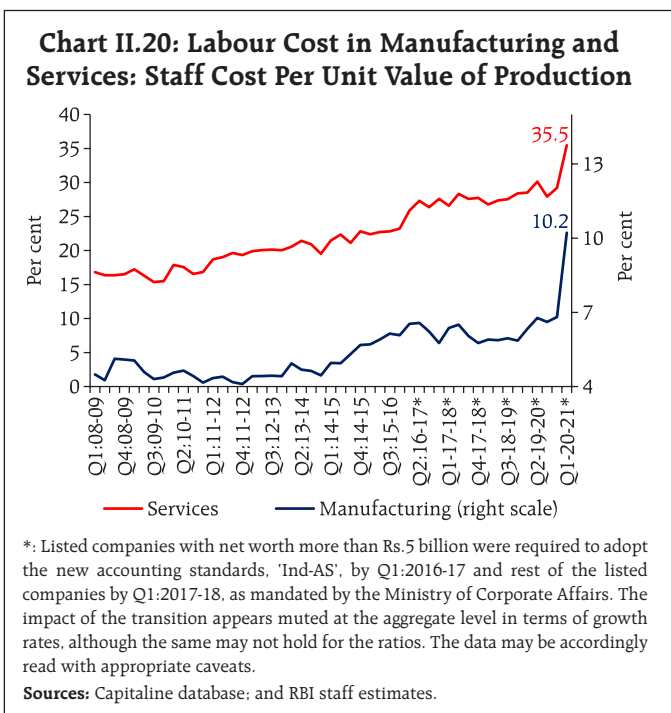


Growth in nominal rural wages, both for agricultural and non-agricultural labourers, showed a sharp uptick in May 2020¹³ (Chart II.19).

Growth in staff costs in the organised sector decreased for listed firms in the manufacturing and services sectors during Q1:2020-21 over layoffs and salary cuts. However, unit labour costs (measured as a ratio of staff cost to value of production) increased during Q1:2020-21 due to contraction in the value of production¹⁴. Unit labour cost rose from 6.8 per cent in Q4:2019-20 to 10.2 per cent in Q1:2020-21 for firms in the manufacturing sector¹⁵ and from 29.2 per cent to 35.5 per cent for firms in the services sector¹⁶ (Chart II.20).

of weak demand conditions. Inflation in agricultural machinery and implements eased to 1.2 per cent during April-August 2020 due to subdued momentum in prices of tractors and agriculture implements.

Manufacturing firms polled in the Reserve Bank's industrial outlook survey reported higher input cost pressures during Q2:2020-21 owing to supply shortages and transport delays (Chart II.21). Salary outgoes, which fell in Q1 as firms reported



¹³ Data for April 2020 could not be collected by the Labour Bureau due to the lockdown. Data collection remained constrained for May 2020 as well.
¹⁴ The results hold for the common set of companies also: unit labour cost for common 1521 manufacturing firms increased from 6.9 per cent in Q4:2019-20 to 10.2 per cent in Q1:2020-21 and for common 543 services firms increased from 31.0 per cent to 38.0 per cent.
¹⁵ Provisional estimate based on 1601 manufacturing firms
¹⁶ Provisional estimate based on 613 services firms.

contraction in the level of employment, rose in Q2 and are expected to increase further in Q3. The cost of finance remained subdued. Reflecting cost pressures, selling prices edged up in Q2 and are expected to firm up further in Q4 and Q1:2021-22. Households' inflation expectations, as polled in the September 2020 round of the Reserve Bank's survey, remained elevated but eased modestly over the three-months ahead horizon.

Manufacturing as well as services firms polled for the purchasing managers' index (PMI) reported sharp declines in both input cost and selling prices during Q1:2020-21. In August-September 2020, input prices for the manufacturing firms registered an uptick as raw material costs, particularly for iron and steel, rose. Output prices, however, remained tepid and broadly stabilised in September after declining for five months in a row. For services firms, higher fuel and food prices pushed up input costs during Q2:2020-21, leading to a soft uptick in selling prices in August-September.

II.4 Conclusion

Inflationary pressures have firmed up in H1 on supply shocks and cost push pressures brought about

by COVID-19. In this situation, proactive supply side management holds the key to containment of price pressures within broader supply side reforms. Timely and adequate release of cereal stocks including sales, meeting shortfalls in the availability of pulses through imports, rationalisation of the import duty structure for pulses and for edible oils for which around two-thirds of domestic demand is met by imports, steps to fully restore supply chains for poultry, goat and sheep, and adequate procurement and buffer stocks for stabilisation of vegetables prices, particularly key vegetables like onions and potatoes are the main elements of this approach. Furthermore, the high level of taxes on petroleum products needs to be revisited to ameliorate cost push pressures as the economy recovers. Effective supply side interventions and the presence of large favourable base effects are expected to bring about a moderation in inflation in H2:2020-21 but the uncertainties surrounding the COVID-19 trajectory pose substantial risks to the outlook. In absence of sufficient supply-side responses, the risk of cost push pressures translating to a generalised increase in inflation and its persistence is a serious threat to the evolving macroeconomic outlook.

III. Demand and Output

After an unprecedented decline in fixed investment, private consumption and exports in Q1:2020-21, aggregate demand recorded sequential improvement in Q2 on the back of robust rural demand and some uptick in urban consumption. On the supply side, the steep decline in manufacturing and plummeting construction activity in Q1 was followed by a gradual easing of contraction in Q2.

In the period following the release of the April 2020 MPR, economic activity plunged into a contraction in Q1:2020-21 that is unparalleled in India's history. The combined impact of demand compression and supply disruptions has produced an unprecedented decline in fixed investment, private consumption and exports. Government expenditure, including in the form of counter-pandemic measures, has cushioned the deterioration. Without it, the downturn would have been even deeper. On the supply side, the stringent nation-wide lockdown, social distancing norms and the mass exodus of migrant workers led to a steep decline in manufacturing and plummeting construction activity. Trade and transportation went

down to a fraction of their pre-COVID-19 levels. Credit conditions also remained muted. The only silver lining was the resilience of agriculture and allied activities on the back of record production of *rabi* and horticulture crops in 2019-20. The bountiful and widespread southwest monsoon in the 2020 season and higher *kharif* sowing have brightened the outlook for rural consumption. With the gradual unlocking of the economy from May/June 2020, signs of stabilisation appeared but the resurgence of infections especially in the interior part of the country levelled them off in July. High frequency indicators exhibited signs of some recovery again in August, which strengthened in September 2020.

III.1 Aggregate Demand

The August 2020 data release of the National Statistical Office (NSO) revealed that aggregate demand measured in terms of year-on-year changes in real gross domestic product (GDP) underwent a contraction of 23.9 per cent in Q1:2020-21, taking GDP to its lowest in the history of the quarterly series (Table III.1 and Chart III.1a). As reflected in quarter-on-quarter (q-o-q) seasonally adjusted annualised rates (SAAR) of GDP, this was essentially a cliff effect embodied in a sudden and steep drop in momentum

Table III.1: Real GDP Growth

(y-o-y, per cent)

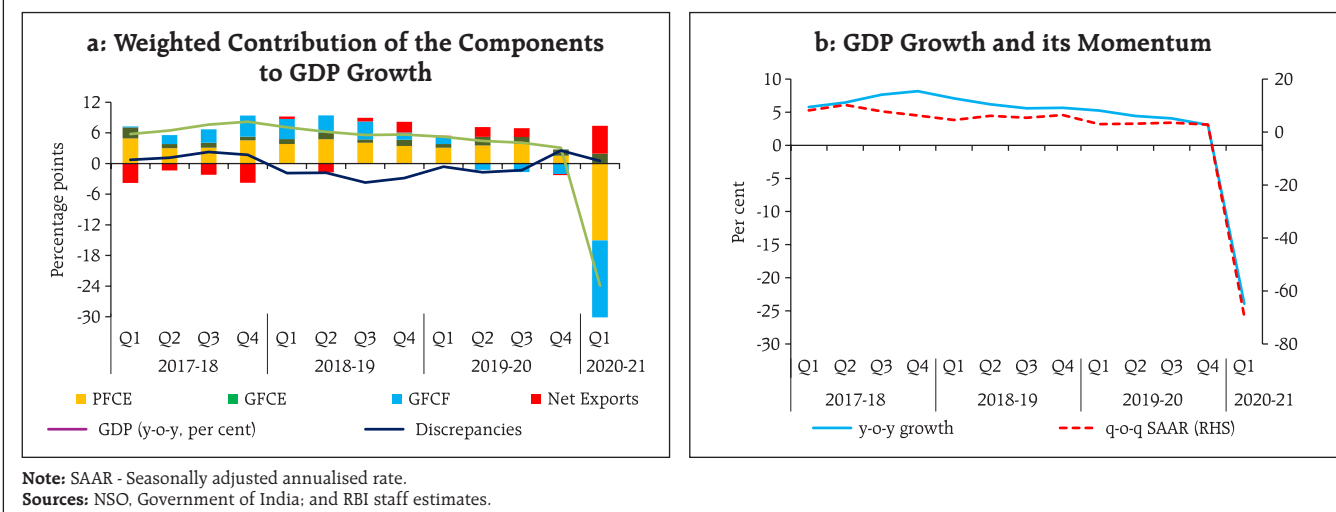
Item	2018-19	2019-20	Weighted Contribution*		2018-19 (FRE)				2019-20 (PE)				2020-21
	(FRE)	(PE)	2018-19	2019-20	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
1. Private final consumption expenditure	7.2	5.3	4.0	3.0	6.7	8.8	7.0	6.2	5.5	6.4	6.6	2.7	-26.7
2. Government final consumption expenditure	10.1	11.8	1.0	1.2	8.5	10.8	7.0	14.4	6.2	14.2	13.4	13.6	16.4
3. Gross fixed capital formation	9.8	-2.8	3.0	-0.9	12.9	11.5	11.4	4.4	4.6	-3.9	-5.2	-6.5	-47.1
4. Exports	12.3	-3.6	2.4	-0.8	9.5	12.5	15.8	11.6	3.2	-2.2	-6.1	-8.5	-19.8
5. Imports	8.6	-6.8	2.0	-1.6	5.9	18.7	10.0	0.8	2.1	-9.4	-12.4	-7.0	-40.4
GDP at market prices	6.1	4.2	6.1	4.2	7.1	6.2	5.6	5.7	5.2	4.4	4.1	3.1	-23.9

FRE: First Revised Estimates; PE: Provisional Estimates.

*: Component-wise contributions to growth do not add up to GDP growth in the table because change in stocks, valuables and discrepancies are not included.

Source: National Statistical Office (NSO).

Chart III.1: GDP Growth, its Constituents and Momentum



in that quarter (Chart III.1b). Moreover, excluding the support from government expenditure, real GDP would have slumped by 29.3 per cent.

In Q2, aggregate demand recorded sequential improvement on the back of robust rural demand and some uptick in urban consumption. Indicators of rural demand, viz., tractor sales, fertilisers production and non-durable consumer goods, have exhibited resilience. Amongst indicators of urban demand, passenger vehicles sales emerged out of contraction in August. The contraction in production of consumer durables is still high. We can not say that a revival has taken place, while domestic air passenger traffic trailed below pre-COVID levels. In Q2, investment remained subdued, as reflected in coincident indicators – steel consumption; cement production; and production and imports of capital goods. The record issuance of corporate bonds in H1:2020, however, suggests financing conditions remain congenial for enabling traction in investment appetite. Although government expenditure tapered off in August after robust growth in July, it strengthened in later part of September with

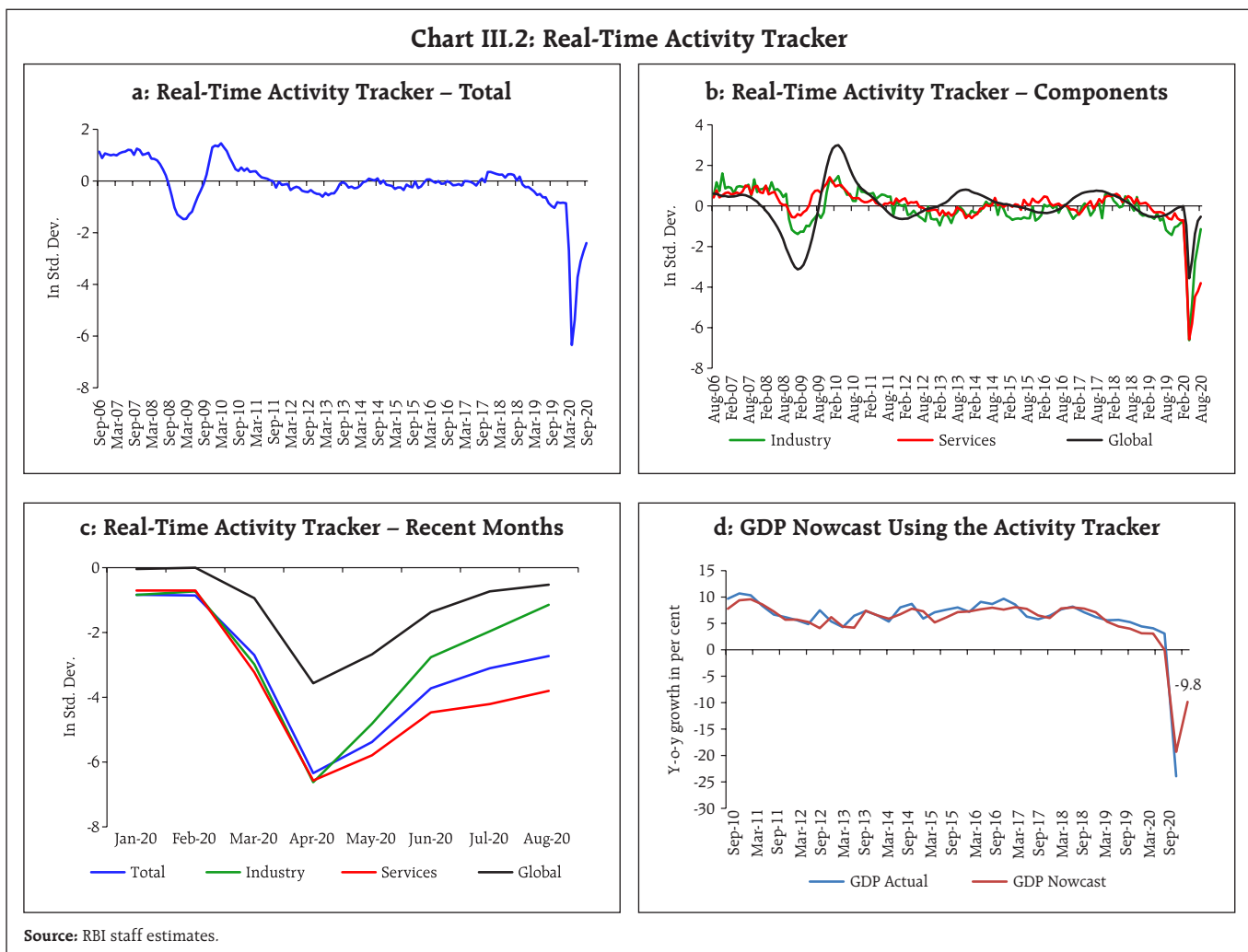
additional support from supplementary demands of ₹1.67 lakh crore by the central government.

Nowcasting – the prediction of the present or the very near future of the state of the economy – has become popular among central banks in the face of long lags and frequent revisions in official measures of economic activity. Historically, nowcasting techniques have been based on simplified heuristic approaches, but more recently, they rely on statistical approaches to produce predictions that eliminate the need for informal judgement. Nowcast models can exploit information from a large quantity of data series at different frequencies and with different publication lags to extract signals from noise on economic activity¹. Methods based on social media content have also been developed to estimate hidden sentiment analysis on the 'mood' of a population. Regression-based approaches, mixed data sampling, Bayesian approaches and dynamic factor models are now being employed to improve the forecasting power of nowcasting models.

¹ Banbura, M., Giannone, D., Modugno, M., and Reichlin, L. (2013). "Nowcasting and the real-time data flow", European Central Bank (ECB), Working Paper No. 1564.

In this context, a dynamic factor model using 27 monthly indicators grouped² under industry, services, global and miscellaneous activities reveals that an index of economic activity (IEA) plunged to -6.3 in April and moderated to -2.4 in September 2020 after a sharp rebound in May and June with the reopening of the economy (Chart III.2a). Sub-indices for industry, services, global and miscellaneous activities show that the decline in industrial and services activity was synchronous and of equal magnitude in the wake of

the lockdown. The recovery has been more rapid for industry, however, and slower for services, pointing to a two-speed recovery (Chart III.2b and c). Contact-intensive service sectors (retail trade; transport; hotels; restaurants; recreation) remain sluggish in the face of continuing health risks. In contrast, the global activity sub-index seems to have posted a stronger recovery, *albeit* with some tapering in July and August. GDP growth nowcast for Q2:2020-21 is obtained at -9.8 per cent on a year-on-year basis (Chart III.2d).³



² INDUSTRY – index of industrial production; purchasing managers' index (PMI) manufacturing; auto sales; non-oil exports; non-oil-non-gold imports; power supply; and tractor sales; SERVICES – air passenger; air cargo; port cargo; rail freight; fuel consumption; cement production; steel consumption; foreign tourists; and PMI services; GLOBAL – US IIP; Baltic dry index; US PMI; Organization of Economic Cooperation and Development (OECD) composite leading indicator and US payrolls; MISCELLANEOUS – gross taxes; JobSpeak index; non-food credit; broad money; CPI non-food and crude prices.

³ In the model, GDP growth is regressed on the overall index of economic activity while correcting for serial correlation in the error by employing an autoregressive error process.

Nowcasting exercises offer rich scope of refinement to enhance predictive efficiency by augmenting existing models with spatial and real-time

indicators on a daily basis that are becoming available, including through the application of machine learning tools, web scraping and artificial intelligence (Box III.1).

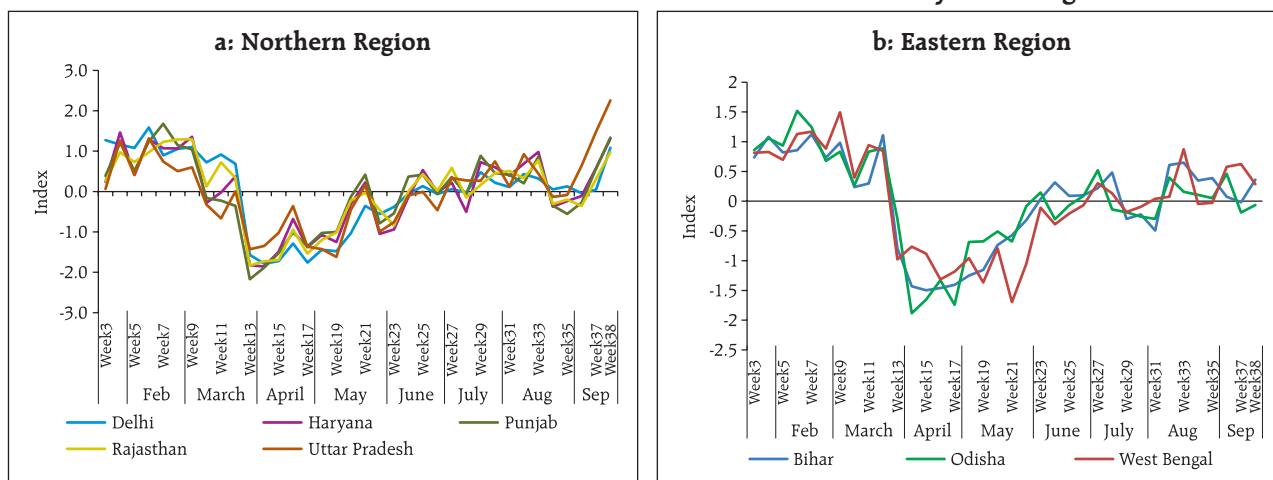
Box III.1: Real-Time Economic Activity Index

Indicators with monthly frequency such as electricity consumption, industrial activity, automobile sales, cargo handling and air passenger traffic are used to monitor economic activity in normal times. In a pandemic environment, however, monitoring economic activity in real time becomes critical to draw appropriate inferences for nimble-footed policy decisions. In this context, coincident indices (CIs) based on high frequency data have been employed by combining indicators over time and space (Federal Reserve Bank of Philadelphia⁴ and Federal Bank of New York⁵).

In the Indian context, a CI is constructed with four indicators representing a mix of demand and supply dynamics and based on availability of data at daily frequency at the state level: (i) total vehicle registrations

[Vahan dashboard of Ministry of Road Transport & Highways (MoRTH), Government of India]; (ii) electricity consumption (Power System Operation Corporation Limited); (iii) air quality index (Central Pollution Control Board); and iv) Google and Apple mobility data. Y-o-Y growth in these indicators, standardised with the year 2019 as base, reflect movements in consumer demand, activity in trade and transportation, commercial and industrial activity, agricultural and domestic energy demand, manufacturing activity and movements of the labour force. The choice of states for the construction of the CI is largely based on data availability. Accordingly, data from 14 states were used, accounting for 81 per cent of total national GVA. A dynamic factor model (DFM)⁶ is applied using the factor analyser module of Python.

Chart III.1.1: Real-Time Momentum Indicator of Economic Activity 2020: Region-wise



Source: RBI staff estimates.

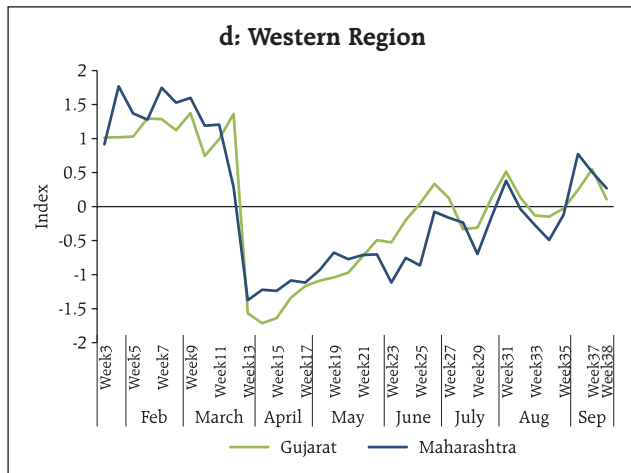
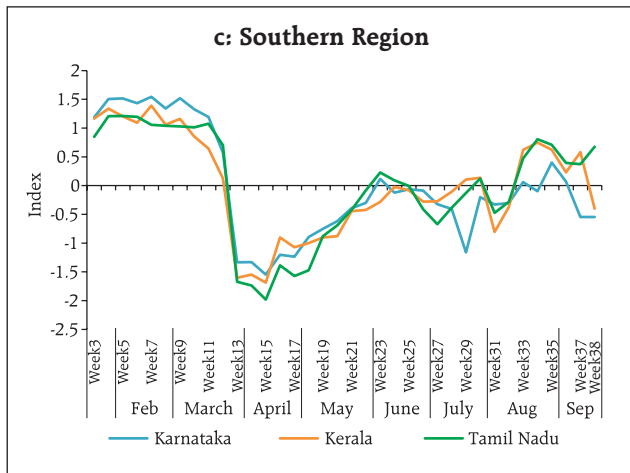
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⁴ <https://www.philadelphiafed.org/research-and-data/regional-economy/indexes/coincident>

⁵ <https://www.newyorkfed.org/research/policy/weekly-economic-index#/>

⁶ In the DFM, the N variables ($i = 1, \dots, N$) are assumed to be the sum of two unobservable orthogonal components, viz. common factors for the set of variables (y_{it}), and an idiosyncratic component (z_{it}) at each time period $t = 1, \dots, T$. The component (y_{it}) is obtained by extracting r common factors (F_{jt}), $j = 1, \dots, r$ from all variables in the data set while the idiosyncratic component (z_{it}) covers the shocks specific to each variable. Thus, a dynamic factor model can be represented as: $x_{it} = \lambda_{i1}F_{1t} + \dots + \lambda_{ir}F_{rt} + z_{it}$

where λ_{ij} for $i = 1, \dots, N$ and $j = 1, \dots, r$, are factor loadings relating the data x_{it} to r latent common factors.



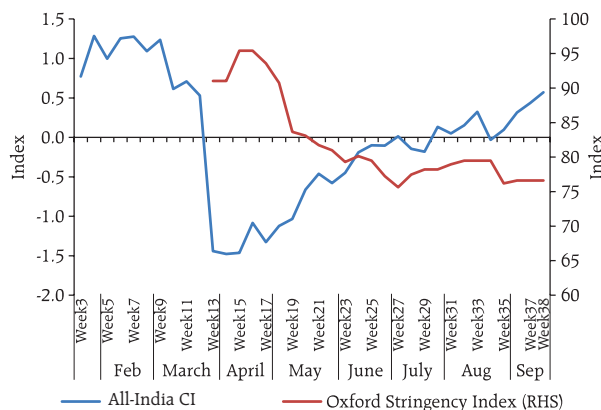
Source: RBI staff estimates.

The CI shows that all regions experienced sharp fall in the cyclical component of economic activity in April before registering a slow recovery in the following months. The northern region registered positive momentum from mid-June but lost steam in the second half of August before gaining traction again in September. On the other hand,

western and southern regions have experienced a fall in the momentum in the September after registering some signs of recovery.

An All-India CI, constructed as a weighted average of state CIs by using the share of states in overall GVA as weights (Chart III.1.2), captures the collapse in activity in Q1 and a hesitant recovery in ensuing months with the gradual opening of the economy.

Chart III.1.2: Real-Time Momentum Indicator of Economic Activity 2020: All India



References:

Crone, T. (2004), "A Redefinition of Economic Regions in the U.S.", Federal Reserve Bank of Philadelphia Working Paper No. 04-12.

Osborne, J. W., Costello, A. B., & Kellow, J. T. (2008), "Best Practices in Exploratory Factor Analysis", In J. W. Osborne (Ed.), *Best Practices in Quantitative Methods*, Thousand Oaks, CA: Sage Publishing.

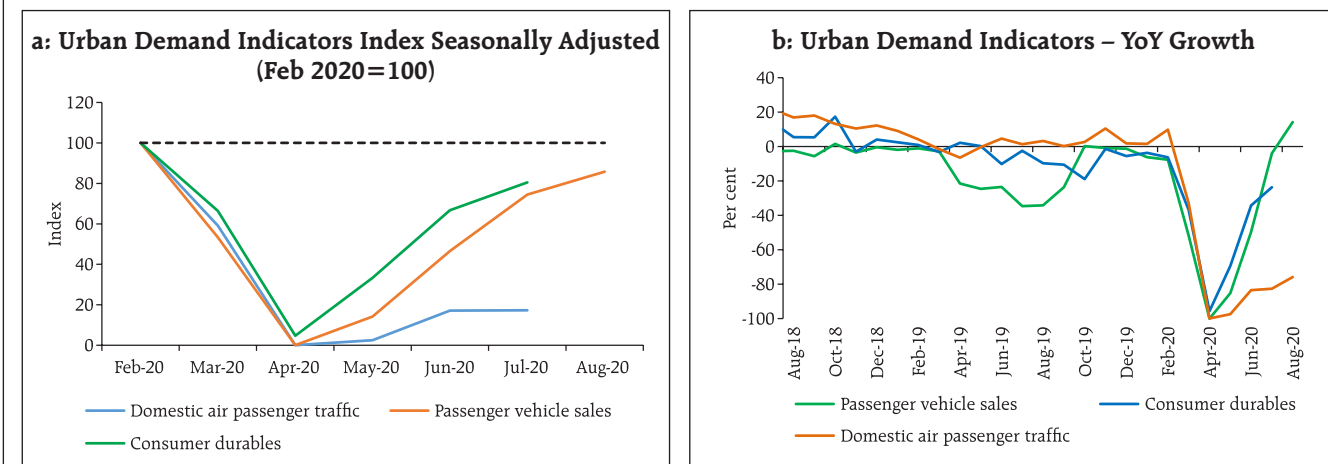
Stock, J. H., & Watson, M. W. (1998, April), "Business Cycle Fluctuations in US Macroeconomic Time Series.", NBER Working Paper 6528.

III.1.1 Private Final Consumption Expenditure (PFCE)

Private consumption, with a share of around 55 per cent in GDP, is the mainstay of aggregate demand. The destruction of consumption demand by COVID-19 can be gauged from the sheer

decline in nominal expenditure on private final consumption in Q1:2020-21– it fell by a third to ₹21.7 lakh crore from its pre-COVID level of ₹32.5 lakh crore recorded in Q3:2019-20 ahead of the onset of the coronavirus in the world. In Q2:2020-21,

Chart III.3: High Frequency Urban Demand Indicators



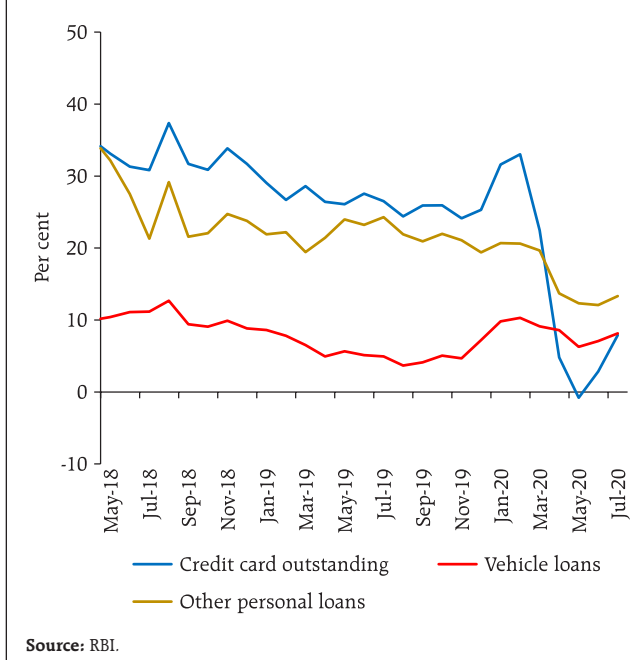
Sources: Directorate General of Civil Aviation; Society of Indian Automobile Manufacturers (SIAM); NSO; and RBI.

there were signs of recovery in private consumption in terms of high frequency indicators, but it is far from gaining full and broad-based traction in the face of rising infections as lockdowns are hesitantly eased.

Drilling down into underlying dynamics of PFCE, it is found that though the retrenchment occurred across constituents, the contraction in private consumption seems to have been more pronounced in urban areas. Illustratively, domestic air passenger traffic and production of consumer durables remained dormant during the entire period of the lockdown (Chart III.3a & b). Turning to Q2, the recovery in this segment that became evident in May 2020 has been tepid. Although passenger vehicles sales and production of consumer durables have shown a better revival relative to domestic air passenger traffic in July and August, they still trail below pre-COVID levels. The subdued movements in household credit in the form of credit card outstanding, vehicle loans and other personal loans corroborates the muted state of urban consumption (Chart III.4).

Indicators of rural demand reveal a relatively better picture. The production of consumer non-durables and sales of tractors, for instance, exhibited robust growth

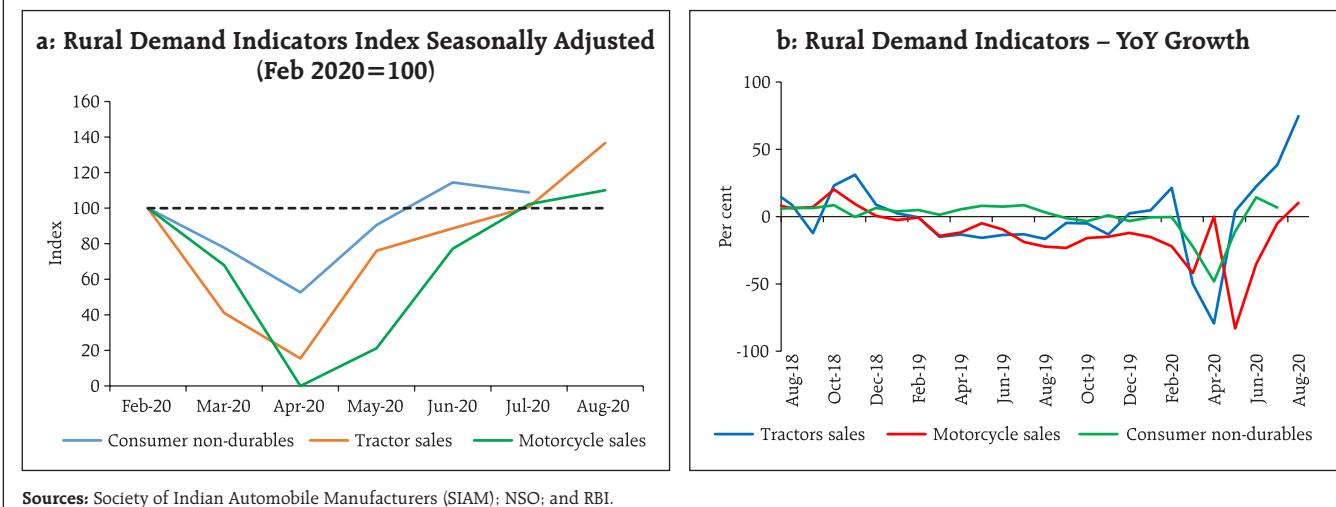
Chart III.4: Household Credit – YoY Growth



Source: RBI.

from June onwards (Chart III.5a and b). Rainfall in the current monsoon season has been 9 per cent above the long period average (LPA) (till September 30), which should augur well for the prospects of rural income and demand. This is also reflected in accelerated growth in fertilisers production and progress of *kharif* sowing. The increasing spread of COVID-19 infections into smaller towns and rural areas, however, imparts some

Chart III.5: High Frequency Rural Demand Indicators



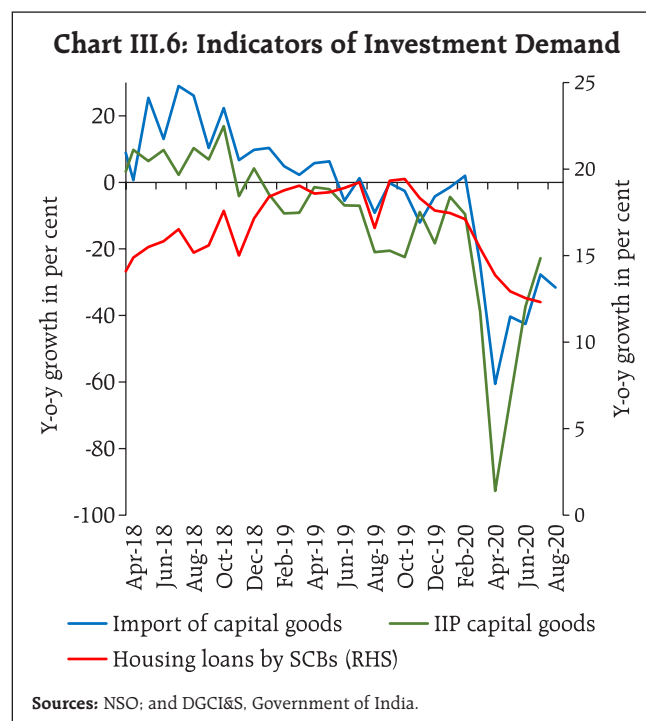
uncertainty to the outlook, with implications for public health infrastructure in these areas. A priority, therefore, is to build on the government’s relief package and offset reduction in remittance flows to rural households post the exodus of migrant workers by actions that restore jobs and livelihood.

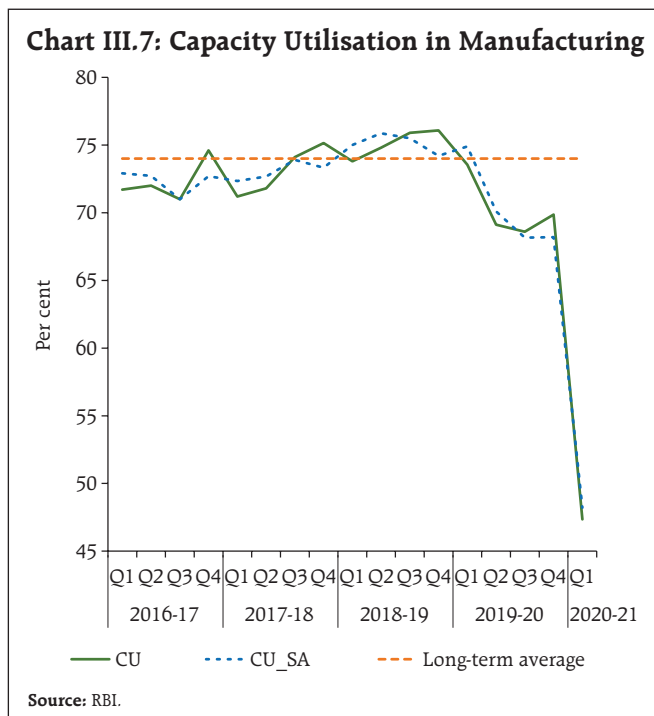
III.1.2 Gross Fixed Capital Formation (GFCF)

Investment, which was already in contraction mode since Q2:2019-20, suffered a massive knock-on effect from the pandemic. Fixed investment shrank by 47.1 per cent in Q1:2020-21, taking its share in aggregate demand down to 22.3 per cent from 32 per cent year ago. In Q2, the investment climate remained subdued. Still muted consumption demand and excess capacity are holding back new investments, despite easing of financial conditions. Investment in dwellings, other buildings and structures, dropped precipitously under the weight of a confluence of factors working in tandem, viz., large inventory overhang in housing, tapering of incomes and hence, EMI-servicing capacity, and high stress in the balance sheets of non-banking finance companies (NBFCs) and housing finance companies (HFCs). This is also reflected in proximate coincident indicators – steel

consumption; cement production; and production and imports of capital goods (Chart III.6).

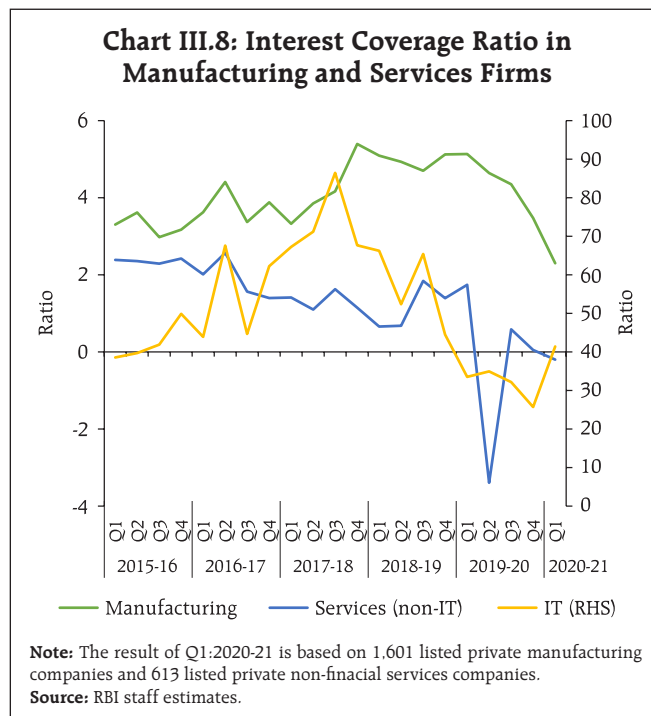
As per the order books, inventories and capacity utilisation survey (OBICUS) of the Reserve Bank, capacity utilisation (CU) in the manufacturing sector declined sharply to 48.2 per cent in Q1:2020-21 from





68.2 per cent in the previous quarter on a seasonally adjusted basis (Chart III.7). Manufacturing firms responding to the Reserve Bank’s industrial outlook survey expect domestic demand to recover gradually from Q2:2020-21 and to sustain through Q1:2021-22.

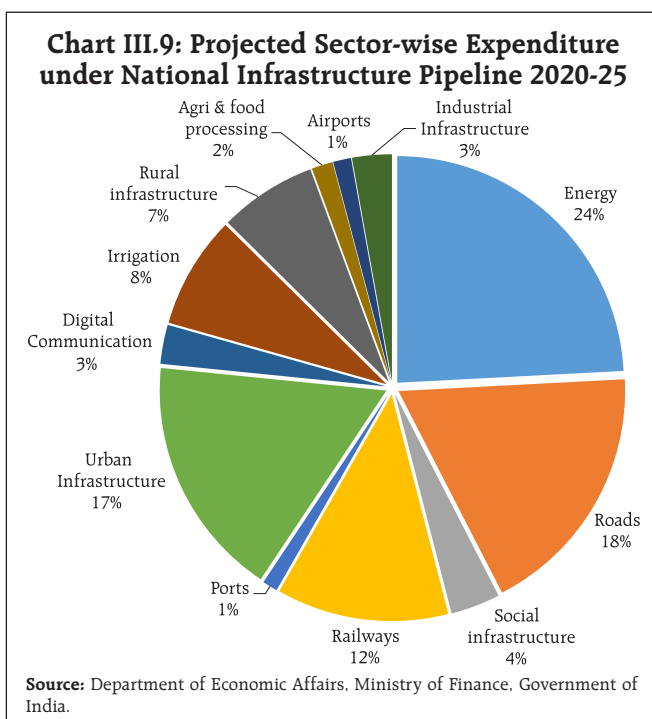
Meanwhile, a favourable configuration is forming to support a revival in investment appetite. Domestic financial conditions have eased substantially, with systemic liquidity in large surplus and a significant narrowing of spreads on all financial instruments, irrespective of ratings, spurring a record issuance of corporate bonds in H1:2020 relative to a year ago. Even though bank lending remains lacklustre, especially to large, medium and small industries, the mandated linking of interest rates on new floating rate loans to external benchmarks for select sectors has improved transmission of changes in policy rates to banks’ lending rates (Chapter IV). Among the emerging risks, a decrease in the interest coverage ratio, indicating falling debt servicing capacity, could weigh on investment going forward (Chart III.8).



III.1.3 Government Final Consumption Expenditure (GFCE)

In recent years, government expenditure has counter-cyclically supported aggregate demand as evident in a growth of 16.4 per cent in government final consumption expenditure (GFCE) in Q1:2020-21. In Q2, the overall fiscal stimulus of around 10 per cent of GDP to support vulnerable sections of the population continues to play out, providing direct and indirect fiscal support to the economy. Furthermore, speedier implementation of the National Infrastructure Pipeline (NIP), which involves an investment of around ₹111 lakh crore by 2025 in various projects with participation of central government, state governments and the private sector, could boost overall investment spending (Chart III.9).

Government finances have come under stress due to a sharp fall in revenues. The central government’s gross fiscal deficit (GFD) and revenue deficit (RD) stood at 109.3 and 121.9 per cent of BE, respectively,



during April-August 2020-21 (Table III.2). This has led to some expenditure reprioritization. Accordingly, expenditure rationalisation measures have been stipulated for the ministries during Q1-Q3 to curb avoidable outgoes. The central government, however, sought parliament's nod for net additional spending of ₹1.67 lakh crore in 2020-21. On the other hand, states' expenditure has not shown any significant pick-up so

far remaining broadly in line with budget estimates. This could be attributed to the curtailment of some revenue expenditure by various state governments [e.g., dearness allowances (DA) freeze; deferment of part of full salary and wages; deduction of salary]. Going ahead, the contribution of government expenditure could taper as revenue shortfalls stretch the finances of both the central government and state governments.

The central government's revenue receipts were impacted during April-August 2020 by large declines in both direct and indirect tax collections (Table III.3) in all categories except union excise duties which were supported by increases in taxes on petroleum products. The decline in customs duty collections mirrored the ongoing contraction in imports. Total GST collections were severely hit by the lockdown during April-May 2020 but recovered partly during June-September 2020 (Chart III.10). In September GST collections were recorded at ₹ 95 thousand crore.

During April-August 2020, the central government's revenue expenditure received a boost from increased agricultural, rural, and defence spending, while there were lower outgoes on major subsidies (food, fuel and fertilizers). Capital expenditure registered a

Table III.2: Budgetary Position of the Central Government during April-August 2020-21

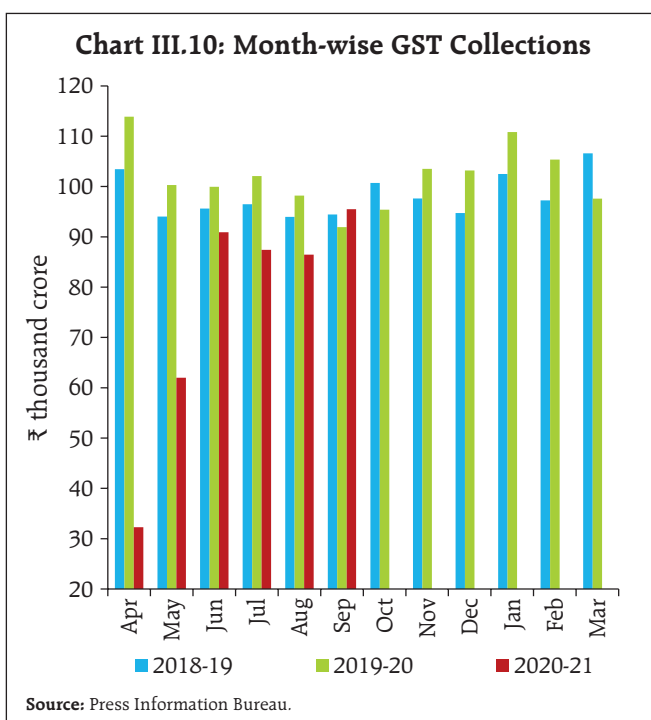
Item	₹ thousand crore)				(Per cent)			
	Budget Estimates		Actuals		Percent to BE		Growth Rate	
	2019-20	2020-21	Apr-Aug	Apr-Aug	Apr-Aug	Apr-Aug	Apr-Aug	Apr-Aug
			2019	2020	2019	2020	2019	2020
1. Revenue Receipts	1,963	2,021	603	371	30.7	18.3	29.8	-38.6
2. Tax Revenue (Net)	1,650	1,636	405	284	24.5	17.4	10.5	-29.7
3. Non-Tax Revenue	313	385	199	86	63.4	22.4	102.0	-56.6
4. Non-Debt Capital Receipts	120	225	18	7	15.2	3.0	21.6	-63.5
5. Total Receipts (1+4)	2,083	2,246	621	377	29.8	16.8	29.6	-39.3
6. Total Expenditure (7+8)	2,786	3,042	1,175	1,248	42.2	41.0	9.8	6.2
7. Revenue Expenditure	2,448	2,630	1,039	1,113	42.5	42.3	10.7	7.1
8. Capital Expenditure	339	412	136	134	40.2	32.6	3.0	-1.3
9. Revenue Deficit (7-1)	485	609	436	743	89.9	121.9	-8.1	70.3
10. Fiscal Deficit (6-5)	704	796	554	870	78.7	109.3	-6.3	57.1
11. Gross Primary Deficit	43	88	335	633	773.4	717.9	-10.0	89.0

Source: Controller General of Accounts.

Table III.3: Central Government's Tax Collection

Item	₹ thousand crore				Per cent			
	Budget Estimates		Actuals		Percent to BE		Growth Rate	
	2019-20	2020-21	Apr-Aug 2019	Apr-Aug 2020	Apr-Aug 2019	Apr-Aug 2020	Apr-Aug 2019	Apr-Aug 2020
A. Direct Taxes	1,335	1,319	281	187	21.0	14.2	9.4	-33.3
<i>Of which</i>								
1. Corporation Tax	766	681	111	65	14.5	9.5	4.6	-41.8
2. Income Tax	556	625	166	118	29.8	18.8	13.2	-28.9
B. Indirect Taxes	1,126	1,104	380	316	33.7	28.6	0.7	-16.8
<i>Of which</i>								
1. Total GST	666	694	240	182	36.0	26.3	1.0	-23.9
2. Custom Duties	156	138	62	32	39.8	23.4	16.5	-47.9
3. Union Excise Duties	300	267	76	100	25.3	37.6	-6.6	32.0
C. Gross Tax Revenue	2,461	2,423	661	504	26.8	20.8	4.2	-23.7
D. Assignment to States/UTs	809	784	256	218	31.6	27.8	-4.4	-14.7
E. Net Tax Revenue	1,650	1,636	405	284	24.5	17.4	10.5	-29.7

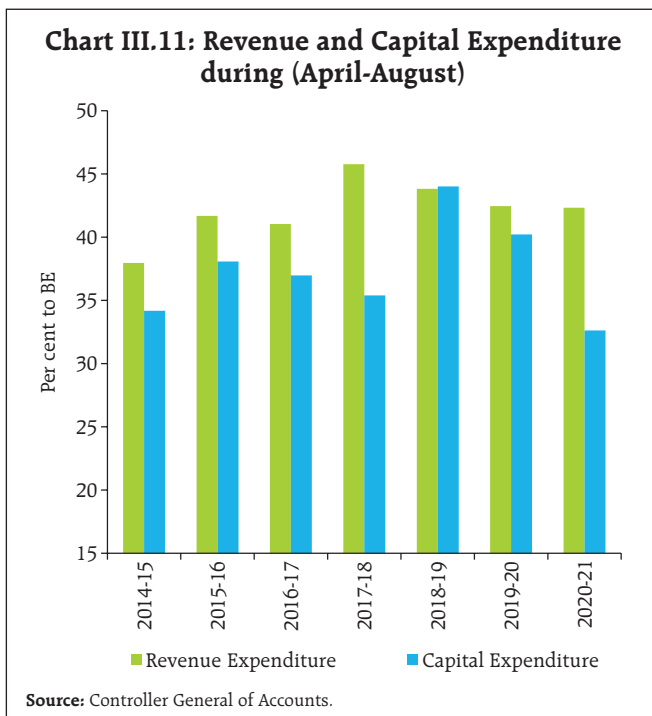
Source: Union Budget Documents and Controller General of Accounts.



contraction of 1.3 per cent in this period (Chart III.11). Over 75 per cent of the capital expenditure was incurred by the ministries of defence, railways, and road transport and highways. With the continuing decline in private investment, a step-up in government capital expenditure could perform the twin roles of gap-fill and potential crowding-in.

Several states had presented their budgets before the onset of the pandemic, which implies substantial revisions as the year progresses. States' own tax revenue as well as central transfers have been adversely impacted, while pandemic-related expenditure has been heavy. In this context, the additional borrowings limits for states of up to 2 per cent of gross state domestic product (GSDP) or ₹4.28 lakh crore, partly linked to specific reforms⁷, can expand their total borrowing during 2020-21. Most states may be able to meet the first two specified reforms (*viz.*, one-nation-one-ration-card and ease of doing business), which would allow them to borrow up to 4.0 per cent of GDP, on an average. The central government is also working out modalities to compensate states with respect to the expected shortfall of compensation cess during 2020-21.

⁷ It is stipulated that relaxations in borrowings limits will be partly unconditional and partly conditional to carrying out specified actions, namely 1) universalisation of the one-nation-one-ration card system 2) ease of doing business reforms: 3) power sector reforms 4) urban local body/utility reform: out of the 2 per cent increase, the first 0.5 per cent will be unconditional while the next 1 per cent will be divided into four equal tranches of 0.25 per cent each, with each tranche linked to reform actions in above four areas. The last 0.5 per cent of the extra borrowing will be allowed to states if milestones are completely achieved in at least three out of four reform areas.



Given the stress on state finances, the Reserve Bank increased ways and means advances (WMA) limits by 60 per cent over and above the level as on March 31, 2020, which has been extended for a further period of 6 months till March 31, 2021. Rules governing withdrawals from the Consolidated Sinking Fund (CSF) scheme were relaxed to enable

them to meet a larger proportion of their redemptions from the CSF. Given the fact that capital expenditure by states accounts for two-thirds of total capital expenditure of general government, it is imperative not to cut down capital expenditure in the coming quarters if the revival in overall economic activity has to be supported (Chart III.12 a and b).

The limit for WMA for the centre for the first half of 2020-21 was revised upward to ₹2 lakh crore from ₹1.2 lakh crore. Furthermore, Center's WMA limit for H2:2020-21 has been kept higher at ₹1.25 lakh crore vis-a-vis ₹35,000 crore in the same period of last year. Moreover, limits for foreign portfolio investment in government securities have been expanded and a fully accessible route has been introduced for investment by non-residents in government securities without any limit. As at end-September, ₹7.66 Lakh crore or 63.8 per cent of the revised gross market borrowings of the central government for the full year 2020-21 has been completed (Table III.4). The central government's market borrowing calendar for H2 has planned gross issuances of ₹4.34 Lakh crore, sticking to the revised estimate of ₹12 Lakh crore for the full fiscal

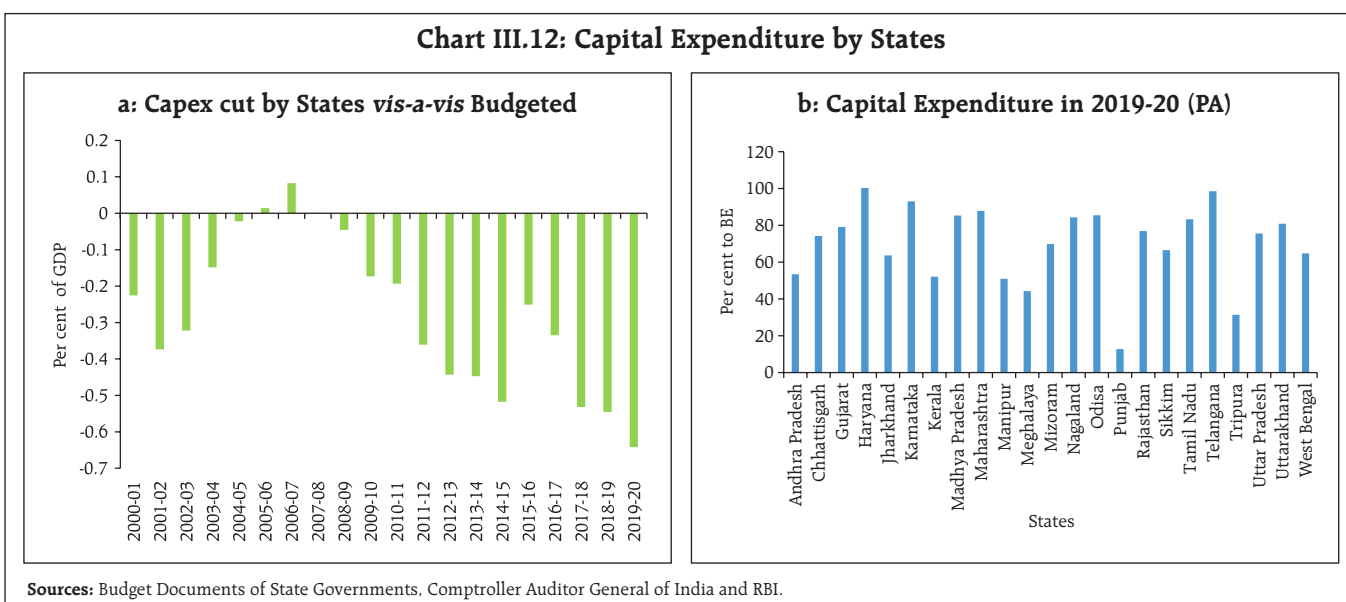


Table III.4: Government Market Borrowings

(₹ crore)

Item	2018-19			2019-20			2020-21 (up to Sep 30, 2020)		
	Centre	States	Total	Centre	States	Total	Centre	States	Total
Net borrowings	4,22,737	3,48,643	7,71,380	4,73,972	4,87,454	9,61,426	6,35,428	2,98,989	9,34,417
Gross borrowings	5,71,000	4,78,323	10,49,323	7,10,000	6,34,521	13,44,521	7,66,000	3,53,596	11,19,596

Sources: Government of India; and RBI staff estimates.

year. States completed gross market borrowings of ₹3,53,596 crore during the year (up to September 30), comprising 115.8 per cent of the calendar for H1:2020-21.

III.1.4 External Demand

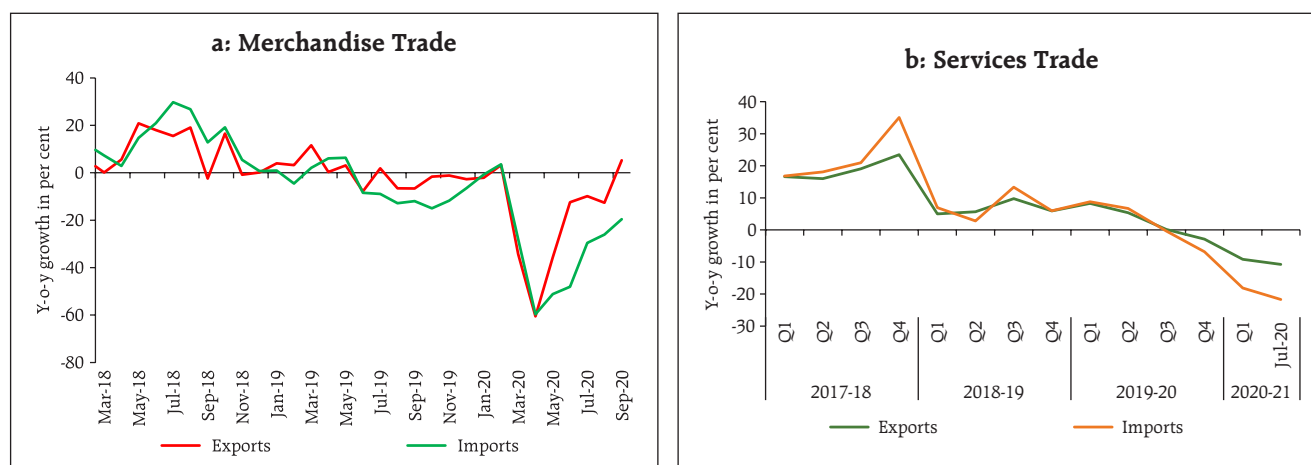
In spite of the deterioration of external demand, net exports contributed positively to aggregate demand in Q1:2020-21, as imports contracted faster than exports (Chart III.13).

India's exports marked a turnaround and entered positive territory in September after six months of contraction, while imports declined for the seventh consecutive month (Chart III.13a). In Q2, India's exports were US\$ 73.7 billion and imports were US\$ 88.3 billion. Despite limited participation, India's merchandise exports were impacted by the massive disruption in global value chains (GVCs) inflicted

by COVID-19. Disaggregated data available for July-August 2020 suggests that among non-oil exports, the decline was pronounced in respect of gems and jewellery, engineering goods, readymade garments and electronic goods (Chart III.14a). On the other hand, exports of drugs and pharmaceuticals, iron ore and rice recorded robust growth due to increased demand even during the pandemic, underlying their innate resilience.

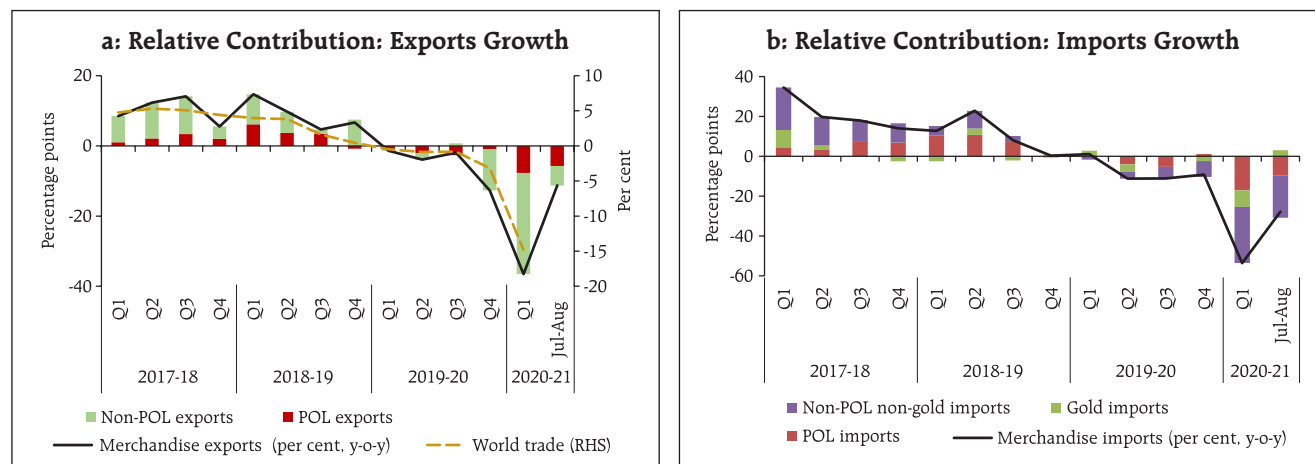
The decline in imports was broad-based. During July-August, 25 out of 31 major commodity groups, which accounted for 81 per cent of the import basket, witnessed contraction (Chart III.14b). A steep reduction in crude oil prices and lower domestic demand for petroleum products led to a decline in POL imports, while gold imports plunged with a slump in domestic demand and high gold prices, although a revival of investment demand for gold rekindled

Chart III.13: Growth in Merchandise and Services Trade



Sources: DGCIS and RBI.

Chart III.14: Relative Contribution to Exports and Import Growth



Sources: DGCIS and CPB, Netherlands.

imports in August 2020. The decline in non-POL non-gold imports in July-August 2020 was primarily contributed by electronic goods, pearls, precious and semi-precious stones, machinery and coal, coke and briquettes.

The merchandise trade deficit had narrowed substantially to US\$ 9.0 billion in Q1:2020-21 from US\$ 49.2 billion a year ago with the first trade surplus of US\$ 0.8 billion after a gap of over eighteen years in June 2020. The trade balance, however, turned into deficit in Q2 (US\$ 14.5 billion). The current account balance, which had recorded a marginal surplus of US\$ 0.6 billion (0.1 per cent of GDP) in Q4:2019-20 after a gap of twelve years, posted a record surplus of US\$ 19.8 billion (3.9 per cent of GDP) in Q1:2020-21.

Invisible receipts moderated marginally in Q1:2020-21, mainly due to a decline in inward remittances on account of the global recession, decline in crude oil prices and loss of employment opportunities overseas. Notwithstanding the sharp decline in travel receipts due to restrictions on tourist arrivals and a few other categories of services, net services receipts remained relatively stable due to steady software earnings, which accounted for 48 per cent of total services receipts in Q1:2020-21. Despite a fall in the overall global IT spending, software exports

may remain relatively resilient with companies focusing on digital workplace support, adoption of cloud services and infrastructure modernisation in the face of pandemic challenges. Net outgo on account of investment and other income increased in Q1:2020-21, with an uptick in dividend payments on foreign equity and investment funds in India.

In the financial account, portfolio flows made a gradual rebound with the renewal of risk-on sentiment. Net FPI inflows stood at US\$ 8.3 billion in 2020-21 (up to October 6) as compared with US\$ 2.8 billion a year ago. While the equity segment recorded inflows of US\$ 11.1 billion as against outflows of US\$ 0.6 billion a year ago, in the debt segment (general route), there were outflows of US\$ 4.2 billion as against inflows of US\$ 3.4 billion a year ago. Under the voluntary retention route (VRR), there were net inflows of US\$ 1.4 billion during the same period. Net FDI flows moderated in April-July 2020 on the back of higher repatriation relative to fresh equity investments. Net ECBs to India recorded an outflow of US\$ 8.5 billion in April-August 2020 due to slowdown in fresh disbursements and higher repayments, while net flows under NRI deposits were higher than a year ago. As on October 02, 2020, India's foreign exchange reserves stood at US\$ 545.6 billion, equivalent to 15.9

Table III.5: Sector-wise Growth in GVA

(y-o-y, per cent)

Sector	2018-19 (FRE)	2019-20 (PE)	Weighted Contribution 2019-20	2018-19 (FRE)				2019-20 (PE)				2020-21
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Agriculture, forestry and fishing	2.4	4.0	0.6	3.8	2.5	2.0	1.6	3.0	3.5	3.6	5.9	3.4
Industry	4.5	0.8	0.2	7.8	4.7	4.4	1.4	3.8	-0.2	-0.4	0.0	-33.8
Mining and quarrying	-5.8	3.1	0.1	-7.3	-7.0	-4.4	-4.8	4.7	-1.1	2.2	5.2	-23.3
Manufacturing	5.7	0.0	0.0	10.7	5.6	5.2	2.1	3.0	-0.6	-0.8	-1.4	-39.3
Electricity, gas, water supply and other utilities	8.2	4.1	0.1	7.9	9.9	9.5	5.5	8.8	3.9	-0.7	4.5	-7.0
Services	7.5	5.0	3.1	7.3	7.2	7.3	8.3	5.5	6.1	4.9	3.5	-24.3
Construction	6.1	1.3	0.1	6.4	5.2	6.6	6.0	5.2	2.6	0.0	-2.2	-50.3
Trade, hotels, transport, communication	7.7	3.6	0.7	8.5	7.8	7.8	6.9	3.5	4.1	4.3	2.6	-47.0
Financial, real estate and professional services	6.8	4.6	1.0	6.0	6.5	6.5	8.7	6.0	6.0	3.3	2.4	-5.3
Public administration, defence and other services	9.4	10.0	1.3	8.8	8.9	8.1	11.6	7.7	10.9	10.9	10.1	-10.3
GVA at Basic Prices	6.0	3.9	3.9	6.9	6.1	5.6	5.6	4.8	4.3	3.5	3.0	-22.8

FRE: First Revised Estimates; PE: Provisional Estimates.

Source: NSO.

months of imports, reflecting an increase of US\$ 67.8 billion over the level at end-March 2020.

III.2 Aggregate Supply

Gross value added (GVA) at basic prices which contracted in Q1:2020-21 (Table III.5) on a steep downswing in industrial and services sectors, appears to have stabilised, in Q2. The first advance estimates of production of major *kharif* crops for 2020-21 placed foodgrains production 0.8 per cent higher than last year's level. Coincident indicators of industry and some indicators of services also suggest that the pace of contraction is moderating in Q2.

III.2.1 Agriculture

Value added in agriculture and allied activities improved on the back of higher production of foodgrains and oilseeds. The fourth advance estimates for 2019-20 released in August 2020 placed foodgrains production at 2,966.5 lakh tonnes – 4.0 per cent higher than in the previous year – driven by the *rabi* output (Table III.6). While rice and wheat achieved record production levels for the fourth consecutive year, coarse cereals and oilseeds notched a record production level. Horticulture crops achieved production of 3,195.7 lakh tonnes in

2019-20 (growth of 2.7 per cent), driven by productivity growth (0.8 per cent) and increased area under cultivation of vegetables (2.4 per cent) and fruits (1.6 per cent) (Table III.6).

Table III.6: Agriculture Production

Item	Lakh tonnes		Growth (%)
	2018-19	2019-20	2019-20 over final estimate 2018-19
I. Total foodgrains	2,852.1	2,966.5	4.0
Rice	1,164.8	1,184.3	1.7
Wheat	1,036.0	1,075.9	3.9
Coarse cereals	430.6	474.8	10.3
Pulses	220.8	231.5	4.8
II. Commercial crops			
Sugarcane	4,054.2	3,557.0	-12.3
Cotton	280.4	354.9	26.6
Oilseeds	315.2	334.2	6.0
III. Total Horticulture Crops	3,110.5	3,195.7	2.7
III.1 Total Fruits	979.7	1,004.5	2.5
Banana	304.6	317.8	4.3
Citrus	134.0	140.3	4.7
Mango	213.8	205.3	-4.0
III.2 Total Vegetables	1,831.7	1,894.6	3.4
Onion	228.2	261.5	14.6
Potato	501.9	486.6	-3.0
Tomato	190.1	212.0	11.5
III.3 Plantation Crops	165.9	160.3	-3.4
III.4 Total Spices	95.0	97.5	2.7
III.5 Flowers and Aromatics	29.1	29.9	2.9

Source: Ministry of Agriculture and Farmers' Welfare, Government of India.

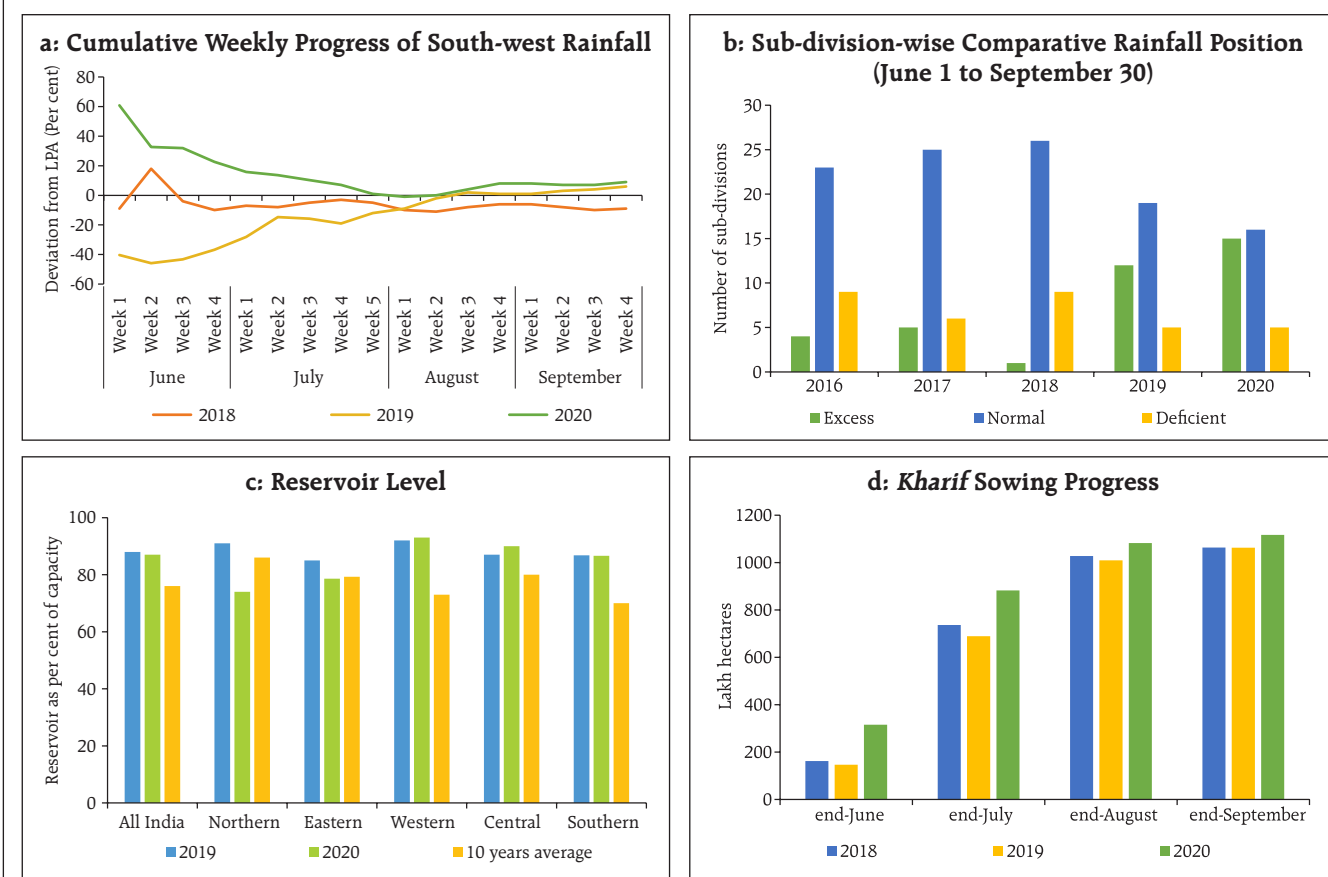
The stock of cereals at the end of October 1, 2020 was 2.2 times the buffer norms for Q3:2020-21. Minimum support prices (MSPs) announced for various crops for the both *kharif* and *rabi* season were higher in the range of 2.1 per cent to 12.7 per cent than in the previous year and assured a return of at least 50 per cent over the cost of production (as measured by A2 plus FL) across all crops.

The 2020 southwest monsoon arrived on time and made rapid progress, covering the entire country by June 26, 2020, *i.e.*, 12 days prior to the normal date. Notwithstanding a loss of momentum in the month of July, the monsoon revived subsequently, and the cumulative southwest monsoon rainfall stood at 9 per cent above the long period average (LPA) as on September 30, 2020 (Chart III.15a). As regards the spatial distribution, while 85 per cent of

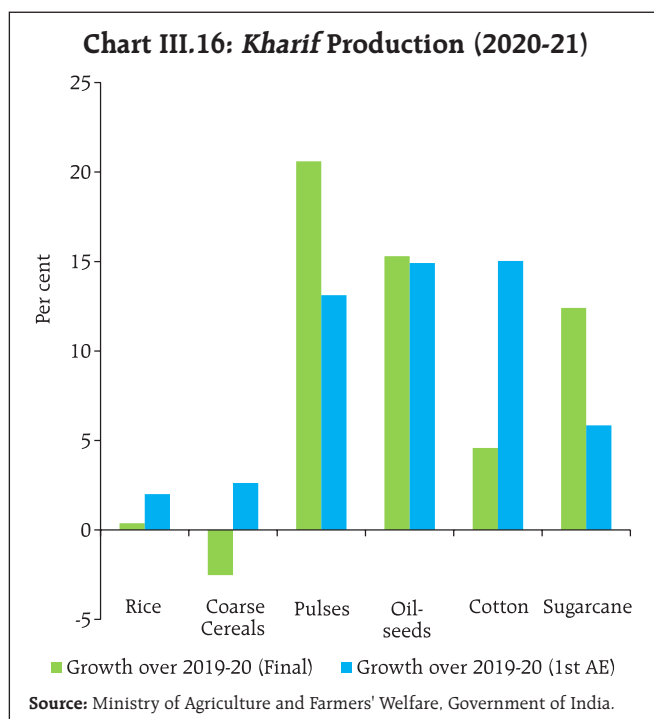
the sub-divisions received normal and above normal rainfall, the cumulative rainfall in North-West India remained 16 per cent below LPA (Chart III.15b). As on October 1, 2020, the live storage in major reservoirs was 87 per cent of the full reservoir level (FRL), marginally lower than previous year's level (88 per cent) but higher than decadal average of 76 per cent (Chart III.15c).

Spurred by the progress of precipitation, *kharif* sowing also started on higher note in the month of June. Standing at 4.6 per cent higher than the full season normal area, the overall *kharif* acreage has set a new record as on September 25, 2020 (Chart III.15d). Accounting for 48.9 per cent of the overall *kharif* acreage, rice and pulses sowing were higher by 5.6 per cent and 4.1 per cent, respectively, over the previous year's level which augurs well for foodgrains

Chart III.15: Progress of Rainfall and *Kharif* Sowing



Source: India Meteorological Department (IMD), Central Water Commission, and Ministry of Agriculture and Farmers' Welfare, Government of India.



availability. The first advance estimates of production of major *kharif* crops for 2020-21 placed foodgrains production at 1,445.2 lakh tonnes, 0.8 per cent higher than last year's level. Production of total *kharif* pulses and oil seeds is estimated to be substantially higher than in the previous year (Chart III.16).

High frequency indicators relating to the farm sector also reflect a strong momentum. After a dip in April, tractor sales improved sharply in the

subsequent months (Table III.7). Farm exports recorded a turnaround from June after experiencing contraction in the three preceding months. The demand for jobs under the Mahatma Gandhi National Rural Employment Guarantee scheme (MGNREGA) has surged, with a y-o-y growth of 74.2 per cent in June, although increased employment opportunities during the *kharif* sowing season and reverse migration to cities is also underway.

Under the *Atmanirbhar Bharat Abhiyan Package*, the government has announced measures to strengthen infrastructure logistics, capacity building, governance and administrative reforms for agriculture, animal husbandry, fisheries and food processing. These measures include 8 development schemes⁸ with fund allocation of ₹1.6 lakh crore. In addition, the government has also legislated three important governance and administrative reforms to attract private investments to the agriculture sector and make it competitive, *viz.*, amendment of the Essential Commodities Act, and promulgation of the Farming Produce Trade and Commerce (Promotion and Facilitation) bill and Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services bill. These measures represent long awaited reforms in the agriculture sector, and much hinges around successful implementation.

Table III.7: High Frequency Indicators for Rural Economy

Items	Growth	(Per cent)								
		Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20
Tractor sales	y-o-y	4.8	21.3	-49.9	-79.4	4.0	22.4	38.5	74.7	
Two wheeler sales	y-o-y	-16.1	-19.8	-39.8	0.0	-83.8	-38.6	-15.2	3.0	
Fertiliser Sales	y-o-y	48.2	13.8	-15.1	47.5	22.2	10.9	25.4	8.1	
Demand for employment (MGNREGA)	m-o-m	10.8	17.9	-6.6	-35.6	178.6	20.0	-28.6	-24.0	0.3
	y-o-y	-11.2	4.8	2.5	-37.2	48.9	74.2	73.6	66.6	71.1
Export - agri and allied sector	y-o-y	-5.5	1.4	-23.7	-26.4	-0.1	22.0	24.4	19.1	
Agriculture credit (Outstanding)	y-o-y	6.5	5.8	4.2	3.9	3.5	2.4	5.4		
Stocks-cereals (ratio of actual stocks to quarterly buffer norms)	Rice	5.4	6.6	6.5	3.3	3.1	2.9	2.8	2.2	2.4
	Wheat	2.2	2.0	1.8	4.8	7.5	7.4	2.0	1.7	2.1

⁸ Agriculture Infrastructure Fund, Promotion of Herbal Cultivation, Extension of Operation Greens to all fruits and vegetables (currently only for tomato, onion and potato), Formalisation of Micro Food Enterprises, PM *Matasya Sampada* Yojana, National Animal Disease Control Programme, National Animal Husbandry Infrastructure Development Fund and Scheme on Beekeeping.

III.2.2 Industry

Massive supply side disruptions due to COVID-19 and the ensuing lockdown resulted in industrial GVA contracting by 33.8 per cent during Q1:2020-21. (Chart III.18a). The fall was widespread across manufacturing and mining and quarrying activity (Chart III.17).

The index of industrial production (IIP) shrank by an unprecedented 35.5 per cent during Q1:2020-21. The extent of contraction in IIP, however, moderated in July, cushioned by electricity generation and this was also reflected in exclusion-based measures (Chart III.18b). On the other hand, the momentum gained in May, weakened in June and July due to re-imposition of lockdowns by some states (Chart III.18c).

In terms of the use-based classification, the contraction in Q1:2020-21 was dispersed across all categories (Chart III.18d).

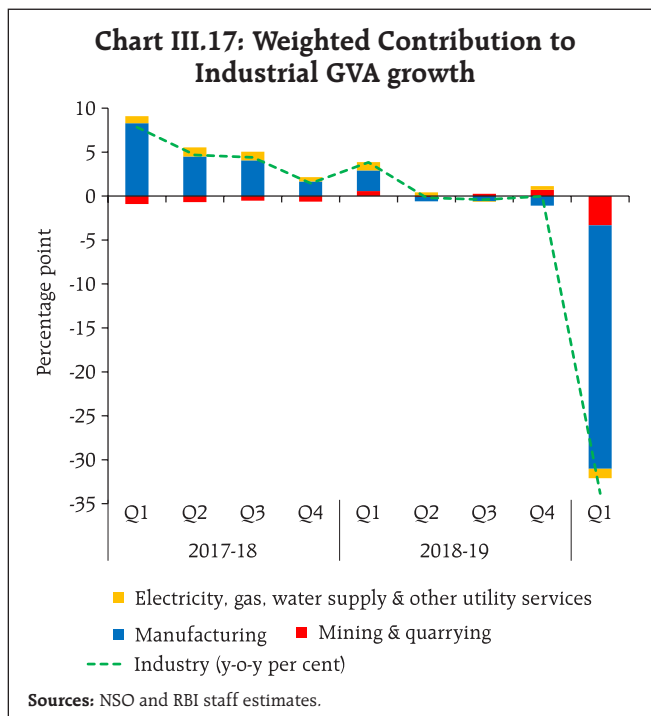
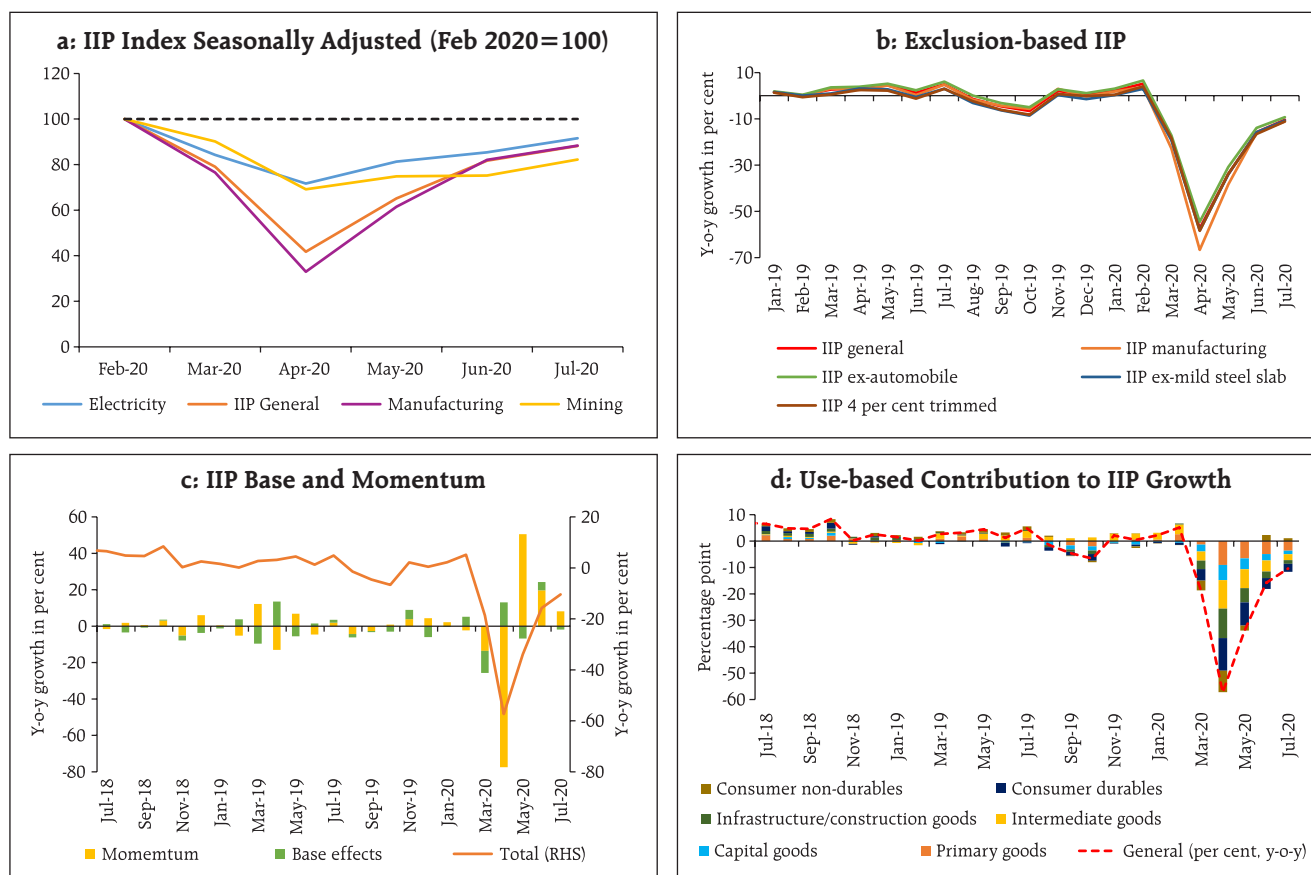
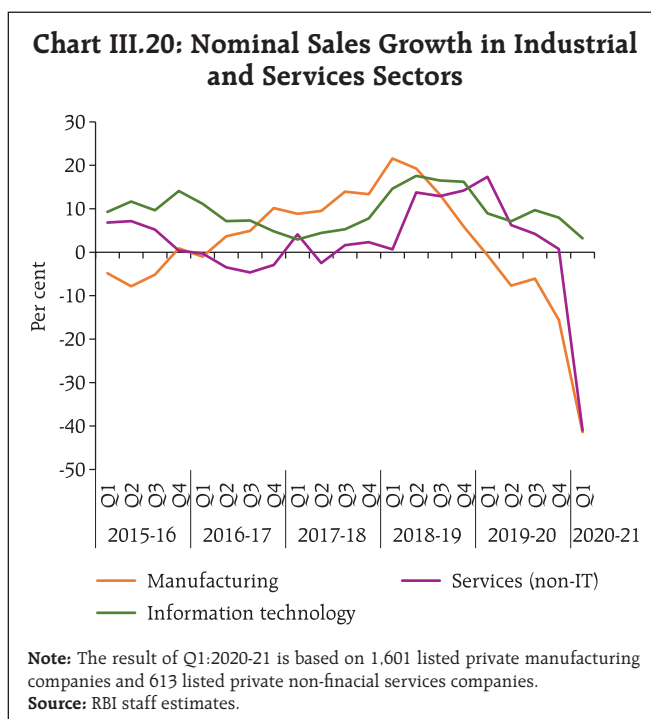
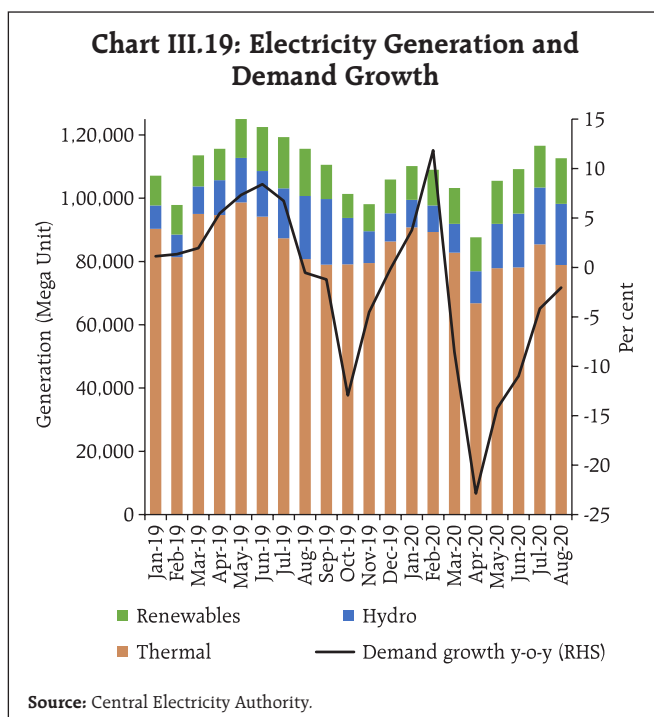


Chart III.18: Index of Industrial Production (IIP)

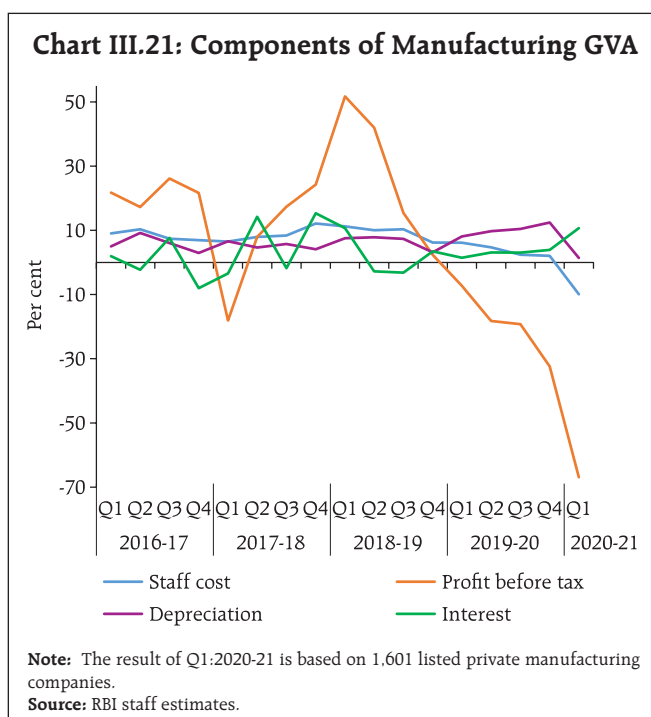


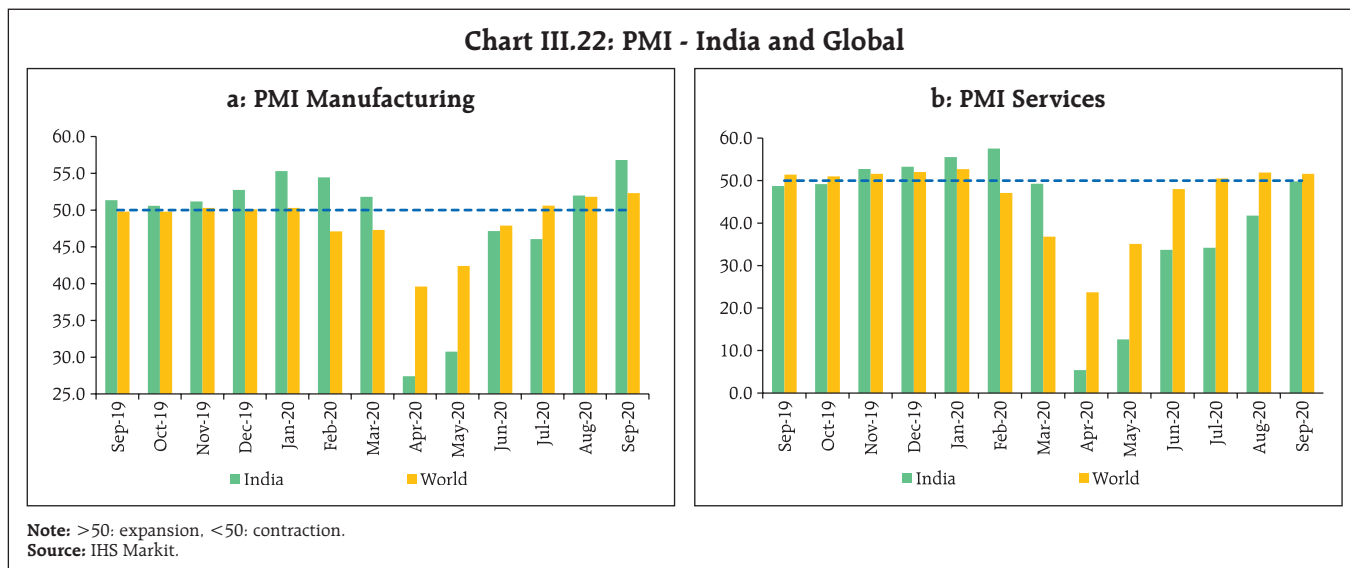
Consumer non-durables production, however, exhibited resilience and registered growth in June-July on the back of increase in the output of essential goods. Consumer durables fell substantially, with auto components, two wheelers, passenger cars, jewellery and textiles contributing the most to the decline. Capital goods, already on a declining trajectory since January 2019, plunged further during Q1:2020-21 and recorded moderation in contraction in July 2020, with commercial vehicles contributing highest to the decline. A silver lining, however, was provided by agricultural machinery, tractors, and solar power, which recorded positive growth.

Electricity generation also contracted during Q1:2020-21 due to shrinking demand, although the pace moderated considerably in May and June. Some signs of recovery became evident in July-August 2020 as demand improved with the easing of the lockdown. Hydro-electricity generation registered double-digit growth in July but contraction in August, while thermal power production remained in contraction during July-August 2020 (Chart III.19).



The contraction in manufacturing GVA in Q1:2020-21 was mirrored in sales of manufacturing companies (Chart III.20). Profit before taxes of manufacturing firms also dropped substantially (Chart III.21). Only IT companies maintained sales growth although at a decelerating pace.





As regards the overall business environment, the Reserve Bank’s business assessment index moved to 96.2 in Q2 (the 91st round of the industrial outlook survey) from 55.3 – the lowest in the series starting March 2000 after large deterioration in demand conditions but it remained in contraction zone. The business expectations index (BEI) also improved to 111.4 for Q4:2020-21 from 99.5 for Q3:2020-21. The manufacturing purchasing managers’ index (PMI) reached 56.8 in September, the highest reading since January 2012, supported by accelerated increases in new orders and production (Chart III.22a). Almost one-third of manufacturers expect output growth in the coming 12 months, as against 8 per cent that foresee a contraction, resulting in the strongest degree of overall optimism.

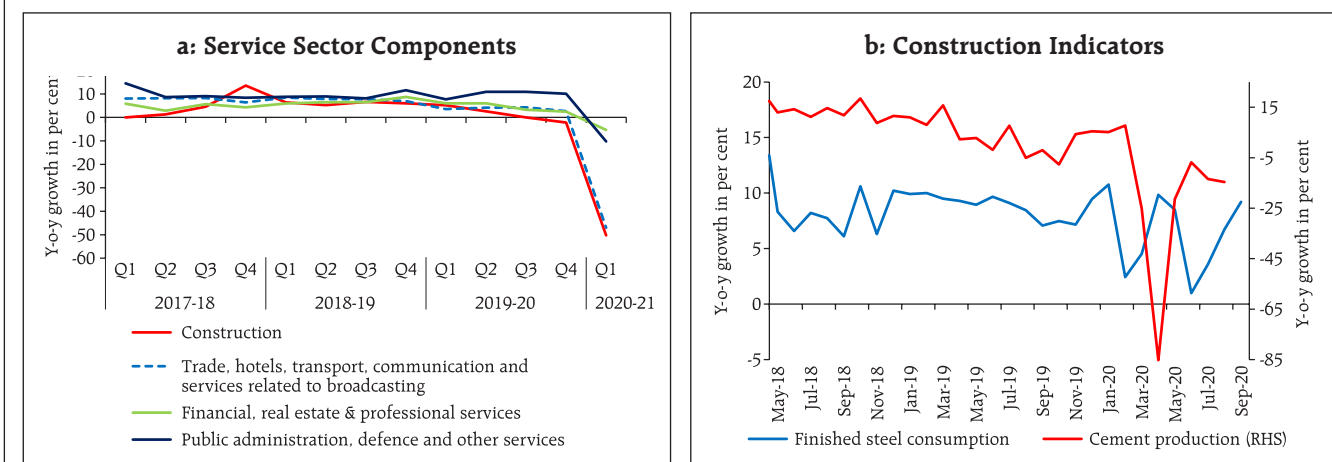
III.2.3 Services

In Q1:2020-21, COVID-19 brought major services activities to a near halt and the sector contracted in a broad-based manner by 24.3 per cent as against a growth of 5.5 per cent a year ago. Construction recorded the steepest decline (by 50.3 per cent), followed by trade, hotels, transport, communication and services related to broadcasting

(Chart III.23a). Indicators of construction activity – finished steel consumption and cement production – bottomed out in April 2020, the month of complete shutdown, and recovered in the following months, *albeit* still in contraction on a year-on-year basis (Chart III.23b).

Commercial vehicle sales – a lead indicator of transportation services – contracted by 84.8 per cent in Q1:2020-21. Vehicle registrations for July and August, however, showed signs of sequential improvement. Other indicators of transport segment – rail freight traffic, cargo handled by major ports and air cargo – registered sequential recoveries. Rail freight posted growth for the second consecutive month in September (Table III.8). Air passenger traffic, both domestic and international, came to an abrupt halt during April-May owing to restrictions on travel and posted sluggish growth thereafter. The services PMI sequentially improved to 49.8 in September 2020, *albeit* remained in contraction zone reflecting subdued domestic and tepid external demand (Chart III.22b). The rural sector showed resilience, with robust sales of tractors – a key agricultural machinery investment – during May-August.

Chart III.23: Service Sector: Components and Construction Indicators



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

In Q1:2020-21, decline in private education, health, entertainment and recreation activity led to fall in public administration, defence and other (PADO) services. Growth in revenue expenditure,

excluding interest payments and subsidies of central government, was robust in Q1:2020-21 and upto July before it tapered off in August. Supplementary demands of ₹1.67 lakh crore

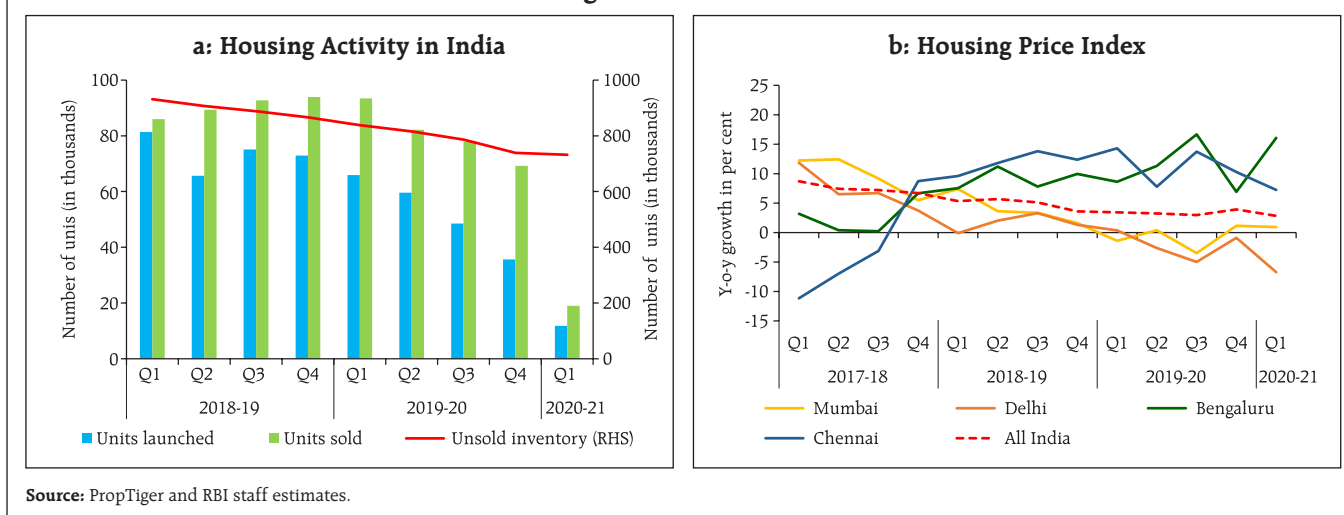
Table III.8: Services Sector: High Frequency Indicators

(YoY Growth in Per cent)

Sr. No.	Indicator	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20
1	Transport									
	Commercial Vehicles Sales	-14.0	-32.9	-88.1		-84.8				
	Passenger Vehicles Sales	-6.2	-7.6	-51.8	-100	-85.3	-49.6	-3.9	14.2	
	Two-wheeler Sales	-16.1	-19.8	-39.8	-100	-83.8	-38.6	-15.2	3.0	
	Tractor Sales	4.8	21.3	-49.9	-79.4	4.0	22.4	38.5	74.7	
	Railway Freight Traffic	2.8	6.5	-13.9	-35.3	-21.3	-7.7	-4.6	3.9	15.5
	Port Freight Traffic	2.2	4.6	-5.3	-21.1	-23.3	-14.6	-13.2	-10.4	-1.9
	Domestic Air Passenger Traffic	1.5	9.8	-32.9	-99.9	-97.4	-83.5	-82.6	-75.8	
	Domestic Air Cargo Traffic	0.8	1.7	-32.6	-92.8	-82.9	-48.0	-41.4	-36.0	
	International Air Passenger Traffic	0.2	-3.4	-56.2	-99.1	-98.0	-93.0	-90.4	-89.7	
	International Air Freight Traffic	-2.9	-3.1	-31.7	-77.0	-58.2	-35.7	-30.1	-24.9	
2	Communications									
	Telephone Subscribers Base	-2.2	-2.0	-0.5	-1.2	-1.6	-2.2			
	Mobile/Wireless	-2.2	-2.0	-0.4	-1.1	-1.6	-2.1			
3	Construction									
	Cement Production	5.1	7.8	-25.1	-85.2	-21.4	-6.8	-13.5	-14.6	
	Steel Consumption	4.1	-6.5	-29.2	-85.5	-48.3	-28.3	-11.7	-16.5	-5.7
4	Financial services									
	Non-food Credit	8.5	7.3	6.7	7.3	6.8	6.0	5.4	5.5	5.3
	Aggregate Deposits	9.9	9.0	7.9	9.9	10.6	11.0	11.1	10.9	10.5
5	Public Administration & Defence									
Revenue Expenditure*	-7.0	14.3	69.8	53.4	-26.4	97.7	24.4	-26.6		

*: excluding Interest payments and Subsidies.

Chart III.24: Housing Sector- Launches, Sales and Prices



by the central government will support GVA in PADO during Q2. GVA in financial, real estate and professional services fell in Q1:2020-21 due to weak performance of information technology companies after closing down of businesses in travel, tourism and hotel industries due to the pandemic. Real estate companies also suffered due to subdued sales growth. In financial services, bank credit growth decelerated while deposits growth marginally improved during May-September.

In residential real estate, both sales and new launches contracted in Q1:2020-21, primarily due to the lockdown and sluggish consumer sentiment, leading to rise in inventory overhang (Chart III.24a). The all-India housing price index of RBI decelerated in Q1:2020-21. The sub-indices for Delhi contracted substantially from the previous quarter while that for Bengaluru registered a substantial growth (Chart III.24b).

III.3. Conclusion

Available information suggests a gradual recovery is under way with the re-opening of the economy. While the rising number of COVID-19 infections continues to weigh on the near-term outlook, private consumption may recover faster than other components of aggregate demand with a boost from rural demand on the back of bright agricultural prospects. Private investment may, however, take longer to stabilize, hamstrung by low capacity utilisation, still subdued bank credit and the global recession. The prospects for the industrial sector hinge around the response to the government's initiatives, including Make in India. The gamechanger would be public capital spending, given its high multiplier effect. An early containment of the pandemic should also speed up the revival. The outlook for the services sector also improved with activity gaining some momentum in Q2.

IV. Financial Markets and Liquidity Conditions

During H1:2020-21, domestic financial markets returned to normalcy with a recovery in trading volumes, narrowing of spreads and rebounds in financial asset prices. Equity markets recovered strongly from panic sell-offs in March tracking global movements. The Indian rupee (INR) appreciated vis-à-vis the US dollar with the return of investor appetite for EME assets. In the credit market, transmission has improved considerably relative to the historical experience. Going forward, liquidity conditions would continue to be calibrated, consistent with the stance of monetary policy while ensuring normalcy in the functioning of financial markets and institutions and conducive financial conditions.

In Q2:2020-21, global financial markets have stabilised after recovering from the tailspin during February and March 2020. In more recent weeks, sentiments have been intermittently dampened by rising infections and geo-political tensions or lifted by news on the progress on the vaccine. In large measure, the calm in financial markets after the turbulence in March has been engendered by liquidity infusions, monetary policy actions by central banks and stimulus measures undertaken by national governments. Equity markets in major advanced economies (AEs) and emerging market economies (EMEs) have registered handsome gains with the return of risk-on sentiments. Gold prices surged to record highs in early August, but have been range-bound more recently. Bond yields softened and spreads narrowed in the wake of substantial unconventional liquidity operations and strong demand for safe assets; relative to other segments, however, bond markets have moved sideways and in a narrow range. In currency markets, the US dollar

depreciated markedly as fatalities increased amid rising infection numbers and with signals from the US Federal Reserve (FED) that monetary policy would continue to remain accommodative for a long period, reinforced by an average inflation targeting framework allowing transitory target overshoot to support maximum employment. Most EME currencies have appreciated against a weakening dollar and the return of capital flows after a hiatus.

IV.1 Domestic Financial Markets

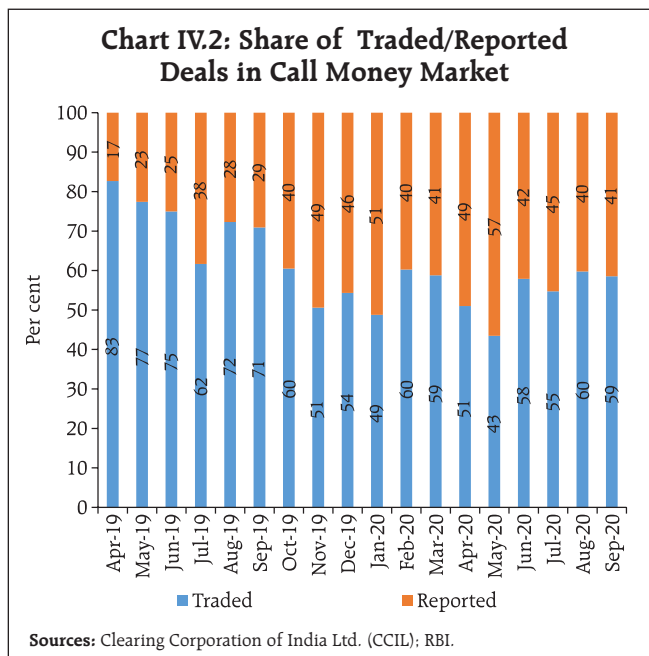
During H1:2020-21, domestic financial markets returned to normalcy with a recovery in trading volumes, narrowing of spreads and rebounds in financial asset prices after a near collapse in market activity, post the imposition of the nation-wide lockdown to combat COVID-19. A slew of monetary, liquidity, credit easing and regulatory measures by the Reserve Bank of India (RBI) and the government's stimulus package enthused market sentiment. Nevertheless, concerns about the duration of the pandemic, the large expansion in market borrowings by the public sector, border tensions and rising inflation prints intermittently kept markets on edge.

In money and bond markets, spreads compressed to below pre-COVID levels, spurring record corporate bond issuances. Equity markets recovered strongly from panic sell-offs in March tracking global movements. The Indian rupee (INR) initially came under pressure with the spread of the pandemic, but has subsequently appreciated *vis-à-vis* the US dollar with the return of investor appetite for EME assets. In the credit market, transmission has improved considerably relative to the historical experience, facilitated by large policy rate cuts, persisting abundance of liquidity and the introduction of the external benchmark system for the pricing of loans in select sectors. Bank credit growth has, however, remained tepid.

IV.1.1 Money Market

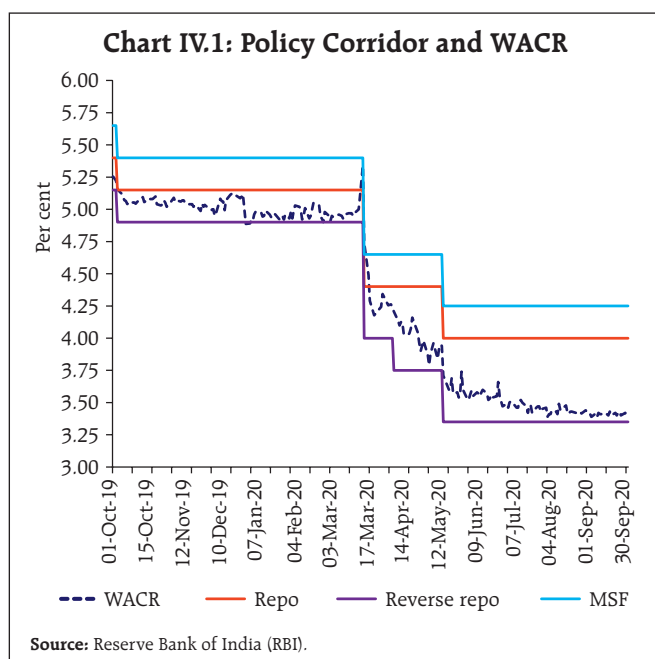
Money markets have remained broadly stable during H1:2020-21 due to proactive liquidity management by the Reserve Bank. In the overnight uncollateralised segment, the weighted average call rate (WACR) – the operating target of monetary policy – remained within the policy corridor although it traded with a distinct downward bias, reflecting the comfortable liquidity and financing conditions (Chart IV.1).

In the call money segment, the weighted average rate on traded deals persisted above rates on reported deals.¹ The share of reported deals increased to 57 per cent in May 2020 from 49 per cent in the previous month due to increase in lending activity by co-operative banks whose share increased to 68 per cent in May (Chart IV.2). The increasing share of reported deals also contributed to pulling down the WACR closer to the reverse repo rate in May 2020. The share of reported deals moderated in September

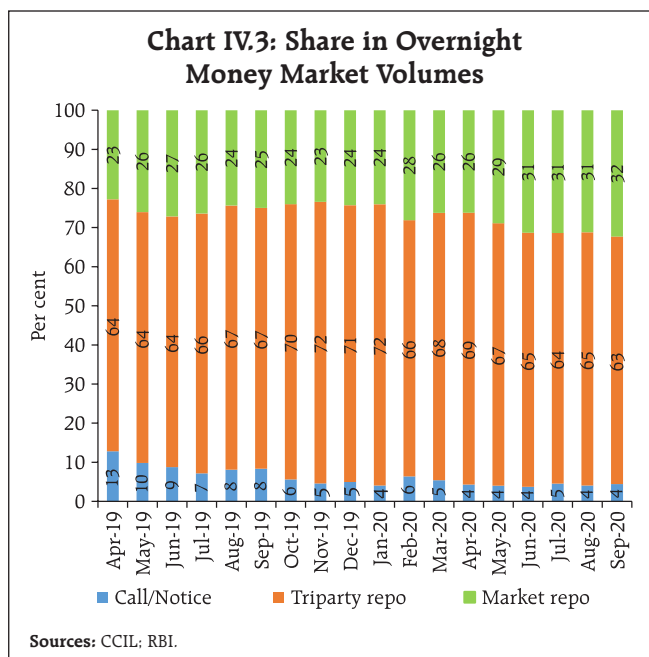


(41 per cent) in tandem with reduced lending (58 per cent) by co-operative banks.

The secured segments (triparty repo and market repo) remained dominant in overnight money market activity in H1:2020-21, with a share of more than 95 per cent in total volumes (Chart IV.3). Within the secured segment, market repos gained in turnover, reflecting



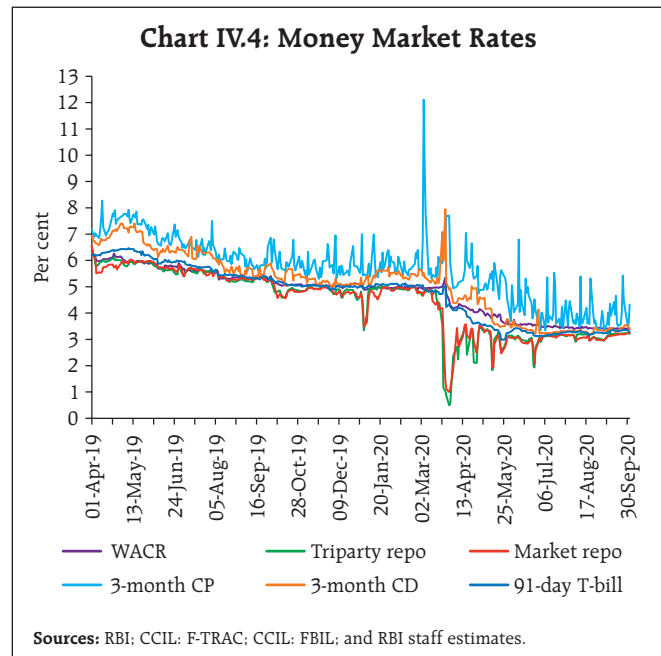
¹ 'Traded deals' are made directly on the negotiated dealing system (NDS)-Call platform whereas 'reported deals' are over-the-counter (OTC) transactions and reported on the NDS-Call platform after the deals are negotiated.



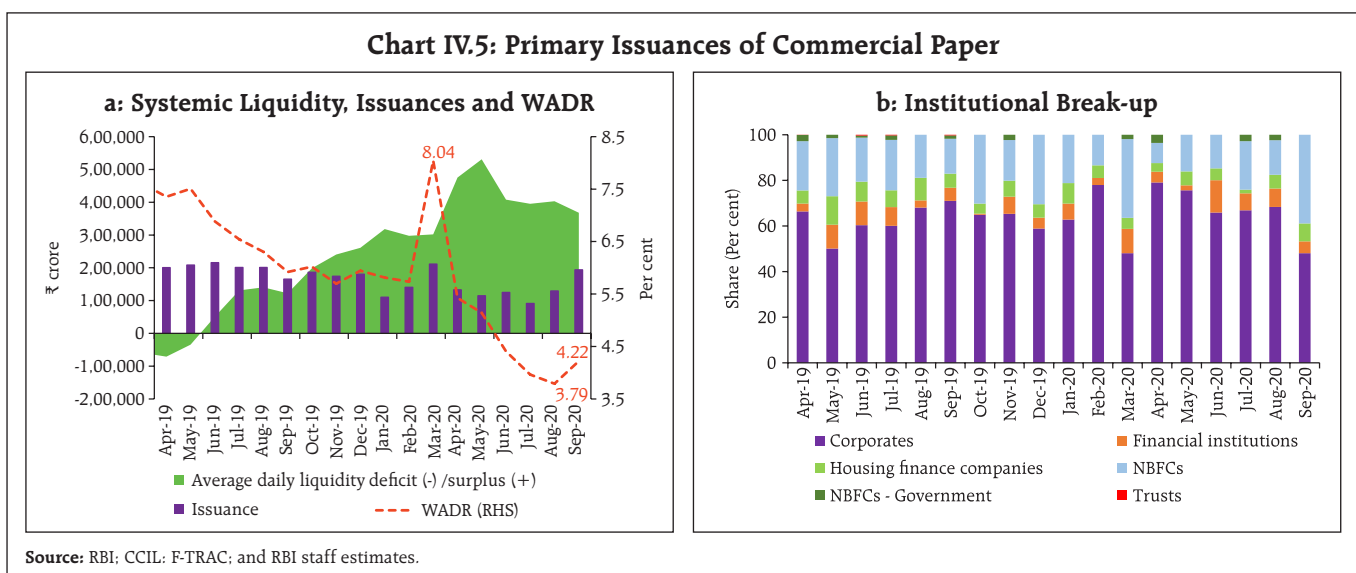
(i) increase in participant base and (ii) increased lending by mutual funds. The shares of borrowings by public sector banks in both the triparty repo and market repo segments moderated in H1, while private sector banks increased their share of borrowings in the triparty repo segment.

Interest rates in the secured overnight segments traded below the reverse repo rate in H1 reflecting the surplus system liquidity conditions and increased lending by mutual funds. As a result, the spread between the collateralised rates and the uncollateralised rate (WACR) widened (Chart IV.4): the triparty repo rate and the market repo rate traded below the WACR by 59 basis points (bps) and 58 bps, respectively, in H1:2020-21 as against 36 bps and 37 bps, respectively, in H2:2019-20.

Interest rates on money market instruments such as certificates of deposit (CDs), commercial papers (CPs) and Treasury Bills (T-bills) of 3-month maturity softened by 156 bps, 155 bps and 97 bps, respectively, in H1:2020-21, reflecting the policy rate cuts and liquidity augmenting measures. Fresh issuance of CDs by banks moderated to ₹45,165 crore during H1:2020-21 (up to September 11, 2020) from around ₹1.75 lakh



crore in the corresponding period of H1:2019-20 in view of surplus liquidity and muted credit demand. Aggregate CP issuances declined to ₹7.9 lakh crore during H1:2020-21 from ₹11.9 lakh crore during H1:2019-20 (Chart IV.5a), although corporates took advantage of lower interest rates and increased their share. The share of non-banking financial companies (NBFCs) in CP issuances, which was low at the



beginning of H1, increased sharply in September 2020 in response to the measures taken by the Government to provide liquidity support to the non-bank lenders through the special liquidity scheme and partial credit guarantee scheme. The share of government owned NBFCs, however, declined in September 2020 as they preferred longer-term borrowings (Chart IV.5b).

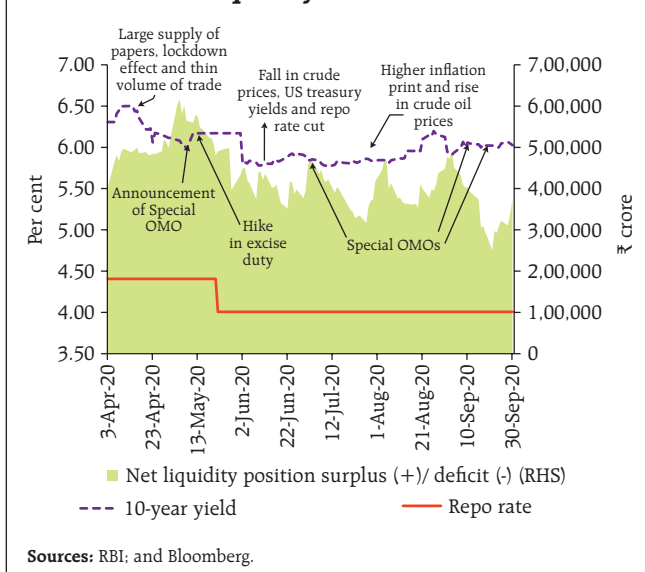
IV.1.2 Government Securities (G-sec) Market

During H1:2020-21, yields on government bonds moderated, with the 10-year paper softening by 29 bps in response to the slew of conventional and unconventional measures taken by the Reserve Bank to enhance systemic liquidity and compress term spreads. These measures headed off persistent upward pressures on yields from the higher supply of paper.

The hardening of yields at the beginning of Q1:2020-21 was mitigated by liquidity augmenting measures announced in the second half of April and May (Section IV.3 provides details).² With the announcement of an enhancement of Central Government market borrowings by about 54 per cent – from ₹7.8 lakh crore to ₹12.0 lakh crore – for 2020-21, however, the benchmark yield rose by 20 bps on May 11, 2020. In June, several factors *viz.*, low demand for dated securities; border tensions; rating downgrade by Fitch Ratings; and supply fatigue from increased issuances of T-bills and state development loans (SDL) kept yields firm. Subsequently, however, softening US treasury yields, fall in crude oil futures, and the announcement of special open market operations (OMOs) or "Operation Twist", eased pressure on yields by end-June (Chart IV.6). Overall, the 10-year benchmark yield softened by 15 bps in Q1:2020-21.

² In the first week of May, yields also eased tracking the lower cut-off in auction for a new 10-year security.

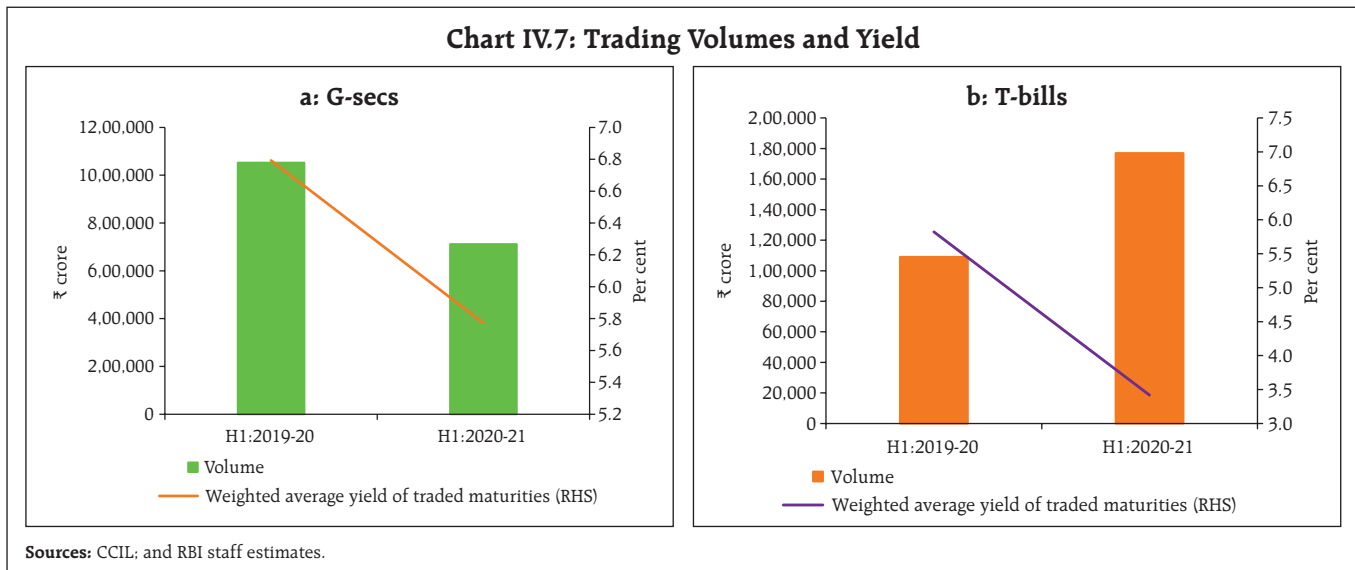
Chart IV.6: 10-year Generic Yield, Repo Rate and Liquidity Conditions



In Q2:2020-21, yields exhibited a hardening bias on a rise in fuel prices and higher inflation prints for June and July. The Reserve Bank conducted five operation twist auctions during July-September and backed them up with an increase in the limit of SLR securities kept under the held to maturity (HTM) category by 2.5 per cent of NDTL – from 19.5 per cent to 22 per cent. Overall, the 10-year yield (5.79 per cent GS 2030) hardened by 12 bps in Q2, mainly reflecting a 24 bps rise in August.

Trade in Dated Securities

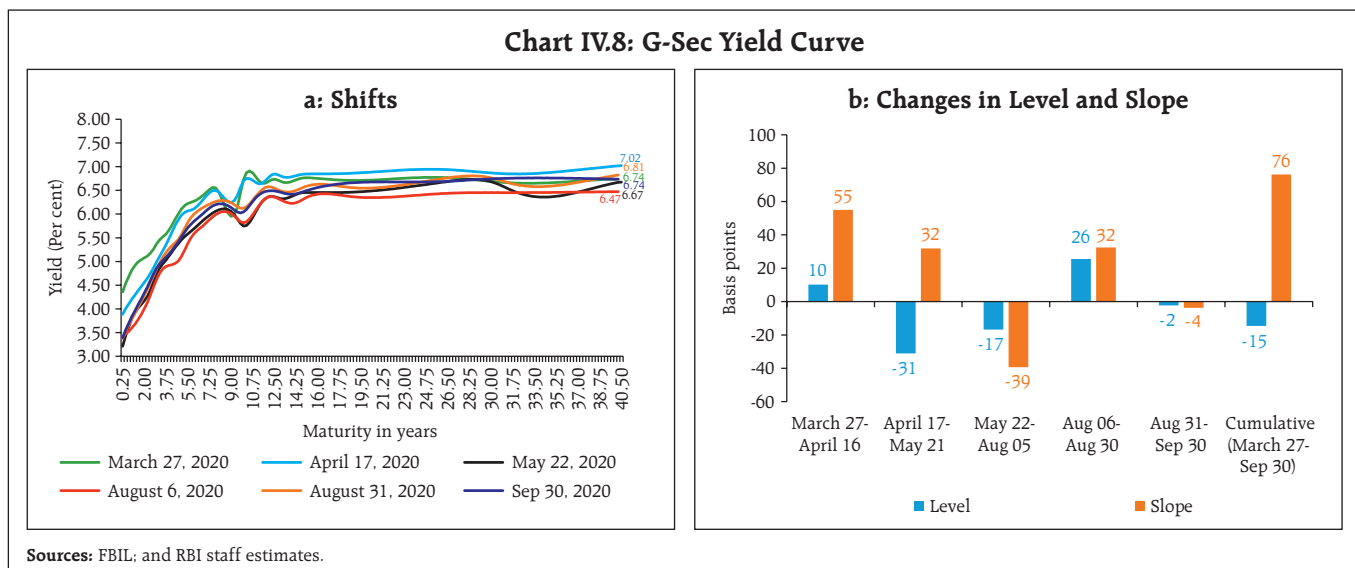
Owing to the near cessation of market activity after the imposition of the nation-wide lockdown, the growth of average trading volume in G-sec segment was 32.3 per cent lower during H1:2020-21 than a year ago (Chart IV.7a). In contrast, the growth of average trading volume in T-bills (including cash management bills) was 62.3 per cent higher, reflecting the market preference for securities of shorter tenor to minimise duration risk amidst the uncertainty caused by the pandemic (Chart IV.7b).



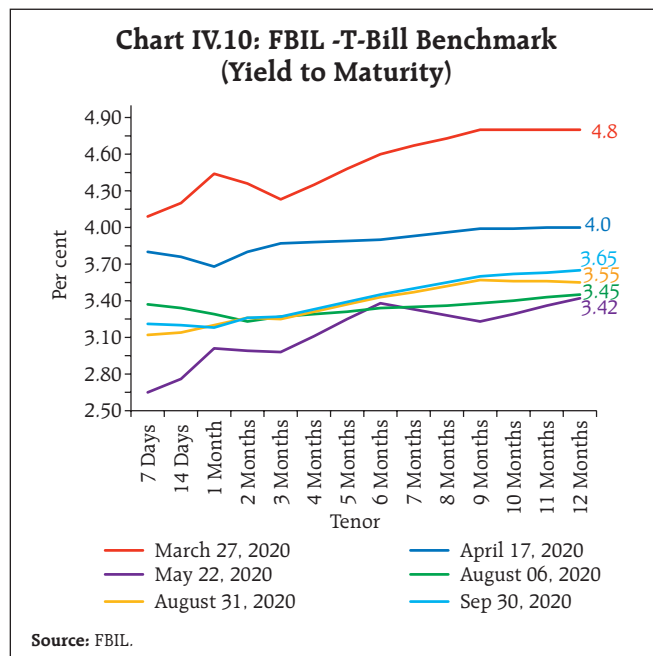
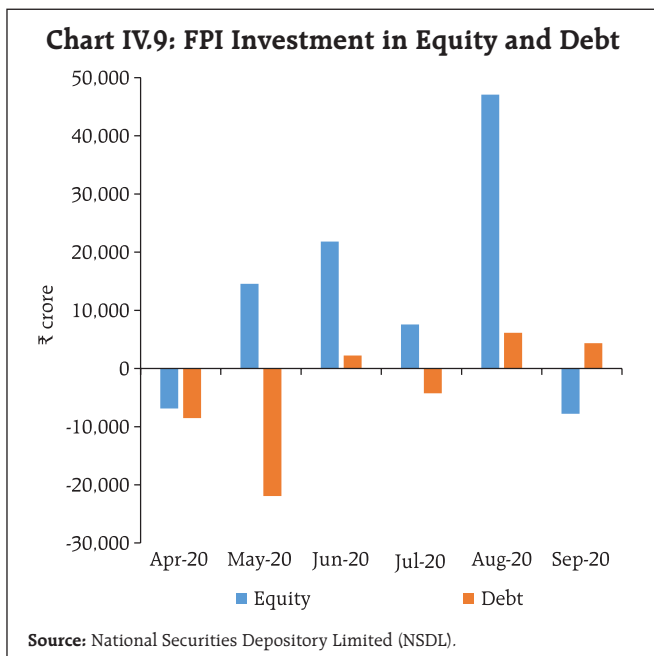
The yield curve responded to policy measures as well as to evolving global/domestic developments during H1:2020-21, as reflected in shifts in latent factors viz., level and slope (Chart IV.8a).³ The average level softened by 15 bps in H1 while the slope of the yield curve steepened considerably (76 bps), the latter reflecting the softening of rates at the shorter-end due to monetary easing and persistent pressures at the longer end from apprehensions of higher supply of papers in that segment (Chart IV.8b).

FPI Investment in G-Sec

After the outbreak of the pandemic, foreign portfolio investors (FPIs) turned net sellers in both the equity and the debt segments in April 2020. With receding uncertainty and improvement in market sentiment, FPIs turned net buyers in the equity markets beginning in May. In the debt segment, however, they largely remained net sellers during May and July owing to India's outlook downgrade by Fitch and Moody's



³ While the level is the average of all yields across maturities, the slope is given by the difference in yield between the longest and the shortest maturity (term spread).



and escalation of trade tension between the US and China. Measures to infuse additional liquidity globally and favourable domestic and international factors turned FPIs into net buyers in the equity segment (May-August) and in the debt segment during August. Renewed concerns about domestic growth prospects, coupled with weak global cues, turned FPIs into net sellers in the equity segment as against net buyers in the debt segment in September (Chart IV.9).

Treasury Bills

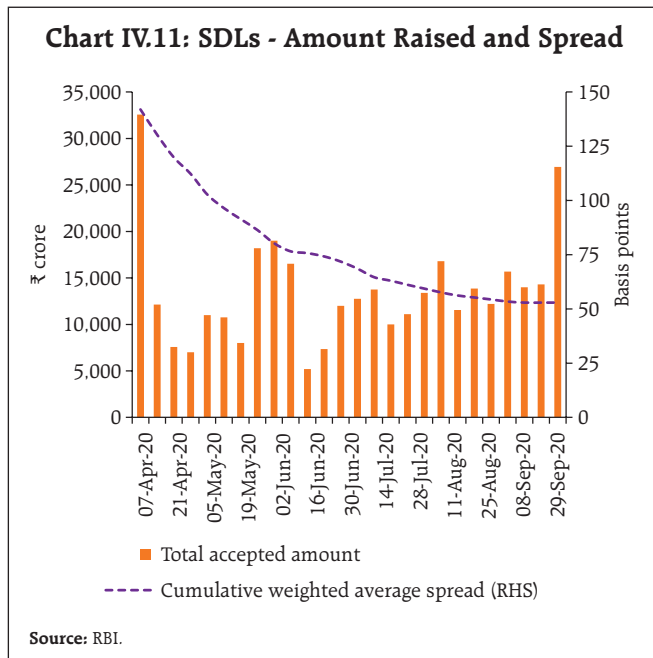
After a 75 bps policy rate cut and the announcement of liquidity augmenting measures on March 27, 2020, yields on T-bills softened sharply, dipping below the reverse repo rate (Chart IV.10). In the face of pandemic-induced uncertainty, the demand for short-term and liquid securities increased significantly. Accordingly, the Reserve Bank in consultation with the GoI increased the issuance limit of T-bills from ₹25,000 crore per week to ₹45,000 crore per week for the quarter ending June. This was subsequently reduced to ₹35,000 crore per week in Q2:2020-21.

State Development Loans

The weighted average spread of cut-off yields on state development loans (SDLs) over the G-sec yield of corresponding maturity at 53 bps during H1:2020-21 was marginally higher by 1 bps on a year-on-year basis (Chart IV.11). The average inter-state spread on securities of 10-year maturity (fresh issuance) was higher at 9 bps in H1:2020-21 (4 bps in H1:2019-20). In order to enable states/UTs to counter the pandemic-related stress on their finances, the ways and means advances (WMA) limit for State Governments was increased by 60 per cent in two stages (April 1 and April 17). The number of days for which a state/UT can be in overdraft was also increased, effective April 7, 2020.

Switching of Securities

In order to facilitate debt consolidation, the Reserve Bank conducted five switch operations on behalf of the government amounting to ₹76,047 crore during H1:2020-21. Reflecting these operations, the weighted average maturity (WAM) of outstanding



stock of G-secs increased to 10.97 years as at end-September from 10.54 years at end-March 2020. As at end -September, the weighted average coupon (WAC) at 7.44 per cent was lower than 7.69 per cent at end-March 2020.

IV.1.3 Corporate Bond Market

The corporate bond market, which experienced severe stress during March-April 2020 after the

outbreak of COVID-19, regained normalcy during the rest of H1:2020-21 with decadal low yields, record primary market issuances and increased secondary market turnover. During H1:2020-21, yields on AAA-rated 3-year bonds issued by NBFCs; corporates; and public sector undertakings (PSUs), financial institutions (FIs) and banks moderated significantly – by 157 bps, 170 bps and 114 bps, respectively – aided by surplus liquidity conditions, targeted long-term repo operations (TLTROs) and “operation twist” auctions (Chart IV.12a). The fall in yields (of similar maturity) was also evident across issuer categories and credit ratings (Chart IV.12b).

Resource mobilisation through issuances of corporate bonds in the primary market at ₹3.2 lakh crore during H1:2020-21 (up to August 2020) was higher by 23.5 per cent than ₹2.6 lakh crore during the corresponding period of the previous year (Chart IV.13a). Almost the entire resource mobilisation in the corporate bond market (99.7 per cent) was through the private placement route. Outstanding investments by FPIs in corporate bonds declined to ₹1.5 lakh crore at end-September 2020 from ₹1.7 lakh crore at end-March 2020. Consequently, FPIs’ utilisation of the approved limit for investment in corporate bonds

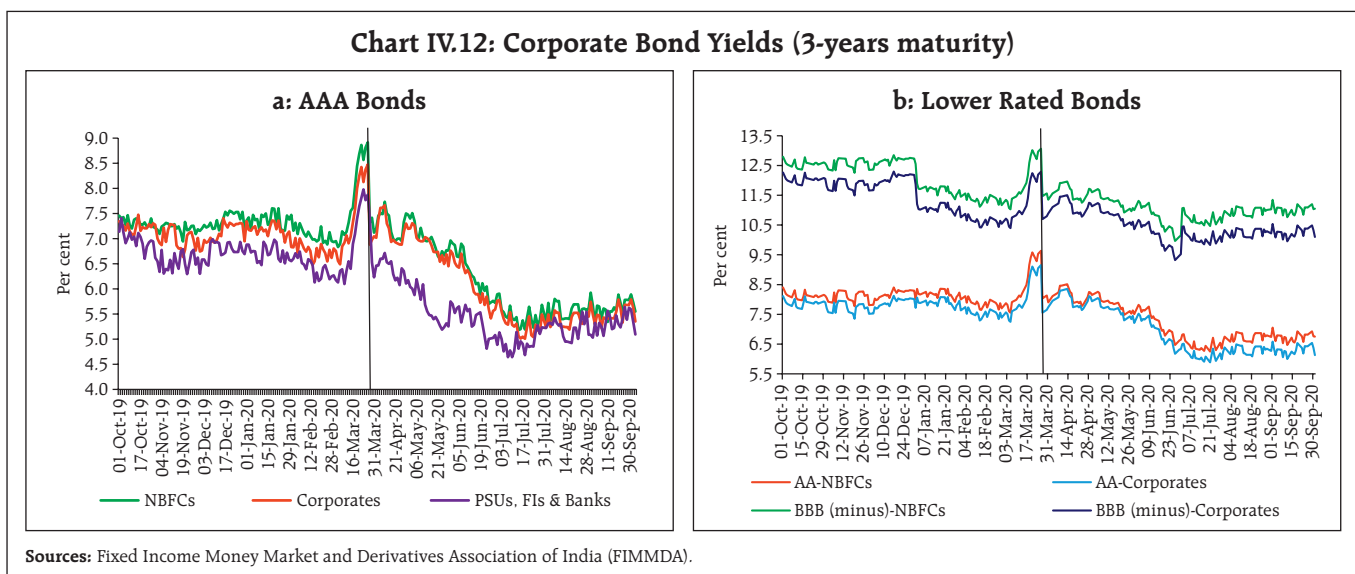
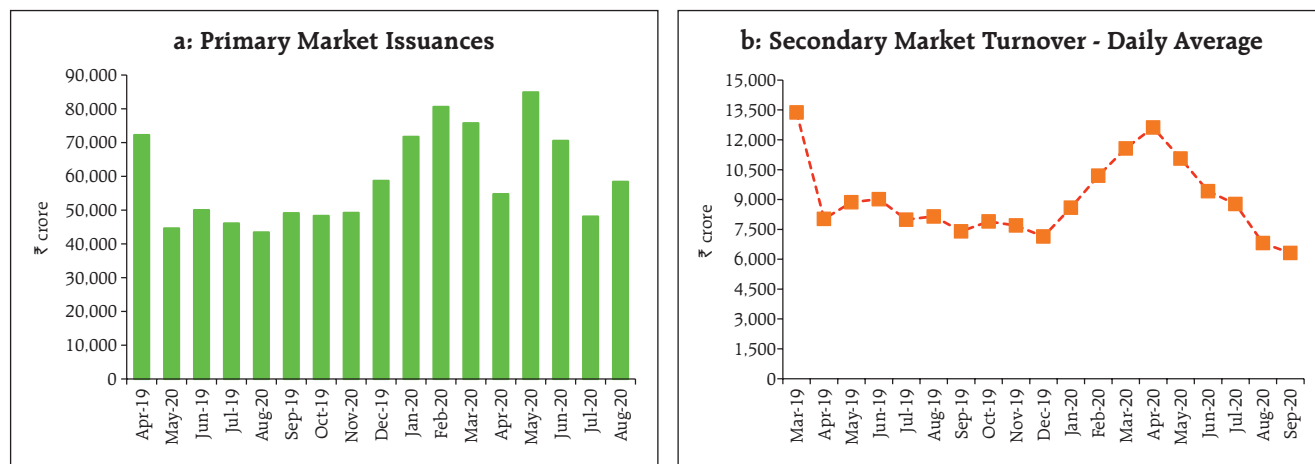


Chart IV.13: Corporate Bond Market Activity



Source: SEBI.

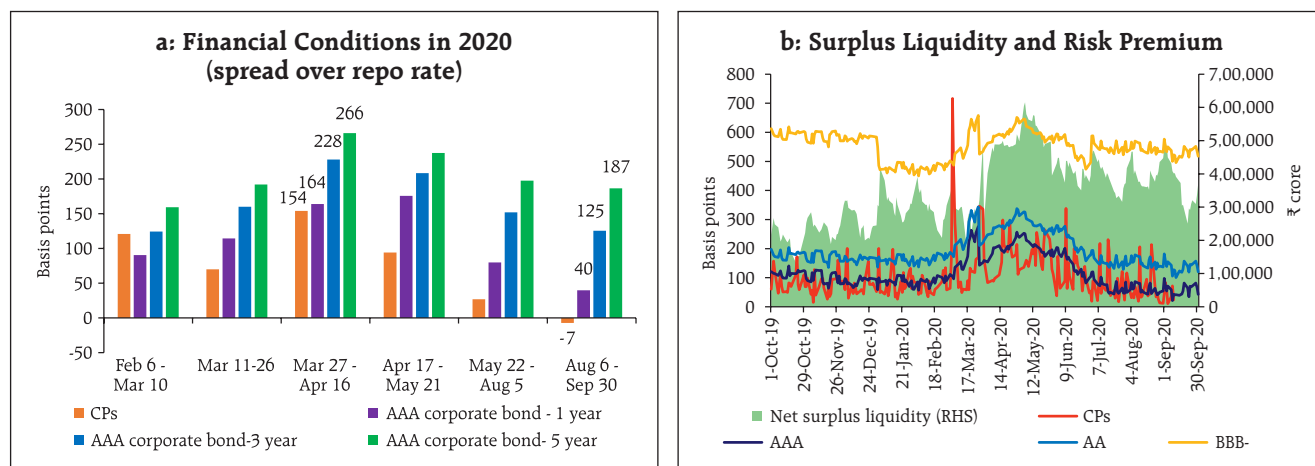
declined to 33.8 per cent at end-September 2020 from 54.5 per cent at end-March 2020. The daily average secondary market trading volume in the corporate bond market increased by 8.9 per cent to ₹8,985 crore during H1:2020-21 over the corresponding period of the previous year (Chart IV.13b), boosted by the regulatory requirement of investing a part of TLTRO funds in the secondary market.

Following the outbreak of the pandemic, global spillover effects resulted in a significant tightening of domestic financial conditions, which peaked between end-March and mid-April but moderated gradually

thereafter (Chart IV.14a). The spread on 3-month CPs (over 91-day T Bills) reduced from 170 bps on March 26, 2020 to 105 bps by September 30, 2020 while that on AAA-rated 3-year bonds (over 3-year G-sec) issued by corporates fell from 276 bps to 43 bps during the same period (Chart IV.14b).

Over the same period, the spreads on lower rated corporate bonds also moderated significantly: by 223 bps for AA-rated 3-year bonds and by 140 bps on BBB- (BBB minus) rated 3-year bonds – the lowest rated investment grade bonds (Table IV.1). The market perception of credit risk also eased with the gradual

Chart IV.14: Financial Conditions, Systemic Liquidity and Spreads



Sources: FIMMDA; RBI and Bloomberg.

Table IV.1: 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 September 30, 2020	Variation (in bps)	As on March 26, 2020	As on September 30, 2020	Variation (in bps)
(1)	(2)	(3)	(4 = 3-2)	(5)	(6)	(7 = 6-5)
CP (3-month)	6.74	4.32	-242	170	105	-65
Corporate Bonds [#]						
(i) AAA (1-yr)	7.76	4.35	-341	246	47	-199
(ii) AAA (3-yr)	8.47	5.35	-312	276	43	-233
(iii) AAA (5-yr)	7.84	6.10	-174	141	50	-91
(iv) AA (3-yr)	9.15	6.13	-302	344	121	-223
(v) BBB-minus (3-yr)	12.29	10.10	-219	658	518	-140
10-yr G-sec	6.22	6.01	-21	-	-	-

[#]: Issued by Corporates.

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

unlocking of the economy: State Bank of India's and ICICI Bank's 3-year credit default swap (CDS) spreads reduced by 77 bps and 85 bps, respectively, during H1:2020-21.

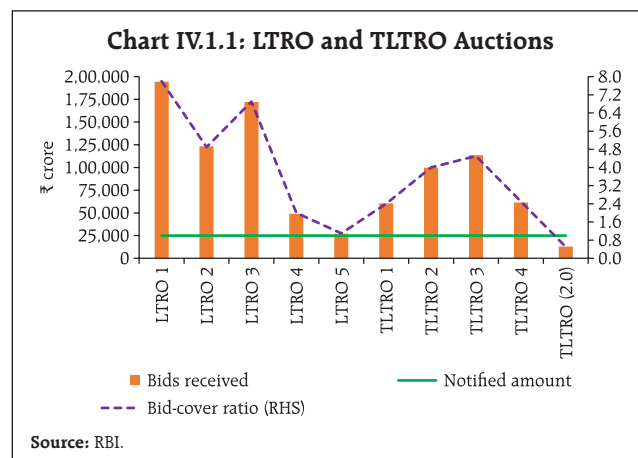
Summing up, the measures undertaken by the Reserve Bank and the Government have restored

stability in financial markets and institutions. Fears of illiquidity, which froze market activity across various segments, have been dispelled as reflected in softening of yields and narrowing of spreads across money and bond market instruments (Box IV.1).

Box IV.1: Unconventional Monetary Policy Measures: Impact on Bond Market

Various measures undertaken by the Reserve Bank to augment system-level and targeted liquidity produced differential responses in terms of varying intensity of appetite for funds as reflected in the bid-cover ratio (Chart IV.1.1).

The announcement effects of LTROs and TLTROs on the benchmark 10-year G-sec yield is examined over a 3-hour period (windows of 15 minutes interval) prior to and after the announcement. Based on the two-sample Wilcoxon rank-sum (Mann-Whitney) tests, six out of the eight announcements had a statistically significant downward impact on yields prior to and post announcement of auctions (Table IV.1.1).⁴



Source: RBI.

Table IV.1.1: Difference in G-Sec Yields Pre- and Post-Announcement of Auctions – Tests of Significance

Announcement Dates	LTROs			TLTROs				
	Feb.07	Feb.25	Mar.16	Mar.27	Mar.30	Apr.03	Apr.15	Apr.17
z-stat	4.157	0.693	-3.637	2.744	4.157	-4.157	3.465	4.157
Probability that post-announcement yield is lower than pre-announcement	1.000	0.583	0.063	0.830	1.000	0.000	0.917	1.000

(contd.)

⁴ Although there were ten auctions of LTROs and TLTROs in all, there were eight announcements for these auctions, as two auctions (February 17 and 24) were announced on February 7 and another two auctions (March 2 and 9) on February 25, 2020.

For the six announcements for which the decline in yields was statistically significant, the duration and magnitude of the announcement effect on intra-day yields can be examined by the average difference in yields at intervals of 15 minutes post-announcement from that of the average yield an hour prior to the auction announcement. The maximum average impact is found fifteen minutes after the announcement with a moderation of about 4 bps in yields from the average of the hour before announcement (Chart IV.1.2). An hour after the announcement, the moderation in yields turns statistically insignificant.

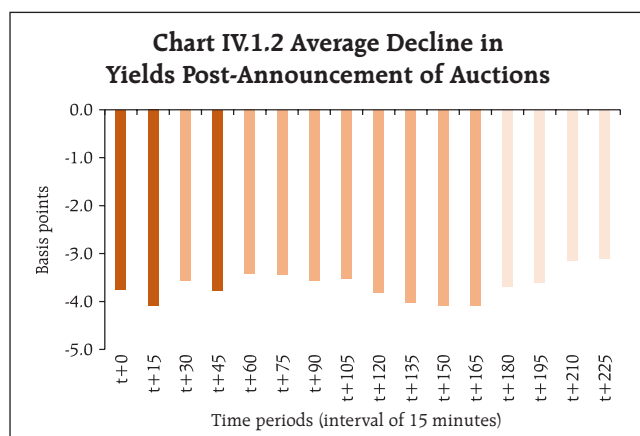
In order to explore the impact of the actual auction outcome on yields and their persistence in an event study framework (Hartley and Rebucci, 2020), an autoregressive (AR) model is estimated, based on data spanning December 2019-August 2020, for daily changes in 10-year bond yields (G-sec as well as corporate bonds separately) regressed on LTRO and TLTRO auction dates (as dummies) with controls for other key variables that can impact yields,

viz., changes in the policy repo rate, and changes in the US economic policy uncertainty⁵ (as a proxy for factors such as international oil prices and yield movements), with the following specifications:

$$\Delta Gsec_t = \alpha_0 + \sum_{i=1}^n \beta_i * \Delta Gsec_{t-i} + \sum_{i=1}^n \phi_i * \Delta Policy^i + \sum_{i=1}^n \gamma_i * \Delta US_Index^i + \sum_{i=1}^5 \delta_i * LTRO^i + \sum_{i=1}^5 \psi_i * TLTRO^i + \varepsilon_t \quad (1);$$

$$\Delta Corpb_t = \alpha_0 + \sum_{i=1}^n \beta_i * \Delta Corpb_{t-i} + \sum_{i=1}^n \phi_i * \Delta Policy^i + \sum_{i=1}^n \gamma_i * \Delta US_Index^i + \sum_{i=1}^5 \delta_i * LTRO^i + \sum_{i=1}^5 \psi_i * TLTRO^i + \varepsilon_t \quad (2)$$

The estimates indicate that the LTRO and TLTRO auctions softened yields on 10-year G-secs and on 10-year corporate bonds by around 29 bps and 47 bps, respectively (Table IV.1.2)⁶. The reduction in the policy rate (from 5.15 per cent to 4.0 per cent over the sample period) is estimated to have softened G-sec and corporate bond yields by another 8-9 bps. Overall, the measures undertaken by the Reserve Bank had a sobering impact on yields and risk spreads, which helped in easing market stress and softening financing conditions.



Note: Deeper, moderate and lighter shades indicate that median difference is significantly different from zero at 5 per cent level, 20 per cent and 30 per cent level of significance, respectively, using Wilcoxon signed-rank test.
Source: RBI staff estimates.

Reference:

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.

Table IV.1.2: UMP Impact on Bond Yields

Variables	ΔG-sec	ΔCorporate bond
ΣLag (-1 to -2)	-0.067	0.025
ΔPolicy rate	0.082***	0.069***
ΔUS policy uncertainty (-1)	0.00006	0.0003
ΣLTRO	-0.0566*	-0.227***
ΣTLTRO	-0.238***	-0.242***
ΣLTRO + ΣTLTRO	-0.294***	-0.470***
Diagnostic tests (p-values)		
BG LM test for the null of no autocorrelation of residuals	0.325	0.192
ARCH LM test for conditional heteroscedasticity	0.310	0.923

Notes: **, ***, Denote 10, 5 and 1 per cent level of significance, respectively.
Source: RBI staff estimates.

⁵ 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; Data source: US Federal Reserve Bank of St. Louis website.

⁶ TLTRO2 is not considered as the auction date of April 3, 2020 coincided with (i) the announcement of TLTRO3; (ii) change of market timing by RBI; and (iii) announcement of large borrowing programme for H1:2020-21.

IV.1.4 Equity Market

After undergoing intense volatility in Q4:2019-20 following the COVID-19 outbreak with a massive disruption in business activity, the Indian equity market made a strong V-shaped recovery in H1:2020-21. The BSE Sensex gained 46.5 per cent in H1:2020-21 after hitting a low of 25981 on March 23, 2020 (Chart IV.15a). Strong rallies in global equity markets on the back of massive fiscal and monetary stimuli in major countries and the measures undertaken in India boosted domestic market sentiments.

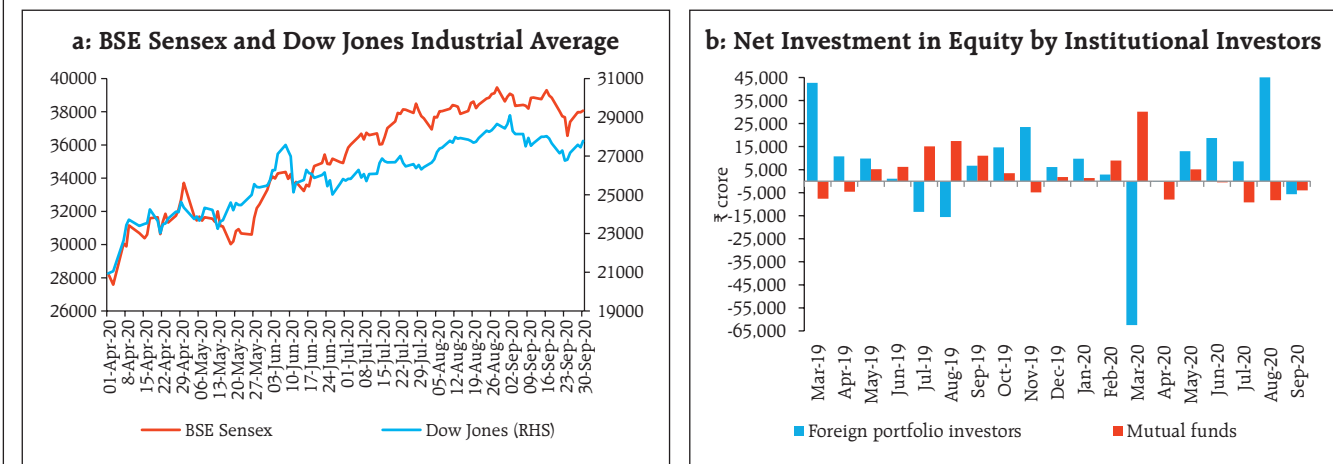
In Q1:2020-21, the equity market had posted its biggest monthly gain in 11 years in April 2020, with the BSE Sensex increasing by 14.4 per cent. In the later part of April, the closure of six debt fund schemes by a mutual fund weighed adversely on domestic market sentiment. This was quickly reversed, however, following the Reserve Bank’s announcement of liquidity augmenting measures, including the special liquidity facility for mutual funds (SLF-MF) on April 27, 2020.

Bearish sentiments gripped the stock market in early May, with the Sensex declining by 2002 points (5.9 per cent) on May 4 in sync with global peers amidst (i) escalating tensions between US and China;

(ii) dismal quarterly earnings results of corporates; and (iii) extension of lockdown till end-May. The announcement of the ₹20 lakh crore “*Atmanirbhar Bharat*” stimulus package by the Government and a large policy repo rate cut by the Reserve Bank on May 22 boosted investor sentiment. The market rebounded in June 2020 with the BSE Sensex posting its best quarterly return (18.5 per cent) since 2009. Border tensions and downward revision in India’s GDP growth projections for 2020-21 by various agencies capped the upside in equities.

The recovery continued in July and August on the back of positive news from encouraging trials of the coronavirus vaccine and hopes of more supportive measures by national authorities globally. On the domestic front, the rally in equities was also supported by improvement in the manufacturing PMI for June 2020, reports of disengagement between India and China over border issues and better than expected Q1:2020-21 corporate earnings results. Domestic market sentiment was tempered during August by contraction in manufacturing PMI and higher-than-expected CPI inflation print for July 2020. The stock market plummeted sharply in the last trading session of the month due to fresh escalation in Indo-China border tensions and witnessed cautious

Chart IV.15: Stock Market Indices and Investment



Sources: Bloomberg; NSDL; and SEBI.

trading ahead of the implementation of new trading norms on margin requirements by the Securities and Exchange Board of India (SEBI) from September 1, 2020. Investor sentiment remained insipid in September 2020 amidst concerns over steady increase in coronavirus infections and weak global cues. After registering moderate gains due to improvement in domestic manufacturing PMI for August 2020, equity sentiments turned negative with the BSE Sensex witnessing its biggest intra-day fall in more than four months on September 24 as spike in infections in some European countries triggered fears of a second round of lockdown. Bullish sentiments, however, returned towards the end of the month amid expectations of further stimulus measures by the government.

During H1:2020-21, FPIs turned net buyers in the Indian equity market after panic sales in March due to flight to safety. MFs, however, were net sellers to the tune of ₹24,801 crore during H1:2020-21 (Chart IV.15b). Resource mobilisation through public

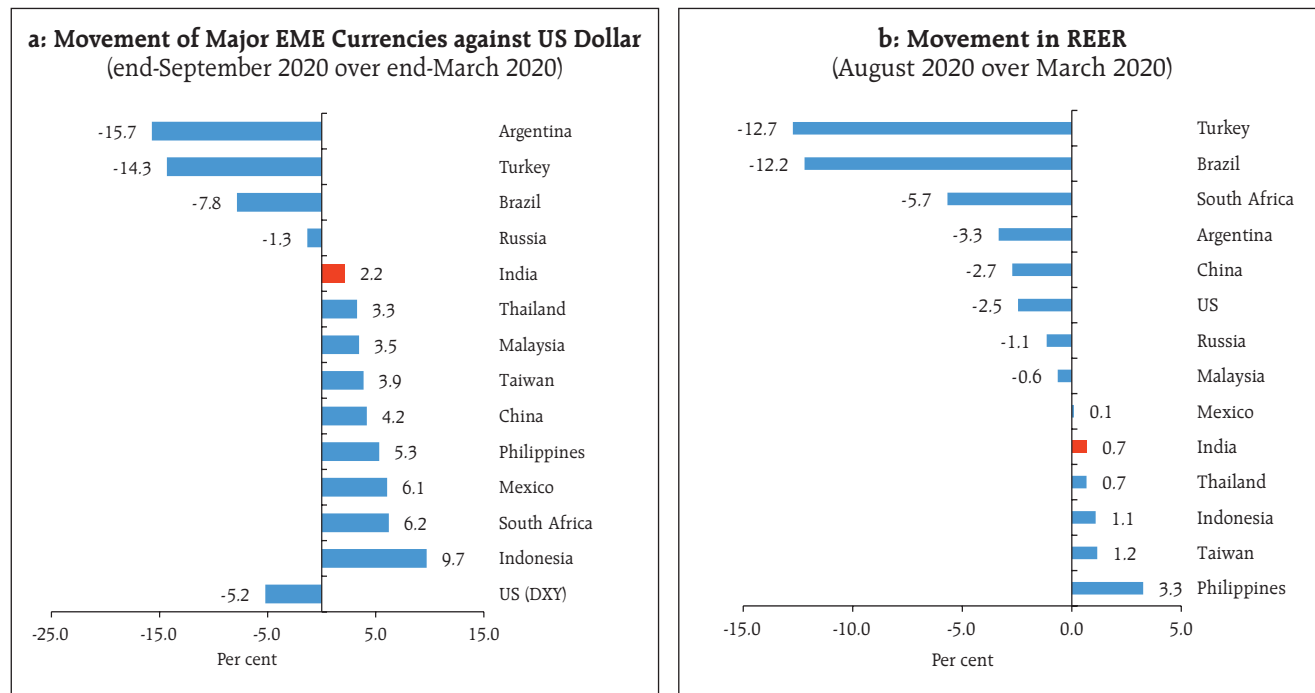
and rights issues of equity increased to ₹76,830 crore during H1:2020-21 from ₹60,133 crore in the corresponding period of the previous year.

IV.1.5 Foreign Exchange Market

The INR exhibited movements in both directions against the US dollar during H1:2020-21. After depreciating to its lowest level of ₹76.81 on April 22, 2020, the INR subsequently appreciated owing to FPI flows to the domestic equity market with the return of risk appetite for EME assets and the depreciation of the US dollar. The appreciation of the INR against the US dollar was modest as compared with EME peers (Chart IV.16a).

In terms of the 36-currency nominal effective exchange rate (NEER), the INR depreciated by 0.6 per cent (as at end-September 2020 over the average of March 2020), but it appreciated by 2.1 per cent in terms of the 36-currency real effective exchange rate (REER) during the same period (Table IV.2). Between March

Chart IV.16: Cross-Currency Movements



Note: Appreciation (+)/Depreciation (-).
Sources: RBI; FBIL; IMF; Bloomberg; Thomson Reuters; and Bank for International Settlements (BIS).

Table IV.2: Nominal and Real Effective Exchange Rates – Trade-based Weights
(Base: 2004-05 = 100)

Item	Index: end-September 2020(P)	Appreciation (+) / Depreciation (-) (Per cent)
		end-September 2020 over March (average) 2020
36-currency REER	117.0	2.1
36-currency NEER	70.8	-0.6
6-currency REER	123.8	1.8
6-currency NEER	59.6	-2.0
₹/US\$	73.8	0.7

P: Provisional.

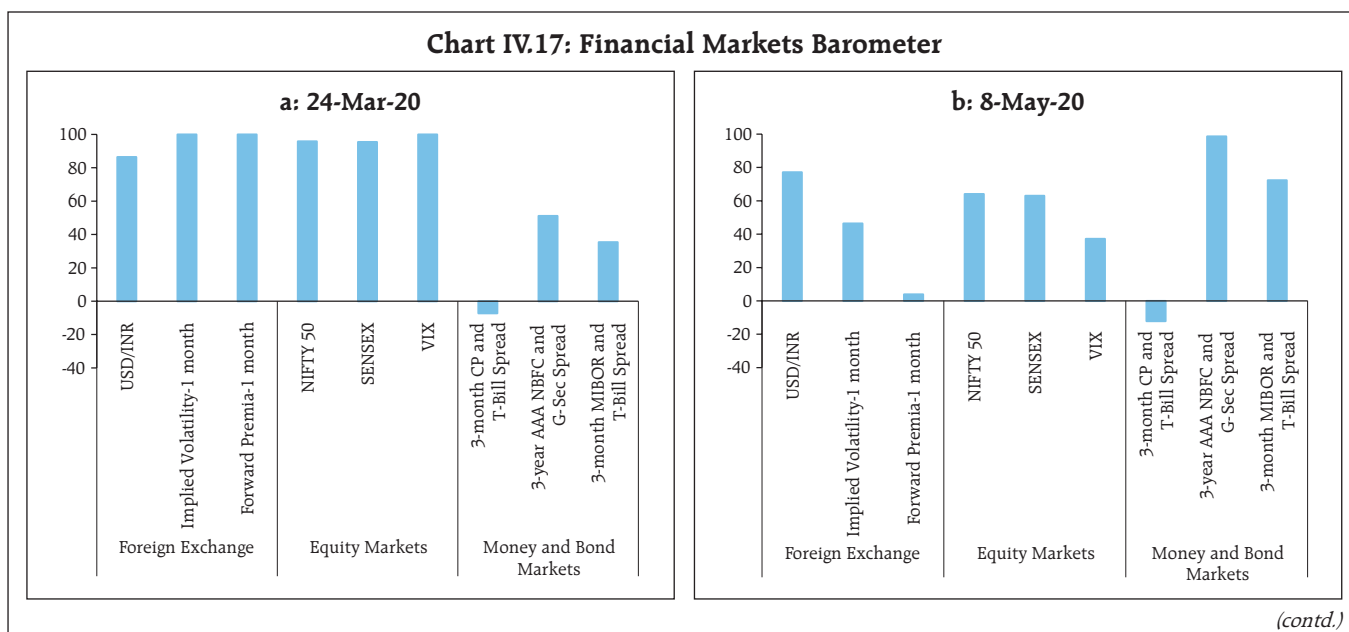
Sources: RBI; and FBIL.

and August 2020, the appreciation of the INR in terms of the REER was lower than that of the Indonesian rupiah, the Taiwan dollar and the Philippine peso (Chart IV.16b).

Financial Markets Barometer

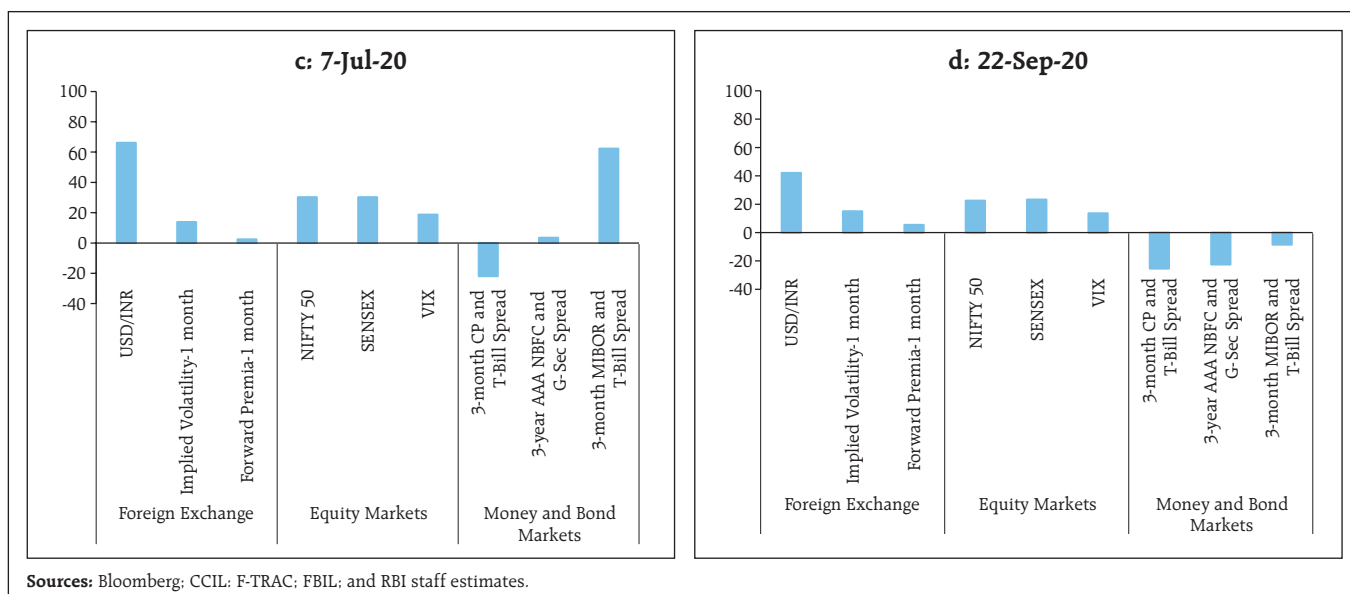
A cross-market barometer illustrates vividly the recovery in financial markets from the disruptions caused by the pandemic.⁷ The barometer consists of nine indicators across markets (money, bonds, foreign

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).⁸ 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 (Chart IV.17). The barometer presents four different stages after the declaration of the COVID-19 pandemic (by construction, a decreasing tendency indicates recovery of the market segment). In response to the gradual opening of the economy and the proactive measures taken by the Reserve Bank and the Government, an improvement in sentiments in the foreign exchange and stock market indicators took hold from May onwards. Money and bond market spreads started easing following (i) the introduction of the new benchmark paper on May 8, 2020; (ii) the announcement of *Atmanirbhar Bharat* stimulus package by the Government; and (iii) policy rate cut of 40 bps on May 22, 2020. All nine indicators suggest improvement in financial market sentiments



⁷ European Central Bank (2007): *Financial Stability Review*, December.

⁸ Negative column for an indicator indicate values lower than its pre-turmoil level.

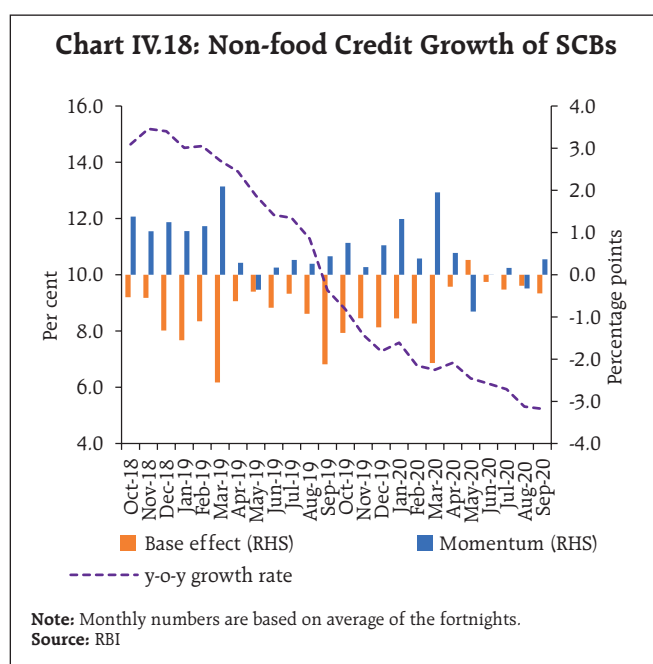


in September *vis-à-vis* the elevated stress levels of March and May.

IV.1.6 Credit Market

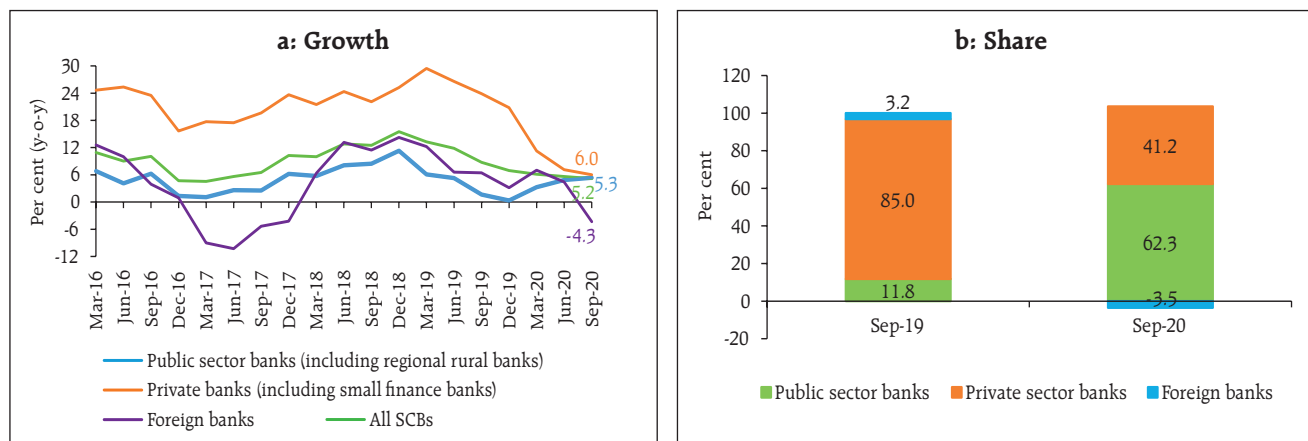
During H1:2020-21, bank credit offtake was anaemic, reflecting weak demand and uncertainty in the wake of the pandemic. Non-food credit growth (y-o-y) at 5.1 per cent as on September 25, 2020 was lower than 8.6 per cent a year ago, driven by weak momentum and base effects (Chart IV.18).

The slowdown in credit growth was spread across all bank groups, especially foreign banks. Credit growth of the public sector banks remained modest, although with some uptick since March 2020 (Chart IV.19a). Of the incremental credit extended by the scheduled commercial banks (SCBs) on a year-on-year basis (September 27, 2019 to September 25, 2020), 62.3 per cent was provided by the public sector banks and 41.2 per cent by the private sector banks, while the share of the foreign banks turned negative (Chart IV.19b).



The deceleration in non-food credit growth was broad-based with credit offtake slowing down in all the major sectors. Though personal loans and credit to agriculture registered some improvement in July 2020,

Chart IV.19: Credit Flow across Bank-Groups



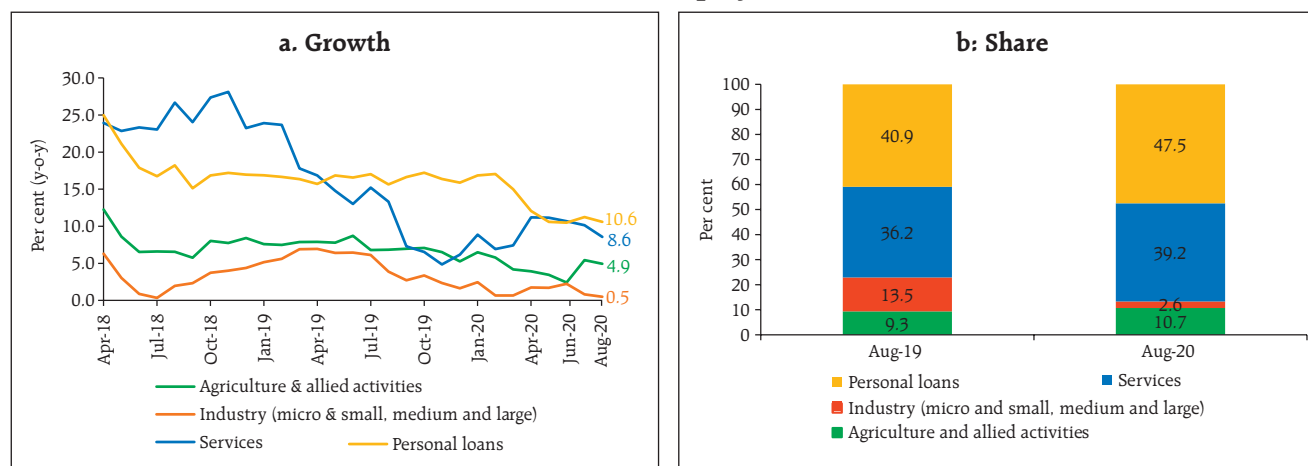
Source: RBI

the momentum could not be sustained in August. Credit growth to services and industrial sectors has also tapered off after showing some promise in Q1: 2020-21 (Chart IV.20a). Personal loans accounted for the largest share of total credit flow in August 2020, followed by services. While the share of personal loans, services and agriculture increased in August 2020 *vis-a-vis* the previous year, the share of industry contracted (Chart IV.20b).

Within industry, credit growth to food processing, mining and quarrying, petroleum, coal products and

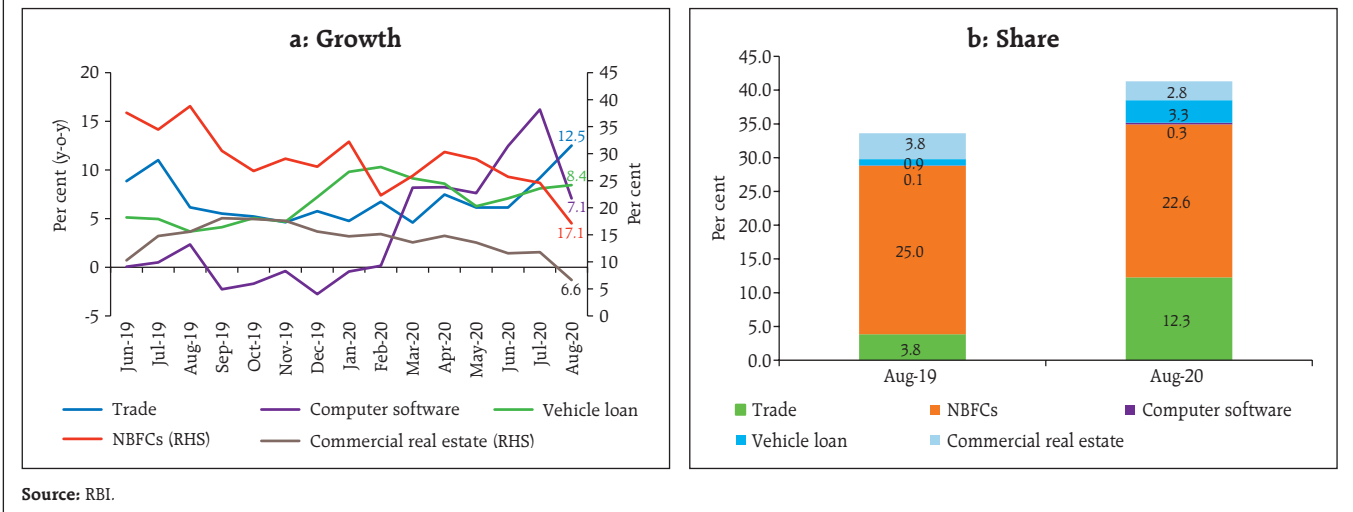
nuclear fuels, leather and leather products, wood and wood products, and paper and paper products accelerated in August 2020 as compared with a year ago. In contrast, credit growth to chemicals and chemical products, rubber plastic and their products, infrastructure, construction, gems and jewellery, glass and glassware, basic metal and metal products and beverage and tobacco decelerated/contracted. In the services sector, credit growth to computer software picked up significantly in recent months, reflecting the increased use of digital technology during the

Chart IV.20: Sectoral Deployment of Credit



Source: RBI.

Chart IV.21: Non-Food Credit to Select Sub-Sectors



COVID-19 period (Chart IV.21a). Credit to the NBFC sector decelerated to 17.1 per cent in August 2020 from 38.8 per cent a year ago. In the personal loan segment, growth in vehicle loans accelerated from 3.7 per cent in August 2019 to 8.4 per cent in August 2020; during the same period, growth in housing loans decelerated from 16.6 per cent to 11.1 per cent. The share of trade in non-food credit flow increased sharply in August 2020 *vis-a-vis* its level in the corresponding month of the previous year (Chart IV.21b).

The asset quality of SCBs improved during 2020-21 (up to June), with the overall non-performing assets

(NPA) ratio declining to 8.0 per cent in June 2020 from 9.4 per cent a year ago (Chart IV.22a). The NPA ratio in respect of agriculture and services increased over the same period (Chart IV.22b).

Boosted by TLTROs, non-SLR investments of banks (comprising investments in CPs, bonds, debentures and shares of public and private corporates) increased by 1.8 per cent in H1:2020-21 as against a decline of 3.9 per cent in H1:2019-20 (Chart IV.23a). Adjusted non-food credit growth decelerated from 8.4 per cent in Q2:2019-20 to 5.1 per cent in Q2:2020-21 (Chart IV.23b).

Chart IV.22: Stressed Assets and Non-Performing Assets of SCBs

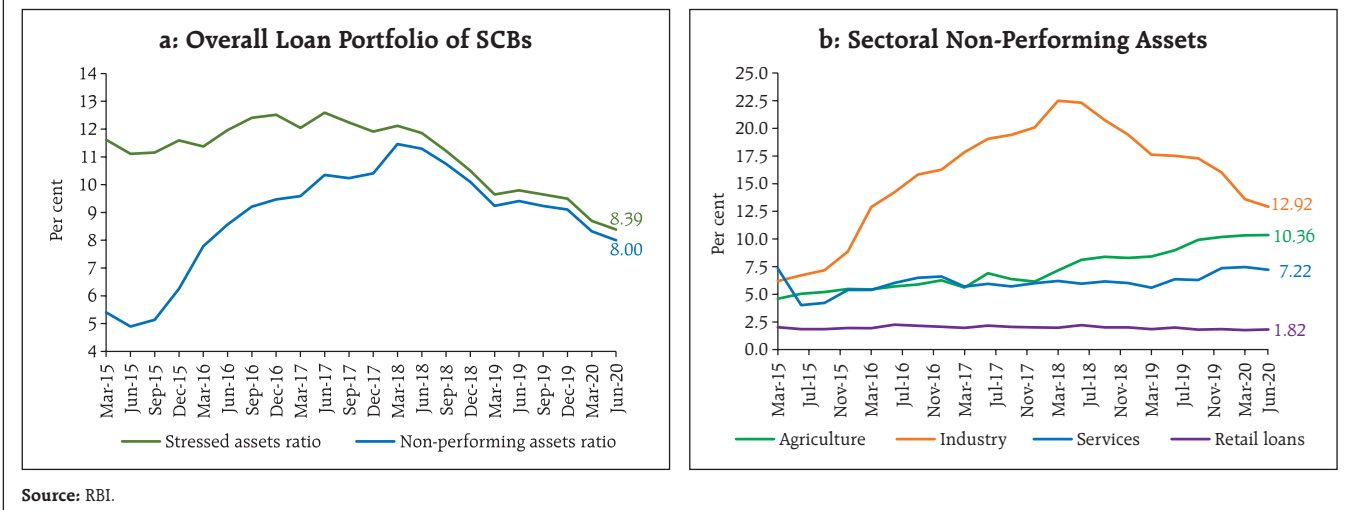
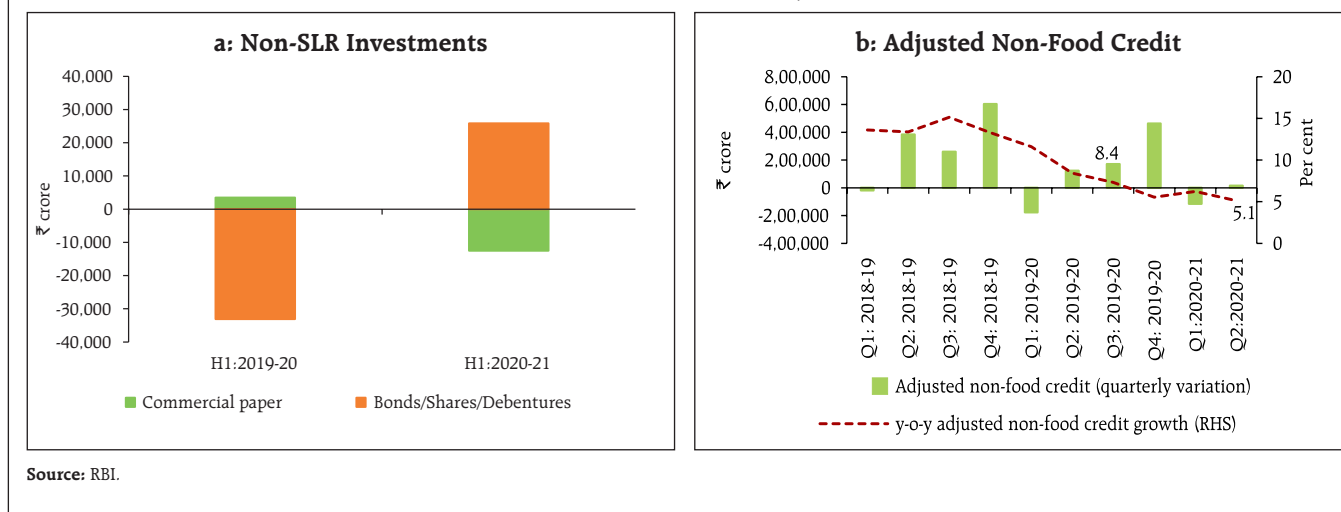


Chart IV.23: Non-SLR Investments and Adjusted Non-Food Credit



Banks augmented their SLR portfolios in the wake of deceleration in credit offtake and higher government borrowings. Consequently, excess SLR maintained by all scheduled commercial banks increased to 11.1 per cent of net demand and time liabilities (NDTL) in Q2:2020-21 (up to August 28) from 7.1 per cent a year ago (Chart IV.24).

IV.2 Monetary Policy Transmission

The transmission of policy repo rate changes to deposit and lending rates of banks improved since the April 2020 MPR. The weighted average lending rate (WALR) on fresh rupee loans declined by 91 bps since March 2020 in response to the reduction of 115 bps in the policy repo rate and comfortable liquidity conditions (Table IV.3).

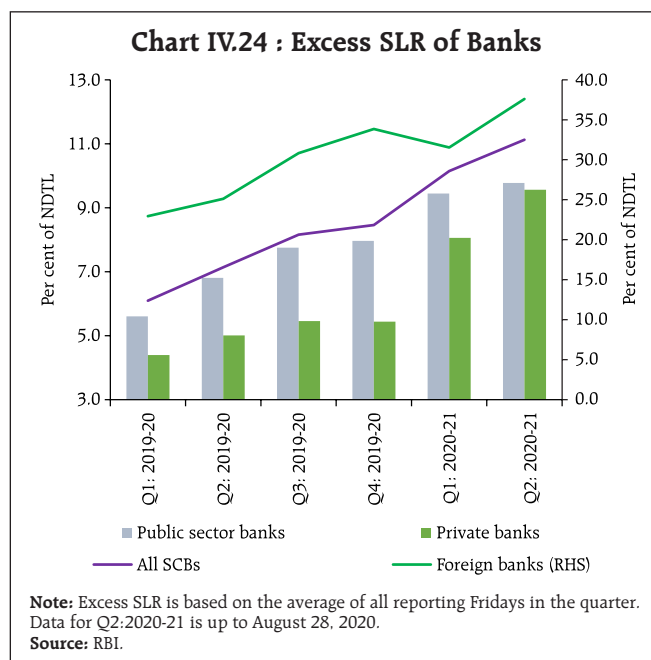


Table IV.3: Transmission from the Repo Rate to Banks' Deposit and Lending Rates

(Basis points)

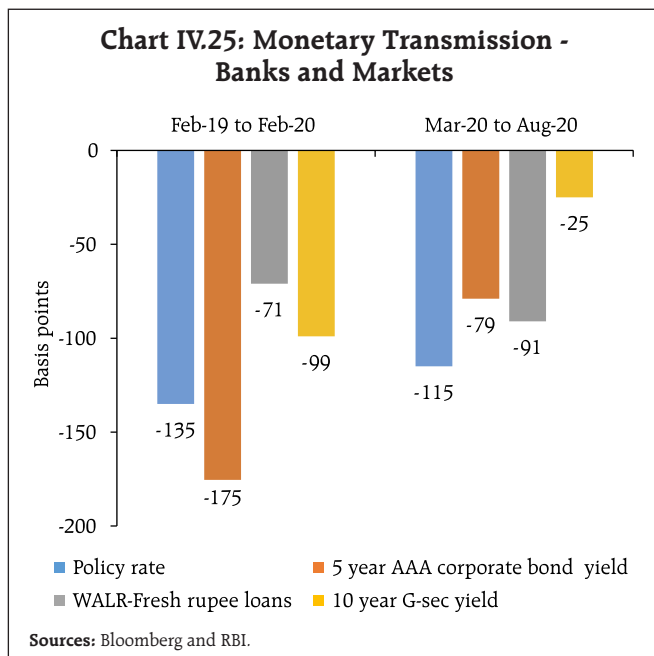
Period	Repo Rate	Term Deposit Rates		Lending Rates		
		Median Term Deposit Rate	WADTDR	1 - Year Median MCLR	WALR - Outstanding Rupee Loans	WALR - Fresh Rupee Loans
February - September 2019 (Pre-external benchmark)	-110	-9	-7	-30	2	-40
October 2019 - September 2020* (Post-external benchmark)	-140	-157	-98	-114	-64	-122
March 2020 - September 2020*	-115	-125	-59	-80	-46	-91
February 2019 - September 2020*	-250	-190	-105	-138	-62	-162

*: Latest data on WALRs and WADTDR pertain to August 2020.

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

MCLR: Marginal Cost of Funds-based Lending Rate.

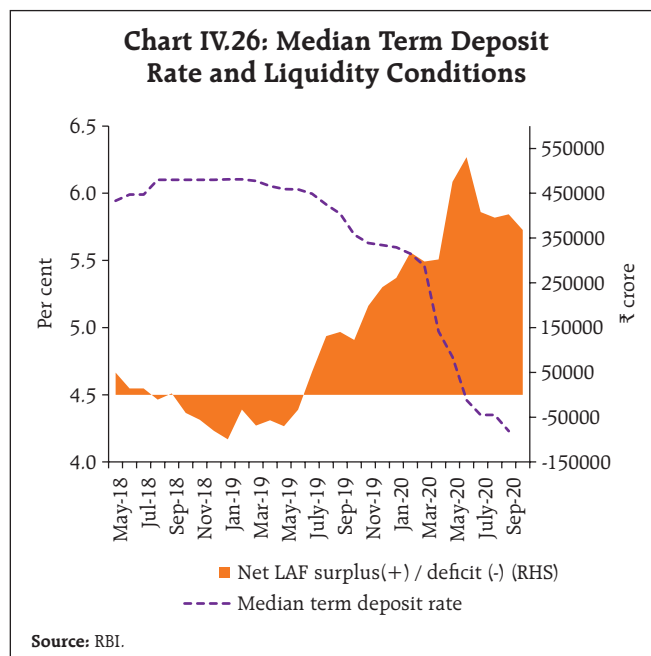
Source: RBI.



The pass-through to WALR on fresh rupee loans was higher than the softening of yield on 5-year corporate bonds (79 bps) and yield on 10-year G-Secs during March – August 2020 (Chart IV.25). The WALR on outstanding rupee loans declined by 46 bps during this period, but this transmission is an improvement over the earlier period.

Of the 105 bps reduction in the weighted average domestic term deposit rate (WADTDR) on outstanding rupee deposits during the ongoing easing cycle (*i.e.*, since February 2019), a little over half of the decline, *i.e.* 59 bps occurred since March 2020. The median term deposit rate, which reflects the prevailing card rates, has registered a sizable decline of 125 bps since March 2020, reflecting the combined impact of surplus liquidity, the introduction of external benchmark-based pricing of loans and weak credit demand conditions (Chart IV.26).

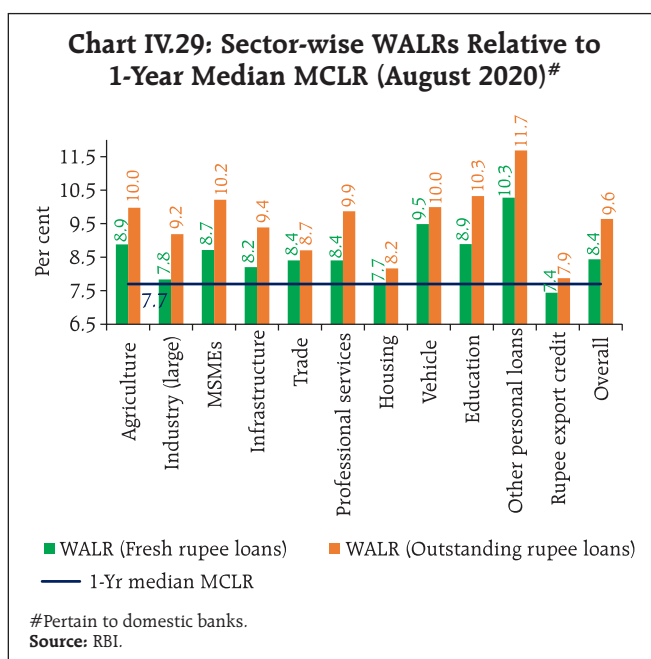
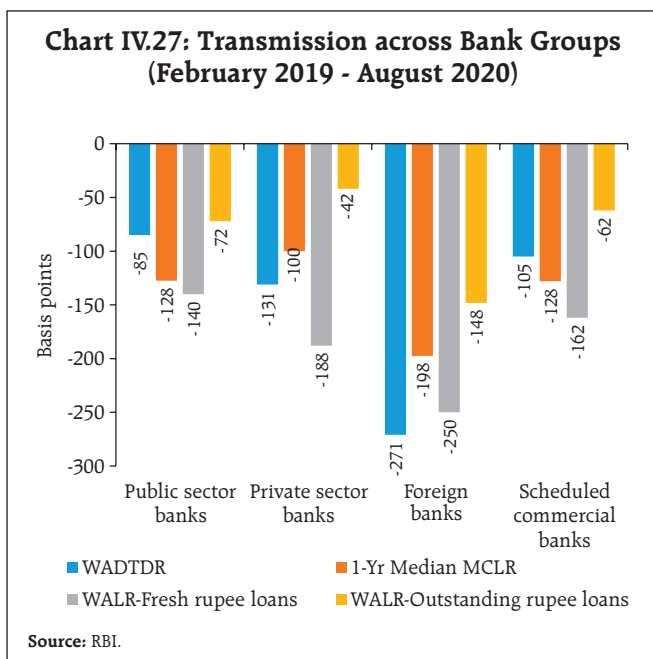
Apart from the reduction in term deposit rates, many banks also lowered their saving deposit rates during the current easing cycle. The saving deposit rates of five major banks, which ranged 3.50-4.00 per cent at the beginning of the easing cycle in early



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 September 2020. The flexible adjustment of saving deposit rates bodes well for monetary transmission to lending rates in comparison to the rigidity characterising saving deposit rates in earlier years.

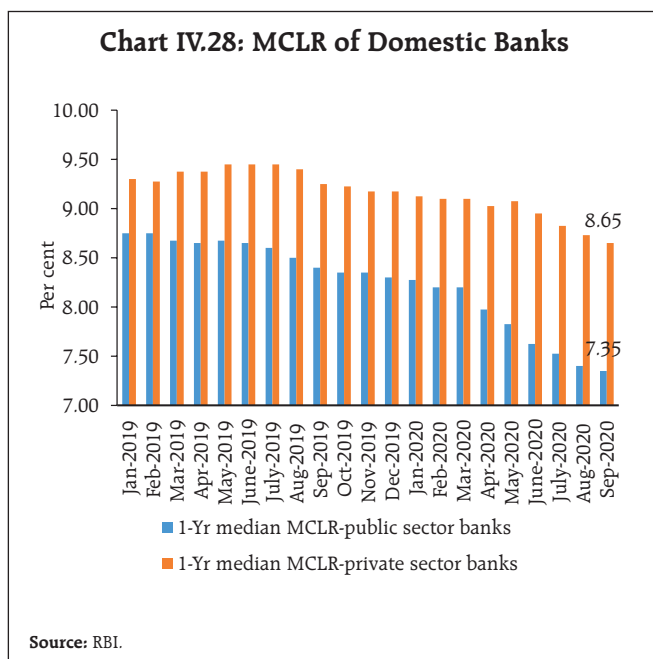
The decline in both the lending and deposit rates is more pronounced for foreign banks (Chart IV.27). The deposit base of foreign banks is primarily made up of low cost and lower duration wholesale deposits, which adjust quickly to policy rate changes. On the other hand, the public sector banks depend more on retail term deposits and face competition from alternative saving instruments like small savings, which constrains them from lowering rates in sync with the policy rate. While the private sector banks exhibited greater transmission in terms of WALR on fresh rupee loans and WADTDR compared to public sector banks, the decline in WALR on outstanding rupee loans is more for public sector banks.

The 1-year median marginal cost of funds-based lending rate (MCLR) charged by public sector banks and private sector banks declined further during H1:2020-21 (Chart IV.28).



Spreads of WALRs on outstanding rupee loans and fresh rupee loans over 1-year median MCLR were uneven across sectors (Chart IV.29). In personal loans, the spread was among the lowest in respect of housing loans, reflecting lower defaults and the availability of collateral. Personal loans - other than

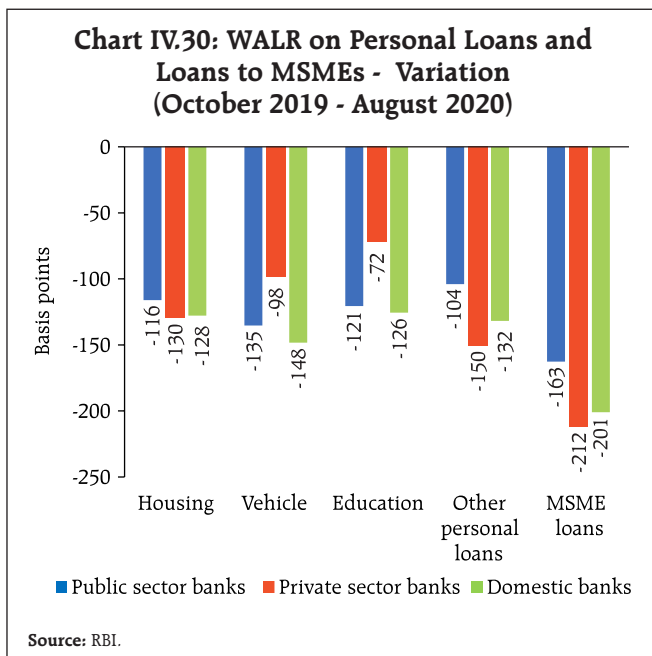
housing and vehicle loans - are mostly unsecured and involve higher credit risk; hence, the spread charged was the highest for other personal loans. The lower WALRs on rupee export credit reflect the interest rate subvention provided by the government.



There has been a significant improvement in transmission to all new loans sanctioned since October 2019 when the new floating rate loans to retail and MSME sectors were mandatorily linked to the external benchmark (Chart IV.30). The quantum of decline in WALRs on personal and MSME loans was more than that for aggregate fresh rupee loans to all sectors (120 bps).

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). The reduction in term deposit rates applies only to fresh term deposits, while it is across the board in the case of saving deposits.⁹ The latter brings

⁹ Saving deposits accounted for 32.2 per cent of aggregate deposits of scheduled commercial banks (excluding regional rural banks, payment banks and small finance banks) as on September 25, 2020.



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). Thus, the impact of introduction of external benchmark-based pricing of loans on monetary transmission has encompassed even sectors that are not linked to external benchmark loan pricing.

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, followed by that for the MSME sector, whereas housing loans have the lowest spread. 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 (Table IV.4).

Administered interest rates on small savings 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. After

Table IV.4: Loans linked to External Benchmark – Median Spread over Policy Repo Rate (August 2020)

(Percentage points)

	Personal Loans				MSME Loans
	Housing	Vehicle	Education	Other Personal Loans	
Public Sector Banks (12)	3.4	4.7	4.5	6.6	5.7
Private Sector Banks (20)	5.8	7.0	7.2	6.8	7.2
Domestic Banks (32)	4.4	5.1	5.2	6.6	6.4

Source: RBI.

lowering these rates sharply during Q1:2020-21, small saving interest rates were left unchanged for Q2:2020-21 and Q3:2020-21 notwithstanding the decline in G-sec yields during the reference period, resulting in a wedge of 40-120 bps in Q2 and 83-203 bps in Q3 in respect of various small savings instruments relative to the formula-based rates, with implications for monetary transmission (Table IV.5).

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. During H1:2020-21, liquidity management operations by the RBI were conducted as per the revised liquidity management framework introduced on February 14, 2020 and guided by the need to expand liquidity in the system sizeably to ensure that financial markets and institutions function normally in the face of COVID-related dislocations, consistent with the monetary policy stance (see Chapter III of Annual Report 2019-20 for details).¹⁰

¹⁰ Reserve Bank of India (2020): Annual Report 2019-20, Monetary Policy Operations, August 25.

Table IV.5: Interest Rates on Small Savings Instruments - Q3:2020-21

Small Savings Scheme	Maturity (years)	Spread (Percentage point) \$	Average G-sec Yield (%) of Corresponding Maturity (June - August 2020)	Formula based Rate of Interest (%) (applicable for Q3:2020-21)	Government Announced Rate of Interest (%) in Q3:2020-21	Difference (basis points)
(1)	(2)	(3)	(4)	(5) = (3) + (4)	(6)	(7) = (6) - (5)
Savings Deposit	-	-	-	-	4.00	-
Public Provident Fund	15	0.25	6.02	6.27	7.10	83
Term Deposits						
1 Year	1	0	3.47	3.47	5.50	203
2 Year	2	0	3.92	3.92	5.50	158
3 Year	3	0	4.38	4.38	5.50	112
5 Year	5	0.25	5.29	5.54	6.70	116
Recurring Deposit Account	5	0	4.38	4.38	5.80	142
Monthly Income Scheme	5	0.25	5.27	5.52	6.60	108
Kisan Vikas Patra	124 Months	0	6.02	6.02	6.90	88
NSC VIII issue	5	0.25	5.40	5.65	6.80	115
Senior Citizens Saving Scheme	5	1.00	5.29	6.29	7.40	111
Sukanya Samridhi Account Scheme	21	0.75	6.02	6.77	7.60	83

\$: Spreads for fixing small saving rates as per Government of India Press Release of February 2016.

Note: Compounding frequency varies across instruments.

Sources: Government of India, and RBI staff estimates.

In view of the COVID-19 pandemic and its adverse impact on real economic activity, the Reserve Bank reduced the policy repo rate by 40 bps on May 22, 2020 on top of a 75 bps reduction on March 27. In order to make it relatively unattractive for banks to passively park funds with the Reserve Bank and to encourage their deployment for on-lending to productive sectors

of the economy, the policy interest rate corridor was widened to 90 bps through a reduction of 25 bps in the reverse repo rate on April 17, 2020. Liquidity augmenting measures initiated since February 2020 were further reinforced during H1:2020-21, including those targeted at specific sectors and entities to alleviate liquidity and funding stress (Box IV.2).

Box IV.2: Measures Augmenting Liquidity and Fostering Orderly Market Conditions

- | | |
|--|--|
| <p>(i) Auctions of long term repo operations (LTRO) during February-March 2020 for one-year and three-year tenors to facilitate monetary transmission and augment credit flows to productive sectors.</p> <p>(ii) Scheduled commercial banks were allowed exemption on incremental credit disbursed by them between January 31-July 31, 2020 on retail loans for automobiles, residential housing and loans to</p> | <p>MSMEs from the maintenance of cash reserve ratio (CRR), with a view to revitalise the flow of bank credit to productive sectors having multiplier effects on growth.</p> <p>(iii) Two 6-month US dollar/INR sell/buy swap auctions were conducted on March 16 and March 23, 2020 cumulatively providing dollar liquidity amounting to US\$ 2.7 billion.</p> |
|--|--|

(contd.)

- (iv) Fine-tuning variable rate repo auctions were conducted during March 2020 to provide flexibility to the banking system in its liquidity management towards the year end. As a special case, standalone primary dealers (SPDs) were allowed to participate in these auctions along with other eligible participants.
- (v) To facilitate year-end liquidity management of SPDs, liquidity available to them under the Standing Liquidity Facility (SLF) was temporarily enhanced from ₹2,800 crore to ₹10,000 crore on March 24, 2020. The facility was available till April 17, 2020.
- (vi) The CRR requirement of banks was reduced by 100 bps – from 4.0 per cent of net demand and time liabilities (NDTL) to 3.0 per cent of NDTL on March 27, 2020 – effective fortnight beginning March 28, 2020, for a period of one year ending March 26, 2021, augmenting primary liquidity in the banking system by about ₹1.37 lakh crore.
- (vii) Taking cognisance of hardships faced by banks in terms of social distancing of staff and consequent strains on reporting requirements, the requirement of minimum maintenance of daily CRR balance was reduced from 90 per cent to 80 per cent effective from the fortnight beginning March 28, 2020. This dispensation was available up to September 25, 2020.
- (viii) Banks' limit for borrowing overnight under the marginal standing facility (MSF) by dipping into their statutory liquidity ratio (SLR) was raised to 3 per cent of NDTL from 2 per cent – effective up to March 31, 2021 – allowing them to avail additional liquidity under the LAF window at the reduced MSF rate.
- (ix) Targeted long-term repo operations (TLTROs) of up to three years tenor at a floating rate linked to the policy repo rate for deployment in investment grade corporate bonds, commercial paper, and non-convertible debentures over and above the outstanding level of investments in these bonds as on March 27, 2020.
- (x) Targeted long-term repo operations (TLTRO) 2.0 auctions in tranches of appropriate sizes, with at least 50 per cent of the total amount availed going to small and mid-sized non-banking financial companies (NBFCs) and micro finance institutions (MFIs).
- (xi) Special refinance facilities for a total amount of ₹75,000 crore at the policy repo rate to the National Bank for Agriculture and Rural Development (NABARD), the Small Industries Development Bank of India (SIDBI), the National Housing Bank (NHB) and the Export-Import Bank of India (EXIM Bank) to meet sectoral credit needs.
- (xii) Special liquidity facility for mutual funds (SLF-MF) to alleviate intensified liquidity pressures from redemption burdens faced by MFIs.
- (xiii) As part of the *Atmanirbhar Bharat* package announced by GoI in May, a scheme was introduced through a Special Purpose Vehicle (SPV) to improve the liquidity position of NBFCs including MFIs and housing finance companies (HFCs) registered with the Reserve Bank for avoiding any potential systemic risks to the financial sector.
- (xiv) Term repo operations at floating rates (*i.e.*, at the prevailing repo rate) in September to assuage liquidity pressures on account of advance tax outflows. Banks that had availed of funds under LTROs (at 5.15 per cent) were allowed to reverse these transactions before maturity and avail fresh funds at 4 per cent (current repo rate).
- (xv) From September 1, 2020, banks were allowed to hold fresh acquisitions of SLR securities under held to maturity (HTM) category up to an overall limit of 22 per cent (increased from 19.5 per cent) of NDTL up to March 31, 2021.
- (xvi) Purchases of government securities under OMOs of ₹1.91 lakh crore since February 6 and up to September 30, 2020.
- (xvii) In order to distribute liquidity more evenly across the yield curve and improve transmission, six 'operation twist' auctions were conducted in H1:2020-21 (on April 27, July 2, August 27, September 3, 10 and 17) for ₹10,000 crore each.¹¹

¹¹ While operation twist is intended to be liquidity neutral, the outcome of the 6 auctions resulted in net liquidity absorption of ₹2,768 crore (sales of ₹59,900 crore *vis-a-vis* purchases of ₹57,132 crore).

Overall, total liquidity support announced by the Reserve Bank since February 6 (up to September 30, 2020) amounted to ₹11.1 lakh crore (5.5 per cent of GDP) (Table IV.6).

Table IV.6: Monetary and Liquidity Measures since February 6
(up to September 30, 2020)

Measures	Announcement
LTRO	2,00,000
Variable rate repo	1,75,000
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	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
Total	11,11,200
As proportion of GDP* (Per cent)	5.5

*: Nominal GDP 2019-20.

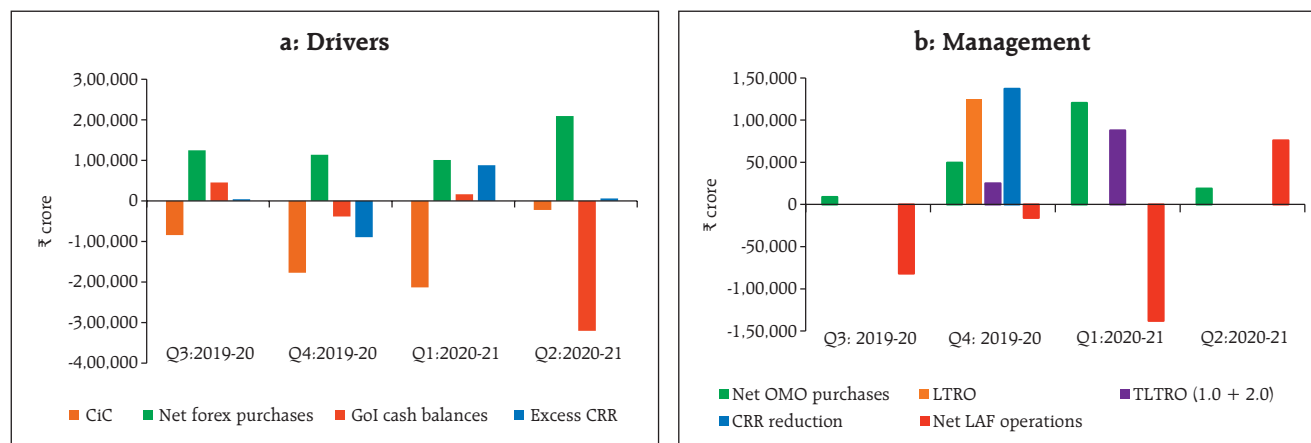
Source: RBI.

Drivers and Management of Liquidity

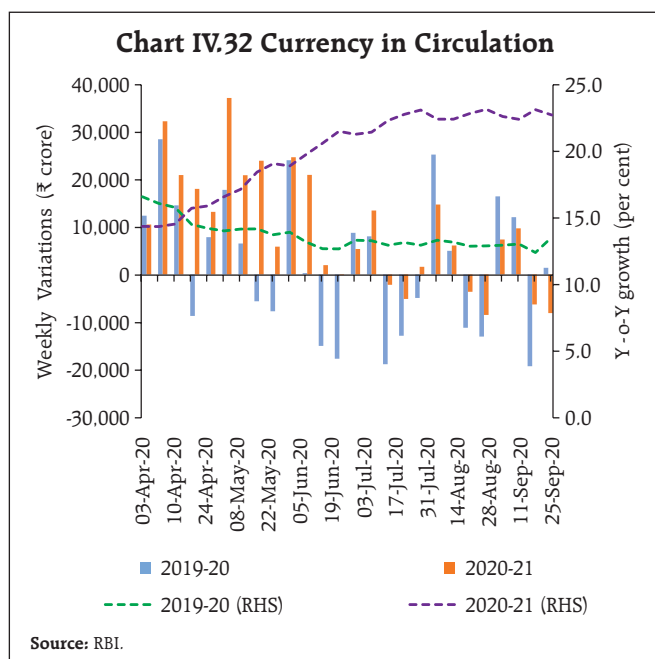
During H1:2020-21, the key drivers of systemic liquidity were currency in circulation (CiC), net forex operations by the Reserve Bank and Government of India (GoI) cash balances. The large expansion in CiC was the major source of leakage, particularly during Q1. Liquidity was augmented by a large drawdown of excess CRR balances by commercial banks consequent to the one percentage point reduction of CRR. While the steady build-up of GoI cash balances in Q2 moderated the level of surplus, the Reserve Bank's forex purchase operations augmented systemic liquidity throughout H1 (Chart IV.31a). In terms of liquidity management, durable liquidity was injected through TLTROs and OMO purchases (mainly in Q1), while transient liquidity movements were managed through LAF operations (Chart IV.31b).

CiC growth (y-o-y) of ₹2.36 lakh crore (9.6 per cent) during H1:2020-21 significantly outpaced the expansion of ₹49,378 crore (2.3 per cent) in H1:2019-20 (Chart IV.32). The large scale of CiC expansion

Chart IV.31: Systemic Liquidity – Drivers and Management

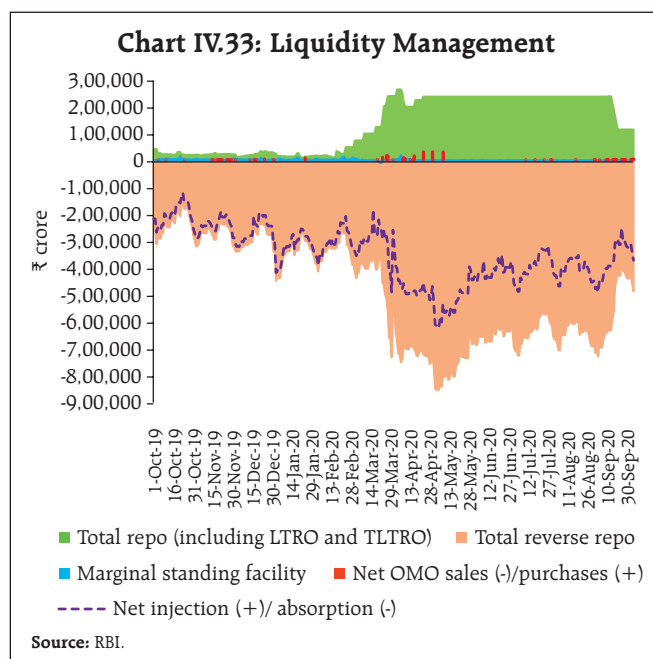


Note: (+) implies injection of liquidity while (-) implies absorption/leakage of liquidity. Data are based on the last Friday of the quarter.
Source: RBI.



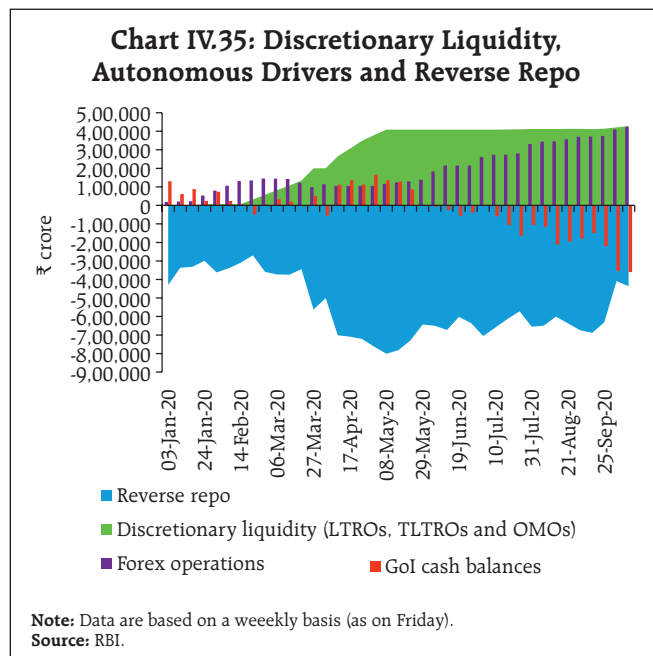
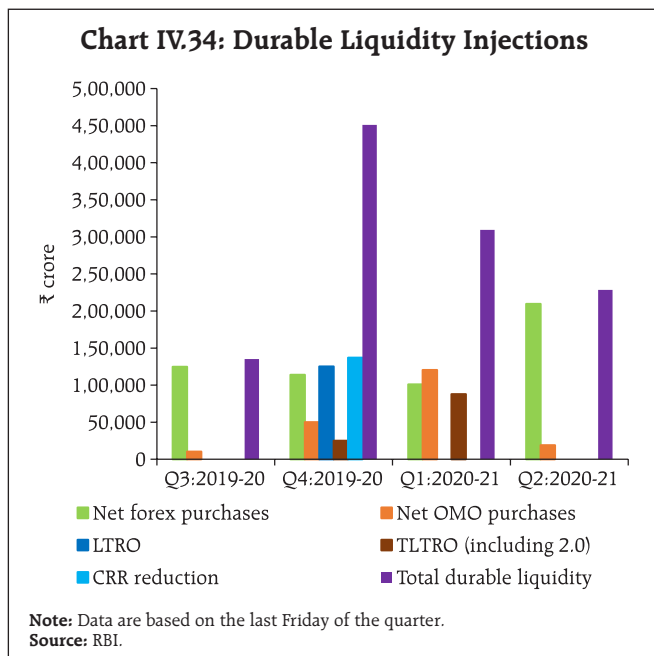
indicates heightened precautionary demand for cash in a pandemic-stricken environment.

Fuelled by the infusion of ₹87,891 crore through four TLTRO auctions in April, systemic liquidity remained in abundance with average daily net absorptions under the LAF progressively increasing from ₹3.02 lakh crore in March to ₹4.75 lakh crore in April and further to ₹5.31 lakh crore in May 2020, notwithstanding large liquidity withdrawal from the banking system due to CiC expansion (Chart IV.33). Sustained government spending through higher recourse to WMA/OD (average of ₹1.01 lakh crore and ₹1.14 lakh crore in April and May, respectively) also added to the liquidity surplus. With the onset of the monsoon season, government spending decelerated and GoI cash balances turned into surplus in June (average of ₹34,838 crore); consequently, average daily net absorptions under the LAF moderated to ₹4.08 lakh crore. Overall, net average absorption of surplus liquidity at ₹4.71 lakh crore in Q1:2020-21 was the highest since January-March 2017 – the quarter immediately following demonetisation.



Surplus liquidity conditions persisted in Q2, although with some moderation relative to Q1. Large liquidity injection through the Reserve Bank's net forex purchase operations in July was offset by moderate CiC expansion and gradual build-up of GoI cash balances as government spending remained subdued. Daily net absorptions under the LAF averaged ₹3.95 lakh crore in July as average GoI cash surplus increased to ₹95,938 crore. Thereafter, daily net absorptions increased to ₹4.03 lakh crore in August but moderated to ₹3.68 lakh crore in September due to higher GoI cash surplus (average of ₹1.68 lakh crore in August and ₹2.80 lakh crore in September). The RBI also injected liquidity through OMO purchases, particularly during Q1:2020-21. Total injection of durable liquidity (including forex purchases, OMOs and TLTRO) in H1:2020-21 amounted to ₹5.38 lakh crore as compared to ₹5.86 lakh crore in H2:2019-20 (Chart IV.34).

Summing up, systemic liquidity surplus increased during H1:2020-21 reflecting the conventional and unconventional measures by the Reserve Bank to



ensure conducive financial conditions and stability in financial markets and institutions. The extent of the surplus is gauged from the large amounts absorbed under the reverse repo facility, which peaked at more than ₹8.5 lakh crore on May 5, 2020 (Chart IV.35).

IV.4 Conclusion

Domestic financial markets have gradually regained normalcy in the wake of sizable conventional and unconventional measures by the Reserve Bank. Turnover in various market segments is increasing and spreads have narrowed appreciably. The return

of capital inflows is an indicator of growing investor confidence in the Indian economy. The pace of monetary transmission has also quickened, but credit growth remains feeble, clouding the outlook. Going forward, liquidity conditions would continue to be calibrated, consistent with the stance of monetary policy while ensuring normalcy in the functioning of financial markets and institutions and conducive financial conditions. Efficient monetary policy transmission, particularly to the credit market, would continue to assume priority in the hierarchy of policy objectives.

V. External Environment

The global economy is still reeling under the impact of the unprecedented shock caused by COVID-19. Even as high frequency indicators suggest that the economic activity may have begun to bottom out in Q3, the near-term outlook remains hostage to the virus and the attendant uncertainty regarding its vaccine. Inflation has remained largely subdued and below central banks' target for advanced economies (AEs) as also for some emerging market economies (EMEs). Monetary policy remained highly accommodative with key policy rates reduced to their lowest level in most countries. Global financial markets remained buoyant, supported by signals that the highly accommodative monetary policy would continue for long.

The pandemic has plunged the global economy into its deepest contraction in history in Q2:2020. World merchandise trade volume contracted by 14.3 per cent (q-o-q) in Q2. Just as various economies were engaging in unlocking activity, and a general sense emerging of the global economy stabilising and getting poised for a recovery in Q3, fresh waves of infections have surged, threatening these positive impulses. Meanwhile, commodity prices have firmed up, pushing up inflation. Although headline and core inflation remain subdued and below target in several economies, food price pressures are firming up. Global spillovers have accentuated, mainly through financial channels. Although financial markets have recovered from the panic sell-offs in Q1:2020 and capital flows to EMEs have resumed on the return of risk sentiment, asset prices are volatile, out of alignment with underlying fundamentals, and the outlook is uncertain. Monetary policy guidance from systemic central banks has led to weakening of the US dollar with corresponding appreciation in other currencies, especially EME currencies, with implications for export performance and growth. In addition, disruptions in global value chains

(GVCs) have amplified supply shocks inflicted by the pandemic.

Some near-term indicators have improved. Global purchasing managers' index (PMI) indicates that on a month-on-month basis, the output and new orders as also business sentiments have revived since July and new export orders returned to growth in September. The recovery, however, is nascent and hinges on the duration of the pandemic and discovery of the vaccine.

Underlying the stabilisation of financial markets, the easing of financial conditions and the hesitant recovery is the unprecedented policy response of monetary and fiscal authorities. These actions have led to a renewal of risk appetite and search for yields, slowing the precautionary flight to cash. Notwithstanding this defence, the outlook is highly uncertain, policy space is largely used up and the virulence of the pandemic is yet to abate for recovery to gain traction.

V.1 Global Economic Conditions

In the US, GDP growth contracted by a record 31.4 per cent [q-o-q, seasonally adjusted annualised rate (SAAR)] in Q2:2020, marking the worst plunge since the present GDP series began in 1947. Coming on the heels of a 5.0 per cent contraction in Q1:2020, the US economy was pushed into a technical recession (Table V.1). Most US states imposed complete shutdowns in April and for most part of May with only gradual and uneven reopening and relaxation in preventive measures towards the end of the quarter. While the unemployment rate has declined markedly from an all-time high in April, it remains much above the pre-COVID level. Industrial output continued to contract through August, though the momentum appears to be picking up as reflected in robust growth in retail sales since end of Q2. The manufacturing PMI moved back into expansion zone from June. The recent resurgence of COVID-19 cases has increased downside risks as many states hold off or reverse unlocking.

Table V.1: Real GDP Growth

(Per cent)

Country	Q2-2019	Q3-2019	Q4-2019	Q1-2020	Q2-2020	2020 (P)	2021 (P)
Quarter-over-quarter (q-o-q) seasonally adjusted, annualised rate							
Canada	3.4	1.1	0.6	-8.2	-38.7	-8.4	4.9
Euro area	0.5	1.3	0.2	-14.1	-39.4	-10.2	6.0
Japan	1.6	0.2	-7.0	-2.3	-28.1	-5.8	2.4
South Korea	4.1	1.5	5.4	-5.0	-12.0	-2.1	3.0
UK	-0.1	1.3	0.6	-9.7	-58.7	-10.2	6.3
US	1.5	2.6	2.4	-5.0	-31.4	-8.0	4.5
Year-on-year (y-o-y)							
<i>Advanced Economies</i>							
Canada	2.0	1.6	1.5	-0.9	-13.0	-8.4	4.9
Euro area	1.2	1.4	1.0	-3.2	-14.7	-10.2	6.0
Japan	0.9	1.7	-0.7	-1.8	-9.9	-5.8	2.4
South Korea	2.1	2.0	2.3	1.4	-2.7	-2.1	3.0
UK	1.3	1.0	1.0	-2.1	-21.5	-10.2	6.3
US	2.0	2.1	2.3	0.3	-9.0	-8.0	4.5
<i>Emerging Market Economies</i>							
Brazil	1.1	1.2	1.7	-0.3	-11.4	-9.1	3.6
China	6.2	6.0	6.0	-6.8	3.2	1.0	8.2
India	5.2	4.4	4.1	3.1	-23.9	-4.5	6.0
Indonesia	5.1	5.0	5.0	3.0	-5.3	-0.3	6.1
Philippines	5.5	6.0	6.7	-0.7	-16.5	-3.6	6.8
Russia	1.1	1.5	2.1	1.6	-8.0	-6.6	4.1
South Africa	0.9	0.1	-0.5	0.1	-17.1	-8.0	3.5
Thailand	2.4	2.6	1.5	-2.0	-12.2	-7.7	5.0
Memo:	2019 (E)			2020 (P)			2021 (P)
World Output	2.9			-4.9			5.4
World Trade Volume	0.9			-11.9			8.0

E: Estimate P: Projection q-o-q: quarter-over-quarter y-o-y: year-on-year

Note: India's data correspond to fiscal year (April-March).**Sources:** Bloomberg; and International Monetary Fund.

Economic activity in the Euro area plunged at a record pace in Q2 as frozen business and household activity caused by stringent lockdowns and social distancing measures inflicted an unprecedented blow to all constituent economies. GDP of the Euro area contracted by 39.4 per cent (q-o-q, SAAR) in Q2 – the sharpest since the series began in 1995 – following a contraction of 14.1 per cent in Q1.

Industrial production and retail sales collapsed, while employment situation and consumer sentiments worsened in April-May as most member countries adopted extensive and prolonged lockdown measures to fight the health crisis. With retail sales improving in June and the composite PMI moving back into the expansion zone in July, the Euro economy exhibited signs of recovery in the early part of Q3. However, the momentum has slowed down as increase in fresh wave of infections prompted some countries in the region to reinstate restrictions.

The Japanese economy contracted by 28.1 per cent (q-o-q, SAAR) per cent in Q2, marking the third straight quarter of contraction and the steepest on record, as private consumption and industrial production slumped, while public spending and business fixed investment declined sharply following the nation-wide state of emergency. Furthermore, plummeting exports on disrupted supply chains and weak external demand led to further deterioration in economic conditions. While gradual reopening, both domestically and abroad, has eased demand and supply conditions and helped stabilise manufacturing activity, available high frequency indicators remained in contraction zone through August.

The UK economy fell into a technical recession in Q2 as prolonged confinement measures weighed heavily on economic activity. While the economy rebounded in June as gradual withdrawal of restrictions released pent-up demand, it was not strong enough to offset the magnitude of economic slack that the country experienced during the period of complete shutdown. The recovery continued into Q3 as both manufacturing and services PMI strengthened since July on robust output and new orders, reflecting improved consumer and business spending. The unemployment rate, however, remains high and investment intentions have remained weak. In September, some lockdown measures were re-imposed as a second wave of infections hit the UK.

The Chinese economy bounced back in Q2 with GDP growing at 3.2 per cent (on y-o-y basis) as against a record contraction of 6.8 per cent in Q1. The turnaround was spearheaded by rising investment in infrastructure, supported by government spending, and increase in exports of medical products and electronics. The uptrend continued into Q3 as exports improved further since July amidst a modest improvement in external demand, and industrial production remained stable despite heavy floods experienced in some parts of the country. Manufacturing activity as measured by the manufacturing PMI recorded expansion in each month since May, supported by rising output and new orders. On the other hand, retail sales remain weak on depressed private consumption under social distancing measures. While the Chinese economy is expected to maintain the pace of its recovery, the prolonged global downturn, re-escalating tensions with the US and persistent risk of a second wave of COVID-19 infections remain major headwinds, going forward.

Among other BRICS countries, economic activity plunged markedly in Q2. Brazil, India and Russia are among the top five COVID-19 infected countries in the world. Key macroeconomic indicators among BRICS nations suggest that macroeconomic performance in 2020 could worsen further (Table V.2).

The Russian economy shrank in Q2, birched by the pandemic induced lockdowns and sharp fall in oil prices. All sectors, barring agriculture, were severely impacted amidst stringent measures adopted to stem the pandemic. Industrial production and retail sales contracted through August on muted business and consumer confidence, while the unemployment rate has risen. The Brazilian economy entered into a technical recession in Q2, following sharp declines in household consumption, industrial and services sector activity. The growth outlook remains clouded as external demand is expected to remain weak, while domestic spending and industrial activity are likely to stay subdued with social distancing measures in

Table V.2: Select Macroeconomic Indicators for BRICS

	Country	2013	2019	2020(P)		Country	2013	2019	2020(P)
Real GDP growth rate (per cent)	Brazil	3.0	1.1	-9.1	General Govt. gross debt (as per cent of GDP)	Brazil#	60.2	89.5	102.3
	Russia	1.8	1.3	-6.6		Russia	13.1	13.9	18.5
	India	6.4	4.2	-4.5		India	67.4	72.2	84.0
	China	7.8	6.1	1.0		China	37.0	52.0	64.1
	South Africa	2.5	0.2	-8.0		South Africa	44.1	62.2	79.9
Inflation rate (per cent)	Brazil	6.2	3.7	3.6	CAB as per cent of GDP	Brazil	-3.2	-2.7	-1.8
	Russia	6.8	4.5	3.1		Russia	1.5	3.8	0.7
	India	9.4	4.5	3.3		India	-1.7	-1.1	-0.6
	China	2.6	2.9	3.0		China	1.5	1.0	0.5
	South Africa	5.8	4.1	2.4		South Africa	-5.8	-3.0	0.2
General Govt. net lending/borrowing (as per cent of GDP)	Brazil	-3.0	-6.0	-9.3	Forex reserves* (in US\$ billion)	Brazil	358.8	356.9	356.5
	Russia	-1.2	1.9	-4.8		Russia	510.1	554.4	594.5
	India	-7.0	-7.4	-7.4		India	294.8	461.8	545.5
	China	-0.8	-6.4	-11.2		China	-	3388.7	3464.2
	South Africa	-4.3	-6.3	-13.3		South Africa	49.6	55.1	55.7

P: Projection

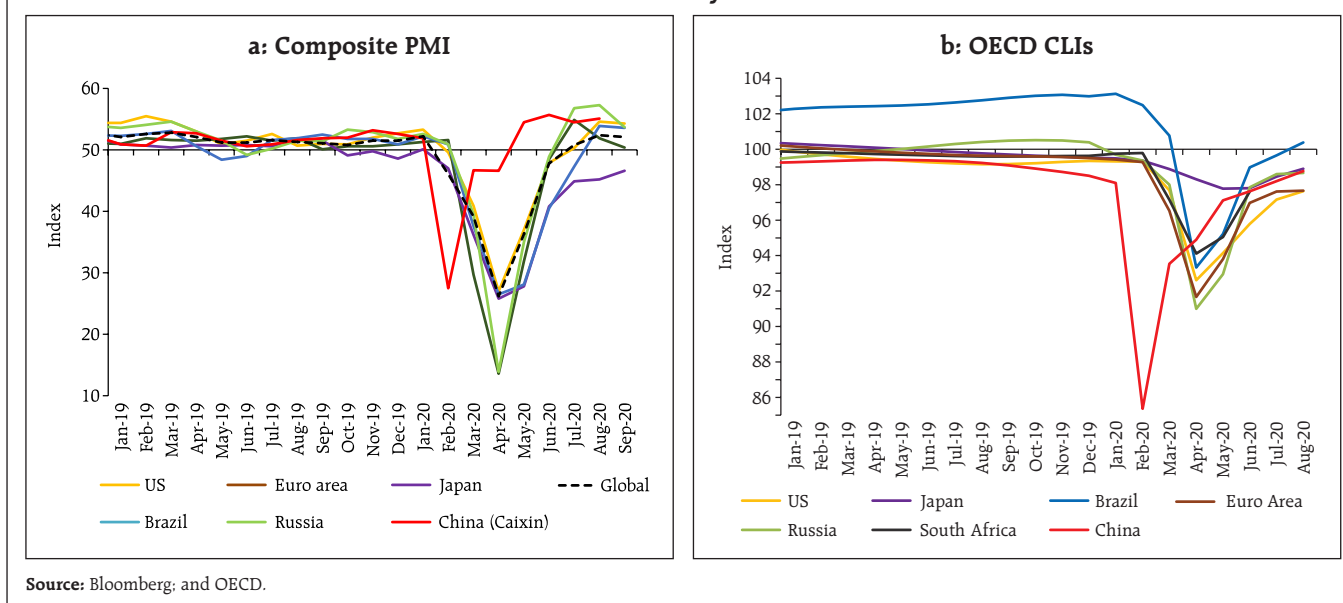
*: Data on forex reserves for 2020 pertains to the forex reserves holding as of August 2020 for all countries except for China whose data was available till July 2020.

#: Gross debt refers to the non-financial public sector, excluding Eletrobras and Petrobras, and includes sovereign debt held by the central bank.

Notes: India's data correspond to fiscal year (April-March). Data for India are IMF's projections.

Sources: WEO, IMF, and IRFCL, IMF.

Chart V.1: Survey Indicators



place. The South African economy experienced a severe disruption in Q2, the steepest on record, as industrial production and retail sales plummeted to record low levels in April and remained in contraction through the entire quarter. South-East Asian countries also registered sharp contraction in Q2, in tandem with other major EMEs and AEs as economic activity came to near standstill following widespread lockdowns.

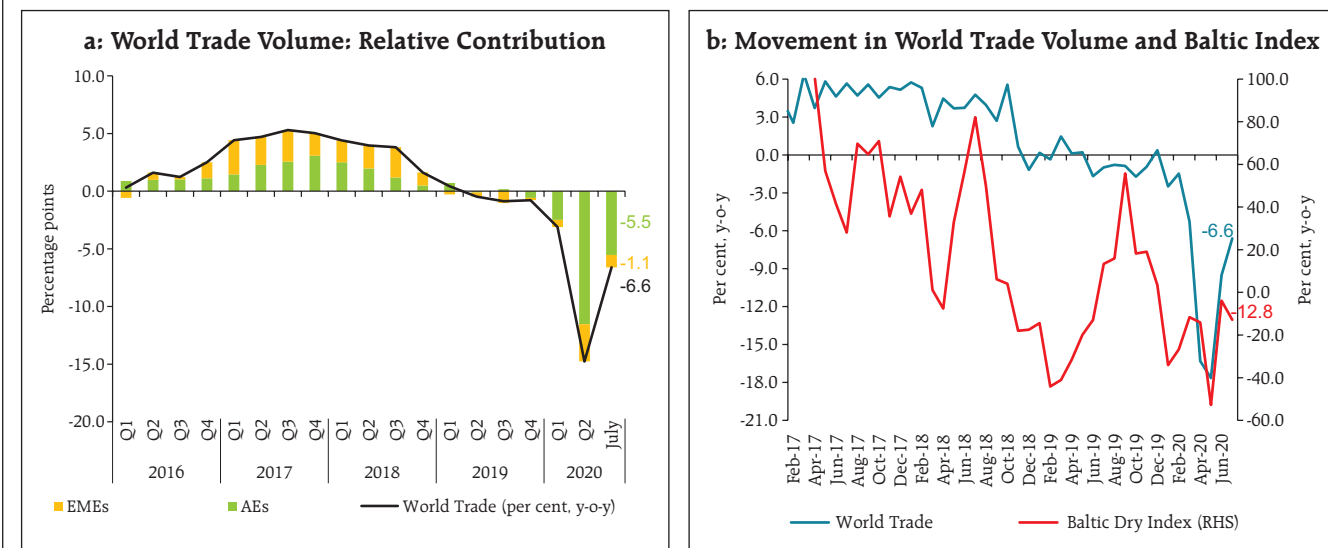
The global composite PMI moved back to the expansion zone in July and improved further in August and September after remaining in contraction for five months and a record low level in April. The revival in output and new orders as also improved business optimism, led the recovery (Chart V.1a). Among OECD economies, composite leading indicators (CLIs) suggest firming up of the growth momentum across major AEs and EMEs since June, recovering from lows in April. Notwithstanding the recovery, the levels still remain below the long-

term trend and much lower than the pre-COVID levels (Chart V.1b).

Global trade which was sluggish prior to the outbreak of COVID-19, moved into deep contraction in Q2:2020, with AEs contributing more to the decline than EME peers (Chart V.2a). The WTO's Goods Trade Barometer posted a steep decline – its constituent indices pertaining to automotive products and air freight contracted, although components such as export orders witnessed incipient signs of recovery, and contraction eased in electronic components and raw materials.

Forward looking indicators also suggest a tentative nascent recovery in world trade. The Baltic Dry Index, that had declined sharply during H2:2019 and Q1:2020, recovered sharply in June but has since softened moderately (Chart V.2b). However, uncertainty over a possible recovery remains a cause of concern due to rise in fresh virus cases in some parts of Europe, along with the rapid spread

Chart V.2: World Trade Volume



Source: CPB Netherlands; and CEIC.

in major EMEs. The pandemic has also exposed the integrated global economy to significant supply chain

disruptions reconfiguring the global value chains (Box V.1).

Box V.1: Global Value Chains: Regaining Foothold

After the 1990s, international trade proliferated on the back of the rise of global value chains (GVCs) which contributed to increase in productivity and came to be viewed as a fast track to industrialisation for the emerging market economies (Baldwin, 2011; Ignatenko *et al.*, 2019). After the global financial crisis, however, GVCs slowed down with the confluence of protectionist trade policies. More recently, COVID-19 has accentuated the contraction in global trade volumes with major supply disruptions – around 80 countries have imposed export restrictions and prohibitions on medical supplies and pharmaceuticals (WTO, 2020).

A survey of 23 industry value chains conducted by Mckinsey Global Institute (2020) revealed that the semiconductor industry, followed by communication equipment, medical devices, pharmaceuticals, aerospace, automobile, machinery and chemical industry would be the most affected by trade-related disruptions (Chart V.1.1a). The apparel industry followed by aerospace, furniture and petroleum products, transport, automobile and textile would be exposed to higher risks

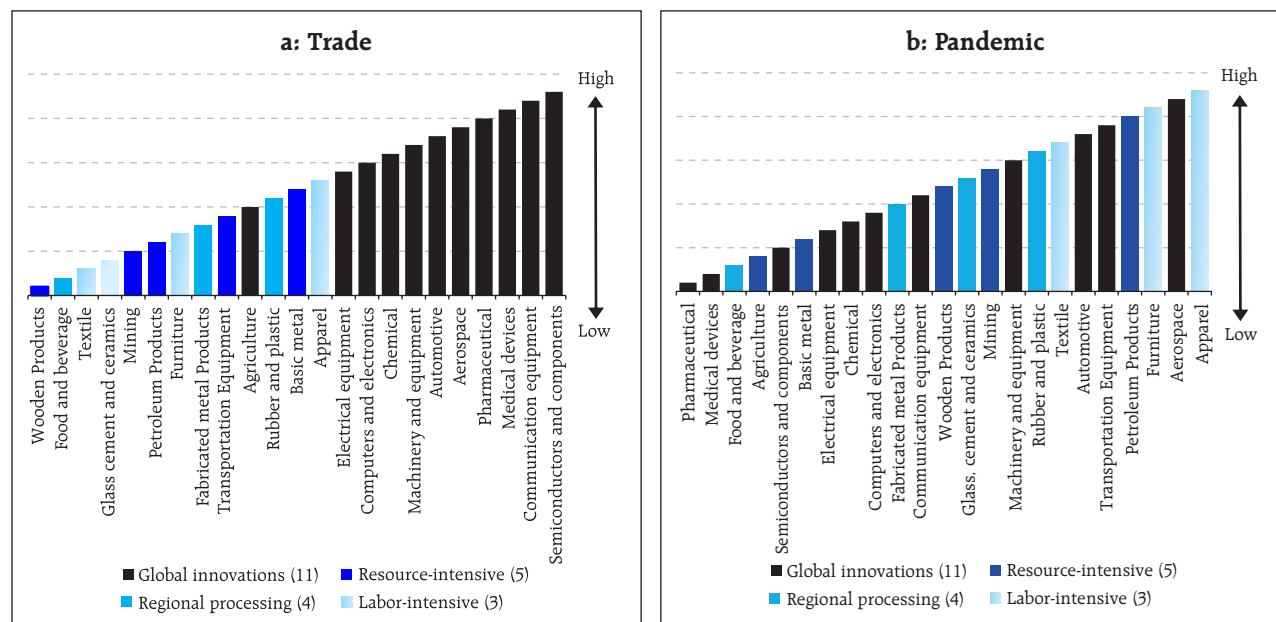
during the pandemic (Chart V.1.1b). The survey estimates that potential restructuring in global value chains could shift 16 to 26 per cent (US\$ 2.9 trillion to US\$ 4.6 trillion) of global goods exports to new countries in the next five years. It identifies three sectors, viz., pharmaceuticals, petroleum and apparel where the shift in supply chain networks might happen (McKinsey Global Institute, 2020).

The extent to which a country is integrated into these supply chains can be measured by the GVC participation index, which is a sum of backward and forward linkages. With the pandemic expected to diversify the supply chains from the current manufacturing hub, beneficiaries could be countries such as Vietnam, Mexico and India. The determinants of GVC participation such as economic fundamentals, factor endowments, geography, market size and institutional environment can be examined in an empirical framework (Fernandes *et al.*, 2020) specified as follows:

$$V_{it} = \alpha_0 + \alpha_1 X_{it} + T_t + \varepsilon_{it}$$

(contd.)

Chart V.1.1: Exposure of Industry Value Chains to Shocks



Note: Chart considers exposure to shocks, but no action taken to build resilience or mitigate impact.
Source: McKinsey Global Institute.

where the dependent variable (V) is either backward or forward participation expressed in logarithmic terms and subscripts i and t represent country and time period, respectively. X represents a vector of trade policy related explanatory variables *viz.*, net foreign direct investment (FDI) inflows; weighted average tariff rates; resource endowments, *viz.*, ratio of capital to GDP, ratio of land to GDP and rents from resources; domestic industrial capacity measured in terms of manufacturing sector's value-added; logistic performance index; political stability and distance from GVC hub *e.g.*, the US, Germany and China. Variable T_t controls for time fixed effects. The model is estimated on 144 countries for the period 1990-2018 using UNCTAD (Eora database).

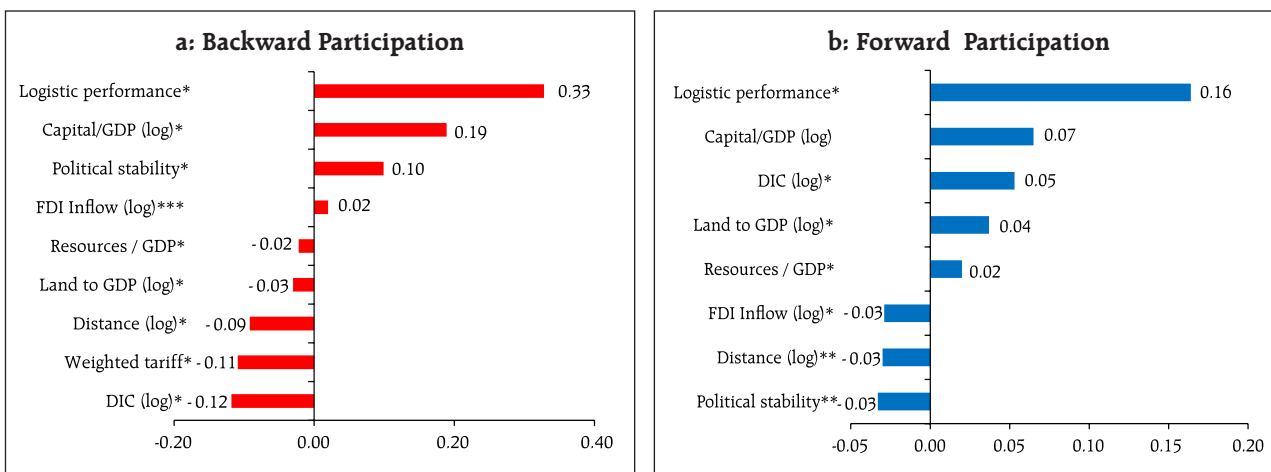
The decomposition of backward participation reveals that better logistic performance, higher capital endowment, stable political environment and higher FDI are central to strengthening backward linkages in the supply chain. These results assume significance in the context of several initiatives to strengthen logistic infrastructure through national trade facilitation plan which aims to transform the trade ecosystem by reducing the time and cost of doing business. Consequently, relaxation in

local procurement norms for single-brand retail trade has generated interest among global tech and retail giants such as Apple and Ikea. Manufacturing units in India may provide a unique opportunity to expand the country's foothold in GVCs. Lower tariff rates and better connectivity with the GVC hub can also contribute to stronger backward linkages. However, the estimates also show that countries with a larger domestic industrial capacity exhibit lower backward participation as they may rely less on imported inputs and use more domestic inputs for exports (Chart V.1.2a).

Countries with better performance in logistics, lower distance from the GVC hub and greater land and natural resource endowment exhibit significantly stronger forward participation than peers (Chart V.1.2b). As in the case of backward linkages, a country's capital affects forward participation positively, though the effect is not statistically significant. Countries seeking to expand foothold in GVCs need to lower trade barriers, demonstrate higher reliance on regional or free trade agreements, provide cutting edge logistics infrastructure, increase industrial capacity and strengthen political stability.

(contd.)

Chart V.1.2: GVC – Forward and Backward Participation



Note: (1) The analysis is based on a five-year average of the variables. GVC participation and factors exhibit more variation in a five-year span compared to year-on-year variation.
 (2) The dependent variable is average backward or forward participation in logarithmic terms. The variable "distance" is the distance from the GVC hub, i.e., the average distance of the country from China, the US and Germany. Resources/GDP represents rent from resources as a ratio of gross domestic product and DIC represents domestic industrial capacity.
 (3) The slope coefficients of the determinants are shown as bars in the chart. Regression coefficients with *, ** and *** reflects significance at 1, 5 per cent and 10 per cent, respectively.
Source: UNCTAD (Eora); and RBI staff estimates.

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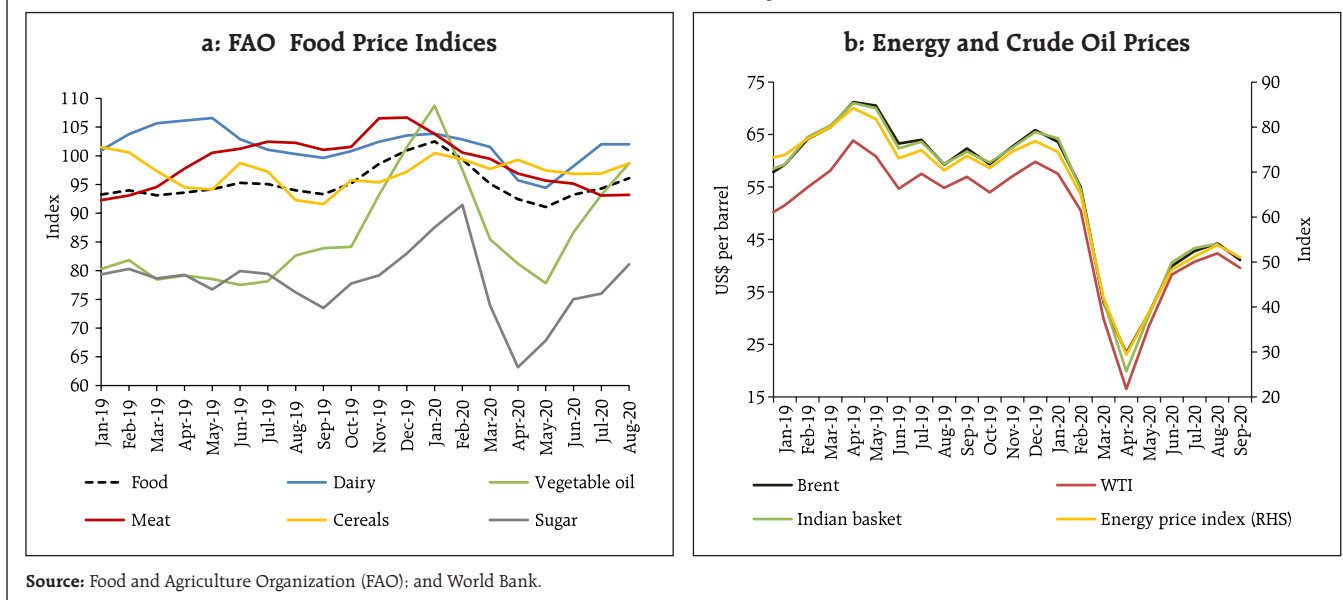
V.2 Commodity Prices and Inflation

Global commodity prices fell sharply in March-April, with oil prices plunging to record lows as lockdowns across countries depressed demand. From May, however, prices recovered as demand prospects improved following the gradual withdrawal of lockdown restrictions. The Bloomberg commodity price index increased by 14.5 per cent between April and September.

The food price index of the Food and Agriculture Organization (FAO) increased by 1.0 per cent between April and August. Global food prices eased

since February before witnessing some uptick in June on the back of rising vegetable oil, dairy products and sugar prices. Excess stockpiles amidst weakening external demand, diminishing restaurant sales and reduced demand from food manufacturers resulting from COVID-19 restrictions, pulled down prices for most food products between February and May. However, since June, food prices have edged up as global import demand improved, while export supplies tightened due to weather shocks and production slowdown across major producing countries (Chart V.3a).

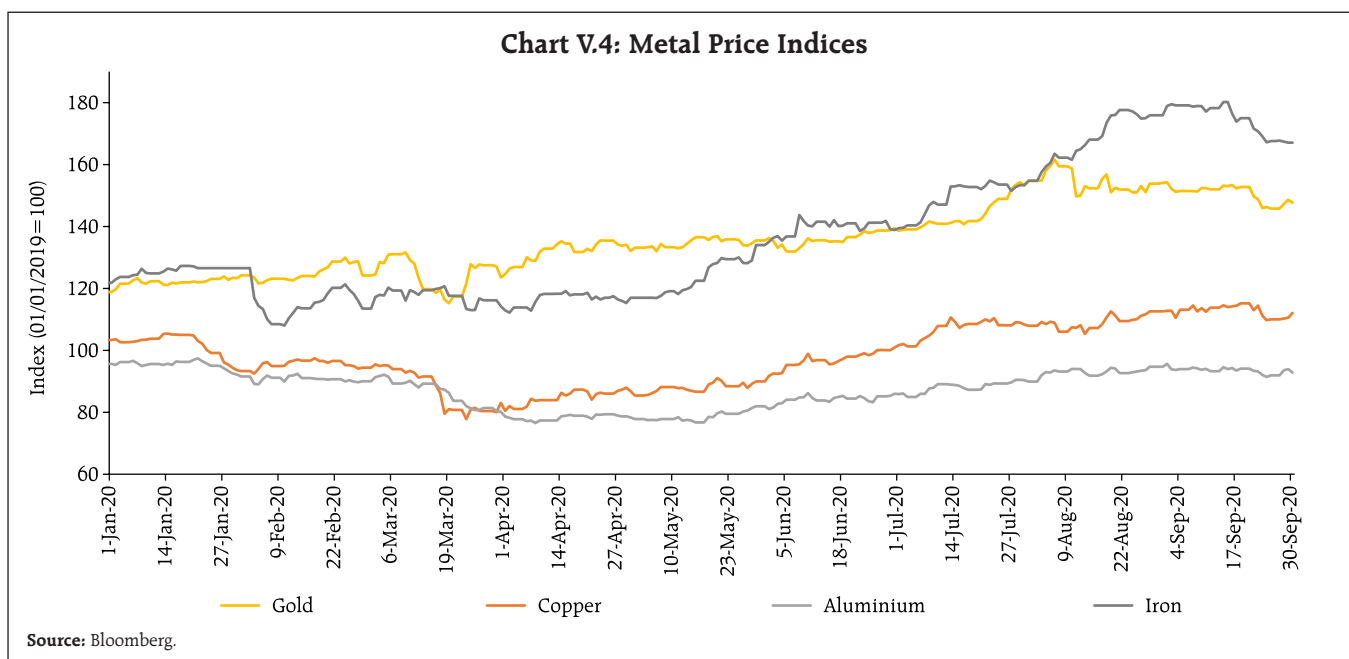
Chart V.3: Commodity Prices



Crude oil prices plunged in March-April, with West Texas Intermediate (WTI) prices falling below zero to US\$ (-)37.63 per barrel on April 20, 2020, as the unprecedented shock due to COVID-19 amidst the escalating Saudi-Russia price war over production cuts, flooded the oil market with excess supply. Crude oil prices have increased since then, recouping April losses, as optimism on demand following gradual withdrawal of lockdown in some countries and continued production cut by major energy producers buoyed sentiments. Major oil producers, both inside and outside the Organization of the Petroleum Exporting Countries (OPEC) planned to partially restore production from August following the cuts agreed to in the OPEC *plus* agreement of April, and this kept oil price range bound in July. Oil price firmed up for the larger part of August on news of falling inventories and recovery in fuel demand. However, the rally lost steam in September as fears of a second wave of COVID-19 infections, lack of visibility of the expected demand recovery and ramping up of production by some smaller OPEC members changed expectations again (Chart V.3b).

Base metal prices, measured by the Bloomberg's base metal spot index, increased by 27.5 per cent between April and September 2020 as against a decline of 19.3 per cent in Q1 and regained all the losses incurred after the outbreak of COVID-19. Most industrial metal prices have exhibited bullish movements since April-May, underpinned by China's restocking due to its early recovery and the massive stimulus packages by global central banks. Gold prices remained elevated, increasing by almost 24.3 per cent on a year-to-date (YTD) basis (till September 30, 2020) as heightened uncertainties and highly accommodative policies of central banks continue to boost the safe haven appeal of the yellow metal, pushing prices above the US\$ 2000 mark in early August. However, the bullion witnessed sell-offs in mid-August on Russia's announcement of potential vaccine and profit booking by investors and have remained broadly range bound for larger part of September before falling by 3.3 per cent in last week on strong US dollar and flight to cash (Chart V.4).

CPI inflation remained largely benign in major AEs, but exhibited modest upticks in some EMEs since June. Barring India, inflation remained at sub-



target levels in most of the AEs and EMEs, reflecting subdued demand amid lockdowns (Table V.3).

Table V.3: Inflation Performance

(Per cent)

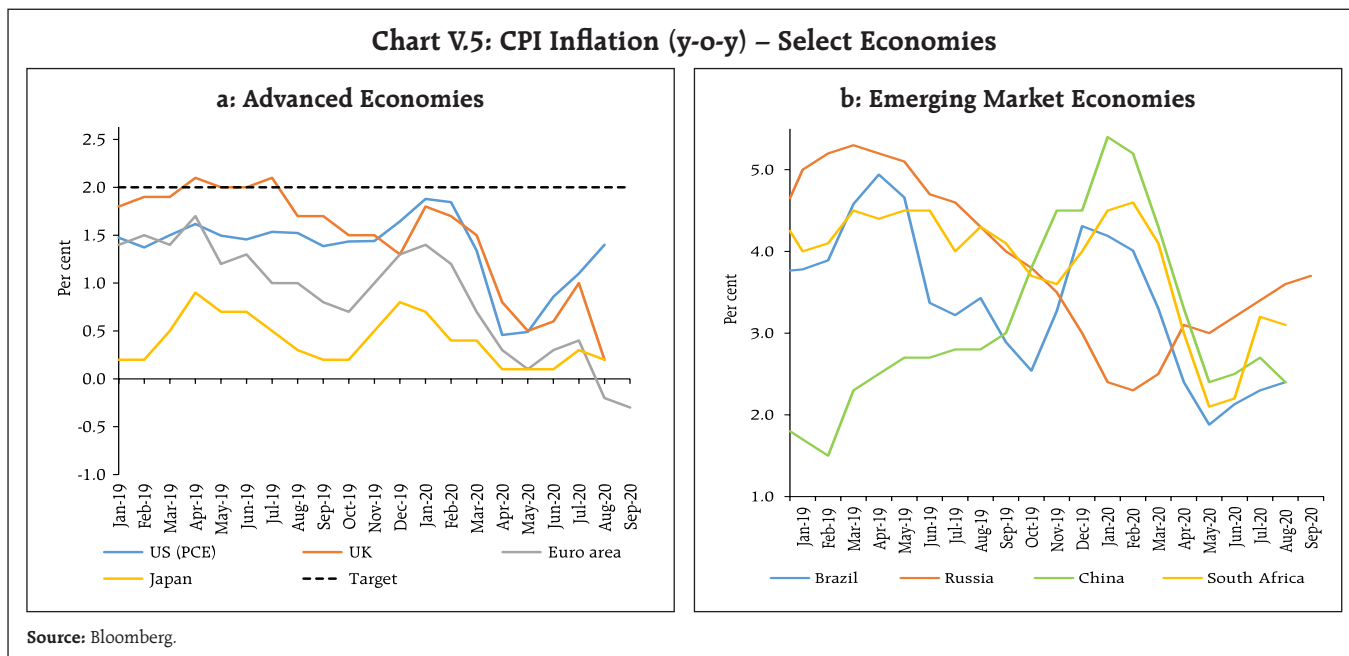
Country	Target	Q2-2019	Q3-2019	Q4-2019	Q1-2020	Q2-2020
Advanced Economies						
Canada	2.0	2.1	1.9	2.1	1.8	0.0
Euro area	2.0	1.4	0.9	1.0	1.1	0.2
Japan	2.0	0.8	0.3	0.5	0.5	0.1
South Korea	2.0	0.7	0.1	0.3	1.2	-0.1
UK	2.0	2.0	1.8	1.4	1.7	0.6
US	2.0	1.5	1.5	1.5	1.7	0.6
Emerging Market Economies						
Brazil	4.0 ± 1.5	4.3	3.2	3.4	3.8	2.1
Russia	4.0	5.0	4.3	3.4	2.4	3.1
India	4.0 ± 2.0	3.1	3.5	5.8	6.7	6.2
South Africa	3.0-6.0	4.5	4.1	3.8	4.4	2.4
Indonesia	3.0 ± 1.0	3.1	3.4	2.9	2.9	2.3
Philippines	3.0 ± 1.0	3.0	1.7	1.5	2.7	2.3
Thailand	1.0-3.0	1.1	0.6	0.4	0.4	-2.7

Notes: (1) The ECB aims at inflation rates of below, but close to, 2% over the medium term. The Federal Reserve in August 2020 adopted a new policy strategy of 'average inflation targeting' under which 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 targets in earlier periods. Central 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.
 (2) Brazil's, Indonesia's and Thailand's inflation target for 2019 were 4.25 ± 1.5 per cent, 3.5 ± 1 per cent and 2.5 ± 1.5 per cent, respectively.
 (3) Quarterly inflation numbers are monthly averages.
 (4) India's inflation is based on calendar year basis. Data for Q2:2020 refer to June only as NSO did not provide inflation rates for April and May.

Sources: Central Bank Websites; and Thomson Reuters.

In the US, inflation measured by the personal consumer expenditures (PCE) price index eased during February-June on the back of subdued aggregate demand and lower consumer energy prices. Although it has edged up since June, the pick up has been modest and drawing strength from the recovery in spending for consumer goods and services due to resumption of activities. Notwithstanding the increase, the PCE price index based inflation remained well below the Fed's 2 per cent target. In the Euro area too, actual inflation remained much below the target as prices have edged down since March and inflation rate slipped below zero since August on falling prices of energy products and non-energy industrial goods. In Japan, CPI inflation remained subdued, despite a slight uptick in July, on weak core consumer prices and inflation expectations. In the UK, rising prices of recreation and culture activities led to an increase in CPI inflation in June-July; however, inflation edged down in August on easing meal prices led by the 'Eat Out to Help Out' scheme by the Government, falling air fares and clothing prices (Chart V.5a).

CPI inflation across major EMEs eased during March-May on weak demand and depressed global



crude oil prices, but has recorded modest increases since June. Nonetheless, it remained below pre-COVID-19 levels and even below central bank targets for some economies. In China, consumer price inflation edged up in June-July on higher food prices resulting from an increase in pork prices and supply disruptions caused by floods. However, it fell in August as supply disruptions eased, restoring demand-supply balance. In Brazil, CPI inflation has recorded modest gains since June on the back of rising prices for transportation, increasing housing prices and cost of health and personal care, but remains below the central bank’s target. CPI inflation in South Africa started picking up in June and moved back into the central bank’s target range of 3-6 per cent since July, primarily driven by high prices of food and beverages. CPI inflation in Russia, unlike its peers, has been increasing since March, with only a modest drop in May. Increasing food, non-food and services prices amidst supply disruptions and the gradual release in pent-up demand as also weak ruble, supported the uptrend. However, inflation remains below the central bank’s target of 4 per cent through September (Chart V.5b).

V.3 Monetary Policy Stance

With the onset of the pandemic, fiscal authorities around the world have unveiled stimulus packages to overcome the downturn. Estimates as of mid-June 2020 by the IMF show more aggressive support by the AEs (Table V.4). Central banks have also provided unprecedented monetary accommodation. The key

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

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

Country	Amount	Per cent
Advanced Economies	-	19.8
Canada	137	8.9
European Union	484	4.1
Japan	1720	35.4
UK	578	23.0
US	2953	14.8
Emerging Market Economies	-	5.1
Brazil	157	11.9
China	705	4.6
India	180	6.1
Indonesia	40	3.6
Russia	40	2.9
South Africa	26	9.6
Thailand	61	11.8

Source: WEO Update, June 2020, IMF.

policy rates are at their lowest level in most countries. One important difference is that while the AE central banks used up the limited policy space available to them in March, the EMEs continued to cut rates through Q2 and Q3 of 2020.

In August 2020, following a comprehensive and a public review of its monetary policy strategy, tools and communication practices, the Federal Reserve announced its new monetary policy strategy under which it seeks to achieve inflation that averages 2 per cent over time. As per this 'flexible average inflation targeting' paradigm, the Fed would allow the inflation rate to be moderately above the 2 per cent rate for brief periods to make up for the shortfall from the target in earlier periods. Furthermore, according primacy to maximum employment, the Fed would henceforth respond to 'shortfalls' of the employment from its maximum level rather than its 'deviations'.

As regards the actual conduct of monetary policy, the US Fed has maintained a pause on the target range of the policy rate in all Federal Open Market Committee (FOMC) meetings since the emergency rate cut in mid-March. In April 2020, the Fed announced the Main Street Lending Programme, a package of support for households and businesses, worth US\$ 2.3 trillion. Since June, the Fed has indicated that it would continue asset purchases at the current pace over the coming months to sustain smooth market functioning. In its September meeting, the first after the adoption of the new monetary policy framework, the Fed stated that it would keep the target range for the federal funds rate at 0-0.25 per cent till labour conditions become consistent with the FOMC's assessment of maximum employment and inflation has risen to 2 per cent and moderately exceeds it for some time. In Q3, the Fed increased the duration and made favourable changes to the scope as also pricing of several facilities announced in March/ April in response to COVID-19.

Some facilities¹ that were to expire in September have been extended up to December 2020, while the temporary US dollar liquidity swap lines and the temporary repurchase agreement facility for foreign and international monetary authorities (FIMA repo facility) have been extended up to March 2021.

The European Central Bank (ECB) has not changed key rates in response to the pandemic so far. In its April 2020 meeting, the ECB eased conditions for accessing targeted longer-term refinancing operations (TLTRO III) and introduced a new series of non-targeted pandemic emergency longer-term refinancing operations (PELTROs) to support liquidity conditions in the euro area financial system. In its June meeting, the ECB expanded the envelope for the pandemic emergency purchase programme (PEPP) by €600 billion (about US\$ 530 billion)² to a total of €1,350 billion (about US\$ 1192 billion), while also extending the time horizon for net purchases under the programme to June 2021. There were no new announcements in the two meetings in Q3.

The Bank of Japan (BoJ) has also not changed key rates in response to the pandemic. In April, the BoJ announced significant enhancement of monetary easing including removing the limit of 80 trillion yen (about US\$ 746 billion) on additional annual holdings of government bonds. The limits on additional purchases of commercial papers and corporate bonds were enhanced. The BoJ also strengthened the Special Funds-Supplying Operations to facilitate financing in response to COVID-19. In May, it introduced a new

¹ These include the Primary Dealer Credit Facility, the Money Market Mutual Fund Liquidity Facility, the Primary Market Corporate Credit Facility, the Secondary Market Corporate Credit Facility, the Term Asset-Backed Securities Loan Facility, the Paycheck Protection Program Liquidity Facility, and the Main Street Lending Program.

² The US\$ approximations for all the amounts mentioned in another currency in this Chapter are based on the exchange rate prevailing on the date/month of announcement of the particular measure.

measure under these operations for fund provisioning against interest-free and unsecured loans. The maximum amount of financing under the Special Funds Supplying Operations is about 100 trillion yen (about US\$ 933 billion).

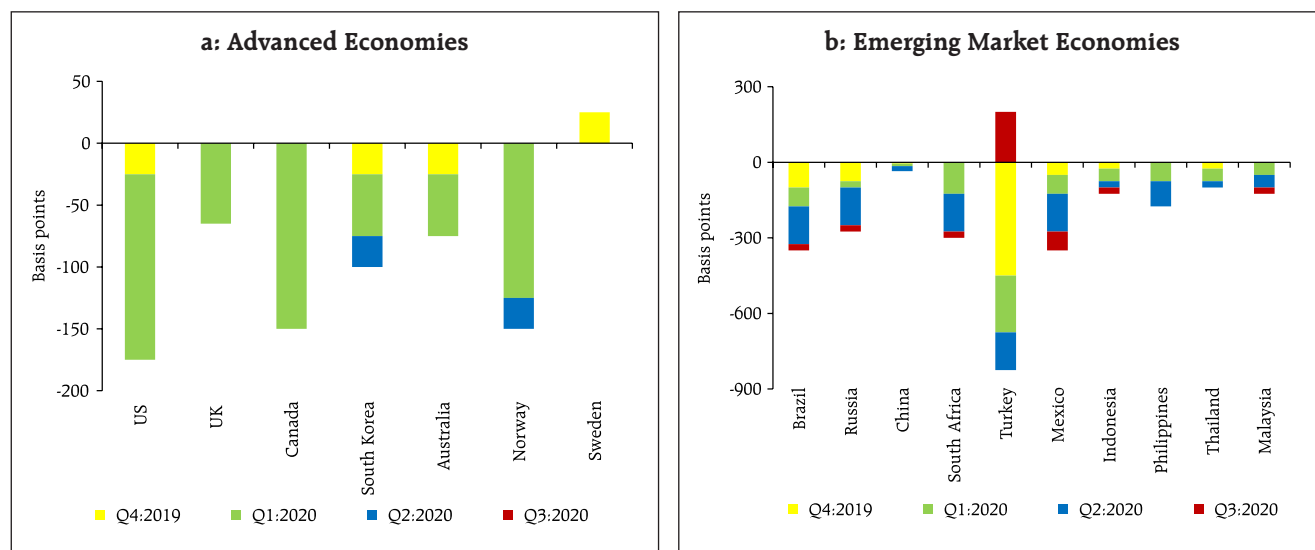
The Bank of England (BoE) has maintained a pause on the Bank Rate, which is at its all-time low of 0.1 per cent since March 2020. In its June meeting, however, the BoE increased the target stock of purchase of UK government bonds by an additional £100 billion (about US\$ 124 billion), taking the stock of total asset purchases to £745 billion (about US\$ 926 billion) for 2020. There were no new announcements in its meetings held in Q3.

The Bank of Canada (BoC) has maintained a pause on the policy rate at 0.25 per cent since March. In April, the BoC announced new measures for provincial bond and corporate bond purchases, a temporary increase in weekly purchases of Treasury bills and enhancement of funding under term repo facility to two years. In June, with improvement in short-term funding conditions, the BoC reduced the frequency of term repo operations and its bankers' acceptance

purchase facility. The Reserve Bank of Australia (RBA) maintained the targets for the cash rate and the yield on 3-year Australian Government bonds at 25 basis points each in its monthly meetings held during Q2 and Q3 of 2020. In September, the RBA announced an increase in the size of its term funding facility and extended it up to June 2021. The Reserve Bank of New Zealand (RBNZ) maintained its policy rate at its historic low of 0.25 per cent in each of its meetings since April. The RBNZ, however, increased the limit on its large scale asset purchase programme from NZ\$ 30 billion (about US\$ 17 billion) to NZ\$ 33 billion (about US\$ 20 billion) in April, to NZ\$ 60 billion (about US\$ 36 billion) in May and further to NZ\$ 100 billion (about US\$ 66 billion) in August.

The central banks of South Korea and Norway were the only two AE central banks to effect a rate cut beyond Q1:2020. Both reduced their policy rate by 25 bps each in May to 0.5 per cent and 0 per cent, respectively (Chart V.6a). The Swedish Riksbank maintained its policy rate at 0 per cent, but in its June meeting it increased the amount of asset purchases from SEK 300 billion (about US\$ 30 billion) to SEK

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



Note: The policy rate changes are mapped to the time when the decision was announced and not when it took effect.
Source: Bloomberg.

500 billion (about US\$ 54 billion) and extended the time period of the purchases up to June 2021, while also announcing purchase of corporate bonds from September onwards.

EMEs, on the other hand, continued to cut rates well into Q3. The People's Bank of China (PBoC) effected a 20 bps cut in the one-year Loan Prime Rate (LPR) to 3.85 per cent in April and has maintained a pause since. Prior to the policy decision in April, the PBoC had reduced the interest rate on excess reserves to a record low of 0.35 per cent, while also reducing the reserve requirement ratio for smaller banks by one per cent. In May, the PBoC lowered the reserve requirement rate for all large financial institutions by another 150 basis points to 11 per cent.

Other BRICS central banks remained in accommodative mode. The central bank of Brazil reduced the Selic rate by 75 bps each in May and June, following it up with a 25 bps cut in August as inflation remained below the target. The central bank of Brazil took a pause in its September meeting, the first after nine consecutive rate cuts since August 2019. The Bank of Russia cut its policy rate by 50 bps, 100 bps and 25 bps in April, June and July, respectively before pausing in September. The South African Reserve Bank cut its policy rate by 100 bps, 50 bps and 25 bps in April, May and July, respectively, as overall risks to inflation outlook remained balanced and took a pause in September (Chart V.6b).

The central bank of Turkey cut its policy rate by 100 bps in April and 50 bps in May and maintained a pause thereafter. In August, the central bank increased the Turkish Lira and forex reserve requirement ratios for banks fulfilling real credit growth conditions. In September, however, the central bank increased its policy rate by 200 bps to restore the disinflation process and support price stability. The central bank of Mexico cut its policy rate by 50 bps in each month of Q2:2020 and effected 50 bps cut in August and another 25 bps cut in September. Bank Indonesia cut

its policy rate by 25 bps each in June and July and has maintained a pause since August. Amongst other major EME central banks, the Bank of Thailand and Banko Sentral ng Pilipinas cut their rates in Q2 while Bank Negara Malaysia and the Central Bank of Sri Lanka reduced rates in both Q2 and Q3.

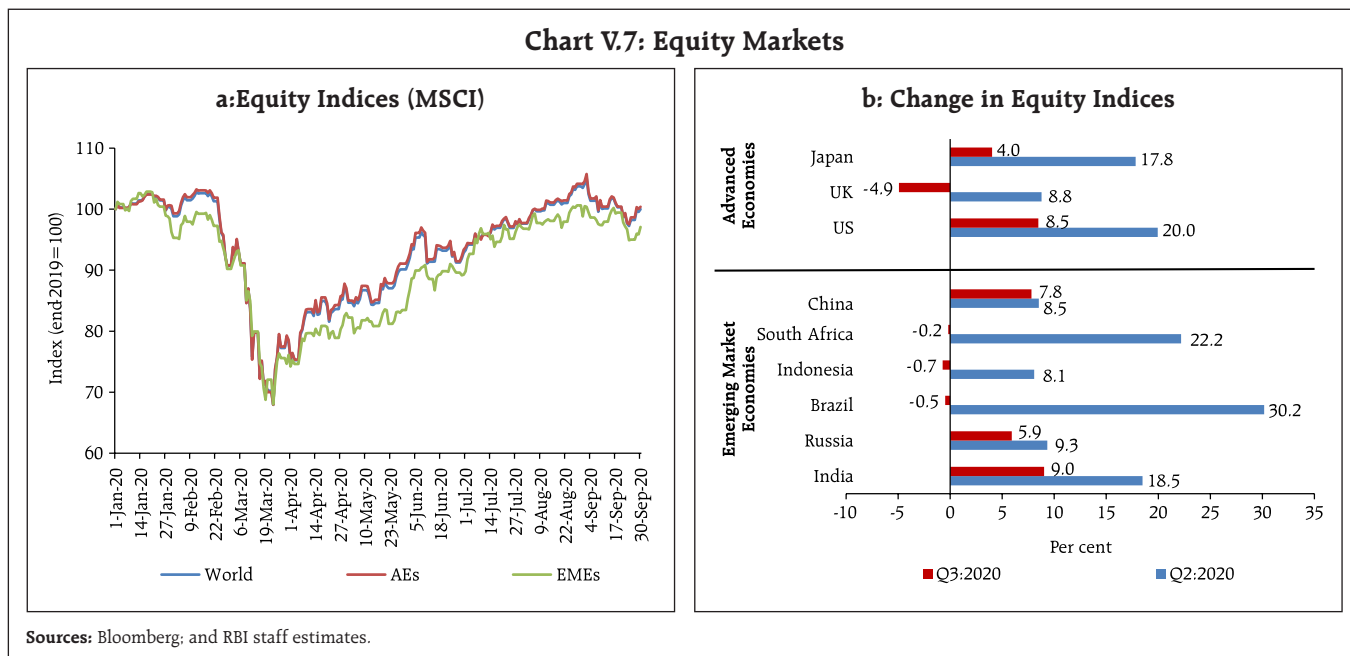
V.4 Global Financial Markets

Global financial markets went into a tailspin in March that continued up to March 23, 2020 when the US Federal Reserve announced extensive measures to support the economy, including removing the upper bound on its asset purchases. The announcements engendered a recovery in financial markets across the world. Aided by equally extensive and in some cases, co-ordinated monetary policy action by central banks, financing conditions have improved.

Among AEs, the US equity market has continued to recover from the slide in March, with intermittent corrections. In July, equity indices moved higher on prospects of successful development of a vaccine and better than expected corporate performance. Towards the end of July, there was some correction due to resurgence of infections and increasing tensions with China, but the exceptional performance of the prime technology companies helped in overriding the pessimism. In August, the S&P 500 index closed at all-time highs on seven occasions. It peaked further in early September followed by correction, with shares of technology companies registering a large decrease.

In the other major AEs, even as stock indices have been rising gradually, they are yet to recover year-to-date losses. In the Euro area, despite news on the finalisation of the Next Generation EU fund³, the stock

³ In July, the European Council has agreed on the Next Generation EU (NGEU) fund, under which €750 billion will be borrowed on the capital markets and spent only to address the challenges/consequences of the COVID-19 pandemic. Spending will commence in 2021, of which €390 billion will be in the form of grants. The debt issuance will end by 2026 and repayment will be scheduled until 2058.



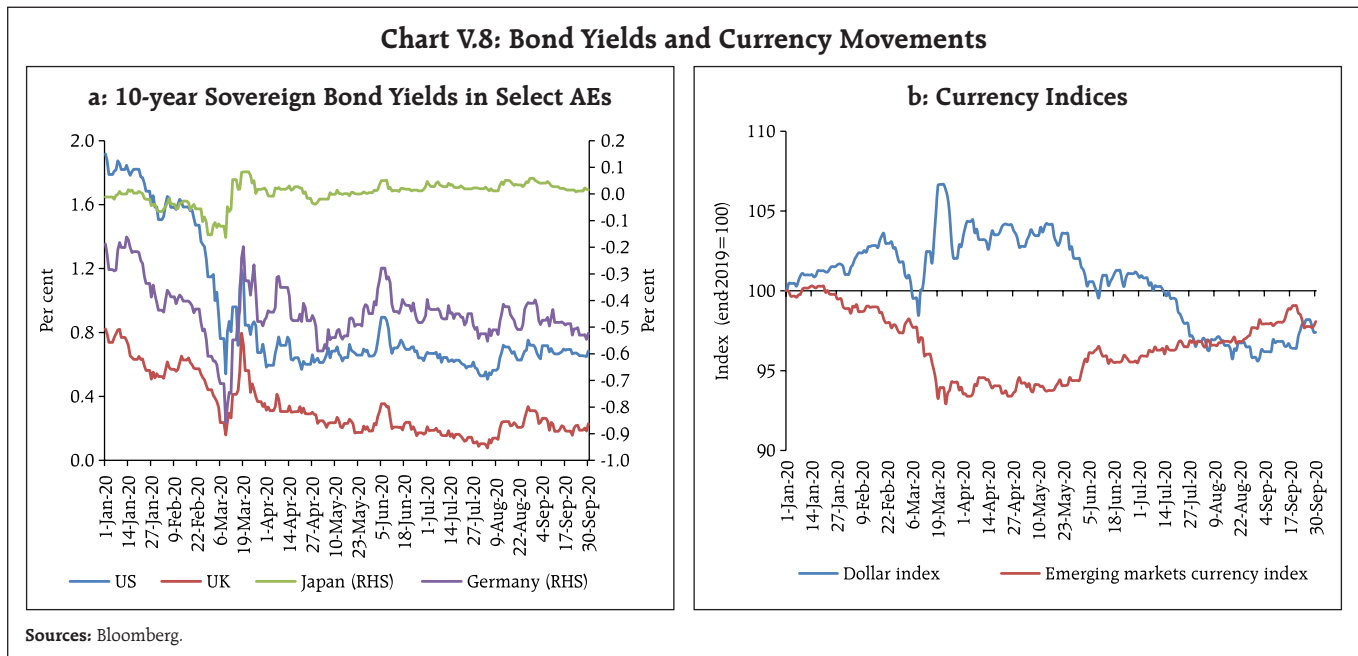
market remained flat with differential pace of opening of multiple economies and localised resurgence of infections. The uptrend in the stock market in the UK was even more gradual, with the country registering the worst economic contraction among major AEs. The stalemate over Brexit negotiations has dampened sentiment on the outlook. Japanese stocks also slowly recovered from the slide in the earlier part of the year in Q2, and thereafter the index has almost stalled. In the second half of September, stock markets in the Euro area and UK corrected further with rising possibility of a second wave of infections and need for lockdown.

Stock markets in EMEs have seen rapid recovery, starting from Q2 (Chart V.7). Risk-on sentiments following massive monetary accommodation by central banks led to resumption of capital flows to EMEs, which have strengthened further in Q3. In September, however, stock markets in EMEs have also corrected on global cues.

The flight to cash phase in bond yields ended on March 23, 2020. Thereafter, yields softened in AEs and remained range-bound in Q2, in part due to the

unprecedented policy accommodation and continuing safe haven demand. There has been some hardening of yields in Q3 in the AEs, particularly in August, mainly on account of mixed news on the economic front (Chart V.8a). With renewed virus concerns, safe haven demand for US Treasuries has resurged. Yields in EMEs, on the other hand, have witnessed considerable softening since Q2:2020 after the rout in the earlier part of the year. This has been on the back of large monetary loosening, including bond purchase programmes undertaken by a few EME central banks. China has, on the contrary, seen a rise in yields after the pause following the 20 bps cut in policy rate in April.

In currency markets, the US dollar has weakened considerably since March 23, 2020. Expectations of the policy rates staying low for a considerable time horizon, largest number of COVID-19 infections and fatalities in the world, grim employment news and tensions with China have imparted weakness to the US dollar (Chart V.8b). The euro has strengthened considerably against the dollar. With resumption of capital flows, most emerging market currencies have



strengthened since Q2:2020. However, the US dollar strengthened in September on safe haven demand as waning vaccine optimism amidst rising infections in Europe and the UK and uncertainty regarding US stimulus package triggered risk-off sentiments. The MSCI Emerging Market Currency Index increased by 1.6 per cent in Q2:2020 and by a further 2.7 per cent in Q3:2020.

V.5 Conclusion

In sum, the global economy is still reeling under the impact of the unprecedented COVID-19 shock. Even as high frequency indicators suggest that the

economic activity may be beginning to bottom out in Q3, the near-term outlook remains hostage to the virus and attendant uncertainty around the discovery of the vaccine. The slight uptick in inflation of some EMEs in recent months notwithstanding, risks to the recovery remain on the downside due to the sizeable aggregate demand compression effect and continued disruption of supply. As major central banks have pledged to keep rates at the current historic low levels and governments are implementing large fiscal support programmes, the improvement in financing conditions that is still unfolding should impart upside to the recovery when it takes hold.

SPEECH

What Forces Could Drive the Recovery?
Shaktikanta Das

*What Forces Could Drive the Recovery?**

Shaktikanta Das

Thank you for this opportunity to interact with eminent business leaders of India and distinguished members of the Federation of Indian Chambers of Commerce & Industry (FICCI). I wish to thank the organisers for hosting this event, undeterred by this still unfolding pandemic that, on a daily basis, tests our resilience and capacity to save lives, households, businesses and the economy.

The end-August press release of the National Statistics Office (NSO) was a telling reflection of the ravages of COVID-19. Nevertheless, high frequency indicators of agricultural activity, the Purchasing Managers' Index (PMI) for manufacturing and private estimates for unemployment point to some stabilisation of economic activity in Q2, while contractions in several sectors are also easing. The recovery is, however, not yet fully entrenched and moreover, in some sectors, upticks in June and July appear to be levelling off. By all indications, the recovery is likely to be gradual as efforts towards reopening of the economy are confronted with rising infections.

The global economy is estimated to have suffered the sharpest contraction in living memory in April-June 2020 on a seasonally adjusted quarter-on-quarter basis. World merchandise trade is estimated to have registered a steep year-on-year decline of more than 18 per cent in Q2 of 2020, according to the Goods Trade Barometer of the World Trade Organisation (WTO). High frequency indicators point to a trough in global economic activity in April-June quarter

and a subsequent recovery is underway in several economies, such as the USA, UK, Euro- area and Russia. The global manufacturing and services PMIs rose to 51.8 and 51.9, respectively, in August from 50.6 for both in July. Yet, infections remain stubbornly high in the Americas and are increasing again in many European and Asian countries, causing some of them to renew containment measures.

On the back of large policy stimulus and indications of the hesitant economic recovery, global financial markets have turned upbeat. Equity markets in both advanced and emerging market economies have bounced back, scaling new peaks after the 'COVID crash' in February- March. Bond yields have hardened in advanced economies on improvement in risk appetite, fuelling shift in investor's preferences towards riskier assets. Portfolio flows to emerging market economies (EMEs) have resumed, and this has pushed up EME currencies, aided also by the US dollar's weakness following the Fed's recent communication on pursuing an average inflation target. Gold prices moderated after reaching an all-time high in the first week of August 2020 on prospects of economic recovery.

Financial market conditions in India have eased significantly across segments in response to the frontloaded cuts in the policy repo rate and large system-wide as well as targeted infusion of liquidity by the Reserve Bank. Despite substantial increase in the borrowing programme of the Government, persistently large surplus liquidity conditions have ensured non-disruptive mobilisation of resources at the lowest borrowing costs in a decade. In August 2020, the yield on 10-year G-sec benchmark surged by 35 basis points amidst concerns over inflation and further increase in supply of government papers. Following the Reserve Bank's announcement of special open market operations (OMOs) and other measures to restore orderly functioning of the G-sec market, bond yields have softened and traded in a

* Address by Shri Shaktikanta Das, Governor, Reserve Bank of India on September 16, 2020 at the FICCI's National Executive Committee Meeting

narrow range in September. Although bank credit growth remains muted, scheduled commercial banks' investments in commercial paper, bonds, debentures and shares of corporate bodies in this year so far (up to August 28) increased by ₹5,615 crore as against a decline of ₹32,245 crore during the same period of last year. Moreover, the benign financing conditions and the substantial narrowing of spreads have spurred a record issuance of corporate bonds of close to ₹3.2 lakh crore during 2020-21 up to August.

The immediate policy response to COVID in India has been to prioritise stabilisation of the economy and support a quick recovery. Policies for durable and sustainable high growth in the medium-run after the crisis, nevertheless, are equally important, and in my address today I propose to dwell upon that issue squarely – what could potentially lift up the Indian economy to trend growth as the recovery begins?

While interacting with members of the National Council of the Confederation of Indian Industry (CII) on July 27, 2020, I had covered five major dynamic shifts taking place in the economy: (i) fortunes shifting in favour of the farm sector; (ii) changing energy mix in favour of renewables; (iii) leveraging information and communication technology (ICT) and start-ups to power growth; (iv) shifts in supply/value chains, both domestic and global; and (v) infrastructure as the force multiplier of growth. Today, I would like to touch upon five areas that, I feel, would determine our ability to step up and sustain India's growth in the medium-run: (i) human capital, in particular education and health; (ii) productivity; (iii) exports, which is linked to raising India's role in the global value chain; (iv) tourism; and (v) food processing and associated productivity gains.

(i) Human Capital: The Importance of Education and Health

Investing in people adds to the stock of skills, expertise and knowledge available in a country, and

that is critical to maximise its future growth potential. The assignment of importance to education dates back to Plato, Aristotle, Socrates and Kautilya. Its significance for economic development has received progressively increasing attention in recent decades, especially in the work of several Nobel laureates, including T.W. Schultz, Gary Becker, Robert Lucas and James Heckman. There has come about an explicit recognition of education as human capital in endogenous growth theory, backed up by cross-country empirical evidence.

In India, states with higher literacy rates are found to have higher per capita income, lesser infant mortality, better health conditions and also lower poverty. Education and skill development, however, contribute less than half a percentage point to our overall labour productivity growth. In order to reap the demographic dividend, we have to raise expenditure on education and acquisition of skills substantially. It is important to recognise that investment in education pays by raising average wages. In its Global Education Monitoring Report 2012, the United Nations Educational, Scientific and Cultural Organization. (UNESCO) highlighted that every US\$1 spent on education generates additional income of about US\$10 to US\$15. A World Bank (2014) study showed that an additional year of schooling increases earnings by 10 per cent a year. Higher education also contributes to economic development through greater sensitivity to environment/climate change, energy use, civic participation and healthy lifestyle.

The New Education Policy 2020 (NEP), a historic and much needed new age reform, has the potential to leverage India's favourable demographics by prioritising human capital. The goal to increase public investment in the education sector to 6 per cent of GDP must be pursued vigorously. Public-private partnerships (PPPs) can develop necessary infrastructure, without jeopardising financial

viability of private investment while ensuring quality education at affordable costs. Indian banks and the financial system would need to respond proactively to opportunities arising from the NEP for new financing.

Besides improving access to education, focus on quality of education and research will be critical to shape the outcome of education on economic development. Skill acquisition is more important than mere mean years of schooling. The assessment of quality aspect of education often requires a multi-dimensional approach: reading and language proficiency; mathematics and numeracy proficiency; and scientific knowledge and understanding¹. The emphasis on quality of education must begin at the foundation stage in schools up to plus 2 level. At another level, the formation of the National Research Foundation as announced in the NEP is a welcome step to fund outstanding peer-reviewed research and to actively promote research in universities and colleges. The creation of a National Educational Technology Forum as a platform for use of technology in education is a necessary step to meet the requirement of rapidly changing labour market.

Health is another vital component of human capital. Good health increases life expectancy and productive working years. In high income countries, per capita health expenditure in 2017 was about US\$ 2937, as against US\$ 130 in low middle-income countries (which include India). Initiatives such as the Pradhan Mantri Bharatiya Jan Aushadi Pariyojana (PMBJP) and Pradhan Mantri National Dialysis Programme (PMNDP), free drugs and diagnostic service provision initiatives are expected to improve the quality and affordability of healthcare. The most important step towards providing affordable healthcare has been the launch of the Ayushman Bharat Yojna, which lays down the foundation of a 21st century health care system, covering both government

and private sector hospitals.

COVID has brought to the fore the importance of easy access to health services to contain the mortality rate, given significant inter-state and intra-state differences in healthcare infrastructure. While laudable crisis time response to scale up health infrastructure has helped in dealing with the health emergency, a more comprehensive approach similar to NEP for the health sector may be warranted, which must also cover deeper penetration of insurance, given the high burden of out of pocket expenses in India, and also preventive care. Greater attention is required to improve the health ecosystem by ensuring creation of new medical colleges, higher number of PG seats and colleges for paramedics and nursing.

(ii) Productivity Growth

By any reckoning, COVID-19 will leave long lasting scars on productivity levels of countries around the world. According to a recent World Bank assessment², COVID-19 could entail adverse effects on productivity because of dislocation of labour, disruption of value chains and decline in innovations. During earlier episodes of epidemics in the past – Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), Ebola and Zika – productivity is estimated to have declined by about 4 per cent over three years. The COVID impact on productivity could be expected to be much larger.

KLEMS (capital; labour; energy; materials; and services), a database hosted by the Reserve Bank, shows that the Indian economy experienced an overall productivity growth of 0.9 per cent per annum, on an average, over the period 1980-81 to 2017-18. In the immediate post Global Financial Crisis (GFC) period – from 2008-09 to 2012-13 – there was a decline in productivity by 0.3 per cent annually, while the period thereafter upto 2017-18 recorded annual

¹ worldindata.org

² World Bank, 2020 "Global Productivity: Trends, Drivers and Policies" (Chapter 3: What Happens to Productivity during Major Adverse Events).

productivity growth of 2.4 per cent. The contribution of productivity growth to the overall GDP growth of the Indian economy over the period 1980-81 to 2017-18 was about 15 per cent. During 2013-14 to 2017-18, its contribution increased significantly to about 34 per cent.

The share of patents applied and granted to India in total patents granted globally has been rising in recent years. India's share, however, continues to be low at less than 1 per cent. Globally, the private sector plays a major role in Research and Development (R&D) expenditure, while in India, a major part of R&D expenditure is incurred by the government, particularly on atomic energy, space research, earth sciences and biotechnology. Stepping up R&D investment in other areas would require more efforts by the private sector, with the government focusing on creating an enabling environment.

With a view to further promoting innovations in financial services, the Reserve Bank has announced an Innovation Hub with a focus on new capabilities in financial products and services that can help deepening financial inclusion and efficient banking services. Ongoing efforts are yielding results. India has recently entered the group of top 50 countries in the global innovation index (GII) list of 2020 for the first time. The India Innovation Index, released by Niti Aayog last year, has been widely accepted as a major step in the direction of decentralisation of innovation across all states of the country. Sustaining this process will be vital, given particularly the trend decline in saving and investment rate in India.

(iii) Exports and Global Value Chains (GVCs)

In the post GFC period, a view has emerged that the era of export-led growth is over, and India missed the opportunity by not prioritising exports at the right time. Globally, the key impediments to exports post-GFC include: (a) generalised increase in protectionism by trading partners; (b) weak global demand conditions; (c) race to the bottom (to gain

unfair competitive advantage, by using a policy mix of competitive depreciation, subsidies, tax and regulatory concessions); and (d) automation, reducing the cost advantages stemming from cheap labour.

Notwithstanding these impediments, and also the significant decline in trade intensity of world GDP growth in the post-GFC period, opportunities for expanding exports arise from the vastly altered global landscape for trade where more than two thirds of world trade occurs through global value chains (GVCs)³. The higher the GVC participation of a country, the greater are the gains from trade as it allows participating countries to benefit from the comparative advantage of others participating in the GVC. Services such as transportation, banking, insurance, IT and legal services, branding, marketing and after sale services are integral to GVCs.

India's participation in GVCs has been lower than many emerging and developing economies. India has global presence in low GVC products such as gems and jewellery, rice, meat and shrimps, apparels, cotton, and drugs and pharmaceuticals.

Among the sunrise sectors that offer potential for higher exports in the post-COVID period are drugs and pharmaceuticals where India enjoys certain competitive advantages. With strong drug manufacturing expertise at low cost, India is one of the largest suppliers of generic drugs and vaccines. Some Indian manufacturers have already entered into new partnerships with global pharma companies to produce vaccines on a large scale for both domestic and global distribution. The Government has also approved an investment package for promotion of bulk drug parks and a production-linked incentive scheme is in place to enhance domestic production of drug intermediates and active pharmaceutical ingredients. A sharp policy focus on other GVC intensive "network products", including equipment

³ Dollar, David (2019), "Global Value Chain Development Report", World Trade Organisation, Geneva.

for IT hardware, electrical appliances, electronics and telecommunications, and automobiles would also provide the cutting edge to India's export strategy with considerable scope for higher value additions.

Domestic policies need to focus on the right mix of local and foreign content in exports while aiming to enhance participation in GVCs. Firms that engage in both imports and exports are found to be far more productive than non-trading firms (World Bank, 2020)⁴. While choosing trade partners through free trade agreements (FTAs), it is also important to learn from global experience and nurture those trade agreements that go beyond traditional market access issues. Provisions relating to investment, competition, and intellectual property rights protection have a larger positive impact on GVC trade and need to be assiduously cultivated and ingrained into India's export ecosystem.

(iv) Tourism as an Engine of Growth

Tourism has been one of the sectors in the economy most severely impacted by COVID-19. At the same time, this is also a sector where pent up demand could drive a V shaped recovery when the situation normalises.

India has immense potential to meet a diverse range of tourist interests – religion; adventure; medical treatment; wellness and yoga; sports; film making; and eco-tourism. We have four major biodiversity hotspots, 38 UNESCO World heritage sites⁵, 18 biosphere reserves, over 7,000 km of coastline, rain forests, deserts, tribal habitation and a multi-cultural population. The challenge nevertheless is to scale up our tourism market and enhance its contribution to economic development.

As per the Third Report of Tourism Satellite Account for India (TSAI) 2018, the share of tourism

in GDP was 5.1 per cent in 2016-17 and the share in employment was 12.2 per cent (with the direct and indirect shares at 5.32 per cent and 6.88 per cent, respectively). In 2018-19, tourism's share in employment increased further to 12.8 per cent, with the total size of employment at 87.5 million. The employment elasticity in this sector, thus, appears to be high. India attracted 10.89 million foreign tourists in 2019, an increase of 3.2 per cent over the previous year. The foreign exchange earnings generated by the sector during the same period was about ₹2 trillion, a year-on-year increase of more than 8 per cent. The country also jumped six positions to 34 out of 140 countries in the Travel and Tourism Competitiveness Index 2019 of the World Economic Forum (WEF).

Recognising the potential of the sector, the Government has provided targeted policy support. The Ministry of Tourism has two major schemes: Swadesh Darshan for Integrated Development of Theme-Based Tourist Circuits; and PRASHAD as a Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive for development of tourism infrastructure in the country, including historical places and heritage cities.

The multi-pronged supportive policy interventions in the sector may have to be reviewed and revamped, if tourism has to contribute more to the economy matching its potential. A closer look at some of the global leaders in travel and tourism such as France and Spain would suggest that these countries not only have excellent natural and cultural resources, but policies to support an exceptionally attractive tourist infrastructure, including a high hotel density offering all range of choices, quality public transport systems, networked air connectivity with considerable route capacity, and most importantly, safety and security.

Initiatives need to be taken in the direction of improving and integrating various modes of transportation (linking air/train/metro/road/sea) with the provision for single point of booking,

⁴ World Bank (2020), *World Development Report*, Washington, D.C.

⁵ 30 cultural, 7 natural and 1 mixed.

e-registration of service providers (travel agents, transport operators, hotels, tourist guides, *etc.*). Strict provisions of penalty for non-compliance would boost confidence of tourists, alongside an effective and speedy grievance redressal system for both domestic and foreign tourists. Research conducted by a private agency⁶ suggested that if we can increase international tourist arrivals to 20 million (*i.e.*, about double of current arrivals), the incremental income would be US\$19.9 billion, benefiting an additional 1 million people in the travel and tourism industry.⁷

(v) Food Processing for Surplus Management

COVID has brought the importance of food security and food distribution or supply chain network to the forefront of public policy debate in India. Successive years of record production of foodgrains and horticulture crops has transformed India into a food surplus economy. Recognising this challenge, much of the policy attention in recent years for the sector has focused on addressing post-production frictions, comprising agri-logistics, storage facilities, processing and marketing. Greater focus on processed food is one option that could help in dealing with multi-pronged challenges of surplus management. Development of the food processing industry is likely to benefit the farm sector and the economy through greater value addition to farm output, reducing food wastages, stabilising food prices, expanding export opportunities, encouraging crop diversification, providing direct and indirect employment opportunities, increasing farmers' income and enhancing consumer choices.

Food processing is a sunrise industry. Globally, its importance in the consumer basket has increased over time, led by rising per capita incomes,

urbanisation, and change in consumer perceptions regarding quality and safety. Despite having huge growth potential, the food processing industry in India is currently at a nascent stage, accounting for less than 10 per cent of total food produced in the country. As a result, despite being one of the largest producers of several agricultural commodities in the world, India ranks fairly low in the global food processing value chain.

There is a need to move up the value chain. Moreover, the food processing industry in India is largely domestically oriented, with exports accounting for only 12 per cent of total output. India can move up in the global agricultural value chain by increasing its share of processed food exports, for which quality standards will be a critical factor.

Food processing also offers huge employment potential. In India, while the food processing industry's contribution to overall Gross Value Added (GVA) is only 1.6 per cent, it accounts for 1.8 million (12.4 per cent) and 5.1 million (14.2 per cent) jobs in registered and un-incorporated sectors, respectively. Recognising this, the government has set the target for raising the share of processed food to 25 per cent of the total agricultural produce by 2025. The food processing sector was also opened up for 100 per cent Foreign Direct Investment (FDI) in 2016 under the automatic route. Further, in 2017, 100 per cent FDI under the government route for retail trading, including through e-commerce, was permitted in respect of food products manufactured and/or produced in India. For ensuring adequate credit flows, the Reserve Bank has accorded priority sector status to the food processing industry in 2015.

Conclusion

In my address today, I have highlighted five critical areas that can determine the shape of our post-COVID trend growth. While dealing with the immediate crisis management challenges, we need to strategically prepare for our combined overriding

⁶ Bain and Company (2017), "Tourism Opportunity for India", Draft Discussion Document prepared for the World Economic Forum, September 2017.

⁷ "Incredible India 2.0, India's \$20 billion Tourism Opportunity", World Economic Forum, 2017.

goal – the pursuit of strong and sustainable growth. The private business sector has a critical role in each of the five areas I covered today. The enabling policy environment would evolve around the initiatives taken by India's businesses to seize these opportunities and actualise the potential of the Indian economy as a rising economic power of the 21st century. COVID-19

has changed our lives and it is increasingly clear that life will never be the same again. We should look upon these fundamental changes as opportunities rather than threats, converting them into game changing new vistas of progress. I do believe that together as a nation, we can certainly do it. Let me conclude on this optimistic note.

ARTICLES

GDP Growth Forecasts of the Reserve Bank of India –
A Performance Assessment

Demystifying Equity Prices using Dividend Discount
Model: An Indian Context

*GDP Growth Forecasts of the Reserve Bank of India – A Performance Assessment**

This article evaluates the annual gross domestic product (GDP) growth projections of the Reserve Bank of India (RBI) against final official estimates of GDP, which are normally released with a lag of about three years. During 1998-99 to 2016-17, on an average, growth projections underestimated realised growth. Forecast errors, committed in both directions, were free of any systematic bias, and remained modest in a cross-country context.

Introduction

For the conduct of monetary policy, central banks devote considerable time and resources to generate reliable forecasts of key macro-economic variables. Realised outcomes, however, often deviate from forecasts, leading to forecast errors. Assessment of forecast errors enables policy makers to recognise biases in forecasts, if any, and thereby helps in more informed and better decision-making (Lees, 2016).

Historical forecast errors provide a reference for assessing uncertainty surrounding projections (Nakamura and Nagae, 2008). Error assessment can help mitigate the risk of policy mistakes which, in turn, can contribute to enhanced credibility (Binette and Tchebotarev, 2017). Given the significance of forecasts to policy making, a number of central banks across the world, both advanced and emerging market economies, regularly track forecast performance and emphasise incorporation of learnings from past errors in forecasting exercises.

In India, literature on the assessment of forecast performance of key macro-economic variables is

* This article has been prepared by Raj Rajesh and Vineet Kumar Srivastava, Department of Economic and Policy Research, Reserve Bank of India. Authors are thankful to Dr. Janak Raj and Dr. Bhupal Singh for their valuable comments. Views expressed in this article are those of the authors' and do not necessarily represent the views of the Reserve Bank of India.

limited. A study specifically assessed the Reserve Bank's forecast performance of the headline inflation for identifying the episodes of large forecast errors and understanding the underlying factors [Raj, et. al. (2019)]. In a related study, attempt has been made to examine the accuracy of median forecasts of Professional Forecasters' (SPF) relative to official actual data on growth and inflation [Bordoloi, et. al. (2019)]. In a cross-country setting, another study analysed the inflation and GDP growth forecasts of 17 select central banks (including RBI) for 2018 and 2019 in a panel regression framework and sought to examine the determinants of growth forecast errors (RBI, 2020). No study, however, has made an assessment of the performance of the Reserve Bank's growth forecasts *vis-à-vis* the final GDP estimates that is released by the Central Statistics Office¹ (CSO) after a lag of about three years. This article seeks to bridge this gap. In particular, it investigates two issues: whether forecast errors have any systematic bias and are auto-correlated; and whether forecast performance improves with the flow of new information that are incorporated in revised GDP growth forecasts. The article is structured in four sections. Section II briefly covers literature review on the area, while data and methodology issues are discussed in Section III. Section IV presents the empirical findings. Section V sums up the discussions.

II. Review of Literature

The field of forecast evaluation was pioneered by Henri Theil (Mincer and Zarnowitz, 1969). In the last one decade or so, research interest in forecast accuracy assessment has gained momentum. Many central banks² (particularly in the advanced economies and

¹ In 2019, the Central Statistics Office (CSO) and the National Sample Survey Office (NSSO) were merged together into National Statistical Office (NSO).

² Given the imperative of precision of forecast of key macro-economic variables in the formulation of forward-looking monetary policy decisions, many central banks (such as Bank of England, Federal Reserve Bank, Bank of Japan, European Central Bank, Sveriges Riksbank, Central Bank of Iceland, Reserve Bank of Australia, Reserve Bank of New Zealand, and Central Bank of Brazil) themselves carry out such assessment of forecast errors.

also in a few EMEs), and multilateral institutions such as the International Monetary Fund (IMF), the World Bank, the Organisation for Economic Co-operation and Development (OECD) have started assessing and discussing in public their forecast performance on key macro-economic variables, mainly real GDP growth and inflation. Most of these assessments, however, have predominantly been done for inflation forecasts. Researchers have also assessed the forecasting performance of multilateral institutions. Hong and Tan (2014) assessed the forecast performance of the UN, the IMF and the World Bank in respect of global growth and individual country growth for the period 2000-2012. They found that the forecasting performance of the UN was marginally better than that of the IMF and the World Bank at the global as well as country-group levels.

Research in this area has also focused on comparing the forecasts of multilateral institutions with forecasts generated by other institutes [Oller and Barot (2000); Lees, *op. cit.*]. Oller and Barot, *op. cit.* analysed the performance of GDP growth and inflation as forecasted by the OECD and the respective national institutes of 13 European countries. They found that inflation forecasts were significantly more accurate than growth forecasts. They found no significant difference in forecast accuracy of the OECD and the institutes. Lees, *op. cit.* analysed the performance of the Reserve Bank of New Zealand's forecasts (one-year and two-year ahead forecasts) during 2009 to 2015 in respect of a number of variables such as GDP growth, inflation, interest rates and the nominal exchange rate and compared it with the forecasts made by external forecasters. He reported that the Reserve Bank of New Zealand outperformed the median forecast for output growth. He did not find any evidence of bias in the Reserve Bank's one-year ahead GDP growth forecasts but the mean two-year ahead error was relatively high at 0.48.

Chang and Hanson (2015) analysed the forecasts made by the Board of Governors of the Federal Reserve System for a number of macro-economic variables, besides GDP, from 1997 to 2008. They found that forecasts of the Federal Reserve System significantly outperformed benchmark forecasts for horizons of less than one-quarter ahead. However, the accuracy of such forecasts weakened for the one-year ahead horizon.

An Independent Evaluation Office (2015) assessed and compared the forecast performance of the Bank of England in respect of several variables such as growth, inflation, unemployment rate, wage growth, investment, house prices, *etc.*, and compared it with private sector forecasts and the ECB. For UK GDP growth, it did not report any statistically significant evidence of bias. It also found that the accuracy of the Bank of England's UK GDP growth forecasts compared favourably with that of the UK private sector forecasts, and other central banks, particularly at the one-year ahead horizon.

Binette and Tchegotarev, *op. cit.* assessed the quality of annual GDP growth forecasts (annual and two-years ahead projections) made by the Bank of Canada for the period 1997 to 2016 in respect of Canadian economy. They found that bias in the growth forecast was often statistically insignificant.

III. Data and Methodology

The Reserve Bank has been publishing its GDP growth projections in the monetary policy statements. Till August 2016, the growth projections were published in the Governor's policy statement. Since then, with the constitution of the Monetary Policy Committee (MPC) in September 2016, growth projections are published in the resolution of the MPC. The Monetary Policy Report (MPR), being published bi-annually from September 2014, also provides growth projections.

In the present study, annual growth projections³ made by the Reserve Bank in its annual (April) and mid-term review policy statements (September / October / November) from 1998-99 onwards, as sourced from the Reserve Bank website, are considered. It is pertinent to mention that till 2004-05, only two policy statements were published – one in April/ May (Annual Policy Statement) and the other in September/ October/ November (Mid-term Review). From 2005-06 to 2009-10, four policy statements were published in a year. From 2010-11 to 2013-14, eight policy statements were announced in a year with the introduction of mid-quarter reviews. From April 2014, six bi-monthly monetary policy statements are being released every year.

Annual realised growth numbers (final estimates) for the respective years are sourced from the CSO's website. CSO's final estimates⁴, which are updated using latest available data, provide the most accurate assessment of economic activity. So far, the CSO has published final GDP estimates only upto 2016-17. Hence, this study uses GDP data for the period from 1998-99 to 2016-17.

Forecast error (E_t) for a variable, say growth 'X', at time 't' is measured as deviation of forecasted value (F_t) from the actual (observed) value (A_t).

$$E_t(X) = A_t(X) - F_t(X) \quad (1)$$

Thus, a negative mean forecast error shows that forecasted growth, on an average, exceeds the realised growth and represents over-prediction. In contrast, if the forecasted values, on an average, are lower than the actual growth, then it is a case of under-prediction.

³ For the said period, the RBI's growth projection has a maximum forecast horizon of one-year.

⁴ GDP data undergoes various revision cycles before the final estimates are published. After the advance estimates are released in February month of the fiscal, the CSO releases provisional estimates in May of the succeeding fiscal year, which undergoes further subsequent revisions in three rounds of revised estimates in the following 10 months; 1 year and 10 months; and 2 years and 10 months, respectively, after the completion of the year. As a result, there is a three year time lag for every annual final estimate of GDP in India.

The performance on forecasting can be assessed by aggregating these forecast errors (E_t) over a period using various statistical measures, which, *inter alia* include mean forecast error (MFE) and root mean square forecast error (RMSE). While average error or MFE is a measure of bias, the RMSE is a measure of accuracy.

Mathematically, MFE is defined as follows:

$$MFE_X = \frac{1}{n} \sum_{i=1}^n (X_{actual} - X_{forecast}) \quad (2)$$

One of the weaknesses of MFE is that it may unduly get influenced by outliers.

RMSE is defined as follows:

$$RMSE_X = \sqrt{\frac{\sum_{i=1}^n (X_{actual} - X_{forecast})^2}{n}} \quad (3)$$

RMSE is a widely used measure of forecast accuracy. A desirable property of an efficient forecast is that its errors should remain *unbiased*, which implies that over a considerable period of time, a forecaster would make positive errors as often as negative errors. Another desirable property of an efficient forecast is that the forecast error should not be autocorrelated (*i.e.*, correlated with its past values). Both the properties of an optimal forecast can be assessed through regression estimates.

Forecast error (E_t) is said to be *unbiased* when the value of intercept (α) in the following regression is equal to zero (equation 4):

$$E_t = \alpha + \epsilon_t \quad (4)$$

where, ϵ_t is the error term.

The absence of biasedness and autocorrelation in forecast errors is attributed as 'weak form informational efficiency' and regarded as rational forecasting in the limited sense of McNees (1978) [Oller and Barot, *op. cit.*]. Forecast error (E_t) would satisfy both the properties of unbiasedness and uncorrelatedness when the value of intercept (α) and

the coefficient of one-period lagged term of forecast error estimates (β) are both equal to zero in the following regression (equation 5):

$$E_t = \alpha + \beta E_{t-1} + \epsilon_t \quad (5)$$

Mincer-Zarnowitz (MZ) (Mincer and Zarnowitz, *op. cit.*) regression has been widely used by researchers for assessing the efficiency of forecast estimates. MZ regression jointly evaluates the bias and efficiency of forecast estimates. In the MZ regression scheme, actual estimates (Y_t) are regressed on forecast estimates (Y_{ti}^{FHi}) (equation 6).

$$Y_t = \alpha + \beta Y_{ti}^{FHi} + \epsilon_t \quad (6)$$

where, $i = 1$ or 2 depending on whether growth forecast is made in annual policy statement (APS) and mid-term review (MTR), respectively.

An efficient forecast should generate coefficients: $\alpha = 0$ and $\beta = 1$. Furthermore, rejection of F-test of joint null hypothesis indicates inefficiency of forecasts.

This study uses equation (6) to assess the quality of GDP forecast by the Reserve Bank utilising data on annual growth projections made by the Reserve Bank in its APS (in April/ May) and MTR (in September/ October/ November) and realised growth, which, published by the CSO, comes with a significant lag. The first estimate of GDP for a fiscal year is released by the CSO towards the fag end of the fiscal, *i.e.*, at end-February, which undergoes further three rounds of sequential revision and the final GDP estimate of a year is available after a lag of 2 years and 10 months post the completion of the fiscal. Growth numbers, here, are based on real gross domestic product (GDP) at factor cost (erstwhile headline growth number), which was used as a reference for gauging economic activity. From 2012-

13 onwards, the new headline GDP – real GDP at market price has been considered⁵.

IV. Evaluation of Forecast Performance

Magnitude and Variability

Descriptive statistics of the forecast errors (*i.e.* deviation of realised figure from the forecast) for the period from 1998-99 to 2016-17 suggests under-prediction of GDP growth, on an average, for the entire period. Forecast errors, both of APS and MTR, are found to be normally distributed (Table 1). Comparatively, mean forecast errors of mid-term reviews were larger in magnitude. Mean forecast error of the MTR was, however, found to have lesser volatility than that of the APS. This is in line with the property of an optimal forecast that variance of forecast error should decline with availability of more information (Timmermann, 2006).

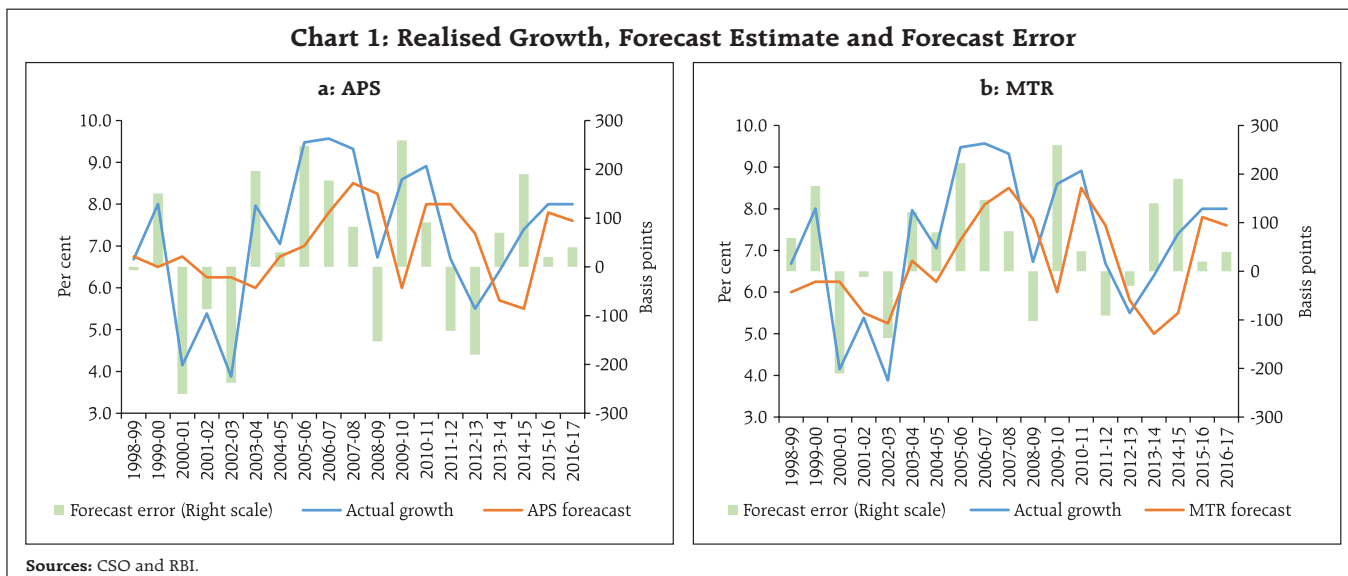
An analysis of forecast errors for various years suggests that errors for both the APS and MTR have occurred on both the sides suggesting instances of both under-estimation and over-estimation (Charts 1.a and b).

Table 1: Descriptive Statistics of Growth Forecast Errors (1998-99 to 2016-17)

	Annual Policy (APS)	Mid-term Review (MTR)
Mean	0.26	0.53
Median	0.40	0.68
Maximum	2.59	2.59
Minimum	-2.60	-2.10
Std. Dev.	1.62	1.27
Skewness	-0.31	-0.35
Kurtosis	1.95	2.37
Jarque-Bera Statistics (p-value)	0.56	0.70

Source: Author's calculations.

⁵ For 2016-17, gross value added (GVA) actuals and RBI forecast figures have been considered since RBI forecast was available in respect of the GVA.

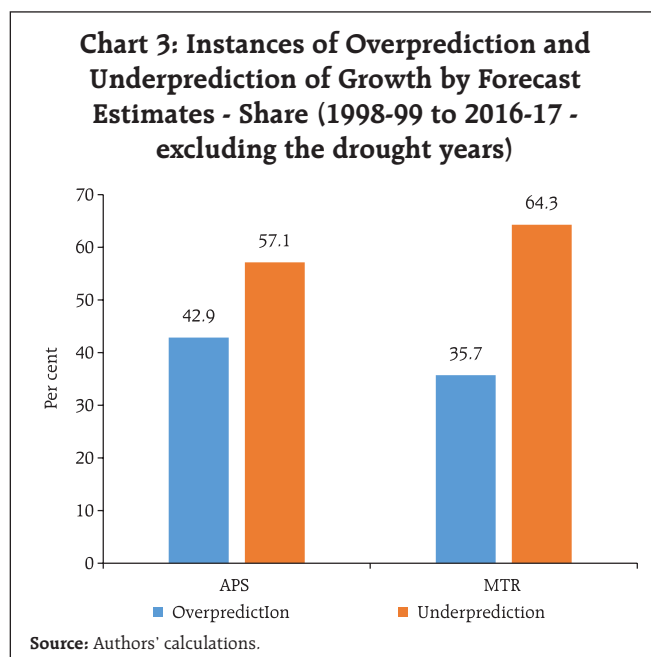
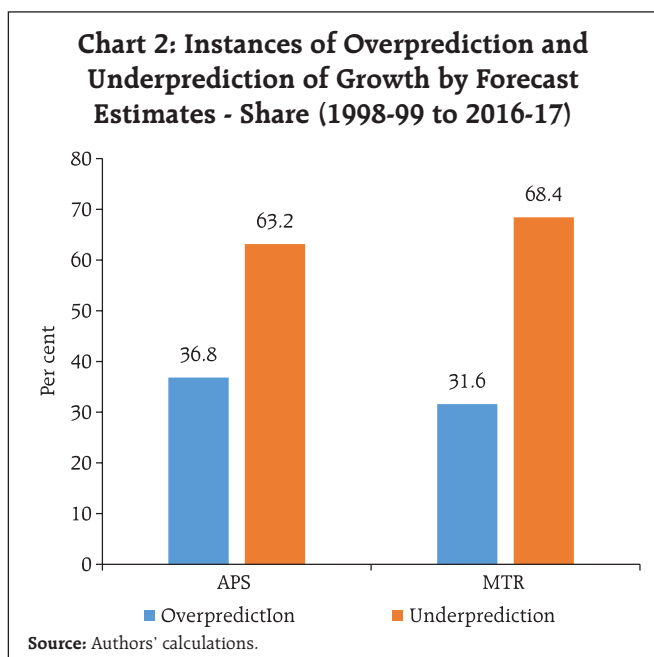


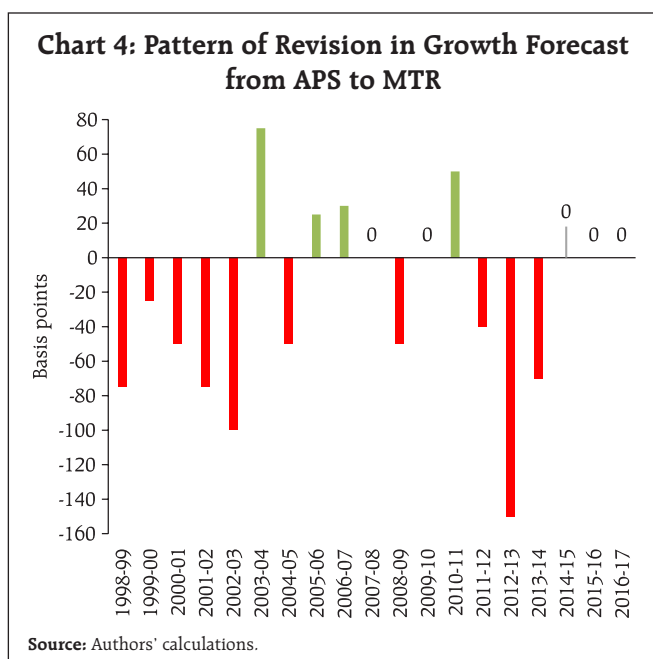
However, on an average, forecasted growth figures for both APS and MTR were found to be under-estimates; the instances of under-prediction was higher in the case of the latter (Chart 2). Higher frequency of under-prediction was found to persist for the MTR forecast errors even after excluding the drought years (Chart 3).

As per the pattern of revision of growth forecasts from APS to MTR, the instances of downward revisions

in growth forecasts outweighed the upward revisions (Chart 4).

Forecast error, as measured by RMSE, using CSO's realised growth and growth projections by the RBI in its APS for 1998-99 to 2016-17, was estimated at ± 1.60 per cent for the longer horizon (Table 2). For G-7 central banks, Bloomberg (2018) reported growth forecast errors in the range of 1.8 to 3.1 percentage points in respect of central banks of Japan, Euro Area,





Canada, USA, and England for period 2006 to 2016 (Table 3).

The forecast error for annual growth projections made by the the Reserve Bank is observed to shrink as one moves from APS to MTR, as the latter incorporates more incoming information for generating forecasts. RMSE of the growth projections for the period from 1998-99 to 2016-17 was estimated to reduce from \pm

Table 2: RBI's Forecast of Annual Growth Projections: Estimates of Error

	MFE		RMSE		Std. Dev. (Realised Growth)	RMSE / Std. Dev. (Realised Growth)	
	Annual policy statement	Mid-term review	Annual policy statement	Mid-term review		Annual policy statement	Mid-term review
1998-99 to 2006-07	0.23	0.51	1.78	1.46	1.98	0.90	0.74
2007-08 to 2016-17	0.29	0.55	1.45	1.30	1.16	1.25	1.12
2013-14 to 2014-15	1.30	1.65	1.43	1.67	0.50	2.86	3.34
2015-16 to 2016-17	0.30	0.30	0.32	0.32	0.00	-	-
1998-99 to 2016-17	0.26	0.53	1.60	1.35	1.63	0.98	0.82

Note: MFE – Mean Forecast Error; RMSE – Root Mean Square Forecast Error.
Source: Authors' calculations.

Table 3: Forecast Error Based on Average Squared Forecast Error Between 2006 and 2016 For Select Advanced Countries

Country/ Region	Agency	Forecast error
USA	Federal Reserve Board	2.14
Canada	Bank of Canada	2.27
Euro Area	European Central Bank	2.86
England	Bank of England	1.83
Japan	Bank of Japan	3.11

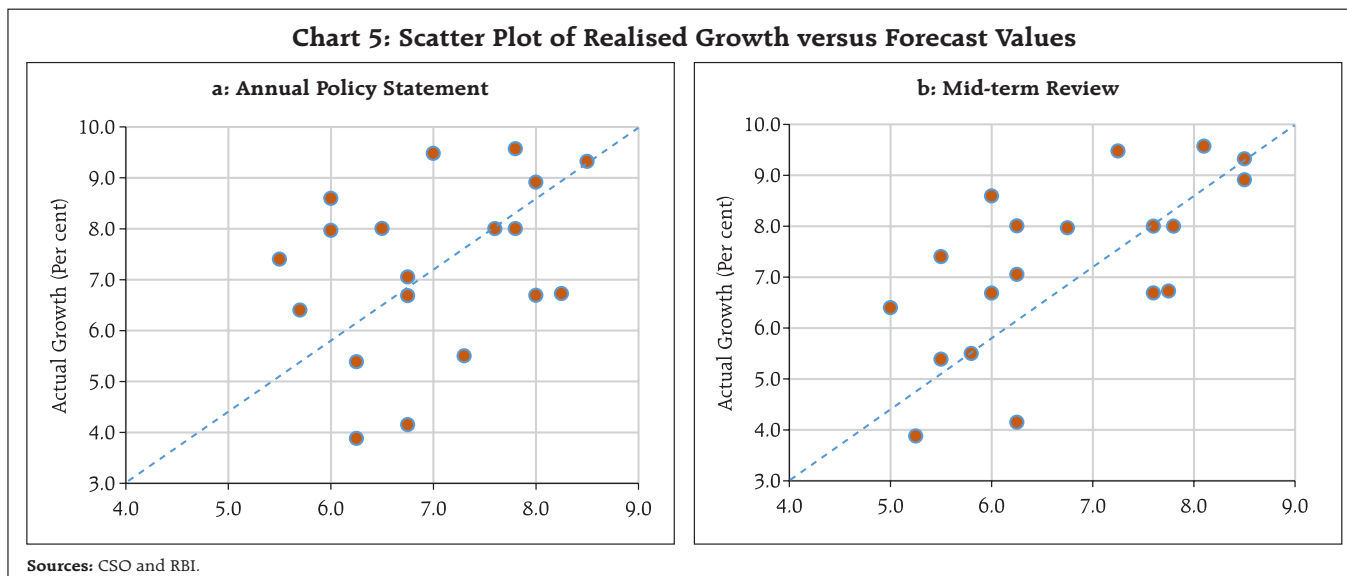
Note: Based on Central Bank GDP forecast one-year ahead.
Source: Bloomberg (2018).

1.60 per cent for the APS projections to \pm 1.35 per cent for the MTR projections.⁶ It may also be noted that since the signing of Monetary Policy Framework Agreement between the Government of India and the Reserve Bank in February 2015 and adoption of flexible inflation targeting (FIT) framework, the RMSE of growth projection for 2015-16 to 2016-17 is found to decline. Nevertheless, it may be too early to make a judgement whether forecasting errors have got reduced in the post-FIT regime. Furthermore, the ratio of RMSE over the standard deviation of the realised growth (a metric of forecaster's performance in relation to variability of the forecasted variable) also suggests that the ratio declines as one moves from APS to MTR. This again highlights that when more information becomes available for the economy as the year progresses, growth forecast error gets reduced. This is in line with the studies conducted in respect of other economies such as the USA, and Iceland [Binette and Tchegotarev, *op. cit.*⁷, Danielsson (2008)⁸].

⁶ At the time of mid-term review of the financial year, GDP data for Q1, first advance estimates on production of major food, non-food and horticulture crops; data of 4-5 months of high frequency indicators such as industrial production, cement production and steel consumption, trade, government expenditure, credit, insurance premium, transport, air passenger and cargo traffic, foreign tourists arrival *etc.* become available, which help in better assessment of prevailing economic condition.

⁷ While assessing the quality of annual GDP growth projections made by Bank of Canada for 1997 to 2016, Binette and Tchegotarev (2017) also reported improvement in forecast performance with the narrowing down of forecast horizon and improved availability of information.

⁸ Danielsson (2008) analysed the performance of forecasts made by the Central Bank of Iceland in respect of a number of macro-economic time series for the period 1974-2002 and found that performance of forecasts made by the Central Bank improved with the passage of time and availability of additional information.



A comparison of the scatter plot of realised growth with the forecasts made in APS and MTR also suggests lower dispersion for the MTR as compared to APS, implying reduction in forecast error as the forecast horizon shrinks and more information becomes available for assessing the economic condition (Chart 5).

For testing the unbiasedness property of forecast estimates, equation 4 (as discussed in Section III) was estimated using OLS estimation. If α is significantly different from zero, then the forecasts are said to be biased. The intercept was not found to be significantly different from zero for the forecast errors of the APS and the MTR at 5 per cent level of significance (Table 4).

For testing, the unbiasedness and non-autocorrelation properties of the forecast estimates, following equation 5 framework, forecast error series was regressed on intercept and its one-period lag, using APS and MTR data separately. Regression results based on equation 5 suggest that coefficients of the lag term as also the intercept are statistically insignificant, validating no biasedness or auto-correlation in forecast errors (Table 5).

To reaffirm unbiasedness, whether or not forecast errors followed the same pattern during the drought

Table 4: OLS Regression
(Forecast error regressed on intercept)

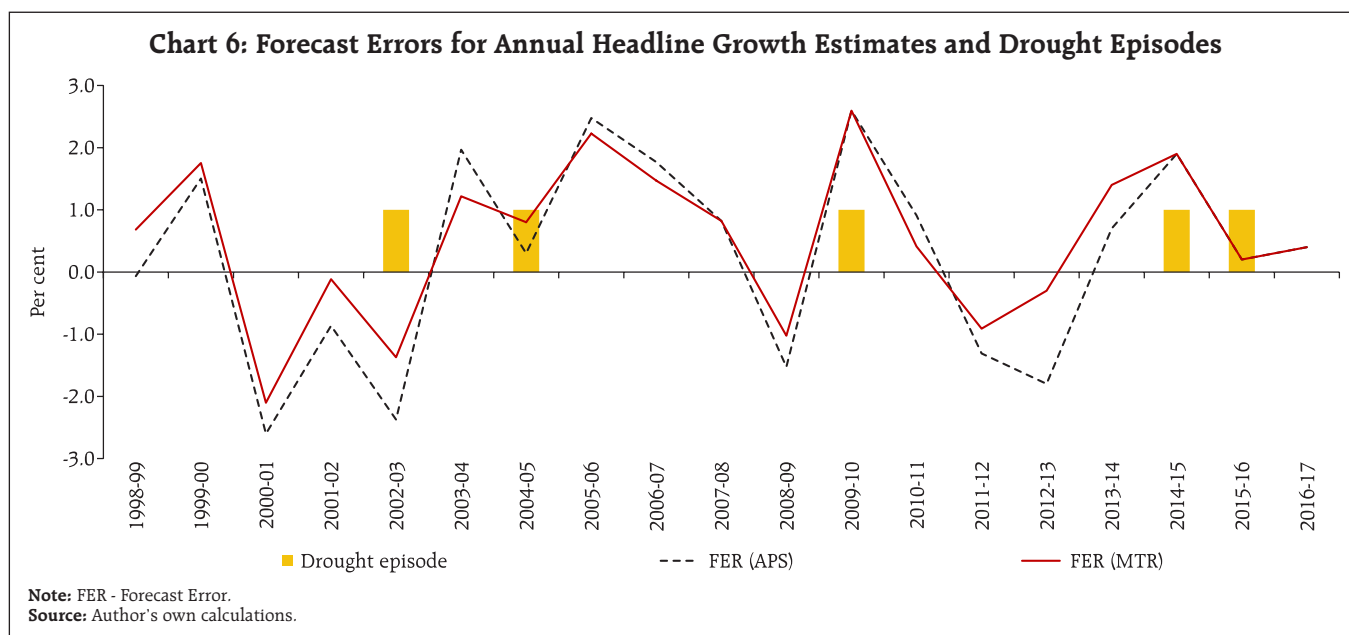
	Annual Policy	Mid-term Review
Full Period (1998-99 to 2016-17)	0.26 (0.37)	0.53* (0.28)
1998-99 to 2006-07	0.24 (0.70)	0.51 (0.53)
2007-08 to 2016-17	0.29 (0.35)	0.55* (0.25)

Notes: 1. ***, **, & *: denote statistical significance at 1%, 5%, & 10%, respectively.
2. Figures in parentheses are standard errors.
3. Heteroscedasticity and autocorrelation consistent (HAC) standard errors.

Table 5: OLS Regression
(Dependent Variable – Forecast Error)

	Annual Policy	Mid-term Review
Constant	0.28 (0.41)	0.55 (0.34)
Forecast Error _{t-1}	0.01 (0.25)	-0.05 (0.25)
Diagnostics		
Adj. R ²	-0.06	-0.06
Prob. (Jarque-Bera statistics)	0.53	0.65
Prob (BGSLM test F-stats)	0.78	0.66
Prob. (BPG F-test)	0.41	0.95

Notes: 1. ***, **, & *: denote statistical significance at 1%, 5%, & 10%, respectively.
2. Figures in parentheses are heteroscedasticity and autocorrelation consistent (HAC) adjusted standard errors.
3. BGSLM - Breusch-Godfrey Serial Correlation Lagrange Multiplier; BPG - Breusch-Pagan-Godfrey.



years was also examined. For the drought years 2002-03 and 2015-16, the Reserve Bank's GDP growth forecast was found to have exceeded the actual outcome (over prediction), while for another spell of drought years in 2004-05, 2009-10 and 2014-15, GDP growth forecasts were lower than the realised growth (under prediction) (Chart 6). This implies that even in abnormal years, forecast errors were neither biased and nor skewed.

How good is the quality of growth forecast?

Another metric for assessing the quality of forecast is through understanding the extent of association between forecast figures and realised values. For the same, Mincer-Zarnowitz regression is employed, which involves regressing the realised values of a variable on a constant and its forecast. Mincer-Zarnowitz (MZ) regression (as in equation 6) was estimated separately for the annual GDP growth forecast made in the APS and the MTR. Results suggest that bias is not significantly different from zero. Secondly, the coefficients of forecasts for AP and MTR were found to be statistically significant. Wald test with the null hypothesis of slope coefficients being equal to unity for

both the equations was not rejected implying one-to-one correspondence between forecasted growth and actual growth (Table 6). The slope coefficient for the MTR equation is much higher than that of the slope

Table 6: OLS Regression (Mincer-Zarnowitz Regression) (Dependent Variable – Realised growth)

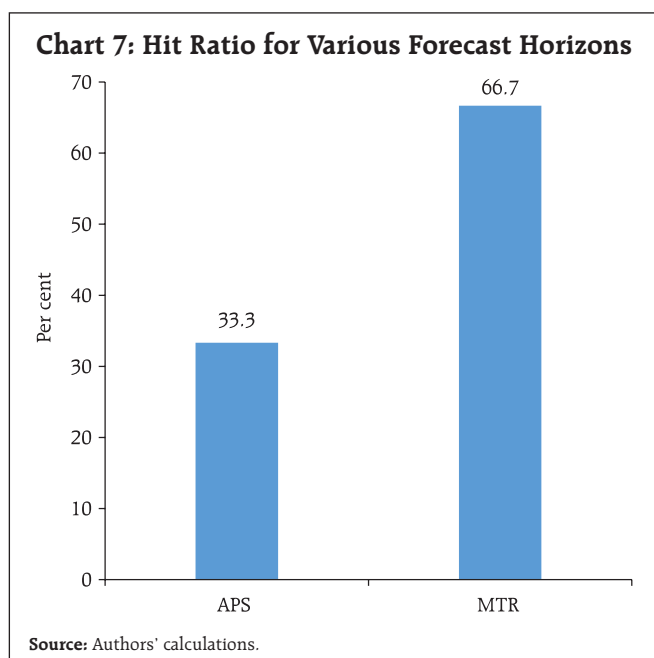
	Annual Policy	Mid-term Review
Constant	2.95 (2.39)	0.74 (2.00)
Forecasted Growth	0.62* (0.32)	0.97** (0.28)
Diagnostics		
Adj. R ²	0.06	0.39
Durbin Watson stats.	1.72	2.07
Prob. (Jarque-Bera statistics)	0.53	0.75
Prob. (BGSLM test F-stats)	0.43	0.94
Prob. (BPG F-test)	0.52	0.29
Joint F-test ($\alpha = 0; \beta = 1$) (p-value)	0.45	0.18

Notes: 1. ***, **, & *; denote statistical significance at 1%, 5%, & 10%, respectively.
2. Figures in parentheses are heteroscedasticity and autocorrelation consistent (HAC) adjusted standard errors.
3. BGSLM - Breusch-Godfrey Serial Correlation Lagrange Multiplier; BPG - Breusch-Pagan-Godfrey.

coefficient for the APS equation and very close to one. Furthermore, the R^2 of the regression increases from 0.06 to 0.39 as one moves from APS to MTR. The findings confirm that the growth forecast performance of the Reserve Bank is good and improves with availability of more information. Further, F-test did not reject null hypothesis of $\alpha = 0$ and $\beta = 1$ for both APS and MTR, which validates that the Reserve Bank's growth forecasts are efficient. Also, the forecast errors get reduced as more information becomes available on various macro-economic indicators.

Directional Accuracy

A good forecast correctly tracks the turning points of business cycles. For measuring directional accuracy, the 'hit ratio', which indicates how often a forecaster correctly predicts an increase or a decrease in growth was calculated (Binette and Tchebotarev, *op. cit.*). Towards the start of forecast cycle when the annual policy was announced, forecast was found to correctly predict the change in sign of annual real GDP growth roughly 33 per cent of the time, which improves to about 67 per cent at the shorter forecast horizon for mid-term reviews (**Chart 7**).



V. Conclusion

Accuracy in forecasts of key macro-economic variables is of paramount importance to central banks for conducting forward-looking monetary policy. In India, final estimates of GDP, after several rounds of revisions, become available after a lag of two years and ten months. Currently, for example, final GDP numbers are available only for 2016-17. An assessment of annual GDP growth forecasts made by the Reserve Bank during 1998-99 to 2016-17 relative to the final estimates of the GDP suggests that growth forecast errors were relatively lower for MTR than that of the APS. Growth forecast errors were also not found to have any systematic bias. Mincer-Zarnowitz regression results suggest improved quality of forecast with improved capture of information in MTR. Under-prediction of GDP growth on an average was also observed. The directional accuracy of forecast estimates, *viz.*, tracking of turning points, was also found to be better for the MTR than for the APS.

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*Demystifying Equity Prices using Dividend Discount Model: An Indian Context**

Financial variables, both prices as well as quantities, provide useful information in assessing economic conditions and consequently serve as important inputs for policy making. In this article, we attempt to study the movement in equity prices using a fundamental tool of valuation termed as Dividend Discount Model (DDM). The DDM framework values equities using the present discounted value approach and helps to attribute the changes in equity prices to factors including growth expectations, risk-free rate and equity risk premium (ERP). Decomposition of changes in equity prices indicate that the rise in equity prices during 2016 to early 2020 was mainly supported by decrease in interest rates and ERP, with increase in forward earnings expectations contributing to a lesser extent. Thereafter, spike in ERP on COVID-19 concerns initially contributed significantly to equity prices declining sharply to compensate for increased risks. However, equity prices registered impressive recovery subsequently aided by easing of ERP.

Introduction

Movements in equity prices alongside a range of other assets reveal expectations of economic agents and provide important information to central banks for shaping appropriate policy actions in pursuit of their mandate of price stability, financial stability and economic growth. Equity prices contain information about both current and future economic conditions. Transmission of monetary policy actions to the broader economy takes place through various channels, including asset price channel, which leads to change in market value of equities and other securities.

* This article is prepared by Priyanka Sachdeva and Abhinandan Borad under the guidance of Mohua Roy and Subrat Kumar Seet in the Division of Financial Markets of the Department of Economic and Policy Research, Reserve Bank of India. The views expressed in this article are those of the authors and do not represent the views of the Reserve Bank of India.

Assessment of equity prices may also help to identify financial imbalances or risks in an economy as it contains information about the degree of uncertainty around the economic outlook. The analysis of equity prices and understanding of the drivers of change in equity prices assumes significance as it interacts with monetary policy and could have different implications for policy actions.

Against this backdrop, this article attempts to decompose equity price movements in India since 2005 to 2020 into contribution of changes in growth expectations, interest rates and Equity Risk Premium (ERP) using DDM. Section II discusses the relevance of understanding movement in equity prices. Section III discusses the DDM framework and the specification of the model deployed for the study. Section IV outlines the estimates of unknown variable, *i.e.*, ERP. Section V discusses the results of DDM model, followed by the conclusion.

II. Why Equity Prices are Relevant?

Financial variables provide useful information in assessing economic conditions and consequently serve as an important input in monetary policy making. Further, monetary policy transmission also takes place through financial channel, which eventually influences the real sector. The immediate impact of monetary policy actions is mirrored in the prices and returns of financial assets, which is transmitted to broader economy through resultant actions of economic agents including households and firms. Unlike other lagging macroeconomic indicators including GDP and inflation, these variables are available on continuous basis and are also not subject to revisions, and hence can be used for real-time monitoring of macroeconomic conditions.

In this context, understanding the movement of equity prices, which directly reveals the expectations of economic agents about future economic activity assumes critical importance. This is premised on the

traditional equity valuation model, which suggests that stock prices equal the present value of expected future earnings. *Ceteris paribus*, rising equity prices reflect optimism over future profitability of companies. Other than economic outlook, equity prices may also convey information about risk perception. High risk perception is associated with low equity prices and *vice versa* because investors demand higher premium to compensate for higher risk against alternate safer investments in bonds thereby driving equity prices lower. Thus, movement of equity prices represents the interplay of different forces and hence there is a need to identify these separate factors for effective policy making.

Monitoring equity prices is also relevant from the standpoint of its linkages with the macro economy defined within the demand side framework, *i.e.*, consumption and investment. Easy monetary policy boosts asset prices including equity prices which, increases households' wealth, prompting them to consume more. This is popularly known as wealth effect. Moreover, higher equity prices also increase business demand by reducing the cost of equity finance and enable them to finance investment at a reduced cost. This relationship between equity market and investment was propounded by James Tobin and is known as Tobin's 'q' theory. Conversely, tighter monetary policy lower equity prices and dampens the aggregate demand of both consumers and business firms. However, the quantum and timing of effect of monetary policy changes on equity prices will depend on the extent to which the policy changes were ex-ante anticipated by market participants and also the extent to which future policy expectations are altered in response to central bank's actions.

Central banks also monitor equity prices in pursuit of their objective of maintaining financial stability, which is a prerequisite for price and

economic stability. Financial stability risks may arise when equity prices deviate from fundamental levels as dictated by the present value of future income stream and the market is characterised by wide fluctuations in prices. Easy monetary policy for a sustained period may lead to build up of financial excesses by raising equity prices which foster excessive credit risk taking being translated into excessive investments and thereby fuelling asset prices further. These kinds of unsustainable booms not only lead to misallocation of resources but also create systemic risk with serious ramifications for real economy in an event of inevitable market correction, which would warrant appropriate action from monetary policymakers.

III. Equity Valuation: Dividend Discount Model (DDM) Approach

Equities can be valued using Gordon Growth Dividend Discount Model (DDM), a fundamental tool for valuation that involves discounting of the expected cash flows in the future by using an appropriate discount rate. The basic intuition that underlies this model is that the value of stock is measured by the cash flows it generates for its shareholders, which primarily include dividend payments. The basic DDM is represented by the following equation:

$$P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \frac{D_3}{(1+k_e)^3} + \dots + \frac{D_n}{(1+k_e)^n}$$

In this equation, P_0 is the current equity price, $D_1, D_2, D_3, \dots, D_n$ are the expected dividend payouts by companies to shareholders in periods 1, 2, 3 up to n, and k_e is the cost of equity or expected return on equity.

Assuming expected growth rate of dividends (g) to be constant and cost of equity (k_e) to be greater than growth rate of dividends (*i.e.* $k_e > g$), the equation may be re-written as:

$$P_0 = \frac{D_1}{k_e - g}$$

To incorporate greater flexibility in the set of assumptions, this article uses a two-stage DDM, which assumes high growth phase for short-term, and the terminal growth rate for long-term. Further, the model considers potential dividends instead of actual dividends as companies hold back cash and do not pay out the entire amount that they can afford to in the form of dividends or sometimes distribute cash through stock buybacks due to tax considerations and other reasons. Potential dividends are measured using free cash flow to equity (FCFE)¹. Incorporating these modifications, the DDM is re-written as:

$$P_0 = \sum_{t=1}^n \frac{FCFE_t}{(1+k_e)^t} + \frac{FCFE_{n+1}}{(k_e - g_n)(1+k_e)^n}$$

In this equation, n represents the number of years of high growth, P_0 is the current equity price, $FCFE_t$ is the expected free cash flow to equity (potential dividends) in period t, k_e is the cost of equity or expected return on equity and g_n is the long-term stable growth rate. All these factors drive the valuation of equity indices.

Required return on equity can be computed using the model by incorporating the current price, which is observable, free cash flow to equity and long-term stable growth rate that are estimable. In our DDM framework, the value of equity benchmark Sensex is considered as representative price of Indian equities. Expected FCFE is assumed to be 60 per cent of expected net profits of constituent Sensex companies, which are derived using consensus forward earnings estimates of equity analysts for a three-year period (high growth phase) available on Bloomberg. Terminal growth rate is assumed to be equivalent to 10-year G-sec rate, which is also considered to be the risk-free rate.

Further, the expected return on equity is equal to the risk-free rate *plus* a risk premium that investors demand for taking additional risk by investing in

equities. Since risk-free rate is observable, implied ERP can be computed as residual of expected return on equity (k_e) and risk-free rate (R_f).

$$ERP = k_e - R_f$$

Implied ERP, calculated using this approach, is a forward-looking estimate of ERP and is consistent with the generally accepted belief that return on equities is driven by expectations. However, the reliability of implied ERP largely depends upon the accuracy of estimated future earnings, which may be subject to miscalculation and/or the bias of analysts. It is different from historical ERP that computes the premium over the risk-free rate earned by equity investors in the past. ERP is influenced by multiple factors, such as, risk-profile of investors, volatility in markets, *etc.* The details of ERP will be discussed in following section.

Thus, DDM helps to establish the changes in equity prices on account of factors including growth expectations, risk free rate and ERP, which is implied from the model. For instance, the rise in equity prices can be attributed to improved growth outlook, which raises profitability expectation or decline in ERP. However, higher contribution from low ERP for prolonged period is likely to signal stretched valuations, raising concerns over financial stability. Similarly, equity prices might be falling not only because of weak growth prospects but may be due to rise in ERP.

IV. Equity Risk Premium (ERP)

ERP is conceptualised as the excess return that makes an investor indifferent between holding a risk-free investment, usually a government bond, and a risky equity investment. ERP is an indicator of uncertainty and is dependent upon various factors, such as, investors' risk preferences, macro-economic fundamentals, savings rate, market liquidity, political stability, government policies, monetary policy, *etc.*

¹ Free cash flow to equity (FCFE) is the amount of cash a business generates that is available to be potentially distributed to shareholders. In other words, FCFE is the cash left over after taxes, re-investment needs and debt repayments.

ERP serves as a key input in determining cost of equity and thus warrants the need for monitoring. While the central bank's action directly influences part of this cost by affecting the cost of debt, ERP is indirectly altered based on ability of monetary policy to influence risk taking behaviour of investors. From the financial stability point of view, a significantly lower ERP than what is implied by economic factors may lead to sharp and sudden drop in asset prices in any adverse event.

The first key determinant of ERP is the risk aversion of investors that suggest equity risk is higher, if investors are risk averse and *vice versa*. Risk aversion amongst investors varies with age, *i.e.*, older investors are more risk averse and, therefore, demand higher premium compared to the younger investors. This risk aversion increases if investors value current consumption more than future consumption and *vice versa*. Since risk aversion varies across individual investors, it is the collective risk aversion, which determines the movement in equity risk premium.

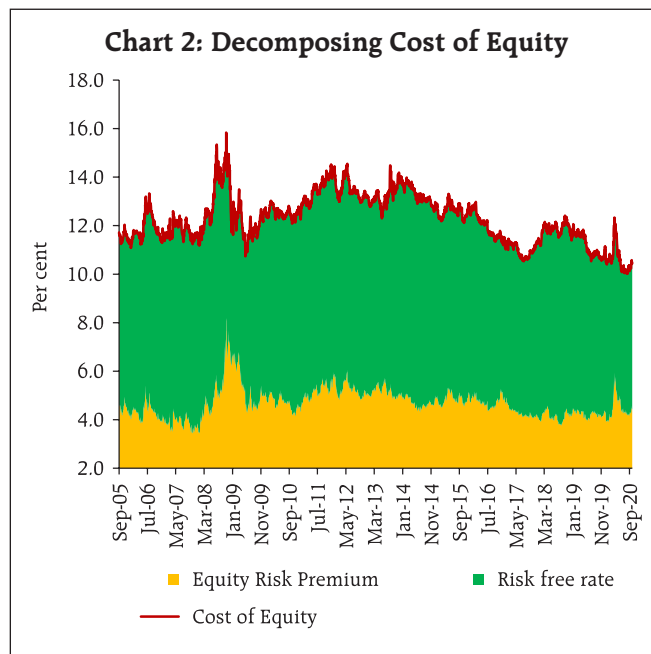
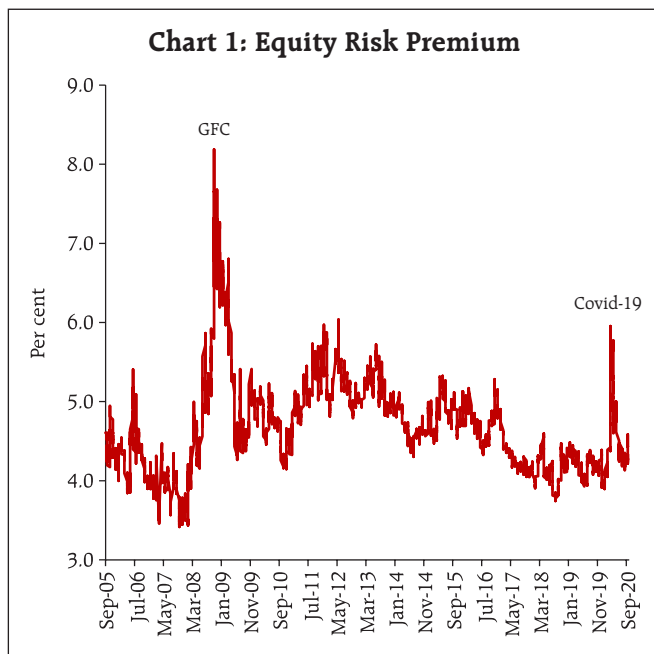
Another important determinant is the economic risk. A more predictable economic scenario offers conducive environment for investment in equity resulting into lower risk premium and higher equity prices. Similarly, concerns over future equity returns in an environment of heightened macroeconomic uncertainty translates into higher ERP and lower equity prices. In this regard, several studies have established the relationship between risk premium and macroeconomic factors. In a study on the impact of macro-economic variables on stock prices as well as risk premium, the impact of GDP and inflation on ERP was found to be significant (Roll, *et al.*, 1986). Similarly, the inflation and GDP growth rates were found to influence risk premium in the US during the period 1802-2002 (Arnott and Beinstein, 2002). Also, declining ERP and persistently high stock valuations in the US during 1990s were ascribed to fall in macroeconomic risk, or volatility in the aggregate economy (Lettau, *et al.*, 2008).

One important risk, which arises from investment in equity is the liquidity risk. An illiquid market means that the transaction cost of liquidating positions will be higher, making investors demand higher ERP. A study on the US stock returns between 1973 to 1997 concluded that liquidity accounts for a significant component of the overall ERP, and that its effect varies over time (Gibson and Mougeot, 2002). Another research showed that liquidity across the markets can partially explain the differences in equity returns and risk premiums across emerging markets (Baekart, Harvey and Lundblad, 2007).

Further, several studies examined macroeconomic disasters which are low probability high consequence events and contributed to the strand of literature on the key reasons for existence of risk premium on equity (Rietz, 1988; Barro, 2006; Gabaix, 2008; Barro, Nakamura, Steinsson and Ursua, 2013).

Broadly, there are three methods to compute ERP categorised into survey-based approach, *ex-post* calculation giving historical ERP and *ex ante* or implied ERP based on valuation models, which considers current market prices and interest rates. While the survey-based approach suffers from individual biases, historical ERP yields backward looking estimate. In this respect, implied ERP is considered a better indicator and is consistent with the generally accepted belief that return on equities is driven by market expectations.

The DDM framework for Indian equity market yields average ERP estimates for the period under study (2005-2020) at 4.7 per cent. ERP peaked at 8.2 per cent during global financial crisis in 2008 followed by surge in 2020 to 6.0 per cent on account of coronavirus induced stress in the market (Chart 1). Since this framework is based on a set of assumptions, the ERP estimates are uncertain and, therefore, it is prudent to focus on change in ERP over time than its precise level. In the Indian context, *ex-post* ERP calculated using the difference between actual return on Sensex and 10-



year G-sec yield for the period 2005-20 averaged at 4.8 per cent, which is close to the implied ERP estimated using DDM framework.

The DDM model enables the ascertainment of factors behind changing cost of equity. During the global financial crisis of 2008, the sharp spike in ERP translated into higher cost of equity/required return on equity even as risk-free rates were declining (Chart 2). The subsequent policy actions in the form of monetary and fiscal stimulus aided in lowering of risk premia and the cost of equity. Thereafter, the decline in cost of equity is attributable to easing of policy rates by the Reserve Bank amidst low inflation environment and reduction in risk-free rate. However, escalating coronavirus induced stress during 2020 pushed ERP higher and consequently resulted in higher cost of equity. The subsequent policy actions lowered interest rates and led to easing of ERP, helping to bring down cost of equity from elevated levels.

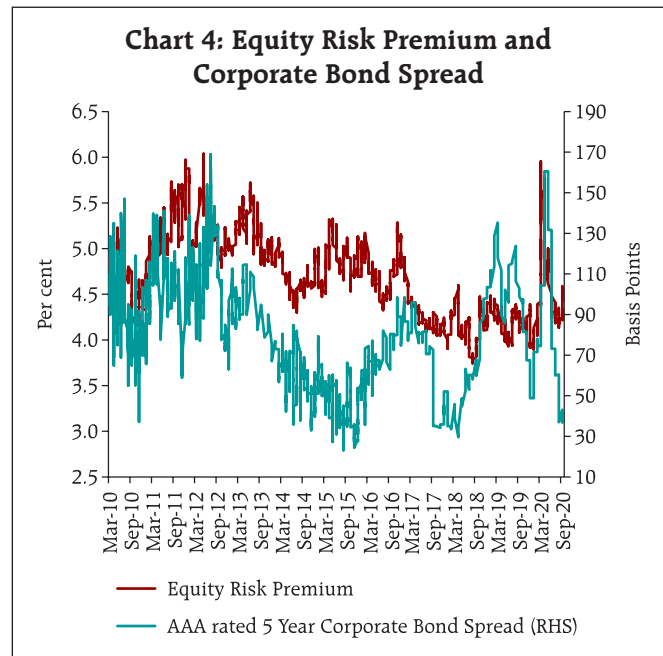
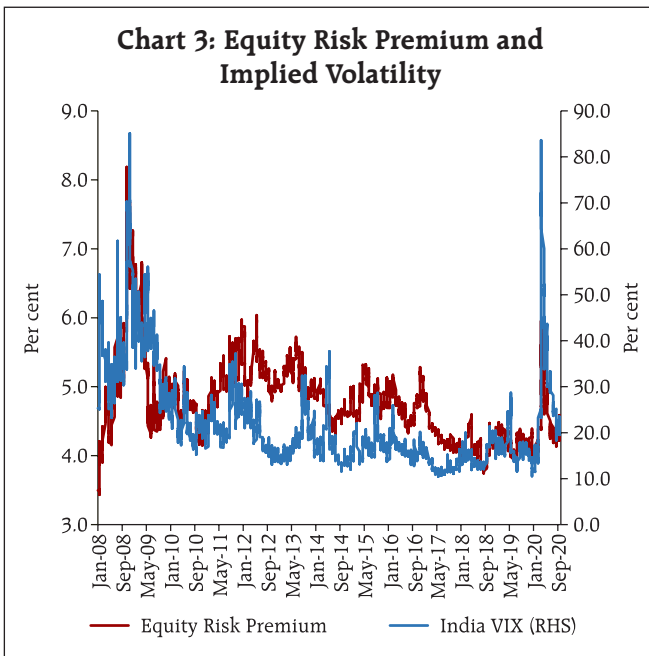
ERP and Economic Activity

In economic sense, rising uncertainty as reflected by higher ERP tends to have negative impact on economic activity. This is mainly because both businesses and consumers will prefer to postpone their

investment and consumption decisions, respectively, in an environment of increased uncertainty, thus having negative impact on economic growth. However, the decrease in the risk premium need not necessarily translate into increased economic growth (Stein, 2014). Low ERP over sustained period could potentially lead to a build-up of financial vulnerability, which can translate into macroeconomic instability (Annex 1).

The computed ERP through DDM method shows high correlation with other measures of risk premium including India VIX and corporate bond spreads. Chart 3 depicts co-movement of India VIX, which measures market perceptions of risk, and ERP. Surge in volatility (VIX) is associated with unwillingness of investors to hold risky assets raising the premium (ERP) they demand for bearing risk or a flight to safety against sharp changes in asset prices.

Another way of looking at risk perceptions is through measures of credit risk, which is determined by the spread of corporate bond yield over the risk-free rate. Changes in corporate bond spread reflects risk perceptions of investors, *i.e.*, increase in corporate bond spread would mean increase in yield that

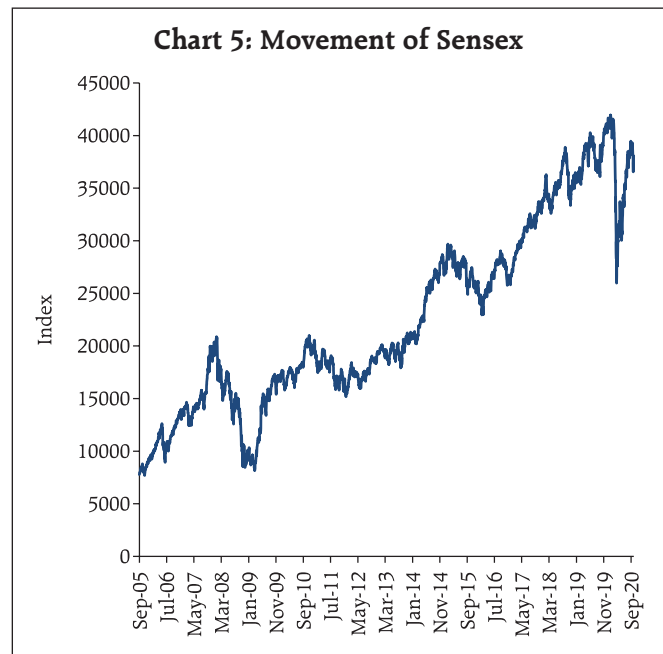


investors demand for holding a corporate bond over an equivalent maturity government bond without any default risk suggesting prevalence of risk aversion and *vice versa*. Chart 4 outlines the co-movement of corporate bond spread and ERP for the period under study. However, the relationship weakened somewhat during 2018, which can plausibly be attributed to the asymmetric impact of default on its debt obligations by Infrastructure Leasing & Financial Services (IL&FS) on corporate bond market.

V. Decomposing Indian Equity Prices using DDM

A second important application of DDM is that it helps to understand the underlying factors driving movement in equity prices by enabling decomposition of change in equity prices into contributions of changes in risk-free rate, ERP and growth expectations. Such a decomposition is arrived by varying, one at a time, each of the three terms on the right side of DDM equation and determining the associated impact on change in equity prices. The impact on equity prices due to simultaneous change in two or more variables is captured by the interaction term.

Indian equity market witnessed strong rally during the period 2005-08 before the contagion from global financial crisis beginning in 2007 triggered sharp decline in the BSE Sensex (Chart 5). However, the domestic equity market recovered from the stress



at a faster pace during 2009-10, declining thereafter between 2010-13 amidst renewed global uncertainty owing to Euro crisis and taper tantrum. During this period, the negative sentiment was compounded by domestic factors including downgrade of India's long-term rating outlook to negative from stable, worries over retrospective tax and general anti-avoidance rules (GAAR) and sharp slide of the Indian rupee. The positive momentum in the equity market from 2013 was restored by the Reserve Bank's measures to rebuild appropriate liquidity buffers coupled with accommodative monetary policy stances of European Central Bank (ECB) and the Bank of Japan (BoJ) as well as relaxed approach of the US Federal Reserve to monetary policy normalisation. Going ahead, concerns over slowdown in China and asset quality in the banking system on the domestic front contributed to the fall in equity market during 2015-16. Since February 2016, equity market has generally exhibited uptrend barring transient blips till mid-January 2020. However, the Indian equity markets retreated thereafter in sync with global markets on fears over COVID-19 induced recession. Subsequently, markets made impressive recovery enthused by extraordinary monetary policy support and fiscal stimulus measures

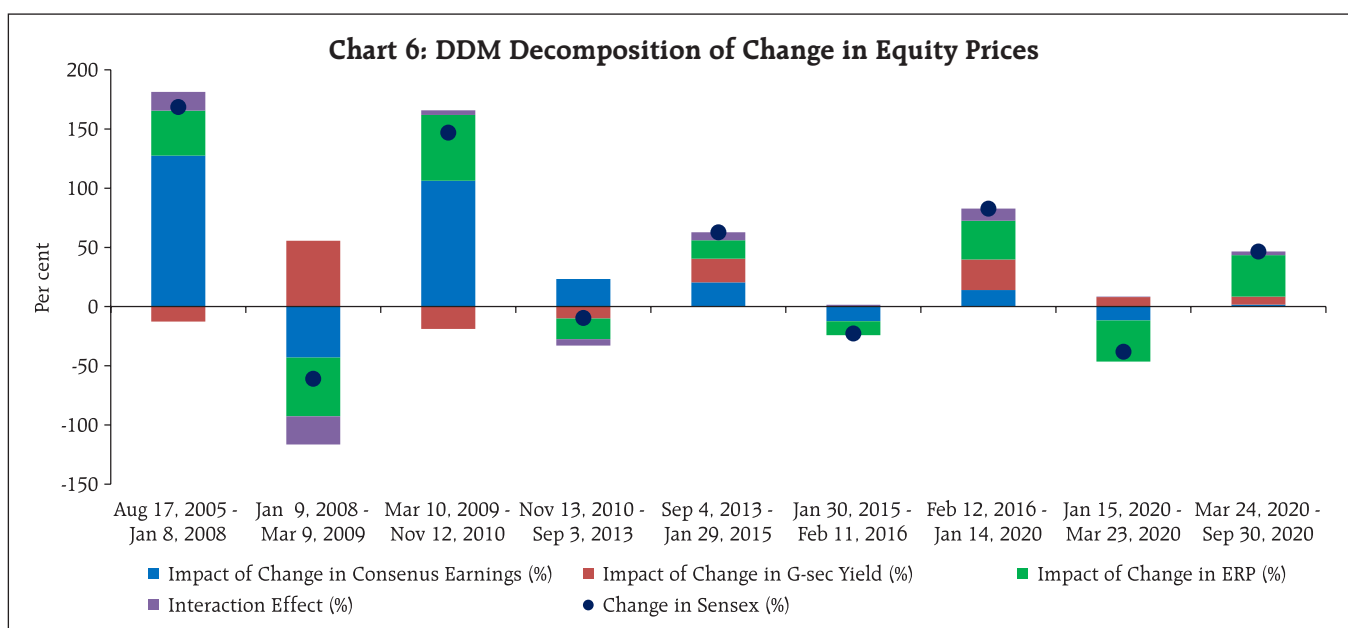
coupled with improvement in macro indicators amidst gradual unlocking of economy. All these factors driving market manifest into the components of DDM including earning expectations, risk premium and interest rates.

Application of the model

The Chart 6 illustrates the contribution of different factors in driving the Indian equity prices since 2005:

August 2005-January 2008: The sharp rally in the Indian equity market during this period pushed the BSE Sensex nearly three times to 20,000 levels. The DDM decomposition attributes this surge mainly to the increase in earnings expectations with the equity risk premium playing relatively minimal role. The cumulative positive impact of these factors was substantially large to offset the negative contribution from interest rates.

January 2008 - March 2009: This phase is marked by the global financial crisis, which roiled financial markets across the globe. During this period, the BSE Sensex declined around 60 per cent in a short span of 15 months. According to the DDM decomposition, earnings expectations and equity risk premium



contributed to the fall in equity market. Earnings expectations corrected sharply as economic outlook deteriorated, and equity risk premium spiked owing to increased perception of risk and uncertainty. However, the impact of accommodative monetary policy stance is reflected in the positive contribution of interest rate to the movement in equity prices.

March 2009 - November 2010: Equity prices rebounded sharply during this period and the results of DDM illustrates the positive impact of ERP and earnings expectations. During this period, ERP fell sharply from peak of 8.2 per cent during crisis period to average of 4.8 per cent during this period. This can be attributed to the revival of risk sentiment due to both monetary and fiscal support in the aftermath of crisis. Further, Indian economy weathered financial crisis relatively well which meant outlook on earnings growth also recovered quickly.

November 2010 - September 2013: DDM decomposition suggests that the decline in Indian equity market during this phase is explained by ERP and interest rates, even though earnings expectation contributed positively. Market was unsettled by the Euro area crisis beginning 2010 followed by the taper tantrum episode during May-August 2013, which drove ERP higher. Higher ERP amidst improved earnings expectations suggest that even as economic outlook remained positive, uncertainty surrounding that outlook had risen.

September 2013 - January 2015: With concerted policy actions post the taper tantrum episode, the equity market resumed upward momentum helped both by ERP and interest rates as the DDM decomposition highlights. However, role of earnings expectations in driving equity prices declined compared to the previous period.

January 2015 - February 2016: The downturn in equity prices was witnessed during this phase led by

worsening outlook on earnings and rise in ERP, with interest rates causing negligible impact as illustrated by the DDM decomposition.

February 2016 - January 2020: Since 2016, the BSE Sensex gained over 80 per cent touching a lifetime high of 41953 on January 14, 2020. However, this uptrend is driven largely by a combination of ERP and interest rates, with earnings expectations contributing to a lesser extent. Low interest rate environment attributable to low inflation prevailed alongside compression of risk premium. ERP touched a low of 3.7 per cent during this period and remained lower than the long-term average in the previous years.

January 2020 - March 2020: This phase saw sharp correction in the Indian equity market in sync with the global markets due to COVID-19 pandemic. The BSE Sensex plummeted over 30 per cent during this period and the DDM decomposition suggests significant impact from the increase in ERP followed by faltering earnings expectations. At the same time, monetary accommodation is reflected in positive contribution from interest rates.

March 2020 - September 2020: The BSE Sensex recovered nearly 50 per cent from the low of 25,981 on March 23, 2020 aided by sizable policy support on both monetary and fiscal fronts along with rally in global equity markets. DDM decomposition suggest significant contribution from the easing of ERP. However, unlike previous episodes of upswing, there is negligible contribution from earnings expectations.

Conclusion

The study uses Dividend Discount Model framework to determine implied Equity Risk Premium for Indian equities. The average ERP during 2005-2020 is estimated at 4.7 per cent. The empirical evidence suggests that ERP shot up sharply during

global financial crisis of 2008 and during COVID-19 pandemic in March 2020. The relationship between change in ERP and GDP growth is found to be inverse and asymmetric with increase in ERP assuming significance in explaining the fall in GDP growth. ERP is also found to be highly correlated with other measures of uncertainty such as India VIX and corporate bond spread. Decomposition of change in equity price indicates that the rise in equity prices during 2016 to early 2020 was mainly supported by decrease in interest rates and ERP, with increase in forward earnings expectations contributing to a lesser extent. Thereafter, spike in ERP on COVID-19 concerns contributed significantly to the plunge in the equity prices. However, subsequently post-March 2020, markets registered impressive recovery aided by easing of ERP, even as the contribution of earnings expectations was negligible.

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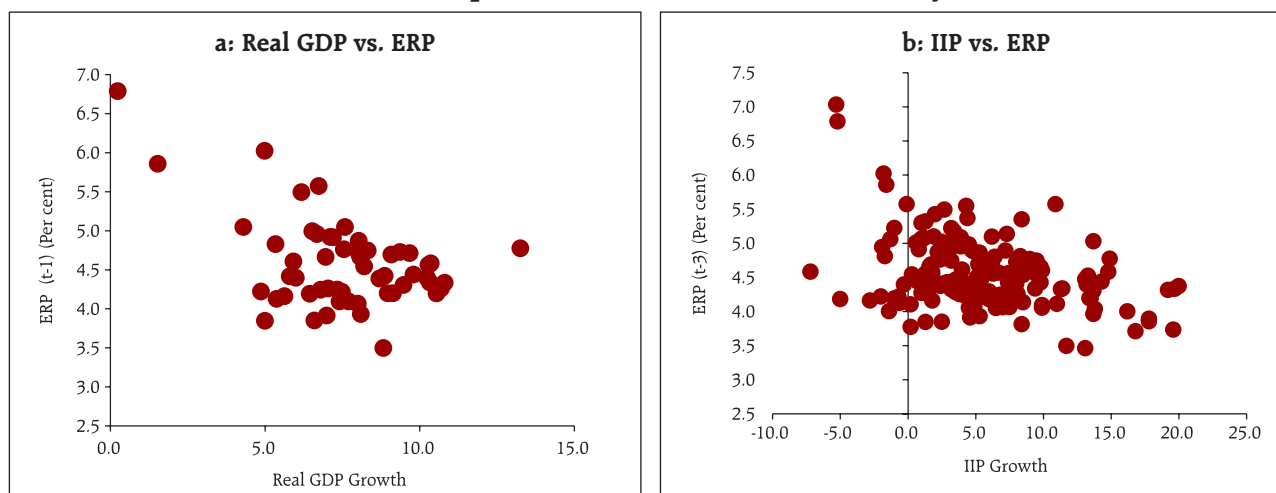
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Annex I: ERP and Economic Activity

To understand the macroeconomic implications of changes in equity risk premium, we have regressed both IIP and GDP on ERP as well as its past values. A distinction is made between increase and decrease in ERP, which are included separately to estimate their asymmetric impact.

In evaluating the impact on IIP, monthly IIP is regressed on previous six months change in ERP and similarly, quarterly GDP on previous two quarters change in ERP (Chart 7). Lagged values of both IIP and GDP are included in regression to gauge the predictive power of ERP over and above the past values of independent variables (GDP and IIP). Lagged terms are identified based on improvement to the overall fit of the model.

Chart 7: Relationship Between ERP and Economic Activity Indicators



The negative coefficients of increase as well as decrease in ERP establish the inverse relationship between economic activity indicators (IIP and GDP) and equity risk premium. However, both the regression results suggest that while the increase in ERP assumes significance in explaining the dependent variables, *i.e.*, IIP and GDP, decrease in ERP is

insignificant in line with the economic theories. This is largely consistent with the divergence between real economy and market observed in 2019 wherein ERP stayed low contributing to surge in equity markets to record-highs and GDP growth stayed muted. Overall, while the ERP has stayed below 4 per cent levels since 2016, real GDP growth has remained below 2016 level which was 8.7 per cent.

Table 1: Regression Results for GDP (Sample period: December 2006-September 2019)

Explanatory variables	Coefficient	Std. Error	Prob.
C	0.02*	0.01	0.04
GDP (-1)	0.63*	0.15	0.00
GDP (-2)	-0.08	0.17	0.63
GDP (-3)	0.13	0.14	0.36
INCREASE_ERP	-1.30*	0.61	0.04
DECREASE_ERP	-1.13	0.73	0.13
R-squared	0.58	F-statistic	12.57
Adjusted R-squared	0.53	Prob(F-statistic)	0.00
Log likelihood	145.68		

Note: * Significant at 5 per cent level of confidence.

Table 2: Regression Results for IIP (Sample period: March 2006-October 2019)

Explanatory variables	Coefficient	Std. Error	Prob.
C	0.01*	0.01	0.02
IIP (-3)	0.58*	0.08	0.00
IIP (-6)	0.24*	0.08	0.00
INCREASE_ERP	-2.98*	0.72	0.00
DECREASE_ERP	-0.86	0.83	0.30
R-squared	0.55	F-statistic	48.25598
Adjusted R-squared	0.54	Prob (F-statistic)	0
Log likelihood	313.81		

Note: * Significant at 5 per cent level of confidence.

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	2018-19	2019-20		2020-21
		Q4	Q1	Q4	Q1
	1	2	3	4	5
1 Real Sector (% Change)					
1.1 GVA at Basic Prices	3.9	5.6	4.8	3.0	-22.8
1.1.1 Agriculture	4.0	1.6	3.0	5.9	3.4
1.1.2 Industry	0.8	1.4	3.8	-0.01	-33.8
1.1.3 Services	5.0	8.3	5.5	3.5	-24.3
1.1a Final Consumption Expenditure	6.3	7.3	5.6	4.2	-19.2
1.1b Gross Fixed Capital Formation	-2.8	4.4	4.6	-6.5	-47.1
	2019-20	2019		2020	
	1	Jul.	Aug.	Jul.	Aug.
	1	2	3	4	5
1.2 Index of Industrial Production	-0.8	4.9	-1.4	-10.4	-
2 Money and Banking (% Change)					
2.1 Scheduled Commercial Banks					
2.1.1 Deposits	7.9	9.6	9.7	12.1	10.9
2.1.2 Credit	6.1	12.1	10.2	6.4	5.5
2.1.2.1 Non-food Credit	6.1	12.1	10.1	6.3	5.5
2.1.3 Investment in Govt. Securities	10.6	1.3	2.1	22.5	21.8
2.2 Money Stock Measures					
2.2.1 Reserve Money (M0)	9.4	12.9	13.1	14.9	14.7
2.2.2 Broad Money (M3)	8.9	10.6	9.8	13.2	12.6
3 Ratios (%)					
3.1 Cash Reserve Ratio	3.00	4.00	4.00	3.00	3.00
3.2 Statutory Liquidity Ratio	18.25	18.75	18.75	18.00	18.00
3.3 Cash-Deposit Ratio	4.6	4.8	4.9	3.7	3.7
3.4 Credit-Deposit Ratio	76.4	76.5	75.7	72.6	72.1
3.5 Incremental Credit-Deposit Ratio	60.3	-186.1	-44.4	-15.0	-25.4
3.6 Investment-Deposit Ratio	27.6	27.7	28.0	30.3	30.7
3.7 Incremental Investment-Deposit Ratio	36.2	207.1	96.5	93.1	101.9
4 Interest Rates (%)					
4.1 Policy Repo Rate	4.40	5.75	5.40	4.00	4.00
4.2 Reverse Repo Rate	4.00	5.50	5.15	3.35	3.35
4.3 Marginal Standing Facility (MSF) Rate	4.65	6.00	5.65	4.25	4.25
4.4 Bank Rate	4.65	6.00	5.65	4.25	4.25
4.5 Base Rate	8.15/9.40	8.95/9.40	8.95/9.40	7.40/9.00	7.40/9.00
4.6 MCLR (Overnight)	7.40/7.90	8.00/8.40	7.90/8.40	6.65/7.30	6.65/7.20
4.7 Term Deposit Rate >1 Year	5.90/6.40	6.25/7.30	6.35/7.10	5.10/5.50	5.00/5.50
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	5.59	5.36	3.46	3.43
4.10 91-Day Treasury Bill (Primary) Yield	4.36	5.65	5.41	3.30	3.24
4.11 182-Day Treasury Bill (Primary) Yield	4.97	5.88	5.63	3.39	3.49
4.12 364-Day Treasury Bill (Primary) Yield	4.94	5.94	5.72	3.52	3.59
4.13 10-Year G-Sec Par Yield (FBIL)	6.71	6.47	6.70	5.78	6.12
5 Reference Rate and Forward Premia					
5.1 INR-US\$ Spot Rate (Rs. Per Foreign Currency)	74.84	69.06	71.76	74.77	73.35
5.2 INR-Euro Spot Rate (Rs. Per Foreign Currency)	82.64	76.94	79.24	88.87	87.07
5.3 Forward Premia of US\$ 1-month (%)	8.98	4.00	3.85	3.61	3.76
3-month (%)	5.93	4.09	4.18	3.74	3.90
6-month (%)	5.05	4.31	4.24	3.80	4.01
6 Inflation (%)					
6.1 All India Consumer Price Index	4.76	3.1	3.3	6.7	6.7
6.2 Consumer Price Index for Industrial Workers	7.54	6.0	6.3	5.3	5.6
6.3 Wholesale Price Index	1.69	1.2	1.2	-0.6	0.2
6.3.1 Primary Articles	6.77	5.5	6.5	0.6	1.6
6.3.2 Fuel and Power	-1.63	-3.6	-3.5	-9.8	-9.7
6.3.3 Manufactured Products	0.29	0.3	0.0	0.5	1.3
7 Foreign Trade (% Change)					
7.1 Imports	-7.66	-8.9	-12.9	-29.6	-26.0
7.2 Exports	-5.06	1.9	-6.5	-9.9	-12.7

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						
	2019-20	2019	2020				
		Sep.	Aug. 28	Sep. 4	Sep. 11	Sep. 18	Sep. 25
	1	2	3	4	5	6	7
1 Issue Department							
1.1 Liabilities							
1.1.1 Notes in Circulation	2412993	2160124	2654096	2660905	2669875	2664016	2656476
1.1.2 Notes held in Banking Department	10	13	23	14	13	13	13
1.1/1.2 Total Liabilities (Total Notes Issued) or Assets	2413003	2160137	2654119	2660919	2669888	2664029	2656489
1.2 Assets							
1.2.1 Gold Coin and Bullion	103439	89945	119425	120034	122287	120286	115902
1.2.2 Foreign Securities	2308718	2069429	2533943	2540141	2546866	2543012	2539862
1.2.3 Rupee Coin	846	763	751	744	735	731	725
1.2.4 Government of India Rupee Securities	–	–	–	–	–	–	–
2 Banking Department							
2.1 Liabilities							
2.1.1 Deposits	1187409	882826	1373902	1376772	1372450	1300884	1311570
2.1.1.1 Central Government	100	101	100	101	100	101	100
2.1.1.2 Market Stabilisation Scheme	–	–	–	–	–	–	–
2.1.1.3 State Governments	43	42	42	42	42	42	42
2.1.1.4 Scheduled Commercial Banks	536186	532442	439411	455304	434587	454414	429915
2.1.1.5 Scheduled State Co-operative Banks	7603	4199	5183	5264	5156	5227	5213
2.1.1.6 Non-Scheduled State Co-operative Banks	3445	2743	2416	2448	2432	2403	2453
2.1.1.7 Other Banks	32641	30680	25785	25809	25892	25745	26029
2.1.1.8 Others	605100	311557	897611	881149	897188	808719	843575
2.1.1.9 Financial Institution Outside India	2291	1061	3354	6655	7053	4233	4243
2.1.2 Other Liabilities	1350333	1064818	1419535	1390255	1406505	1407134	1383243
2.1/2.2 Total Liabilities or Assets	2537742	1947644	2793437	2767027	2778955	2708018	2694813
2.2 Assets							
2.2.1 Notes and Coins	10	13	23	14	13	13	13
2.2.2 Balances held Abroad	1006357	789658	1151725	1134612	1141544	1170219	1169932
2.2.3 Loans and Advances							
2.2.3.1 Central Government	50477	–	–	–	–	–	–
2.2.3.2 State Governments	1967	459	9033	18834	26615	23430	10516
2.2.3.3 Scheduled Commercial Banks	285623	47478	253645	248425	239017	125449	121495
2.2.3.4 Scheduled State Co-op. Banks	–	–	–	–	–	–	35
2.2.3.5 Industrial Dev. Bank of India	–	–	–	–	–	–	–
2.2.3.6 NABARD	–	–	24803	24447	24447	24447	25286
2.2.3.7 EXIM Bank	–	–	–	–	–	–	–
2.2.3.8 Others	10064	6139	9619	11725	11880	11880	12776
2.2.3.9 Financial Institution Outside India	2300	5	2626	3728	4125	14507	15290
2.2.4 Bills Purchased and Discounted							
2.2.4.1 Internal	–	–	–	–	–	–	–
2.2.4.2 Government Treasury Bills	–	–	–	–	–	–	–
2.2.5 Investments	1042951	1000116	1186206	1168492	1171609	1180396	1187027
2.2.6 Other Assets	137993	103776	155757	156750	159705	157677	152443
2.2.6.1 Gold	127644	100272	153600	154383	157281	154707	149069

* 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
Aug. 1, 2020	-	10180	-	-	0	-	-	-	-	-	-	-	-	-10180
Aug. 2, 2020	-	0	-	-	0	-	-	-	-	-	-	-	-	0
Aug. 3, 2020	-	681241	-	-	0	-496	-	-	-	-	-	-	-	-681737
Aug. 4, 2020	-	704691	-	-	53	-100	-	-	-	-	-	-	-	-704738
Aug. 5, 2020	-	705114	-	-	45	-	-	-	-	-	-	-	-	-705069
Aug. 6, 2020	-	637700	-	-	0	-150	-	-	-	-	-	-	-	-637850
Aug. 7, 2020	-	649389	-	-	65	-50	-	-	-	-	-	-	984	-648390
Aug. 8, 2020	-	24	-	-	0	-	-	-	-	-	-	-	-	-24
Aug. 9, 2020	-	59	-	-	0	-	-	-	-	-	-	-	-	-59
Aug. 10, 2020	-	613376	-	-	0	-520	-	-	-	-	-	-	-	-613896
Aug. 11, 2020	-	614916	-	-	0	-	-	-	-	-	-	-	-	-614916
Aug. 12, 2020	-	604875	-	-	0	1500	-	-	-	-	-	-	-	-603375
Aug. 13, 2020	-	600451	-	-	0	-	-	-	-	-	-	-	-	-600451
Aug. 14, 2020	-	600298	-	-	12	-	-	-	-	-	-	-	491	-599795
Aug. 15, 2020	-	8118	-	-	0	-	-	-	-	-	-	-	-	-8118
Aug. 16, 2020	-	191	-	-	2	-	-	-	-	-	-	-	-	-189
Aug. 17, 2020	-	597878	-	-	0	-	-	-	850	-	-	-	-	-597028
Aug. 18, 2020	-	600526	-	-	0	-	-	-	-	-	-	-	236	-600290
Aug. 19, 2020	-	590036	-	-	2	-	-	-	-	-	-	-	493	-589541
Aug. 20, 2020	-	648114	-	-	0	-	-	-	-	-	-	-	-	-648114
Aug. 21, 2020	-	636574	-	-	0	-34	-	-	-	-	-	-	1025	-635583
Aug. 22, 2020	-	933	-	-	0	-	-	-	-	-	-	-	-	-933
Aug. 23, 2020	-	871	-	-	0	-	-	-	-	-	-	-	-	-871
Aug. 24, 2020	-	614757	-	-	202	-30	-	-	-	-	-	-	-	-614585
Aug. 25, 2020	-	634837	-	-	1	-1355	-	-	-	-	-	-	493	-635698
Aug. 26, 2020	-	632916	-	-	4	-30	-	-	-	-	-	-	-	-632942
Aug. 27, 2020	-	644363	-	-	0	-	-	-	-	-	-	-	493	-643870
Aug. 28, 2020	-	674095	-	-	300	1025	-	10000	10000	-	-	-	-	-672770
Aug. 29, 2020	-	16122	-	-	0	-	-	-	-	-	-	-	-	-16122
Aug. 30, 2020	-	25	-	-	0	-	-	-	-	-	-	-	-	-25
Aug. 31, 2020	-	685707	-	-	250	1754	-	-	800	-	-	-	-	-682903

Notes: # Includes Targeted Long Term Repo Operations (TLTRO) and Targeted Long Term Repo Operations 2.0 (TLTRO 2.0)

**As per the RBI Notification No. 2020-21/01 dated July 01, 2020

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

Item	As on August 31, 2020		
	Long (+)	Short (-)	Net (1-2)
	1	2	3
1. Upto 1 month	5150	1235	3915
2. More than 1 month and upto 3 months	3570	0	3570
3. More than 3 months and upto 1 year	11901	0	11901
4. More than 1 year	985	10020	-9035
Total (1+2+3+4)	21606	11255	10351

No. 5: RBI's Standing Facilities

(₹ Crore)

Item	As on the Last Reporting Friday								
	2019-20	2019	2020					Aug. 28	Sep. 25
			Sep. 27	Apr. 24	May 22	Jun. 19	Jul. 31		
	1	2	3	4	5	6	7	8	
1 MSF	1262	48	45	1400	310	80	300	50	
2 Export Credit Refinance for Scheduled Banks									
2.1 Limit	-	-	-	-	-	-	-	-	
2.2 Outstanding	-	-	-	-	-	-	-	-	
3 Liquidity Facility for PDs									
3.1 Limit	10000	2800	10000	4900	4900	4900	4900	4900	
3.2 Outstanding	4782	2372	4162	1372	326	30	-	-	
4 Others									
4.1 Limit	-	-	50000	50000	50000	65000	65000	65000	
4.2 Outstanding	-	-	-	21369	26894	34376	34166	37691	
5 Total Outstanding (1+2.2+3.2+4.2)	6044	2420	4207	24141	27530	34486	34466	37741	

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	2019	2020		
		Aug. 30	Jul. 31	Aug. 14	Aug. 28
	1	2	3	4	5
1 Currency with the Public (1.1 + 1.2 + 1.3 – 1.4)	2349748	2082634	2576293	2593814	2583111
1.1 Notes in Circulation	2420964	2150382	2646131	2665391	2654096
1.2 Circulation of Rupee Coin	25605	25258	25686	25686	25708
1.3 Circulation of Small Coins	743	743	743	743	743
1.4 Cash on Hand with Banks	97563	93749	96267	98007	97436
2 Deposit Money of the Public	1776199	1511661	1688504	1623813	1702537
2.1 Demand Deposits with Banks	1737692	1480680	1648797	1584270	1662573
2.2 'Other' Deposits with Reserve Bank	38507	30982	39707	39543	39964
3 M₁ (1 + 2)	4125948	3594295	4264797	4217627	4285648
4 Post Office Saving Bank Deposits	141786	147931	141786	141786	141786
5 M₂ (3 + 4)	4267734	3742226	4406583	4359413	4427434
6 Time Deposits with Banks	12674016	12082795	13361006	13343888	13362349
7 M₃ (3 + 6)	16799963	15677090	17625803	17561514	17647997
8 Total Post Office Deposits	409246	396704	409246	409246	409246
9 M₄ (7 + 8)	17209209	16073794	18035049	17970760	18057243

No. 7: Sources of Money Stock (M₃)

(₹ Crore)

Sources	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2019-20	2019	2020		
		Aug. 30	Jul. 31	Aug. 14	Aug. 28
	1	2	3	4	5
1 Net Bank Credit to Government	4906583	4720650	5609914	5534710	5613739
1.1 RBI's net credit to Government (1.1.1-1.1.2)	992192	934922	1078662	979844	1015146
1.1.1 Claims on Government	1047808	1000337	1184492	1191910	1194026
1.1.1.1 Central Government	1045314	999731	1179635	1181161	1184993
1.1.1.2 State Governments	2494	606	4857	10749	9033
1.1.2 Government deposits with RBI	55616	65415	105830	212066	178880
1.1.2.1 Central Government	55573	65373	105788	212023	178838
1.1.2.2 State Governments	43	42	42	43	42
1.2 Other Banks' Credit to Government	3914391	3785728	4531252	4554866	4598593
2 Bank Credit to Commercial Sector	11038644	10289159	10941684	10879171	10876306
2.1 RBI's credit to commercial sector	13166	7597	11588	11613	11565
2.2 Other banks' credit to commercial sector	11025478	10281562	10930096	10867558	10864741
2.2.1 Bank credit by commercial banks	10370861	9680153	10282057	10219502	10216227
2.2.2 Bank credit by co-operative banks	637776	590119	637599	638051	638172
2.2.3 Investments by commercial and co-operative banks in other securities	16842	11290	10440	10005	10342
3 Net Foreign Exchange Assets of Banking Sector (3.1 + 3.2)	3801036	3262191	4194144	4204344	4168356
3.1 RBI's net foreign exchange assets (3.1.1-3.1.2)	3590402	3050903	3983510	3993710	3957722
3.1.1 Gross foreign assets	3590636	3051112	3983748	3993953	3957965
3.1.2 Foreign liabilities	234	209	238	243	243
3.2 Other banks' net foreign exchange assets	210634	211288	210634	210634	210634
4 Government's Currency Liabilities to the Public	26348	26001	26429	26429	26451
5 Banking Sector's Net Non-monetary Liabilities	2972648	2620910	3146368	3083140	3036855
5.1 Net non-monetary liabilities of RBI	1378342	1106106	1547264	1487770	1421949
5.2 Net non-monetary liabilities of other banks (residual)	1594306	1514804	1599104	1595370	1614906
M₃ (1+2+3+4-5)	16799963	15677090	17625803	17561514	17647997

No. 8: Monetary Survey

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2019-20	2019	2020		
		Aug. 30	Jul. 31	Aug. 14	Aug. 28
	1	2	3	4	5
Monetary Aggregates					
NM ₁ (1.1 + 1.2.1+1.3)	4125948	3594295	4264797	4217627	4285648
NM ₂ (NM ₁ + 1.2.2.1)	9745776	8951941	10199513	10145989	10223166
NM ₃ (NM ₂ + 1.2.2.2 + 1.4 = 2.1 + 2.2 + 2.3 – 2.4 – 2.5)	16923893	15844360	17727030	17658222	17752801
1 Components					
1.1 Currency with the Public	2349748	2082634	2576293	2593814	2583111
1.2 Aggregate Deposits of Residents	14226198	13386559	14837053	14758408	14857059
1.2.1 Demand Deposits	1737692	1480680	1648797	1584270	1662573
1.2.2 Time Deposits of Residents	12488506	11905879	13188256	13174138	13194485
1.2.2.1 Short-term Time Deposits	5619828	5357646	5934715	5928362	5937518
1.2.2.1.1 Certificates of Deposit (CDs)	169419	174259	106526	97486	88084
1.2.2.2 Long-term Time Deposits	6868678	6548234	7253541	7245776	7256967
1.3 'Other' Deposits with RBI	38507	30982	39707	39543	39964
1.4 Call/Term Funding from Financial Institutions	309439	344185	273977	266458	272668
2 Sources					
2.1 Domestic Credit	16802627	15886848	17550995	17400821	17466357
2.1.1 Net Bank Credit to the Government	4906583	4720650	5609914	5534710	5613739
2.1.1.1 Net RBI credit to the Government	992192	934922	1078662	979844	1015146
2.1.1.2 Credit to the Government by the Banking System	3914391	3785728	4531252	4554866	4598593
2.1.2 Bank Credit to the Commercial Sector	11896044	11166198	11941081	11866110	11852618
2.1.2.1 RBI Credit to the Commercial Sector	13166	7597	36601	36810	36368
2.1.2.2 Credit to the Commercial Sector by the Banking System	11882878	11158601	11904480	11829300	11816250
2.1.2.2.1 Other Investments (Non-SLR Securities)	846284	868005	965520	952261	940213
2.2 Government's Currency Liabilities to the Public	26348	26001	26429	26429	26451
2.3 Net Foreign Exchange Assets of the Banking Sector	3612303	3018164	4087513	4057197	4067798
2.3.1 Net Foreign Exchange Assets of the RBI	3590402	3050903	3983510	3993710	3957722
2.3.2 Net Foreign Currency Assets of the Banking System	21900	-32739	104003	63487	110076
2.4 Capital Account	2670439	2419473	2826533	2906683	2828647
2.5 Other items (net)	846946	667180	1111374	919542	979157

No. 9: Liquidity Aggregates

(₹ Crore)

Aggregates	2019-20	2019	2020		
	1	Aug.	Jun.	Jul.	Aug.
		2	3	4	5
1 NM₃	16923893	15844360	17431047	17727030	17752801
2 Postal Deposits	409246	396702	409246	409246	409246
3 L₁ (1 + 2)	17333139	16241062	17840293	18136276	18162047
4 Liabilities of Financial Institutions	57479	2932	53474	43664	40801
4.1 Term Money Borrowings	7928	2656	10666	8425	7940
4.2 Certificates of Deposit	46249	31	39450	31750	29300
4.3 Term Deposits	3302	245	3358	3489	3561
5 L₂ (3 + 4)	17390618	16243994	17893767	18179940	18202848
6 Public Deposits with Non-Banking Financial Companies	31905	..	31905
7 L₃ (5 + 6)	17422523	..	17925672

Note : Since November 2019, updated data on liabilities of financial institutions have been incorporated in this table, and hence, are not comparable with past data

No. 10: Reserve Bank of India Survey

(₹ Crore)

Item	Outstanding as on March 31/last reporting Fridays of the month/reporting Fridays				
	2019-20	2019	2020		
		Aug. 30	Jul. 31	Aug. 14	Aug. 28
	1	2	3	4	5
1 Components					
1.1 Currency in Circulation	2447312	2176383	2672560	2691820	2680547
1.2 Bankers' Deposits with the RBI	543888	575794	469087	470719	472795
1.2.1 Scheduled Commercial Banks	505131	538143	435414	436470	439411
1.3 'Other' Deposits with the RBI	38507	30982	39707	39543	39964
Reserve Money (1.1 + 1.2 + 1.3 = 2.1 + 2.2 + 2.3 - 2.4 - 2.5)	3029707	2783158	3181354	3202082	3193305
2 Sources					
2.1 RBI's Domestic Credit	791299	812361	718679	669713	631082
2.1.1 Net RBI credit to the Government	992192	934922	1078662	979844	1015146
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	934358	1073847	969138	1006155
2.1.1.1.1 Loans and Advances to the Central Government	-	-	-	-	-
2.1.1.1.2 Investments in Treasury Bills	-	-	-	-	-
2.1.1.1.3 Investments in dated Government Securities	1044468	998945	1178867	1180403	1184242
2.1.1.1.3.1 Central Government Securities	1044468	998945	1178867	1180403	1184242
2.1.1.1.4 Rupee Coins	846	786	768	758	751
2.1.1.1.5 Deposits of the Central Government	55573	65373	105788	212023	178838
2.1.1.2 Net RBI credit to State Governments	2451	564	4815	10706	8991
2.1.2 RBI's Claims on Banks	-214059	-130158	-396584	-346941	-420432
2.1.2.1 Loans and Advances to Scheduled Commercial Banks	-214059	-130158	-371571	-321744	-395629
2.1.3 RBI's Credit to Commercial Sector	13166	7597	36601	36810	36368
2.1.3.1 Loans and Advances to Primary Dealers	5920	1879	30	30	-
2.1.3.2 Loans and Advances to NABARD	-	-	25013	25197	24803
2.2 Government's Currency Liabilities to the Public	26348	26001	26429	26429	26451
2.3 Net Foreign Exchange Assets of the RBI	3590402	3050903	3983510	3993710	3957722
2.3.1 Gold	230527	196879	281463	281589	273025
2.3.2 Foreign Currency Assets	3359893	2854041	3702064	3712138	3684714
2.4 Capital Account	1165066	992582	1248046	1322142	1254854
2.5 Other Items (net)	213276	113524	299218	165628	167095

No. 11: Reserve Money - Components and Sources

(₹ Crore)

Item	Outstanding as on March 31/ last Fridays of the month/ Fridays						
	2019-20	2019	2020				
		Aug. 30	Jul. 31	Aug. 7	Aug. 14	Aug. 21	Aug. 28
	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	2783158	3181354	3187375	3202082	3192999	3193305
1 Components							
1.1 Currency in Circulation	2447312	2176383	2672560	2686184	2691820	2688436	2680547
1.2 Bankers' Deposits with RBI	543888	575794	469087	461436	470719	464794	472795
1.3 'Other' Deposits with RBI	38507	30982	39707	39755	39543	39769	39964
2 Sources							
2.1 Net Reserve Bank Credit to Government	992192	934922	1078662	1075013	979844	994754	1015146
2.2 Reserve Bank Credit to Banks	-214059	-130158	-371571	-371737	-321744	-358066	-395629
2.3 Reserve Bank Credit to Commercial Sector	13166	7597	11588	11588	11613	11613	11565
2.4 Net Foreign Exchange Assets of RBI	3590402	3050903	3983510	4017184	3993710	4007883	3957722
2.5 Government's Currency Liabilities to the Public	26348	26001	26429	26429	26429	26429	26451
2.6 Net Non- Monetary Liabilities of RBI	1378342	1106106	1547264	1571102	1487770	1489614	1421949

No. 12: Commercial Bank Survey

(₹ Crore)

Item	Outstanding as on last reporting Fridays of the month/ reporting Fridays of the month				
	2019-20	2019	2020		
		Aug. 30	Jul. 31	Aug. 14	Aug. 28
	1	2	3	4	5
1 Components					
1.1 Aggregate Deposits of Residents	13381983	12603282	13988520	13910760	14008954
1.1.1 Demand Deposits	1617003	1365634	1528034	1463567	1541081
1.1.2 Time Deposits of Residents	11764979	11237647	12460486	12447193	12467873
1.1.2.1 Short-term Time Deposits	5294241	5056941	5607219	5601237	5610543
1.1.2.1.1 Certificates of Deposits (CDs)	169419	174259	106526	97486	88084
1.1.2.2 Long-term Time Deposits	6470739	6180706	6853267	6845956	6857330
1.2 Call/Term Funding from Financial Institutions	309439	344185	273977	266458	272668
2 Sources					
2.1 Domestic Credit	14913131	14129568	15541150	15487711	15520259
2.1.1 Credit to the Government	3684917	3578218	4291521	4313713	4359336
2.1.2 Credit to the Commercial Sector	11228214	10551350	11249629	11173997	11160923
2.1.2.1 Bank Credit	10370861	9680153	10282057	10219502	10216227
2.1.2.1.1 Non-food Credit	10319097	9617761	10202769	10146420	10150286
2.1.2.2 Net Credit to Primary Dealers	11378	9297	9126	9744	11559
2.1.2.3 Investments in Other Approved Securities	8653	2857	1888	1453	1886
2.1.2.4 Other Investments (in non-SLR Securities)	837321	859043	956558	943299	931250
2.2 Net Foreign Currency Assets of Commercial Banks (2.2.1–2.2.2–2.2.3)	21900	-32739	104003	63487	110076
2.2.1 Foreign Currency Assets	315641	277568	355425	308951	364293
2.2.2 Non-resident Foreign Currency Repatriable Fixed Deposits	185510	176916	172750	169750	167864
2.2.3 Overseas Foreign Currency Borrowings	108231	133392	78672	75714	86353
2.3 Net Bank Reserves (2.3.1+2.3.2–2.3.3)	899410	752195	893214	846115	922291
2.3.1 Balances with the RBI	536186	538143	435414	436470	439411
2.3.2 Cash in Hand	87260	83894	86229	87901	87251
2.3.3 Loans and Advances from the RBI	-275964	-130158	-371571	-321744	-395629
2.4 Capital Account	1481202	1402720	1554316	1560370	1549623
2.5 Other items (net) (2.1+2.2+2.3–2.4–1.1–1.2)	661818	498837	721555	659725	721381
2.5.1 Other Demand and Time Liabilities (net of 2.2.3)	495445	398201	444800	457336	481042
2.5.2 Net Inter-Bank Liabilities (other than to PDs)	65654	-54206	73877	73015	73801

No. 13: Scheduled Commercial Banks' Investments

(₹ Crore)

Item	As on March 27, 2020	2019	2020		
		Aug. 30	Jul. 31	Aug. 14	Aug. 28
	1	2	3	4	5
	1 SLR Securities	3747349	3581075	4293409	4315166
2 Commercial Paper	104526	95879	91396	92884	85259
3 Shares issued by					
3.1 PSUs	14106	11514	11656	11636	9102
3.2 Private Corporate Sector	75415	66751	73007	72764	67493
3.3 Others	5734	5582	5201	5055	6357
4 Bonds/Debentures issued by					
4.1 PSUs	125710	129335	127045	126631	124385
4.2 Private Corporate Sector	226559	247426	308784	308714	306447
4.3 Others	191690	162785	152655	151907	150313
5 Instruments issued by					
5.1 Mutual funds	35610	52891	45359	46545	44412
5.2 Financial institutions	97665	90292	125695	127163	137483

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	2019	2020		2019-20	2019	2020	
		Aug.	Jul.	Aug.		Aug.	Jul.	Aug.
1	2	3	4	5	6	7	8	
Number of Reporting Banks	219	218	210	209	142	142	134	133
1 Liabilities to the Banking System	320240	271325	310011	287863	314513	266047	304773	282629
1.1 Demand and Time Deposits from Banks	239943	185890	232324	222515	234348	180832	227270	217476
1.2 Borrowings from Banks	64001	72192	61085	49330	64001	72095	61085	49330
1.3 Other Demand and Time Liabilities	16295	13243	16602	16018	16163	13121	16417	15824
2 Liabilities to Others	14905949	14011903	15391502	15447438	14480607	13655975	14958717	15016882
2.1 Aggregate Deposits	13975551	13122736	14576206	14589411	13567492	12780197	14161269	14176819
2.1.1 Demand	1653242	1396102	1563327	1576870	1617003	1365634	1528034	1541081
2.1.2 Time	12322309	11726634	13012879	13012540	11950489	11414563	12633235	12635738
2.2 Borrowings	313908	347772	278344	277264	309439	344185	273977	272668
2.3 Other Demand and Time Liabilities	616491	541394	536952	580763	603676	531592	523472	567395
3 Borrowings from Reserve Bank	285623	31140	258425	253645	285623	31140	258425	253645
3.1 Against Usance Bills /Promissory Notes	-	-	-	-	-	-	-	-
3.2 Others	285623	31140	258425	253645	285623	31140	258425	253645
4 Cash in Hand and Balances with Reserve Bank	643038	637531	536304	541240	623446	622037	521643	526662
4.1 Cash in Hand	89671	85740	88242	89429	87260	83894	86229	87251
4.2 Balances with Reserve Bank	553367	551791	448062	451811	536186	538143	435414	439411
5 Assets with the Banking System	323680	381137	300944	280371	260238	329550	240022	220387
5.1 Balances with Other Banks	181460	262604	195372	180136	155401	237150	162911	148259
5.1.1 In Current Account	17204	17577	23597	14500	14457	14732	21275	12611
5.1.2 In Other Accounts	164256	245027	171775	165635	140945	222418	141637	135648
5.2 Money at Call and Short Notice	43335	41424	35509	35137	20273	26827	13592	13348
5.3 Advances to Banks	38266	28583	25030	25018	30531	25309	24276	24490
5.4 Other Assets	60619	48526	45033	40080	54032	40264	39243	34290
6 Investment	3865544	3676373	4421093	4488300	3747349	3581075	4293409	4361222
6.1 Government Securities	3850819	3667293	4412593	4479899	3738696	3578218	4291521	4359336
6.2 Other Approved Securities	14724	9080	8500	8401	8653	2857	1888	1886
7 Bank Credit	10705336	9961383	10614263	10548169	10370861	9680153	10282057	10216227
7a Food Credit	82172	89424	109692	96346	51763	62392	79287	65941
7.1 Loans, Cash-credits and Overdrafts	10480934	9743969	10445518	10380861	10149509	9466745	10115236	10050903
7.2 Inland Bills-Purchased	26214	24827	19744	19424	25658	23883	19465	19153
7.3 Inland Bills-Discounted	147209	135740	105755	104510	145683	133578	104766	103201
7.4 Foreign Bills-Purchased	20866	24132	17440	16563	20458	23822	17202	16321
7.5 Foreign Bills-Discounted	30114	32716	25806	26811	29554	32125	25387	26649

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

(₹ Crore)

Item	Outstanding as on				Growth (%)	
	Mar. 27, 2020	2019	2020		Financial year so far 2020-21	Y-o-Y 2020
		Aug. 30	Jul. 31	Aug. 28		
	1	2	3	4	5	6
1 Gross Bank Credit	9263134	8594549	9148074	9112035	-1.6	6.0
1.1 Food Credit	51590	62182	79023	65708	27.4	5.7
1.2 Non-food Credit	9211544	8532367	9069051	9046327	-1.8	6.0
1.2.1 Agriculture & Allied Activities	1157796	1113026	1169273	1168075	0.9	4.9
1.2.2 Industry	2905151	2765215	2821316	2778672	-4.4	0.5
1.2.2.1 Micro & Small	381825	358885	354728	354546	-7.1	-1.2
1.2.2.2 Medium	105598	104436	101994	107386	1.7	2.8
1.2.2.3 Large	2417728	2301894	2364594	2316740	-4.2	0.6
1.2.3 Services	2594945	2350197	2547228	2551467	-1.7	8.6
1.2.3.1 Transport Operators	144466	141243	148727	148575	2.8	5.2
1.2.3.2 Computer Software	20051	18761	21167	20089	0.2	7.1
1.2.3.3 Tourism, Hotels & Restaurants	45977	40221	47383	47282	2.8	17.6
1.2.3.4 Shipping	6557	5955	5178	4987	-23.9	-16.3
1.2.3.5 Professional Services	177085	169097	176815	175191	-1.1	3.6
1.2.3.6 Trade	552392	504278	560579	567367	2.7	12.5
1.2.3.6.1 Wholesale Trade	263397	221053	267712	265152	0.7	19.9
1.2.3.6.2 Retail Trade	288995	283225	292867	302215	4.6	6.7
1.2.3.7 Commercial Real Estate	229770	216388	233200	230759	0.4	6.6
1.2.3.8 Non-Banking Financial Companies (NBFCs)	807383	680360	793451	796763	-1.3	17.1
1.2.3.9 Other Services	611264	573894	560728	560454	-8.3	-2.3
1.2.4 Personal Loans	2553652	2303929	2531234	2548113	-0.2	10.6
1.2.4.1 Consumer Durables	9298	5484	9127	9053	-2.6	65.1
1.2.4.2 Housing	1338964	1214771	1347565	1349501	0.8	11.1
1.2.4.3 Advances against Fixed Deposits	79496	62607	62317	62568	-21.3	-0.1
1.2.4.4 Advances to Individuals against share & bond	5334	5087	6392	6313	18.4	24.1
1.2.4.5 Credit Card Outstanding	108094	97650	101391	104833	-3.0	7.4
1.2.4.6 Education	65745	68457	65100	64865	-1.3	-5.2
1.2.4.7 Vehicle Loans	220609	202662	217697	219769	-0.4	8.4
1.2.4.8 Other Personal Loans	726112	647211	721645	731211	0.7	13.0
1.2A Priority Sector	2897461	2721947	2828526	2842996	-1.9	4.4
1.2A.1 Agriculture & Allied Activities	1146624	1105805	1155451	1154411	0.7	4.4
1.2A.2 Micro & Small Enterprises	1149394	1048364	1100578	1104504	-3.9	5.4
1.2A.2.1 Manufacturing	381826	358885	354728	354546	-7.1	-1.2
1.2A.2.2 Services	767568	689479	745850	749958	-2.3	8.8
1.2A.3 Housing	449945	444823	464437	473151	5.2	6.4
1.2A.4 Micro-Credit	38237	31376	32817	32139	-15.9	2.4
1.2A.5 Education Loans	51906	53983	51434	52013	0.2	-3.6
1.2A.6 State-Sponsored Orgs. for SC/ST	388	402	410	443	14.2	10.2
1.2A.7 Weaker Sections	731409	682231	742426	743473	1.6	9.0
1.2A.8 Export Credit	16114	13139	15237	13959	-13.4	6.2

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

(₹ Crore)

Industry	Outstanding as on				Growth (%)	
	Mar. 27, 2020	2019	2020		Financial year so far	Y-o-Y
		Aug. 30	Jul. 31	Aug. 28		
	1	2	3	4	5	6
1 Industry	2905151	2765215	2821316	2778672	-4.4	0.5
1.1 Mining & Quarrying (incl. Coal)	43927	40938	43632	41419	-5.7	1.2
1.2 Food Processing	154146	145210	159112	155228	0.7	6.9
1.2.1 Sugar	27382	27889	23023	21348	-22.0	-23.5
1.2.2 Edible Oils & Vanaspati	19240	18929	18149	18156	-5.6	-4.1
1.2.3 Tea	5375	5356	5252	5373	-0.0	0.3
1.2.4 Others	102149	93036	112688	110351	8.0	18.6
1.3 Beverage & Tobacco	16522	13857	14382	14430	-12.7	4.1
1.4 Textiles	192424	186307	188874	188159	-2.2	1.0
1.4.1 Cotton Textiles	89283	84473	86201	85318	-4.4	1.0
1.4.2 Jute Textiles	2116	2117	2059	2059	-2.7	-2.7
1.4.3 Man-Made Textiles	26074	25423	27004	26792	2.8	5.4
1.4.4 Other Textiles	74951	74294	73610	73990	-1.3	-0.4
1.5 Leather & Leather Products	11098	11051	11704	11809	6.4	6.9
1.6 Wood & Wood Products	12233	11881	12794	12792	4.6	7.7
1.7 Paper & Paper Products	30965	29864	32338	32742	5.7	9.6
1.8 Petroleum, Coal Products & Nuclear Fuels	75834	51976	57756	54850	-27.7	5.5
1.9 Chemicals & Chemical Products	202949	177006	175432	173975	-14.3	-1.7
1.9.1 Fertiliser	49066	35572	35651	35383	-27.9	-0.5
1.9.2 Drugs & Pharmaceuticals	53427	48566	49751	48558	-9.1	-0.0
1.9.3 Petro Chemicals	42233	39987	35707	36176	-14.3	-9.5
1.9.4 Others	58223	52881	54323	53858	-7.5	1.8
1.10 Rubber, Plastic & their Products	50415	46501	48827	48780	-3.2	4.9
1.11 Glass & Glassware	8777	9942	8477	8666	-1.3	-12.8
1.12 Cement & Cement Products	58689	59223	58597	57809	-1.5	-2.4
1.13 Basic Metal & Metal Product	350325	348467	338908	344005	-1.8	-1.3
1.13.1 Iron & Steel	262396	266309	256893	256866	-2.1	-3.5
1.13.2 Other Metal & Metal Product	87929	82158	82015	87139	-0.9	6.1
1.14 All Engineering	157259	166488	141558	139390	-11.4	-16.3
1.14.1 Electronics	30159	37284	28591	27558	-8.6	-26.1
1.14.2 Others	127100	129204	112967	111832	-12.0	-13.4
1.15 Vehicles, Vehicle Parts & Transport Equipment	82606	83022	87668	89286	8.1	7.5
1.16 Gems & Jewellery	59515	66361	54576	54220	-8.9	-18.3
1.17 Construction	104288	95990	102507	103744	-0.5	8.1
1.18 Infrastructure	1053913	1004812	1054581	1023148	-2.9	1.8
1.18.1 Power	559774	558892	566977	549080	-1.9	-1.8
1.18.2 Telecommunications	143760	109762	132283	125386	-12.8	14.2
1.18.3 Roads	190676	190895	196306	196875	3.3	3.1
1.18.4 Other Infrastructure	159703	145263	159015	151807	-4.9	4.5
1.19 Other Industries	239266	216319	229593	224220	-6.3	3.7

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	2019	2020						
		Jul. 26	May. 29	Jun. 05	Jun. 19	Jun. 26	Jul. 03	Jul. 17	Jul. 31
	1	2	3	4	5	6	7	8	9
Number of Reporting Banks	32	32	31	31	31	31	31	31	30
1 Aggregate Deposits (2.1.1.2+2.2.1.2)	124101.8	64001.4	125375.1	125603.8	126309.6	126689.0	126452.9	127076.2	125038.9
2 Demand and Time Liabilities									
2.1 Demand Liabilities	26213.8	18565.5	24755.4	25014.4	24214.0	23797.4	25074.2	25271.3	23857.6
2.1.1 Deposits									
2.1.1.1 Inter-Bank	5295.0	5531.0	5276.6	4937.7	4365.2	4100.6	4876.4	4823.2	4000.0
2.1.1.2 Others	14,523.6	10214.2	13674.1	13552.1	13836.4	13675.2	13533.9	13870.4	13215.5
2.1.2 Borrowings from Banks	100.0	0.0	25.0	100.0	199.9	110.0	0.0	0.0	268.7
2.1.3 Other Demand Liabilities	6295.2	2820.3	5779.7	6424.7	5812.5	5911.7	6663.9	6577.6	6373.3
2.2 Time Liabilities	167684.5	106495.7	177855.8	177766.6	177293.4	177574.4	176605.2	176793.3	173363.0
2.2.1 Deposits									
2.2.1.1 Inter-Bank	56564.0	51818.0	64012.5	64066.2	62670.0	62430.6	62166.3	61276.4	59247.7
2.2.1.2 Others	109578.2	53787.3	111701.0	112051.8	112473.2	113013.8	112919.0	113205.8	111823.4
2.2.2 Borrowings from Banks	630.2	0.0	755.9	749.9	635.1	630.0	629.9	629.9	629.9
2.2.3 Other Time Liabilities	912.1	890.4	1386.3	898.7	1515.1	1500.1	890.0	1681.1	1662.1
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	44842.5	56219.3	55134.5	54148.6	55983.2	55890.4	56131.0	57274.5
4.1 Demand	13764.4	14152.3	13701.3	12712.3	11750.2	12464.4	12098.1	12152.6	14236.6
4.2 Time	39007.8	30690.2	42517.9	42422.2	42398.4	43518.8	43792.3	43978.5	43037.9
5 Cash in Hand and Balances with Reserve Bank	9428.2	5421.2	7525.9	7825.5	7247.2	7422.0	6999.4	7149.1	7095.6
5.1 Cash in Hand	750.5	315.2	711.2	737.9	751.6	710.0	685.9	677.3	536.0
5.2 Balance with Reserve Bank	8677.8	5106.1	6814.7	7087.6	6495.6	6712.1	6313.4	6471.7	6559.6
6 Balances with Other Banks in Current Account	1521.7	1003.6	1338.0	907.9	2099.1	2019.9	1049.6	1134.0	935.6
7 Investments in Government Securities	50626.9	30500.4	53179.8	54158.8	53092.2	53708.4	55424.4	55598.4	56634.2
8 Money at Call and Short Notice	25283.9	19124.6	30633.2	29102.7	29405.7	29380.8	29114.7	28181.5	25327.5
9 Bank Credit (10.1+11)	110905.5	63334.2	110987.9	111445.1	112198.2	111349.3	110067.3	111344.7	111280.7
10 Advances									
10.1 Loans, Cash-Credits and Overdrafts	110901.5	63332.9	110987.2	111444.5	112197.6	111348.7	110066.6	111344.0	111280.0
10.2 Due from Banks	81300.1	77427.1	79337.2	79353.7	79958.6	80858.7	80854.4	81068.7	80109.4
11 Bills Purchased and Discounted	4.0	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.7

Prices and Production

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

Group/Sub group	2019-20			Rural			Urban			Combined		
	Rural	Urban	Combined	Aug. '19	Jul. '20	Aug '20(P)	Aug. '19	Jul. '20	Aug '20(P)	Aug. '19	Jul. '20	Aug '20(P)
	1	2	3	4	5	6	7	8	9	10	11	12
1 Food and beverages	146.3	149.6	147.5	144.0	155.3	156.1	149.1	159.9	161.3	145.9	157.0	158.0
1.1 Cereals and products	140.7	143.2	141.4	139.2	147.6	146.9	142.1	151.6	151.5	140.1	148.9	148.4
1.2 Meat and fish	163.3	161.4	162.6	161.9	187.2	183.9	158.3	197.8	193.1	160.6	190.9	187.1
1.3 Egg	142.1	145.7	143.5	137.1	148.4	149.4	140.8	154.5	157.3	138.5	150.8	152.5
1.4 Milk and products	146.5	146.0	146.3	144.6	153.3	153.5	144.9	153.4	153.9	144.7	153.3	153.6
1.5 Oils and fats	127.1	121.8	125.1	124.7	139.8	140.4	119.9	133.4	134.3	122.9	137.4	138.2
1.6 Fruits	144.0	148.8	146.2	145.5	146.9	146.9	153.9	154.5	155.5	149.4	150.4	150.9
1.7 Vegetables	163.5	187.8	171.7	156.2	171.0	178.5	189.1	191.9	202.1	167.4	178.1	186.5
1.8 Pulses and products	133.7	132.0	133.1	131.5	149.9	149.4	129.8	151.3	150.7	130.9	150.4	149.8
1.9 Sugar and confectionery	112.0	113.4	112.5	111.7	114.2	115.1	112.7	116.8	118.9	112.0	115.1	116.4
1.10 Spices	145.6	145.1	145.5	142.7	160.0	159.9	142.5	160.0	160.9	142.6	160.0	160.2
1.11 Non-alcoholic beverages	138.8	130.2	135.2	138.5	143.5	145.2	129.8	136.5	137.7	134.9	140.6	142.1
1.12 Prepared meals, snacks, sweets	157.6	156.7	157.2	156.9	161.5	161.6	156.2	163.3	164.3	156.6	162.3	162.9
2 Pan, tobacco and intoxicants	166.3	169.0	167.0	165.1	180.9	182.9	167.9	187.2	188.6	165.8	182.6	184.4
3 Clothing and footwear	151.3	143.7	148.3	151.1	154.3	154.6	143.0	147.8	148.1	147.9	151.7	152.0
3.1 Clothing	152.0	145.7	149.5	151.8	155.1	155.4	145.0	150.0	150.2	149.1	153.1	153.4
3.2 Footwear	146.9	132.4	140.9	146.6	149.3	149.9	132.2	135.2	136.4	140.6	143.4	144.3
4 Housing	--	152.2	152.2	--	--	--	151.6	155.5	156.3	151.6	155.5	156.3
5 Fuel and light	148.6	131.5	142.2	146.4	145.8	146.2	125.5	138.3	137.2	138.5	143.0	142.8
6 Miscellaneous	145.6	135.9	140.9	144.9	153.0	153.7	135.3	144.8	146.0	140.2	149.0	150.0
6.1 Household goods and services	150.6	138.7	145.0	150.2	151.9	151.8	138.1	144.5	145.5	144.5	148.4	148.8
6.2 Health	153.6	142.1	149.3	152.7	158.8	159.0	141.5	148.7	149.8	148.5	155.0	155.5
6.3 Transport and communication	132.6	122.2	127.1	131.4	143.6	144.7	120.8	133.9	135.2	125.8	138.5	139.7
6.4 Recreation and amusement	148.3	135.9	141.3	148.0	152.2	152.7	135.4	141.2	141.8	140.9	146.0	146.6
6.5 Education	159.8	150.9	154.5	159.7	162.7	161.1	151.5	155.5	154.8	154.9	158.5	157.4
6.6 Personal care and effects	139.2	138.4	138.9	138.8	153.6	157.4	137.8	155.2	159.7	138.4	154.3	158.4
General Index (All Groups)	147.3	145.1	146.3	145.7	154.7	155.4	144.2	152.9	154.0	145.0	153.9	154.7

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

No. 19: Other Consumer Price Indices

Item	Base Year	Linking Factor	2019-20	2019		2020	
				Aug.	Jul.	Jul.	Aug.
	1	2	3	4	5	6	
1 Consumer Price Index for Industrial Workers	2001	4.63	323	320	336	338	
2 Consumer Price Index for Agricultural Labourers	1986-87	5.89	980	965	1021	1026	
3 Consumer Price Index for Rural Labourers	1986-87	-	986	972	1028	1033	

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	2019		2020	
		Aug.	Jul.	Jul.	Aug.
	1	2	3	4	
1 Standard Gold (₹ per 10 grams)	37018	37356	49878	52917	
2 Silver (₹ per kilogram)	42514	43747	54813	67717	

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	2019	2020		
			Aug.	Jun.	Jul. (P)	Aug. (P)
	1	2	3	4	5	6
1 ALL COMMODITIES	100.000	121.8	121.5	119.3	120.6	121.7
1.1 PRIMARY ARTICLES	22.618	143.3	144.0	140.9	143.7	146.3
1.1.1 FOOD ARTICLES	15.256	155.8	156.1	155.4	160.6	162.1
1.1.1.1 Food Grains (Cereals+Pulses)	3.462	159.6	159.2	161.6	161.2	159.5
1.1.1.2 Fruits & Vegetables	3.475	174.7	180.1	159.3	181.8	187.4
1.1.1.3 Milk	4.440	146.7	145.9	151.9	152.0	152.1
1.1.1.4 Eggs,Meat & Fish	2.402	147.0	144.4	152.5	151.9	153.4
1.1.1.5 Condiments & Spices	0.529	143.9	141.6	145.6	143.0	143.8
1.1.1.6 Other Food Articles	0.948	144.0	142.8	147.9	152.5	157.7
1.1.2 NON-FOOD ARTICLES	4.119	128.7	129.8	125.1	124.1	127.9
1.1.2.1 Fibres	0.839	128.2	130.1	116.9	117.7	118.9
1.1.2.2 Oil Seeds	1.115	151.4	151.7	154.8	154.0	155.7
1.1.2.3 Other non-food Articles	1.960	104.8	105.8	103.8	104.8	104.8
1.1.2.4 Floriculture	0.204	238.0	239.2	200.5	173.3	235.0
1.1.3 MINERALS	0.833	154.5	158.4	166.3	150.9	166.3
1.1.3.1 Metallic Minerals	0.648	147.4	153.7	162.5	144.4	162.5
1.1.3.2 Other Minerals	0.185	179.0	175.0	179.7	174.0	179.7
1.1.4 CRUDE PETROLEUM & NATURAL GAS	2.410	85.3	86.4	67.7	67.8	71.0
1.2 FUEL & POWER	13.152	102.2	101.2	85.6	90.7	91.4
1.2.1 COAL	2.138	125.3	124.0	126.4	126.4	126.4
1.2.1.1 Coking Coal	0.647	138.1	133.9	141.6	141.6	141.6
1.2.1.2 Non-Coking Coal	1.401	119.0	119.0	119.0	119.0	119.0
1.2.1.3 Lignite	0.090	129.1	129.9	131.1	131.1	131.1
1.2.2 MINERAL OILS	7.950	92.3	91.4	68.6	77.2	78.2
1.2.3 ELECTRICITY	3.064	111.8	110.7	101.0	101.0	101.0
1.3 MANUFACTURED PRODUCTS	64.231	118.3	117.8	118.6	118.6	119.3
1.3.1 MANUFACTURE OF FOOD PRODUCTS	9.122	133.9	132.5	137.5	137.7	138.7
1.3.1.1 Processing and Preserving of meat	0.134	137.5	138.1	134.8	136.0	135.2
1.3.1.2 Processing and Preserving of fish, Crustaceans, Molluscs and products thereof	0.204	136.1	136.6	139.3	137.0	136.7
1.3.1.3 Processing and Preserving of fruit and Vegetables	0.138	114.3	114.5	119.3	119.6	119.8
1.3.1.4 Vegetable and Animal oils and Fats	2.643	119.3	113.9	128.5	130.1	133.7
1.3.1.5 Dairy products	1.165	145.0	143.1	148.7	146.2	144.3
1.3.1.6 Grain mill products	2.010	146.3	146.6	145.1	144.3	144.1
1.3.1.7 Starches and Starch products	0.110	135.5	136.9	117.2	114.1	110.4
1.3.1.8 Bakery products	0.215	133.5	132.3	137.5	137.5	137.8
1.3.1.9 Sugar, Molasses & honey	1.163	118.3	119.0	119.2	120.5	120.0
1.3.1.10 Cocoa, Chocolate and Sugar confectionery	0.175	127.2	127.2	127.9	128.1	127.5
1.3.1.11 Macaroni, Noodles, Couscous and Similar farinaceous products	0.026	132.7	131.7	133.8	140.3	134.4
1.3.1.12 Tea & Coffee products	0.371	139.7	143.8	163.8	167.7	174.3
1.3.1.13 Processed condiments & salt	0.163	132.4	129.8	143.8	146.4	145.8
1.3.1.14 Processed ready to eat food	0.024	128.7	128.5	129.7	130.0	133.6
1.3.1.15 Health supplements	0.225	159.9	159.6	147.0	144.3	146.8
1.3.1.16 Prepared animal feeds	0.356	173.6	177.2	167.7	167.5	168.3
1.3.2 MANUFACTURE OF BEVERAGES	0.909	123.6	123.7	125.5	124.8	125.1
1.3.2.1 Wines & spirits	0.408	117.8	117.8	121.0	120.7	120.6
1.3.2.2 Malt liquors and Malt	0.225	125.7	126.8	127.5	126.7	126.7
1.3.2.3 Soft drinks; Production of mineral waters and Other bottled waters	0.275	130.5	129.8	130.5	129.2	130.4
1.3.3 MANUFACTURE OF TOBACCO PRODUCTS	0.514	153.4	153.9	158.6	157.0	155.2
1.3.3.1 Tobacco products	0.514	153.4	153.9	158.6	157.0	155.2

No. 21: Wholesale Price Index (Contd.)

(Base: 2011-12 = 100)

Commodities	Weight	2019-20	2019	2020		
			Aug.	Jun.	Jul. (P)	Aug. (P)
1.3.4 MANUFACTURE OF TEXTILES	4.881	117.7	118.1	113.6	113.2	113.1
1.3.4.1 Preparation and Spinning of textile fibres	2.582	107.9	109.0	100.6	100.6	100.3
1.3.4.2 Weaving & Finishing of textiles	1.509	130.1	129.3	129.1	128.0	128.0
1.3.4.3 Knitted and Crocheted fabrics	0.193	114.5	115.4	117.0	115.7	114.9
1.3.4.4 Made-up textile articles, Except apparel	0.299	134.5	135.8	131.5	131.4	131.3
1.3.4.5 Cordage, Rope, Twine and Netting	0.098	143.1	140.8	149.4	150.3	149.0
1.3.4.6 Other textiles	0.201	116.8	116.4	118.3	117.2	119.1
1.3.5 MANUFACTURE OF WEARING APPAREL	0.814	138.3	137.6	137.3	137.0	136.4
1.3.5.1 Manufacture of Wearing Apparel (woven), Except fur Apparel	0.593	139.2	138.4	137.7	138.7	137.2
1.3.5.2 Knitted and Crocheted apparel	0.221	135.9	135.4	136.3	132.7	134.3
1.3.6 MANUFACTURE OF LEATHER AND RELATED PRODUCTS	0.535	118.6	119.2	117.6	117.9	118.3
1.3.6.1 Tanning and Dressing of leather; Dressing and Dyeing of fur	0.142	105.5	108.6	102.2	100.9	102.5
1.3.6.2 Luggage, HandbAgs, Saddlery and Harness	0.075	136.3	136.6	138.5	138.8	137.9
1.3.6.3 Footwear	0.318	120.3	119.9	119.6	120.5	120.8
1.3.7 MANUFACTURE OF WOOD AND PRODUCTS OF WOOD AND CORK	0.772	133.7	134.3	134.1	134.3	134.7
1.3.7.1 Saw milling and Planing of wood	0.124	122.2	120.1	121.1	120.3	119.1
1.3.7.2 Veneer sheets; Manufacture of plywood, Laminboard, Particle board and Other panels and Boards	0.493	135.5	136.0	136.4	137.0	137.2
1.3.7.3 Builder's carpentry and Joinery	0.036	176.2	174.9	179.8	180.2	188.0
1.3.7.4 Wooden containers	0.119	125.7	129.7	124.5	124.4	124.6
1.3.8 MANUFACTURE OF PAPER AND PAPER PRODUCTS	1.113	121.1	121.4	120.4	120.1	119.6
1.3.8.1 Pulp, Paper and Paperboard	0.493	125.0	125.3	122.6	122.1	121.3
1.3.8.2 Corrugated paper and Paperboard and Containers of paper and Paperboard	0.314	115.0	115.5	119.0	118.7	118.7
1.3.8.3 Other articles of paper and Paperboard	0.306	121.2	121.2	118.2	118.4	117.9
1.3.9 PRINTING AND REPRODUCTION OF RECORDED MEDIA	0.676	150.6	149.2	150.8	151.1	153.3
1.3.9.1 Printing	0.676	150.6	149.2	150.8	151.1	153.3
1.3.10 MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS	6.465	117.5	118.2	115.7	115.9	115.8
1.3.10.1 Basic chemicals	1.433	119.9	121.2	114.9	114.9	114.8
1.3.10.2 Fertilizers and Nitrogen compounds	1.485	123.1	123.0	123.4	123.8	123.5
1.3.10.3 Plastic and Synthetic rubber in primary form	1.001	112.4	114.3	109.1	109.7	111.3
1.3.10.4 Pesticides and Other agrochemical products	0.454	122.6	122.9	123.2	124.2	124.6
1.3.10.5 Paints, Varnishes and Similar coatings, Printing ink and Mastics	0.491	114.7	115.5	113.5	113.6	112.6
1.3.10.6 Soap and Detergents, Cleaning and Polishing preparations, Perfumes and Toilet preparations	0.612	118.6	118.8	120.1	119.7	119.7
1.3.10.7 Other chemical products	0.692	114.2	114.0	113.6	113.7	112.5
1.3.10.8 Man-made fibres	0.296	97.9	98.9	91.3	90.5	88.4
1.3.11 MANUFACTURE OF PHARMACEUTICALS, MEDICINAL CHEMICAL AND BOTANICAL PRODUCTS	1.993	127.3	126.4	129.3	129.1	130.2
1.3.11.1 Pharmaceuticals, Medicinal chemical and Botanical products	1.993	127.3	126.4	129.3	129.1	130.2
1.3.12 MANUFACTURE OF RUBBER AND PLASTICS PRODUCTS	2.299	108.5	108.3	107.7	107.6	107.5
1.3.12.1 Rubber Tyres and Tubes; Retreading and Rebuilding of Rubber Tyres	0.609	98.9	99.7	98.4	98.3	97.5
1.3.12.2 Other Rubber Products	0.272	93.5	94.0	92.7	92.7	91.6
1.3.12.3 Plastics products	1.418	115.4	114.8	114.7	114.5	114.8
1.3.13 MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS	3.202	116.7	116.7	118.3	117.7	117.2
1.3.13.1 Glass and Glass products	0.295	124.5	126.8	127.5	126.1	127.5
1.3.13.2 Refractory products	0.223	108.7	109.7	109.1	108.5	108.1
1.3.13.3 Clay Building Materials	0.121	102.8	101.3	110.8	105.3	107.0
1.3.13.4 Other Porcelain and Ceramic Products	0.222	113.9	114.5	109.1	108.6	106.9
1.3.13.5 Cement, Lime and Plaster	1.645	119.5	118.5	121.9	121.9	120.9

No. 21: Wholesale Price Index (Contd.)

(Base: 2011-12 = 100)

Commodities	Weight	2019-20	2019	2020		
			Aug.	Jun.	Jul. (P)	Aug. (P)
1.3.13.6 Articles of Concrete, Cement and Plaster	0.292	121.6	120.9	127.1	127.3	126.1
1.3.13.7 Cutting, Shaping and Finishing of Stone	0.234	120.2	122.7	120.9	119.5	119.6
1.3.13.8 Other Non-Metallic Mineral Products	0.169	86.6	90.4	77.6	77.6	77.6
1.3.14 MANUFACTURE OF BASIC METALS	9.646	106.2	104.6	103.8	104.1	106.5
1.3.14.1 Inputs into steel making	1.411	100.6	96.2	97.0	97.1	101.5
1.3.14.2 Metallic Iron	0.653	107.7	104.1	101.3	102.4	109.2
1.3.14.3 Mild Steel - Semi Finished Steel	1.274	95.1	93.6	94.4	94.9	97.5
1.3.14.4 Mild Steel -Long Products	1.081	105.5	104.2	104.8	103.1	103.9
1.3.14.5 Mild Steel - Flat products	1.144	108.7	107.9	106.5	106.7	109.0
1.3.14.6 Alloy steel other than Stainless Steel- Shapes	0.067	102.8	99.9	102.3	101.5	102.6
1.3.14.7 Stainless Steel - Semi Finished	0.924	102.9	98.3	101.3	103.1	102.8
1.3.14.8 Pipes & tubes	0.205	126.2	124.5	120.9	123.6	125.1
1.3.14.9 Non-ferrous metals incl. precious metals	1.693	107.0	106.9	105.1	106.6	109.2
1.3.14.10 Castings	0.925	112.8	115.1	107.6	107.0	108.1
1.3.14.11 Forgings of steel	0.271	146.5	145.1	147.5	146.1	145.1
1.3.15 MANUFACTURE OF FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT	3.155	115.5	114.7	113.8	113.8	113.2
1.3.15.1 Structural Metal Products	1.031	113.9	114.0	112.0	111.5	110.8
1.3.15.2 Tanks, Reservoirs and Containers of Metal	0.660	124.4	121.9	123.3	121.7	120.6
1.3.15.3 Steam generators, Except Central Heating Hot Water Boilers	0.145	104.7	100.9	99.0	104.3	99.0
1.3.15.4 Forging, Pressing, Stamping and Roll-Forming of Metal; Powder Metallurgy	0.383	100.5	101.6	96.1	96.3	98.4
1.3.15.5 Cutlery, Hand Tools and General Hardware	0.208	100.5	100.3	100.8	101.8	101.9
1.3.15.6 Other Fabricated Metal Products	0.728	124.0	123.2	123.6	124.5	123.6
1.3.16 MANUFACTURE OF COMPUTER, ELECTRONIC AND OPTICAL PRODUCTS	2.009	110.4	110.2	109.9	109.5	109.1
1.3.16.1 Electronic Components	0.402	98.1	98.0	96.7	96.6	97.2
1.3.16.2 Computers and Peripheral Equipment	0.336	135.0	135.1	135.1	135.0	135.1
1.3.16.3 Communication Equipment	0.310	117.0	117.2	115.4	114.8	114.2
1.3.16.4 Consumer Electronics	0.641	98.8	99.0	99.5	99.4	98.0
1.3.16.5 Measuring, Testing, Navigating and Control equipment	0.181	111.5	110.5	109.2	106.0	106.0
1.3.16.6 Watches and Clocks	0.076	139.1	138.7	142.0	141.7	141.9
1.3.16.7 Irradiation, Electromedical and Electrotherapeutic equipment	0.055	103.6	100.3	102.0	102.0	103.5
1.3.16.8 Optical instruments and Photographic equipment	0.008	110.2	109.5	112.1	112.1	108.8
1.3.17 MANUFACTURE OF ELECTRICAL EQUIPMENT	2.930	111.3	110.9	112.0	112.5	113.0
1.3.17.1 Electric motors, Generators, Transformers and Electricity distribution and Control apparatus	1.298	109.0	108.0	112.2	114.2	114.5
1.3.17.2 Batteries and Accumulators	0.236	117.0	117.5	118.1	116.6	117.0
1.3.17.3 Fibre optic cables for data transmission or live transmission of images	0.133	109.9	106.6	96.9	93.7	93.0
1.3.17.4 Other electronic and Electric wires and Cables	0.428	109.7	109.9	109.5	110.0	111.6
1.3.17.5 Wiring devices, Electric lighting & display equipment	0.263	111.1	112.1	110.4	110.4	110.9
1.3.17.6 Domestic appliances	0.366	119.9	120.5	117.8	118.2	118.3
1.3.17.7 Other electrical equipment	0.206	108.6	107.7	109.9	107.4	108.4
1.3.18 MANUFACTURE OF MACHINERY AND EQUIPMENT	4.789	113.1	113.6	112.7	112.9	113.6
1.3.18.1 Engines and Turbines, Except aircraft, Vehicle and Two wheeler engines	0.638	104.8	105.0	104.0	104.8	106.2
1.3.18.2 Fluid power equipment	0.162	119.9	120.3	117.0	117.1	118.2
1.3.18.3 Other pumps, Compressors, Taps and Valves	0.552	111.2	111.5	111.1	111.0	112.2
1.3.18.4 Bearings, Gears, Gearing and Driving elements	0.340	110.1	110.8	110.3	111.4	109.2
1.3.18.5 Ovens, Furnaces and Furnace burners	0.008	80.0	79.8	81.3	81.5	81.6
1.3.18.6 Lifting and Handling equipment	0.285	111.5	112.4	110.9	111.4	111.8

No. 21: Wholesale Price Index (Concl.)

(Base: 2011-12 = 100)

Commodities	Weight	2019-20	2019	2020		
			Aug.	Jun.	Jul. (P)	Aug. (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	135.2	127.9	128.0	128.2
1.3.18.9 Agricultural and Forestry machinery	0.833	120.6	120.6	120.6	120.6	121.5
1.3.18.10 Metal-forming machinery and Machine tools	0.224	108.1	108.0	108.2	109.5	107.7
1.3.18.11 Machinery for mining, Quarrying and Construction	0.371	75.1	74.5	75.1	75.1	75.3
1.3.18.12 Machinery for food, Beverage and Tobacco processing	0.228	125.2	123.7	125.6	125.1	128.1
1.3.18.13 Machinery for textile, Apparel and Leather production	0.192	119.7	118.7	122.7	123.1	123.9
1.3.18.14 Other special-purpose machinery	0.468	126.3	127.6	126.1	126.0	127.2
1.3.18.15 Renewable electricity generating equipment	0.046	66.0	66.6	64.6	64.6	64.3
1.3.19 MANUFACTURE OF MOTOR VEHICLES, TRAILERS AND SEMI-TRAILERS	4.969	114.5	113.0	117.0	116.9	116.9
1.3.19.1 Motor vehicles	2.600	115.2	114.5	117.9	117.6	117.6
1.3.19.2 Parts and Accessories for motor vehicles	2.368	113.7	111.3	116.0	116.2	116.1
1.3.20 MANUFACTURE OF OTHER TRANSPORT EQUIPMENT	1.648	118.0	117.7	124.5	125.0	125.7
1.3.20.1 Building of ships and Floating structures	0.117	158.8	158.8	158.8	158.8	158.8
1.3.20.2 Railway locomotives and Rolling stock	0.110	106.4	106.6	106.3	106.3	105.8
1.3.20.3 Motor cycles	1.302	114.3	113.9	122.6	123.2	124.1
1.3.20.4 Bicycles and Invalid carriages	0.117	128.9	128.2	128.5	128.7	128.7
1.3.20.5 Other transport equipment	0.002	126.1	124.7	127.2	127.4	127.5
1.3.21 MANUFACTURE OF FURNITURE	0.727	130.9	131.9	128.3	129.3	128.2
1.3.21.1 Furniture	0.727	130.9	131.9	128.3	129.3	128.2
1.3.22 OTHER MANUFACTURING	1.064	112.7	114.3	127.8	128.7	135.6
1.3.22.1 Jewellery and Related articles	0.996	109.9	111.6	125.7	126.7	134.0
1.3.22.2 Musical instruments	0.001	174.0	173.4	172.7	166.5	159.1
1.3.22.3 Sports goods	0.012	129.7	129.1	130.9	130.6	130.9
1.3.22.4 Games and Toys	0.005	136.9	137.1	141.2	142.9	144.2
1.3.22.5 Medical and Dental instruments and Supplies	0.049	162.1	162.1	167.2	167.3	167.5
2 FOOD INDEX	24.378	147.6	147.3	148.7	152.0	153.3

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-July		July	
				2019-20	2020-21	2019	2020
				1	2	3	4
General Index	100.00	130.1	129.0	130.8	92.6	131.8	118.1
1 Sectoral Classification							
1.1 Mining	14.37	107.9	109.6	106.2	84.8	100.2	87.2
1.2 Manufacturing	77.63	131.5	129.6	131.2	88.2	133.7	118.8
1.3 Electricity	7.99	156.9	158.4	171.0	149.7	170.5	166.3
2 Use-Based Classification							
2.1 Primary Goods	34.05	126.1	127.0	128.4	105.4	128.1	114.1
2.2 Capital Goods	8.22	108.4	93.3	98.5	44.5	91.8	70.9
2.3 Intermediate Goods	17.22	126.2	137.7	134.9	88.8	140.4	122.9
2.4 Infrastructure/ Construction Goods	12.34	141.7	136.6	140.2	86.4	140.1	125.2
2.5 Consumer Durables	12.84	130.4	119.0	127.8	56.2	130.3	99.5
2.6 Consumer Non-Durables	15.33	145.5	145.3	143.6	130.0	146.6	156.4

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 - August			
	2020-21 (Budget Estimates)	2020-21 (Actuals)	2019-20 (Actuals)	Percentage to Budget Estimates	
				2020-21	2019-20
	1	2	3	4	5
1 Revenue Receipts	2020926	370642	603201	18.3	30.7
1.1 Tax Revenue (Net)	1635909	284495	404580	17.4	24.5
1.2 Non-Tax Revenue	385017	86147	198621	22.4	63.4
2 Non-Debt Capital Receipt	224967	6664	18260	3.0	15.2
2.1 Recovery of Loans	14967	6635	5902	44.3	39.8
2.2 Other Receipts	210000	29	12358	0.0	11.8
3 Total Receipts (excluding borrowings) (1+2)	2245893	377306	621461	16.8	29.8
4 Revenue Expenditure	2630145	1113206	1039125	42.3	42.5
4.1 Interest Payments	708203	237662	219026	33.6	33.2
5 Capital Expenditure	412085	134447	136176	32.6	40.2
6 Total Expenditure (4+5)	3042230	1247653	1175301	41.0	42.2
7 Revenue Deficit (4-1)	609219	742564	435924	121.9	89.9
8 Fiscal Deficit (6-3)	796337	870347	553840	109.3	78.7
9 Gross Primary Deficit (8-4.1)	88134	632685	334814	717.9	773.4

Source: Controller General of Accounts, Ministry of Finance, Government of India and Union Budget 2020-21.

No. 24: Treasury Bills – Ownership Pattern

(₹ Crore)

Item	2019-20	2019	2020					
		Aug. 30	Jul. 24	Jul. 31	Aug. 7	Aug. 14	Aug. 21	Aug. 28
	1	2	3	4	5	6	7	8
1 91-day								
1.1 Banks	10165	19939	26310	24530	15634	9433	9209	8100
1.2 Primary Dealers	9190	7196	20648	20849	19820	16021	15931	17932
1.3 State Governments	8173	54141	25097	31204	37199	37164	42164	44094
1.4 Others	48004	85510	150462	148881	156433	163487	160782	157140
2 182-day								
2.1 Banks	66419	64410	151472	159639	166707	174888	171880	170892
2.2 Primary Dealers	43302	46639	57795	58945	58300	56535	65468	63853
2.3 State Governments	13386	2667	13067	12972	12997	1453	4453	4348
2.4 Others	22465	33619	98307	96263	96925	97574	99218	110486
3 364-day								
3.1 Banks	49660	59867	134188	133242	132283	133881	135072	133144
3.2 Primary Dealers	70672	68176	66555	75696	79868	85856	84137	93620
3.3 State Governments	11945	17745	12224	12213	12243	12321	17526	16676
3.4 Others	70576	57147	128231	126462	129053	127487	133781	132012
4 14-day Intermediate								
4.1 Banks								
4.2 Primary Dealers								
4.3 State Governments	155112	177224	158150	139180	90945	103668	134404	138620
4.4 Others	617	677	592	552	667	719	659	687
Total Treasury Bills (Excluding 14 day Intermediate T Bills) #	423957	517055	884355	900895	917462	916100	939620	952296

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											
Jul. 29	12000	96	41163	6698	38	11992	6698	18690	99.18	3.2979	
Aug. 5	12000	115	51332	7004	34	11996	7004	19000	99.19	3.2815	
Aug. 12	12000	117	97921	2062	14	11988	2062	14050	99.19	3.2689	
Aug. 19	12000	89	86592	7072	9	11978	7072	19050	99.22	3.1491	
Aug. 26	12000	105	90881	4045	20	11996	4045	16041	99.20	3.2367	
182-day Treasury Bills											
2020-21											
Jul. 29	13000	100	44970	0	44	13000	0	13000	98.34	3.3901	
Aug. 5	13000	123	58325	15	31	13000	15	13015	98.34	3.3752	
Aug. 12	13000	126	51022	10	30	12990	10	13000	98.33	3.4100	
Aug. 19	13000	104	40048	3005	53	12995	3005	16000	98.32	3.4320	
Aug. 26	13000	91	43819	0	51	13000	0	13000	98.29	3.4889	
364-day Treasury Bills											
2020-21											
Jul. 29	10000	137	38420	0	63	10000	0	10000	96.61	3.5195	
Aug. 5	10000	123	40305	550	40	10000	550	10550	96.63	3.4971	
Aug. 12	10000	123	39360	0	36	10000	0	10000	96.59	3.5383	
Aug. 19	10000	119	37515	5505	58	10000	5505	15505	96.59	3.5372	
Aug. 26	10000	83	31265	0	43	10000	0	10000	96.54	3.5891	

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
August	3, 2020	1.80-4.10	3.46
August	4, 2020	1.80-4.10	3.39
August	5, 2020	1.80-4.10	3.41
August	6, 2020	1.80-4.10	3.41
August	7, 2020	1.80-4.10	3.44
August	10, 2020	1.80-4.10	3.43
August	11, 2020	1.80-4.10	3.41
August	12, 2020	1.80-4.10	3.49
August	13, 2020	1.80-4.10	3.44
August	14, 2020	1.80-4.10	3.45
August	17, 2020	1.80-4.10	3.48
August	18, 2020	1.80-4.10	3.42
August	19, 2020	1.80-4.10	3.41
August	20, 2020	1.80-4.10	3.43
August	21, 2020	1.80-4.10	3.43
August	24, 2020	1.80-4.10	3.42
August	25, 2020	1.80-4.10	3.43
August	26, 2020	1.80-4.10	3.43
August	27, 2020	1.80-4.10	3.43
August	28, 2020	1.50-4.10	3.42
August	29, 2020	2.80-3.30	3.14
August	31, 2020	1.80-4.10	3.44
September	1, 2020	1.80-4.10	3.42
September	2, 2020	1.80-4.10	3.42
September	3, 2020	1.80-4.05	3.42
September	4, 2020	1.80-4.05	3.39
September	5, 2020	2.15-3.95	2.63
September	7, 2020	1.80-4.10	3.41
September	8, 2020	1.80-4.05	3.39
September	9, 2020	1.80-4.05	3.42
September	10, 2020	1.80-4.05	3.41
September	11, 2020	1.50-4.05	3.41
September	14, 2020	1.80-4.00	3.42
September	15, 2020	1.80-4.05	3.41

Note: Includes Notice Money.

No. 27: Certificates of Deposit

Item	2019	2020			
	Aug. 30	Jul. 17	Jul. 31	Aug. 14	Aug. 28
	1	2	3	4	5
1 Amount Outstanding (₹ Crore)	179455.00	112455.00	104705.00	99835.00	90410.00
1.1 Issued during the fortnight (₹ Crore)	15568.45	4045.08	1292.97	1358.53	3502.17
2 Rate of Interest (per cent)	5.40-7.22	3.43-5.43	3.39-4.45	3.66-6.19	3.44-6.37

No. 28: Commercial Paper

Item	2019	2020			
	Aug. 31	Jul. 15	Jul. 31	Aug. 15	Aug. 31
	1	2	3	4	5
1 Amount Outstanding (₹ Crore)	497176.75	402660.50	374817.20	380587.65	372600.80
1.1 Reported during the fortnight (₹ Crore)	77603.30	37730.15	53608.10	61152.00	68405.75
2 Rate of Interest (per cent)	5.37-13.39	2.98-12.04	3.18-12.33	3.31-11.79	3.17-13.14

No. 29: Average Daily Turnover in Select Financial Markets

(₹ Crore)

Item	2019-20	2019	2020					
		Aug. 30	Jul. 24	Jul. 31	Aug. 7	Aug. 14	Aug. 21	Aug. 28
	1	2	3	4	5	6	7	8
1 Call Money	26815	35391	21228	23100	22404	22201	23599	19387
2 Notice Money	3660	10155	526	1192	607	1185	426	5150
3 Term Money	790	697	788	594	895	580	936	492
4 CBLO/TRIPARTY REPO	300691	309833	306217	352688	324705	339168	413808	420081
5 Market Repo	221719	203504	266679	348069	387793	348461	319124	388951
6 Repo in Corporate Bond	2468	1809	200	2112	1680	1536	560	300
7 Forex (US \$ million)	67793	78536	57816	63829	47143	49018	53940	63978
8 Govt. of India Dated Securities	93960	94875	67018	73654	60094	57502	62320	69966
9 State Govt. Securities	5800	6356	5161	3989	4213	3646	3397	3552
10 Treasury Bills								
10.1 91-Day	3720	2604	4621	7702	7269	6232	502	4053
10.2 182-Day	2380	1735	2453	2885	2333	3416	9678	9139
10.3 364-Day	2900	2665	1116	1532	2604	2272	1892	2105
10.4 Cash Management Bills	2310	66	626	1603	3412	3850	3228	
11 Total Govt. Securities (8+9+10)	111070	108301	80994	91365	79925	76918	81017	88815
11.1 RBI	–	98	597	367	174	217	445	4457

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.-Aug.)		2020-21 (Apr.-Aug.) *		Aug. 2019		Aug. 2020 *	
	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	37	58964	19	75159	5	4149	9	6108
1A Premium	70	43259	37	37659	19	71945	5	4118	9	5832
1.1 Public	57	9867	28	7944	10	15539	4	4047	2	11
1.1.1 Premium	55	9434	28	7826	10	13035	4	4029	2	6
1.2 Rights	15	55059	9	51020	9	59620	1	102	7	6096
1.2.1 Premium	15	33825	9	29833	9	58911	1	89	7	5825
2 Preference Shares	–	–	–	–	–	–	–	–	–	–
2.1 Public	–	–	–	–	–	–	–	–	–	–
2.2 Rights	–	–	–	–	–	–	–	–	–	–
3 Bonds & Debentures	34	14984	16	7297	5	882	5	3122	–	–
3.1 Convertible	–	–	–	–	–	–	–	–	–	–
3.1.1 Public	–	–	–	–	–	–	–	–	–	–
3.1.2 Rights	–	–	–	–	–	–	–	–	–	–
3.2 Non-Convertible	34	14984	16	7297	5	882	5	3122	–	–
3.2.1 Public	34	14984	16	7297	5	882	5	3122	–	–
3.2.2 Rights	–	–	–	–	–	–	–	–	–	–
4 Total(1+2+3)	106	79910	53	66261	24	76041	10	7271	9	6108
4.1 Public	91	24851	44	15242	15	16420	9	7169	2	11
4.2 Rights	15	55059	9	51020	9	59620	1	102	7	6096

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	2019		2020			
			Aug.	Apr.	May	Jun.	Jul.	Aug.
		1	2	3	4	5	6	7
1 Exports	₹ Crore	2219854	184921	78301	145135	165953	177271	169514
	US \$ Million	313361	25992	10271	19183	21915	23638	22701
1.1 Oil	₹ Crore	292340	22821	10229	12900	13959	13253	14393
	US \$ Million	41289	3208	1342	1705	1843	1767	1927
1.2 Non-oil	₹ Crore	1927514	162101	68072	132236	151994	164019	155121
	US \$ Million	272072	22784	8929	17478	20071	21871	20774
2 Imports	₹ Crore	3360954	283530	130560	168006	159558	213524	220084
	US \$ Million	474709	39852	17126	22205	21070	28472	29473
2.1 Oil	₹ Crore	925168	78256	35773	26610	37340	48974	47949
	US \$ Million	130550	10999	4692	3517	4931	6530	6421
2.2 Non-oil	₹ Crore	2435787	205275	94787	141396	122218	164550	172135
	US \$ Million	344159	28853	12433	18688	16139	21942	23052
3 Trade Balance	₹ Crore	-1141100	-98609	-52259	-22870	6395	-36253	-50570
	US \$ Million	-161348	-13860	-6855	-3023	844	-4834	-6772
3.1 Oil	₹ Crore	-632828	-55435	-25544	-13710	-23381	-35722	-33556
	US \$ Million	-89262	-7792	-3351	-1812	-3088	-4763	-4494
3.2 Non-oil	₹ Crore	-508273	-43174	-26715	-9160	29776	-531	-17014
	US \$ Million	-72087	-6068	-3504	-1211	3932	-71	-2278

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

No. 32: Foreign Exchange Reserves

Item	Unit	2019		2020				
		Sep. 20	Aug. 14	Aug. 21	Aug. 28	Sep. 4	Sep. 11	Sep. 18
		1	2	3	4	5	6	7
1 Total Reserves	₹ Crore	3045895	4009058	4023360	3973733	3964198	3982893	4003182
	US \$ Million	428572	535252	537548	541431	542013	541660	545038
1.1 Foreign Currency Assets	₹ Crore	2819216	3681783	3698667	3655683	3644856	3658364	3683211
	US \$ Million	396670	491550	494168	498094	498362	497521	501464
1.2 Gold	₹ Crore	190780	281589	278907	273025	274417	279568	274993
	US \$ Million	26843	37595	37264	37200	37521	38020	37440
1.3 SDRs	SDRs Million	1046	1048	1048	1048	1048	1048	1048
	₹ Crore	10196	11082	11085	10868	10841	10895	10889
1.4 Reserve Tranche Position in IMF	US \$ Million	1435	1479	1481	1481	1482	1482	1483
	₹ Crore	25703	34605	34700	34158	34083	34066	34090
	US \$ Million	3623	4628	4634	4657	4647	4637	4651

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

No. 33: NRI Deposits

(US\$ Million)

Scheme	Outstanding				Flows	
	2019-20	2019	2020		2019-20	2020-21
		Aug.	Jul.	Aug.	Apr.-Aug.	Apr.-Aug.
	1	2	3	4	5	6
1 NRI Deposits	130581	130515	135097	137812	4043	4864
1.1 FCNR(B)	24244	23895	22471	22473	725	-1771
1.2 NR(E)RA	90367	91136	96076	98436	2496	6042
1.3 NRO	15969	15483	16550	16904	822	592

No. 34: Foreign Investment Inflows

(US\$ Million)

Item	2019-20	2019-20	2020-21	2019	2020	
		Apr.-Aug.	Apr.-Aug.	Aug.	Jul.	Aug.
	1	2	3	4	5	6
1.1 Net Foreign Direct Investment (1.1.1-1.1.2)	43013	19326	20564	1851	3156	17800
1.1.1 Direct Investment to India (1.1.1.1-1.1.2)	56006	24638	24564	2762	3988	18482
1.1.1.1 Gross Inflows/Gross Investments	74390	31602	35727	4256	4638	19260
1.1.1.1.1 Equity	51734	23922	27760	2669	3165	17602
1.1.1.1.1.1 Government (SIA/FIPB)	3265	2809	171	43	10	64
1.1.1.1.1.2 RBI	39364	17957	24514	2004	1539	17314
1.1.1.1.1.3 Acquisition of shares	7348	2589	2414	506	1500	109
1.1.1.1.1.4 Equity capital of unincorporated bodies	1757	567	662	116	116	116
1.1.1.1.2 Reinvested earnings	14175	5658	6266	1155	1155	1155
1.1.1.1.3 Other capital	8482	2022	1701	433	319	504
1.1.1.2 Repatriation/Disinvestment	18384	6965	11164	1494	650	779
1.1.1.2.1 Equity	18212	6921	11150	1482	648	777
1.1.1.2.2 Other capital	173	44	14	12	2	2
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	5312	4000	911	833	682
1.1.2.1 Equity capital	7572	2810	1770	623	370	283
1.1.2.2 Reinvested Earnings	3151	1313	1321	263	263	263
1.1.2.3 Other Capital	5674	2090	1203	284	289	196
1.1.2.4 Repatriation/Disinvestment	3403	901	294	258	90	60
1.2 Net Portfolio Investment (1.2.1+1.2.2+1.2.3-1.2.4)	1403	4937	8658	-363	1247	6769
1.2.1 GDRs/ADRs	-	-	-	-	-	-
1.2.2 FIIs	552	4936	8454	-520	619	6737
1.2.3 Offshore funds and others	-	-	-	-	-	-
1.2.4 Portfolio investment by India	-851	-1	-204	-157	-628	-32
1 Foreign Investment Inflows	44417	24262	29222	1488	4403	24569

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

(US\$ Million)

Item	2019-20	2019	2020		
		Aug.	Jun.	Jul.	Aug.
	1	2	3	4	5
1 Outward Remittances under the LRS	18760.69	1875.77	780.67	995.16	1156.62
1.1 Deposit	623.37	33.68	44.53	48.43	46.55
1.2 Purchase of immovable property	86.43	6.81	3.64	5.03	5.85
1.3 Investment in equity/debt	431.41	25.47	34.16	33.84	27.37
1.4 Gift	1907.71	177.16	108.81	129.75	124.99
1.5 Donations	22.33	10.35	0.82	1.42	0.68
1.6 Travel	6955.98	784.67	195.11	246.17	303.21
1.7 Maintenance of close relatives	3439.74	281.57	185.33	243.61	232.86
1.8 Medical Treatment	33.90	2.69	3.07	2.54	1.65
1.9 Studies Abroad	4991.07	531.18	198.82	277.50	405.48
1.10 Others	268.75	22.19	6.38	6.87	7.98

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

Item	2018-19	2019-20	2019	2020	
			September	August	September
	1	2	3	4	5
36-Currency Export and Trade Based Weights (Base: 2004-05=100)					
1 Trade-Based Weights					
1.1 NEER	72.64	73.28	73.20	69.81	70.83
1.2 REER	114.01	116.75	116.16	115.36	117.05
2 Export-Based Weights					
2.1 NEER	74.18	74.33	74.17	70.79	71.94
2.2 REER	116.32	119.61	118.89	118.79	120.71
6-Currency Trade Based Weights					
1 Base: 2004-05 (April-March) =100					
1.1 NEER	63.07	63.59	63.80	59.05	59.76
1.2 REER	121.70	125.76	125.99	122.50	124.04
2 Base: 2017-18 (April-March) =100					
2.1 NEER	92.88	93.63	93.95	86.95	88.01
2.2 REER	94.20	97.32	97.53	94.82	96.02

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

(Amount in US\$ Million)

Item	2019-20	2019	2020	
		Aug.	Jul.	Aug.
	1	2	3	4
1 Automatic Route				
1.1 Number	1292	115	96	97
1.2 Amount	38011	3167	848	1715
2 Approval Route				
2.1 Number	41	1	2	1
2.2 Amount	14921	150	1300	36
3 Total (1+2)				
3.1 Number	1333	116	98	98
3.2 Amount	52932	3317	2148	1751
4 Weighted Average Maturity (in years)	6.00	5.20	8.03	4.92
5 Interest Rate (per cent)				
5.1 Weighted Average Margin over 6-month LIBOR or reference rate for Floating Rate Loans	1.34	1.43	2.40	1.86
5.2 Interest rate range for Fixed Rate Loans	0.00-25.00	0.00-10.59	0.00-10.29	0.00-9.03

No. 38: India's Overall Balance of Payments

(US \$ Million)

Item	Apr-Jun 2019			Apr-Jun 2020(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
Overall Balance of Payments(1+2+3)	299344	285360	13984	249201	229355	19846
1 CURRENT ACCOUNT (1.1+ 1.2)	160681	175686	-15004	122408	102634	19774
1.1 MERCHANDISE	82707	129481	-46774	52308	62326	-10017
1.2 INVISIBLES (1.2.1+1.2.2+1.2.3)	77974	46204	31769	70100	40309	29791
1.2.1 Services	52196	32120	20075	46807	26304	20503
1.2.1.1 Travel	6950	6203	747	1848	2757	-909
1.2.1.2 Transportation	5343	6104	-761	4866	4216	649
1.2.1.3 Insurance	588	409	179	565	378	186
1.2.1.4 G.n.i.e.	151	307	-155	148	330	-182
1.2.1.5 Miscellaneous	39164	19098	20066	39380	18622	20758
1.2.1.5.1 Software Services	22811	1812	20998	22622	1849	20773
1.2.1.5.2 Business Services	11475	11715	-239	11282	11514	-232
1.2.1.5.3 Financial Services	1287	519	769	1009	1062	-52
1.2.1.5.4 Communication Services	700	284	415	707	304	403
1.2.2 Transfers	19963	1999	17964	18223	1237	16986
1.2.2.1 Official	35	295	-260	27	258	-231
1.2.2.2 Private	19928	1705	18224	18196	979	17217
1.2.3 Income	5815	12085	-6270	5070	12768	-7698
1.2.3.1 Investment Income	4463	11446	-6983	3706	12098	-8392
1.2.3.2 Compensation of Employees	1352	639	713	1364	669	695
2 CAPITAL ACCOUNT (2.1+2.2+2.3+2.4+2.5)	138298	109674	28624	126793	126241	552
2.1 Foreign Investment (2.1.1+2.1.2)	88733	69898	18835	74487	74237	250
2.1.1 Foreign Direct Investment	21555	7563	13993	11973	12365	-392
2.1.1.1 In India	21171	3976	17194	11829	9735	2094
2.1.1.1.1 Equity	16665	3957	12708	6993	9725	-2732
2.1.1.1.2 Reinvested Earnings	3349		3349	3957		3957
2.1.1.1.3 Other Capital	1157	19	1138	879	10	869
2.1.1.2 Abroad	384	3586	-3202	144	2630	-2486
2.1.1.2.1 Equity	384	1592	-1208	144	1117	-972
2.1.1.2.2 Reinvested Earnings	0	788	-788	0	796	-796
2.1.1.2.3 Other Capital	0	1206	-1206	0	718	-718
2.1.2 Portfolio Investment	67178	62335	4843	62514	61872	642
2.1.2.1 In India	67073	61916	5156	61869	60772	1098
2.1.2.1.1 FIIs	67073	61916	5156	61869	60772	1098
2.1.2.1.1.1 Equity	50491	47378	3112	52749	48334	4414
2.1.2.1.1.2 Debt	16582	14538	2044	9121	12437	-3317
2.1.2.1.2 ADR/GDRs	0	0	0	0	0	0
2.1.2.2 Abroad	105	419	-314	644	1100	-456
2.2 Loans (2.2.1+2.2.2+2.2.3)	22209	12648	9561	18508	16227	2281
2.2.1 External Assistance	3018	1550	1468	5735	1645	4090
2.2.1.1 By India	2	29	-27	2	27	-26
2.2.1.2 To India	3016	1521	1495	5733	1618	4116
2.2.2 Commercial Borrowings	9763	3660	6103	3756	5369	-1613
2.2.2.1 By India	881	742	140	442	1003	-562
2.2.2.2 To India	8881	2918	5963	3315	4366	-1051
2.2.3 Short Term to India	9428	7438	1990	9017	9213	-196
2.2.3.1 Buyers' credit & Suppliers' Credit >180 days	8028	7438	590	9017	8412	605
2.2.3.2 Suppliers' Credit up to 180 days	1400	0	1400	0	801	-801
2.3 Banking Capital (2.3.1+2.3.2)	17713	14280	3433	17690	15460	2230
2.3.1 Commercial Banks	17713	13897	3816	17690	14693	2997
2.3.1.1 Assets	6339	3595	2744	6865	4383	2482
2.3.1.2 Liabilities	11375	10302	1072	10825	10310	515
2.3.1.2.1 Non-Resident Deposits	10780	8026	2754	10653	7653	3000
2.3.2 Others	0	383	-383	0	767	-767
2.4 Rupee Debt Service	0	60	-60	0	55	-55
2.5 Other Capital	9643	12789	-3146	16108	20261	-4153
3 Errors & Omissions	365	0	365	0	480	-480
4 Monetary Movements (4.1+ 4.2)	0	13984	-13984	0	19846	-19846
4.1 I.M.F.				0	0	0
4.2 Foreign Exchange Reserves (Increase - / Decrease +)		13984	-13984		19846	-19846

Note : P : Preliminary

No. 39: India's Overall Balance of Payments

(₹ Crore)

Item	Apr-Jun 2019			Apr-Jun 2020(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
Overall Balance of Payments(1+2+3)	2081832	1984578	97254	1890800	1740218	150582
1 CURRENT ACCOUNT (1.1+ 1.2)	1117480	1221831	-104351	928766	778731	150034
1.1 MERCHANDISE	575199	900495	-325296	396887	472892	-76006
1.2 INVISIBLES (1.2.1+1.2.2+1.2.3)	542281	321335	220945	531879	305839	226040
1.2.1 Services	363004	223387	139617	355144	199578	155566
1.2.1.1 Travel	48335	43139	5196	14024	20918	-6894
1.2.1.2 Transportation	37157	42451	-5294	36918	31992	4926
1.2.1.3 Insurance	4088	2846	1242	4286	2872	1415
1.2.1.4 G.n.i.e.	1052	2133	-1081	1123	2504	-1381
1.2.1.5 Miscellaneous	272372	132817	139554	298793	141293	157500
1.2.1.5.1 Software Services	158639	12604	146036	171642	14027	157615
1.2.1.5.2 Business Services	79808	81470	-1663	85604	87365	-1761
1.2.1.5.3 Financial Services	8953	3608	5346	7659	8056	-396
1.2.1.5.4 Communication Services	4865	1976	2889	5364	2309	3055
1.2.2 Transfers	138837	13904	124933	138268	9387	128881
1.2.2.1 Official	242	2048	-1806	205	1959	-1754
1.2.2.2 Private	138595	11855	126740	138063	7428	130635
1.2.3 Income	40440	84045	-43605	38467	96874	-58407
1.2.3.1 Investment Income	31039	79602	-48563	28120	91796	-63677
1.2.3.2 Compensation of Employees	9401	4443	4958	10347	5077	5270
2 CAPITAL ACCOUNT (2.1+2.2+2.3+2.4+2.5)	961814	762747	199067	962034	957847	4187
2.1 Foreign Investment (2.1.1+2.1.2)	617107	486115	130992	565164	563268	1895
2.1.1 Foreign Direct Investment	149908	52595	97313	90846	93819	-2973
2.1.1.1 In India	147234	27655	119579	89752	73864	15889
2.1.1.1.1 Equity	115899	27522	88377	53061	73787	-20726
2.1.1.1.2 Reinvested Earnings	23291	0	23291	30021	0	30021
2.1.1.1.3 Other Capital	8045	133	7911	6671	77	6594
2.1.1.2 Abroad	2673	24939	-22266	1094	19955	-18862
2.1.1.2.1 Equity	2673	11075	-8402	1094	8472	-7378
2.1.1.2.2 Reinvested Earnings	0	5478	-5478	0	6038	-6038
2.1.1.2.3 Other Capital	0	8386	-8386	0	5446	-5446
2.1.2 Portfolio Investment	467199	433520	33679	474318	469449	4869
2.1.2.1 In India	466467	430607	35860	469430	461102	8328
2.1.2.1.1 FIIs	466467	430607	35860	469430	461102	8328
2.1.2.1.1.1 Equity	351144	329501	21644	400227	366734	33493
2.1.2.1.1.2 Debt	115323	101107	14216	69203	94368	-25165
2.1.2.1.2 ADR/GDRs	0	0	0	0	0	0
2.1.2.2 Abroad	732	2913	-2181	4888	8347	-3459
2.2 Loans (2.2.1+2.2.2+2.2.3)	154456	87960	66495	140429	123124	17305
2.2.1 External Assistance	20988	10780	10208	43513	12481	31031
2.2.1.1 By India	14	201	-187	12	208	-197
2.2.1.2 To India	20974	10579	10395	43501	12273	31228
2.2.2 Commercial Borrowings	67896	25451	42446	28501	40739	-12238
2.2.2.1 By India	6131	5157	974	3350	7612	-4262
2.2.2.2 To India	61766	20294	41472	25151	33127	-7976
2.2.3 Short Term to India	65571	51730	13841	68416	69904	-1488
2.2.3.1 Buyers' credit & Suppliers' Credit >180 days	55835	51730	4105	68416	63825	4591
2.2.3.2 Suppliers' Credit up to 180 days	9737	0	9737	0	6079	-6079
2.3 Banking Capital (2.3.1+2.3.2)	123189	99311	23878	134220	117303	16917
2.3.1 Commercial Banks	123189	96648	26540	134220	111481	22739
2.3.1.1 Assets	44083	25000	19082	52088	33257	18831
2.3.1.2 Liabilities	79106	71648	7458	82132	78223	3908
2.3.1.2.1 Non-Resident Deposits	74973	55820	19153	80826	58063	22763
2.3.2 Others	0	2662	-2662	0	5823	-5823
2.4 Rupee Debt Service	0	418	-418	0	419	-419
2.5 Other Capital	67063	88944	-21881	122221	153732	-31511
3 Errors & Omissions	2538	0	2538	0	3640	-3640
4 Monetary Movements (4.1+ 4.2)	0	97254	-97254	0	150582	-150582
4.1 I.M.F.	0	0	0	0	0	0
4.2 Foreign Exchange Reserves (Increase - / Decrease +)	0	97254	-97254	0	150582	-150582

Note : P: Preliminary

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

(US \$ Million)

Item	Apr-Jun 2019			Apr-Jun 2020(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
1 Current Account (1.A+1.B+1.C)	160681	175657	-14977	122408	102610	19798
1.A Goods and Services (1.A.a+1.A.b)	134903	161602	-26699	99115	88629	10486
1.A.a Goods (1.A.a.1 to 1.A.a.3)	82707	129481	-46774	52308	62326	-10017
1.A.a.1 General merchandise on a BOP basis	82183	118031	-35848	52172	61638	-9466
1.A.a.2 Net exports of goods under merchandising	524	0	524	137	0	137
1.A.a.3 Nonmonetary gold		11450	-11450	0	688	-688
1.A.b Services (1.A.b.1 to 1.A.b.13)	52196	32120	20075	46807	26304	20503
1.A.b.1 Manufacturing services on physical inputs owned by others	33	18	14	77	6	71
1.A.b.2 Maintenance and repair services n.i.e.	45	413	-368	32	128	-97
1.A.b.3 Transport	5343	6104	-761	4866	4216	649
1.A.b.4 Travel	6950	6203	747	1848	2757	-909
1.A.b.5 Construction	754	754	0	659	625	34
1.A.b.6 Insurance and pension services	588	409	179	565	378	186
1.A.b.7 Financial services	1287	519	769	1009	1062	-52
1.A.b.8 Charges for the use of intellectual property n.i.e.	319	2091	-1771	399	1847	-1448
1.A.b.9 Telecommunications, computer, and information services	23604	2207	21397	23395	2269	21126
1.A.b.10 Other business services	11475	11715	-239	11282	11514	-232
1.A.b.11 Personal, cultural, and recreational services	532	631	-99	500	347	153
1.A.b.12 Government goods and services n.i.e.	151	307	-155	148	330	-182
1.A.b.13 Others n.i.e.	1114	750	364	2026	823	1203
1.B Primary Income (1.B.1 to 1.B.3)	5815	12085	-6270	5070	12768	-7698
1.B.1 Compensation of employees	1352	639	713	1364	669	695
1.B.2 Investment income	3247	11246	-7999	3096	11916	-8820
1.B.2.1 Direct investment	1607	4790	-3183	1349	7410	-6061
1.B.2.2 Portfolio investment	46	2503	-2457	24	1222	-1198
1.B.2.3 Other investment	163	3938	-3774	66	3280	-3214
1.B.2.4 Reserve assets	1431	15	1415	1657	4	1653
1.B.3 Other primary income	1216	200	1016	610	182	428
1.C Secondary Income (1.C.1+1.C.2)	19963	1971	17992	18223	1212	17010
1.C.1 Financial corporations, nonfinancial corporations, households, and NPISHs	19928	1705	18224	18196	979	17217
1.C.1.1 Personal transfers (Current transfers between resident and/	19303	1217	18086	17596	739	16857
1.C.1.2 Other current transfers	625	487	138	600	240	360
1.C.2 General government	34	266	-232	26	234	-207
2 Capital Account (2.1+2.2)	87	909	-822	91	871	-780
2.1 Gross acquisitions (DR.) / disposals (CR.) of non-produced nonfinancial assets	11	824	-813	5	790	-786
2.2 Capital transfers	76	85	-9	86	81	5
3 Financial Account (3.1 to 3.5)	138212	122778	15434	126703	145241	-18538
3.1 Direct Investment (3.1A+3.1B)	21555	7563	13993	11973	12365	-392
3.1.A Direct Investment in India	21171	3976	17194	11829	9735	2094
3.1.A.1 Equity and investment fund shares	20014	3957	16057	10950	9725	1225
3.1.A.1.1 Equity other than reinvestment of earnings	16665	3957	12708	6993	9725	-2732
3.1.A.1.2 Reinvestment of earnings	3349		3349	3957	0	3957
3.1.A.2 Debt instruments	1157	19	1138	879	10	869
3.1.A.2.1 Direct investor in direct investment enterprises	1157	19	1138	879	10	869
3.1.B Direct Investment by India	384	3586	-3202	144	2630	-2486
3.1.B.1 Equity and investment fund shares	384	2380	-1996	144	1912	-1768
3.1.B.1.1 Equity other than reinvestment of earnings	384	1592	-1208	144	1117	-972
3.1.B.1.2 Reinvestment of earnings		788	-788	0	796	-796
3.1.B.2 Debt instruments	0	1206	-1206	0	718	-718
3.1.B.2.1 Direct investor in direct investment enterprises		1206	-1206	0	718	-718
3.2 Portfolio Investment	67178	62335	4843	62514	61872	642
3.2.A Portfolio Investment in India	67073	61916	5156	61869	60772	1098
3.2.1 Equity and investment fund shares	50491	47378	3112	52749	48334	4414
3.2.2 Debt securities	16582	14538	2044	9121	12437	-3317
3.2.B Portfolio Investment by India	105	419	-314	644	1100	-456
3.3 Financial derivatives (other than reserves) and employee stock options	6703	5182	1521	11241	11303	-63
3.4 Other investment	42776	33714	9061	40975	39854	1121
3.4.1 Other equity (ADRs/GDRs)	0	0	0	0	0	0
3.4.2 Currency and deposits	10780	8409	2371	10653	8420	2233
3.4.2.1 Central bank (Rupee Debt Movements; NRG)	0	383	-383	0	767	-767
3.4.2.2 Deposit-taking corporations, except the central bank (NRI Deposits)	10780	8026	2754	10653	7653	3000
3.4.2.3 General government				0	0	0
3.4.2.4 Other sectors				0	0	0
3.4.3 Loans (External Assistance, ECBs and Banking Capital)	19714	11080	8633	16528	14054	2474
3.4.3.A Loans to India	18830	10310	8520	16085	13024	3061
3.4.3.B Loans by India	884	770	113	443	1031	-588
3.4.4 Insurance, pension, and standardized guarantee schemes	46	176	-131	40	47	-7
3.4.5 Trade credit and advances	9428	7438	1990	9017	9213	-196
3.4.6 Other accounts receivable/payable - other	2808	6611	-3803	4737	8119	-3382
3.4.7 Special drawing rights			0	0	0	0
3.5 Reserve assets	0	13984	-13984	0	19846	-19846
3.5.1 Monetary gold				0	0	0
3.5.2 Special drawing rights n.a.				0	0	0
3.5.3 Reserve position in the IMF n.a.				0	0	0
3.5.4 Other reserve assets (Foreign Currency Assets)	0	13984	-13984	0	19846	-19846
4 Total assets/liabilities	138212	122778	15434	126703	145241	-18538
4.1 Equity and investment fund shares	77743	59493	18250	75768	72422	3346
4.2 Debt instruments	57661	42691	14971	46198	44853	1345
4.3 Other financial assets and liabilities	2808	20594	-17787	4737	27966	-23228
5 Net errors and omissions	365		365	0	480	-480

Note : P : Preliminary

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

(₹ Crore)

Item	Apr-Jun 2019			Apr-Jun 2020(P)		
	Credit	Debit	Net	Credit	Debit	Net
	1	2	3	4	5	6
1 Current Account (1.A+1.B+1.C)	1117477	1221634	-104157	928760	778544	150216
1.A Goods and Services (1.A.a+1.A.b)	938203	1123882	-185679	752031	672471	79560
1.A.a Goods (1.A.a.1 to 1.A.a.3)	575199	900495	-325296	396887	472892	-76006
1.A.a.1 General merchandise on a BOP basis	571553	820866	-249314	395848	467673	-71825
1.A.a.2 Net exports of goods under merchanting	3646	0	3646	1038	0	1038
1.A.a.3 Nonmonetary gold	0	79629	-79629	0	5219	-5219
1.A.b Services (1.A.b.1 to 1.A.b.13)	363004	223387	139617	355144	199578	155566
1.A.b.1 Manufacturing services on physical inputs owned by others	227	127	100	588	45	542
1.A.b.2 Maintenance and repair services n.i.e.	312	2872	-2560	241	975	-733
1.A.b.3 Transport	37157	42451	-5294	36918	31992	4926
1.A.b.4 Travel	48335	43139	5196	14024	20918	-6894
1.A.b.5 Construction	5245	5244	1	5003	4743	260
1.A.b.6 Insurance and pension services	4088	2846	1242	4286	2872	1415
1.A.b.7 Financial services	8953	3608	5346	7659	8056	-396
1.A.b.8 Charges for the use of intellectual property n.i.e.	2221	14539	-12318	3026	14016	-10990
1.A.b.9 Telecommunications, computer, and information services	164158	15349	148809	177507	17215	160292
1.A.b.10 Other business services	79808	81470	-1663	85604	87365	-1761
1.A.b.11 Personal, cultural, and recreational services	3700	4390	-690	3792	2632	1160
1.A.b.12 Government goods and services n.i.e.	1052	2133	-1081	1123	2504	-1381
1.A.b.13 Others n.i.e.	7747	5217	2529	15373	6247	9126
1.B Primary Income (1.B.1 to 1.B.3)	40440	84045	-43605	38467	96874	-58407
1.B.1 Compensation of employees	9401	4443	4958	10347	5077	5270
1.B.2 Investment income	22585	78213	-55628	23494	90414	-66921
1.B.2.1 Direct investment	11179	33314	-22134	10234	56223	-45989
1.B.2.2 Portfolio investment	321	17407	-17086	185	9273	-9088
1.B.2.3 Other investment	1136	27386	-26250	500	24885	-24385
1.B.2.4 Reserve assets	9949	107	9842	12574	34	12540
1.B.3 Other primary income	8454	1389	7065	4626	1382	3244
1.C Secondary Income (1.C.1+1.C.2)	138835	13707	125128	138262	9200	129063
1.C.1 Financial corporations, nonfinancial corporations, households, and NPISHs	138595	11855	126740	138063	7428	130635
1.C.1.1 Personal transfers (Current transfers between resident and/	134248	8465	125782	133511	5606	127905
1.C.1.2 Other current transfers	4347	3390	957	4553	1822	2731
1.C.2 General government	239	1852	-1612	199	1772	-1573
2 Capital Account (2.1+2.2)	603	6322	-5719	690	6611	-5921
2.1 Gross acquisitions (DR./)disposals (CR.) of non-produced nonfinancial assets	76	5731	-5655	34	5996	-5961
2.2 Capital transfers	527	591	-64	656	615	41
3 Financial Account (3.1 to 3.5)	961214	853875	107338	961350	1102005	-140655
3.1 Direct Investment (3.1.A+3.1.B)	149908	52595	97313	90846	93819	-2973
3.1.A Direct Investment in India	147234	27655	119579	89752	73864	15889
3.1.A.1 Equity and investment fund shares	139190	27522	111668	83082	73787	9295
3.1.A.1.1 Equity other than reinvestment of earnings	115899	27522	88377	53061	73787	-20726
3.1.A.1.2 Reinvestment of earnings	23291	0	23291	30021	0	30021
3.1.A.2 Debt instruments	8045	133	7911	6671	77	6594
3.1.A.2.1 Direct investor in direct investment enterprises	8045	133	7911	6671	77	6594
3.1.B Direct Investment by India	2673	24939	-22266	1094	19955	-18862
3.1.B.1 Equity and investment fund shares	2673	16553	-13880	1094	14510	-13416
3.1.B.1.1 Equity other than reinvestment of earnings	2673	11075	-8402	1094	8472	-7378
3.1.B.1.2 Reinvestment of earnings	0	5478	-5478	0	6038	-6038
3.1.B.2 Debt instruments	0	8386	-8386	0	5446	-5446
3.1.B.2.1 Direct investor in direct investment enterprises	0	8386	-8386	0	5446	-5446
3.2 Portfolio Investment	467199	433520	33679	474318	469449	4869
3.2.A Portfolio Investment in India	466467	430607	35860	469430	461102	8328
3.2.1 Equity and investment fund shares	351144	329501	21644	400227	366734	33493
3.2.2 Debt securities	115323	101107	14216	69203	94368	-25165
3.2.B Portfolio Investment by India	732	2913	-2181	4888	8347	-3459
3.3 Financial derivatives (other than reserves) and employee stock options	46618	36037	10581	85289	85765	-476
3.4 Other investment	297489	234470	63019	310898	302390	8507
3.4.1 Other equity (ADRs/GDRs)	0	0	0	0	0	0
3.4.2 Currency and deposits	74973	58482	16490	80826	63886	16940
3.4.2.1 Central bank (Rupee Debt Movements; NRG)	0	2662	-2662	0	5823	-5823
3.4.2.2 Deposit-taking corporations, except the central bank (NRI Deposits)	74973	55820	19153	80826	58063	22763
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)	137100	77059	60042	125407	106637	18770
3.4.3.A Loans to India	130956	71701	59255	122045	98817	23228
3.4.3.B Loans by India	6145	5358	787	3361	7820	-4459
3.4.4 Insurance, pension, and standardized guarantee schemes	318	1226	-908	306	358	-53
3.4.5 Trade credit and advances	65571	51730	13841	68416	69904	-1488
3.4.6 Other accounts receivable/payable - other	19527	45974	-26447	35943	61605	-25662
3.4.7 Special drawing rights	0	0	0	0	0	0
3.5 Reserve assets	0	97254	-97254	0	150582	-150582
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	97254	-97254	0	150582	-150582
4 Total assets/liabilities	961214	853875	107338	961350	1102005	-140655
4.1 Equity and investment fund shares	540675	413751	126924	574885	549501	25384
4.2 Debt instruments	401012	296897	104115	350523	340318	10205
4.3 Other financial assets and liabilities	19527	143227	-123700	35943	212187	-176244
5 Net errors and omissions	2538	0	2538	0	3640	-3640

Note : P: Preliminary

No. 42: International Investment Position

(US\$ Million)

Item	As on Financial Year /Quarter End							
	2019-20		2019		2020			
			Jun.		Mar.		Jun.	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
1	2	3	4	5	6	7	8	
1 Direct Investment Abroad/in India	182957	418239	173165	417609	182957	418239	185442	419312
1.1 Equity Capital and Reinvested Earnings	118442	395426	113118	399712	118442	395426	120210	395918
1.2 Other Capital	64515	22813	60047	17897	64515	22813	65233	23394
2 Portfolio Investment	3847	246701	5012	266822	3847	246701	4303	241581
2.1 Equity	602	134778	1806	151162	602	134778	824	138961
2.2 Debt	3246	111923	3206	115660	3246	111923	3480	102621
3 Other Investment	52422	427438	54140	429324	52422	427438	52489	432702
3.1 Trade Credit	1460	104277	2121	107226	1460	104277	1233	103988
3.2 Loan	6741	179767	9762	173725	6741	179767	7435	184385
3.3 Currency and Deposits	26011	130761	24169	133846	26011	130761	27741	132942
3.4 Other Assets/Liabilities	18210	12634	18089	14529	18210	12634	16080	11387
4 Reserves	477807		429837		477807		505702	
5 Total Assets/ Liabilities	717033	1092378	662155	1113756	717033	1092378	747937	1093595
6 IIP (Assets - Liabilities)		-375345		-451601		-375345		-345658

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	2019	2020		FY 2019-20	2019	2020	
		Aug.	Jul.	Aug.		Aug.	Jul.	Aug.
	1	2	3	4	5	6	7	8
A. Settlement Systems								
Financial Market Infrastructures (FMIs)								
1 CCIL Operated Systems (1.1 to 1.3)	–	–	2.52	2.28	–	–	14102229	12576300
1.1 Govt. Securities Clearing (1.1.1 to 1.1.3)	–	–	1.22	0.96	–	–	9407660	8614891
1.1.1 Outright	–	–	0.73	0.52	–	–	1146554	867395
1.1.2 Repo	–	–	0.29	0.27	–	–	4098668	3793333
1.1.3 Tri-party Repo	–	–	0.20	0.18	–	–	4162438	3954162
1.2 Forex Clearing	–	–	1.28	1.28	–	–	4544294	3749569
1.3 Rupee Derivatives @	–	–	0.02	0.03	–	–	150275	211840
B. Payment Systems								
I Financial Market Infrastructures (FMIs)								
1 Credit Transfers - RTGS (1.1 to 1.2)	–	–	124.76	116.77	–	–	8335279	7292380
1.1 Customer Transactions	–	–	123.22	115.29	–	–	7137945	6382552
1.2 Interbank Transactions	–	–	1.55	1.49	–	–	1197334	909828
II Retail								
2 Credit Transfers - Retail (2.1 to 2.7)	–	–	21832.34	23968.09	–	–	2587356	2556825
2.1 AePS (Fund Transfers) @	–	–	0.86	0.89	–	–	45	46
2.2 APBS \$	–	–	1182.38	1196.39	–	–	8976	8313
2.3 ECS Cr	–	–	0.00	0.00	–	–	–	–
2.4 IMPS	–	–	2220.99	2461.25	–	–	225775	235137
2.5 NACH Cr \$	–	–	1053.54	1775.18	–	–	98909	84468
2.6 NEFT	–	–	2401.03	2346.09	–	–	1963113	1930552
2.7 UPI @	–	–	14973.54	16188.28	–	–	290538	298308
2.7.1 of which USSD @	–	–	0.91	0.92	–	–	15	15
3 Debit Transfers and Direct Debits (3.1 to 3.4)	–	–	855.71	857.28	–	–	68356	67146
3.1 BHIM Aadhaar Pay @	–	–	15.96	19.50	–	–	216	253
3.2 ECS Dr	–	–	0.00	0.00	–	–	–	–
3.3 NACH Dr \$	–	–	801.08	791.81	–	–	68083	66830
3.4 NETC (linked to bank account) @	–	–	38.67	45.96	–	–	56	63
4 Card Payments (4.1 to 4.2)	–	–	4578.31	4914.48	–	–	112039	122089
4.1 Credit Cards (4.1.1 to 4.1.2)	–	–	1319.66	1425.11	–	–	45558	50311
4.1.1 PoS based \$	–	–	601.63	659.47	–	–	20107	21001
4.1.2 Others \$	–	–	718.03	765.64	–	–	25451	29310
4.2 Debit Cards (4.2.1 to 4.2.1)	–	–	3258.65	3489.38	–	–	66481	71778
4.2.1 PoS based \$	–	–	1461.94	1647.47	–	–	25821	29525
4.2.2 Others \$	–	–	1796.71	1841.91	–	–	40660	42253
5 Prepaid Payment Instruments (5.1 to 5.2)	–	–	3987.42	4932.61	–	–	15521	16808
5.1 Wallets	–	–	3205.59	3967.82	–	–	12892	13000
5.2 Cards (5.2.1 to 5.2.2)	–	–	781.83	964.79	–	–	2629	3808
5.2.1 PoS based \$	–	–	24.49	29.20	–	–	628	737
5.2.2 Others \$	–	–	757.34	935.59	–	–	2002	3072
6 Paper-based Instruments (6.1 to 6.2)	–	–	532.38	519.83	–	–	434072	425462
6.1 CTS (NPCI Managed)	–	–	532.24	519.72	–	–	433799	425252
6.2 Others	–	–	0.14	0.11	–	–	272	210
Total - Retail Payments (2+3+4+5+6)	–	–	31786.17	35192.30	–	–	3217344	3188330
Total Payments (1+2+3+4+5+6)	–	–	31910.93	35309.07	–	–	11552623	10480709
Total Digital Payments (1+2+3+4+5)	–	–	31378.55	34789.24	–	–	11118551	10055248

PART II - Payment Modes and Channels

System	Volume (Lakh)				Value (₹ Crore)			
	FY 2019-20	2019	2020		FY 2019-20	2019	2020	
		Aug.	Jul.	Aug.		Aug.	Jul.	Aug.
	1	2	3	4	5	6	7	8
A. Other Payment Channels								
1 Mobile Payments (mobile app based) (1.1 to 1.2)	–	–	17281.26	19521.47	–	–	637489	667279
1.1 Intra-bank \$	–	–	1574.10	1682.30	–	–	130568	138564
1.2 Inter-bank \$	–	–	15707.16	17839.17	–	–	506921	528715
2 Internet Payments (Netbanking / Internet Browser Based) @ (2.1 to 2.2)	–	–	2673.76	2651.34	–	–	3251167	3006656
2.1 Intra-bank @	–	–	582.31	557.18	–	–	1595612	1494618
2.2 Inter-bank @	–	–	2091.45	2094.17	–	–	1655556	1512038
B. ATMs								
3 Cash Withdrawal at ATMs \$ (3.1 to 3.3)	–	–	4708.63	4884.50	–	–	234119	238675
3.1 Using Credit Cards \$	–	–	3.29	3.66	–	–	167	184
3.2 Using Debit Cards \$	–	–	4686.13	4860.29	–	–	233256	237778
3.3 Using Pre-paid Cards \$	–	–	19.20	20.55	–	–	697	713
4 Cash Withdrawal at PoS \$ (4.1 to 4.2)	–	–	33.57	32.48	–	–	136	134
4.1 Using Debit Cards \$	–	–	30.67	27.89	–	–	132	129
4.2 Using Pre-paid Cards \$	–	–	2.90	4.60	–	–	3	5
5 Cash Withdrawal at Micro ATMs @	–	–	743.41	814.30	–	–	17469	19513
5.1 AePS @	–	–	743.41	814.30	–	–	17469	19513

PART III - Payment Infrastructures (Lakh)

System	FY 2019-20	2019	2020	
		Aug.	Jul.	Aug.
	1	2	3	4
Payment System Infrastructures				
1 Number of Cards (1.1 to 1.2)	–	–	9099.87	9165.41
1.1 Credit Cards	–	–	576.32	578.31
1.2 Debit Cards	–	–	8523.55	8587.10
2 Number of PPIs @ (2.1 to 2.2)	–	–	19272.63	20134.06
2.1 Wallets @	–	–	17749.31	18482.49
2.2 Cards @	–	–	1523.32	1651.58
3 Number of ATMs (3.1 to 3.2)	–	–	2.34	2.33
3.1 Bank owned ATMs \$	–	–	2.10	2.09
3.2 White Label ATMs \$	–	–	0.24	0.24
4 Number of Micro ATMs @	–	–	3.06	3.07
5 Number of PoS Terminals	–	–	50.80	51.07
6 Bharat QR @	–	–	22.37	22.99

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

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

Note : 1. Data is provisional.

2. The data for November 2019 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.

3. 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	
	Jun.	Sep.	Dec.	Mar.	Jun.
	1	2	3	4	5
(A) Total (in ₹. Crore)	6072243	6314426	6512659	6486585	6704983
1 Commercial Banks	39.05	39.66	39.05	40.41	38.98
2 Non-Bank PDs	0.36	0.42	0.39	0.39	0.36
3 Insurance Companies	24.88	24.86	24.90	25.09	26.24
4 Mutual Funds	0.64	0.77	1.53	1.43	2.02
5 Co-operative Banks	2.17	2.01	1.97	1.90	1.86
6 Financial Institutions	1.05	1.15	1.14	0.53	1.19
7 Corporates	0.99	0.92	0.84	0.81	0.78
8 Foreign Portfolio Investors	3.27	3.31	3.33	2.44	1.79
9 Provident Funds	5.35	4.87	4.93	4.72	4.96
10 RBI	15.67	14.99	14.72	15.13	14.70
11. Others	6.57	7.05	7.23	7.17	7.11
11.1 State Governments	2.02	1.99	1.97	2.05	1.99

State Governments Securities					
Category	2019			2020	
	Jun.	Sep.	Dec.	Mar.	Jun.
	1	2	3	4	5
(B) Total (in ₹. Crore)	2826935	2905169	3047353	3265990	3393099
1 Commercial Banks	32.57	32.53	32.46	34.99	33.54
2 Non-Bank PDs	0.81	0.72	0.64	0.76	0.74
3 Insurance Companies	33.94	33.39	32.50	31.63	30.85
4 Mutual Funds	1.24	1.12	1.20	1.14	1.74
5 Co-operative Banks	4.65	4.24	4.16	4.12	4.38
6 Financial Institutions	0.44	0.33	0.31	0.11	1.96
7 Corporates	0.32	0.28	0.31	0.30	0.31
8 Foreign Portfolio Investors	0.08	0.05	0.04	0.02	0.02
9 Provident Funds	21.88	22.36	23.66	22.22	21.70
10 RBI	0.00	0.00	0.00	0.00	0.00
11. Others	4.08	4.98	4.73	4.71	4.78
11.1 State Governments	0.14	0.16	0.17	0.18	0.18

Treasury Bills					
Category	2019			2020	
	Jun.	Sep.	Dec.	Mar.	Jun.
	1	2	3	4	5
(C) Total (in ₹. Crore)	524618	538041	514588	538409	881362
1 Commercial Banks	53.60	50.81	45.19	61.06	46.11
2 Non-Bank PDs	1.85	1.92	2.07	2.26	1.48
3 Insurance Companies	5.13	5.55	5.76	7.45	4.64
4 Mutual Funds	13.00	14.08	20.42	13.24	23.45
5 Co-operative Banks	2.54	2.55	2.07	2.55	1.95
6 Financial Institutions	2.14	1.82	2.12	0.58	1.67
7 Corporates	1.67	1.57	1.66	1.89	1.43
8 Foreign Portfolio Investors	0.00	0.00	0.00	0.00	0.00
9 Provident Funds	0.07	0.01	0.01	0.02	0.05
10 RBI	0.00	0.00	0.00	0.00	11.27
11. Others	19.99	21.70	20.70	10.95	7.95
11.1 State Governments	15.59	17.91	16.36	6.22	4.35

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	4592774	5384046	5891729
1.1 Developmental	2201287	2537905	2635110	2561817	3136568	3399617
1.1.1 Revenue	1668250	1878417	2029044	1969188	2429965	2600308
1.1.2 Capital	412069	501213	519356	536064	631770	701186
1.1.3 Loans	120968	158275	86710	56564	74832	98122
1.2 Non-Developmental	1510810	1672646	1812455	1961322	2163599	2405700
1.2.1 Revenue	1379727	1555239	1741432	1851432	2049076	2283365
1.2.1.1 Interest Payments	648091	724448	814757	857042	931418	1043241
1.2.2 Capital	127306	115775	69370	108929	113301	120954
1.2.3 Loans	3777	1632	1654	960	1222	1381
1.3 Others	48514	55417	68381	69635	83878	86413
2 Total Receipts	3778049	4288432	4528422	4575665	5286292	5953495
2.1 Revenue Receipts	2748374	3132201	3376416	3422206	3938252	4364500
2.1.1 Tax Receipts	2297101	2622145	2978134	3009930	3282501	3670364
2.1.1.1 Taxes on commodities and services	1440952	1652377	1853859	1844705	1970009	2232599
2.1.1.2 Taxes on Income and Property	852271	965622	1121189	1162411	1308313	1433265
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	412276	655751	694136
2.1.2.1 Interest Receipts	35779	33220	34224	35055	32612	30156
2.2 Non-debt Capital Receipts	59827	69063	142433	138195	124128	230396
2.2.1 Recovery of Loans & Advances	16561	20942	42213	42587	57120	16526
2.2.2 Disinvestment proceeds	43266	48122	100219	95608	67008	213870
3 Gross Fiscal Deficit [1 - (2.1 + 2.2)]	952410	1064704	997097	1032373	1321665	1296834
3A Sources of Financing: Institution-wise						
3A.1 Domestic Financing	939662	1046708	989167	1026854	1316732	1292212
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	639763	798639	----
3A.2 External Financing	12748	17997	7931	5519	4933	4622
3B Sources of Financing: Instrument-wise						
3B.1 Domestic Financing	939662	1046708	989167	1026854	1316732	1292212
3B.1.1 Market Borrowings (net)	673298	689821	794856	750757	904031	1016941
3B.1.2 Small Savings (net)	-78515	-105038	-163222	-198597	-311548	-286577
3B.1.3 State Provident Funds (net)	35261	45688	42351	40944	35814	37517
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	17108	97754	-61765
3B.1.7 Others	316908	427343	284095	368651	557975	547131
3B.2 External Financing	12748	17997	7931	5519	4933	4622
<i>4 Total Disbursements as per cent of GDP</i>	<i>27.3</i>	<i>27.7</i>	<i>26.4</i>	<i>24.2</i>	<i>26.5</i>	<i>26.2</i>
<i>5 Total Receipts as per cent of GDP</i>	<i>27.4</i>	<i>27.9</i>	<i>26.5</i>	<i>24.1</i>	<i>26.0</i>	<i>26.5</i>
<i>6 Revenue Receipts as per cent of GDP</i>	<i>20.0</i>	<i>20.3</i>	<i>19.7</i>	<i>18.0</i>	<i>19.4</i>	<i>19.4</i>
<i>7 Tax Receipts as per cent of GDP</i>	<i>16.7</i>	<i>17.0</i>	<i>17.4</i>	<i>15.9</i>	<i>16.1</i>	<i>16.3</i>
<i>8 Gross Fiscal Deficit as per cent of GDP</i>	<i>6.9</i>	<i>6.9</i>	<i>5.8</i>	<i>5.4</i>	<i>6.5</i>	<i>5.8</i>

...: 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 August-2020					
		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	1195	31	1637	31	1297	6
2	Arunachal Pradesh	-	-	-	-	-	-
3	Assam	-	-	-	-	-	-
4	Bihar	-	-	-	-	-	-
5	Chhattisgarh	-	-	-	-	-	-
6	Goa	103	14	35	7	-	-
7	Gujarat	-	-	-	-	-	-
8	Haryana	278	17	258	8	-	-
9	Himachal Pradesh	-	-	413	13	-	-
10	Jammu & Kashmir UT	-	-	1171	31	349	2
11	Jharkhand	-	-	-	-	-	-
12	Karnataka	-	-	-	-	-	-
13	Kerala	196	22	961	16	147	3
14	Madhya Pradesh	-	-	-	-	-	-
15	Maharashtra	1483	14	-	-	-	-
16	Manipur	41	15	116	8	-	-
17	Meghalaya	-	-	-	-	-	-
18	Mizoram	-	-	-	-	-	-
19	Nagaland	327	31	194	31	102	6
20	Odisha	-	-	-	-	-	-
21	Puducherry	-	-	-	-	-	-
22	Punjab	232	13	262	3	-	-
23	Rajasthan	-	-	-	-	-	-
24	Tamil Nadu	-	-	-	-	-	-
25	Telangana	1329	31	1092	29	756	8
26	Tripura	-	-	-	-	-	-
27	Uttar Pradesh	-	-	-	-	-	-
28	Uttarakhand	195	27	-	-	-	-
29	West Bengal	810	9	-	-	-	-

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 August 2020			
		Consolidated Sinking Fund (CSF)	Guarantee Redemption Fund (GRF)	Government Securities	Auction Treasury Bills (ATBs)
	1	2	3	4	5
1	Andhra Pradesh	8271	815	--	-
2	Arunachal Pradesh	1446	2	--	-
3	Assam	4436	54	--	-
4	Bihar	6974	--	--	-
5	Chhattisgarh	4416	--	1	4750
6	Goa	593	299	--	-
7	Gujarat	12033	480	--	-
8	Haryana	2082	1199	--	-
9	Himachal Pradesh	--	--	--	-
10	Jammu & Kashmir UT	--	--	--	-
11	Jharkhand	89	--	--	-
12	Karnataka	4222	--	--	13000
13	Kerala	2141	--	--	-
14	Madhya Pradesh	--	915	--	-
15	Maharashtra	41069	428	--	19000
16	Manipur	378	100	--	-
17	Meghalaya	665	36	9	-
18	Mizoram	462	39	--	-
19	Nagaland	1635	33	--	-
20	Odisha	13370	1452	84	16760
21	Puducherry	292	--	--	931
22	Punjab	695	--	8	-
23	Rajasthan	--	--	129	2000
24	Tamil Nadu	6620	--	40	8677
25	Telangana	5658	1233	--	-
26	Tripura	372	9	--	-
27	Uttar Pradesh	375	--	180	-
28	Uttarakhand	3146	79	--	-
29	West Bengal	10124	531	214	-
	Total	131563	7705	664	65118

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	
		Gross Amount Raised	Net Amount Raised	Gross Amount Raised	Net Amount Raised	June		July		August		Gross	Net
						Gross Amount Raised	Net Amount Raised	Gross Amount Raised	Net Amount Raised	Gross Amount Raised	Net Amount Raised		
1	2	3	4	5	6	7	8	9	10	11	12	13	
1	Andhra Pradesh	30200	23824	42415	33444	4000	3417	5000	4417	5250	4667	24250	20751
2	Arunachal Pradesh	719	693	1366	1287	-	-	-	-	-	-	428	428
3	Assam	10595	8089	12906	10996	-	-	500	500	-	-	1000	1000
4	Bihar	14300	10903	25601	22601	-	-	4000	4000	4000	4000	8000	7000
5	Chhattisgarh	12900	12900	11680	10980	-	-	-	-	1300	1300	1300	1300
6	Goa	2350	1850	2600	2000	200	200	200	200	200	200	1100	1000
7	Gujarat	36971	27437	38900	28600	1500	1500	2700	1950	5000	4000	14280	11323
8	Haryana	21265	17970	24677	20677	-	-	2000	2000	3000	3000	14000	12200
9	Himachal Pradesh	4210	2108	6580	4460	-	-800	500	500	-	-	500	-300
10	Jammu & Kashmir UT	6684	4927	7869	6760	400	400	800	300	800	300	3300	1800
11	Jharkhand	5509	4023	7500	5656	-	-	-	-	-	-	-	-500
12	Karnataka	39600	32183	48500	42500	3000	3000	5000	5000	7000	7000	19000	19000
13	Kerala	19500	13984	18073	12617	2500	2500	1500	1500	1000	1000	13930	13930
14	Madhya Pradesh	20496	15001	22371	16550	1000	1000	2000	2000	2000	2000	9000	9000
15	Maharashtra	20869	3107	48498	32998	11500	10623	8000	7000	3000	2154	34500	31777
16	Manipur	970	667	1757	1254	100	100	150	150	100	100	700	700
17	Meghalaya	1122	863	1344	1070	-	-	200	200	-	-	200	200
18	Mizoram	0	-123	900	745	60	60	150	150	-	-	310	210
19	Nagaland	822	355	1000	423	-	-	150	150	-	-	350	250
20	Odisha	5500	4500	7500	6500	-	-	-	-	-	-	3000	3000
21	Puducherry	825	475	970	470	-	-	-	-	-	-	-	-
22	Punjab	22115	17053	27355	18470	1600	1600	1250	1250	2250	1750	7700	6400
23	Rajasthan	33178	20186	39092	24686	7250	3938	6000	5000	3450	2950	23950	18638
24	Sikkim	1088	795	809	481	-	-	-	-	-	-	467	467
25	Tamil Nadu	43125	32278	62425	49826	9500	8563	10000	8131	9250	7375	44750	40069
26	Telangana	26740	22183	37109	30697	4461	4044	3000	2583	3000	2583	18461	15960
27	Tripura	1543	1387	2928	2578	-	-100	-	-	-	-	-	-100
28	Uttar Pradesh	46000	33307	69703	52744	-	-2033	1000	-	1000	-200	7500	-733
29	Uttarakhand	6300	5289	5100	4500	-	-	-	-200	-	-	1000	300
30	West Bengal	42828	30431	56992	40882	1000	-	5500	4500	4000	3500	17500	11000
	Grand Total	478323	348643	634521	487454	48071	38011	59600	51281	55600	47679	270476	226069

- : 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

NM₂ and NM₃ do not include FCNR (B) deposits.
 2.4: Consist of paid-up capital and reserves.
 2.5: includes other demand and time liabilities of the banking system.

Table No. 9

Financial institutions comprise EXIM Bank, SIDBI, NABARD and NHB.
 L₁ and L₂ are compiled monthly and L₃ quarterly.
 Wherever data are not available, the last available data have been repeated.

Table No. 13

Data against column Nos. (1), (2) & (3) are Final (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. 15 & 16

Data are provisional and relate to select 41 scheduled commercial banks, accounting for about 90 per cent of total non-food credit extended by all scheduled commercial banks (excludes ING Vysya which has been merged with Kotak Mahindra since April 2015).

Export credit under priority sector relates to foreign banks only.

Micro & small under item 2.1 includes credit to micro & small industries in manufacturing sector.

Micro & small enterprises under item 5.2 includes credit to micro & small enterprises in manufacturing as well as services sector.

Priority Sector is as per old definition and does not conform to FIDD Circular FIDD.CO.Plan.BC.54/04.09.01/2014-15 dated April 23, 2015.

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 & 1.1.1.1.4: 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 2016-17 is a moving one, which gets updated every year. REER figures are based on Consumer Price Index (combined). Methodological details are available in December 2005 and April 2014 issues of the 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 Central Statistics Office on 29th May 2020. GDP for 2020-21 is from Union Budget 2020-21. Data upto 2017-18 pertains to all States and Union Territories. From 2018-19 onwards, data is provisional and pertains to 25 States only.

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: Includes borrowings through dated securities.

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

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

- Many of the above publications are available at the RBI website (www.rbi.org.in).
 - Time Series data are available at the Database on Indian Economy (<http://dbie.rbi.org.in>).
 - 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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