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Volume 3, Issue 5

Market Pulse

A monthly review of Indian economy and markets

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May 2021 | Vol. 3, Issue 5

A Monthly Review

Indian Economy and Markets

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This monthly publication is a review of major developments in the economy and financial markets during the month.

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Market Pulse

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Executive Summary

Positive global cues compensate for rising domestic uncertainty

Strong global growth recovery amid reopening of developed economies, significant progress in COVID-19 vaccination drives and continued policy support improved market sentiments in April following a volatile March, with the US leading the way. Riskier asset classes, which were under pressure in March in the wake of surging US bond yields and onset of subsequent waves across several countries, saw a significant rebound, particularly in developed economies. Emerging markets (EMs), however, continued to struggle with rising COVID infections and slower pace of inoculations. While the MSCI World Index ended the month 4.5% higher (YTD: 9.2% as of May 14th), the MSCI EM Index lagged with a modest 2.4% return in April (YTD: +1.3%).

Indian equities underperformed the broader EM pack, with the Nifty 50 Index ending the month 0.4% lower (YTD: 5.0%). This was primarily on the back a sharp spike in COVID infections and rising growth uncertainty induced by widespread lockdowns imposed by several states. Economic ramifications of renewed restrictions have already reflecting in several high frequency indicators such as mobility trends, e-Way bills, auto sales, power demand, freight traffic, among others. Consequently, FIIs turned big sellers of Indian equities in April for the first time in seven months, even as DIIs came to the rescue and emerged as equally strong buyers.

Our detailed analysis of the COVID spread across states and districts in India shows a 5.5x jump in active cases in April on top of a 3.5x increase in the previous month. This implies a daily CAGR of 5.9% vs. 4.1% in March. The spread, which was primarily concentrated to a few states in March, because a wide-spread phenomenon in April, thereby putting tremendous pressure on India's healthcare infrastructure. Surge in infections was subsequently accompanied with a sharp rise in casualties, with daily deaths rising to more than 4,000 in early May. While daily CAGR of active cases has come down to 0.7% during the first 15 days of May, that of casualties has risen to 1.6% from 0.9% in April. India now accounts for more than 50% of daily cases and one-third of total casualties in the world. Slower pace of vaccinations has added to the woes, with India inoculating (fully) a mere ~3% of the population—lower than 4.4% for the world. Even as the Government has opened up vaccinations for people in the 18-45 age group beginning May 1st, supply shortages have resulted in delayed vaccinations for 45+ as well in several states.

Weakness in global fixed income markets took a breather in April, aided by firm commitment by global central banks, particularly the US Fed, to support their economies on a sustainable recovery path. As such, the US 10-year yield, after surging 83bps in the first quarter of 2021, fell by 22 bps to 1.53% before ending the month of April at 1.65%. EM bonds also ended in green, supported by a weak dollar. Indian domestic bond markets moved in line with the broader EM pack and rallied in April, thanks to RBI's additional ammunition in the form of assured G-sec purchases. Moreover, the RBI's commitment towards working closely with the Government to support the economy by ensuring adequate surplus liquidity and proactively undertaking unconventional/new measures as situation warrants further lifted sentiments. As a result, India's 10-year G-sec yield ended the month 15 bps lower at 6.03%. In line with other riskier asset classes, rally in commodities also resumed in April, thanks to improving global growth prospects and a weak dollar.

This month we take a deep dive into state finances to gauge their fiscal power in dealing with the virulent second wave. Our analysis of the consolidated finances of 18 significant states, accounting for ~90% of India's GDP, shows a slippage of 1.8pp in the revised fiscal deficit target for FY21 to 4.4% of GSDP, with FY22 target pegged at 3.5%. The fiscal math for FY22 for the consolidated accounts appears optimistic from the revenue (+25% YoY) as well as expenditure front (+16% YoY), and particularly more so in the current uncertain environment. Amongst these 18 states, Chhattisgarh, Uttar Pradesh and Madhya Pradesh remain the most vulnerable as they have relatively lower fiscal power to support their respective economies' recovery momentum. Alongside, Maharashtra—the highest contributing state to national GDP (~14%)—has pegged the deficit at a reasonable level but spike in cases, a slower progress in vaccination drive and tighter restrictions pose significant downside risks.

On the macro front, several high-frequency indicators pointed to a further slowdown in growth momentum. Headline retail inflation declined to a three-month low of 4.3% in Apr'21, aided by a low base, even as a broad-based increase on a sequential basis points to build-up of inflationary pressures. Notwithstanding a favourable base, renewed COVID-led supply-side bottlenecks, coupled with cost-push pressures emanating from higher commodity prices and logistics costs, are likely to keep inflation trajectory elevated in the near future. A sharp spike in recent WPI inflation readings is a testament of rising cost pressures that may eventually feed into retail inflation.

Industrial recovery gained some momentum in March, with IIP growing by a strong 2.4% YoY, partly attributed to a supportive base, but sustenance of lockdowns imposed by states remains an overhang. While Manufacturing PMI has remained broadly steady, Services PMI has seen slight moderation, reflecting the ramifications of restrictions on contact-intensive services. Consumption demand has also slowed down meaningfully as evident from a sharp drop in auto sales and vehicle registrations, as well as decline in consumer sentiment index. Consequently, several brokerages and institutions have downgraded GDP growth forecasts for FY22. The RBI, in the recent meeting, acknowledged rising growth uncertainty, and announced a slew of measures, primarily aimed at providing targeted liquidity support to central/state governments, healthcare-related manufacturing and services, MSMEs and small businesses.

In the Insights section, we have summarised two research papers supported by the NSE-ISB Trading Lab. The first paper by Da, et al. titled "In Search of Attention" revisits the relation between asset prices and investor attention using aggregate search frequency (Search Volume Index (SVI)) in Google. In the second paper by Deuskar, et al. on "How does regret affect investor behaviour? Evidence from Chinese Stock Markets", the authors exploit investors' choice of order as a natural setting to study the impact of regret on subsequent order choices using a unique dataset from the Shanghai Stock Exchange (SSE).

The Section also provides takeaways from an interesting Paper by Naik and Reddy (2021) that has given an extensive literature review on stock market liquidity to explain and highlight its measurements, determining factors and impact on expected market returns across several countries. Lastly, we have also featured the second-best entry of the NSE Scholar Program concluded last year—An initiative to further NSE's efforts towards remaining at the forefront of encouraging and supporting financial market research. This paper by Chidambaram, et al. assesses the short- and long-term market reaction to M&A transactions in India and concludes that the Indian markets are efficient and are accurately able to judge the benefits of these transactions without a subsequent market correction.

The severity of the second wave has surpassed anyone's imagination, with health infrastructure being pushed to limits in several states. Rural areas have been hit harder this time, with their inadequate healthcare systems and vaccine hesitancy making matters worse. Needless to say, widespread lockdown restrictions imposed by several states have added to the uncertainties and downside risks to the nascent economic recovery that was taking shape until March. That said, the drop in daily CAGR of active cases over the last week or so gives us hope that we are probably at the peak or very near to the peak of the second wave. An increase in pace of inoculations, however, is the only credible way to truly win over this pandemic.

With the hope of seeing an end to this humanitarian crisis soon, we bring you the fifth edition of the *Market Pulse* in 2021. As always, we are eager to hear your comments and suggestions.

Dr. Tirthankar Patnaik
Chief Economist

Stories of the month

Decoding states' fiscal power amidst virulent second wave

Consolidated finances of 18 significant states, accounting for ~90% of India's GDP, show a fiscal deficit target of 3.5% of GSDP in FY22, a tad lower than the revised estimate of 4.4% of GSDP in FY21 (BE: 2.6%). Aggregate revenue deficit is budgeted at 0.5% of GSDP vs. revised estimate of 1.6% in FY21 (BE: 0.2%). Among these states, while Bihar has reported the highest fiscal deficit in FY21, Chhattisgarh leads in FY22. The fiscal math assumes a strong 25% growth in revenue receipts in FY22 against a modest 2% growth in FY21RE, primarily supported by strong SGST collections on the back on expected significant rebound in economic activity in FY22. Expenditure, on the other hand, is budgeted to grow by 16% in FY22 on top of a 10% jump in FY21RE. This appears a bit optimistic, considering a) The Centre's expenditure growth target of mere 1%, and b) A significant spending shortfall in FY21 as compared to revised estimates.

The actual (till Feb'21) and revised estimates for FY21 reflect the stressed finances of the states. The FY22 budget estimates, however, look optically better amid expectations of a significant rebound in economic activity in FY22 from abysmal lows of FY21. The lockdown measures re-imposed by various states with an intent to curb second wave of infections pose downside risks to the optimistic FY22 revenue targets, even as they are unlikely to be as severe as witnessed in FY21 given the manufacturing units are operational and mobility is relatively less affected.

While it is still early to ascertain the extent of deviation in fiscal targets amongst states as the situation continues to unfold, outstanding/incremental caseloads and vaccination progress as well as the stringency in restrictive norms give us some idea. Chhattisgarh (2% contribution to overall GDP), Uttar Pradesh (8%) and Madhya Pradesh (5%) remain the most vulnerable as they have relatively lower fiscal power to support their respective economies' recovery momentum. Alongside, Maharashtra—the highest contributing state to national GDP (~14%)—has pegged the deficit at a reasonable level but continuing surge in cases, coupled with the slow progress in vaccination drive and tighter restrictions, pose significant downside risks. Going forward, we will continue to assess the evolving scenarios within all the states.

Fiscal deficit for 18 states, accounting for ~90% of India's GDP, has been revised to 4.4% of GSDP for FY21 from 2.6% of GSDP. However, for FY22, the fiscal deficit has been pegged at 3.5% of GSDP.

- Aggregate fisc for 18 states pegged at 4.4% of GSDP in FY21RE; FY22BE at 3.5%: According to the consolidated finances of 18 significant states that have released their budgets for FY22—accounting for ~90% of India's GDP—fiscal deficit for FY21 has been revised to 4.4% of GSDP from 2.6% of GSDP in budget estimates. Fiscal deficit target for FY22 has been pegged at 3.5% of GSDP, assuming a nominal GSDP growth of 2%. Alongside, the aggregate revenue deficit has been revised from 0.2% of GSDP to 1.6% of GSDP for FY21 and has been budgeted at 0.5% of GSDP for FY22. Within these states, Bihar is estimated to report the highest fiscal deficit for FY21, while Chhattisgarh has pegged the fiscal deficit at the highest level in FY22. Gujarat, on the other hand, is expected to report the lowest fiscal deficits for both FY21 and FY22.

  States expect FY21 nominal GSDP growth at 2%, which looks a bit optimistic particularly considering the CSO's advance estimate for India's nominal GDP growth of -4.3%. While states' expectations of nominal GSDP growth in FY21 vary between -5% and 16%, it varies between -6% and 25% for FY22. This translates into an average GSDP growth of 12% for these 18 states in FY22—a tad lower than the 14.4% nominal GDP growth assumed in the Union Budget. Just like centre, state governments have also not opted for an aggressive fiscal consolidation and rather focussed on reviving growth via higher capex given its high multiplier effect.

- **Revenue receipts in FY21 may see a meaningful shortfall...**: According to FY21 revised estimates, revenue receipts for 18 states are likely to exhibit 2% YoY growth while they have thus far witnessed 10% contraction during 11MFY21. Within the revenue receipts, states' tax revenues are estimated to contract by 2%

YoY, but the states have so far reported contraction of 13%YoY. Within tax revenues, SGST is expected to increase by 2% as per the revised estimates, but the states have so far reported contraction by 12% for 11MFY21. Alongside, states' share of union taxes has been estimated with 10% de-growth for FY21 while the 11MFY21 print depicts contraction of 18% YoY, thereby indicating the strong likelihood of deviation from revised estimates.

- **...And look** optimistic for FY22 as well given renewed downside risks at play: For FY22, states have budgeted for a strong growth in revenue receipts of 25% YoY against 2% YoY in FY21RE. This is expected to be supported by 25% YoY growth assumptions primarily for states own tax revenues. SGST collections, which account for ~40% of states total own tax revenues, are budgeted to expand by 28% YoY on the back of expected significant rebound in economic activity from FY21 low levels. Devolution is budgeted to exhibit 24% YoY growth in FY22. While continuous normalisation of economic activity in FY22 is expected to aid revenues of state but the re-imposition of stringent lockdown measures opted by states in the wake of COVID-19 resurgence is likely to weigh on revenues in the near term. However, looking at the stringency in restrictions, the ramifications of this sporadic lockdown are not likely to be as colossal as witnessed in Q1FY21. Recovery growth momentum is likely to stagnate in the near-term that can indeed exert downside pressure on state revenues, but it is not likely to be substantial.

Revenue receipts in FY22 are budgeted to grow by 25% YoY amid expectations of a continued normalisation of economic activity. However, the re-imposition of lockdown measures is likely to weigh on the revenues in the near term.

- State governments likely to follow the **Centre's path as they shift their focus on** capex: As per revised estimates for FY21, states expect overall expenditure growth at 10% with revenue expenditure at 13% and capital expenditure at 4%. This seems overly optimistic as capital spending has contracted by 18% in 11MFY21. Even revenue expenditure has not shown a significant increase (11MFY21: 1%). While the centre's headline expenditure growth is budgeted at a mere 1%, states have budgeted a strong 16% growth in overall expenditure in FY22. This is likely to be supported by a 30% YoY growth in capex and a 14% YoY growth in revenue expenditure, thereby elucidating the state governments' commitment to follow the Centre's footsteps in reinvigorating the quality of spending and fostering the revival in economic impulses.

  States that have budgeted the highest increases in total expenditure are Telangana (38%), Uttar Pradesh (33%), Odisha (26%), West Bengal (25%), Haryana (24%), Kerala (22%) and Punjab (20%). States that have budgeted the highest increases in capital expenditure are Punjab (107%), Telangana (88%), West Bengal (75%), Odisha (67%), Uttar Pradesh (64%) and Gujarat (50%).

Major states have budgeted 16% increase in total expenditure in FY22. This is likely to be supported by 30%YoY growth in capex and 14%YoY growth in revenue expenditure.

- Key focus areas of expenditure amongst all 18 states: Amongst all the expenditure heads, health and family welfare remained the key focus area for all the states. On an average, all of 18 states are likely to report 19% growth as per FY21 revised estimates and have pegged a strong 14% growth for FY22 as well. States that have budgeted the highest increases in health and family welfare expenditure are Uttar Pradesh (56%), Uttarakhand (45%), Madhya Pradesh (23%), Rajasthan (22%) and Punjab (15%). Alongside health and family welfare, states have pegged significant growth for education sector (14%) and for urban development (25%). States that have estimated the highest increases in education expenditure are Kerala (44%), Uttar Pradesh (28%), West Bengal (19%), Rajasthan (17%) and Jharkhand (16.4%).

Just like FY21, Health and family welfare continued to remain the key focus area for all states in FY22 budget.

Figure 1: Consolidated finances of 18 states

Items	Rs bn					% YoY Growth		
	1 1MFY20	FY20A	11MFY21	FY21RE	FY22BE	FY21TD	FY21RE	FY22BE
Total Receipts	22,188	31,250	22,927	33,676	39,194	3.3	7.8	16.4
Revenue receipts	19,594	23,049	17,679	23,478	29,265	-9.8	1.9	24.6
Tax Revenue	14,564	16,490	12,654	16,207	20,310	-13.1	-1.7	25.3
SGST	4,595	4,646	4,026	4,762	6,099	-12.4	2.5	28.1
Devolution	4,033	5,613	3,307	5,051	6,279	-18.0	-10.0	24.3
Total Expenditure	23,097	30,734	22,688	33,905	39,446	-1.8	10.3	16.3
Revenue Expenditure	20,265	24,047	20,370	27,132	30,992	1.0	12.8	14.2
Capital Expenditure	2,827	6,299	2,315	6,579	8,559	-18.1	4.4	30.1
Revenue deficit (%GDP)		0.6		1.6	0.5			
Fiscal Deficit (%GDP)		2.9		4.4	3.5			
GSDP of 18 states		1,82,933		1,85,713	2,08,287		1.5	12.2

Source: CAG, State Budgets, PRS.

Figure 2: FY21RE of 18 states

Rs bn	Total Receipts	Revenue receipts	Tax Revenue	SGST	States' share	Total Exp	Revenue exp	Capital exp	Revenue deficit (%GDP)	Fiscal Deficit (%GDP)
Bihar	2,123	1,742	1,259	208	789	2,255	1,794	460	0.8	6.8
Chhattisgarh	907	683	413	78	188	963	806	157	3.5	6.5
Gujarat	1,936	1,323	1,021	618	187	1,919	1,542	377	1.3	3.1
Haryana	1,032	761	525	204	60	1,032	970	407	2.7	3.4
Himachal Pradesh	800	356	123	35	44	535	360	174	0.3	4.1
Jharkhand	670	670	391	91	182	800	678	122	0.3	3.2
Karnataka	2,304	1,597	1,150	378	201	2,299	1,792	371	1.1	3.2
Kerala	1,686	931	551	190	98	1,731	1,173	558	2.9	4.3
Madhya Pradesh	2,020	1,375	968	175	434	2,016	1,585	431	2.3	5.7
Maharashtra	3,793	2,895	2,183	880	337	3,795	3,357	438	1.7	3.3
Odisha	1,300	1,072	580	130	255	1,350	1,049	301	-0.5	3.5
Punjab	1,422	720	402	115	98	1,400	928	68	3.4	4.7
Rajasthan	2,397	1,480	1,018	240	329	2,481	1,897	584	4.4	6.1
Tamil Nadu	2,949	1,807	1,330	412	230	2,844	2,467	377	3.4	5.0
Telangana	1,667	1,178	879	236	117	1,667	1,340	327	1.7	4.3
Uttar Pradesh	4,005	3,068	2,174	504	986	4,148	3,200	948	0.7	4.2
Uttarakhand	507	370	202	36	61	513	401	113	1.3	4.5
West Bengal	2,158	1,449	1,036	233	455	2,158	1,793	365	2.5	3.9

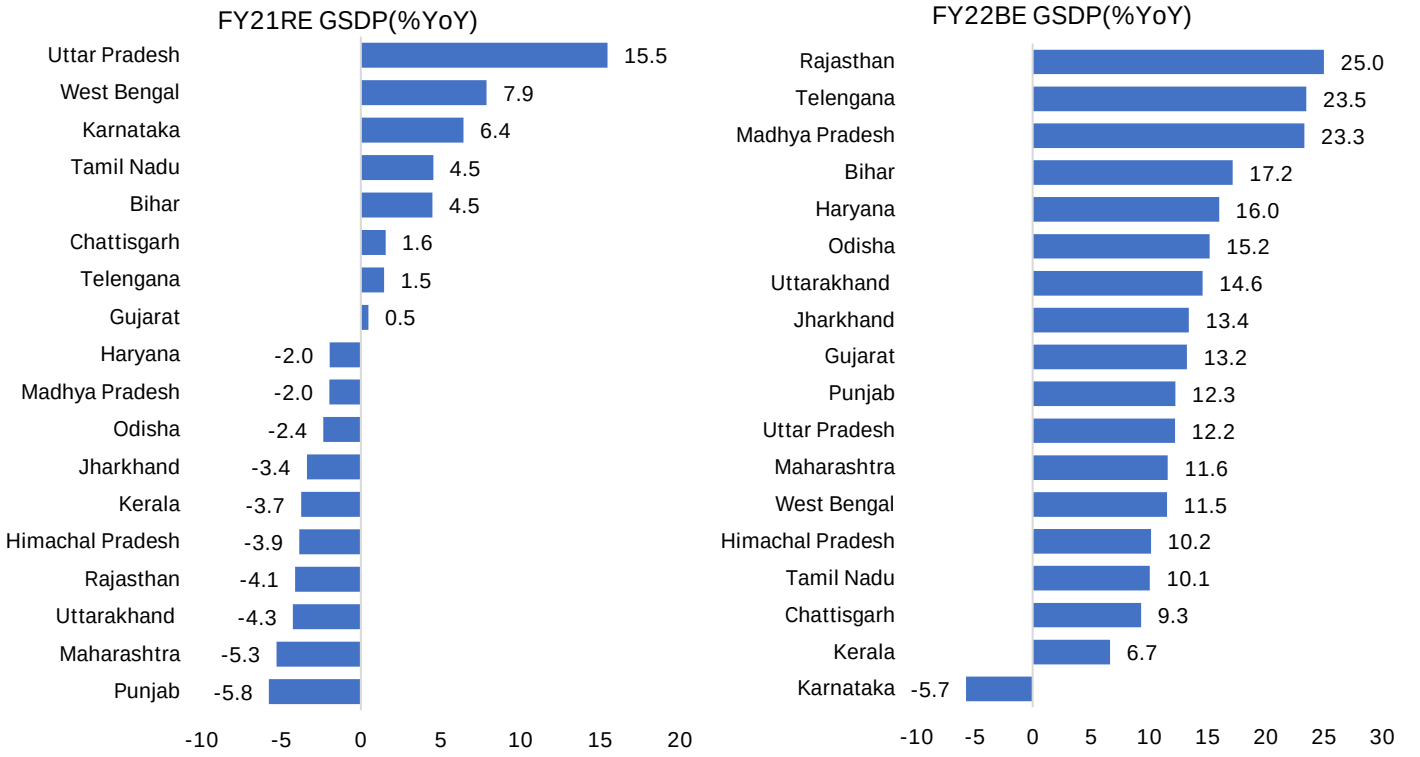
Source: State Budgets, PRS.

Figure 3: FY22BE of 18 states

FY22 BE (Rs bn)	Total Receipts	Revenue receipts	Tax Revenue	SGST	States' share	Total Exp	Revenue exp	Capital exp	Revenue deficit (%GDP)	Fiscal Deficit (%GDP)
Bihar	2,185	1,863	1,262	206	912	2,183	1,771	412	-1.2	3.0
Chhattisgarh	984	793	484	93	227	1,025	830	195	1.0	4.6
Gujarat	2,187	1,680	1,348	623	232	2,233	1,668	566	-0.1	1.6
Haryana	1,275	877	602	243	73	1,275	1,668	387	3.3	3.8
Himachal Pradesh	913	370	148	41	55	502	385	117	0.9	4.5
Jharkhand	768	767	453	95	221	913	758	155	0.3	2.8
Karnataka	2,437	1,723	1,358	459	243	2,462	1,874	414	0.9	3.5
Kerala	2,056	1,284	899	369	168	2,119	1,453	666	1.9	3.5
Madhya Pradesh	2,338	1,650	1,175	230	522	2,349	1,730	619	0.7	4.5
Maharashtra	4,380	3,690	2,855	1,178	420	4,380	3,792	587	0.3	2.2
Odisha	1,670	1,256	676	150	301	1,700	1,196	504	1.0	3.5
Punjab	1,626	953	495	160	120	1,680	1,039	141	1.4	4.0
Rajasthan	2,474	1,843	1,302	377	401	2,507	2,081	427	2.0	4.0
Tamil Nadu	3,272	2,190	1,628	454	271	3,036	2,604	432	1.9	3.9
Telangana	2,300	1,761	1,069	310	140	2,308	1,694	614	-0.6	3.9
Uttar Pradesh	5,062	4,183	2,969	733	1,194	5,503	3,951	1,551	-1.1	4.2
Uttarakhand	570	442	128	47	74	574	440	134	0.0	3.2
West Bengal	2,697	1,940	1,459	330	705	2,697	2,060	637	-0.8	2.9

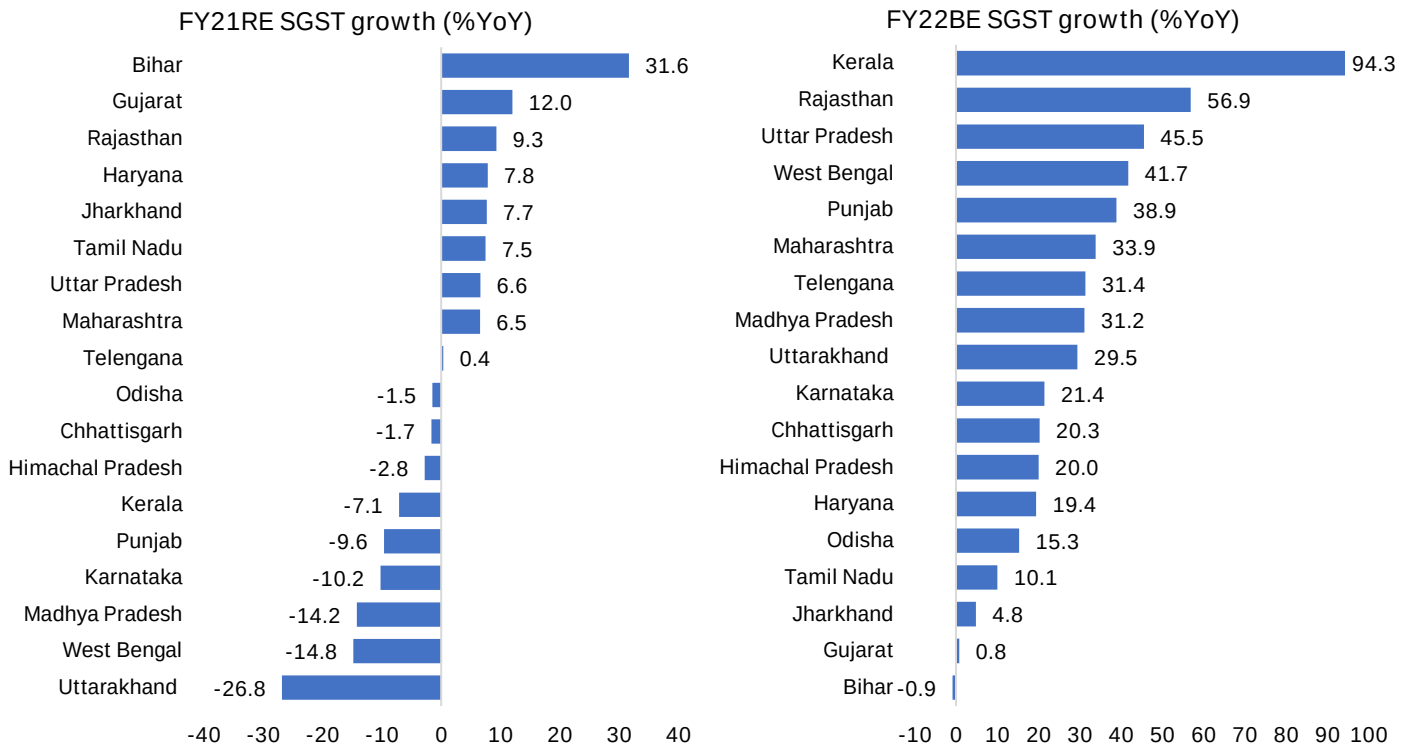
Source: State Budgets, PRS.

Figure 4: GSDP growth expected by 18 states



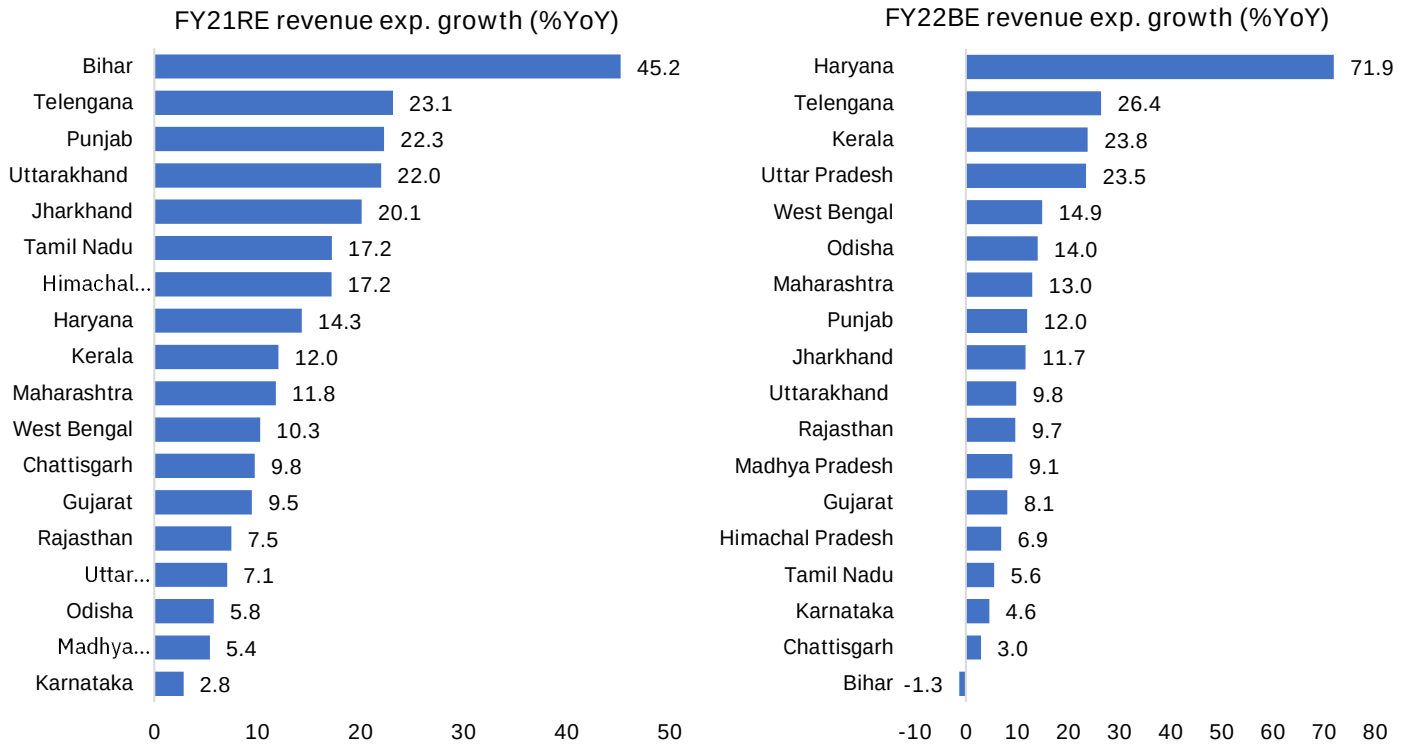
Source: State Budgets, PRS.

Figure 5: State-wise growth in SGST for FY21 and FY22



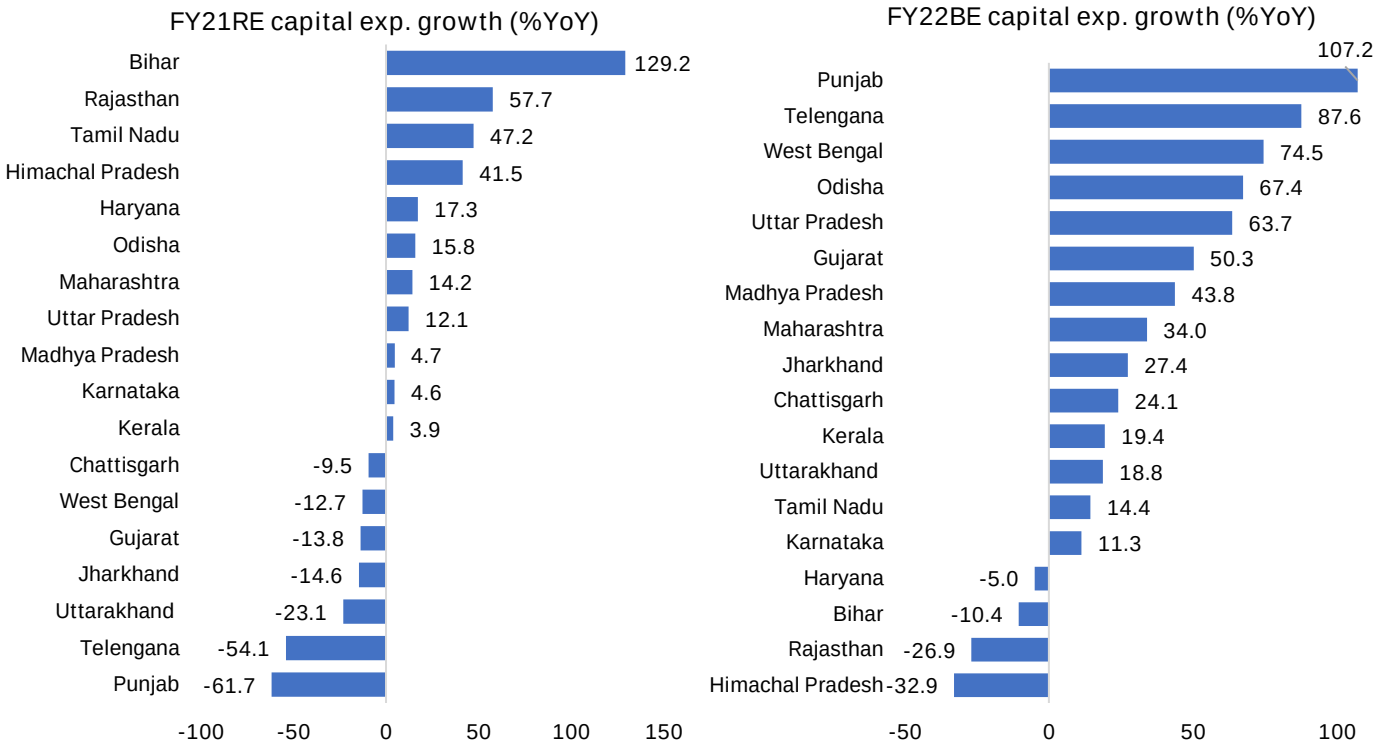
Source: State Budgets, PRS.

Figure 6: Expected Revenue expenditure growth pronounced by these states



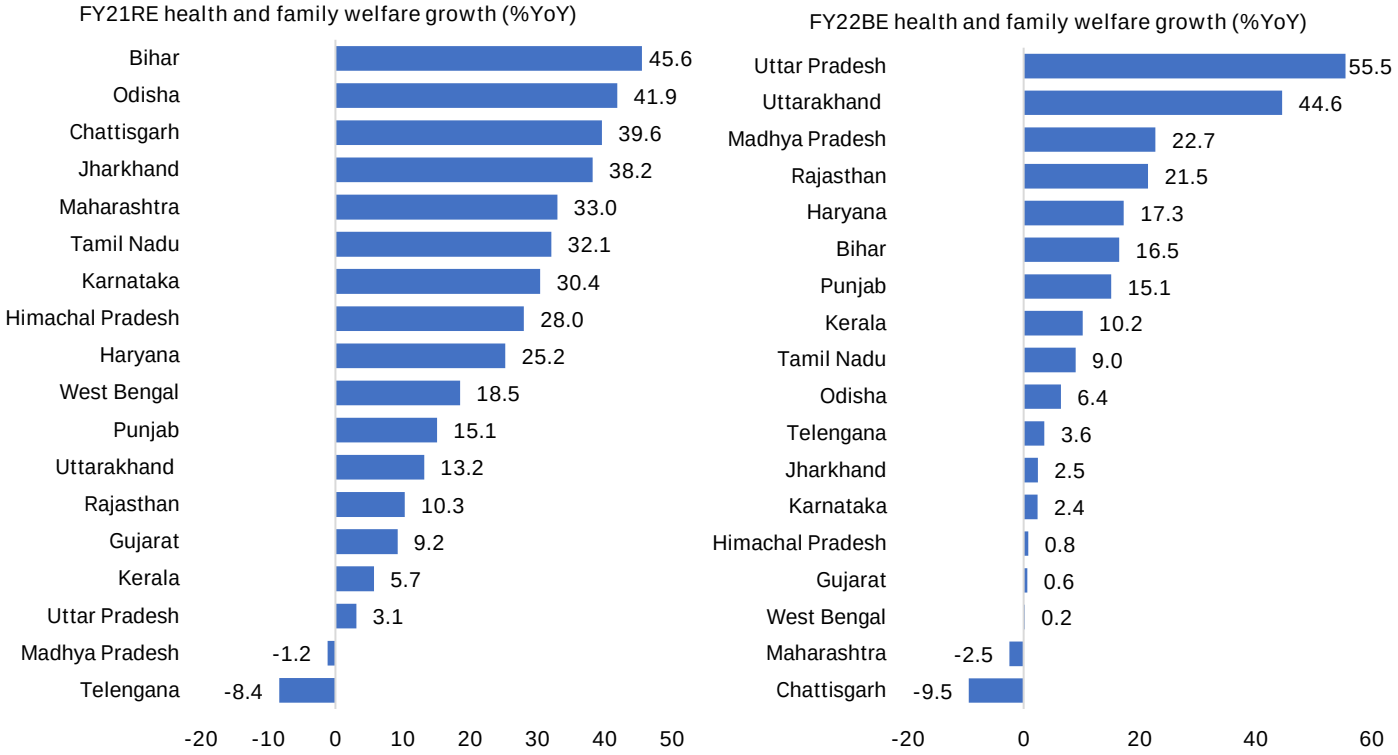
Source: State Budgets, PRS.

Figure 7: Expected capital expenditure growth announced by these states



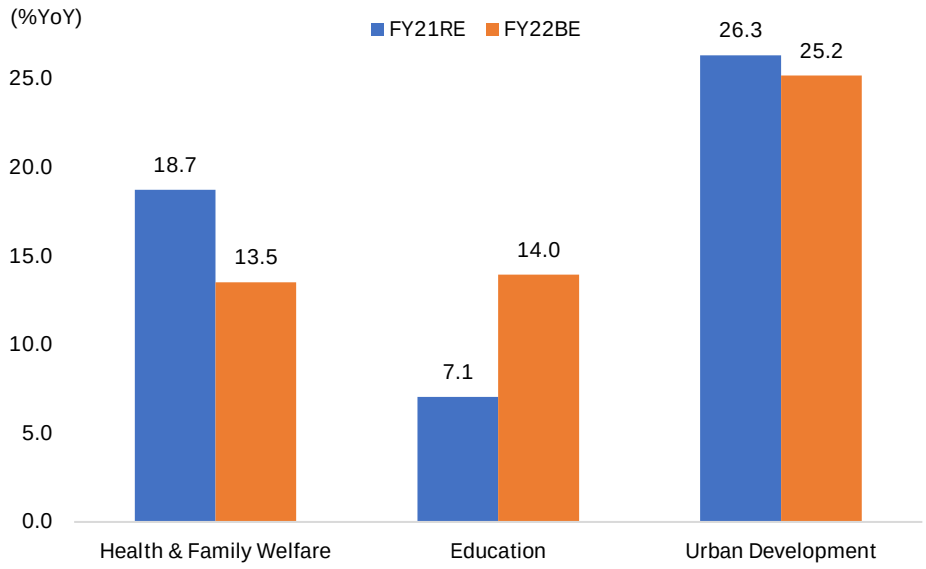
Source: State Budgets, PRS.

Figure 8: **Expected growth in "health and family welfare" sector for these states**



Source: State Budgets, PRS.

Figure 9: Expected growth articulated for the key areas of expenditure



Source: State Budgets, PRS.

Renewed COVID-induced restrictions likely to play spoilsport in the near term: While the actual (up to Feb'21) and revised estimates for FY21 do reflect the stressed finances of the states instigated by COVID-19 disruption, the FY22 budget estimates look optically better given the anticipated significant rebound in the overall economic activity in FY22 from abysmal lows of FY21. The elevated expenditure growth assumption for FY22 is expected to be supported by aggressive revenue assumptions for FY22 that further remain contingent upon the spread of the pandemic and recovery in economic activity. The lockdown measures re-imposed by various states with an intent to curb second wave of infections is likely to pose downside risk to the optimistic revenue targets budgeted for FY22. However, the ramifications are unlikely to be as extreme as witnessed during FY21 given the manufacturing units are operational and mobility is relatively less affected.

Considering stringency in restrictions, ramifications of these sporadic lockdowns are unlikely to be colossal as manufacturing units are operational and mobility is relatively less affected than it was in FY21.

Assessing vulnerability of states at current juncture: Looking at the progress in cases and vaccinations, coupled with the stringency in restrictive measures implemented, it can easily be demystified that Chhattisgarh, Uttar Pradesh and Madhya Pradesh remain the highly vulnerable states that have relatively lower fiscal power to support their respective economies' recovery momentum. States like Gujarat, West Bengal and Jharkhand are better positioned in terms of relatively more fiscal power, steady progress in vaccines, lower growth in infections accompanied with relatively less stringent lockdown measures. Alongside, Maharashtra, the highest contributing state to the nation's GDP (~14%), has pegged the deficit at a reasonable level but continuing surge in cases, along with the slow progress in vaccination drive and tighter restrictions in activity, pose significant downside risks.

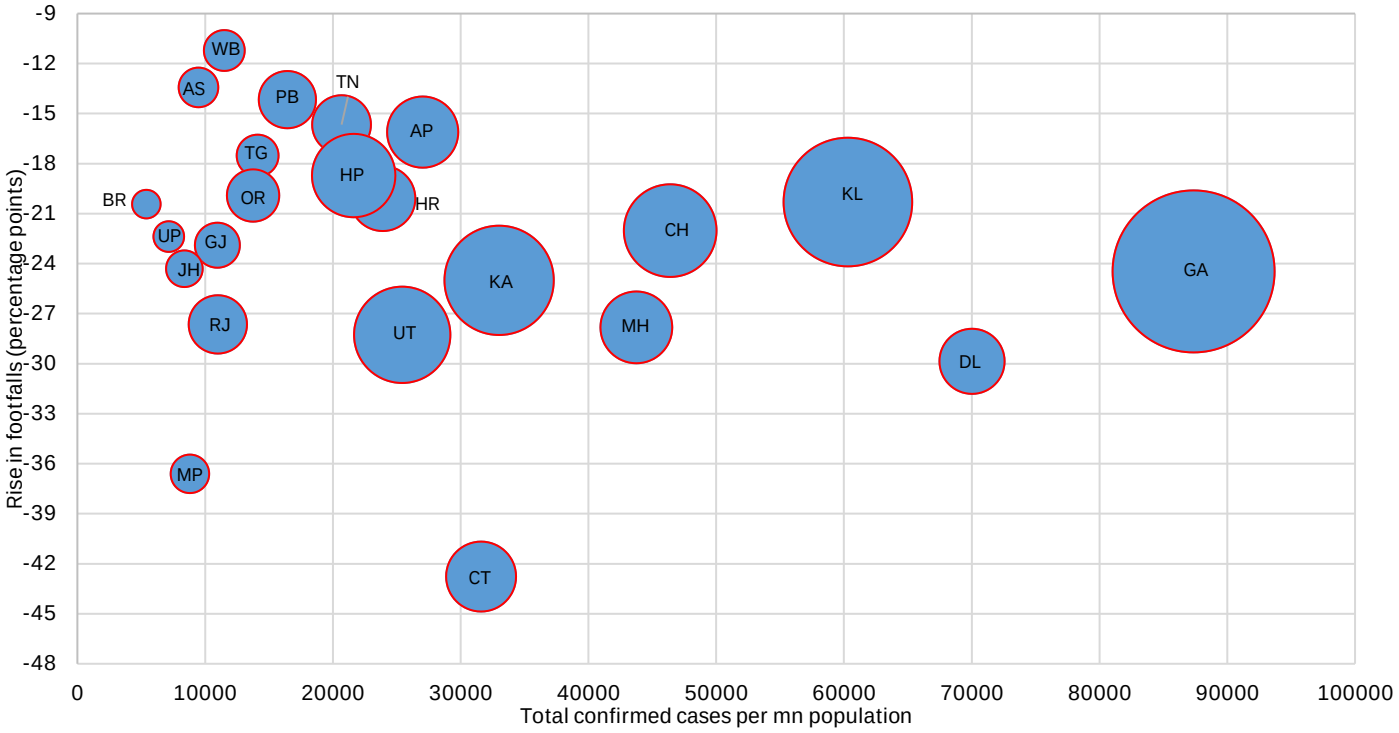
Chhattisgarh, Uttar Pradesh and Madhya Pradesh remain the highly vulnerable states given the ongoing situation.

Figure 10: Ongoing situation in the states that contribute the most to the national GDP

States	Fiscal Deficit % GDP (FY22BE)	7-day CDGR of cases	7-day CDGR of vaccines	% population currently infected (active cases)	% population inoculated so far	Retail & Recreation mobility 7-day avg
Maharashtra	2.2	1.1	1.7	0.4	15.3	-68.3
Tamil Nadu	3.9	2.0	1.1	0.2	8.8	-45.6
Karnataka	3.5	2.6	1.2	0.9	16.4	-72.9
Uttar Pradesh	4.2	1.8	1.0	0.1	6.2	-61.1
Gujarat	1.6	1.9	1.4	0.2	21.2	-61.0
West Bengal	2.9	2.0	0.9	0.1	12.5	-51.1
Rajasthan	4.0	2.5	1.1	0.3	18.9	-66.6
Telangana	3.9	1.4	1.4	0.2	14.5	-48.4
Madhya Pradesh	4.5	1.8	0.8	0.1	10.6	-71.1
Kerala	3.5	2.1	1.0	1.2	23.2	-63.3
Haryana	3.8	2.5	2.1	0.4	15.7	-65.0
Bihar	3.0	2.4	1.5	0.1	6.8	-46.3
Punjab	4.0	2.0	1.8	0.3	13.4	-54.9
Odisha	3.5	2.1	1.0	0.2	14.5	-56.1
Chhattisgarh	4.6	1.6	0.5	0.4	20.4	-72.9
Jharkhand	2.8	2.2	0.7	0.1	9.0	-59.1
Uttarakhand	3.2	3.5	2.1	0.7	22.5	-60.1
Himachal Pradesh	4.5	3.4	1.3	0.5	28.7	-47.0

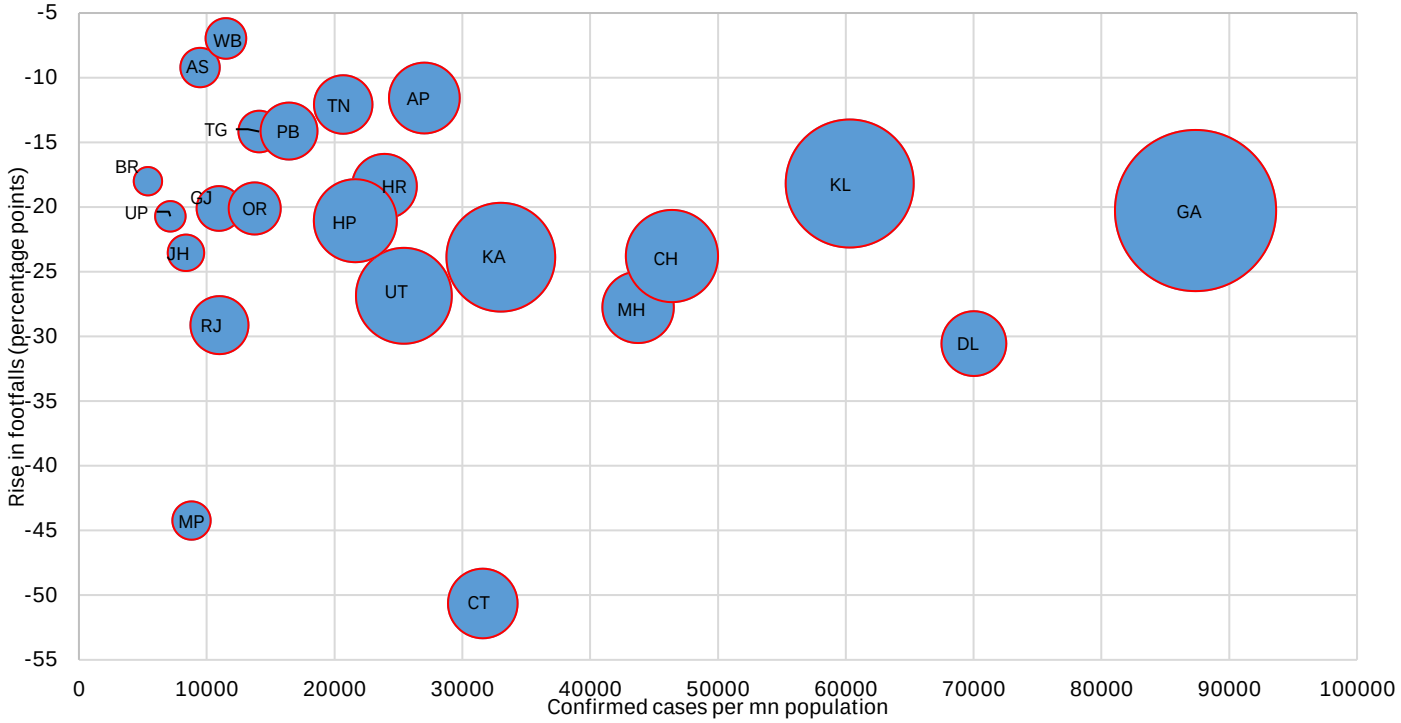
Source: covid19india.org, State budget documents, Google mobility reports Note: 7-day CDGR is till May 11. Retail and recreation mobility data is 7-day average till May 8. Levels represent % change from baseline.

Figure 11: State-wise comparison of change in average footfalls in Retail and Recreation over the last seven weeks (March 24-May 12) vs. the previous four weeks (February 24-March 23).
Size of bubble represents total confirmed cases per mn population.



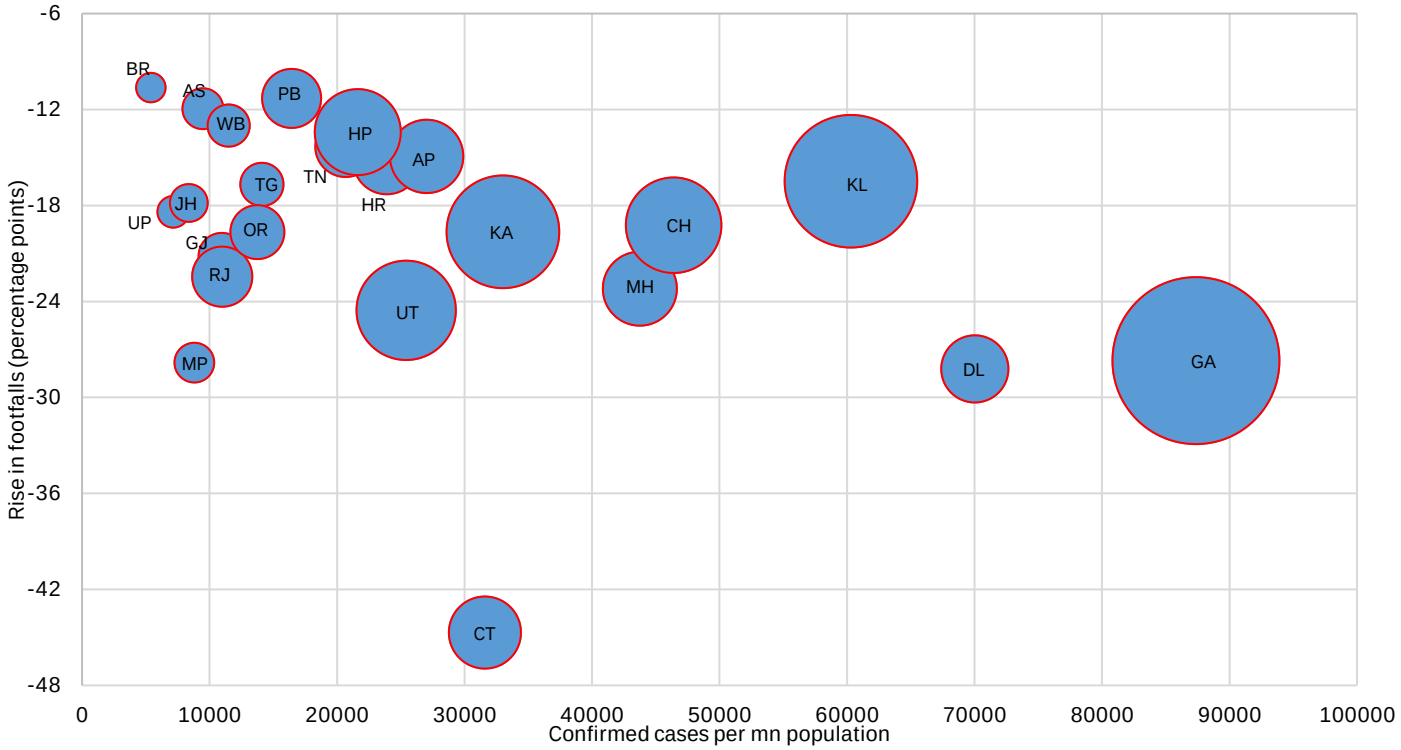
Source: covid19india.org, Google mobility reports. Covid-19 data is as on May 15th.

Figure 12: State-wise comparison of change in average footfalls in Grocery & Pharmacy over the last seven weeks (March 24-May 12) vs. the previous four weeks (February 24-March 23).
Size of bubble represents total confirmed cases per mn population.



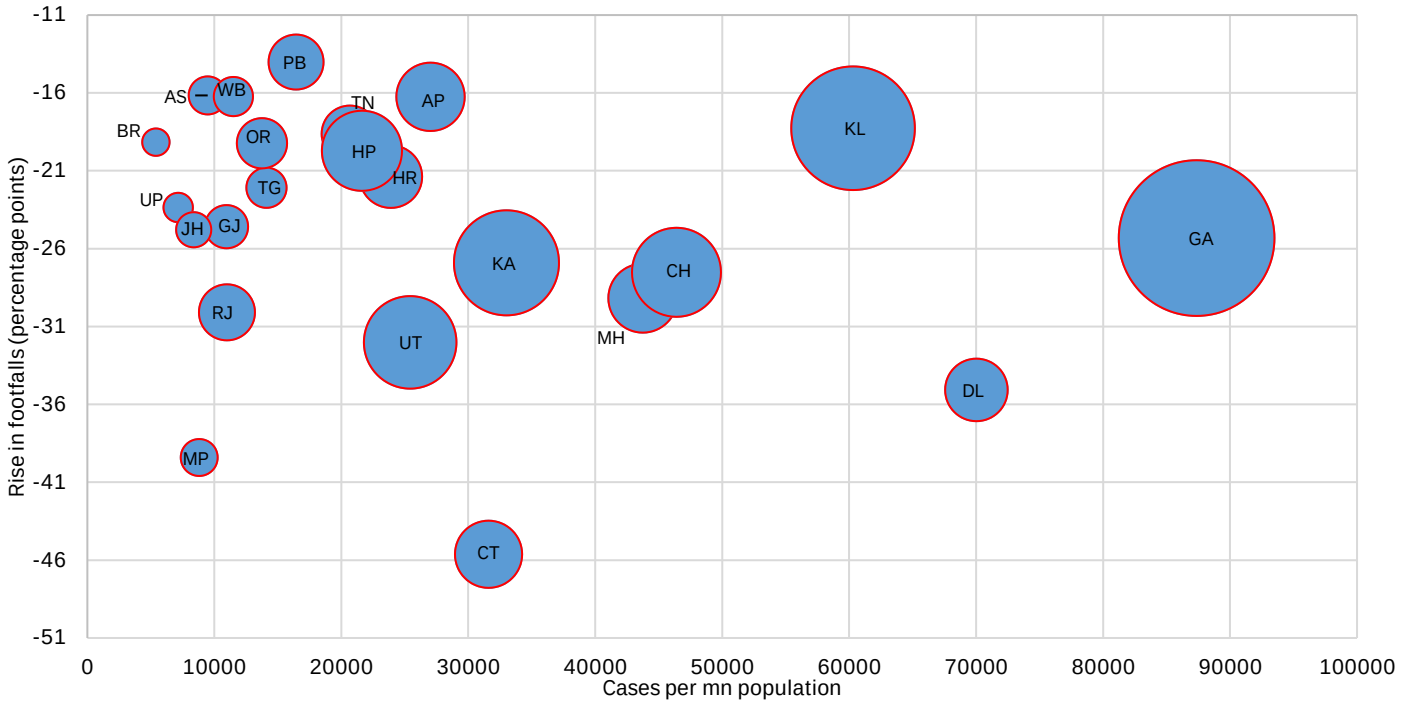
Source: covid19india.org, Google mobility reports. Covid-19 data is as on May 15th.

Figure 13: State-wise comparison of change in average footfalls in Parks over the last seven weeks (March 24-May 12) vs. the previous four weeks (February 24-March 23).
Size of bubble represents total confirmed cases per mn population.



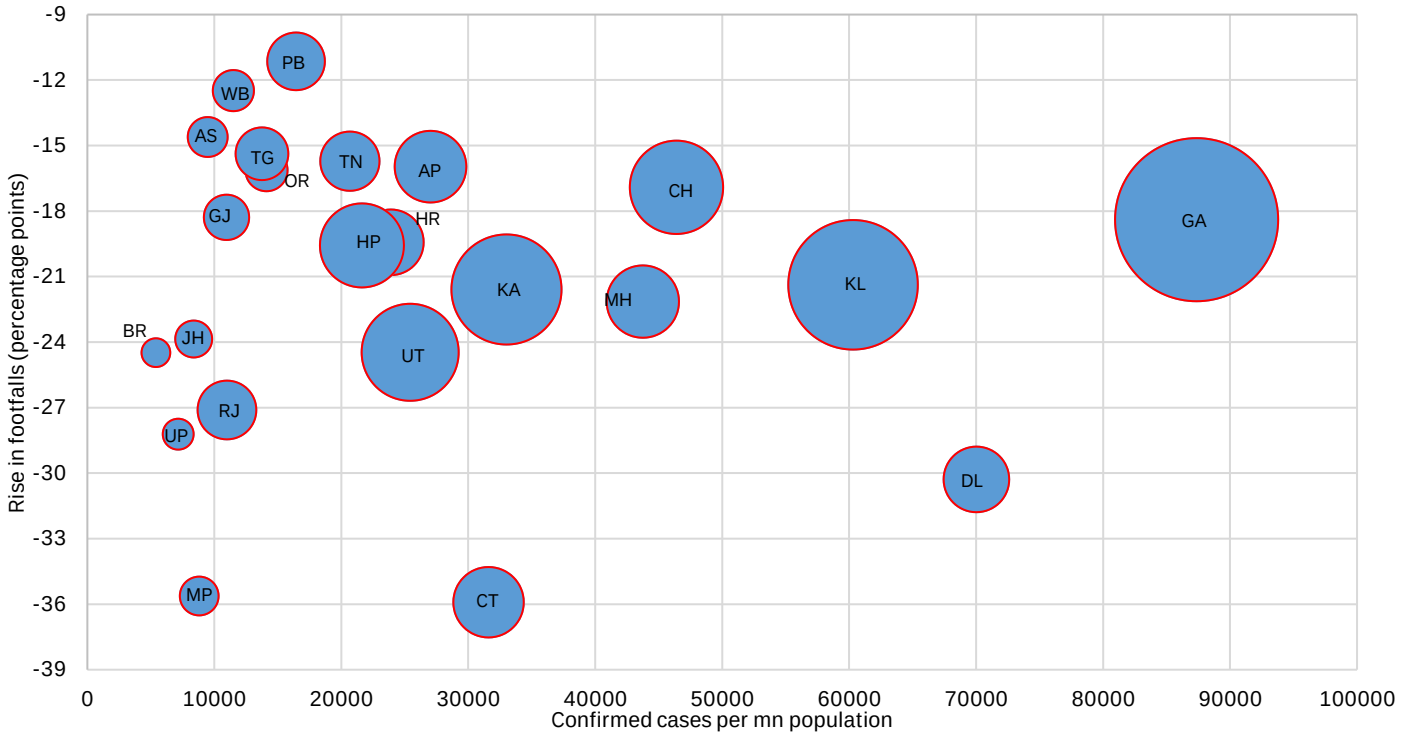
Source: covid19india.org, Google mobility reports. Covid-19 data is as on May 15th.

Figure 14: State-wise comparison of change in average footfalls in Transit Stations over the last seven weeks (March 24-May 12) vs. the previous four weeks (February 24-March 23).
Size of bubble represents total confirmed cases per mn population.



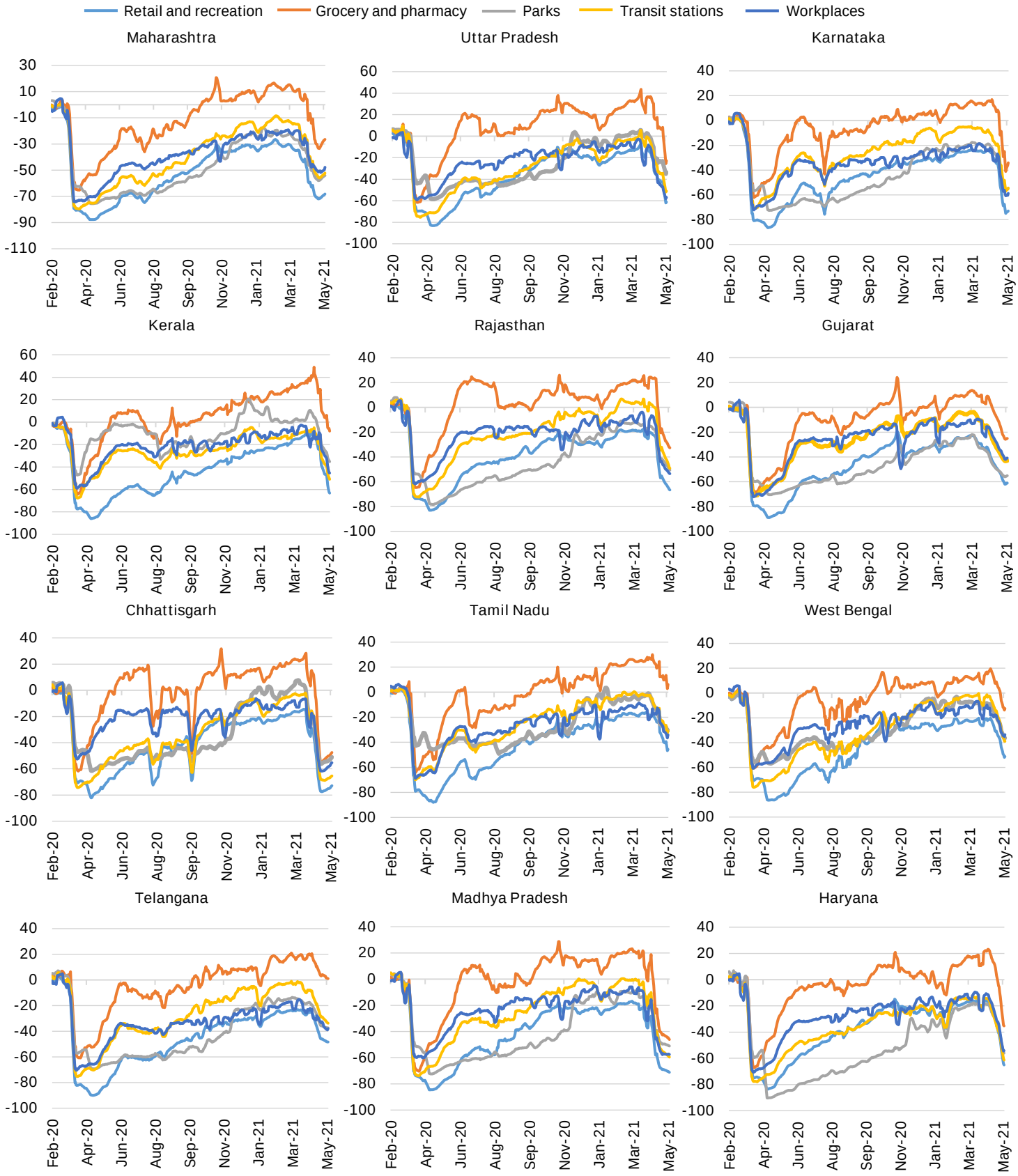
Source: covid19india.org, Google mobility reports. Covid-19 data is as on May 15th.

Figure 15: State-wise comparison of change in average footfalls in Workplaces over the last seven weeks (March 24-May 12) vs. the previous four weeks (February 24-March 23).
Size of bubble represents total confirmed cases per mn population.

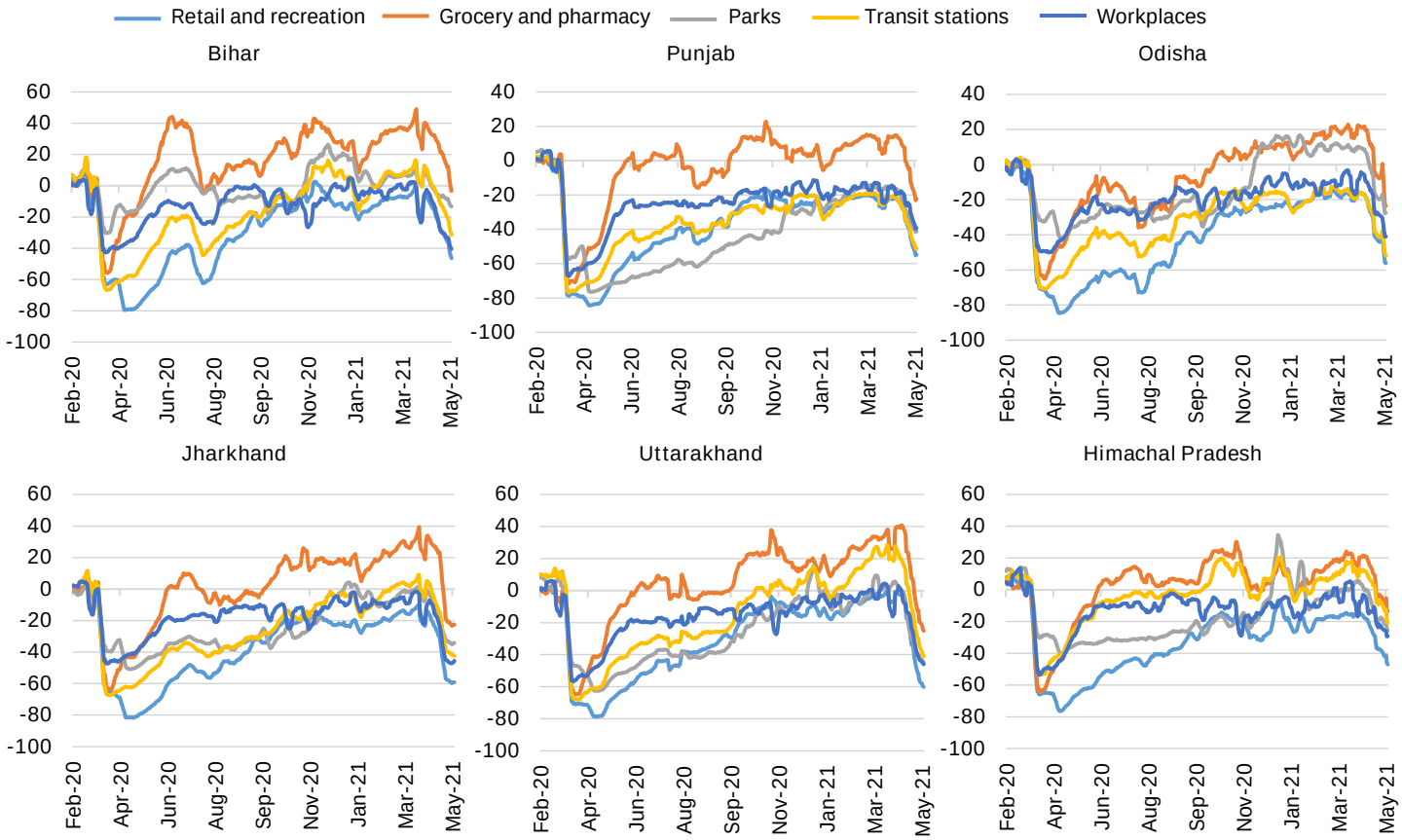


Source: covid19india.org, Google mobility reports. Covid-19 data is as on May 15th.

Figure 16: Restrictive measures have started weighing on activities; resulting in flattening of the mobility curve



Source: Google mobility reports. Levels represent % change from baseline.



Source: Google mobility reports. Levels represent % change from baseline.

COVID-19 Update: India amidst a deadly second wave; vaccine shortages adding woes[1]

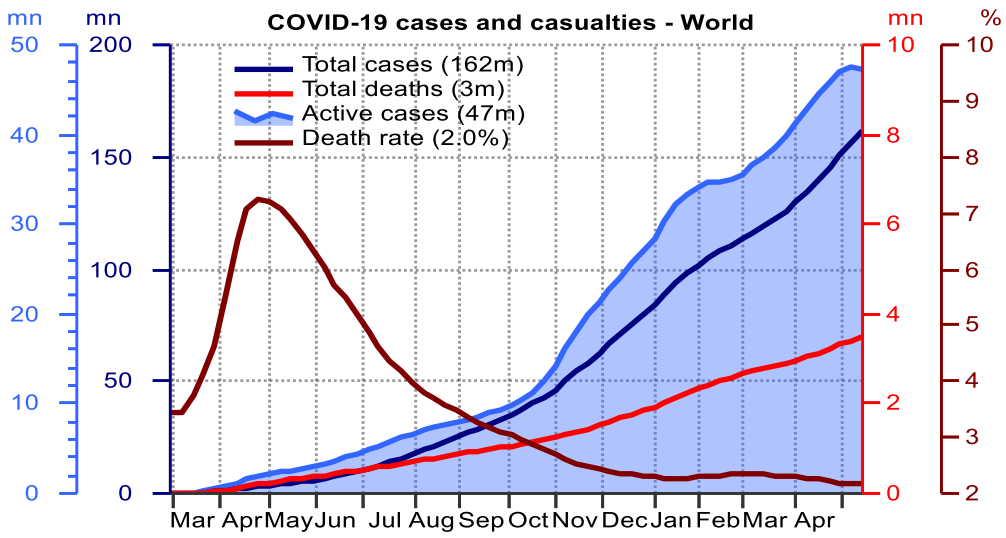
Since the onset of second wave of COVID-19 in mid-February, daily infections have witnessed an exponential rise. Average daily cases shot up by ~550% MoM to ~230k in April, and further by 60% to ~370k in the first 15 days of May. The recent peak tally of daily cases of 414k on May 6th is more than four times of the peak level seen during the first wave in Sep'20. Active cases jumped by ~5.5x in April on top of a 3.5x increase in the previous month. This implies a daily CAGR of 5.9% vs. 4.1% in March. Surge in infections was subsequently accompanied with a sharp rise in casualties, with daily deaths rising to more than 4,000 in early May. While daily CAGR of active cases has come down to 0.7% during the first 15 days of May, that of casualties has risen to 1.6% from 0.9% in April. As of May 15th, 2021, daily cases recorded were ~310k, active cases were at 3.6m and casualties at 270k. India is now adding more than 50% to global cases on a daily basis, and one-third to global casualties, while its share in confirmed cases stands at 15.1%.

The spread, which was primarily concentrated to a few states in March, because a wide-spread phenomenon in April, thereby putting tremendous pressure on India's healthcare infrastructure. States that are recording the highest number of cases include Karnataka, Maharashtra, Kerala, Tamil Nadu, and Andhra Pradesh, together accounting for more than 50% of daily new cases. Maharashtra, Karnataka, Delhi, and Tamil Nadu have seen the highest number of fatalities. Emergence of new virulent variants, increased complacency post the sharp drop in infections in January, elections and festivities seem to have contributed to the deadlier second wave. Several states have announced night curfews, weekend lockdowns and other restrictions to break the chain of the virus.

Daily cases globally have nearly doubled to ~634k on May 15th as compared to ~355k at the end of February, primarily led by a surge in cases in Brazil and India. Cases in European countries seem to have stabilized, thereby enabling gradual easing of restrictions. Vaccination drives are rapidly progressing in the United States, China and the United Kingdom where large parts of their populations have received at least one dose of a vaccine.

India opened up its vaccination program on May 1st, 2021 to all citizens above 18 years of age. We have now administered ~ 180m doses and rank third globally with respect to the number of vaccine doses administered. However, when looked at the share of population being vaccinated, India has remained a laggard, having fully vaccinated a mere 3% of the population vs. 4.4% for the world. The vaccination programme has lost momentum with many states reporting a shortage of vaccines. A steady supply of vaccines to states is crucial in ramping up the pace of inoculations.

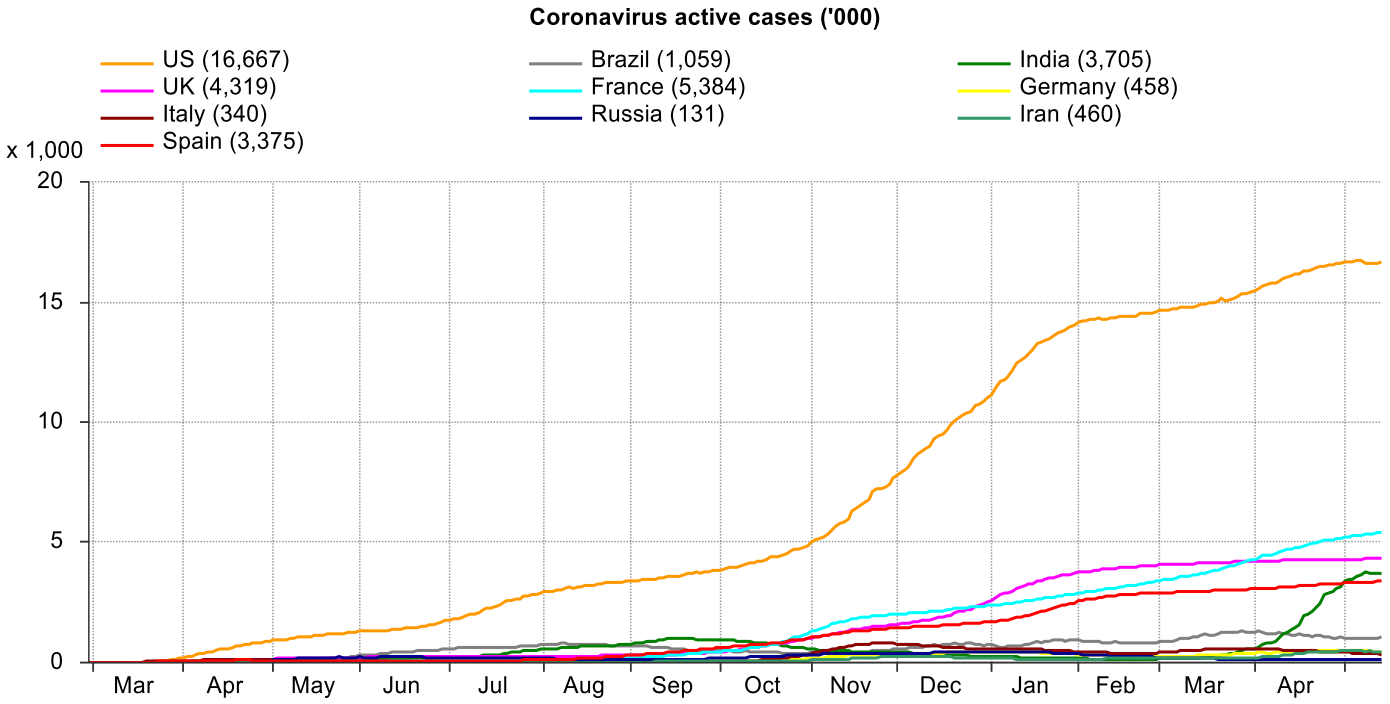
Figure 17: COVID-19 status—Worldwide (As on May 14th, 2021)



Source: Refinitiv Datastream,

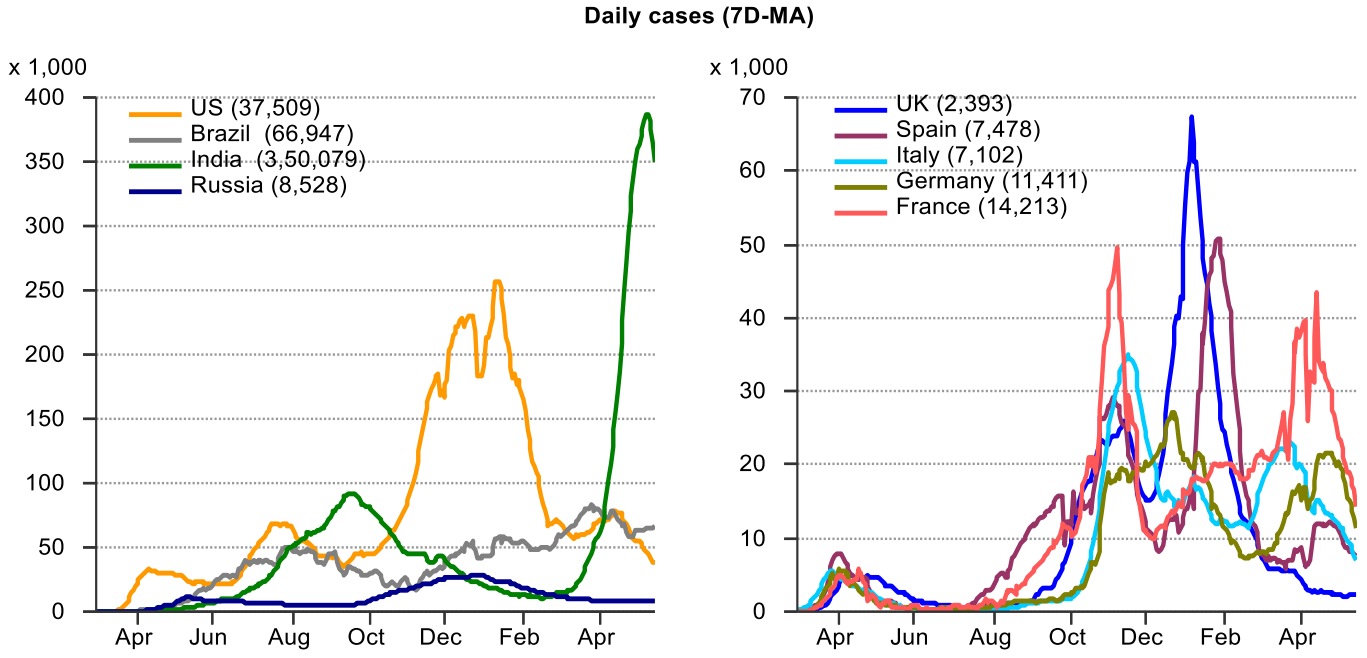
[1] The minor variations in data across tables and charts are due to different data sources.

Figure 18: COVID-19 active cases across countries (As on May 14th, 2021)



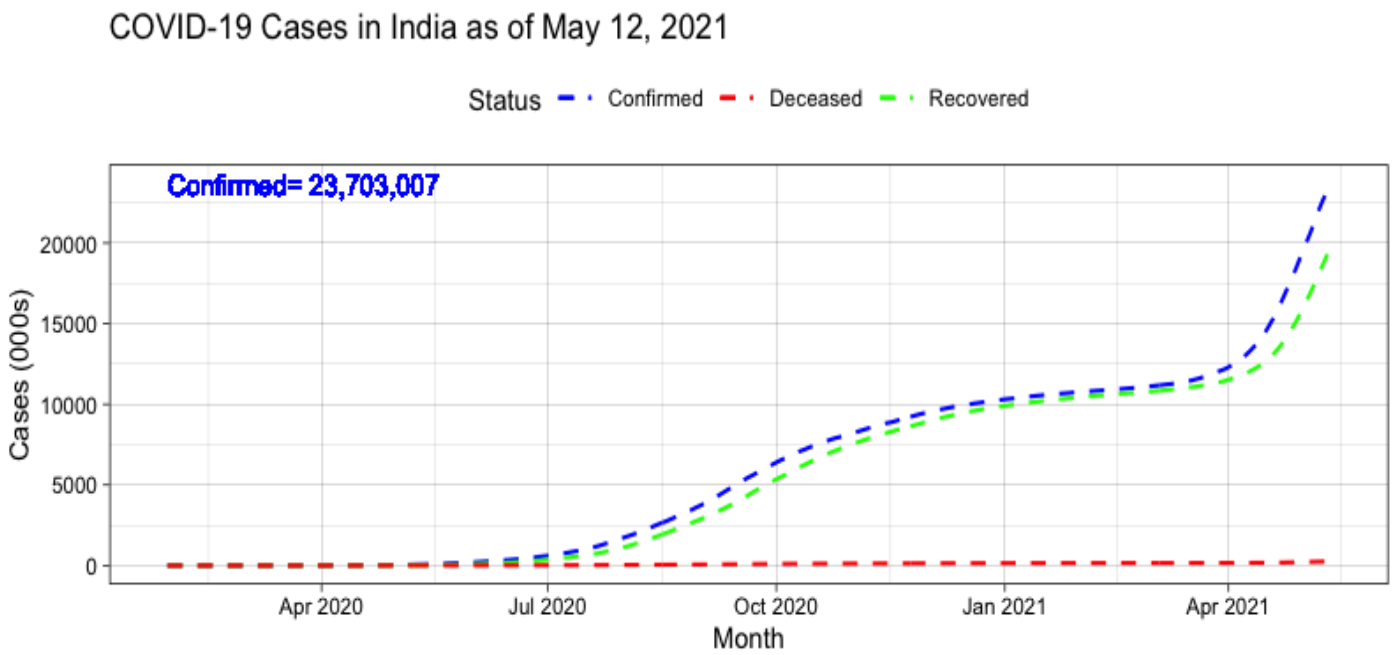
Source: Refinitiv Datastream,

Figure 19: Daily Coronavirus cases across countries (As on May 14th, 2021)



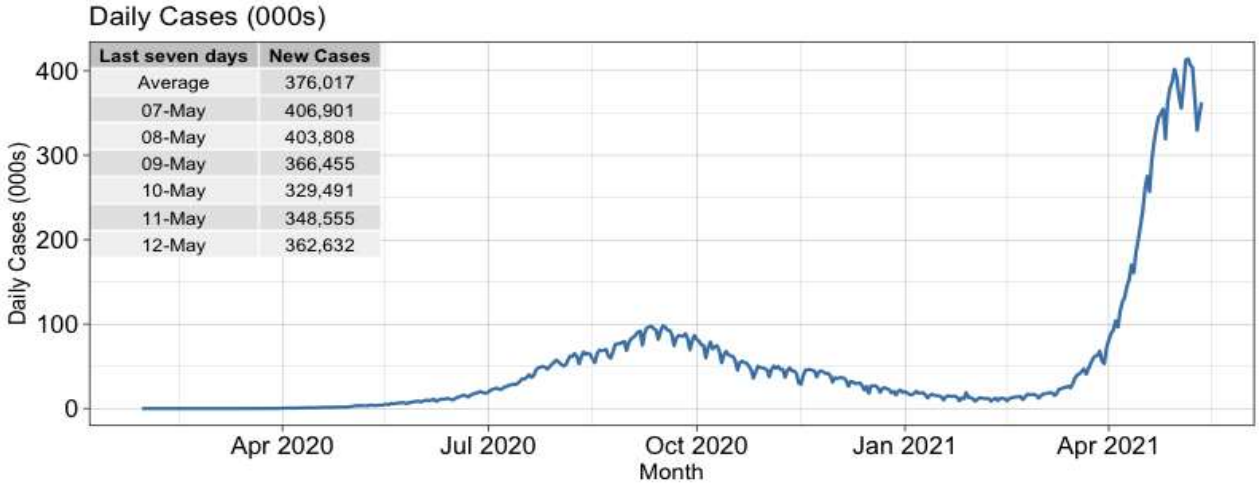
Source: Refinitiv Datastream,

Figure 20: COVID-19 cases in India (as of May 12th, 2021)



Source: covid19india.org.

Figure 21: COVID-19 daily cases in India (as of May 12th, 2021)

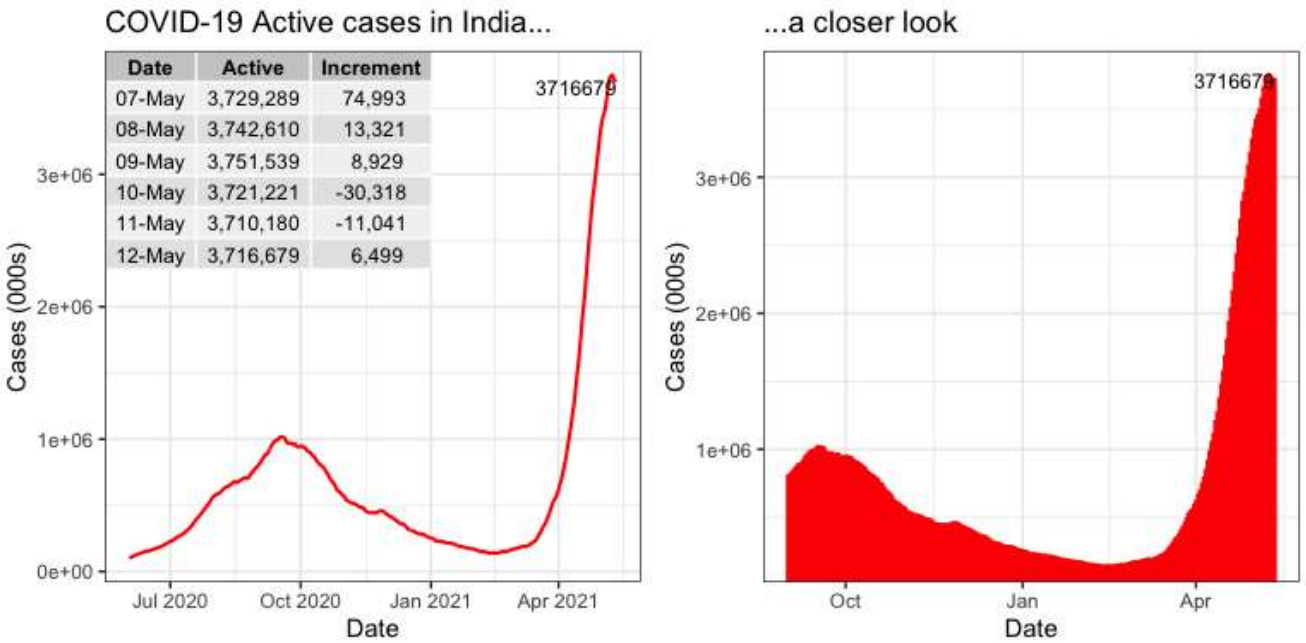


Last seven days	New Cases
Average	376,017
07-May	406,901
08-May	403,808
09-May	366,455
10-May	329,491
11-May	348,555
12-May	362,632

Source: covid19india.org

Figure 22: COVID-19 active cases in India (as of May 12th, 2021)

Active cases in India have been on a steep rise since the start of the second wave in mid-February, with current tally rising to nearly 4x of the peak level seen during the first wave.



Source: covid19india.org.

Figure 23: Month-wise COVID-19 progression

Month	Daily confirmed (average)	Daily recovered (average)	Daily deceased (average)	Cumulative confirmed (eop)
Jan'20	0	0	0	1
Feb'20	0	0	0	3
Mar'20	53	5	2	1,635
Apr'20	1,100	297	37	34,866
May'20	5,000	2,671	137	190,649
Jun'20	13,000	8,533	400	585,795
Jul'20	36,000	24,119	618	1,697,068
Aug'20	64,000	56,188	932	3,687,953
Sep'20	87,000	81,087	1,089	6,310,276
Oct'20	60,000	71,595	756	8,183,317
Nov'20	43,000	46,633	517	9,463,178
Dec'20	27,000	32,037	366	10,286,234
Jan'21	14,313	16,736	164	10,758,551
Feb'21	12,622	12,520	98	11,111,978
Mar'21	35,763	22,191	186	12,220,634
Apr'21	231,211	140,023	1,629	19,156,979
May'21 *	378,835	337,962	3,876	23,703,007

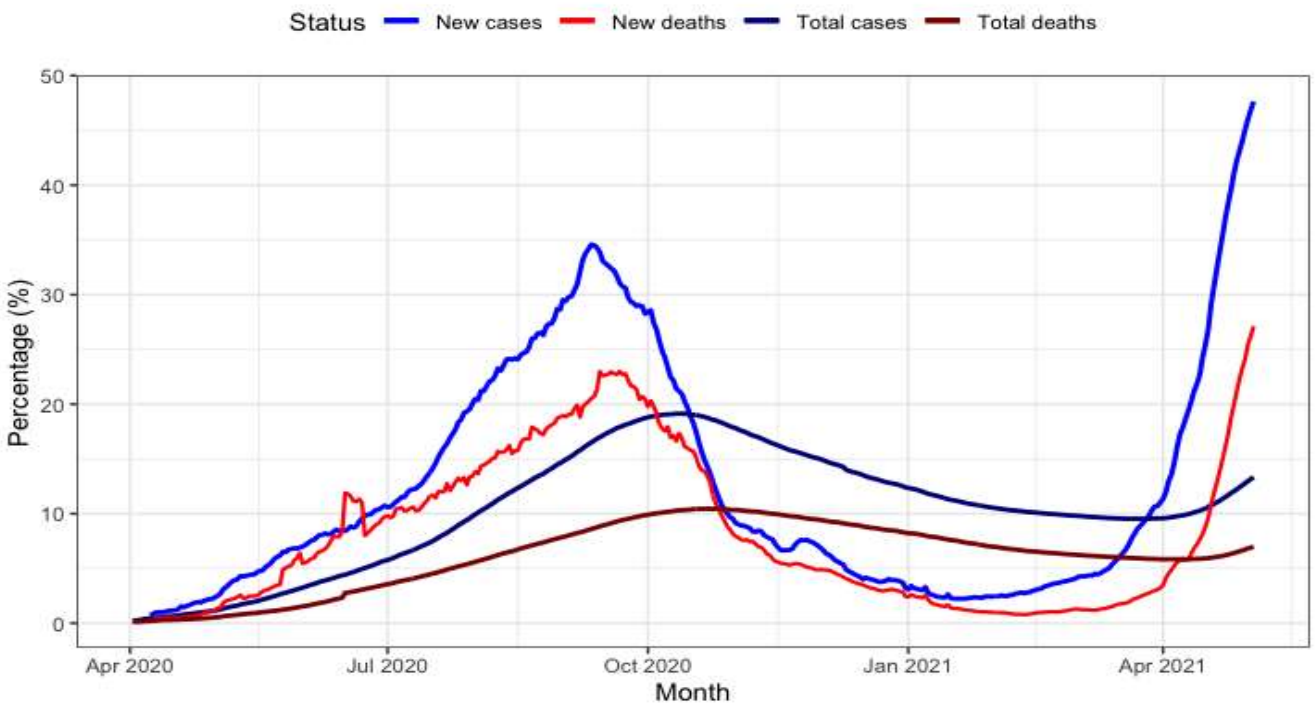
Source: covid19india.org. * As of May 12th, 2021

Daily cases in India have been on a steep rise since the second half of February and have surged well past the peak of the first wave. The Government has avoided a nationwide lockdown and left state governments to announce restrictions as per the condition of their respective states. Consequently, many states have resorted to shorter lockdowns and curfews to break the chain of the virus. As of May 15th, 2021, daily cases recorded were 310,757 (Source: covid19india.org). Maharashtra, Kerala, Karnataka, Tamil Nadu

and Andhra Pradesh are amongst the states recording the highest number of confirmed cases but there is an observed rise across the country.

The country's total and daily share of incremental cases, as of September 30th , 2020, was 19% and 27% respectively which fell to 10% and 3% respectively by January 31st, 2021. However, India's second wave in cases has resulted in a sharp jump in India's daily share to more than 50%, while its share of total confirmed cases has risen to 15.1% on May 15th, 2021 from 9.4% as of March-end. India's mortality rate has dropped from 1.4% to 1.1% post the second wave, nearly half of the global mortality rate of 2.2%. Our daily share of global deaths has jumped to nearly one-third, with recovery rate falling to 84% from a peak of ~98%. All states have increased testing capacity as the new wave of infections hit them.

Figure 24: **India's** share of the global cases and deaths



Source: worldometers.info, covid19india.org.

Figure 25: **India's share of the global** coronavirus cases (daily and total)

Date	World Daily	India Daily	India Total	World Total	India Daily Share	India Total Share
29-Feb	1,446	0	3	6,612	0.0%	0.0%
31-Mar	75,337	146	1,397	779,093	0.2%	0.2%
30-Apr	81,818	1,801	34,863	3,130,737	2.2%	1.1%
31-May	105,773	8,782	190,609	5,998,835	8.3%	3.2%
30-Jun	173,337	18,641	585,481	10,239,259	10.8%	5.7%
31-Jul	289,732	61,242	1,695,988	17,356,471	21.1%	9.8%
31-Aug	261,172	69,921	3,691,166	25,233,053	26.8%	14.6%
30-Sep	324,096	86,821	6,312,584	33,685,132	26.8%	18.7%
31-Oct	473,618	46,963	8,184,082	45,711,629	9.9%	17.9%
30-Nov	496,892	31,118	9,462,809	62,778,734	6.3%	15.1%
30-Dec	747,664	21,822	10,266,674	81,926,995	2.9%	12.5%
30-Jan	513,060	13,044	10,747,091	103,130,698	3.0%	10.0%
28-Feb	322,449	15,614	11,111,978	114,644,539	4.8%	9.7%
30-Mar	564,208	53,480	12,149,335	126,974,931	9.5%	9.6%
30-Apr	886,822	386,555	18,762,976	149,019,351	43.6%	12.6%
15-May	677,387	311,170	24,684,077	161,513,458	45.9%	15.3%

Source: worldometers.info, covid19india.org.

Figure 26: **India's share of the global coronavirus deaths (daily and total)**

Date	World Daily	India Daily	India Total	World Total	India Daily Share	India Total Share
29-Feb	22	0	0	105	0.0%	0.0%
31-Mar	4,722	3	35	40,947	0.1%	0.1%
30-Apr	5,830	75	1,154	228,555	1.3%	0.5%
31-May	2,768	223	5,408	362,422	8.1%	1.5%
30-Jun	4,907	507	17,400	494,899	10.3%	3.5%
31-Jul	6,194	793	36,511	661,570	12.8%	5.5%
31-Aug	4,198	819	65,288	836,248	19.5%	7.8%
30-Sep	6,399	1,181	98,678	999,643	18.5%	9.9%
31-Oct	6,526	470	122,111	1,179,890	7.2%	10.3%
30-Nov	8,564	482	137,621	1,450,169	5.6%	9.5%
30-Dec	14,976	299	148,738	1,783,126	2.0%	8.3%
30-Jan	14,092	127	154,312	2,230,317	1.0%	7.0%
28-Feb	9,918	108	156,603	2,544,070	1.1%	6.2%
31-Mar	12,174	459	162,927	2,786,089	3.8%	5.8%
30-Apr	14,922	3,498	208,330	3,134,652	23.4%	6.6%
15-May	11,649	4,077	270,284	3,385,540	35%	8%

Source: worldometers.info, covid19india.org.

Total confirmed cases in a state can be misleading since area, population and population density need to be taken into account as well. States that saw the virus spreading early on during the first wave include Maharashtra, Kerala and Delhi but were able to bring their case load under control. These states also saw surges after festivals in August and November but were on a steady downward trajectory from December to February, before the second wave began. Maharashtra, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh and Uttar Pradesh are currently recording a high number of daily cases, but active cases are rising across the country. Maharashtra is seeing early signs of flattening of the curve.

Mortality levels pan-India have dropped to 1.1% from 1.4% while recovery rates, at ~84%, have significantly declined from the ~98% seen in Janurary 2021 due to the

severe second wave. All states have increased their testing capacity but due to the difference in demographics, ranking of states differs meaningfully across confirmed and active cases.

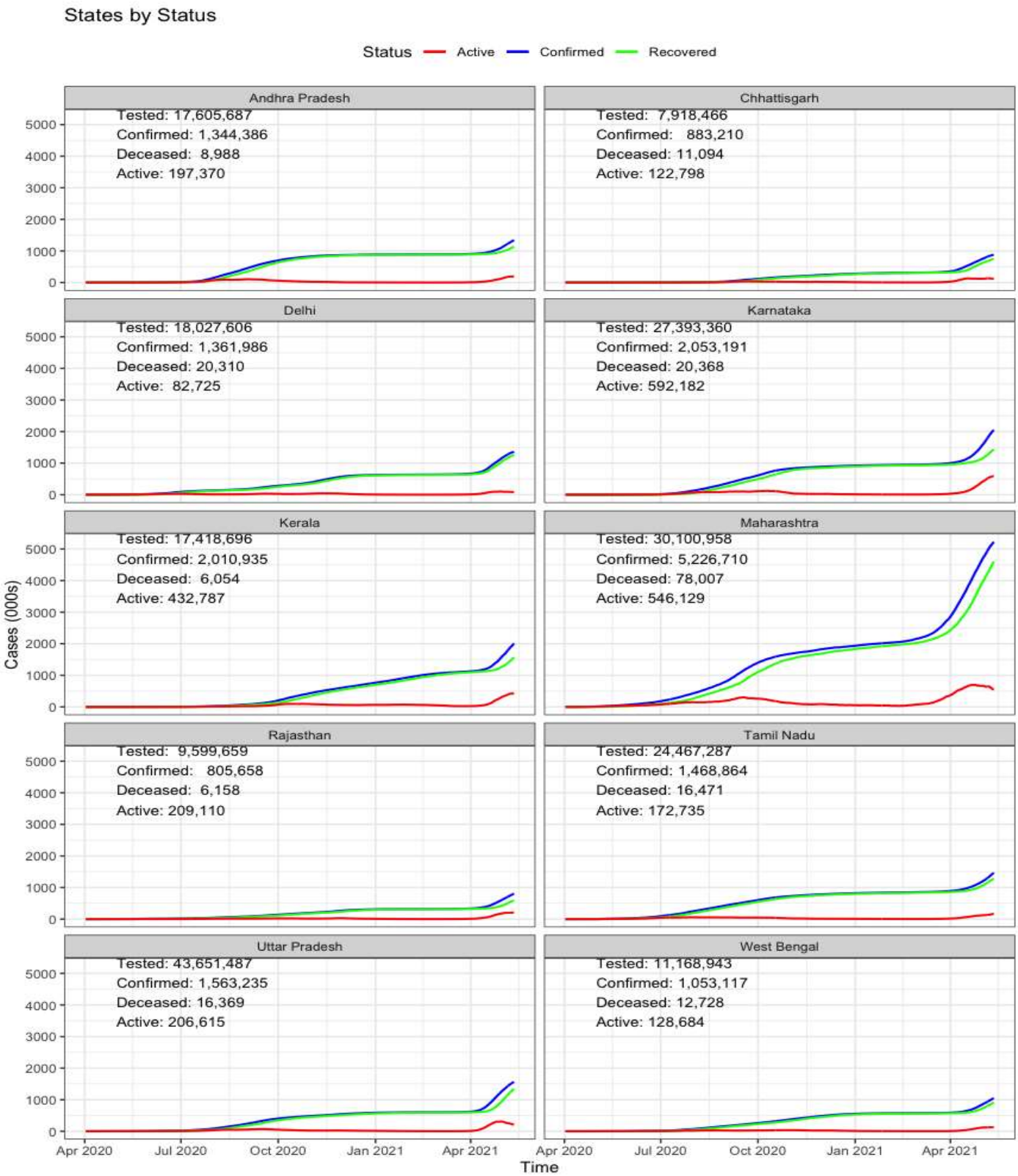
The second wave is being attributed to a few reasons. A low case count in January and February, along with the commencement of the vaccination drive, led to people letting their guard down. Elections in five states (West Bengal, Tamil Nadu, Assam, Kerala and Puducherry), and religious festivals worsened the spread. Medical professionals also believe that the virus has mutated to a more transmissible form and seems to have affected the younger population as well this time. The heathcare system is being pushed to the limit in many states as hospitals fall short of oxygen and drugs used to treat COVID-19. Lockdowns, weaker restrictions and curfews are some of the containment measures state governments have resorted to.

Figure 27: Restrictions imposed across worst affected states

State	Restrictions imposed currently
Maharashtra	- Public transport for essential services and medical patients. - Closure of public places. - Essential stores to remain open in the morning but delivery may continue through the day.
Uttar Pradesh	- Partial lockdown imposed. - Essential activities and e-commerce allowed. - Essential stores outside containment zones allowed to remain open.
Karnataka	- Complete lockdown announced. - No movement of citizens after 10 AM. - Essential stores will function from 6 AM to 10 AM.
Kerala	- Statewide complete lockdown with movement of citizens allowed only for emergencies.
Rajasthan	- Complete lockdown imposed. - Essential stores allowed to stay open.
Gujarat	- Stricter restrictions imposed on 29 towns. - Public places to remain closed but essential stores remain open and restaurants allowed delivery and takeaway service. - Industrial and construction activity may continue.
West Bengal	- Public places will remain closed. - Local trains suspended. - Selected stores to remain open within the permitted time.
Tamil Nadu	- Total lockdown imposed in the state.
Andhra Pradesh	- Strict night curfew from 10 PM to 5 AM. - Section 144 in effect from 6 AM to 12 PM.

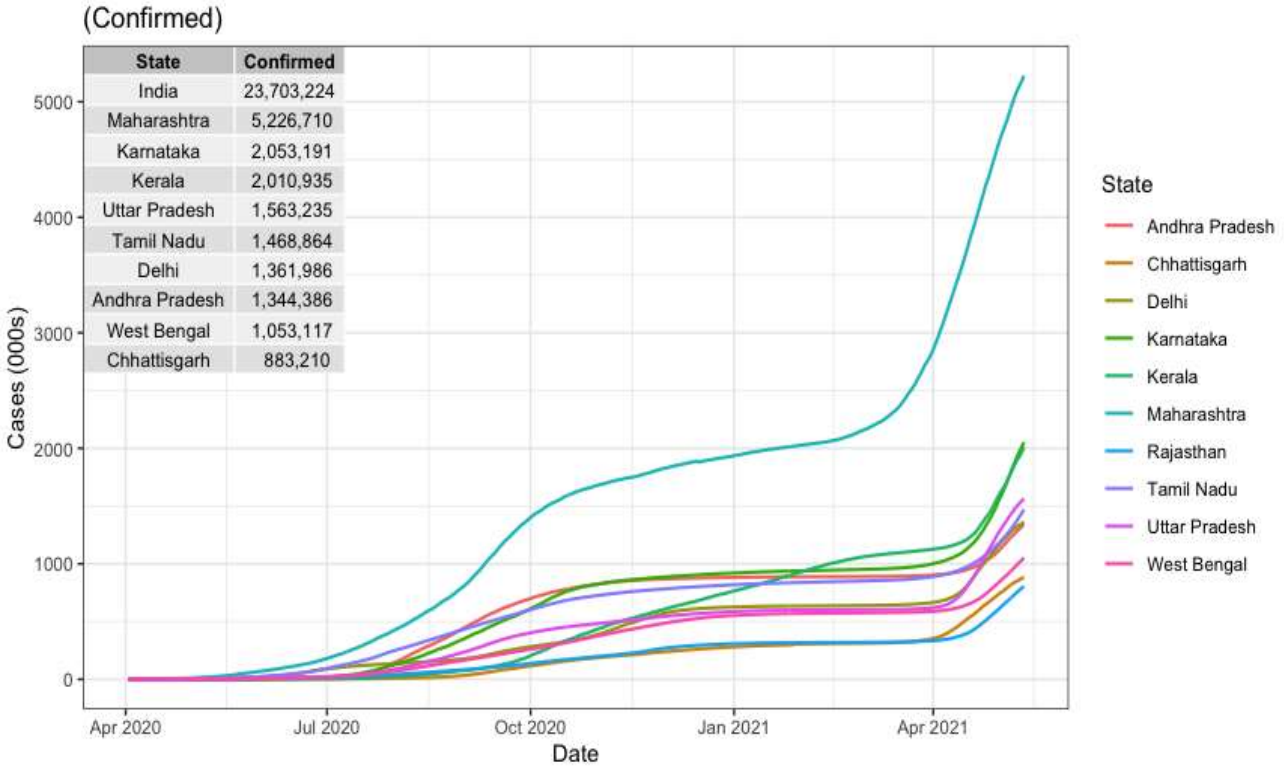
Source: Media reports.

Figure 28: COVID-19 Cases Panel in India across States (Confirmed, Recovered, Active) as of May 12th, 2021



Source: covid19india.org

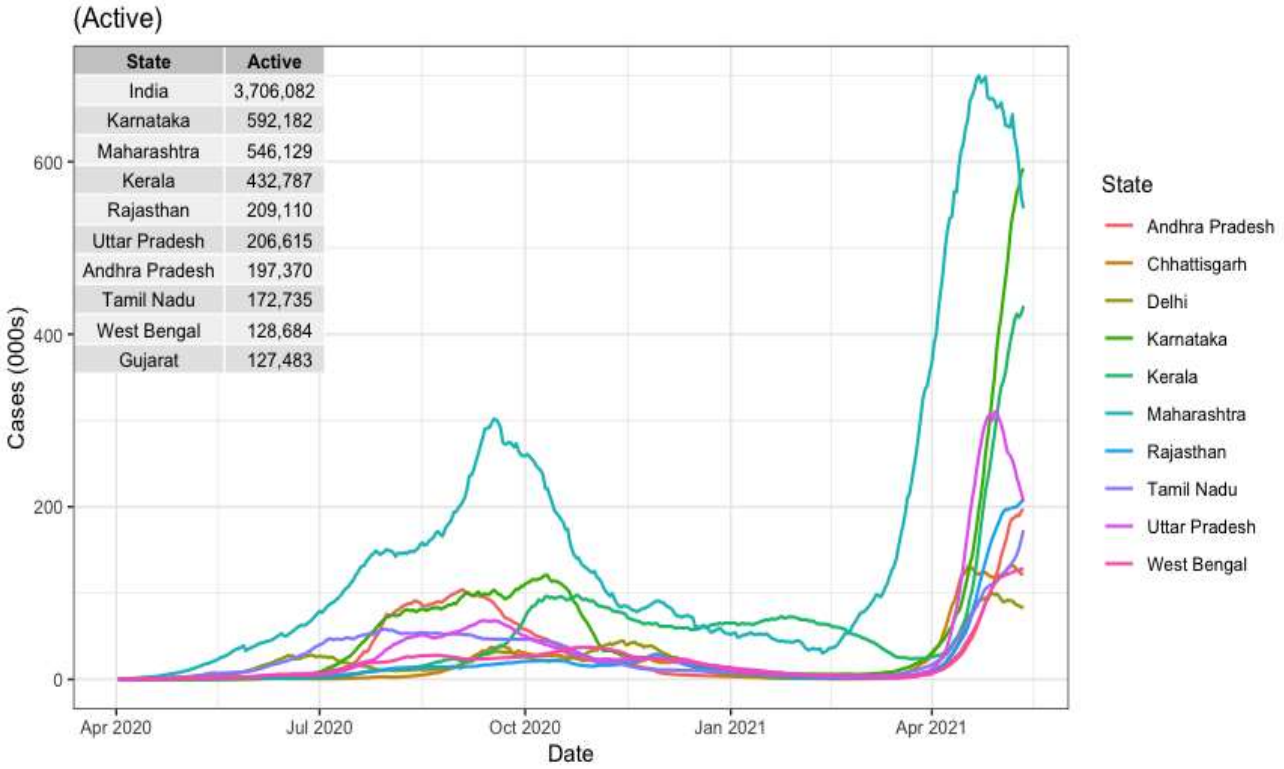
Figure 29: COVID-19 Confirmed cases across major states, as of May 12th, 2021



State	Confirmed
India	23,703,224
Maharashtra	5,226,710
Karnataka	2,053,191
Kerala	2,010,935
Uttar Pradesh	1,563,235
Tamil Nadu	1,468,864
Delhi	1,361,986
Andhra Pradesh	1,344,386
West Bengal	1,053,117
Chhattisgarh	883,210

Source: covid19india.org

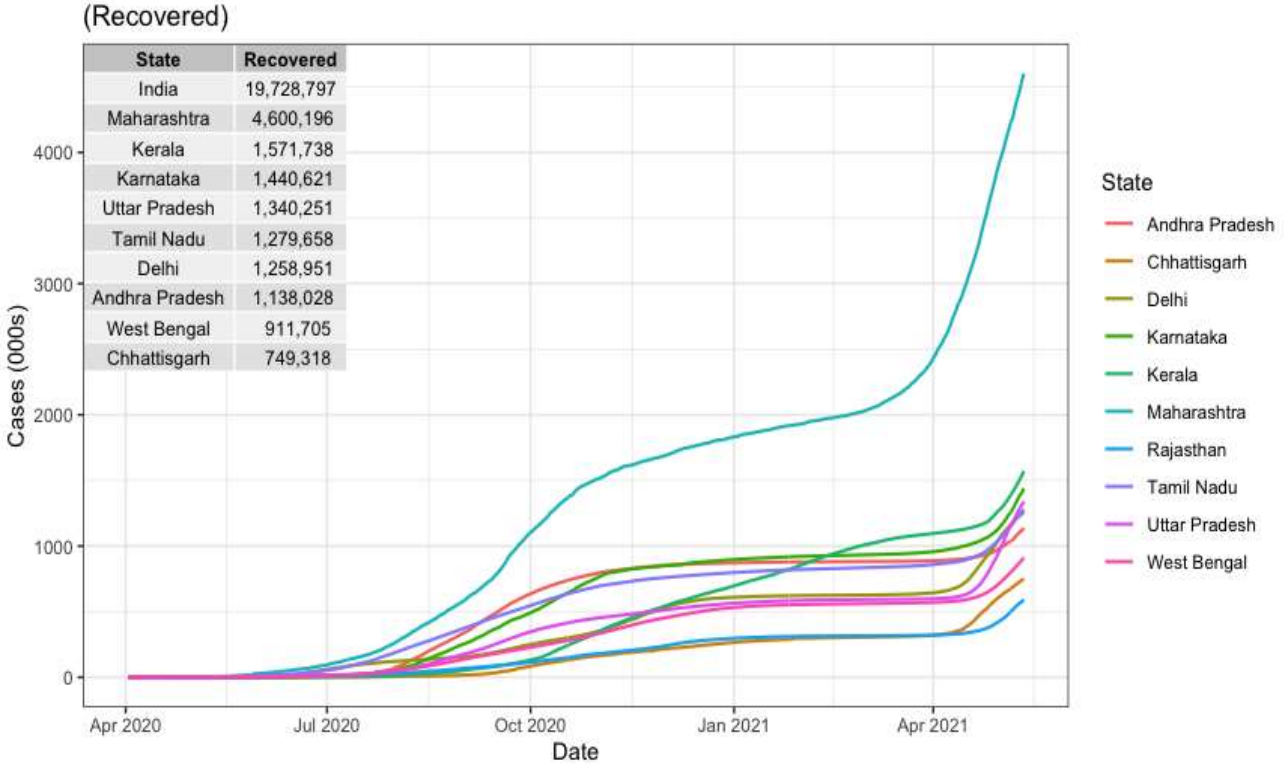
Figure 30: COVID-19 Active cases across major states, as of May 12th, 2021



State	Active
India	3,706,082
Karnataka	592,182
Maharashtra	546,129
Kerala	432,787
Rajasthan	209,110
Uttar Pradesh	206,615
Andhra Pradesh	197,370
Tamil Nadu	172,735
West Bengal	128,684
Gujarat	127,483

Source: covid19india.org

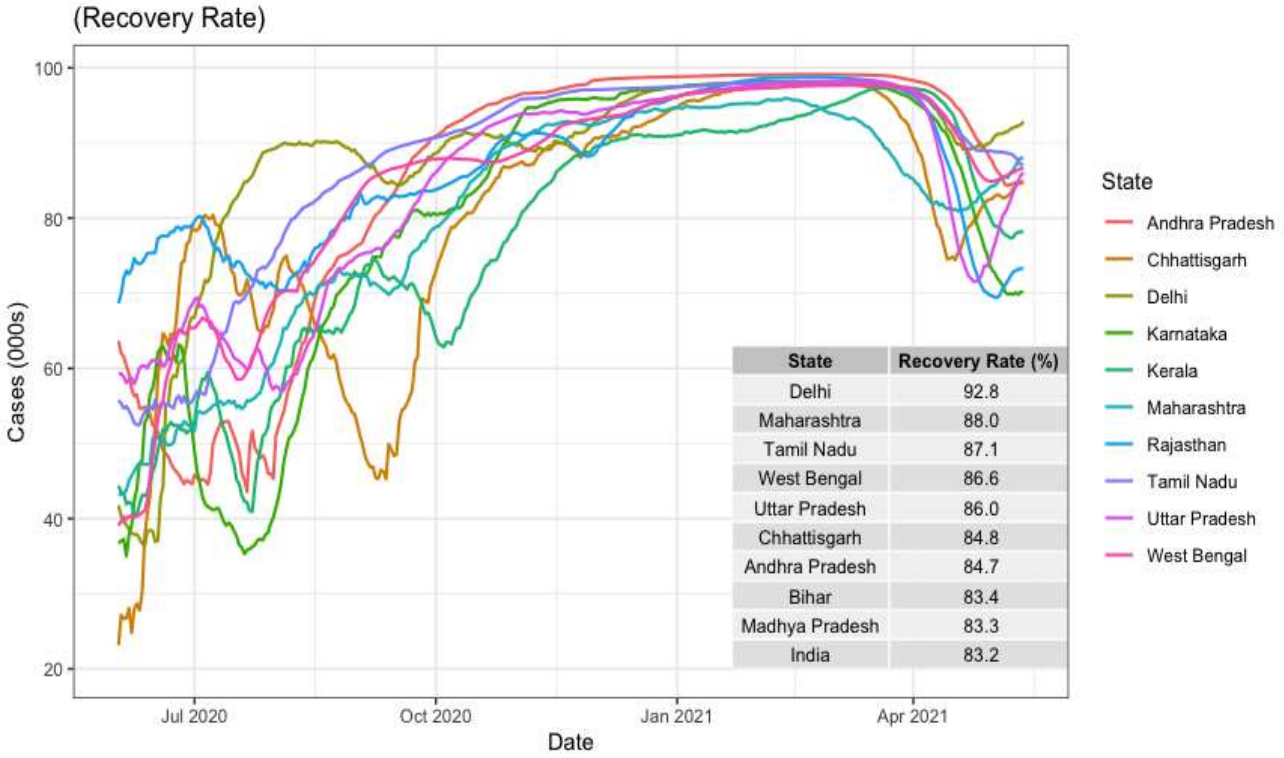
Figure 31: COVID-19 Recovered cases across major states, as of May 12th, 2021



State	Recovered
India	19,728,797
Maharashtra	4,600,196
Kerala	1,571,738
Karnataka	1,440,621
Uttar Pradesh	1,340,251
Tamil Nadu	1,279,658
Delhi	1,258,951
Andhra Pradesh	1,138,028
West Bengal	911,705
Chhattisgarh	749,318

Source: covid19india.org

Figure 32: COVID-19 recovery rate across major states, as of May 12th, 2021



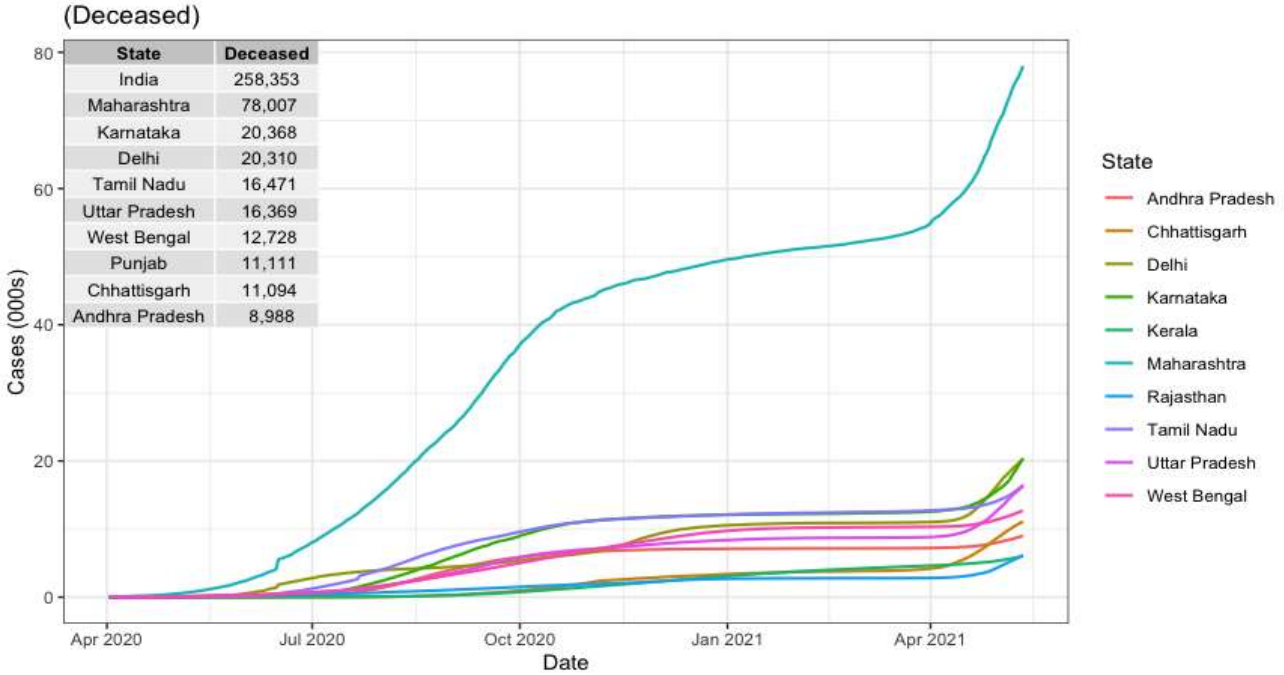
State	Recovery Rate (%)
Delhi	92.8
Maharashtra	88.0
Tamil Nadu	87.1
West Bengal	86.6
Uttar Pradesh	86.0
Chhattisgarh	84.8
Andhra Pradesh	84.7
Bihar	83.4
Madhya Pradesh	83.3
India	83.2

Source: covid19india.org

There remains a divergence between mortality rates of different states. Punjab continues to report a higher case fatality rate (CFR) of 2.4%, than the rest of the country (1.1%).

Sikkim, Uttarakhand and Maharashtra are reporting a higher CFR than the national average of 1.8%, 1.6% and 1.5% respectively. States like Kerala, Odisha and Bihar have managed a low CFR of 0.3%, 0.4% and 0.6% respectively.

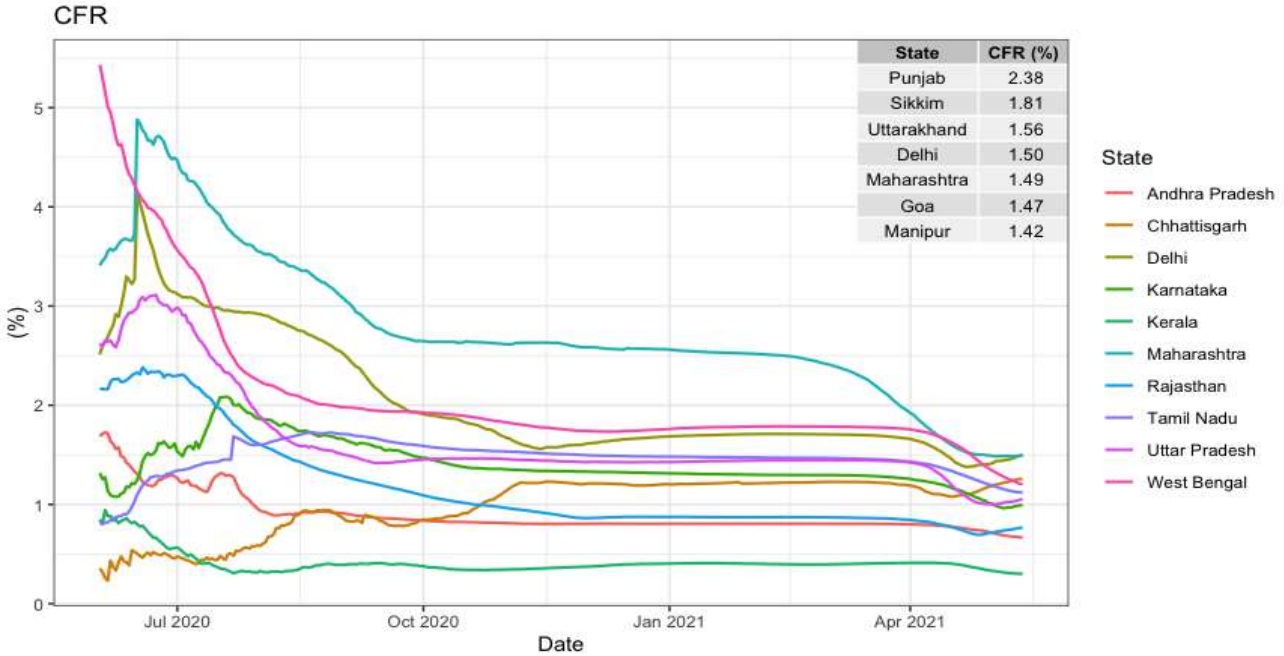
Figure 33: COVID-19 Deceased cases across major states, as of May 12th, 2021



State	Deceased
India	258,353
Maharashtra	78,007
Karnataka	20,368
Delhi	20,310
Tamil Nadu	16,471
Uttar Pradesh	16,369
West Bengal	12,728
Punjab	11,111
Chhattisgarh	11,094
Andhra Pradesh	8,988

Source: covid19india.org

Figure 34: COVID-19 Case Fatality Rate (CFR) across major states, as of May 12th, 2021



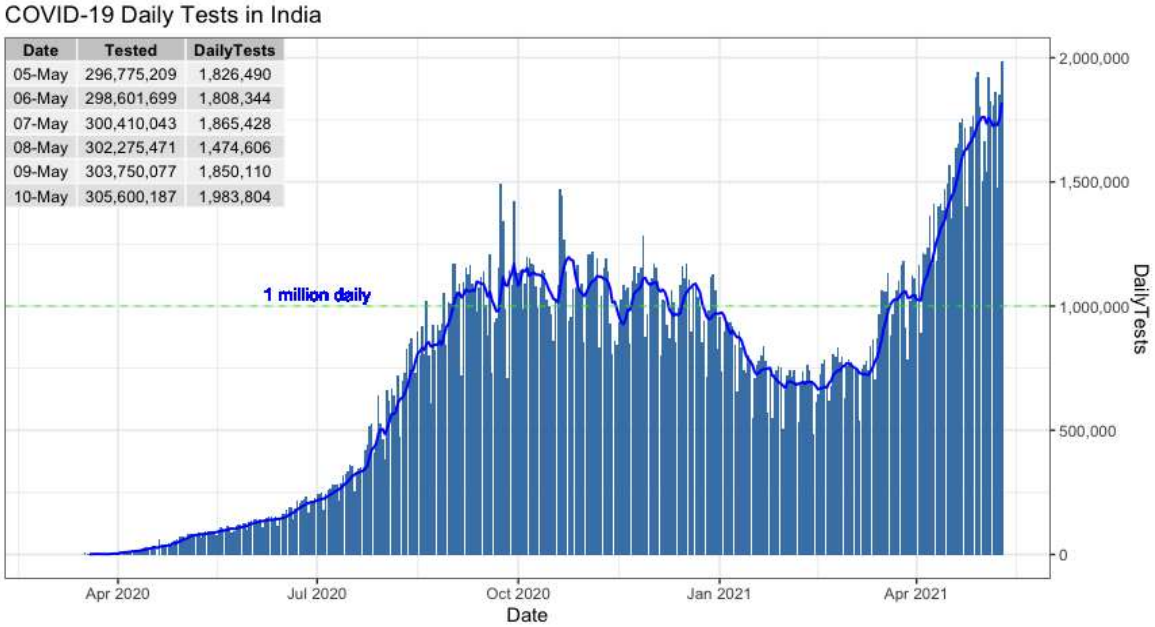
State	CFR (%)
Punjab	2.38
Sikkim	1.81
Uttarakhand	1.56
Delhi	1.50
Maharashtra	1.49
Goa	1.47
Manipur	1.42

Source: covid19india.org

The differentiating factor in containing the spread of the virus across countries continues to be the extent of testing. Uttar Pradesh, Maharashtra and Bihar have conducted the most number of tests so far while Delhi, Kerala, Karnataka and Andhra Pradesh have

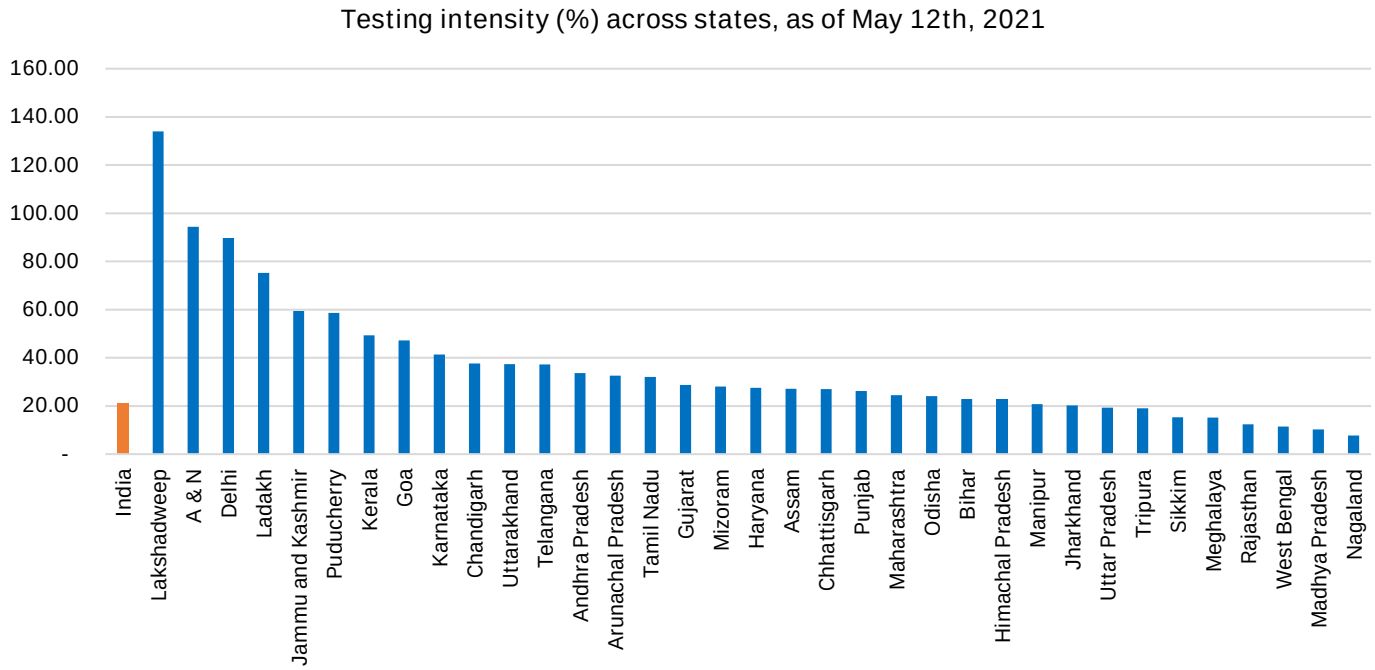
covered almost 90%, 50%, 41% and 34% of their population respectively. Testing intensity has been scaled up in states affected by the recent surge. Madhya Pradesh, Rajasthan and West Bengal continue to do poorly with respect to testing with 10%, 12% and 11% testing intensities respectively.

Figure 35: Daily COVID-19 tests in India, as on May 12th, 2021 (the trend line denotes 7DMA)



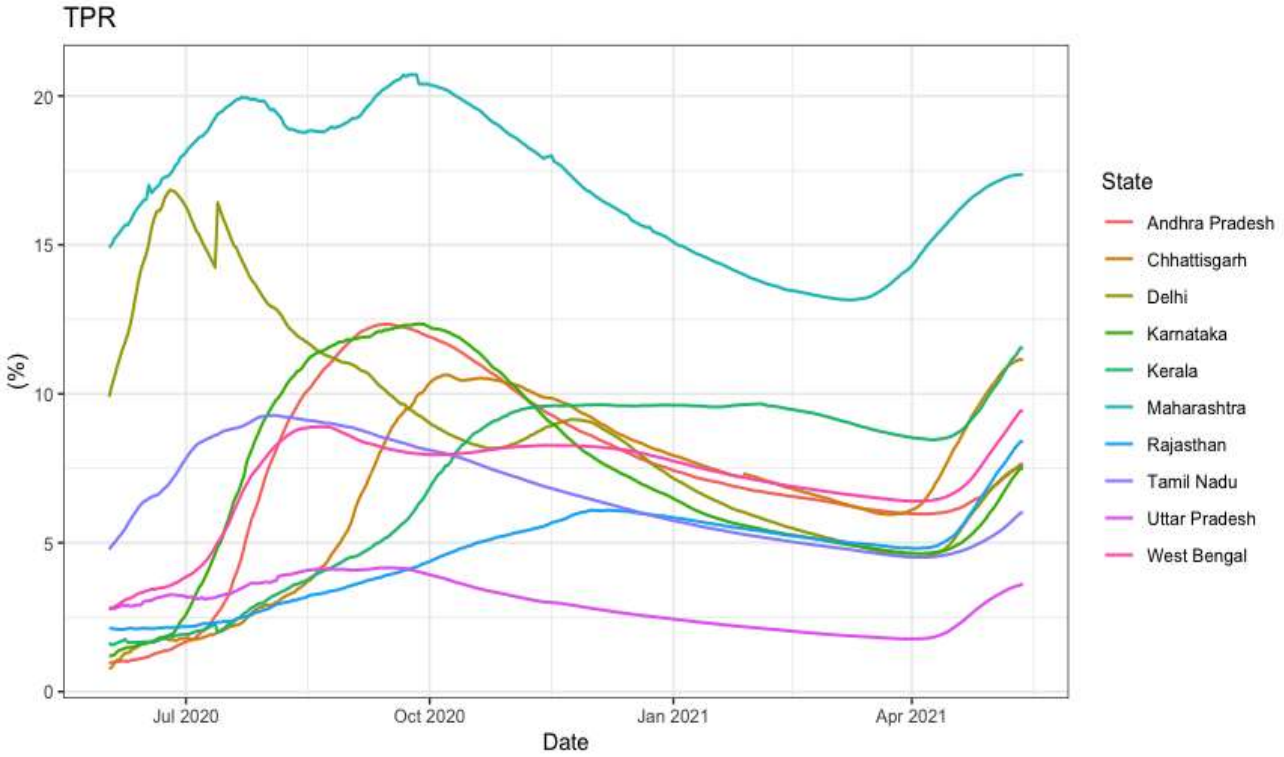
Source: covid19india.org

Figure 36: Testing intensity across states as of May 12th, 2021



Source: covid19india.org

Figure 37: COVID-19 Test Positivity Rate (TPR) across major states, as of May 12th, 2021



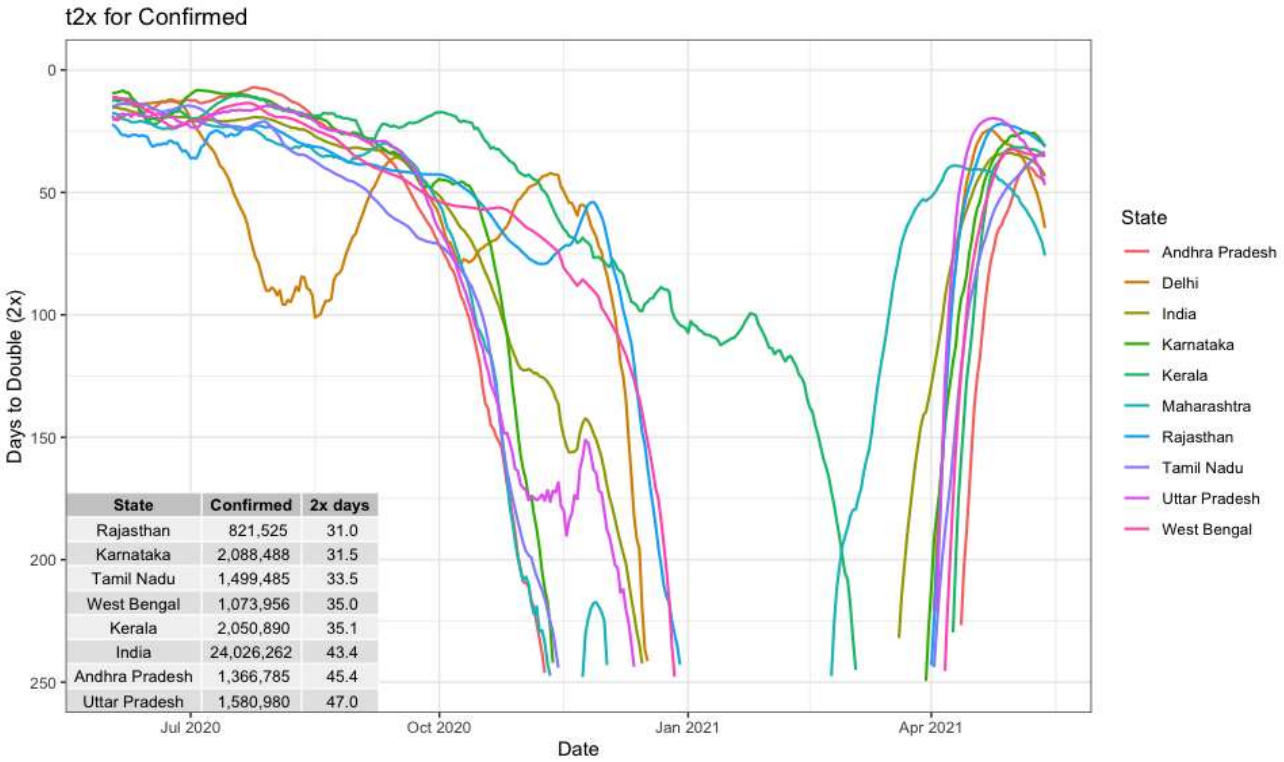
Source: covid19india.org

Infection spread across states

We have highlighted the divergence in the rate of infection across states since the pandemic hit India. In order to understand the growth trends, we consider growth in terms of the number of days it would take to double the cases. The so-called doubling-rate (2x) rate is a widely used metric for measuring rapid growth.

Most states have seen a drop in the number of days to double their current confirmed cases, due to the second wave. India's 2x rate is down to 41 days as of May 12th as compared to 404 on March 11th, 2021. Karnataka, Rajasthan and Tamil Nadu are the worst performing states with a doubling rate of 29, 30 and 33 days respectively. We see a similar trend in the number of fatalities as well–the national 2x rate has fallen to a 42 days as of April 14th as compared to 1009.8 days on March 11th. Rajasthan, Karnataka and Uttar Pradesh have worryingly low rates of 23, 25 and 33 days respectively. Gao and Maharashtra's test positivity rate (TPR) is ~17%, noticeably higher than other states. While Mahrashtra has scaled up testing considerably since the beginning of March, it lags behind states like Delhi and Karnataka. The high TPR in Maharashtra could be a consequence of insufficient testing in the state.

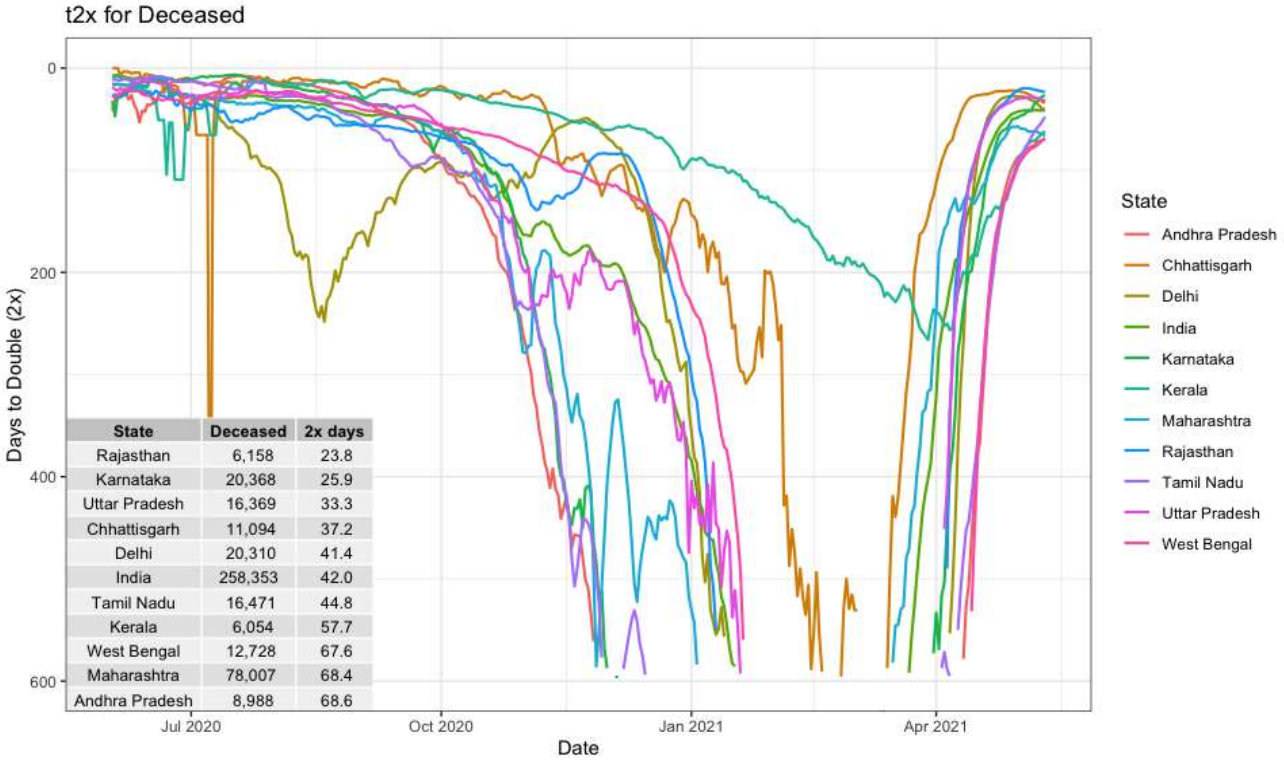
Figure 38: COVID-19 Doubling Rate: Confirmed cases across major states, as of May 12th, 2021



State	Confirmed	2x days
Rajasthan	821,525	31.0
Karnataka	2,088,488	31.5
Tamil Nadu	1,499,485	33.5
West Bengal	1,073,956	35.0
Kerala	2,050,890	35.1
India	24,026,262	43.4
Andhra Pradesh	1,366,785	45.4
Uttar Pradesh	1,580,980	47.0

Source: covid19india.org

Figure 39: COVID-19 Doubling Rate: Deceased cases across major states, as of May 12th, 2021



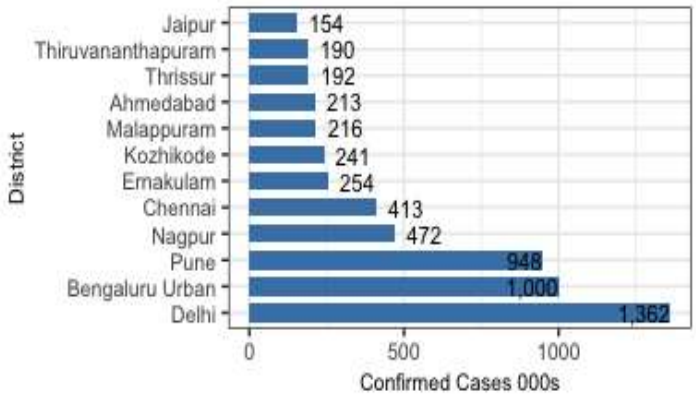
State	Deceased	2x days
Rajasthan	6,158	23.8
Karnataka	20,368	25.9
Uttar Pradesh	16,369	33.3
Chhattisgarh	11,094	37.2
Delhi	20,310	41.4
India	258,353	42.0
Tamil Nadu	16,471	44.8
Kerala	6,054	57.7
West Bengal	12,728	67.6
Maharashtra	78,007	68.4
Andhra Pradesh	8,988	68.6

Source: covid19india.org

District-level trends

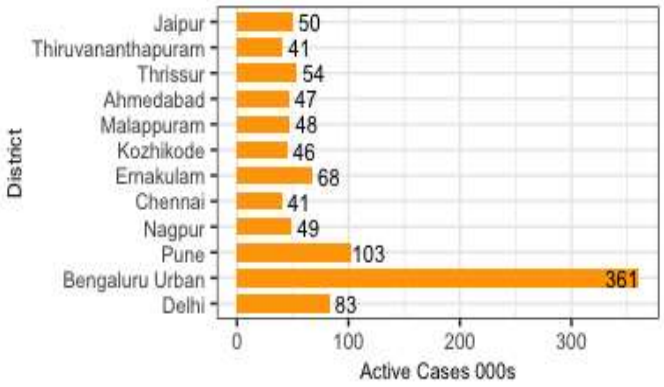
Active cases are on the rise in most parts of the country, led by a few states and districts. The number of districts with 1000+ active cases has increased to 479 and and 80 districts have more than 10,000 cases. Rural areas have been hit harder during the second wave as compared to the first. The disparity in healthcare infrastructure between urban and rural areas and vaccine hesitancy could result in a crisis unless addressed soon.

Figure 40: COVID-19 confirmed cases across districts, ranked by confirmed cases as of May 12th, 2021



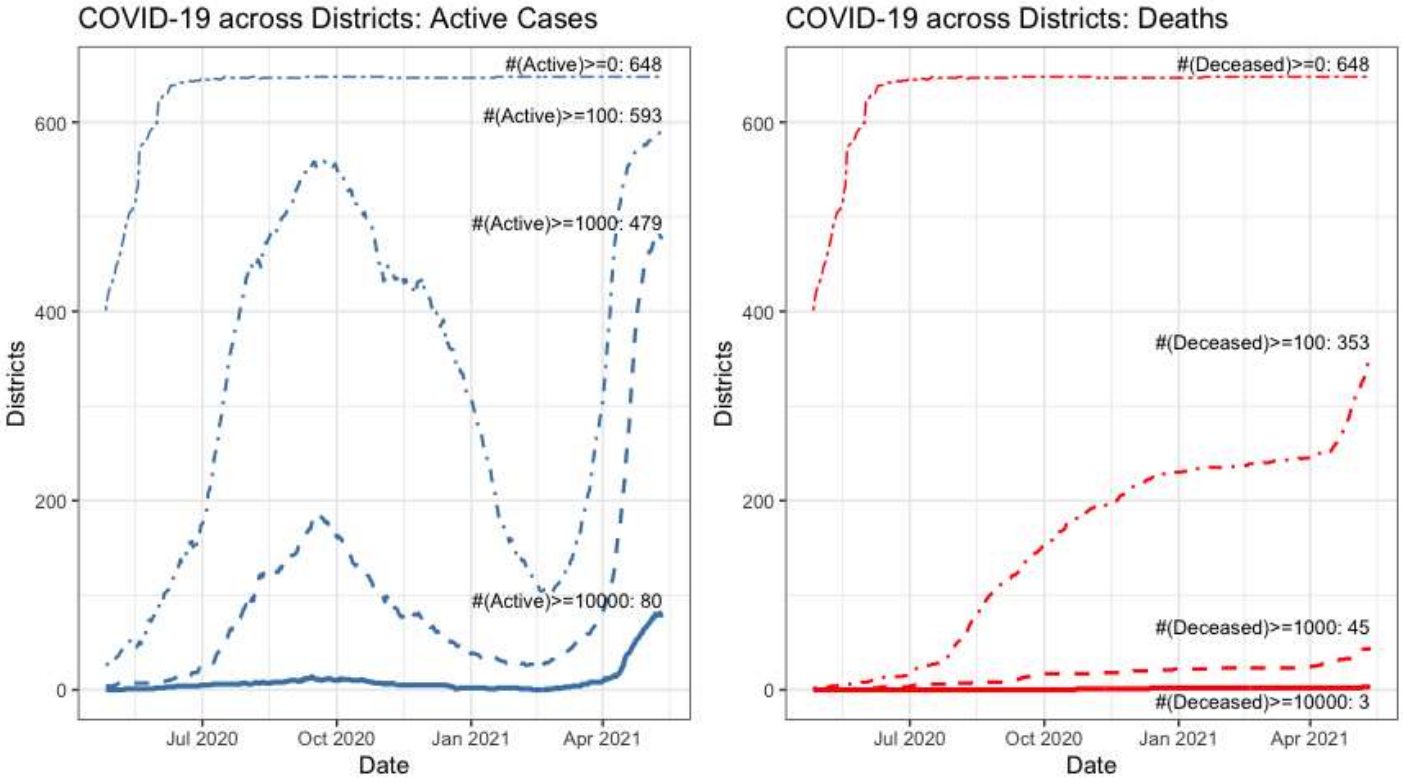
Source: covid19india.org

Figure 41: COVID-19 active cases across districts, ranked by confirmed cases as of May 12th, 2021



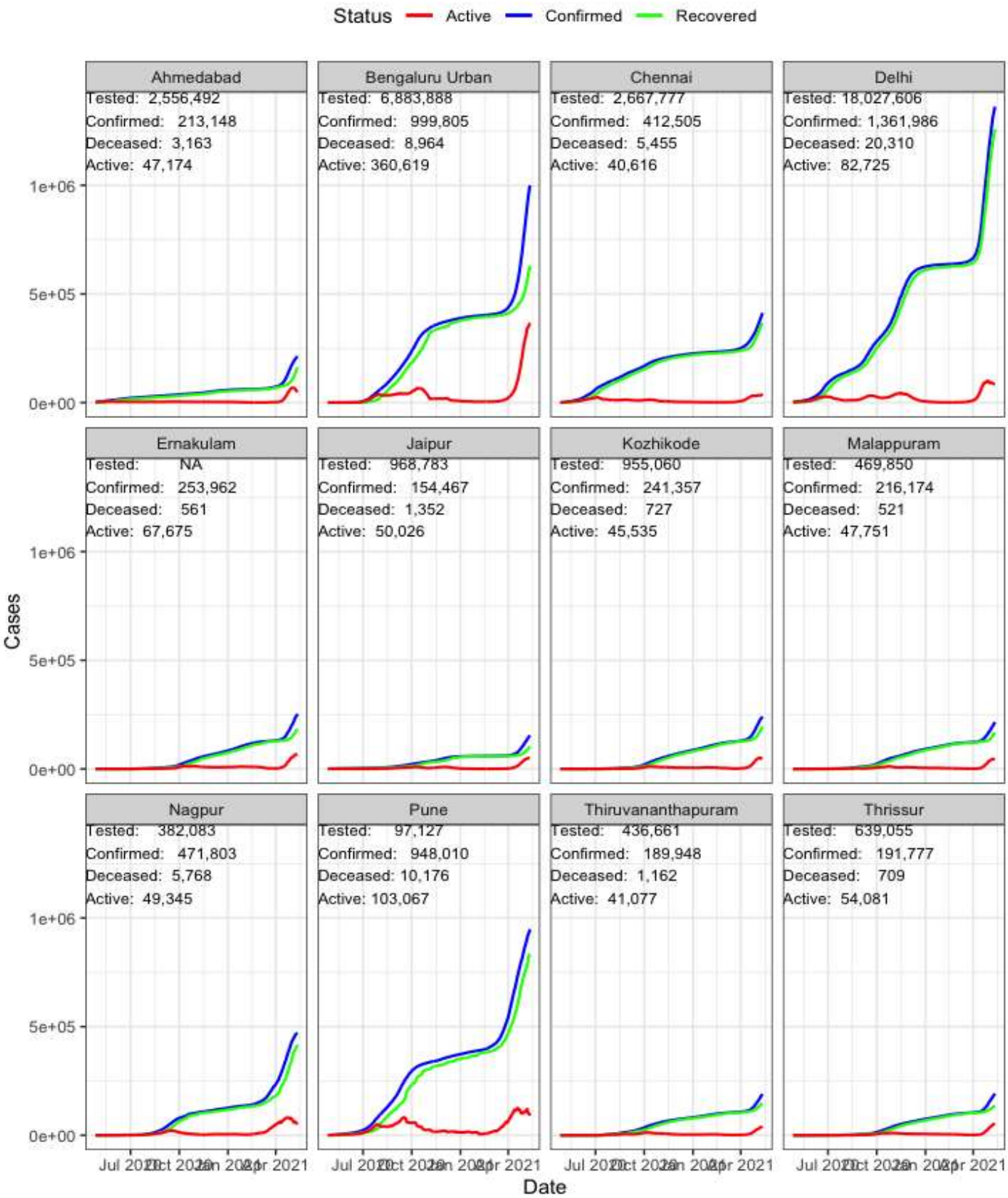
Source: covid19india.org

Figure 42: Dispersion of COVID-19 active cases and deaths across districts



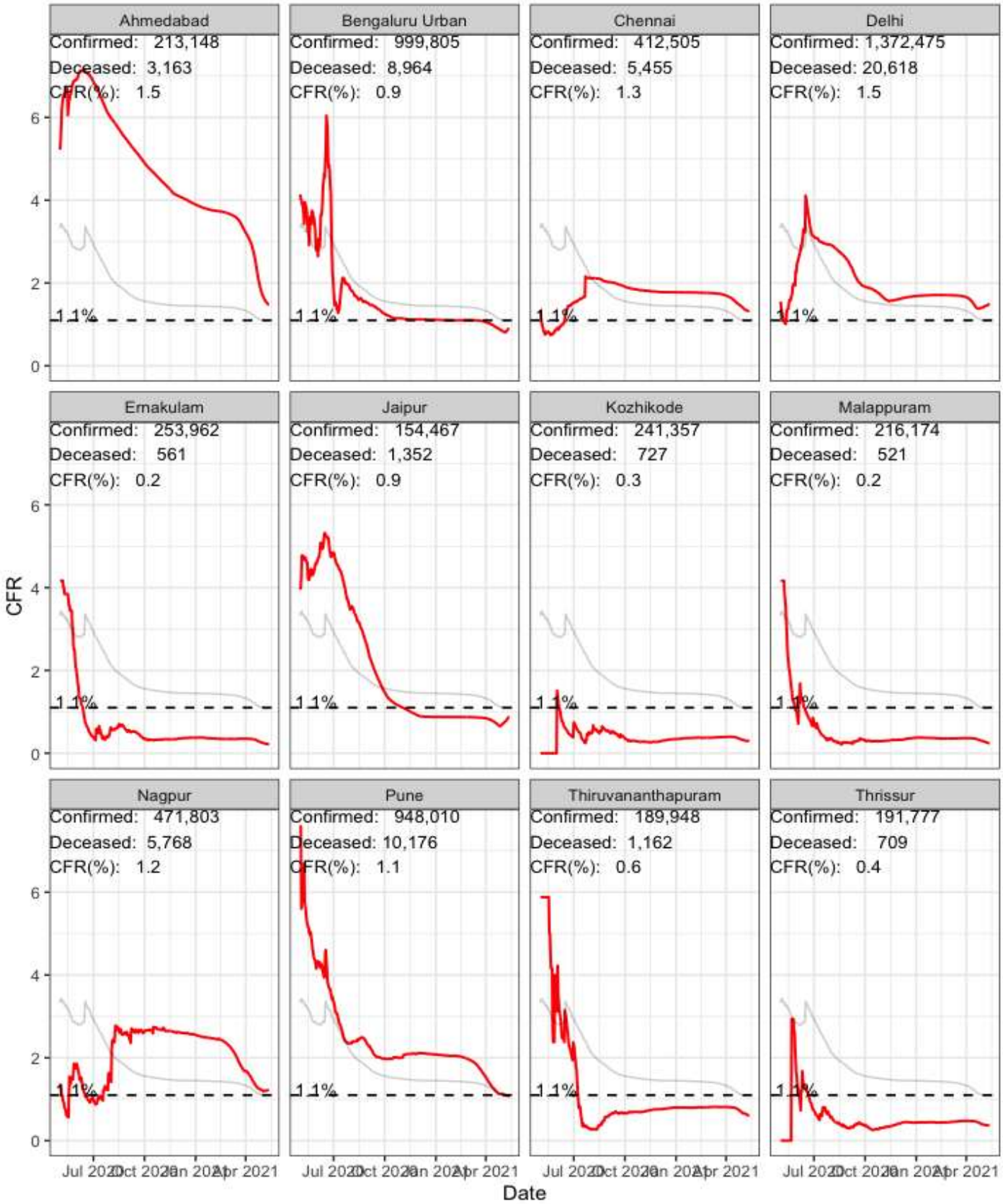
Source: covid19india.org

Figure 43: COVID-19 cases across districts, ranked by Active Cases as of May 12th, 2021



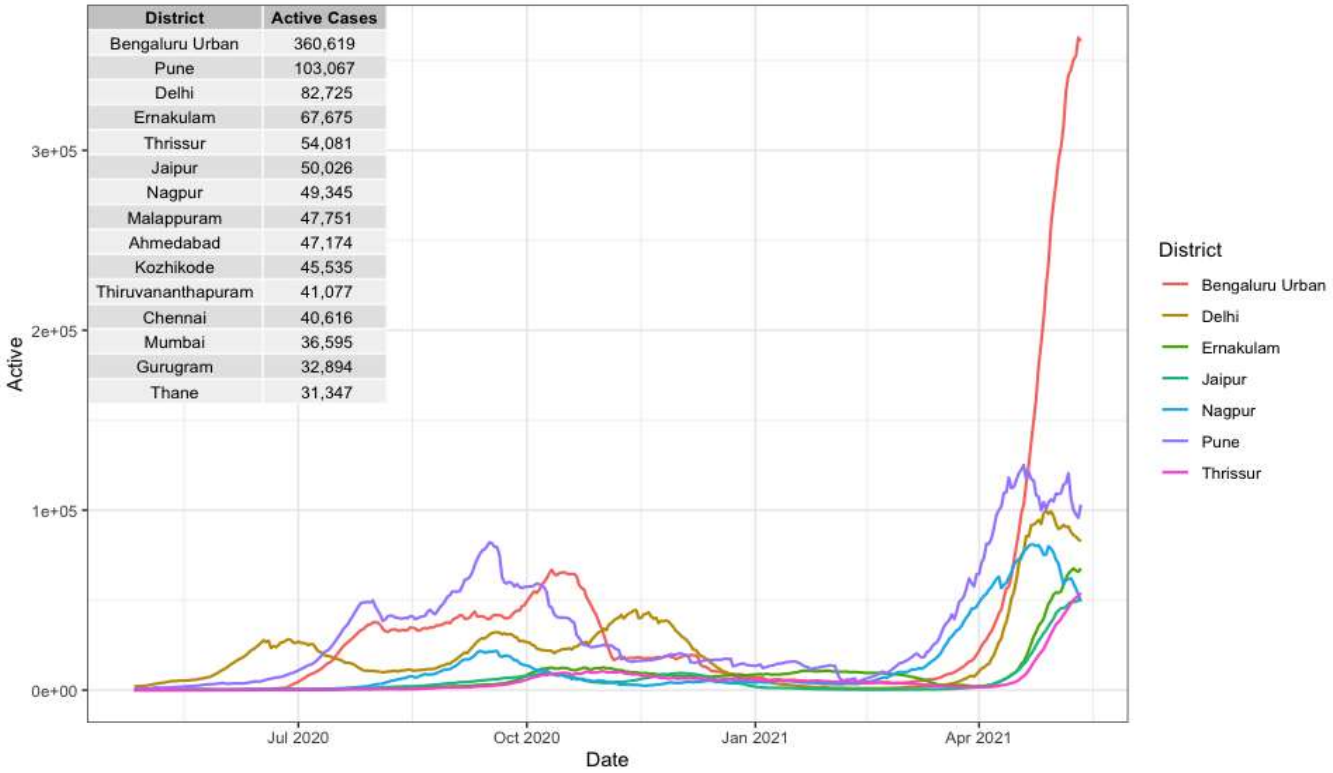
Source: covid19india.org

Figure 44: COVID-19 Case Fatality Rate (CFR) across districts, ranked by Active Cases as of May 12th, 2021



Source: covid19india.org

Figure 45: COVID-19 Active cases trend across districts ranked by Active Cases as of May 12th, 2021



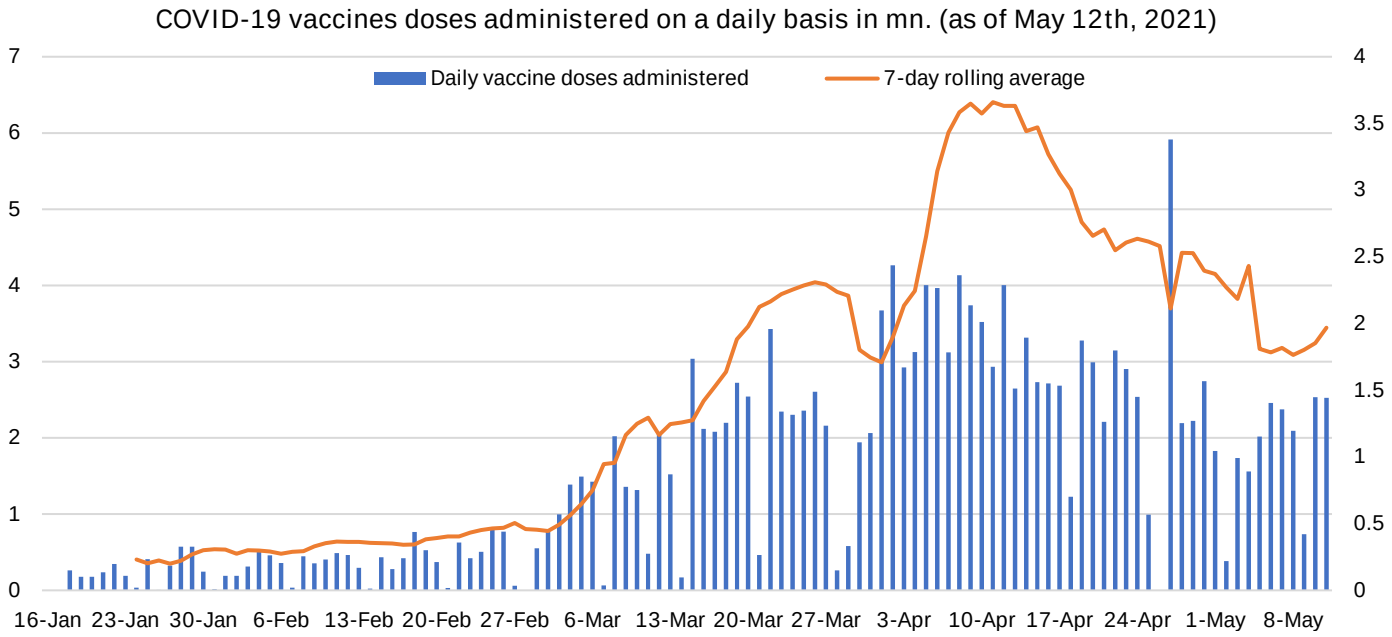
Source: covid19india.org

COVID-19 vaccine roll-out

India opened its vaccination programme to all citizens above 18 years of age on May 1st, 2021. The pace of vaccination has slowed down since the first week of April due to many states reporting shortage of vaccines. Maharashtra and Karnataka have even paused the drive for citizens between 18 and 44 years to ensure that older people get their second dose on time. The pace is expected to pick up only after the states receive a continuous supply of vaccines from manufacturers.

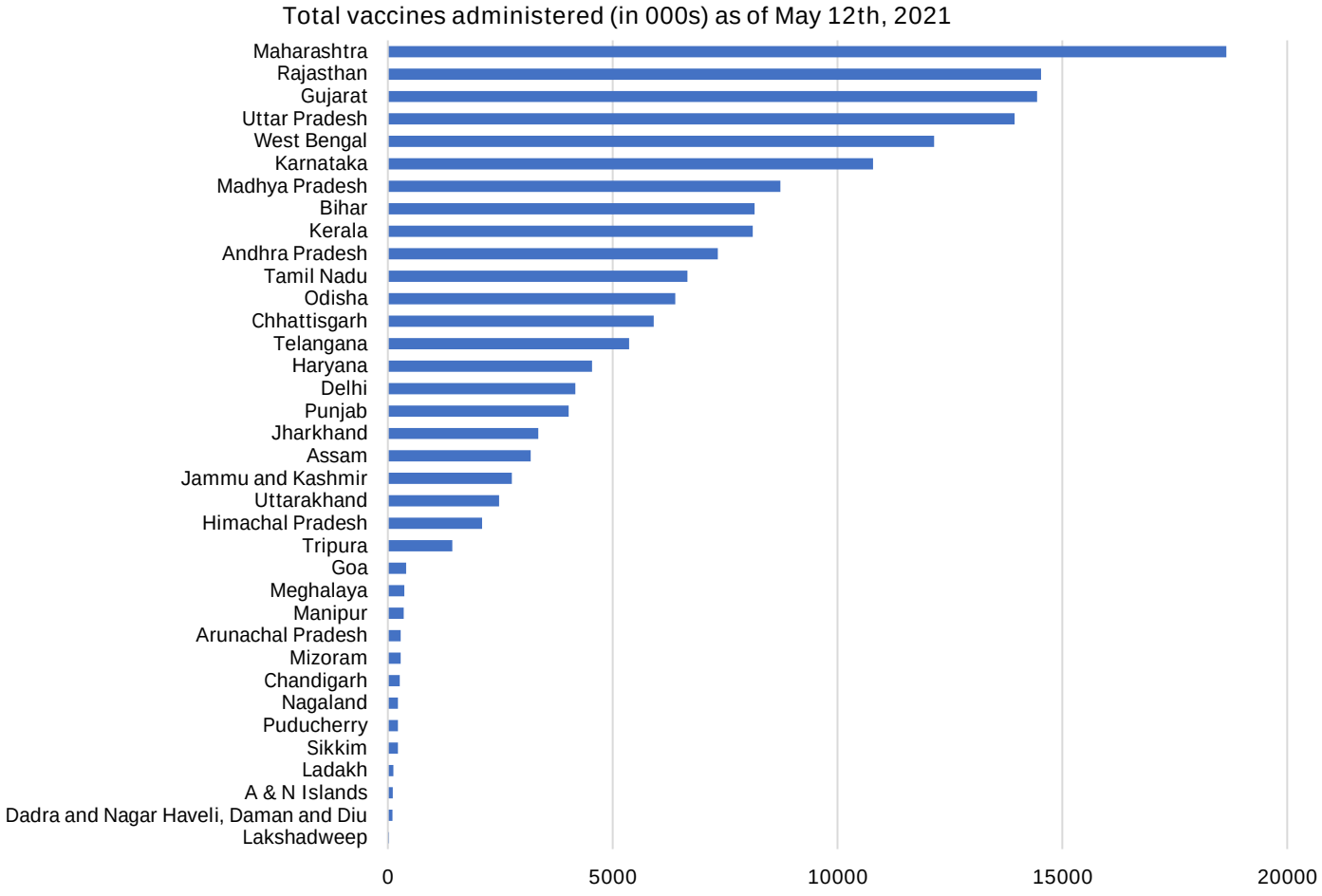
As of May 15th, 2021, India had vaccinated over 180m people making it the country with the third highest doses of vaccines administered, after the United States and China. However, when looked at the share of population being vaccinated, India has remained a laggard, having fully vaccinated a mere 3% of the population vs. 4.4% for the world. The pace of inoculation and coverage of population differs meaningfully across countries and factors viz. access to vaccines, population levels, income levels and health infrastructure.

Figure 46: COVID-19 vaccine doses administered in India



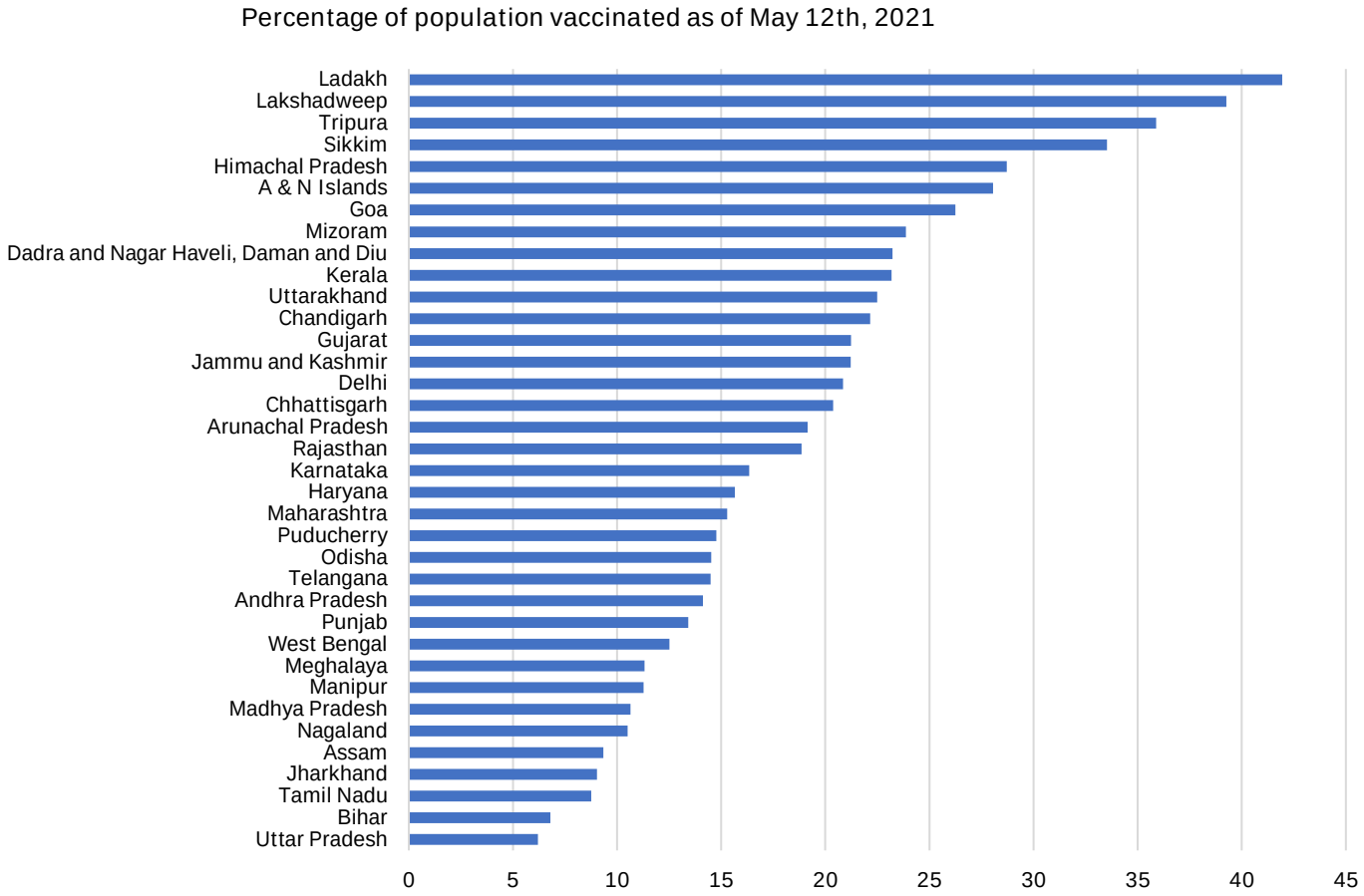
Source: covid19india.org

Figure 47: State-wise cumulative COVID-19 vaccine does, as of May 12th, 2021



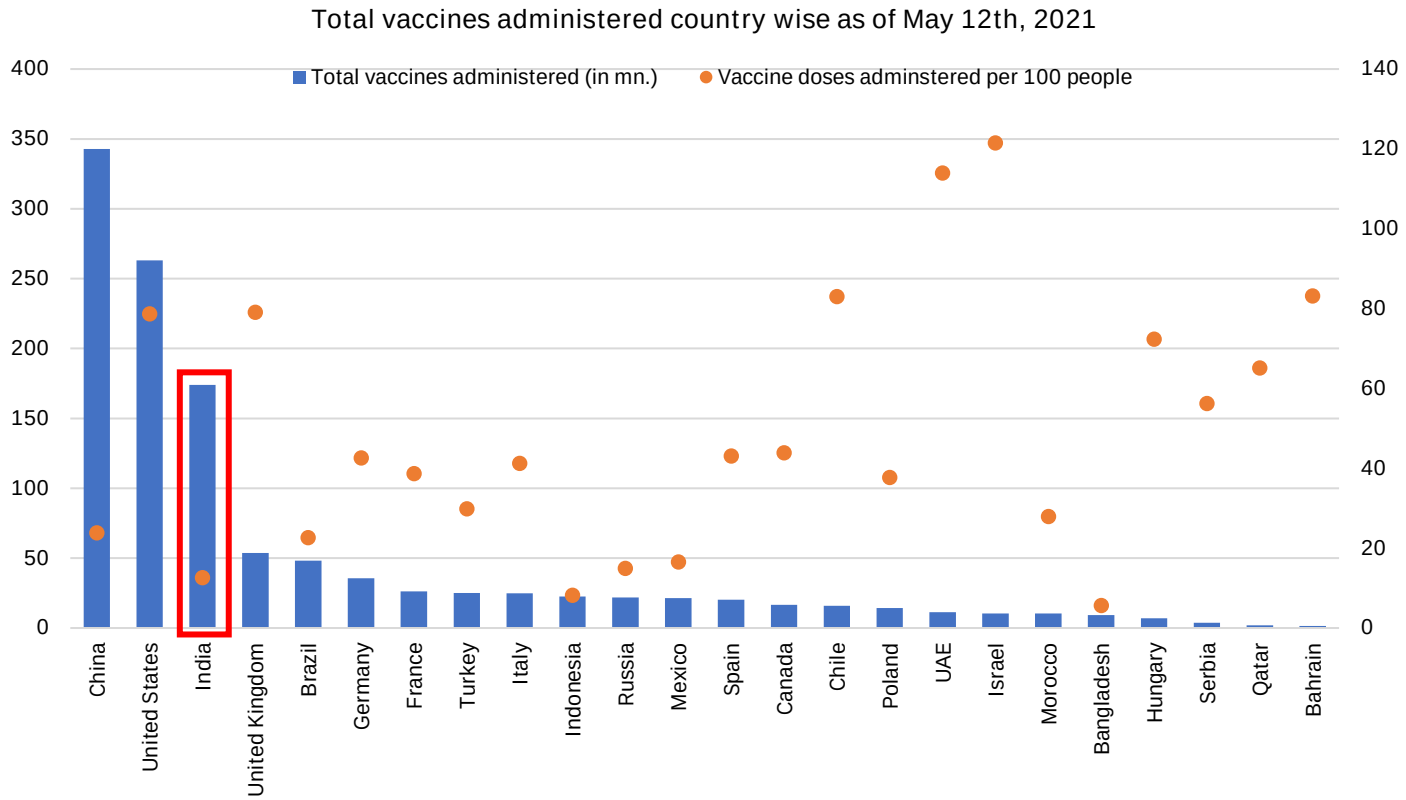
Source: covid19india.org

Figure 48: State-wise percentage of population vaccinated, as of May 12th, 2021



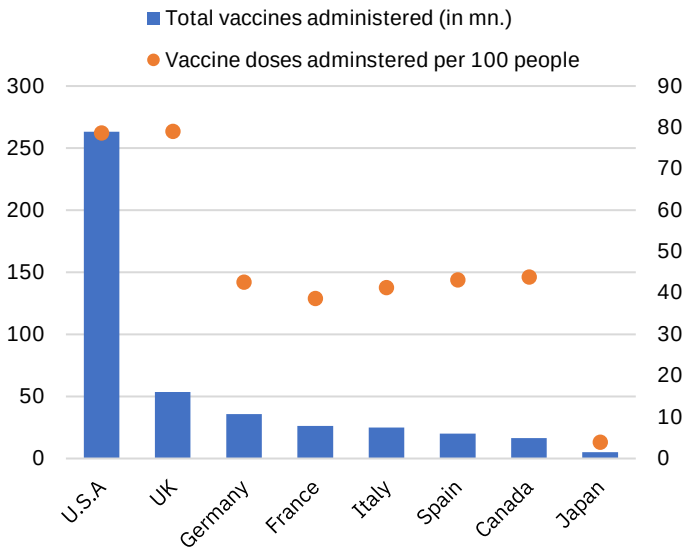
Source: covid19india.org

Figure 49: Covid-19 vaccine doses administered across countries, as of May 12th, 2021



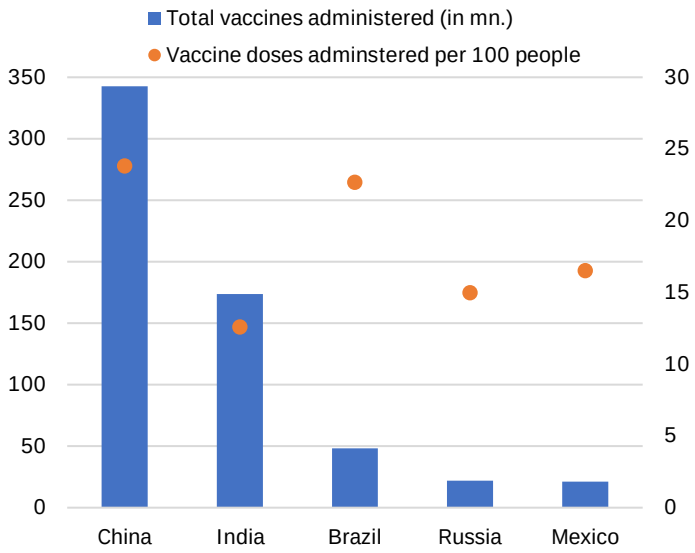
Source: Our World in Data

Figure 50: Total vaccines administered in advanced economies, as of May 12th, 2021



Source: Our World in Data.

Figure 51: Total vaccines administered in EMDEs, as of May 12th, 2021



Source: Our World in Data.

Chart of the month

Renewed lockdown restrictions hurting economic recovery

Following a contraction over the previous two quarters, the Indian economy expectedly entered expansionary zone in the third quarter of FY21 (Oct-Dec'20), supported by continued normalization of economic activities and strong festive/ pent-up demand. The recovery took a good shape in Q4FY21 as well before the onset of the second wave in March'21 as reflected in several high-frequency indicators. Economic recovery, however, seem to have faltered beginning April in the wake of a more virulent second wave of COVID-19 and consequent lockdown restrictions imposed by several states.

Google and Apple mobility indicators show a considerable retracement owing to strategic curfews and travel restrictions imposed by states. Some other high-frequency indicators such as Services PMI, e-Way bills, auto sales, vehicle registrations, rural/urban employment and consumer sentiment index have also seen a sequential moderation. While rising caseloads and lockdown restrictions are likely to weigh on the nascent economic recovery that was underway, the ramifications are unlikely to be as severe as were witnessed in Q1FY21 owing to relatively less stringent but more targeted measures adopted this time. This is because manufacturing units are operations and mobility has been relatively less affected this time as opposed to the situation same time last year when the country went through a strict nation-wide lockdown. Global experiences also vindicate that economic impacts from subsequent waves are relatively as the restrictions re-imposed are relatively less stringent, governments opt for more targeted measures rather than the broad-based ones and economies are better able to adapt and operate amidst pandemic. Thus, the correlation between mobility and GDP growth is much weaker during subsequent waves.

We expect growth momentum to come back once the second wave subsides, supported by pent-up demand. Alongside, the medium-term growth trajectory remains intact supported by effective vaccination drives, strong fiscal impulse, robust global growth and the RBI's commitment on keeping financial conditions easy. At this juncture, we anticipate a low base of -8% to translate into an optically higher growth of 10% in FY22 with risks remaining skewed to the downside. Downside risks emanate from the delay in the peak of second wave, imposition of more stringent norms across the nation and moderation in the pace of inoculations.

- Renewed restrictions in the wake of second wave have started weighing on mobility: The second COVID-19 wave—that remained largely concentrated to a very few states especially Maharashtra until March—started spreading to other states from April onwards. Similarly, lockdown like restrictive measures that remained confined to a few states earlier have also become more uniform across the nation as many states have now opted for stringent measures given the ferocity of the pandemic. This is partly reflected in the Oxford Stringency index that has surged above 73—the level last witnessed in Oct'20. This, in turn, has translated into a considerable retracement of the mobility curve. According to Apple mobility indices, driving index has plummeted to levels last seen in the month of Aug'20. On similar lines, according to the Google Mobility reports, visits to grocery and pharmacy stores—considered essential trips—that have been hovering ahead of pre-COVID levels since Sep'20, have faltered and is now 20% below pre-COVID level. Footfalls to workplaces, transit stations and parks that continued to gather momentum till mid-March have once again slumped and are now 40-50% below pre-COVID levels. Footfalls to retail and recreation centres, that were gradually picking up, have now hovering at 60% below pre-COVID level. Even the average traffic congestion levels in major cities like New Delhi and Mumbai have plunged to 6% and 9% respectively from 35% and 38% witnessed in Jan'21.

Localized restrictive targeted measures imposed by various states with an intent to curb the more virulent second wave have resulted into considerable retracement of the mobility curve.

- Economic activity has started stagnating as evident from few early high frequency indicators: After contracting over the previous two quarters, the Indian

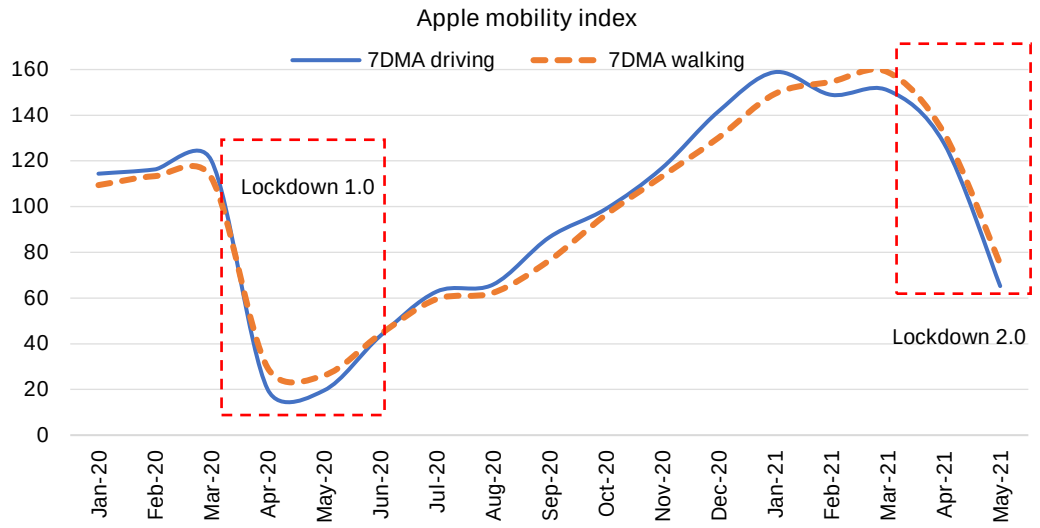
economy expectedly entered expansionary zone in the third quarter of FY21 (October-December 2020). Continued normalization of business and economic activities across the board, accompanied with declining COVID-19 cases and strong festive induced pent-up demand, supported economic growth in Q3FY21. Most of the high frequency indicators point towards strong growth in Q4FY21. Before the onset of second COVID wave in March'21, the Indian economy was showing clear signs of robust recovery. Majority of the early high-frequency indicators for the month of April indicate faltering robust economic recovery momentum. Amidst these indicators, manufacturing has remained relatively resilient and undeterred by the second wave given the manufacturing units have remained operational. While indicators like Services PMI, e-Way bills, vehicle registrations, unemployment rate, employment provided under MGNREGS, consumer sentiment index and auto sales showed signs of slowdown in growth momentum, a few indicators like Manufacturing PMI and GST collections continued to depict improvement.

Majority of the early HFIs for the month of April indicate faltering robust economic recovery momentum.

- Impact of lockdown restrictions is expected to be short lived and less severe than Q1FY21: While renewed restrictions induced by the second wave of COVID-19 has translated into faltering recovery momentum, the ramifications so far and going ahead are unlikely to be as colossal as witnessed in Q1FY21 given the manufacturing units remain operational and mobility has been relatively less affected as opposed to the situation during the nationwide lockdown imposed last year. Global experiences also vindicate that economic impacts from subsequent waves are smaller than from the first wave as the restrictions re-imposed are relatively less stringent, governments opt for more targeted measures rather than the broad-based ones and economies are better able to adapt and operate amidst pandemic. Thus, the correlation between mobility and GDP growth is much weaker during subsequent waves. On balance, while the impact of lockdown restrictions is expected to be short lived and less severe than Q1FY21, the prevalent situation suggests loss of sequential momentum in Q1FY22. However, we expect recovery to gain momentum once the wave subsides, supported by pent-up demand.

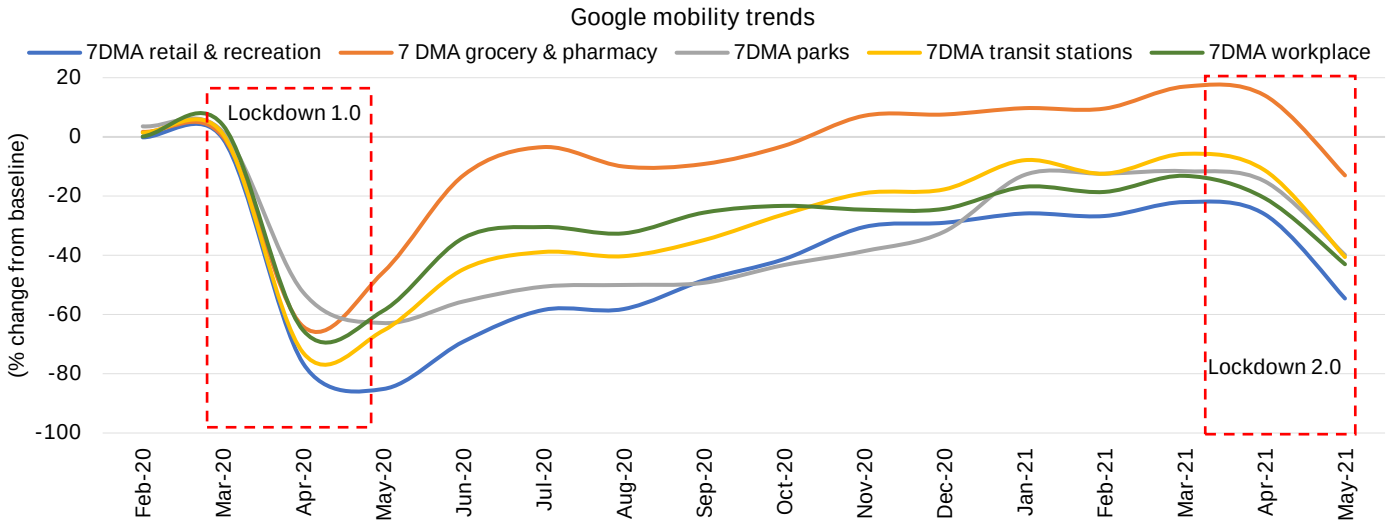
The impact of lockdown restrictions is expected to be short lived and less severe than Q1FY21.

Figure 52: Apple driving index across the nation has fallen to levels last seen in **Aug'20**



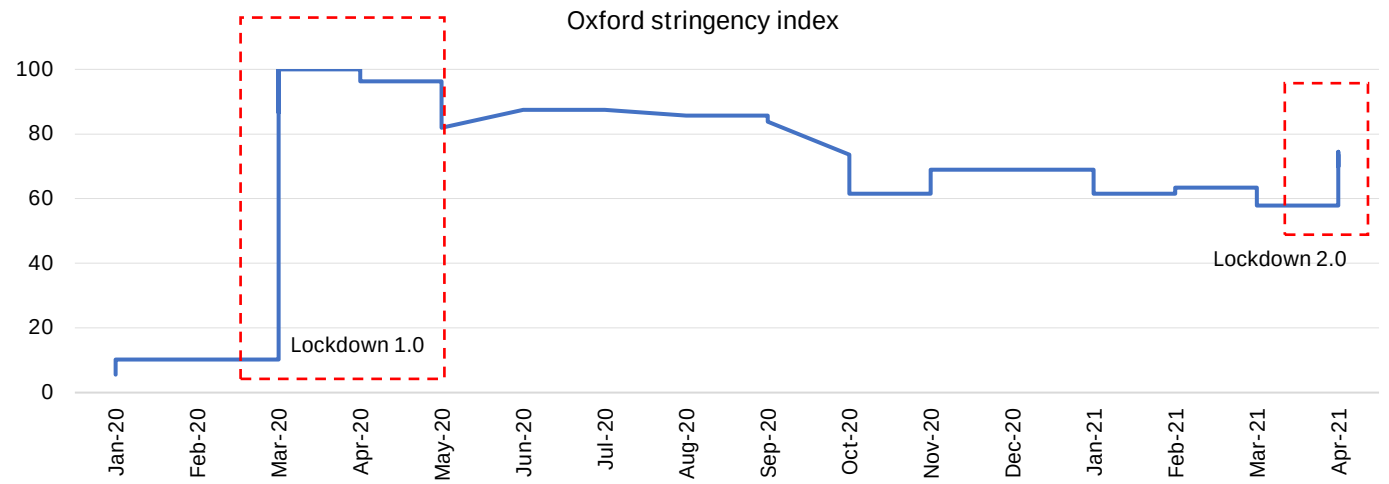
Source: Apple mobility reports

Figure 53: Tightening restrictive norms has resulted into considerable retracement of the mobility curve



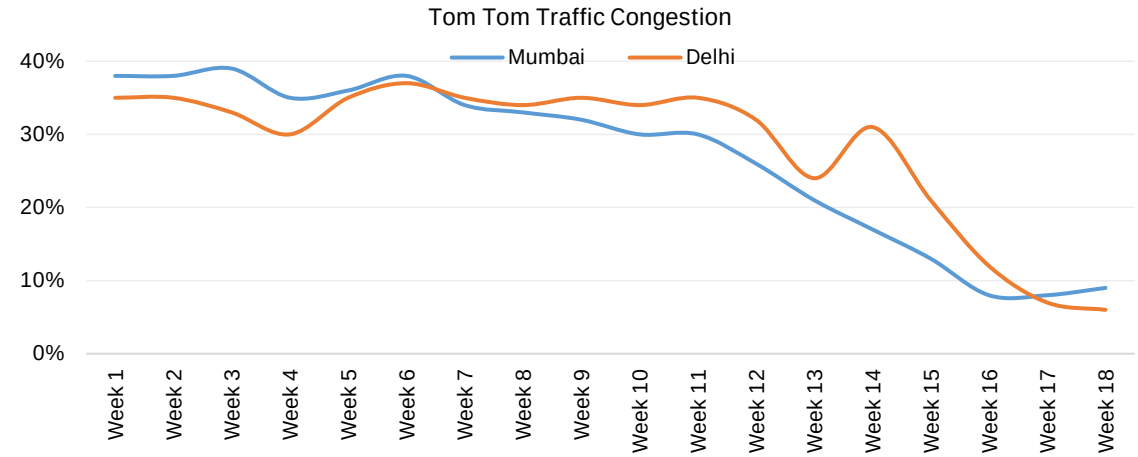
Source: Google mobility reports.

Figure 54: Oxford Stringency index has surged above 73, the level that was last witnessed in the month of Oct'20



Source: Oxford COVID 19 Government Response Tracker

Figure 55: Average traffic congestion levels in major cities like New Delhi and Mumbai have plunged to 6% and 9% respectively from 35% and 38% witnessed in Jan'21



Source: Tom Tom Traffic Index. Note: Week 1 represents: Jan 4-Jan 10, 2021, Week 18: May 3- May 9, 2021.

Figure 56: Majority of the early high-frequency indicators indicate faltering economic recovery momentum

Indicators	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21
GST collections (Rs trillion)	1.1	1.1	1.0	0.3	0.6	0.9	0.9	0.9	1.0	1.1	1.0	1.2	1.2	1.1	1.2	1.4
E-way bills generated (million)	57	57	41	9	25	43	48	49	57	64	58	64	63	64	71	59
Exports (USD bn)	26	28	21	10	19	22	24	23	28	25	24	27	28	28	34	30
Non-POL Exports (USD bn)	23	24	19	9	17	20	22	21	24	23	22	25	25	25	31	27
Non-Oil Imports (USD bn)	28	27	21	12	19	16	23	25	25	28	27	33	33	32	38	35
Manufacturing PMI	55	55	52	27	31	47	46	52	57	59	56	56	58	58	55	56
Services PMI	56	58	49	5	13	34	34	42	50	54	54	52	53	55	55	54
Vehicle registrations (million)	1.8	1.7	2.3	0.4	0.2	1.0	1.2	1.2	1.4	1.5	1.9	1.9	1.6	1.5	1.7	1.2
Work provided MGNRES-HHs ('000)	16	19	16	11	33	39	28	20	20	20	18	21	21	23	20	16
Work provided MGNRES-Person days ('000)	231	268	183	142	569	641	391	260	264	263	236	285	278	308	256	200
Consumer Sentiment Index	107	105	97	46	42	43	43	47	46	52	52	53	54	55	57	54
Unemployment Rate	7.2	7.8	8.8	23.5	21.7	10.2	7.4	8.4	6.7	7.0	6.5	9.1	6.5	6.9	6.5	8.0
Passenger Vehicle Sales ('000 units)	155	149	81	0	14	55	103	125	164	183	150	147	153	155	157	141
Two-wheeler sales ('0000 units)	134	129	87	0	28	101	128	156	185	205	160	113	143	143	150	100
Three-wheeler sales ('000 units)	61	41	28	0	2	10	13	15	19	26	24	22	26	27	32	14
Multi utility vehicle sales ('000 units)	81	79	48	0	17	46	71	82	97	114	104	95	111	114	122	109

Source: CMIE, Vahaan registration

Macro economy

Retail inflation rises to a four-month high in March

Headline CPI inflation witnessed a sequential uptick for the second month in a row, rising to a four-month high of 5.5% in Mar'21 from 5.0% in the previous month—a tad higher than the Consensus estimate of 5.4% (Source: Reuters). Amidst an unfavourable base, food and fuel inflation led the rebound. The surge was primarily led by higher food and fuel prices as well as a steady increase in core inflation. Within the food basket, acceleration in prices of certain items like meat & fish, pulses, fruits and fats & oils as well as lower deflation in vegetable prices contributed to the rise in food inflation. Core inflation (headline inflation ex food and fuel), continued to inch higher and rose to a 29-month high of 5.7% YoY, primarily led by higher auto fuel prices that pushed transport & communication services inflation to the highest level in the series, partly offset by decline in gold/silver prices.

Notwithstanding a favourable base, renewed COVID-led supply-side bottlenecks, coupled with cost-push pressures emanating from higher commodity prices and logistics costs, are likely to keep inflation trajectory elevated in the near future. While it rules out any rate cut possibility in the foreseeable future, increasing COVID-led uncertainty on growth outlook would ensure sustenance of an accommodative stance at least through the current financial year. The RBI's focus is likely to remain on ensuring ample liquidity in the system to support the economy, providing targeted liquidity support to stressed segments of the economy and ensuring smooth execution of the Govt.'s borrowing programme without hurting financial stability.

Headline retail inflation rose for the second month in a row to a four-month high of 5.5% in Mar'21.

- Retail inflation rebounds to a four-month high in March**...:** Headline retail inflation witnessed a sequential uptick for the second month in a row, rising to a four-month high of 5.5% in Mar'21. This was a tad higher than the Consensus estimate of 5.4%. The pick-up is largely attributable to further increase in food & beverages infaltion, higher crude oil/fuel prices and modest increase in core inflation. Headline CPI inflation has averaged at 6.2% in FY21 vs. 4.8% in FY20.
- **...primarily** led **by higher food and fuel prices...:** The uptick in headline inflation was primarily led by a further surge in food inflation, that rose to a four-month high of 5.2% YoY in Mar'21. Within the food basket, acceleration in prices of certain items like meat and fish (+15.1% vs. +11.5% in Feb), pulses (+13.3% vs. +12.6% in Feb), fruits (+7.9% vs. +6% in Feb), fats & oils (+24.9% vs. +20.9% in Feb) and non-alcoholic beverages (+14.4% vs. +14% in Feb) as well as lower deflation in vegetable prices (-4.8% vs. -6.3% in Feb) contributed to the rise in food inflation. This was partly offset by moderation in prices of other food items including cereals, eggs, milk & milk products and spices. In fact, broadly all categories within food including saw an uptick in inflation in March. This trend is in sync with firming global food prices. Fuel & light inflation also rose to a 12-month high of 4.5% in March'21.
- **...and** continued steady increase in core inflation: Core inflation (headline inflation ex food and fuel), continued to inch higher and rose to a 29-month high of 5.7% YoY in Mar'21, primarily led by higher auto fuel prices that pushed transport & communication services inflation to 12.6%—the highest in the series. Except for personal care & effects and health, all other categories witnessed a spike in inflation in March. Core inflation has averaged at 5.3% in FY21 vs. 4% in FY20.
- Expect sustenance of accommodative stance and continued liquidity support from RBI: Notwithstanding a supportive base, renewed COVID-led supply-side bottlenecks, along with cost-push pressures arising from higher commodity prices and logistics costs, are likely to keep inflation trajectory elevated in the near future.

Economic recovery—that had already been showing signs of faltering—visible from a sequentially slower growth in some high-frequency indicators (auto sales, freight traffic, petrol consumption)—faces significant downside risks amidst re-imposition of lockdown restrictions in several states due to COVID resurgence. Additionally, a prolonged slowdown in pace of inoculations—witnessed since the beginning of Phase 3 (April 1st) due to supply shortage, can further derail the recovery process. While an elevated inflation trajectory rules out any rate cut possibility in the foreseeable future, increasing COVID-led uncertainty on growth outlook would ensure sustenance of an accommodative stance at least through the current financial year. The RBI's focus is likely to remain on ensuring ample liquidity in the system to support the economy, providing targeted liquidity support to stressed segments of the economy and ensure smooth execution of the Govt.'s borrowing programme without hurting financial stability.

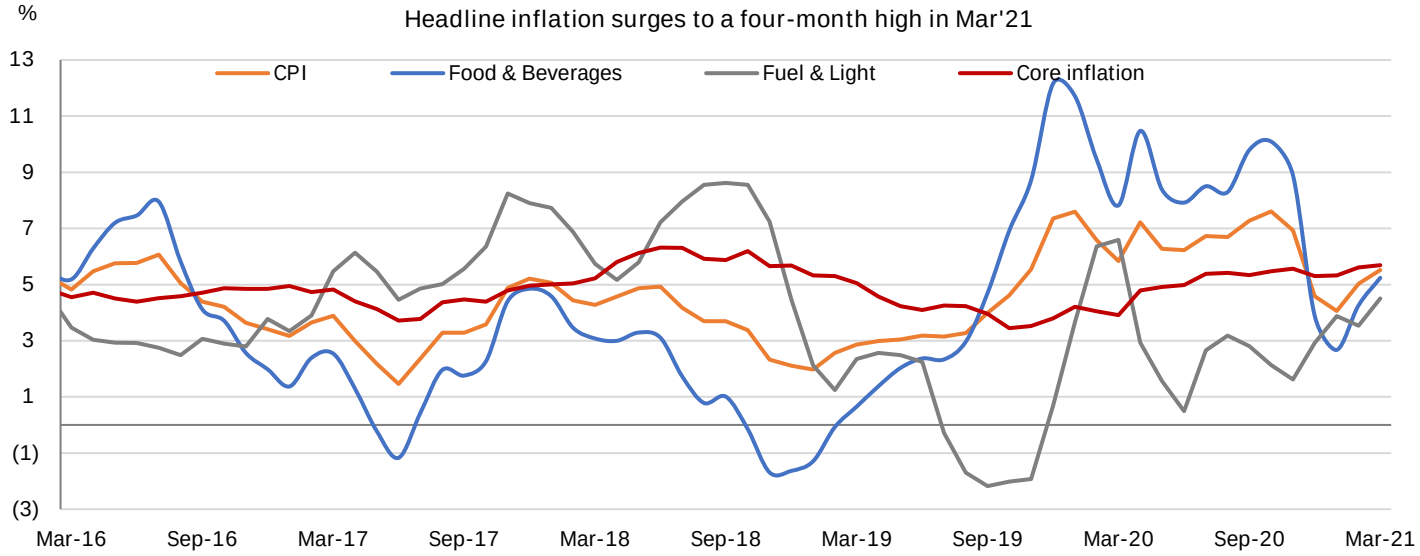
Expect RBI to maintain an accommodative stance all through FY22 and support growth by ensuring adequate liquidity in the system, particularly targeted at stressed segments of the economy.

Figure 57: Consumer price inflation in March 2021 (%YoY)

%YoY	Weight (%)	Mar-21	Feb-21	Mar-20	FY21TD	FY20TD
CPI		5.5	5.0	5.8	6.2	4.8
Food & Beverages	45.9	5.2	4.3	7.8	7.3	6.0
Pan, Tobacco & Intoxicants[2]	2.4	9.8	10.7	4.7	9.9	4.2
Clothing & Footwear[2]	6.5	4.4	4.2	2.1	3.4	1.6
Housing	10.1	3.5	3.2	3.7	3.3	4.5
Fuel & Light	6.8	4.5	3.5	6.6	2.7	1.3
Miscellaneous[2]	28.3	6.9	6.8	4.4	6.6	4.4
Core CPI inflation[1,2]	44.9	5.7	5.6	3.9	5.3	4.0

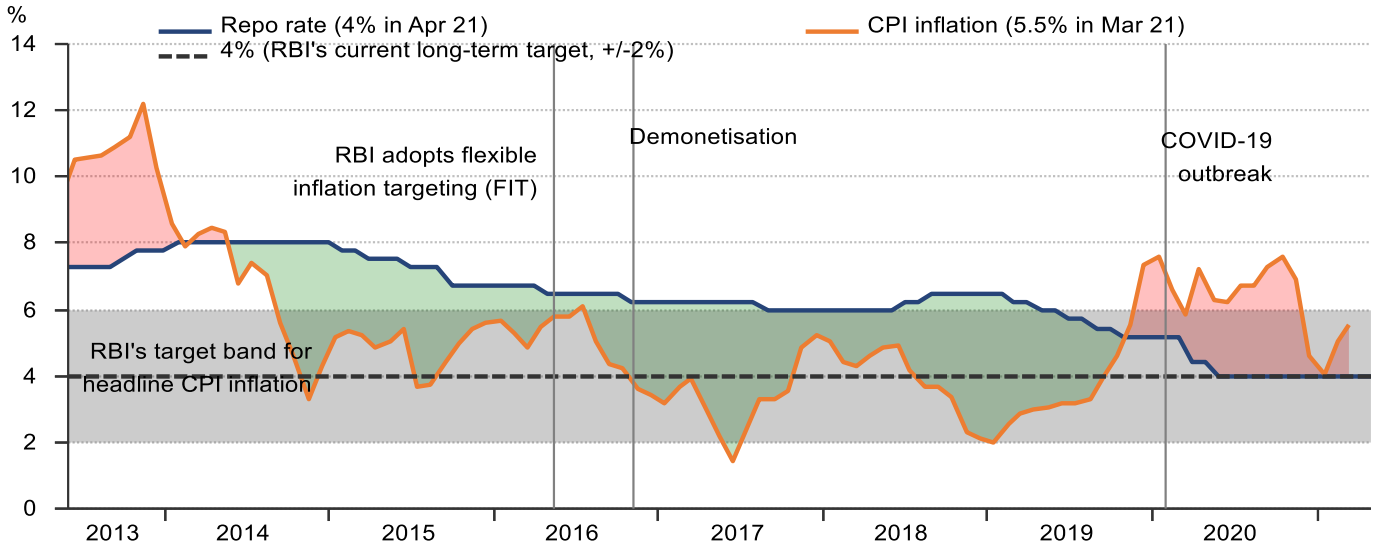
Source: CSO, NSE. NA = Not Available.
Note: [1] Headline inflation excluding food & beverages, pan, tobacco & intoxicants and fuel & light.
[2] Inflation data for these components for April and May 2020 are based on the imputed index calculated by MOSPI.

Figure 58: Headline CPI inflation trend



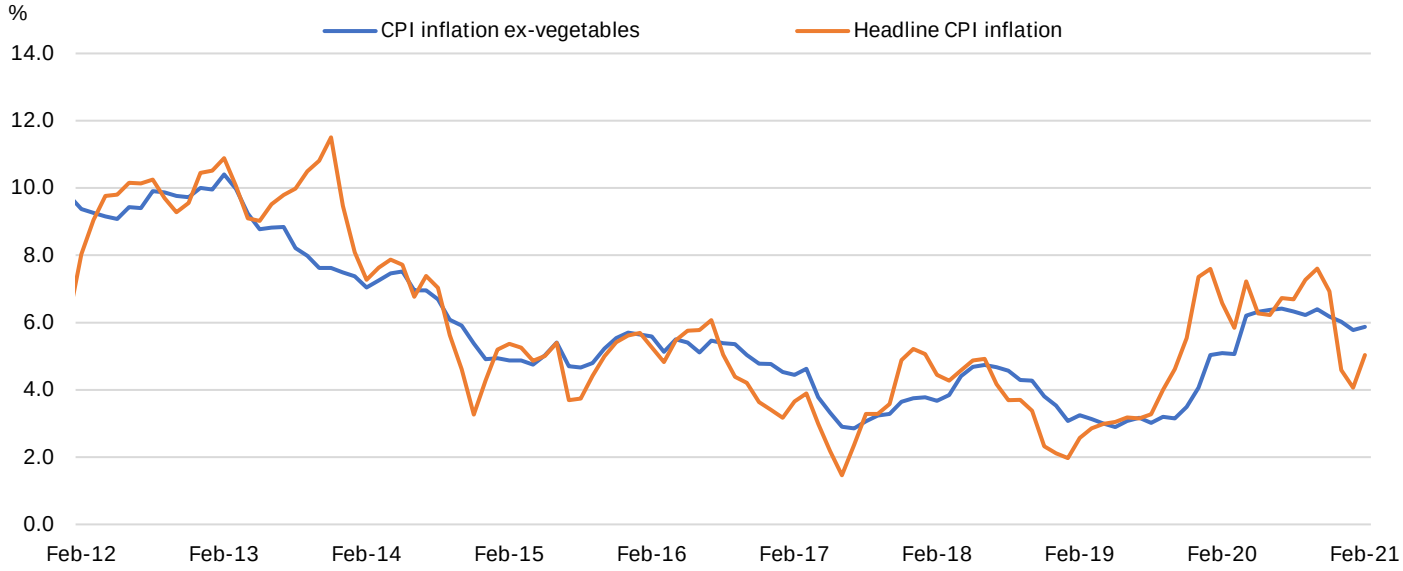
Source: CMIE Economic Outlook, NSE

Figure 59: Real interest rates have remained negative for more than a year now



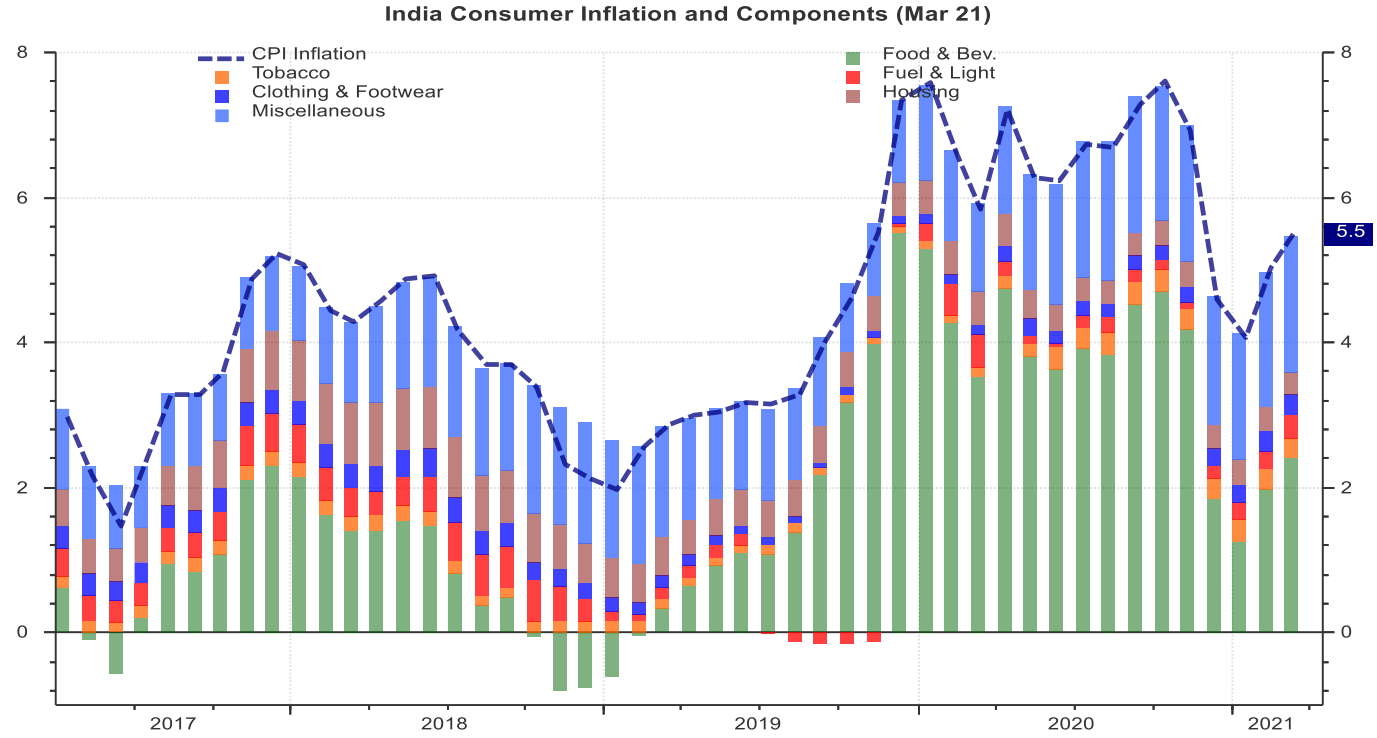
Source: CMIE Economic Outlook, NSE

Figure 60: Increase in headline inflation over the last one-year period primarily led by higher vegetable prices



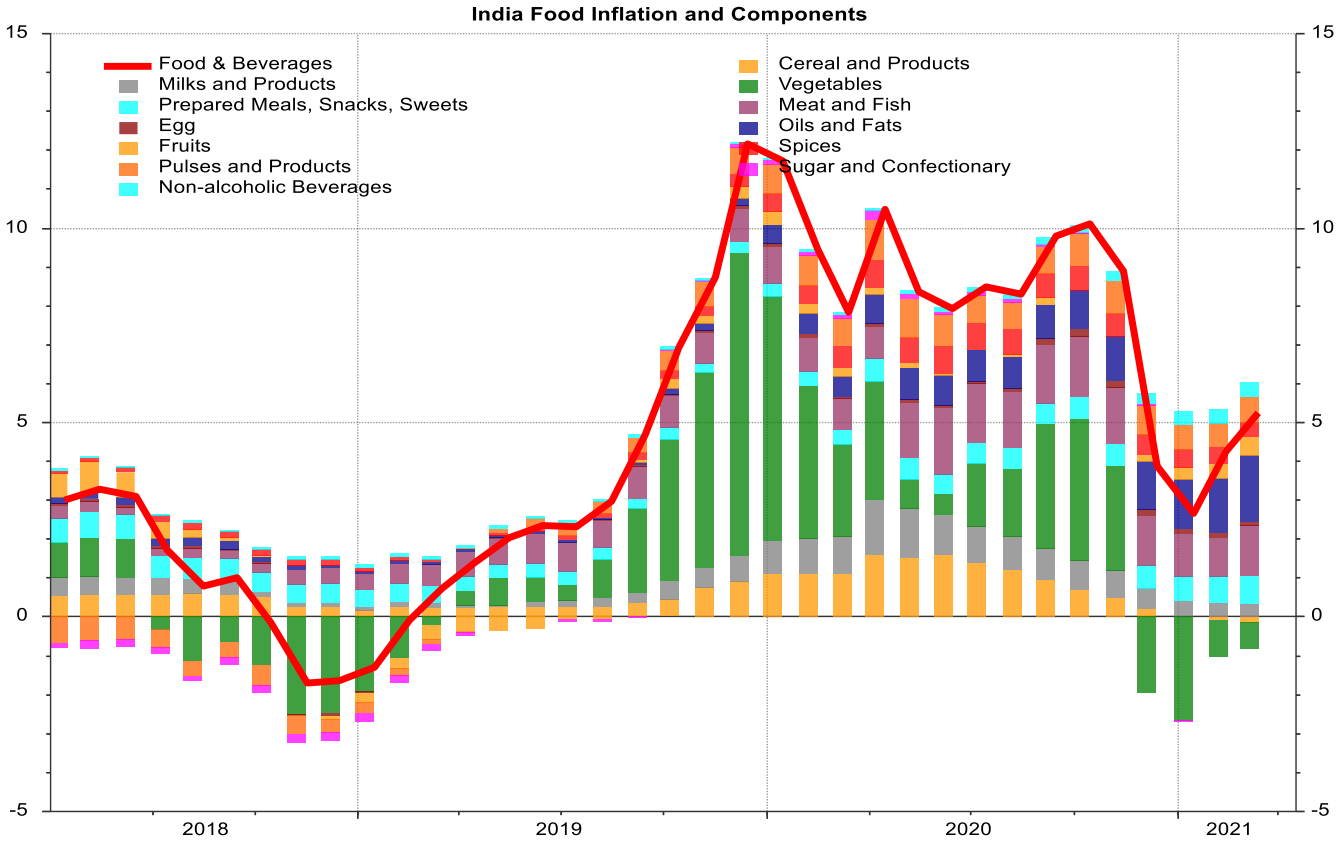
Source: CMIE Economic Outlook, NSE

Figure 61: Category-wise contribution to India consumer price inflation (CPI)



Source: Refinitiv Datastream, NSE.

Figure 62: Category-wise contribution to India Food and Beverages inflation (CPI)



Source: Refinitiv Datastream, NSE.

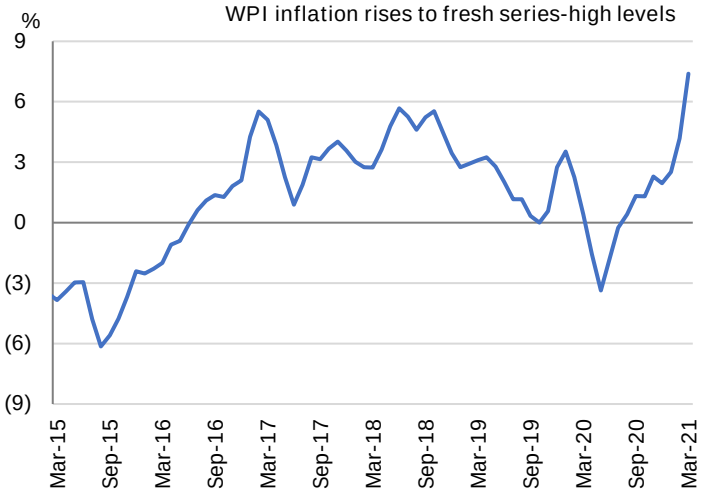
- Wholesale inflation rises to series-high (eight-year) levels in March: Wholesale price inflation (WPI) surprised on the upside for yet another month and rose by a huge 320bps MoM to a eight-year high of 7.4% in March 2021, albeit off a low base (+0.4% YoY in Mar'20). This is the highest inflation print in the new series (base year: 2011-12), marking the steepest sequential jump in wholesale prices in the series. The spike was broad-based, with all three sub-categories, viz. primary articles, fuel & power and manufactured products, witnessing a sharp rise.
- Non-food inflation records a sharp jump: Primary articles inflation jumped to a 13-month high of 6.4% in March 2021. Within Primary articles, while food prices at the wholesale level rose by a relatively modest 3.2% YoY, non-food articles inflation rose to a 93-month high of 11.8% YoY. The deflationary trend seen in crude, petroleum & natural gas prices also reversed, thanks to an extremely low base, with crude oil prices rising by aa 29-month high of 32.2% YoY in Mar'21. Fuel & power inflation moved up further deep into the positive territory to a 28-month high of 10.3%, primarily attributed to an unfavorable base and a sharp jump in inflation in mineral oils. While electricity inflation registered a modest increase to a four-month high of 2.6%, coal prices at the wholesale level remained broadly steady. Manufactured products inflation inched up further to 7.3% in March—the highest level in the series, led by a spike in food as well as non-food manufactured categories. While manufactured food products recorded a 49-month high inflation of 9.0% in March, inflation in non-food manufactured products picked up further to fresh series-high levels of 7.0%. This is largely attributed to continued pick-up in economic and trade activities as well as higher commodity prices in the month of March. Unlike retail inflation, headline wholesale price inflation has averaged at +1.2% in FY21 as compared to 1.7% in the previous fiscal year.
- Gap between CPI and WPI inflation turns negative for the first time in 23 months: The gap between retail and wholesale price inflation fell for the fifth month in a row by a huge 273bps MoM to a 28-month low of -1.9% in March 2021, marking the first negative differential in the last 23 months. This sharp drop in February was primarily on account of a) a much higher weight of food in the retail basket (45.9%) as compared to the wholesale basket (15.3%), where price rise has been relatively benign over the last few of months, and b) a higher weightage of manufactured goods in the wholesale basket (64.2%) as compared to the retail basket, where prices have witnessed a sharp increase, thanks to an unfavorable base, improvement in business environment and higher commodity prices.
- Wholesale inflation to witness a significant spike over the next few months: A low base, higher commodity prices and renewed supply-side bottlenecks are likely to keep the wholesale inflation trajectory elevated in the near future. This, in turn, may eventually feed into retail prices, thereby further hurting the inflation trajectory, even as a high base may provide some upside support.

Figure 63: Wholesale price inflation for March 2021 (%YoY)

	Weight (%)	Mar-21	Feb-21	Mar-20	FY21	FY20
WPI		7.4	4.2	0.4	1.2	1.7
Primary articles	22.6	6.4	1.8	2.2	1.5	6.8
Food articles	15.3	3.2	1.4	4.6	3.1	8.4
Non-food articles	4.1	11.8	3.9	0.9	1.3	4.6
Minerals	0.8	10.2	9.4	13.6	5.3	13.2
Crude petroleum & natural gas	2.4	32.1	(3.2)	(26.6)	(18.5)	(7.6)
Fuel & power	13.2	10.3	0.6	(2.9)	(8.1)	(1.8)
Coal	2.1	0.3	0.4	2.3	1.1	1.6
Mineral oils	8.0	18.0	0.9	(8.7)	(14.5)	(4.6)
Electricity	3.1	2.6	0.3	6.2	(1.6)	2.0
Manufactured products	64.2	7.3	5.8	0.3	2.7	0.3
Food group	24.4	5.3	3.3	5.2	3.9	6.9

Source: CSO, CMIE Economic Outlook.

Figure 64: WPI inflation trend



Source: CMIE Economic Outlook.

Figure 65: Gap between wholesale and retail inflation

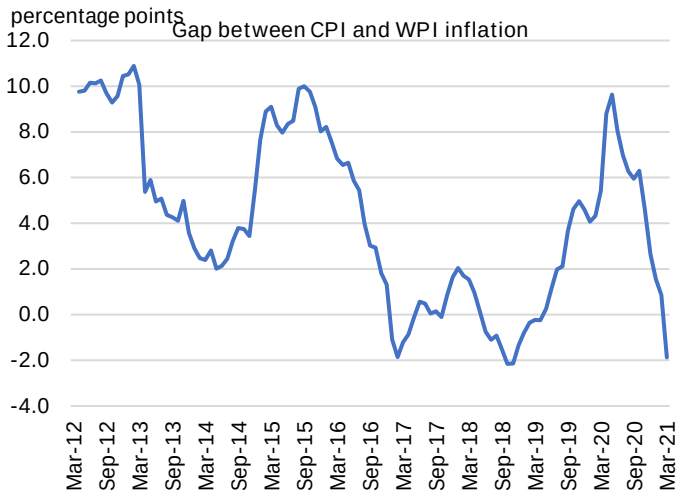
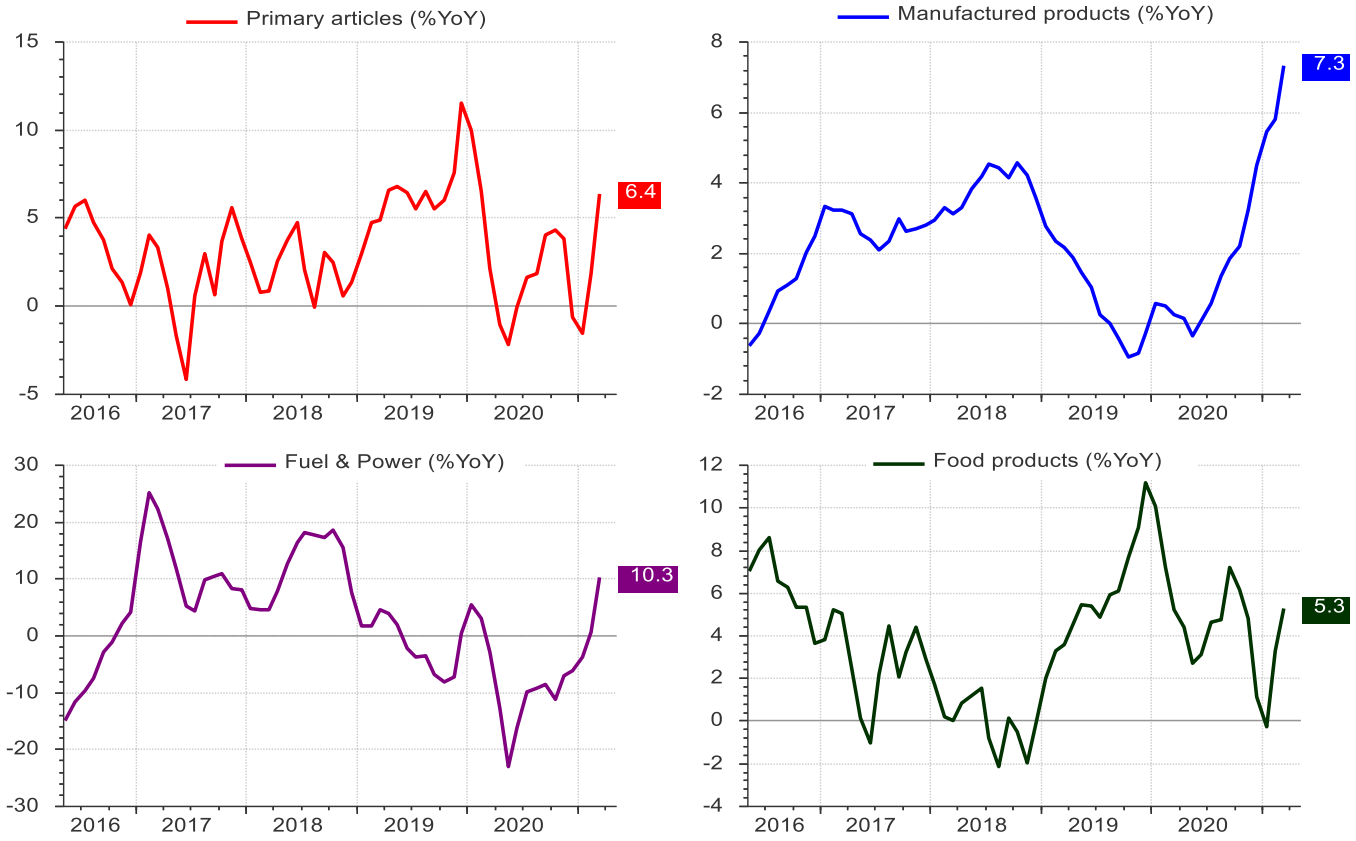


Figure 66: India wholesale price inflation (WPI)



Source: Refinitiv Datastream, NSE.

Industry production growth plunges in February

Industrial recovery remains in fits and starts, with Industrial Production (IIP) recording an YoY contraction for the second month in a row, albeit off a high base. Following an upwardly revised drop of 0.9% in Jan'21, IIP fell by a sequentially steeper 3.6%YoY in Feb'21, negative surprising market expectations (Consensus: -3.0%; source: Reuters). The plunge was yet again led by Manufacturing and Mining even as Electricity continued to remain in the positive territory despite an unfavourable base. The use-based classification shows continued weakness in investment activity as reflected from sustained contraction in production of capital and infra/construction goods, even as consumption demand has remained steady.

Economic recovery—that had already been showing signs of faltering—faces significant downside risks amidst re-imposition of lockdown restrictions in several states in the wake of COVID resurgence. Additionally, a prolonged slowdown in pace of inoculations—witnessed since the beginning of Phase 3 (April 1st) due to supply shortage, can further derail the recovery process.

Industrial production growth fell deeper into the contraction zone, falling by 3.6% YoY in Feb'21.

- IIP growth **plunges in February…:** Industrial production fell by a higher-than-expected 3.6% YoY in Feb'21 following an upwardly revised 0.9% YoY contraction in the previous month. This reflects an uneven recovery in industrial activity which is likely to be weighed down further by the recent spike in COVID cases and renewed lockdown restrictions, even as a favorable base may keep the growth figures look optically strong. The average IIP growth during Apr-Feb'21 stood at -11.3% vs. a modest 1% growth during the same period in the previous fiscal year.

- **…Led by weakness in Mining and Manufacturing activity:** Manufacturing sector fell by 3.7% YoY drop in Feb'21—the steepest YoY decline in six months, partly off a high base (+3.8% YoY in Feb'20). The weakness was fairly broad-based, with 17/23 sub-sectors recording a YoY contraction, led by recorded media (-28.3%), furniture (-19.0%), wearing apparel (-14.2%), beverages (-13.1%), paper & paper products (-10.3%), and coke & refined petroleum products (-9.5%). This was partly offset by strong 21.1% YoY growth in computer, electronic and optical products, and modest 3-5% growth in motor vehicles, trailers & semi-trailers and other transport equipment as well as electrical equipment. Mining activity remained lacklustre for yet another month, falling by a six-month high of 5.5% YoY—marking the fifth month and 11/12 months to witness a YoY contraction. On the positive side, Electricity sector continued to show a steady performance, registering a modest 0.1% YoY growth despite an unfavourable base (+11.5% YoY in Feb'20).

- Use-based classification shows continued weakness in investment activity: In the use-based classification, while investment-led sectors witnessed a contraction for yet another month, consumption-led sectors remained broadly steady despite a spike in COVID cases beginning mid-February. On a YoY basis, Primary, Intermediate and Infra/Construction Goods declined by 5.1%, 5.6% and 4.6% respectively. Capital Goods production also slumped by 4.2% YoY, following a steep 9.0% YoY drop in the previous month, indicating continued weakness in investment activity. Consumption activity has remained broadly steady—reflected in a modest 0.2% YoY growth in overall Consumer Goods production, primarily led by Consumer Durables which recorded a strong 6.3% YoY growth in Feb'21, albeit off a low base (-6.2% in Feb'20), even as Consumer Non-durables fell by 3.8% YoY.

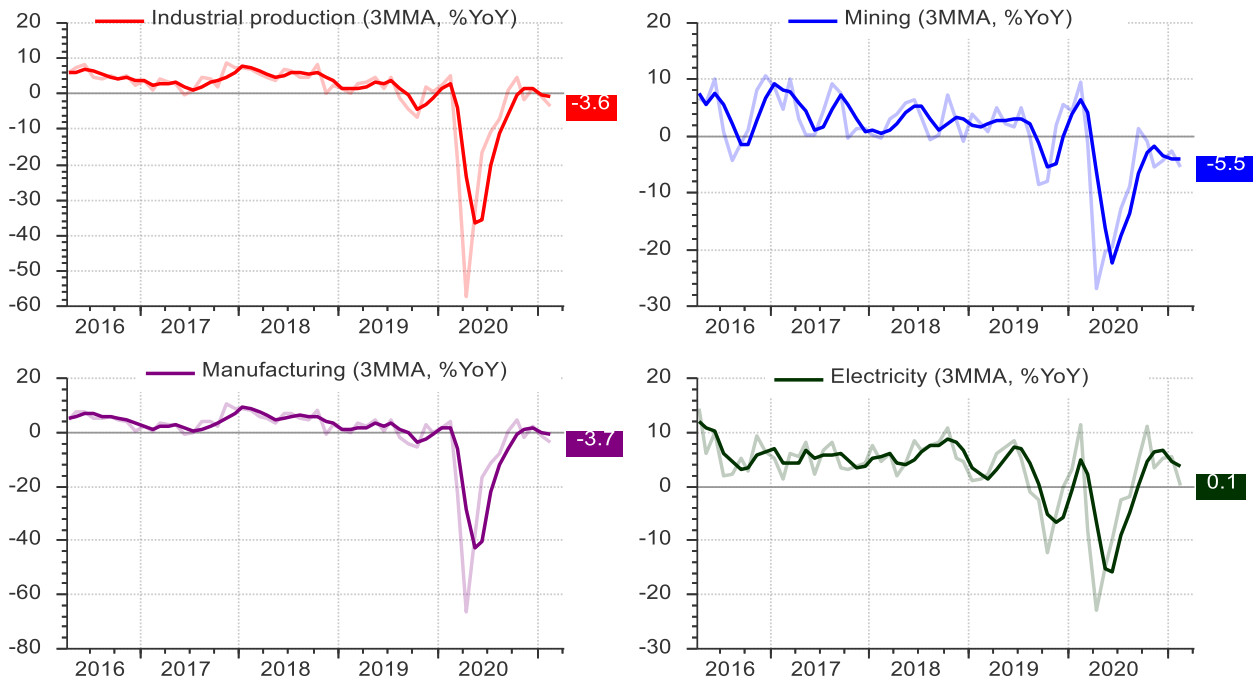
- Economic uncertainty mounting: Economic recovery—that had already been showing signs of faltering—faces significant downside risks amidst re-imposition of lockdown restrictions in several states in the wake of COVID resurgence. Additionally, a prolonged slowdown in pace of inoculations—witnessed since the beginning of Phase 3 (April 1st) due to supply shortage, can further derail the recovery process.

Figure 67: India industrial production for January 2020 (%YoY)

%YoY		Weight (%)	Feb-21	Jan-21	Feb-20	FY21TD	FY20TD
	IIP		(3.6)	(0.9)	5.2	(11.3)	1.0
Sector-based indices	Mining	14.4	(5.5)	(2.5)	9.6	(10.1)	1.0
	Manufacturing	77.6	(3.7)	(1.3)	3.8	(13.5)	0.4
	Electricity	8.0	0.1	5.5	11.5	(2.7)	0.9
Use-based Goods	Primary Goods	34.0	(5.1)	0.7	8.2	(8.9)	0.5
	Capital Goods	8.2	(4.2)	(9.0)	(9.6)	(25.5)	(11.7)
	Intermediate Goods	17.2	(5.6)	0.9	23.0	(12.9)	11.2
	Infra/Construction Goods	12.3	(4.7)	1.8	2.8	(13.1)	(1.9)
	Consumer Goods	28.2	0.2	(3.4)	(2.7)	(11.9)	(1.4)
	Consumer Durables	12.8	6.3	(0.2)	(6.2)	(22.1)	(6.2)
	Consumer Non-durables	15.3	(3.8)	(5.4)	(0.3)	(4.7)	2.3

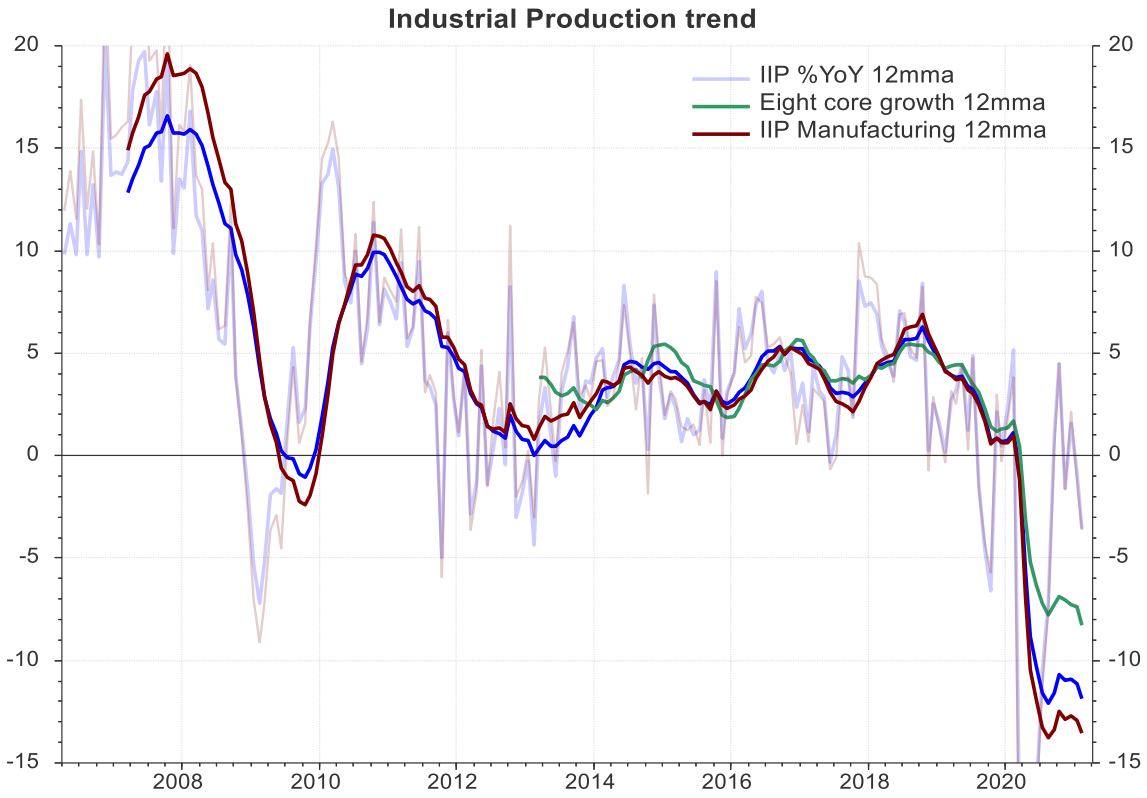
Source: CSO, NSE.

Figure 68: India industrial production (3MMA)



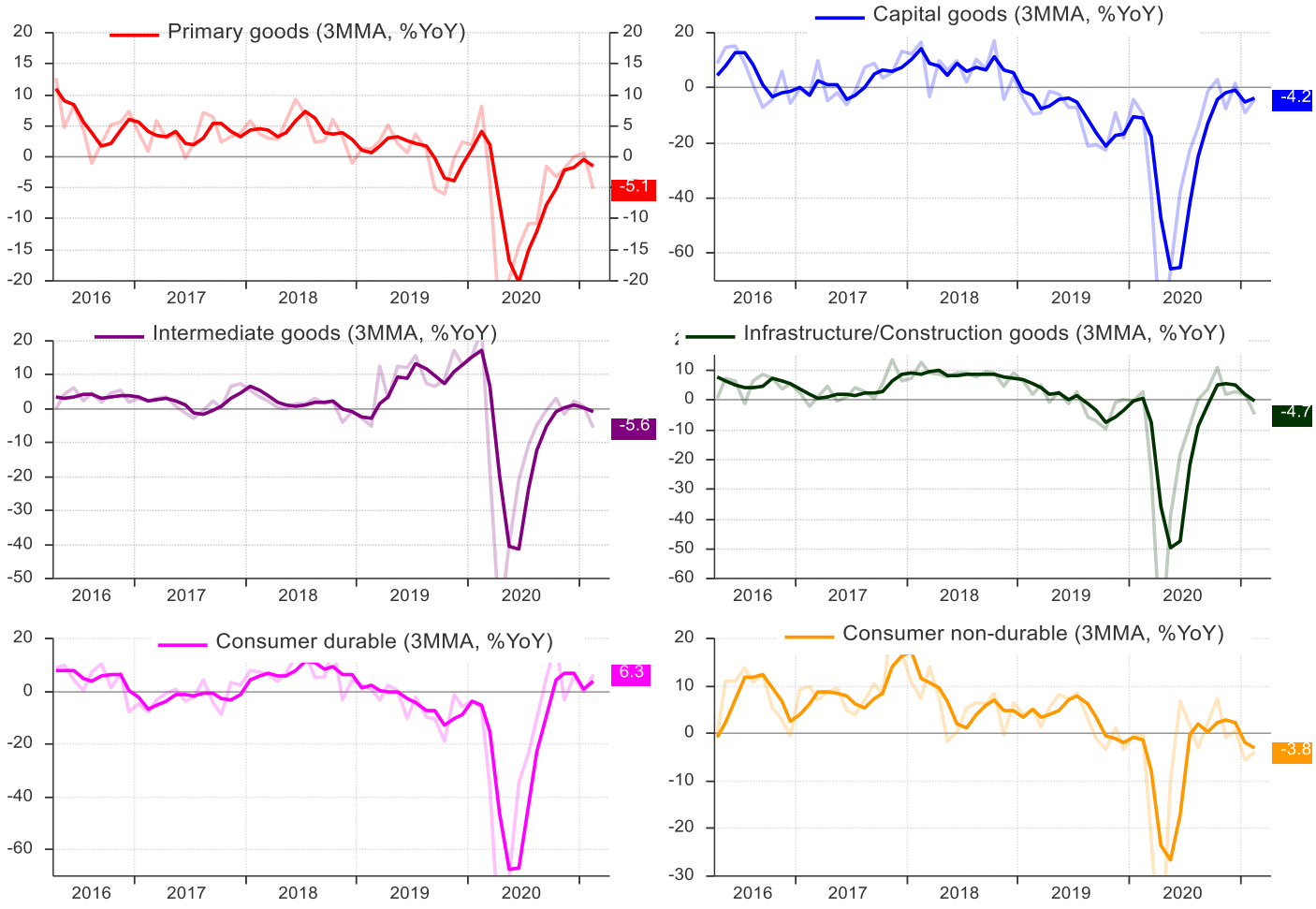
Source: Refinitiv Datastream, NSE

Figure 69: Long-term industrial production trend (12MMA)



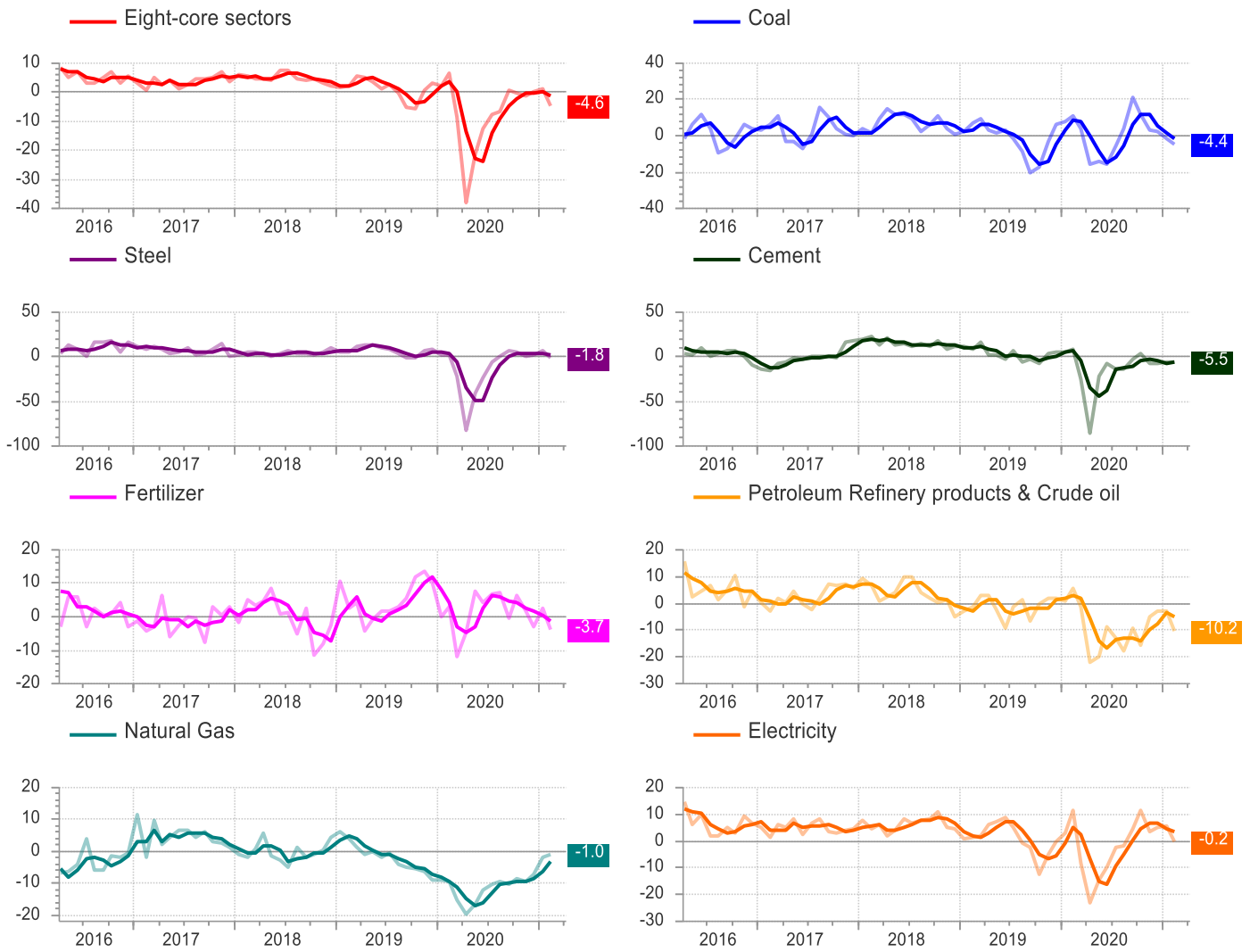
Source: Refinitiv Datastream, NSE

Figure 70: India industrial production use-based goods (3MMA)



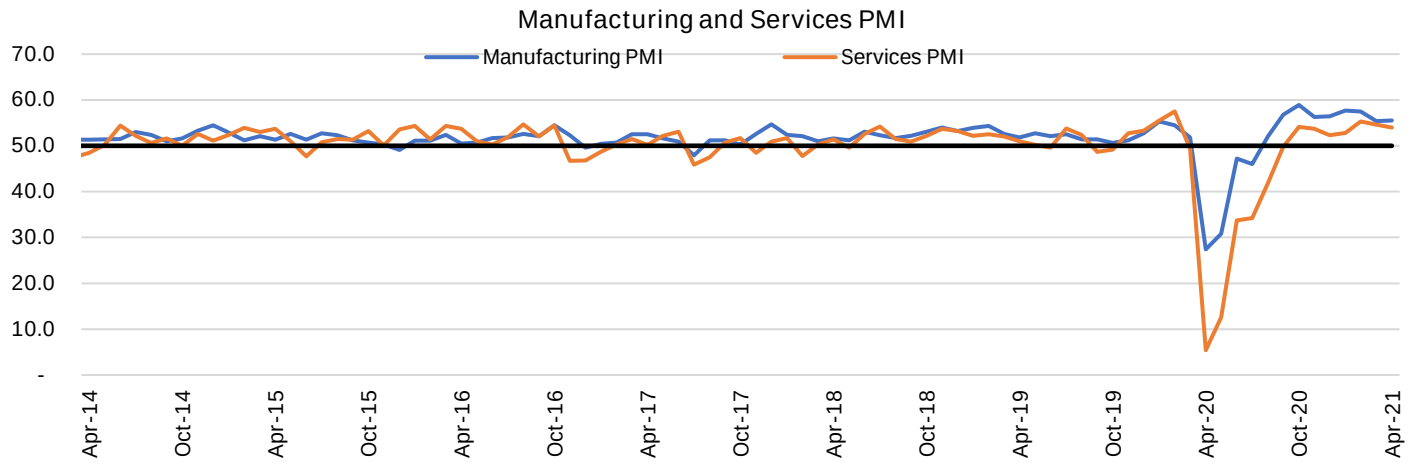
Source: Refinitiv Datastream, NSE

Figure 71: India eight-core sector growth (3MMA)



Source: Refinitiv Datastream, NSE

Figure 72: Manufacturing PMI remains steady but Services PMI slows down in April amid rising COVID cases



Source: CMIE Economic Outlook, NSE.

Trade deficit widens in March on higher gold imports

India's merchandise trade deficit widened to US$13.9bn in Mar'21 from a three-month low of US$13.0bn in the previous month. Both imports and exports registered a strong rebound on MoM as well as YoY basis, with the latter supported by a favourable base. A sharp surge in gold imports (592%YoY/61%MoM), accompanied with a robust expansion in non-oil non-gold imports (47%YoY/13%MoM), aided the overall inbound shipments (54%YoY/19%MoM). Following a lull period, exports also saw a strong recovery, rising by 60% YoY and 25% MoM, led by a rebound across the board. Notably, both exports and imports in March 2021 were at record-high levels in value terms. A part of this spike may be attributed to hastened delivery of contracts amid expectations of re-imposition of lockdown restrictions owing to a sudden spike in COVID cases. In FY21, exports and imports fell by 7.2% and 17.2% respectively, leading to merchandise trade deficit contracting by 36.5% to US$102.5bn.

While optically the performance looks encouraging, the two-year CAGR shows a modest 3% and 5% expansion in exports and imports respectively, indicating a nascent economic recovery. Going ahead, renewed tightening of restrictions by several state governments to curb the spread may weigh on domestic demand, thereby impeding the core-import growth momentum. A significant pick-up in pace of inoculations and bare minimum targeted restrictions are critical to avert any severe disruption to the ongoing economic recovery. On the other hand, strengthening global growth prospects—bolstered by an enhanced fiscal policy support in the US and significant progress in vaccination drives—augers well for export growth momentum. We maintain expectations of a current account surplus of 1.1% of GDP in FY21, attributed to a sharply lower trade deficit and steady services exports. In FY22, we expect current account to slip into deficit again (est.: 0.7% of GDP), even as global risk-on sentiments are likely to keep the Balance of Payments (BoP) in a comfortably surplus position.

A strong dollar rally, thanks to firming US bond yields and strengthening US macroeconomic landscape, have significantly weighed on Emerging Market (EM) currencies over the last couple of months. While the INR found support during this period from adequate forex reserves and a rare current account surplus expected in FY21, it has depreciated by 1.4% against the dollar over the last one month amid renewed growth uncertainty and a stronger dollar. In the near-term, depreciating pressures on the INR are likely to persist, even as a comfortable current account situation and an effective RBI intervention may limit the downside.

- Exports exhibited sharp uptick on a muted base: Following a lull period, exports witnessed a strong rebound in March, led by a broad-based recovery. On an annual basis, exports grew by 60% to all-time high of US$34.5bn in March (+25% MoM), albeit off a low base. While petroleum exports grew by 35%YoY/40%MoM, non-POL exports registered a 64%YoY/24%MoM expansion. Within non-POL items, stellar growth in exports of electronic (92%YoY/16%MoM), engineering goods (71%YoY/41%MoM) and gems and jewellery (79%YoY/35%MoM) aided the momentum. Alongside, other items such as iron ore (195%YoY/55%MoM), rice (67%YoY/22%MoM), organic and inorganic chemicals (47%YoY/90%MoM) and readymade garments (28%YoY/6%MoM) also gained traction. While issues related to trade route blockage and container shortages weighed on the export growth during first few days of March, persistent buoyancy in global demand, supported by strong progress in vaccination drive, fuelled overall export growth in March. In FY21, merchandise exports contracted by 7.2% YoY to US$290.8bn.

Exports witnessed a sharp recovery following a lull period, and rose by 60% YoY/25% MoM, led by a rebound across the board.

- Imports also showed a significant traction amid continuous normalisation of activities: Sharp escalation in gold imports (592%YoY/61%MoM), accompanied with a robust expansion in non-oil non-gold imports (47%YoY/13%MoM), aided the overall inbound shipments, which rose by a strong 54%YoY (on top of a 28% YoY drop in Mar'20) and 19%MoM. Oil imports also recovered, posting a modest

India's import bill grew by a strong 53.7% YoY in Mar'21, primarily led by a huge jump in gold and non-oil, non-gold imports.

2.2% YoY growth in Mar'21, but rose by a strong 14% on a sequential basis. Within the core-import basket, growth of electronic goods (77%YoY/17%MoM), iron steel (55%YoY/62%MoM) and machinery (44%YoY/16%MoM) remained quite resilient. Overall merchandise imports fell by 17.2% YoY to US$393.3bn FY21.

- Trade deficit widens in March after recording a three-month low in Feb: From a three-month low of US$13bn recorded in Feb'21, merchandise trade deficit widened to US$13.9bn in March, thanks to a sequentially higher jump in imports in value terms as compared to exports. For the year as whole, trade deficit contracted by 36.5% to US$102.5bn, primarily led by a strong 53.8% drop in non-oil, non-gold trade deficit.

Trade deficit widened to US$13.9bn in Mar'21 from a three-month low of US$13.0bn in Feb'21.

- Exports likely to outpace imports in the near term: While optically the performance looks encouraging, the two-year CAGR shows a modest 3% and 5% expansion in exports and imports respectively, indicating a nascent economic recovery. Going ahead, renewed tightening of restrictions by several states to curb the spread may weigh on domestic demand, thereby impeding the core-import growth momentum. A significant pick-up in pace of inoculations and bare minimum targeted restrictions are critical to avert any severe disruption to the ongoing economic recovery. On the other hand, strengthening global growth prospects—bolstered by an enhanced fiscal policy support in the US and significant progress in vaccination drives—augers well for export growth momentum. We maintain expectations of a current account surplus of 1.1% of GDP in FY21, attributed to a sharply lower trade deficit and steady services exports. In FY22, we expect current account to slip into deficit again (est.: 0.7% of GDP), even as global risk-on sentiments are likely to keep the BoP in a comfortably surplus position.

We estimate a current account surplus of 1.1% of GDP in FY21 but expect a deficit of 0.7% of GDP in FY22.

Sustenance of foreign capital inflows should keep the BoP in a comfortably surplus position.

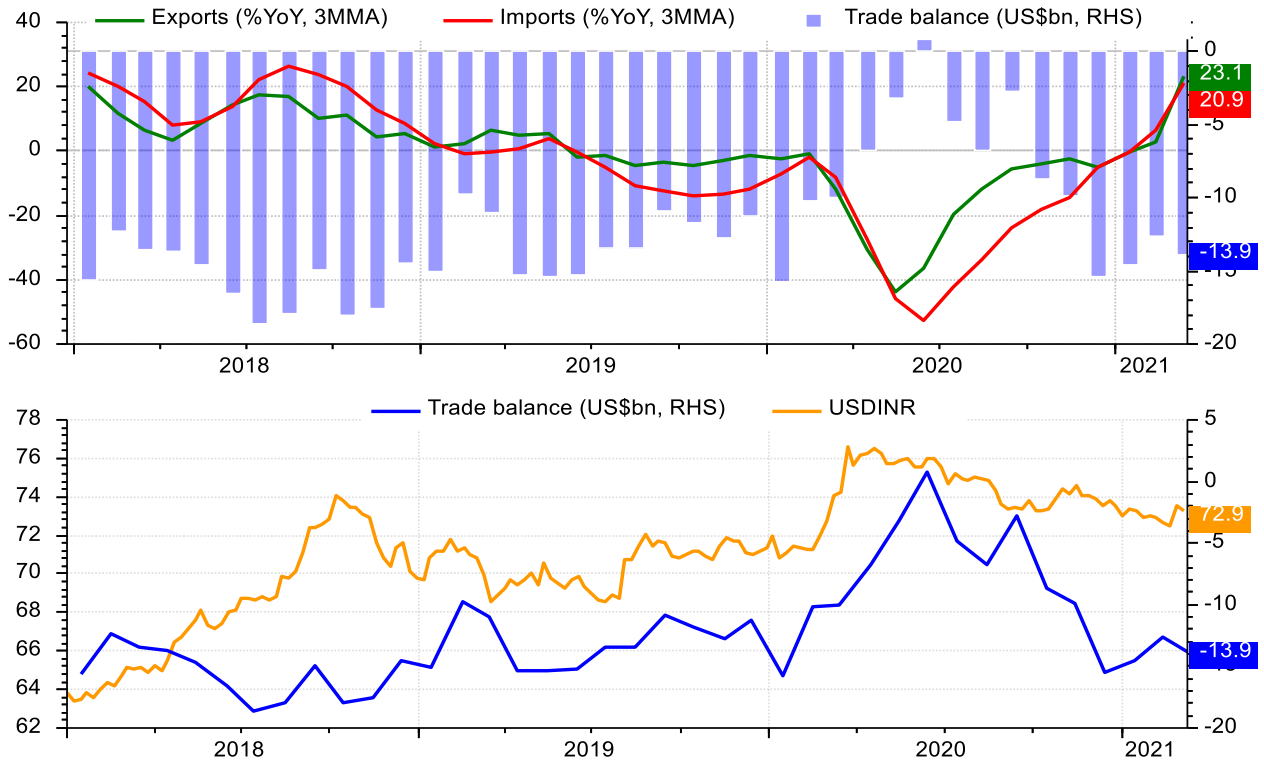
- INR likely to remain under pressure in the near term: A strong dollar rally, thanks to firming US bond yields and strengthening US macroeconomic landscape, have significantly weighed on Emerging Market (EM) currencies over the last couple of months. While the INR found support during this period from adequate forex reserves and a rare current account surplus expected in FY21, it has depreciated by more than 2% against the dollar in April thus far amid renewed growth uncertainty, unwinding of carry trades and an expected surge in money supply post RBI's enhanced liquidity support. In the near-term, depreciating pressures on the INR are likely to persist, even as a comfortable current account situation and an effective RBI intervention may limit the downside.

Figure 73: India monthly trade balance for March 2021

	Exports		Imports								Trade balance
	US$ bn	%YoY	Total (US$ bn)	%YoY	Oil imports (US$ bn)	%YoY	Non-oil imports (US$ bn)	%YoY	Gold Import (US$ bn)	%YoY	US$ bn
Mar-21	34.4	60.3	48.4	53.7	10.3	2.2	38.1	77.9	8.5	591.8	-13.9
Feb-21	27.5	-0.8	40.5	7.0	9.0	-16.3	31.5	16.2	5.3	123.9	-13.0
Mar-20	21.5	-34.3	31.5	-28.0	10.0	-14.7	21.4	-32.9	1.2	-62.6	-10.0
FY21	290.8	-7.2	393.3	-17.2	82.6	-36.7	310.7	-9.7	34.6	22.6	-102.5

Source: Ministry of Commerce, CMIE Economic Outlook.

Figure 74: India monthly trade balance trend



Source: Refinitiv Datastream.

Figure 75: Non-oil, non-gold imports trend

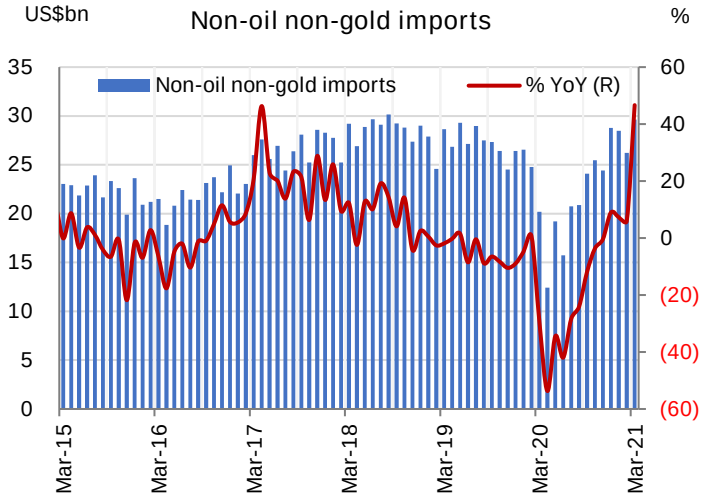
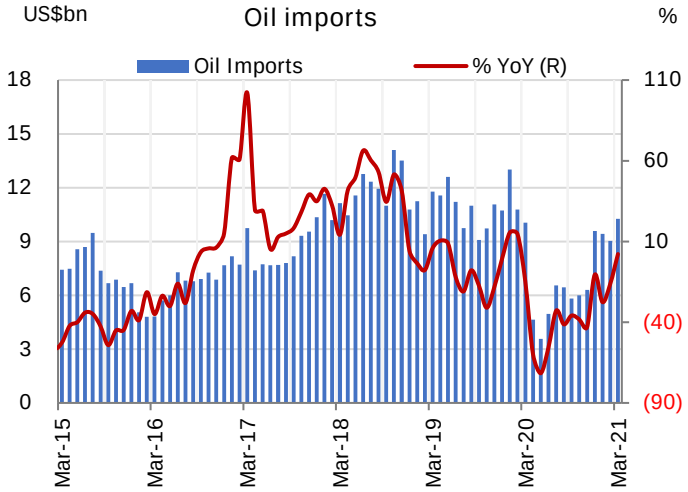
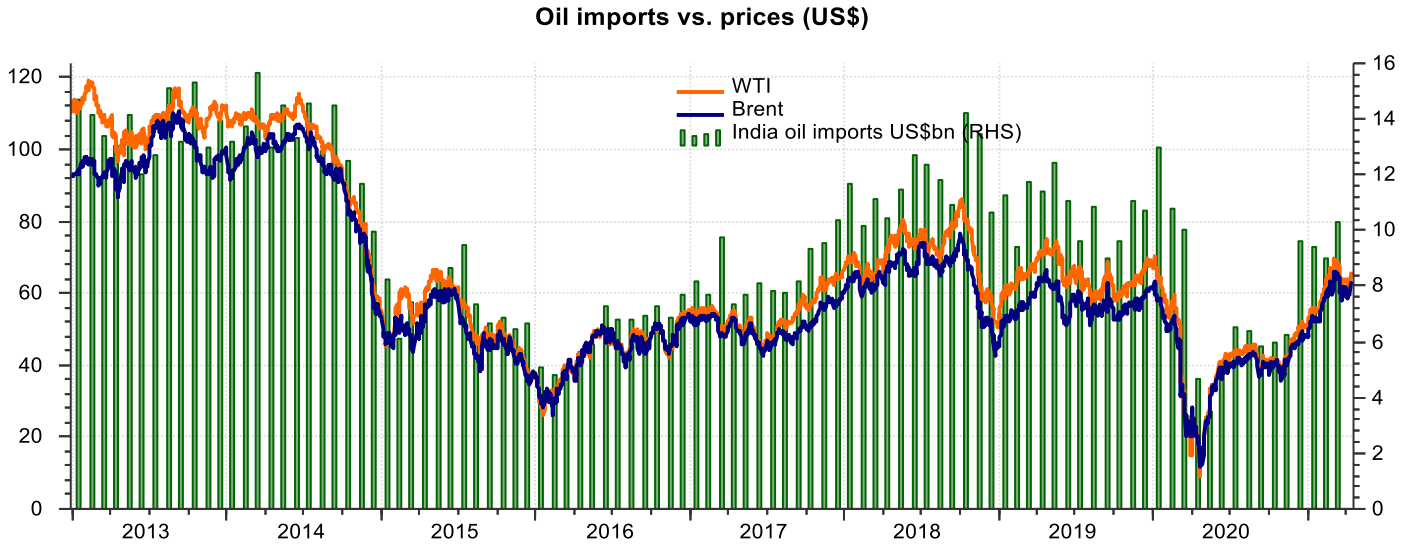


Figure 76: Oil imports trend



Source: Ministry of Commerce, CMIE Economic Outlook.

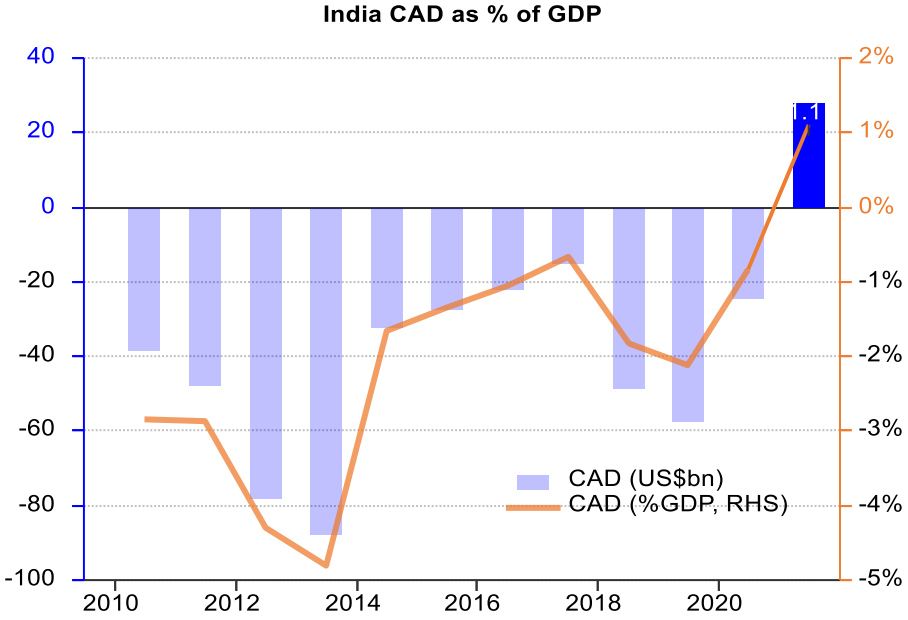
Figure 77: Oil imports vs. Brent crude oil prices trend



Source: Refinitiv Datastream.

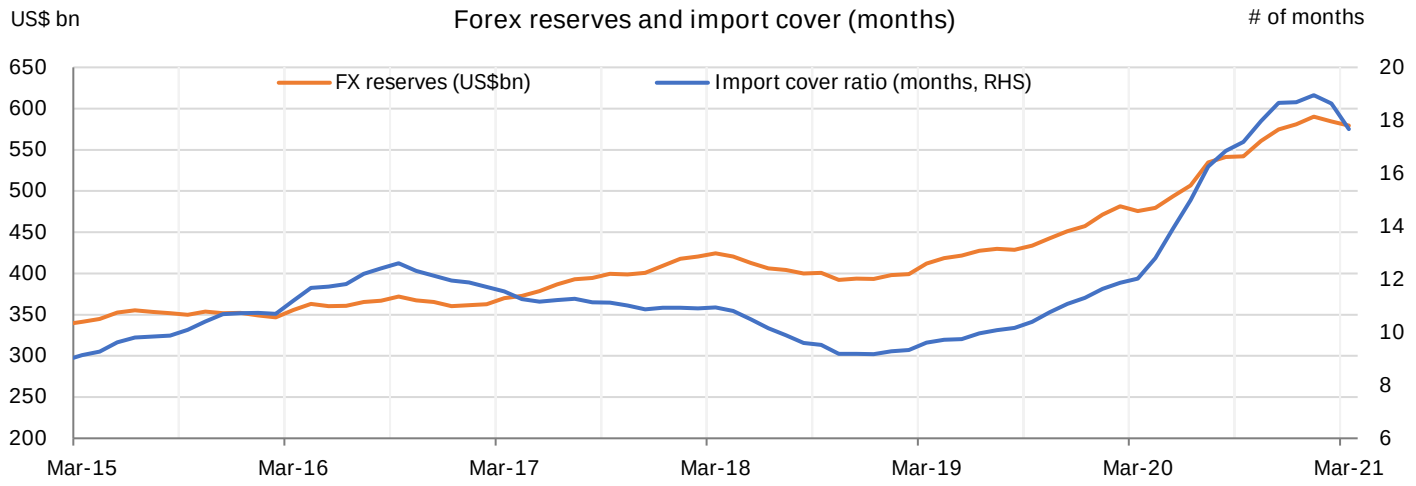
Figure 78: Current account surplus pegged at 1.1% of GDP in FY21; expect deficit of 0.7% of GDP in FY22

A significant contraction in trade deficit in FY21 is expected to translate into a current account surplus of 1.1% of GDP in FY21—the first surplus in 17 years, vs. a deficit of 0.9% of GDP in FY20. In FY22, we expect current account to slip into deficit again, with our estimate pegged at 0.7% of GDP, even as expectations of sustenance of foreign investments is likely to keep BoP in a comfortable surplus position for the third year in a row.



Source: Refinitiv Datastream, NSE

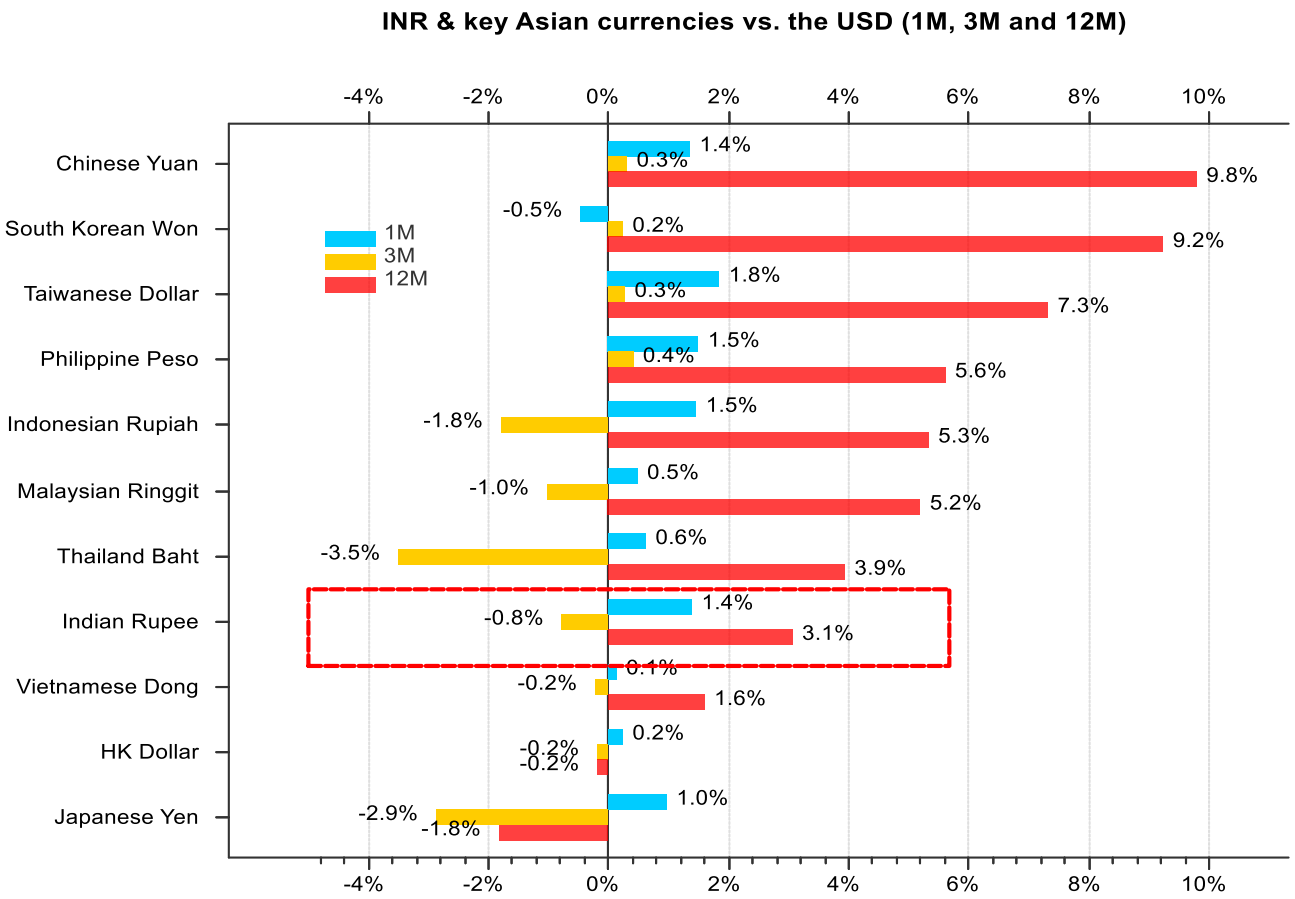
Figure 79: Forex reserves at more-than-adequate levels, leading to a comfortable import cover



Source: CMIE Economic Outlook, NSE.

Figure 80: INR vs. other key Asian market currencies

EM currencies have remained under pressure over the last couple of months in the wake of hardening oil prices, escalating US bond yields and a stronger US macroeconomic landscape translating into dollar rally. The INR has been no different, having witnessed significant volatility over the last few weeks.



Source: Refinitiv Datastream.

RBI's response to the second COVID-19 wave aimed at targeted liquidity support

The RBI, in a recent meeting, acknowledged the drastic changes in India's COVID situation over the last few weeks and attendant ramifications on the nascent economic recovery that was underway, particularly in contact-intensive services. That said, implementation of less stringent/localised restrictions this time as opposed to a complete nation-wide lockdown last year should limit the disruption in the manufacturing sector as well as supply-led spike in inflation trajectory. With an aim to reduce financing constraints for stressed segments of the economy amidst the second wave, the RBI announced a slew of measures, primarily focused on providing targeted liquidity support.

Key measures include: 1) Increase in the second auction amount under G-SAP 1.0 to Rs350bn from Rs250bn conducted in the first auction, 2) On-tap liquidity facility worth Rs500bn for banks for on-lending, classified as Priority Sector Lending (PSL) to healthcare-related manufacturing and services. Such banks will be eligible to park their surplus liquidity equivalent to the COVID loan book with the RBI at a 40bps higher rate than the reverse repo rate (3.75%), 3) A special three-year long-term repo operations (SLTRO) worth Rs100bn for Small Finance Banks (SFBs) to support ton-lending to MSMEs and small businesses, 4) Lending by SFBs to micro-finance institutions (MFIs) for on-lending to be classified as PSL, 5) Deduction of loans extended by banks to MSMEs from their NDTL for Cash Reserve Ratio (CRR) calculation until December 2021, 6) Resolution framework 2.0 to ease debt serviceability burden on MSMEs, small businesses and individuals, 7) Allowing banks to utilise 100% of floating provisions/countercyclical provisioning buffer held by them as on December 31st, 2020 for making specific provisions for non-performing assets, and 8) Relaxation with regard to availment of Overdraft (OD) facilities for state governments.

The RBI's statement reiterated its commitment on working closely with the Government to alleviate the ramifications induced by the second wave on lives and livelihoods by proactively taking unconventional measures as well as devising new responses as situation warrants. Even as economic ramifications are not expected to be as severe as seen in the first lockdown, the nascent economic recovery that was underway is likely to get derailed. Our 10% GDP growth estimate for FY22 now faces downside risks. We therefore expect RBI to keep policy rates unchanged all through FY22 and remain focused on maintaining adequate liquidity in the system as well as taking sector-specific relief measures.

- Lockdown restrictions induced by the second wave to weigh on **India's growth** and inflation trajectory: India's COVID situation over the last few weeks has changed drastically for the worse, with nearly 4m cases getting added on a daily basis accompanied with a significant increase in casualties. This has led to several states imposing lockdown restrictions, albeit locally and strategically. This is expected to have ramifications on the nascent economic recovery that was underway, with the impact on contact-intensive services likely to be severe. The supply-chain and logistic bottlenecks induced by these lockdown restrictions are likely to shape the inflation trajectory over the coming months, even as a favorable base and expectations of a normal monsoon are expected to provide the upside support. Nevertheless, implementation of less stringent/localised restrictions this time as opposed to a complete nation-wide lockdown last year should limit the disruption in the manufacturing sector as well as supply-led spike in inflation trajectory.

Impact of second wave-induced lockdown restrictions on growth and inflation is likely to be less severe than that witnessed during the first wave.

- Enhanced support for the Centre and state governments: Following an encouraging response from the first auction under G-SAP 1.0 worth Rs250bn conduced on April 15, 2021—reflected in a drop in G-sec yields—the RBI enhanced the amount for the second auction—to be conducted on May 20, 2021—by Rs100bn to Rs350bn. This, along with an abundant and surplus system liqudity, should keep G-sec yields contained. Additionally, to help state governments manage their cash flow requirements better, the RBI increased the maximum

RBI provided enhanced support to Centre and states by increasing G-SAP auction amount and relaxing OD facility respectively.

number of days of OD in a quarter from 36 to 50 days. and the number of consecutive days of OD from 14 to 21 days. This facility will be available to state governments up to September 30, 2021.

- Liquidity support to healthcare-related manufacturing and services: With an aim to provide liquidity support to ramp up COVID-related healthcare infrastructure facilities and services, an on-tap liquidity facility worth Rs500bn with tenors of up to three years at the repo rate was announced. Liquidity availed by banks through this window can be used to extend loans to healthcare-related manufacturing and services as well as patients for treatment. Extension of PSL classification to such lending till repayment or maturity, whichever is earlier and increase in rate on surplus liquidity parked by banks with the RBI under the reverse repo window equivalent to COVID loan book by 40bps to 3.75% are expected to incentivise banks to extend credit to such sectors.

An on-tap liquidity facility worth Rs500bn was announced for banks for on-lending to healthcare-related manufacturing and services accompanied with lending incentives for banks.

- Relief measures for MSMEs and small businesses: To faciliate SFBs to extend credit to MSMEs, small businesses and other unorganised sectors that have been adversely affected during the current wave of the pandemic, the RBI introduced a special three-year long-term repo operation facility worth Rs100bn at repo rate, available till October 31st, 2021. The liquidity availed under this facility for fresh lending of up to Rs1m per borrower. Additionally, lending by SFBs until March 31st, 2022 to smaller MFIs with asset size of up to Rs5bn for on-lending to individual borrowers will be classified as PSL. To further incentivise credit flow to MSME borrowers, the flexibility provided to banks to deduct loans extended to MSMEs up to Rs2.5m from their net demand and time liabilities (NDTL) for CRR calculation has been extended till December 31, 2021.

  With an aim to ease debt serviceablity burden on MSMEs, the RBI introduced Resolution Framework 2.0 wherein borrowers with aggregate exposure of up to Rs250m and who have not availed restructuring in the past and who were classifed as 'Standard' as on March 31st, 2021 will be eligible to avail restructuring. For borrowers who have availed restructuring under Resolution Framework 1.0 announced on August 6th, 2020, lending institutions are permitted to increase the period of moratorium and/or extend the residual tenor up to two years. For borrowers who have availed for restructuring even earlier, lending institutions are permitted to review the working capital sanctioned limits as a one-time measure.

Several measures were announced to provide liquidity support to MSMEs and small businesses and individuals.

- Expect continued liquidity support and status quo on rates from RBI: The RBI's statement reiterated its commitment on working closely with the Government to alleviate the ramifications induced by the second wave on lives and livelihoods by proactively taking unconventional measures as well as devising new responses as situation warrants. Even as economic ramifications are not expected to be as severe as seen during the first lockdown, the nascent economic recovery that was underway is likely to get derailed. This has already started reflecting in some of the high frequency indicators including auto sales, e-Way bills, mobility data, power demand, railway freight traffic, among others. Our GDP growth estimate of 10% for FY22 now faces downside risks. We therefore expect RBI to keep policy rates unchanged all through FY22 and remain focused on maintaining adequate liquidity in the system as well as taking sector-specific relief measures.

RBI MPC Minutes: Accommodative stance and liquidity support to continue

In the last policy review meeting, the RBI's Monetary Policy Committee (MPC) unanimously voted to keep the policy repo rate unchanged at 4% and maintain an accommodative stance for as long as necessary (Refer to our note titled "RBI Monetary Policy: Status quo on rates; liquidity support strengthened" for details). Members expressed concerns about growth-related uncertainties and the drop in consumer sentiment as reflected in the latest consumer confidence survey by the RBI. They emphasized the need for consumption, investment, and improved capacity utilization to increase output.

The members noted that headline inflation remained below 6% for three months since December 2020 and they expect it to adhere to the tolerance band set by the RBI. However, considering the second wave of COVID-19, headline retail inflation trajectory may rise if producers absorb cost pressures and increase retail prices. While food inflation has eased, manufacturing inflation will take time to stabilize due to the industry's dependence on other countries. Global economic recovery is reflected in rising prices of international commodities.

The RBI retained the inflation target at 4% with a tolerance band of +/- 2% and the MPC stated that the target has helped anchor inflation expectations and improved the transparency of the process while helping them deal with the economic shock caused by the pandemic. All members reiterated that a broad-based recovery is essential for a complete revival and the RBI must provide required policy support. Lastly, markets must be given clear guidance to keep fears in check.

- Growth related uncertainties rise as recovery loses steam: The CSO's Second Advance estimates point to an 8% decline in India's GDP in FY21. While indicators like business turnover in services, bank credit, GST revenues, among others signal a pick-up in economic activity, the RBI's Consumer Confidence survey held in March 2021 reveals that a sizeable portion of the respondents felt that economic conditions had worsened as compared to a year ago. The contracting industrial production over the last couple of months also points towards industrial recovery losing momentum. Baseline growth in FY22 is projected to be 10.5% primarily led by a low base. Resurgence of COVID infections and potential reimposition of restrictions may weigh on the nascent economic recovery that is currently underway. Consumption and investment must be encouraged along with capacity utilization to ensure output recovery that will offset the impact of the economic shock caused by the pandemic.
- Risks to inflation in the future: Headline inflation dropped below 6% for three consecutive months since December 2020 and is expected to stay within the MPC's tolerance band this year. Food inflation has eased due to resolution of supply chain issues while the manufacturing sector might take longer due to its dependence on other countries. CPI rose in February due to fuel and core inflation. There could be upward pressure on CPI if producers absorb cost pressures and decide to increase retail prices amidst the second wave of COVID-19. Prices of international commodities have shown an upward trend which reflects the global economic recovery. An elevated WPI trajectory is a reflection of continued supply-side bottlenecks and higher commodity inflation, and the second wave is expected to delay its return to normal levels. In the short run, CPI is projected to be less than 5.3% in FY22, with the trajectory expected to be dictated by the external sector, progress in the south-west monsoon and recovery of domestic economy. Food grain production, supply side measures and reduction in taxes on petroleum products by the Centre and states are required to manage cost pressures on inflation.

- Policy support going forward: The inflation target has been retained at 4% with a tolerance band of +/- 2%. Members of the MPC feel that the target has helped anchor inflation expectations around the target and improved the transparency of the monetary policy process. The increased credibility of the MPC enabled them to deal with shocks brought on by COVID-19 more effectively. The revival of the Indian economy in Q3FY21 is an example of its resilience but a broad-based recovery is needed for it to be sustainable. Strong policy support is needed to support and sustain the momentum in growth. Dr. Jayanth Varma expressed that forward guidance, which was introduced to flatten the steep yield curve, hasn't served its purpose and the yield curve must be flattened using other monetary policy instruments.

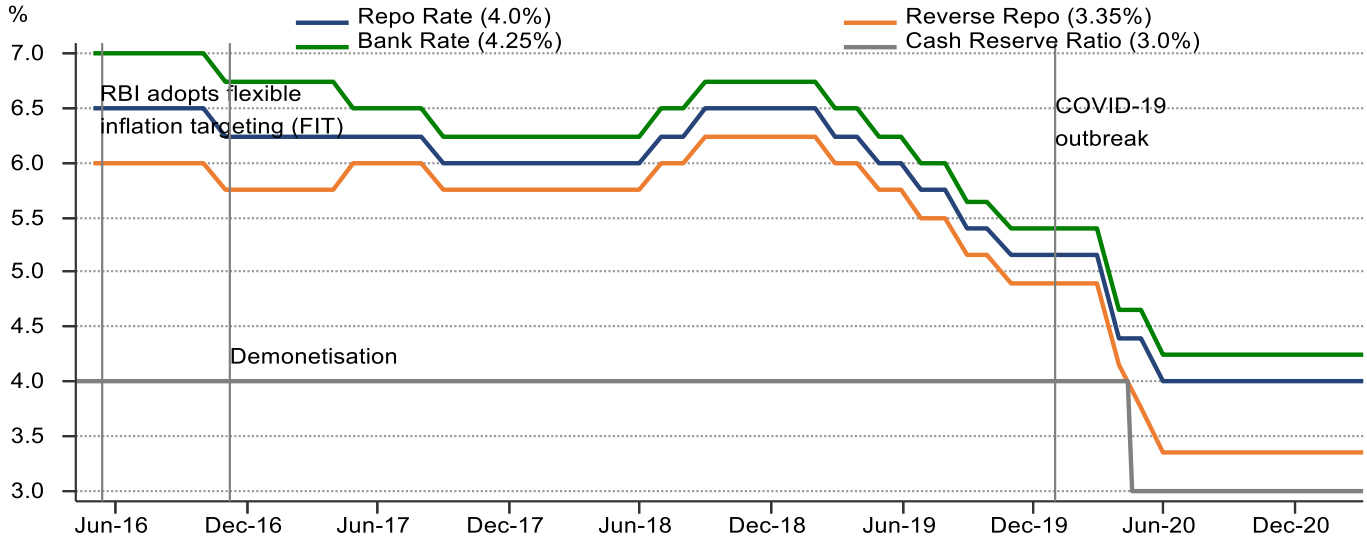
- Implications of policy measures: While transmission of lower policy rates remains stable in the banking system, transmission to the markets faltered for two months before the April meeting. Markets will need clear guidance so that fears are abated and the need for policy interventions fall. Debt sustainability must be kept in mind while increasing fiscal space so that monetary policy is not undermined.

Figure 81: Current policy rates

Key rates	Current value
Repo Rate	4.0%
Reverse Repo Rate	3.35%
Marginal Standing Facility (MSF) Rate	4.25%
Bank Rate	4.25%
Cash Reserve Ratio (CRR)	3.0%
Statutory Liquidity Ratio (SLR)	18.0%

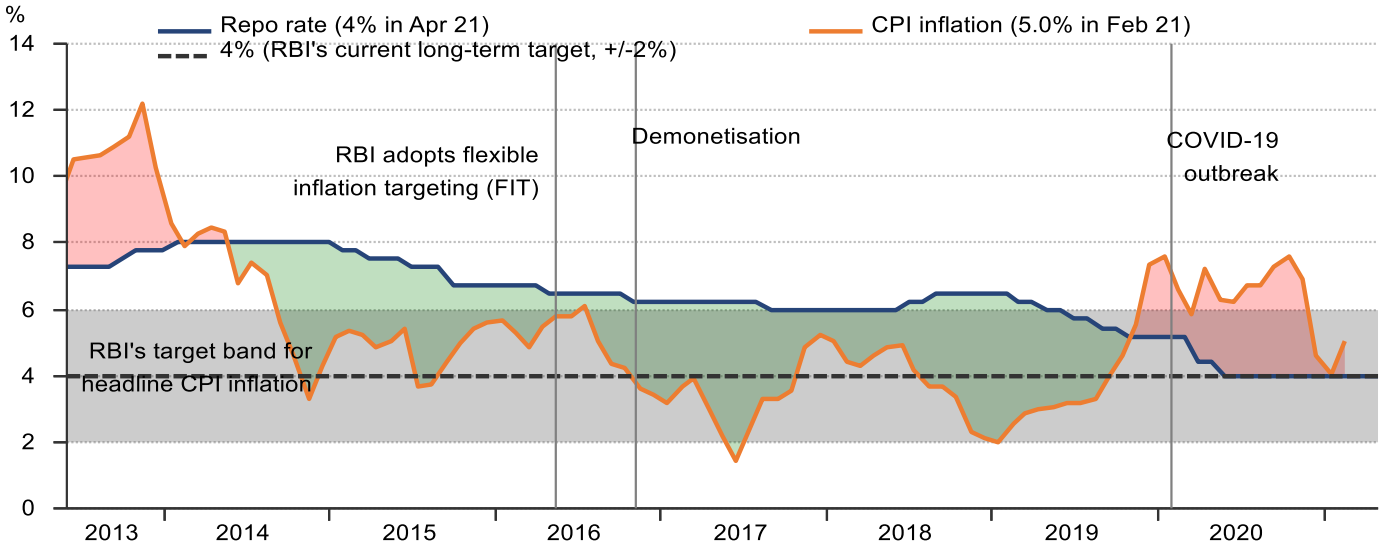
Source: RBI

Figure 82: Policy rates kept unchanged in the April review meeting



Source: Refinitiv Datastream.

Figure 83: Real interest rates have remained negative for more than a year now



Source: Refinitiv Datastream.

Figure 84: Views of erstwhile MPC members from December 2019 to August 2020 review meetings

Members	December 2019 MPC	February 2020 MPC	March 2020 MPC	May 2020 MPC	August 2020 MPC
Dr. Chetan Ghate					
Growth	Weakness in growth remains broad-based. Industrial Outlook Survey shows persistence of pessimistic demand conditions in Q3FY20.	Broader economic activity is beginning to show preliminary signs of a turn-around. Tighter monetary conditions important to meet the 4% target.	Acute downside risks to growth have mounted due to COVID-19 and lockdown measures. A large decline in global growth to also affect exports adversely.	Since the last review, several high frequency indicators have declined sharply. This has not only led to a large negative output gap but also a drop in potential output.	Since the last review, economic activity has seen a gradual. In terms of output loss, the worst is behind us even as the underlying damage is difficult to diagnose.
Inflation	Inflationary expectations have risen sharply on account of spike in food prices. Low service inflation is unlikely to sustain.	Inflationary expectations have moderated. The current spike in CPI inflation is temporary, but future prints should be carefully watched	New disinflationary pressures have emerged due to drop in crude oil prices and demand slowdown. Supply-side disruptions in the food sector poses an upside risk	Supply-side pressure in the food sector remains a concern. COVID-19 imparting a deflationary shock is unclear. Both 3-month and 1-year ahead inflationary expectations have spiked sharply.	Inflation has remained above the RBI's upper band of 6% for the last six months. There are different inflationary and deflationary pressures that need to be watched carefully going forward.
Policy action	Pause; stance: accommodative	Pause; stance: accommodative	50bps cut; stance: accommodative	25bps cut; stance: accommodative	Pause; stance: accommodative
Dr. Pami Dua					
Growth	Consumption and investment activity remain weak. Steeper decline in imports vs. exports indicates a more acute slowdown in domestic vs. global demand.	There are some signs of a modest revival, even as overall economic activity continues to remain weak. Credit flow to the commercial sector has picked up in last two months.	Lockdown has brought economic activity to a standstill. There are ramifications stemming from supply side disruptions, demand contraction, slowdown in global growth and a loss in consumer/ investor confidence.	COVID-19 induced lockdown has led to a collapse in economic activity, which has come to a near standstill. Except for agri, economic activity may continue to remain sluggish even after the lifting of the lockdown.	Some signs of recovery were visible in June but localised lockdowns have been restraining growth. The restoration of economic activity depends on how soon supply disruptions are repaired and demand revives.
Inflation	Headline inflation is projected to rise in the near-term, but moderate to below target by Q2FY21.	Inflation is expected to moderate but remain at elevated levels. Supply disruptions in China poses upside risk.	CPI inflation trajectory is heading downwards on easing food prices, collapse in crude oil prices and weakening aggregate demand.	Headline inflation is expected to ease in H2 FY21 and fall to sub-4% led by low crude oil prices, and weak demand.	Inflation is expected to remain high in Q2 and then moderate in H2. Prints over the next few months are crucial to

					gauge supply/demand disruptions on prices.
Policy action	Pause; stance: accommodative	Pause; stance: accommodative	50bps cut; stance: accommodative	40bps cut; stance: accommodative	Pause; stance: accommodative
Dr. Ravindra H. Dholakia					
Growth	Green shoots visible. RBI's forecast points at growth slowdown bottoming in Q2FY20 and recovering gradually in Q3/Q4 and FY21.	Growth slowdown may be prolonged, and the real growth may remain sub-7.5% for the next couple of years leading the negative output gap to expand.	Prolonged lock-down has seriously adverse economic and social implications. FY21 GDP growth may range between 4 to 4.5%, leading to further widening of output gap.	Growth in FY21 to fall into the negative zone for the first time in 40 years. Nominal GDP growth may also come negative-reflected in fall in demand, and high unemployment.	The economy is caught in a deep stagflation where the supply shock is much more adverse than demand shock.
Inflation	Headline inflation expected to remain above the 4% target and closer to the upper bound of the target range over next 2-3 months.	Inflationary expectations of households and businesses show a diverging trend. RBI's inflation est. four quarters down is 3.2%.	Headline CPI inflation by Q4FY21 is expected to be only around 2.5%, making the current real policy rate unduly high.	Inflation to fall to 2.8% in Q4FY21. Real policy rate in India is very high at ~1.2-1.6% vs. other countries where it is zero or negative.	Expansionary policies during stagnation first results in higher inflation and then output expansion. Imputed inflation for Mar-May ignores the huge change in consumption patterns during lockdown, thereby providing misleading signals.
Policy action	Pause; stance: accommodative	Pause; stance: accommodative	75bps cut; stance: accommodative	40bps cut; stance: accommodative	Pause; stance: accommodative
Dr. Mridul Sagar					
Growth					Downside risks to growth forecasts remain high. "The recovery path is linked to the course the pandemic might take and a full normalisation will be difficult till pandemic is overcome."
Inflation					Recent inflation prints have elements of fuzziness. "Risks to inflation arise from price stickiness and supply disruptions." "It remains to be seen how much inflation falls later in the year due to demand destruction, base effects and improved supplies."
Policy action					Pause; stance: accommodative
Dr. Michael Debabrata Patra					
Growth	Weakness in overall activity may likely prolong into Q3. However, the upturn in retail inflation calls for a pause, leaving scope for calibrated policy actions in future.	Activity remains weak, with some signs of growth stabilising, but they are far from gaining economy-wide traction. Coronavirus outbreak poses new risks.	Economic dislocations due to COVID-19 are severe. Prospects for the economy now hinge around how pervasive and severe COVID-19 turns out to be, and how long it lasts.	"The damage due to COVID-10 is so deep and extensive that India's potential output has been pushed down, and it will take years to repair."	Outlook remains grim, with recovery expected to be slow and hesitant. The situation is likely to worsen before it gets better, with a durable recovery contingent on sustained policy support.

Inflation	Inflation is expected to rise further over next 2-3 months. Persistence of high food inflation and its spill-over into non-food is a key risk.	"The breach in the upper tolerance band of the MPC's inflation target band in the Dec print may well recur in the months ahead."	"..Inflation has peaked and will likely ease well below the target in the second half of 2020-21."	Persisting drop in GDP growth to keep core inflation benign. Spike in food prices can be looked through for policy purposes	"..inflation surprises of recent months are undermining the MPC's actions.." "Imputation of headline inflation, supply disruptions and continual cost push interventions in price formation has complicated the MPC's conduct"
Policy action	Pause; stance: accommodative	Pause; stance: accommodative	75bps cut; stance: accommodative	40bps cut; stance: accommodative	Pause; stance: accommodative
Shri Shaktikanta Das					
Growth	Activity has weakened further with GDP growth in Q2 declining for the 6th quarter in a row. Beyond Q2, however, some positive signs have emerged.	Demand conditions remain weak, even as some green shoots are visible. Global activity has slowed down, with weakened prospects due to Corona virus.	Growth impulses face strong headwinds from sluggish demand and disruptions in supply of labour and key inputs. Erosion of consumer/ investor confidence may worsen the growth outlook even further.	Growth in FY21 to fall into negative zone. While supply side is expected to ease gradually as lockdown is lifted, demand side will continue to weigh on economic activity for some time to come.	Economic outlook remains uncertain even as the recent data has shown some recovery. Recovery going forward would depend on containment of COVID-19 and unlocking of economic activities.
Inflation	Inflation has surged in last 3 months reflecting a spike in vegetable prices, leading to rise in inflationary expectations. Benign core inflation suggests weak demand.	Headline inflation rose for the 5th consecutive month led by a surge in vegetable prices but is expected to moderate. Nevertheless, inflation uncertainty remains high.	Weak demand outlook and lower crude oil prices should keep upside risks to inflation firmly contained, even in the face of temporary supply chain disruptions.	Price pressures to moderate amid weak demand conditions, easing of supply issues in the food sector and a sharp drop in crude oil prices.	Near-term price pressures are expected to continue due to cost-push factors and supply disruptions. Generalised inflationary pressures in times of recession is a matter of serious concern.
Policy action	Pause; stance: accommodative	Pause; stance: accommodative	75bps cut; stance: accommodative	40bps cut; stance: accommodative	Pause; stance: accommodative
Dr. Janak Raj					
Growth		Domestic activity has remained weak due to reduced investment and consumption demand. Some high-frequency indicators, however, show a modest turnaround.	"..Though difficult to quantify, it is clear that aggregate demand will weaken significantly in the near future, which will impact the growth prospects for the year as a whole."	"..Economic activity is expected to contract in 2020-21. While supply lines are likely to be restored as lockdown is relaxed, demand would take far longer to revive to pre-COVID levels."	
Inflation		Headline inflation surged due to spike in vegetable prices. Inflation expectations have moderated but still remain elevated.	Barring near-term pressure, inflation outlook has turned benign due to demand slowdown and a sharp drop in crude oil prices.	Inflation over the medium-term is expected to be benign due to fall in crude oil prices and collapse in domestic demand.	
Policy action		Pause; stance: accommodative	75bps cut; stance: accommodative	40bps cut; stance: accommodative	
Shri Bibhu Prasad Kanungo					
Growth	Q2 GDP growth was weaker than projected earlier. High frequency indicators point to continued weakness in Q3. Some green shoots are emerging.				
Inflation	Temporary demand-supply imbalance led to a spike in food inflation.				

	CPI inflation to rise in H2 but fall below the target in Q2FY21.				
Policy action	Pause; stance: accommodative				

Source: RBI.

Figure 85: Views of new MPC members during last four review meetings

Members	October 2020 MPC	December 2020 MPC	February 2021 MPC	April 2021 MPC
Dr. Shashanka Bhide				
Growth	Macro indicators point towards a recovery in Q2. RBI surveys indicate an expected improvement in capacity utilization and demand conditions. GDP is expected to see a sustained revival, with growth turning positive by Q4.	Recovery in Q2 over Q1 was broad-based. Sustenance of this requires support from domestic demand amidst uncertain external demand conditionsm, which in turn requires both fiscal support and decline in COVID threat.	Sustained growth is dependent on agri growth and output levels of industry and services reaching levels of H2FY20. Recovery is still nascent and requires internal and external support while the pattern of recovery across sub-sectors indicates that it will be sustainable.	Substantial pace of output recovery needed to offsset economic impact of the pandemic. Agriculture and allied activities have been an important source of growth during FY21. Broad based recovery needed to sustain revival seen in Q3FY21.
Inflation	Food and fuel main cause of elevated inflation trajectory. Measures to fix supply-side bottlenecks needed to reduce cost pressures on prices.	Supply chain disruptions are largely responsible for high inflation, which is primarily led by food inflation. Indirect taxes on petroleum fuels have kept transport costs high.	Core inflation has remained between 5.4-5.9% between Jul-Dec'20. Good rabi crop likely to put downward pressure on food prices. Easing non-food inflation will require supply chain improvement and increase in consumer demand.	Headline inflation dropped below 6% for three months in a row since December 2020. RBI's Inflation Expectations Survey indicate higher inflation expectations for the next three months and one year ahead as compared to the previous survey.
Policy action	Pause; stance: accommodative	Pause; stance: accommodative	Pause; stance: accommodative	Pause; stance: accommodative
Dr. Ashima Goyal				
Growth	Sharp fall in growth due to COVID but this is a chance to loosen current financial conditions. Greater demand needed to bridge output gap. The Govt. has some room to increase spending and encourage private investment.	Measures to ensure availabilty of liquidity helped firms survive and revive demand so growth in Q2 is above expectations. Firms have begun to invest but will take a year to reach pre-COVID GDP level.	Growth has exceeded market expectations since Dec'20 but output remains below 2019 levels. There continues to be excess capacity and supply chains have room to normalize further.	Growth uncertainty has increased with the second wave of COVID-19. Growth in FY22 must make for widespread employment and drop in income levels seen in FY21.
Inflation	Above target but recovery of supply-side issues, good rainfall and appropriate reforms should ease inflation.	Headline inflation came in above expectations due to supply shocks but forecasted to soften in H2FY21.	Headline inflation come in below expectations on lower food prices. Core inflation remains near the upper band due to global supply chain disruptions and cost-push factors	Headline inflation expected to stay within the RBI MPC's tolerance band but core inflation has seen an upward trend. Oil prices seem to have stabilized. Higher WPI inflation is a concern.
Policy action	Pause; stance: accommodative.	Pause; stance: accommodative.	Pause; stance: accommodative	Pause; stance: accommodative
Prof. Jayanth R Varma				
Growth	Investments were weak pre-COVID requiring a long term response in interest rates. Concern about high long-term rates harming the economy.	Sectors with more competition have been badly affected while larger, more prominent firms have stayed afloat. Short term rates below 3% come at a risk of speculatory inventory build-up.	Growth has fallen within the range of expectations of the MPC.	Economic recovery is uneven and incomplete, and the second wave is a risk to the growing momentum of recovery.

Inflation	"One of the hallmarks of a credible inflation targeting regime is a substantial compression of the inflation risk premium."	Reduction in short term rates and failure to comply with the policy corridor comes at a risk of higher inflation.	Inflation outcomes have fallen within the range of expectations of the MPC.	Inflation rates have been above the RBI's 4% target and projected to stay elevated for some time.
Policy action	Pause; stance: accommodative.	Pause; stance: accommodative.	Pause: stance: accommodative	Pause: stance: accommodative
Dr. Mridul K Saggar				
Growth	Improvement in macroeconomic indicators is encouraging but well below pre-COVID levels. Expect output gap to close only in H2FY22.	Growth might turn positive by Q4 but will remain below trend. Improvement in high-frequency indicators could be a result of pent-up demand. Higher fiscal spending by end of FY21 could provide additional support to growth.	Growth has been faster than expected. Majority of manufacturing/ rural indicators have normalised past pre-pandemic levels but services dependent on tourism and transport are well below those levels. Output gap is likely to close only by FY22-end efforts directed towards output expansion should continue.	Projected growth of 10.5% in FY22 is primarily off a low base. Consumption and investment must be encouraged as well as capacity utilization, which remains below the long-term average. The economic recovery seen in Q3FY21 is beginning to lose steam.
Inflation	Currently above the upper limit of the tolerance band and caused by supply-side disruptions, rising gold prices and fuel taxes.	Inflationary pressures have persisted primarily led by food inflation due to unseasonal rains and remain supply driven.	Most of the food-price correction in CPI has already happened. Cost-push increases from higher crude oil prices might feed into costs. Upside risk to inflation from core inflation remaining sticky at an elevated level.	Inflation has been on an upward trend led by core and fuel inflation. The FAO price index for food is higher by 275% and for edible oils by 89.4%.
Policy action	Pause; stance: accommodative.	Pause; stance: accommodative.	Pause: stance: accommodative	Pause: stance: accommodative
Dr. Michael D Patra				
Growth	Indian economy has entered a technical recession for the first time ever and growth post the pandemic could follow a different pattern. Monetary and fiscal policy face tightening constraints.	"Economic activity is recovering but hesitantly and unevenly. This warrant continuing policy support till it is set on a firm trajectory of self-sustaining expansion."	Est. GDP growth may have turned positive in Q3 following a jump in Govt. expenditure and recovering exports. Capacity utilization is rising but growth will require continued policy support until investment and consumption stabilize.	Risks to economic recovery have increased after the second wave. Monetary policy must remain supportive of the economy until the recovery is even.
Inflation	Headline inflation, above upper limit since June 2020, led by supply pressures and cost pushes.	Inflation will remain on an elevated trajectory while firms keep margins high in order to earn income lost during the pandemic.	Headline inflation can fall further if the drop in vegetable prices continues into spring while core inflation remains elevated and will require close monitoring.	Inflation was somewhat aligned with the 4% target in Dec'20 and Jan'21 but rose in Feb'21, reflecting input cost pressures. It is expected to stay within the tolerance band during FY22.
Policy action	Pause; stance: accommodative.	Pause; stance: accommodative.	Pause: stance: accommodative	Pause: stance: accommodative
Shri Shaktikanta Das				
Growth	High-frequency indicators indicate an improvement, most likely to be led by rural demand. Improvement in capacity utilization is encouraging but risk of a second COVID wave could slow recovery. Expect growth to turn positive by Q4.	High-frequency indicators signal recovery but remain below FY20-levels. Rural demand has played a big role due to favourable soil conditions. Hopes of an early vaccine have been encouraging. Capacity utliization has improved in manufacturing sector but investment demand needs to gain momentum.	Growth is uneven but recovering and gathering momentum. High frequency indicators signal a fast recovery in urban and rural areas. Agricultural sector has stayed resilient while manufacturing activity is picking up. Policy support needed to ensure recovery is broad-based.	Global growth is recovering, reflecting divergence in COVID scenarios, vaccination drives and fiscal packages announced. Recovery of Indian economy continues - agriculture remains strong while manufacturing and services continues to normalize.

Inflation	Above 6% threshold led by food inflation, additional costs borne by firms and shortage of labour. Expect food inflation to moderate in the coming months.	Inflation has been unrelenting and highlights crucial role played by monetary policy in these times. Need measures to curb supply side pressures and dampen food inflation.	Softening of inflation has been led by food inflation levels while non-food and fuel inflation has remains elevated. Near term headline inflation outlook has improved.	Correction in food inflation helped headline inflation normalize, before increasing in February again. Core inflation remains on an elevated trajectory.
Policy action	Pause; stance: accommodative.	Pause; stance: accommodative.	Pause: stance: accommodative	Pause: stance: accommodative

Source: RBI.

STOP PRESS: Macro data update (Data released between May 1st and 15th)[2]

CPI inflation for April 2021: Retail inflation eases to three-month

Headline CPI inflation expectedly declined to a three-month low of 4.3% in April'21 from 5.5% in the previous month—broadly in line with the Consensus estimate of 4.2% (Source: Reuters). This was primarily on the back of a favourable base (7.2% in Apr'20) even as inflation inched up on a sequential basis in a broad-based manner for the third month in a row, signalling build-up of inflationary pressures. On a YoY basis, the drop in headline inflation trajectory was primarily led by lower food inflation, thanks to deflation in vegetables, cereals, sugar and milk & milk products, partly offset by a spike in prices for some food items including fruits, meat & fish, oils & fats and non-alcoholic beverages as well as higher fuel inflation. Core inflation (headline inflation ex food and fuel) also eased from a 29-month high of 5.7% in March to 5.2% in April, albeit off a high base, led by lower inflation in household goods & services, clothing & footwear, recreation & amusement, and education.

IIP for March 2021: IIP growth shoots up on a low base

Industrial recovery gained slight momentum in March, with Industrial Production (IIP) rising by a strong 22.4% YoY, positively surprising market expectations (Consensus: +17.6%; Source: Reuters). While a part of this is attributed to a supportive base (-18.7% YoY in Mar'20), a robust 10.6% growth on a sequential basis (MoM), albeit seasonal, points to an improvement in growth momentum. While Manufacturing and Electricity registered a strong 25.8% and 22.5% YoY growth respectively, Mining sector growth came in at a muted 6.1%, signalling continued weakness in mining activity. The use-based classification also showed a broad-based rebound in growth but off a steep contraction last year. Industrial output fell by 8.7% in FY21 on top of a 0.8% drop in FY20

Trade balance for April 2021: Trade deficit widens for the third month in a row

India's merchandise trade deficit widened to US$15.1bn in Apr'21 from US$13.9bn in the previous month, with both imports and exports registering a strong YoY growth amid favourable base effects. On a sequential basis, however, both exports and imports witnessed a contraction, led by exports. While a part of this is attributed to fiscal year-end seasonality (higher activity in the month of March), lockdown-induced reduction in business/trade activities also contributed to the sequential drop. India's import bill grew by 167.1% YoY in Apr'21 on top of a 59.6% YoY drop in the same period last year but fell by 5.5% on a MoM basis—a tad higher than the average MoM drop of 4.7% in the month of April during the five-year period from 2015 to 2019. Excluding oil imports, which grew by 5.8% on a MoM basis, imports fell by 8.6% MoM—a reflection of deterioration in demand conditions. India's export bill registered a strong 195.7% YoY growth in Apr'21, thanks to an equally favourable base, but declined by 11.1% on a MoM basis, broadly in-line with the past trend. Amidst a strong global growth outlook, thanks to fast pace of vaccinations, declining cases and sustained policy support, and rising domestic growth uncertainty, exports are expected to do better in the near-term, even as a low base may keep import growth figures optically higher.

[2] A detailed note on these would be included in the next month's edition of Market Pulse.

Insights

Stock market liquidity: Measurements, determinants, and impact on expected returns[3]

Understanding stock market liquidity has been one of the important topics to understand in the area of market microstructure. In this regard, Naik and Reddy (2021) has recently done a literature review of all relevant research papers since the Global Financial Crisis (GFC) to identify the key aspects that have been examined on stock market liquidity, accumulated their key findings and categorised them in multiple dimensions. First, the study has given a wide and extensive list of measurements for market liquidity suggested in the literature. Second, it has identified all factors influencing liquidity across several countries. Third, it has explored the relationship between market liquidity and expected return. Fourth, the study has also explained market liquidity risk and its relationship with expected returns in the context of the stock market liquidity.

With this background, we have summarised the major findings of the study by Naik and Reddy (2021) and tried to explain all measurements, determinants of stock market liquidity and its impact on expected returns in the stock market across several countries covered thus far in several studies.

Stock market liquidity is a crucial phenomenon to ensure smooth functioning of the market. It refers to the ability of the market to absorb a large number of orders at a low execution cost within a short span of time without having much impact on stock prices. In other words, market liquidity offers the ability of buyers and sellers to exchange a number of stocks at the stated price without any time delay. The market liquidity is important for traders as well given their ability to execute any volume of orders at shorter time with minimum transaction costs improves in a market with higher liquidity.

The study has analysed all relevant studies in the field of stock market liquidity between the GFC and April 2020 and examined their methodologies and findings quantitatively to understand how stock market liquidity is generally measured. What are the major determining factors of market liquidity? How has stock market liquidity impacted expected returns of underlying stocks? A total of 439 research papers are selected from top 64 journals globally in the area of applied economics, finance, business, public policy, accountancy, banking, corporate finance etc.

According to the study, existing literature has considered several measurement techniques to evaluate market liquidity of a particular stock. Market is generally considered to be liquid if a large volume of trades can be executed without any delay at low transaction cost with minimum impact of stock price. There are wide range of measures available in the literature to quantify stock market liquidity using either low frequency data like daily, weekly, monthly, quarterly and yearly, or high frequency data like intra-day data. Most commonly used liquidity measures are depth (volume or quantity measure), breadth (price impact measure), immediacy (time or speed measure), and transaction costs (spread or transaction cost measure). While low-frequency measures can be fairly used over high-frequency measures (Goyenko et al., 2009), low-frequency data enables to do studies over a long period and across different market structures (Lee, 2015).

[3] The section gives a summary of the following paper:
Naik and Reddy. 2021. Stock Market Liquidity: A Literature Review. https://journals.sagepub.com/doi/pdf/10.1177/2158244020985529

According to the study, spread and volume-related liquidity measures are negatively correlated and give similar information about market liquidity, hence can be used as complementary measures to market liquidity. In case of developing markets, Gibbs, Amihud, and Amivest measures prove to be effective measures, whereas in an emerging market, Closing Quoted Spread measure based on daily data was the best performing liquidity measure during the periods of extreme liquidity. While other studies found Amihud Illiquidity ratio is the best transactional cost measure, zero return measure is a very strong and reliable measure for determining the timing of liquidating the trading positions. Another study found a strong relation between depth and volatility and proposed a relative measure that captures the size and depth in the limit orders and hence, predicts the level of volatility which can be utilised to decide trading strategy. Besides, the Mixture of Distribution Hypothesis (MDH) model that captures refined trading volume which is more suitable during high volatility period. In summary, there is no best measure that can be used to market liquidity across different market systems and conditions. Researchers need to choose a liquidity measure depending on the objective of the study.

The study has also listed down different factors determining market liquidity in stocks, which can be categories in multiple dimensions. Regulatory policy announcements have significant impact on market liquidity. For instance, expansionary monetary policy and the imposition of short-selling ban have positive impact on market liquidity. Introduction of transaction tax improved market liquidity, but after implementation it had negative impact due to rise in transaction cost. While emerging markets are highly sensitive to any policy changes in developed market, Indian stock market is highly impacted by policies announced by its government and financial institutions. Besides, macroeconomic variables, money supply, government expenditure, private borrowing, bank rate, short-term interest rate, and government borrowing have significant impact on market liquidity.

Market volatility has been identified as another significant factor to determine stock market liquidity, which can be reduced with the existence of an efficient exchange trading system. Trading pattern by different types of investors are also important determining factor of liquidity. In particular, trading by institutional investors can ensure market liquidity in the system. Besides, stock exchange mergers and developments in the trading systems, corporate announcements and disclosures, system transparency, risk management system and corporate governance can have significant impact on stock market liquidity.

The study has also highlighted how stock market liquidity may have significant impact in market returns. Moreover, the impact during selling of a stock is found to be more than during buying of a stock. However, the actual impact is conditional on several factors like market size, share of institutional ownership. In addition, the market liquidity risk is also found to be an important factor to determine expected returns of stocks.

Research Insights from the NSE-ISB Trading Lab

Paper 1: In Search of Attention

Zhi Da[4] Joseph Engelberg[5] Pengjie Gao[6]

1. Introduction

Most traditional asset pricing models assume that prices reflect new information instantaneously. Such models assume that investors allocate enough attention to different sources of information efficiently. In today's information-rich world, the efficient distribution of attention amongst the overabundant sources of information is imperative in understanding the price dynamics in markets. Early literature points out that attention is scarce cognitive resource, and that investors have minimal attention. To test the theories of attention, empiricists have used indirect proxies such as extreme returns, trading volume, advertising expenses, news, and headlines, etc., due to the non-availability of direct measures.

This paper proposes a direct measure using aggregate search frequency (Search Volume Index (SVI)) in Google and revisits the relation between asset prices and investor attention. The authors find that the SVI is correlated with, but is different from, existing proxies of investor attention. They find that SVI is a more precise and timely measure in capturing investor attention and that it likely measures the attention of retail investors. The paper also shows that an increase in SVI predicts higher stock prices in the next two weeks, which then see a reversal within a year. For IPO stocks, this measure contributes to the large first-day returns and underperformance in the long-run.

2. Data and setting

The main data sources used are:

1. Weekly Search Volume Index for individual stocks with a focus on those included in the Russell 3000 index. As the index gets updated from time to time, all 3,606 stocks ever included in the index during the sampling period Jan'04 to Jun'2008 have been included to eliminate survivorship bias.
2. Data on firm products has been gathered from Nielsen Media Research (NMR), which tracks television advertising, to identify the main product of the company.
3. Main news data is obtained from Dow Jones Archive, which comprises of Dow Jones News Service articles and Wall Street Journal articles about Russell 3000 firms.
4. As Dow Jones Archive does not index a firm's news coverage before IPO, Factiva (Global news monitory & search engine) has been used to obtain the coverage attributes. The IPOs data has been collected from the Thompson Reuters new issue database.
5. Transactions related data such as number of shares and the number of orders executed by each market center has been obtained from Dash-5 reports from MSI Database. Other standard sources include CRSP, COMPUSTAT, I/B/E/S for price-volume, accounting info and analyst information, respectively.

3. Results

The authors investigate the relationship between SVI and existing attention proxies. They find that time-series correlations between SVI and alternative measures such as extreme returns, new etc. are positive on average but the level of the correlation is low. They also find that SVI is a leading indicator to alternative measures. This finding is

[4] University of Notre Dame
[5] University of California at San Diego
[6] University of Notre Dame

consistent with the idea that investor attention is in anticipation of a news event. Further, time-series and cross-sectional variation in Abnormal SVI (ASVI) (which is (log) SVI during current week minus the (log) median SVI during previous eight weeks) is found to be unexplained by alternative measures of attention.

The study finds strong evidence that the SVI captures the attention of retail investors. There is a direct link between SVI changes and trading activity for retail investors. Intuitively, people who rely on google for information related to stocks are less likely to have access to more sophisticated information services such as Reuters/Bloomberg. Across market centers with the same increase in SVI, individual trading is greater at market centers that typically attract less sophisticated retail investors than in a market center that attracts more sophisticated retail investors.

The study also tests the attention theory of Barber and Odean (2008) which argues that individual investors are net-buyers of stocks that capture attention. This could give rise to a temporary positive price pressure for such stocks. The empirical results in this study strongly support the hypotheses of this theory. Among the sample of Russell index stocks, stocks that see an increase in ASVI measure in a week show an outperformance of more than 30 basis points on characteristic-adjusted basis during the subsequent two weeks. However, this price pressure is almost reversed within a year.

Stocks' initial public offering (IPO) sets a good venue to test the retail investors' attention hypothesis. IPOs usually experience high returns temporarily, which are followed by a reversal in the long-run. The study finds remarkable explanation for this order of events for IPOs. They find that the searches related to IPO stocks increase by almost 20% during the offer week. The group of IPOs that experiences positive ASVI during the week before IPO outperforms the group of IPOs with smaller ASVI by about 6%. Additionally, regression analysis demonstrates existence of under-performance trend in the long run amongst IPOs with high first day return which also experience increase in retail investor attention prior to offer day.

All results are robust to exclusion of noisy tickers (which are tickers having a generic meaning such as "GPS", "ALL", etc.), length of rolling windows, etc. The regression analysis includes week and month fixed effects and controls for stock characteristics wherever applicable.

4. Conclusion

This paper is one of the first to use internet search volume in finance research. In addition to testing attention theories, this paper puts forward the usefulness of search engine data in today's internet driven and information-rich world.

In this paper, the authors propose a direct measure of investor attention using search frequency (SVI) in Google. The SVI is weakly correlated with existing alternative proxies for investor attention. Providing evidence that the SVI is a better measure to capture retail investors attention, the authors use it to test the attention-induced price pressure hypothesis and find that an increase in SVI predicts higher stock prices in next 2 weeks and a price reversal eventually. The study also suggests that the SVI contributes to the high first day return and long-run underperformance for sample of IPO stocks.

The authors believe search volume provides an objective way to identify and understand the interests of investors instead of using equilibrium outcomes such as returns and volume which can be associated with other market and firm factors.

Paper 2: How does regret affect investor behavior? Evidence from Chinese Stock Markets

Prachi Deuskar[7] Deng Pan[8] Fei Wu[9] HongFeng Zhou[10]

1. Introduction

Do investors change their behavior after experiencing regret? Do regret-based decisions lead to better outcomes or worse outcomes? Using a unique dataset from the Shanghai Stock Exchange (SSE), the authors exploit investors' choice of order as a natural setting to study the impact of regret on subsequent order choices. They find that regret experienced over the type of order placed last time affects the type of order subsequently placed by the same individual. The authors' findings support hypotheses from regret theory: Change in investor behavior is stronger following (i) an action rather than inaction (ii) loss on the prior order, and (iii) an unusual order strategy. Regret-based decisions are sub-optimal. This suggests that regret-based decisions lead to emotional-learning which is dysfunctional (naïve reinforcement learning) and not functional (rational learning).

2. Data and setting

The authors define regret as 'an emotional feeling associated with the ex-post knowledge that a different past decision would have fared better than the one chosen'. To define regret, it is important to identify (i) the alternative choices the individual faced at the time of the decision (ii) whether pursuing the alternative would have indeed made the individual better or worse off.

The study uses data on all orders submitted by investors for 161 stocks on the SSE for the period from October 2003 to September 2004. The 161 stocks are selected because they consistently belong to the SSE180 Index over the entire sample period. They are also largely representative of the broader market on many aspects such as industries, sizes and liquidity.

For each order, the data constitutes of the ID of the investor, time of order submission, name of stock, whether the order is a buy or sell, the price at which the order is placed, quantity, bid and ask quotes at the time the order is placed, whether the order is executed or not, and time and price of execution. The authors classify the orders into two types - Market orders and Limit Orders – as follows:

Order Type	Actual Order Classification	Hypothetical Order Choice
Buy Order	Market Order if Order Price ≥ Ask Price	Limit Buy, where Order Price is assumed to be Bid Price
Buy Order	Limit Order if Order Price ≤ Bid Price	Market Buy, where Order Price is assumed to be Ask Price
Sell Order	Market Order if Order Price ≤ Bid Price	Limit Sell, where Order Price is assumed to be Ask Price
Sell Order	Limit Order if Order Price ≥ Ask Price	Market Sell, where Order Price is assumed to be Bid Price

For each order, actual or hypothetical, the return till time t as follows:

Buy order:

[7] Indian School of Business, Hyderabad, India
[8] Xiamen University, Xiamen, China
[9] Shanghai Advanced Institute of Finance, Shanghai JiaoTong University, Shanghai, China
[10] Antai College of Economics and Management, Shanghai JiaoTong University, Shanghai, China

If executed: $Return_t = \left((Price_t + Dividend_t)/(ExecutionPrice)\right) - 1$

If unexecuted: $Return_t = 0$

Sell order:

$$Return_t = -(Return\ if\ it\ were\ a\ buy\ order)$$

where t denotes time at which subsequent order is submitted.

The difference in return between an actual order ($Return_{A,t}$) and a hypothetical order ($Return_{H,t}$) is used as a proxy for *Regret. Regret* can take positive values (pride) if investor is better off with actual order than hypothetical order.

$$Regret_t = Return_{A,t} - Return_{H,t}$$

The authors use a regression-based analysis to study the relationship between *Regret* and a dummy denoting Change in Order Type. The dummy takes the value of zero if the order type remains the same, e.g., if investor submits a Market order in both prior order and current order, else it takes the value of 1.

3. Results

The authors test multiple specifications and find the following results:

1. When an investor experiences regret, he is more likely to change his order type in his subsequent order.
   a. Investors seem to mentally 'reset' after each day, with the effect being stronger for subsequent orders on the same day.
   b. The effect of regret does not seem to taper off with trading experience.
   c. The effect is strongest when the subsequent order is in the same stock, same side (buy or sell) and same day.
2. This effect is stronger when the previous order is executed as compared to when submitted order remains unexecuted.
3. This effect is stronger when the prior order has negative return as compared to when prior order has positive return.
4. This effect is stronger when the prior order deviates from last 10 orders as compared to when prior order does not deviate from last 10 orders.
5. The return following order (for a period between 1 day to 3 months) is statistically significant and negative for different time periods. Therefore, the poor return is not temporary as it does not reverse for at least 3 months.

The authors show that the above findings are robust to multiple specifications and alternative explanations.

4. Conclusion

Although the choice of order type leads to a difference in outcome which is of a small order of magnitude, it significantly impacts investors' choice of order type in subsequent order. It also leads to poor performance of subsequent order over a long period of time. The paper also finds evidence that supports predictions from regret theory.

Finally, the paper contributes to research on behavioural explanations for investor decisions. It shows that regret can significantly impact investor decisions and lead to detrimental investor outcomes.

NSE Research Scholar Program

In its endeavour to be at the forefront of supporting financial research in India, the National Stock Exchange (NSE) had launched a research initiative in 2019, "The NSE Research Scholar Program". The program invited applications from universities, business schools and research institutions across India to get their promising students/researchers/faculty members to review the state-of-the-art on contemporary topics in the area of empirical finance, that are relevant to Indian financial markets. Under this program, aspirants could submit a monograph on a chosen topic and prepare a presentation, summarizing the key findings. The monograph should provide a survey of the current state of research, major development and results, and extant open questions. In this issue, we feature summary of the second of the three winning papers of 2020 program. To read the detailed working papers, please visit our website.

Paper 2: Short-term and Long-Term Market Reaction to M&A: Evidence from India[11]

N. K. Chidambaran [12] Dipali Krishnakumar [13] Madhvi Sethi[14]

Mergers and Acquisitions (M&A) are an important avenue by which firms invest and grow. Firms argue that combining the acquiring and target firms results in synergies that enhances shareholder value. We examine the long-term performance of domestic and cross-border acquisition decision of Indian firms in the sixteen-year period from 2001 to 2016, a period encompassing the early liberalization period in India, the years of the financial crisis, and a post crisis recovery period.

Acquisition activity, both domestic and cross-border increased over the period. Stock markets react to announcements of deal activity, passing their judgement on whether the acquiring firms gained in the transaction. If the acquiring firms capture any benefit of the synergies of the transaction, markets will react positively with a boost in the stock price of the acquirers. On the other hand, if the acquiring firms got what they paid for, or indeed overpaid for the target, we would expect an insignificant to negative market reaction. We therefore measure the market's reaction to deal announcement, i.e. the announcement effect, by calculating the short-term Cumulative Abnormal Return (CAR) around the announcement date, to gauge the market's reaction to transaction and infer how the market received the transaction.

We find that markets react positively to M&A announcements both domestic and cross-border. In the absence of an independent valuation of the target firm and acquisition synergies, a complexity arises in interpretation the market reaction to the announcement of an acquisition. If markets react positively, does it signal a euphoric response to the acquisition or does it signal an accurate valuation of expected positive synergies? To disentangle these effects, we examine the subsequent long-term buy and hold abnormal returns (BHAR) in conjunction with the short-term announcement effect. If the long-term BHAR is significantly positive or negative following the acquisition, it would imply that all information was not captured in the CAR at the time of the announcement. We also present some of the first evidence on long-term returns for acquisitions by Indian firms. We find that the long-term buy and hold returns (BHAR) are not significant.

These results suggest that Indian markets are efficient and are accurately able to judge the benefits of M&A transactions without a subsequent market correction. We also find that the operating performance of Indian acquirers are not abnormal. Cross-sectionally, firms with a long-term view, as proxied by their better governance gain from acquisitions over the long-term.

[11] https://static.nseindia.com//s3fs-public/inline-files/WP_Short_Term_and_Long_Term_Returns_to_M%26A-Evidence_from_India_ChidambaranKrishnakumarSethi.pdf
[12] Associate Professor, Fordham University
[13] Assistant Professor, National Institute of Bank Management
[14] Director, Symbiosis Institute of Business Management Bangalore

Market Performance

Market Round-up

Worsened COVID crisis and heighted economic uncertainty weigh on Indian equity markets

Strong global growth recovery amid reopening of developed economies, significant progress in COVID-19 vaccination drives and continued policy support improved market sentiments in April following a volatile March, with the US leading the way. Riskier asset classes, which were under pressure in March in the wake of surging US bond yields and onset of subsequent waves across several countries, saw a significant rebound, particularly in developed economies. Emerging markets (EMs), however, continued to struggle with rising COVID infections and slower pace of inoculations. While the MSCI World Index ended the month 4.5% higher (YTD: 9.2% as of May 14th), the MSCI EM Index underperformed with a modest 2.4% return in April (YTD: +1.3%).

Indian equities underperformed the broader EM pack, with the Nifty 50 Index ending the month 0.4% lower (YTD: 5.0%). This was primarily on the back a sharp spike in COVID infections, fatalities, and burgeoning pressure to healthcare infrastructure amid high test positivity rates. Widespread lockdowns imposed by several large states to curb the spread of the virus, which has been far more virulent in the second wave, have significantly increased uncertainty to India's growth outlook. This has already started reflecting in several high-frequency macro indicators such as mobility data, e-Way bills, auto sales, power demand, freight traffic, among others. Consequently, FIIs turned big sellers of Indian equities in April—the first time in seven months.

Weakness in global fixed income markets took a breather in April after heavy selling seen over the previous couple of months. The US 10-year benchmark yield, after surging 83bps in the first quarter of 2021, fell by 22 bps to 1.53% before ending the month of April at 1.65%, supported by the Federal Reserve's remarks about supporting the economy even if inflation rises above the long-term target. Emerging market bonds also ended in green, aided by a weak dollar. Indian domestic bond markets moved in line with the broader EM pack and rallied in April, thanks to RBI's additional ammunition in the form of assured G-sec purchases. Moreover, the RBI's commitment towards working closely with the Government to support the economy by ensuring adequate surplus liquidity in the system and proactively undertaking unconventional/new measures as situation warrants further lifted sentiments. As a result, India's 10-year G-sec yield ended the month 15 bps lower at 6.03%. In line with other riskier asset classes, rally in commodities also resumed in April, thanks to strong global growth prospects and a weak dollar.

- Domestic equity markets underperformed the broader EM pack: Indian equity markets witnessed some correction in April as a sharp surge in COVID infections led to several states imposing curfews/lockdowns. This, in turn, poses significant downside risks to the economic recovery that was underway, the preliminary signs of which are already visible in several high frequency indicators such as e-Way bills, mobility data, freight traffic, auto sales, power demand, vehicle registrations, among others. Consequently, several brokerages and institutions downgraded India's GDP growth forecasts for FY22, with Moody's—the US-based rating agency—cutting it by a steep 4.4 percentage points to 9.3%. Positive global cues including enhanced and committed policy support and improvement in global growth outlook limited the downside. Amid worsened COVID crisis in India and increasing growth uncertainty, FIIs turned big sellers of Indian equities for the first time in seven months.

  The Nifty 50 ended the month of April 0.4% lower (YTD: 5.0%), while the Nifty 500 Index posted modest gains of 0.4% (YTD: 8.3%). Mid-caps underperformed, with the Nifty Mid-cap 50 Index falling by 0.7%, while small-caps generated strong returns as reflected in a strong 5.6% return posted by the Nifty Small-cap 50 Index.

Indian equity markets underperformed the broader EM pack, with the Nifty 50 Index declining by 0.4% in April

Following a sharp drop in the previous month, average daily turnover in NSE's cash market rose by 5.1% MoM to Rs700bn in April. This is nearly 13% higher than the average daily turnover of Rs618bn in FY21. Average daily derivative turnover in April remained broadly steady on a sequential basis at Rs1,430bn—nearly 17% higher than the average daily turnover of Rs1,219bn in FY21.

Sector-wise, Metal sector stood out this year with a strong 21.9% return in Apr'21 and 160%+ return in the last one year, thanks to a sharp surge in metal prices. Pharma sector was only other sector to report strong 9.8% gains last month. Besides Metals and Pharma, all other sector posted losses in April led by Real Estate (-7.4%), FMCG (-3.8%), Autos (-2.3%) and Banks (-1.6%).

- Fixed income markets rallied in April: Weakness in global fixed income markets took a breather in April after heavy selling seen over the previous couple of months. The US 10-year benchmark yield, after surging 83bps in the first quarter of 2021, fell by 22 bps to 1.53% before ending the month of April at 1.65%, supported by the Federal Reserve's remarks about supporting the economy even if it overheats or inflation rises above the long-term target. Emerging market bonds also ended in green, aided by a weak dollar, with corporate bond segment outperforming. Indian domestic bond markets moved in tandem with the broader EM pack and rallied in April, thanks to RBI's additional ammunition in the form of assured and enhanced G-sec purchases as well as targeted liquidity support to stressed sectors of the economy. Moreover, the RBI's commitment towards working closely with the Government to support the economy by ensuring adequate surplus liquidity in the system and proactively undertaking unconventional/new measures as situation warrants further lifted sentiments. As a result, India's 10-year G-sec yield ended the month 15 bps lower at 6.03%, while the 5-year G-sec yield fell by a much higher 29bps during the month.

  Weakness in global fixed markets took a breather in April after heavy selling seen over the previous few months.

  On the global front, China 10-year bond yield eased by 2bps in April, Japan 10-year bond yield softened by a slightly lower 1bp to 0.09%. The US 10-year benchmark yield fell by 12bps to 1.63%, while German 10-year bund rose by 10bps to -0.20%.

- FII turned huge sellers into Indian equities in April; DIIs turned big buyers: A sharp acceleration in COVID-19 cases in India and consequent reimposition of lockdown restrictions by several states have created new uncertainties and are likely to weigh on the nascent economic recovery that was taking shape. Despite renewed global risk-on sentiments, weak domestic cues resulted in huge selling by FIIs from Indian equities last month for the first time in seven months. Net FII outflows from Indian equities in April stood at US$1.3bn (Source: Refinitiv Datastream)—the highest in 12 months. Net outflows from fixed income markets, however, came off meaningfully last month to mere US$117m, supported by strengthened policy support and RBI's firm commitment to keep yields contained and limit disruptions to India's growth outlook. Domestic institutional investors (DIIs) were net buyers of Indian equities for the second month in a row, partly attributed to robust SIP inflows. The net DII inflows of Rs114bn in April'21 was the highest in last 11 months.

The month of April witnessed a renewed risk-on rally in global equity markets.

While the MSCI World Index rose by 4.5%, MSCI EM index underperformed with a modest 2.4% gain.

- Global equity markets ended the month in green, led by the US: Following a volatile March, global equity markets recovered meaningfully in April, supported by a strong global growth recovery, thanks to reopening of developed economies, significant progress in COVID-19 vaccination drives and continued policy support. Riskier asset classes, which were under pressure in March in the wake of surging US bond yields and onset of subsequent waves across several countries, saw a significant rebound, particularly in developed economies. On the other hand, Emerging markets (EMs), particularly India, continued to struggle with rising COVID infections and slower pace of inoculations. While the MSCI World Index ended the month 4.5% higher (YTD: 9.2% as of May 14th), the MSCI EM Index underperformed with a modest 2.4% return in April (YTD: +1.3%).

According to Institute of International Finance (IIF), EMs witnessed renewed FII buying, with net portfolio inflows at US$45.5bn vs. US$10.1bn in the previous month. Equity and debt inflows into EMs were US$14.2bn and US$31.2bn respectively, with China alone accounting for ~95% of the net portfolio flows into EM equities.

US: The global rally was led by US markets which rose to fresh highs last month as strong economic data, accommodative policy stance and robust corporate earnings lifted investor sentiments. The enhanced fiscal support in the US in the form of a US$1.9trn fiscal package and the proposed US$2trn relief to infrastructure and manufacturing sectors, as well as the Fed's commitment to support the economic recovery to full employment levels bolstered market expectations about a sustained accommodative policy environment. Key US equity indices such as S&P 500 and Dow Jones touched fresh highs in April, ending the month 5.2% and 2.7% higher respectively.

On the macro front, high frequency indicators continued to exhibit signs of continued growth recovery. The Manufacturing Purchasing Managers' Index (PMI) inched up from 59.1 in March to 60.5 in April—the highest reading since data collection began in May 2007. Services PMI also jumped to record-high levels of 64.7 in April. Consumer demand remained stable as reflected from steady retail sales on a sequential basis. Additionally, vaccination drives are progressing well, with nearly 36% of the population getting fully vaccination and 47% getting at least one dose as on May 13th, 2021 (Source: Centres for Disease Control and Prevention). On the negative side, Q1 2021 GDP growth missed expectations and came in at 6.4% QoQ (annualised), while consumer sentiment witnessed a slight moderation. Recent jobs report also surprised negatively, with total non-farm payroll employment rising by a quarter of what was expected.

On the monetary policy front, the US Federal Reserve maintained interest rates at near-zero levels despite strengthened economic activity and employment levels. The Fed Chair Jerome Powell emphasized that it would continue to provide accommodation to the economy unless it reaches full employment levels, given more than 8m people are still out of jobs compared to pre-pandemic levels.

Europe: European equities also extended gains in April as incremental comfort on the COVID front enabled the governments to gradually ease restrictions. Improvement in incoming macro data and corporate earnings as well as ECB's

decision to continue with enhanced asset purchases to keep borrowing costs contained further supported investor sentiments. Vaccination progress has been relatively slower, with nearly 14% of the adult population (18+) in EU member states getting fully vaccinated as of May 14th (Source: European Centre for Disease Prevention and Control) vs. 46% in the US. Among key market indices, while DAX 30 inched up by a modest 0.9%, France's CAC 40 and UK's FTSE 100 outperformed with returns of 3.3% and 3.8% respectively.

On the macro front, economic recovery picked up pace further. Manufacturing PMI inched up from 62.5 in Mar'21 to 62.9 in April, marking the highest reading since data collection began in June 1997, and the 10th consecutive month of expansion in the manufacturing sector. Services PMI also entered the expansion zone for the first time in eight months to 50.5 in April 2021. The Euro area unemployment rate dropped for the second month in a row to 8.1% in Mar'21, with the number of unemployed declining by 209K MoM to 13.2m. The Consumer Confidence Index improved meaningfully to -8.1 in Apr'21 from -10.8 in the previous month, supported by gradual opening of the economy and increase in pace of vaccinations. Retail sales rose by 2.7% MoM in Mar'21 on top of an upwardly revised 4.2% increase in the previous month. The Eurozone's ECB maintained status quo on rates but expected purchases under its Pandemic Emergency Purchases Program (PEPP) over the current quarter to be conducted at a significantly higher pace.

In the UK, economic prospects continued to improve amid rising vaccinations and falling numbers of daily COVID-19 infections and deaths. The Manufacturing PMI inched higher from 58.9 in Mar'21 to 60.9 in Apr'21—the steepest reading since July 1994. The Services PMI also jumped sharply from 49.5/56.6 in Feb/Mar'21 to 61 in Apr'21—the highest print since Oct'13. Consumer Confidence index rose further to a 13-mont high of -15 in Apr'21. On the policy front, the Bank of England kept the policy rates and the bond-buying programme unchanged during the recent meeting, citing the possibility of reduction in weekly purchases given the sharp recovery in economic activity, supported by ebbing restrictions. In fact, the BoE now expects UK GDP to grow by 7.25% in 2021 vs. 5% predicted in February.

Asia: The Asian markets generated muted returns in April as investor sentiments dampened amid a sharp surge in infections in several countries including India, Japan, Singapore, Malaysia, and South Korea as well as slower pace of vaccinations. While India has been battling with the second wave for quite some time now, resulting in several states re-imposing lockdown restrictions, Japan also re-imposed state emergency in Tokyo late last month—later extended to several prefectures—with an aim to curb the spread before the Tokyo Olympics begin on July 23rd. Currently, 19 of the 47 prefectures in Japan are under moderate to severe curbs. Singapore has also recently announced a one-month lockdown amid a sharp rise in cases. These renewed curbs across several Asian countries have increased growth uncertainty for the region, even as positive global cues and weakening dollar limited the downside. While Hang Seng Index (Hong Kong) and Kospi Index (South Korea) posted modest gains of 1.2% and 2.8% respectively last month, SSE Composite Index (China) remained broadly steady. Japan's Nikkei 225 Index and India's Nifty 50 Index ended the month 1.3% and 0.4% lower respectively.

On the macro front, several high-frequency indicators in India indicated a further loss in growth momentum in April. While India's Manufacturing PMI remained broadly steady at 55.5 in April 2021, Services PMI declined for the second month in a row from 55.4 in March to 54 in April as renewed restrictions are likely to weigh on the nascent recovery seen lately in contact-intensive services. Consumption demand has deteriorated further as visible from a 30% MoM drop in auto sales in April and decline in consumer sentiment index. Industrial activity has also taken some hit due to lockdown, with e-Way bills and freight traffic also witnessing a moderation last month. On the positive side, GST collections have remained strong, hitting all-time high of Rs1.4trn in April 2021.

Macro indicators in China recorded an improvement in economic activity. China's GDP in Q1 2021 grew by a strong 18.4% YoY, albeit off a low base. While, the Manufacturing PMI rose to a four-month high of 51.9 in April, the Services PMI also picked up sharply to a four-month high of 56.3, reflecting the impact of successful containment of COVID-19 and steady improvement in consumption demand.

- Strong growth outlook and weak dollar drove commodities higher: Rally in commodity markets resumed in April as strong incoming macroeconomic data, significant progress in vaccination drives in developed countries and weakening dollar improved risk-on sentiments. Following a 4% drop in March, crude oil prices jumped by 6% in April, aided by strong global growth outlook and a weak dollar. Hard commodities also witnessed a strong rally across the board, with Tin, Nickel, Copper and Aluminium recording robust gains. Safe-haven commodities also rebounded in April, with gold, silver and platinum prices rising by 3.9%, 6.2% and 3.1% respectively, while palladium prices shot up by a huge 13.6%. and 8.4% respectively.

Weakness in the US dollar and strong global growth prospects proved to be key tailwinds for commodities in April.

- EM currencies rose against a weak dollar in April: After rising for the previous three consecutive months, the US Dollar Index (DXY) fell by 2.5% in April—the biggest drop in nine months. This is primarily on the back of improving growth outlook for other developed economies, particularly UK and Europe, and moderation in US bond yields. The Euro has jumped 2.4% against the dollar last month on improving growth prospects and strong vaccination progress. EM currencies also benefited from dollar weakness, even as the INR remained weak, depreciating by 1.3% against the dollar last month, weighed down by FII outflows, worsened COVID crisis and rising economic uncertainty.

Dollar Index fell for the first time in four months amid improving outlook for other developed economies and a decline in US bond yields.

INR fell by 1.3% against the dollar last month on rising macro uncertainty.

Market performance across asset classes

Figure 86: Performance across equity indices, fixed income, currency, and commodities

Indicator Name	Apr-21	1M ago	3M ago	12M ago	1M (%)	3M (%)	6M (%)	12M (%)	YTD (%)
Equity Indices									
NIFTY 50	14,631	14,691	13,635	9,860	-0.4	7.3	25.7	48.4	4.6
NIFTY 500	12,364	12,314	11,302	8,013	0.4	9.4	29.0	54.3	7.4
MSCI INDIA	1,686	1,680	1,560	1,147	0.3	8.0	24.2	47.0	5.4
India Volatility Index (%)	23	21	25	34	11.5	-9.1	-7.0	-32.3	9.2
MSCI WORLD	2,939	2,812	2,662	2,053	4.5	10.4	28.2	43.2	9.2
S&P 500 COMPOSITE	4,181	3,973	3,714	2,912	5.2	12.6	27.9	43.6	11.3
DOW JONES INDUSTRIALS	33,875	32,982	29,983	24,346	2.7	13.0	27.8	39.1	10.7
HANG SENG	28,725	28,378	28,284	24,644	1.2	1.6	19.2	16.6	5.5
FTSE 100	6,970	6,714	6,407	5,901	3.8	8.8	25.0	18.1	7.9
NIKKEI 225	28,813	29,179	27,663	20,194	-1.3	4.2	25.4	42.7	5.0
Fixed Income									
India 10YR Govt Yield (%)	6.03	6.18	5.95	6.11	-15bps	8bps	15bps	-8bps	14bps
India 5YR Govt Yield (%)	5.42	5.71	5.30	5.15	-29bps	12bps	26bps	27bps	32bps
India 1YR Govt Yield (%)	3.82	3.93	3.90	3.93	-11bps	-9bps	35bps	-11bps	6bps
India 3Month T-Bill Yield (%)	3.37	3.31	3.41	3.69	6bps	-4bps	10bps	-32bps	27bps
US 10YR Govt Yield (%)	1.63	1.75	1.09	0.63	-12bps	54bps	77bps	101bps	72bps
Germany 10YR Govt Yield (%)	-0.20	-0.30	-0.52	-0.59	10bps	32bps	43bps	39bps	38bps
China 10YR Govt Yield (%)	3.18	3.20	3.23	2.51	-2bps	-5bps	-2bps	67bps	-3bps
Japan 10YR Govt Yield (%)	0.09	0.10	0.05	-0.04	-1bps	4bps	5bps	13bps	7bps
Currency									
USD/INR	74.1	73.1	73.0	75.1	1.3	1.5	0.0	-1.4	1.4
EUR/USD	1.20	1.18	1.2	1.1	2.4	-0.9	3.3	9.9	-1.6
GBP/USD	1.38	1.38	1.4	1.3	0.4	0.8	7.1	9.8	1.3
USD/YEN	109.3	110.5	104.7	106.9	-1.1	4.4	4.6	2.2	5.9
USD/CHF	1.1	1.1	1.1	1.0	3.2	-2.5	0.5	5.8	-3.1
USD/CNY	6.5	6.6	6.5	7.1	-1.3	0.2	-3.4	-8.2	-1.0
Commodities									
Brent Crude Oil (US$/bbl)	67.4	63.5	56.0	25.5	6.0	20.4	79.4	163.9	29.8
LME Aluminium (US$/MT)	2,408	2,188	1,982	1,459	10.1	21.5	30.4	65.0	22.0
LME Copper (US$/MT)	9,829	8,788	7,862	5,160	11.9	25.0	46.5	90.5	26.8
LME Lead (US$/MT)	2,137	1,953	2,009	1,610	9.5	6.4	18.3	32.7	8.2
LME Nickel (US$/MT)	17,653	16,022	17,648	12,124	10.2	0.0	16.7	45.6	6.6
LME Tin (US$/MT)	31,680	27,538	23,199	15,274	15.0	36.6	78.7	107.4	54.2
LME Zinc (US$/MT)	2,913	2,805	2,557	1,934	3.9	14.0	15.9	50.6	6.7
SHC Iron Ore Spot (US$/MT)	187	165	158	84	13.3	18.4	58.5	124.0	18.0
Gold Spot Price (US$/troy ounce)	1,770	1,705	1,858	1,705	3.9	-4.7	-5.9	3.9	-6.7
Silver Spot Price (US$/troy ounce)	26	24	27	15	6.2	-4.1	9.6	72.3	-1.7
Platinum Spot Price (US$/ounce)	1,218	1,182	1,110	767	3.1	9.7	43.0	58.8	14.0
Palladium Spot Price (US$/ounce)	2,981	2,625	2,327	1,986	13.6	28.1	33.8	50.1	27.3

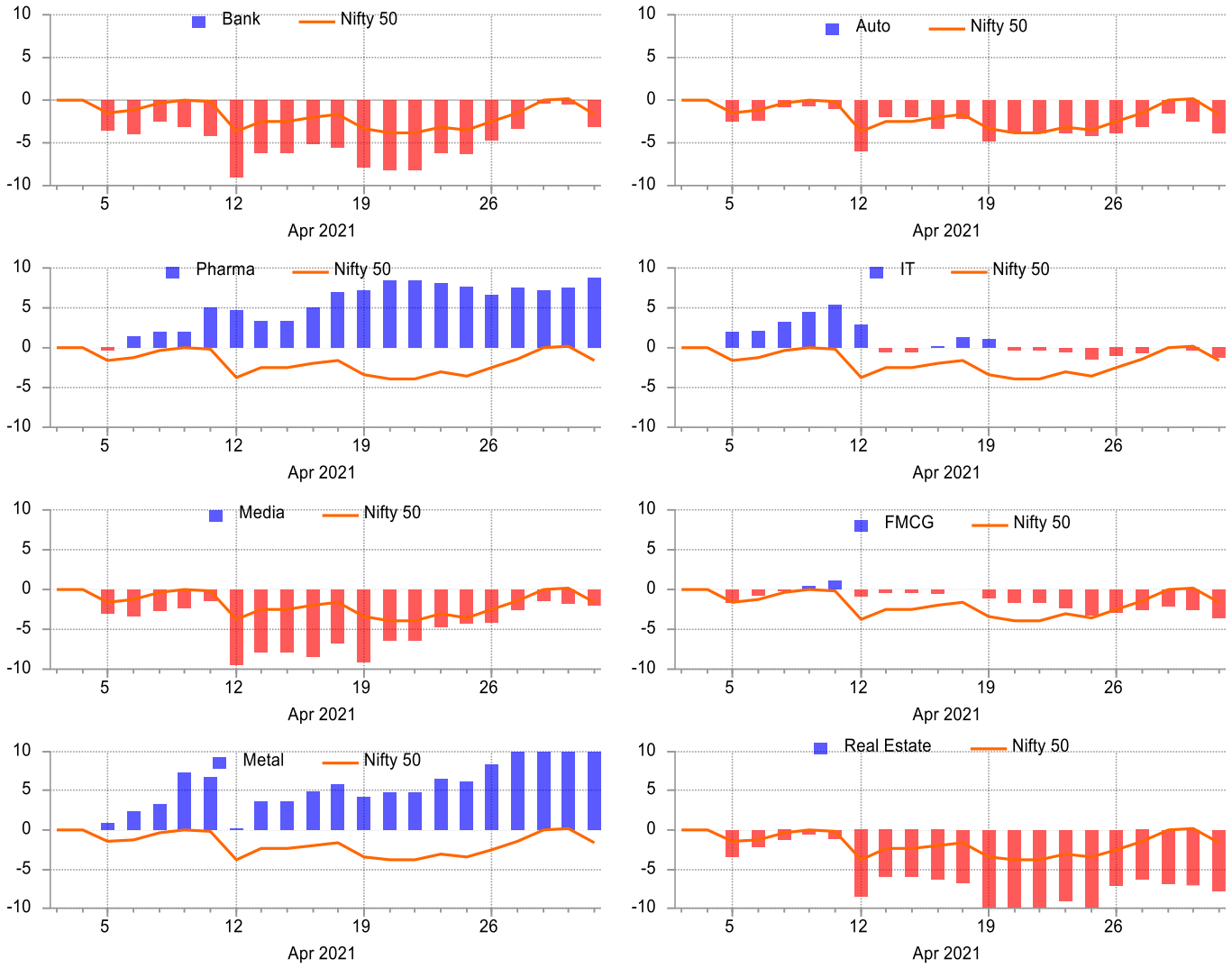
Source: Refinitiv Datastream, NSE.

Figure 87: Performance across NSE sector indices

Indicator Name	Apr-21	1M ago	3M ago	12M ago	1M (%)	3M (%)	6M (%)	12M (%)	YTD (%)
Auto	9,641	9,862	9,813	5,901	-2.3	-1.8	24.3	63.4	4.9
Bank	32,782	33,304	30,566	21,535	-1.6	7.3	37.2	52.2	4.9
FMCG	33,623	34,932	33,121	28,669	-3.8	1.5	14.3	17.3	-1.6
IT	25,664	25,855	24,646	14,108	-0.7	4.1	22.7	81.9	5.8
Media	1,548	1,545	1,650	1,160	0.2	-6.2	9.1	33.5	-6.1
Metals	4,848	3,977	3,077	1,860	21.9	57.5	106.9	160.7	49.0
Pharma	13,469	12,273	12,170	9,327	9.8	10.7	19.8	44.4	4.3
Real Estate	310	334	306	187	-7.4	1.3	35.7	65.3	-1.4

Source: Refinitiv Datastream, NSE.

Figure 88: NIFTY sector performance during April 2021 (rebased to 0)



Source: Refinitiv Datastream, NSE.

Figure 89: India 10Y G-sec yield—long-term trend

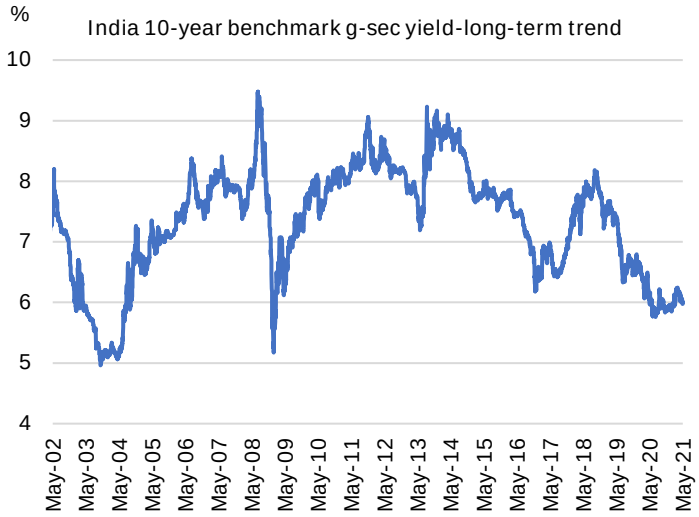
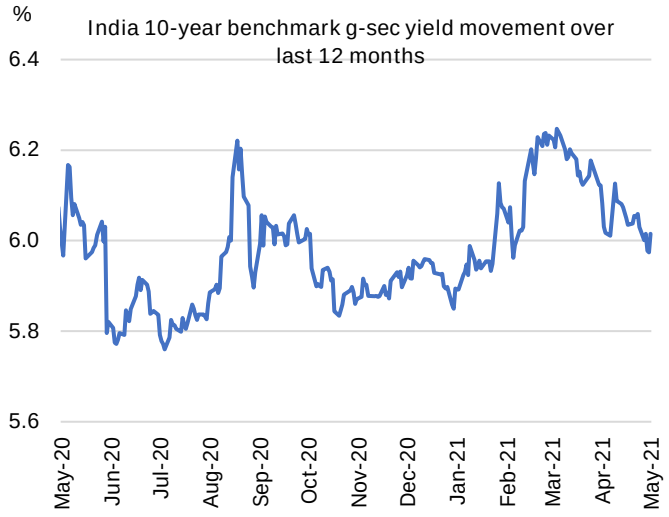


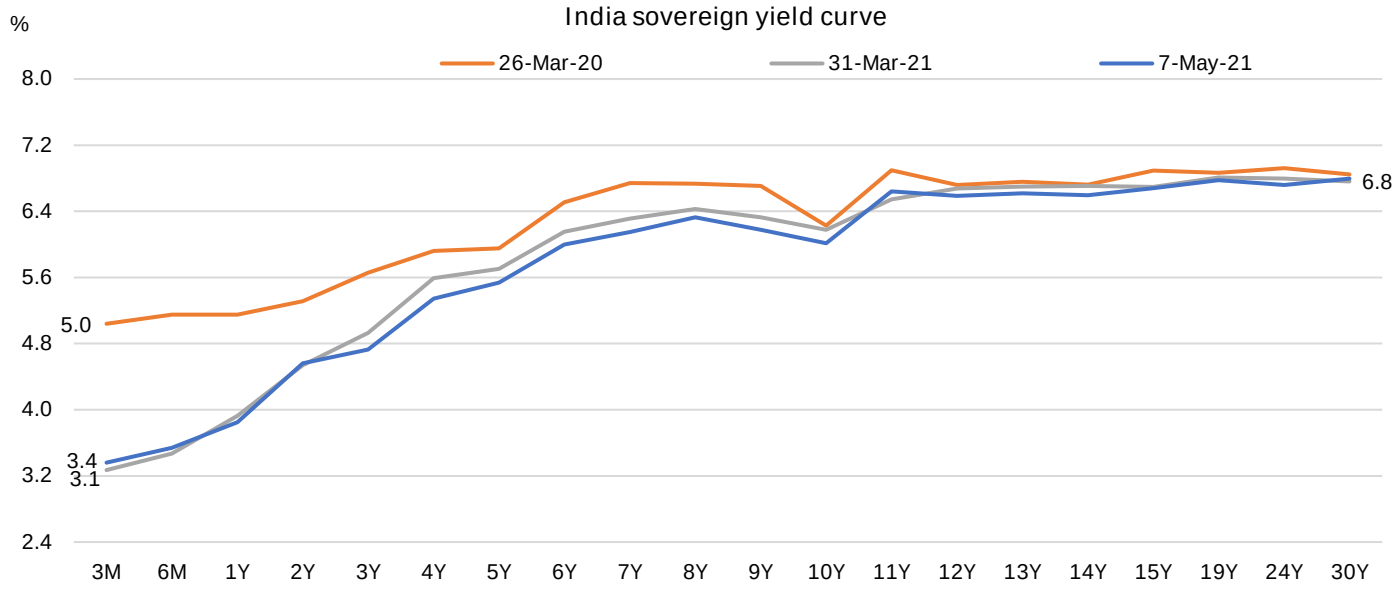
Figure 90: India 10Y G-sec yield—last one-year trend



Source: Refinitiv Datastream.

Figure 91: India sovereign yield curve

The recent measures taken by the RBI to provide liquidity support to healthcare sector and MSMEs as well as the enhancement in the G-SAP purchase amount by Rs350bn provided some relief to bond market. Yields came off across tenors, particularly in the belly of the curve.



Source: Refinitiv Datastream.

Figure 92: Sovereign yield curve across G20 countries as of April 30th, 2021

Dec 2020	3m	6m	1y	2y	3y	4y	5y	6y	7y	8y	9y	10y	30y
US	0.01	0.03	0.05	0.16	0.34		0.86		1.32			1.63	2.30
Japan	-0.11	-0.11	-0.12	-0.12	-0.13	-0.12	-0.09	-0.06	-0.03	0.01	0.06	0.09	0.66
Germany	-0.60	-0.63	-0.65	-0.69	-0.70	-0.66	-0.57	-0.53	-0.37	-0.37	-0.29	-0.20	0.36
France	-0.61	-0.61	-0.61	-0.64	-0.59	-0.50	-0.42	-0.31	-0.20	-0.08	0.07	0.16	0.94
UK	0.07	0.07	0.05	0.08	0.19	0.28	0.39	0.54	0.63	0.78	0.87	0.84	1.34
Italy	-0.49	-0.50	-0.44	-0.33	-0.19	0.05	0.13	0.41	0.49	0.66	0.83	0.86	1.92
Canada	0.11	0.15	0.20	0.30	0.49	0.82	0.93		1.23			1.55	2.08
EU	-0.60	-0.63	-0.65	-0.69	-0.69	-0.66	-0.57	-0.53	-0.36	-0.36	-0.29	-0.20	0.36
Argentina			38.10			45.37			47.49				
Australia			0.09	0.09	0.12	0.46	0.70	0.95	1.20	1.36	1.54	1.70	2.69
Brazil	3.58	4.18	5.15	7.03	7.42		7.87			8.49		9.13	
China			2.61	2.75	2.79		2.96		3.14			3.18	3.70
India	3.33	3.48	3.82	4.46	4.77	5.39	5.42	6.05	6.18	6.33	6.20	6.03	6.78
Indonesia	3.17	3.26	3.79		5.16		5.67					6.48	7.29
South Korea			0.71	0.95	1.14	1.47	1.63					2.13	2.25
Mexico	4.18	4.37	4.81		4.97		5.62		6.28			6.93	7.89
Russia	5.21	5.60	5.53	5.89	6.26		6.65		6.87			7.10	
South Africa	4.70			4.70			7.39					9.29	11.17
Turkey	17.25	17.43	18.35	17.37	17.72		17.87					17.72	

Source: Refinitiv Datastream.

Figure 93: Sovereign yield curve across G20 countries as of April 30th, 2019

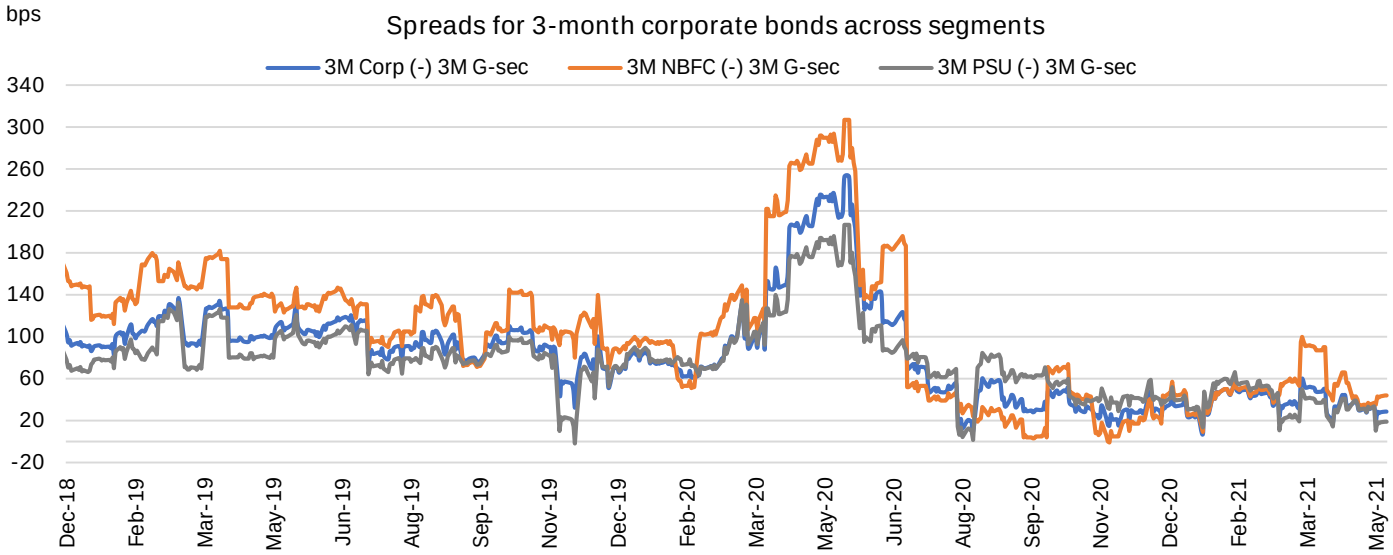
Dec 2018	3m	6m	1y	2y	3y	4y	5y	6y	7y	8y	9y	10y	30y
US	2.43	2.45	2.38	2.27	2.24		2.28		2.39			2.51	2.94
Japan	-0.16	-0.17	-0.16	-0.15	-0.16	-0.17	-0.16	-0.16	-0.15	-0.14	-0.08	-0.04	0.56
Germany	-0.57	-0.51	-0.55	-0.60	-0.57	-0.52	-0.42	-0.37	-0.28	-0.18	-0.09	0.01	0.65
France	-0.56	-0.55	-0.50	-0.55	-0.48	-0.37	-0.25	-0.12	-0.06	0.12	0.25	0.37	1.40
UK	0.75	0.76	0.76	0.76	0.79	0.86	0.91	0.94	0.99	1.09	1.06	1.19	1.69
Italy	-0.17	-0.10	0.05	0.51	0.96	1.27	1.61	1.86	1.99	2.19	2.24	2.57	3.40
Canada	1.68	1.70	1.71	1.56	1.56	1.56	1.54		1.65			1.71	1.99
EU	-0.57	-0.51	-0.55	-0.60	-0.57	-0.51	-0.41	-0.37	-0.28	-0.18	-0.09	0.01	0.65
Argentina			36.44			30.08							
Australia			1.43	1.34	1.28	1.30	1.39	1.50	1.60	1.69	1.77	1.80	2.46
Brazil	6.38	6.42	6.59	7.35	7.80		8.58			8.86		8.97	
China			2.69	2.92	3.08		3.20		3.45			3.42	3.98
India	6.40	6.45	6.57	6.72	7.03	7.16	7.34	7.47	7.44	7.57	7.53	7.41	7.68
Indonesia	5.95	6.00	6.53		7.05		7.29					7.80	8.53
South Korea			1.73	1.71	1.70	1.75	1.73					1.85	1.87
Mexico	8.16	8.24	8.21		7.94		7.94		7.95			8.10	8.51
Russia	7.68	7.73	7.49	7.66	7.86		7.90		8.05			8.14	
South Africa	6.85			6.85			7.73					8.55	9.75
Turkey	22.98	23.20	23.70	22.19	22.35		21.53					18.95	

Source: Refinitiv Datastream.

Corporate bond market performance

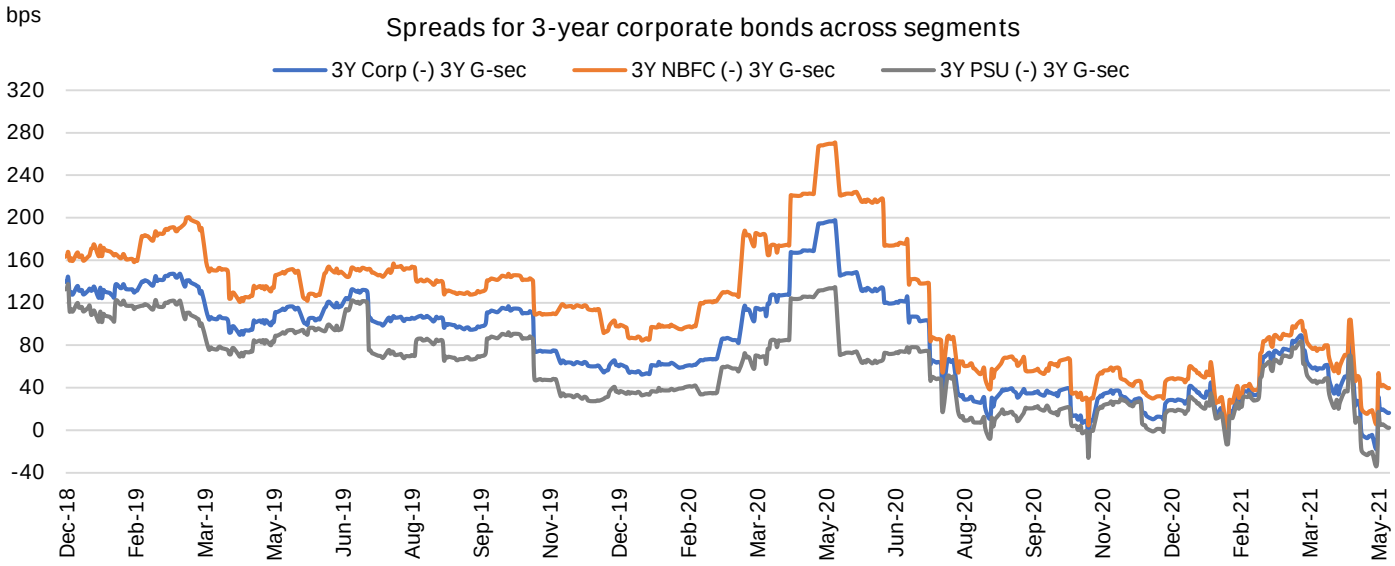
The RBI's additional ammunition at keeping bond yields in check in the form of assured G-sec purchase programme, called G-SAP, coupled with supply constraints in the corporate bond segment, led to a significant drop in corporate bond yields, particularly in the belly of the curve. Recent measures announced by the RBI, viz. enhanced G-SAP purchases and liquidity support to Centre and states as well as stressed segments of the economy, along with commitment to support growth via ensuring adequate surplus liquidity in the system, provided added support. Consequently, corporate bond spreads have come off over the last month or so, particularly in the five-year segment.

Figure 94: Spreads for 3-month corporate bonds across segments



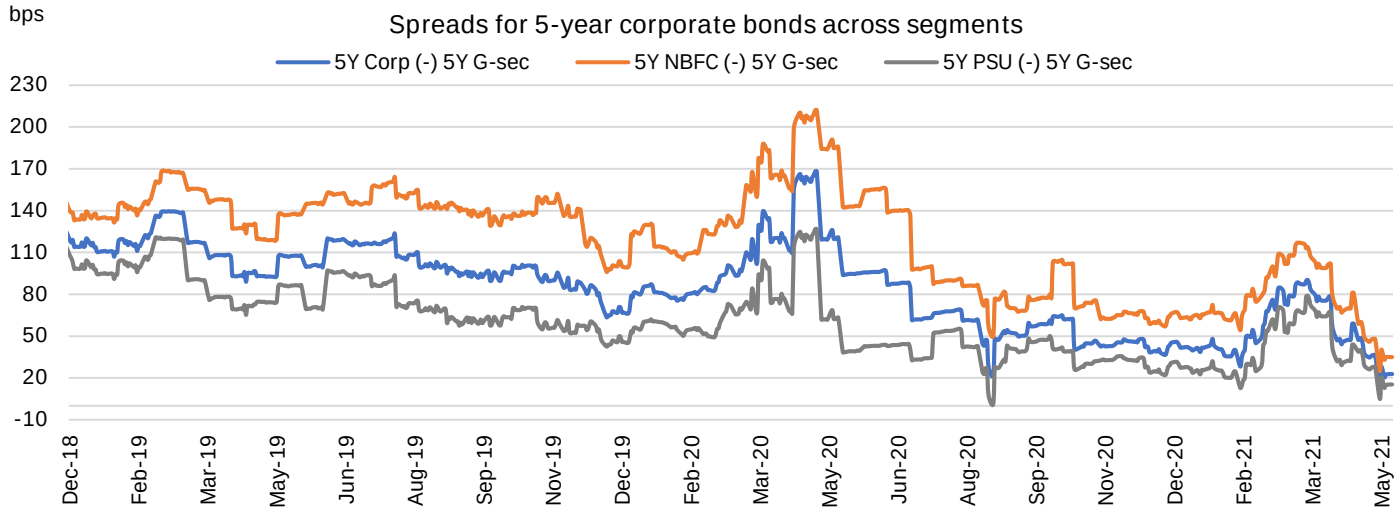
Source: Refinitiv Datastream, Bloomberg.

Figure 95: Spreads for 3-year corporate bonds across segments



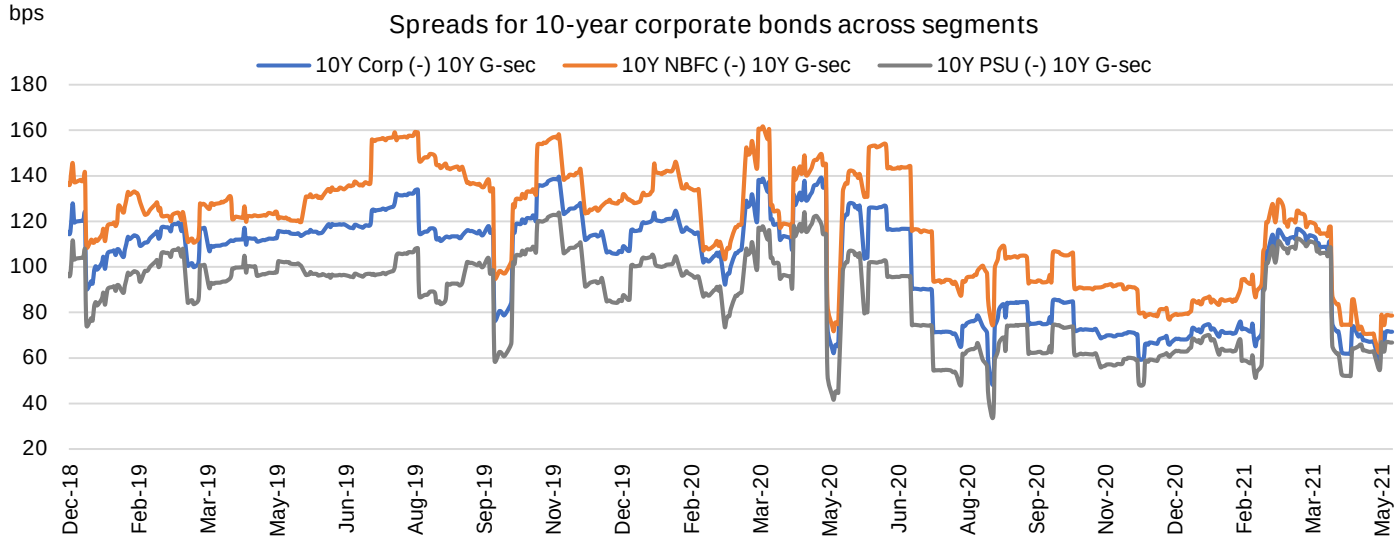
Source: Refinitiv Datastream, Bloomberg.

Figure 96: Spreads for 5-year corporate bonds across segments



Source: Refinitiv Datastream, Bloomberg.

Figure 97: Spreads for 10-year corporate bonds across segments



Source: Refinitiv Datastream, Bloomberg.

Figure 98: AAA-rated corporate bond yield curve

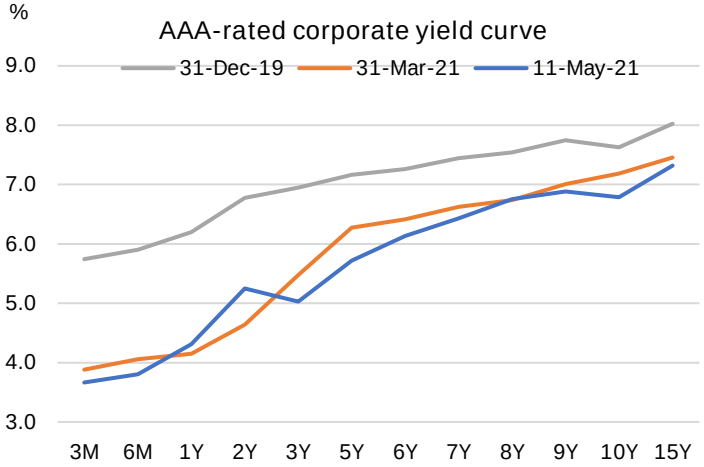
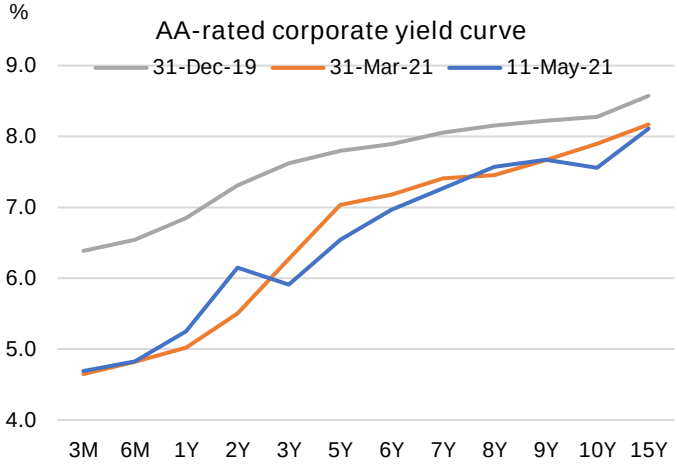


Figure 99: AA-rated corporate bond yield curve



Source: Bloomberg.

Figure 100: Change in AAA-rated corporate bond yields in FY22 thus far

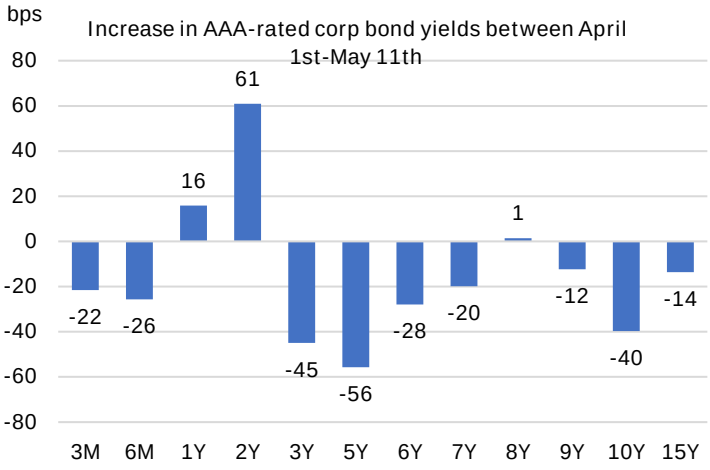
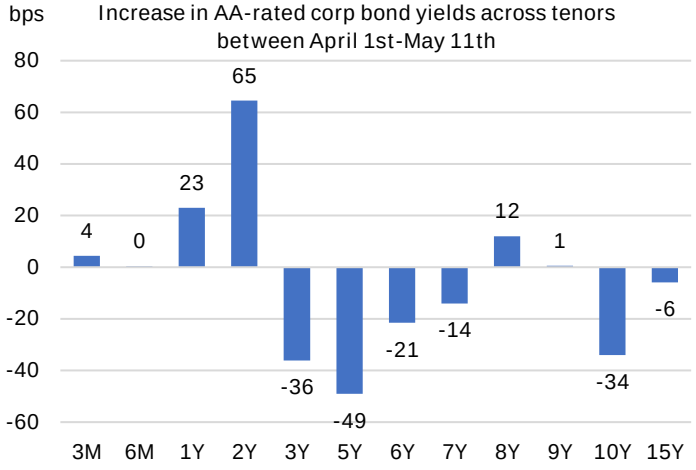


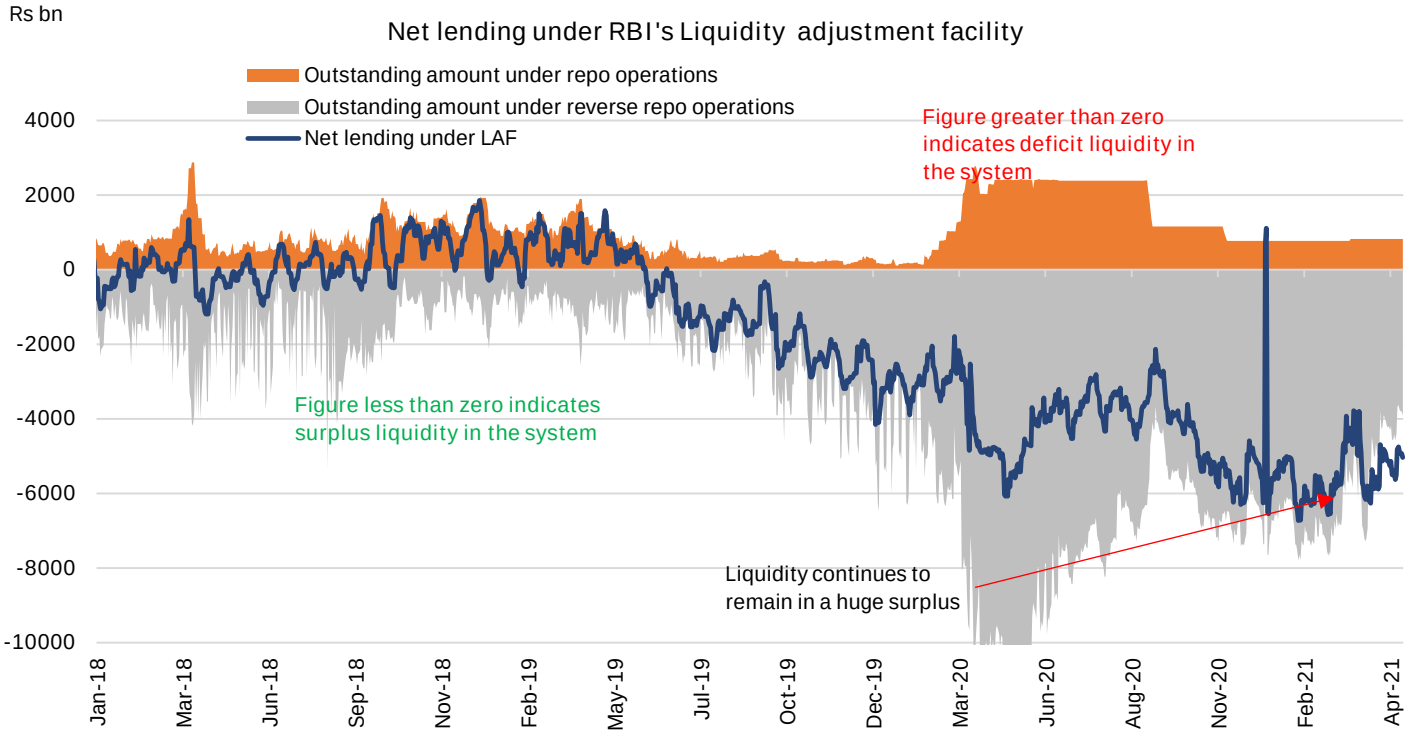
Figure 101: Change in AA-rated corporate bond yields in FY22 thus far



Source: Bloomberg.

Figure 102: **Net lending under RBI's liquidity adjustment facility**

Surplus liquidity in the system has remained north of Rs5trn in this year thus far.



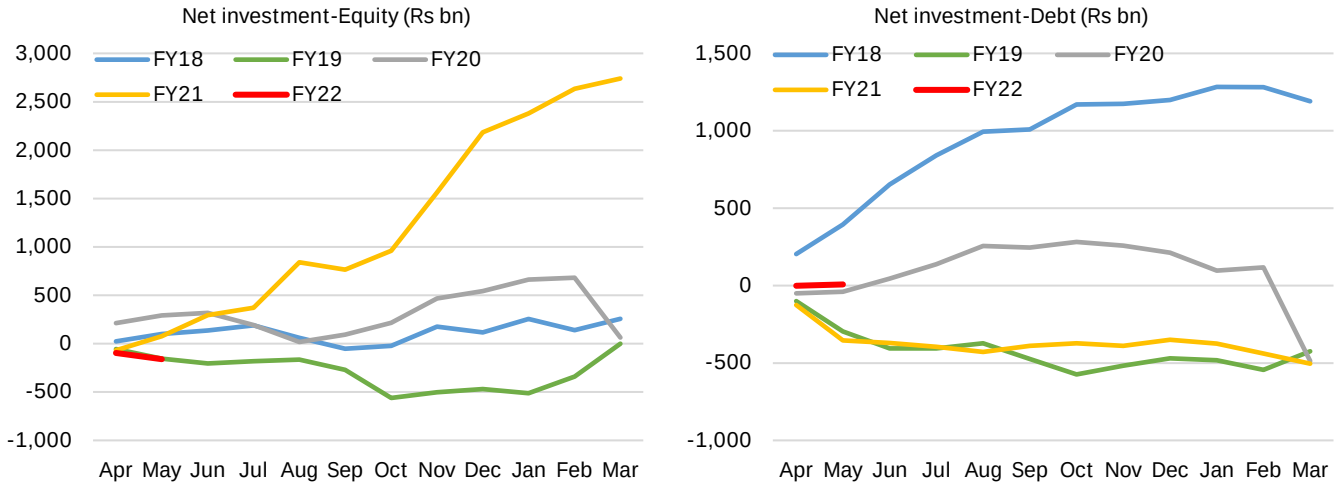
Source: CMIE Economic Outlook.

Institutional flows across market segments in India

FIIs' net inflows started FY22 on a negative note: Post several volatile fiscal years, FIIs' net investment rose to a record level in FY21 with a rally in equity market and ended the fiscal year at Rs2.7trn, which is ~45 times higher than that of Rs61.5bn by end of FY20. The situation has completely reversed in FY22 thus far due to sudden spike in total number of Covid-19 cases in India which may hamper the pace of economic recovery in the near future. FIIs' net investment remained negative over the month of May and net outflows increased further to a total of Rs161bn as of May 14th, 2021.

FIIs' **net investment remained muted in the debt** segment: In contrast, FIIs were net sellers in the debt segment in FY21 and ended the year with Rs504bn net outflows, largely led by deteriorating India's fiscal health condition, continuous rise in government debt globally, rise in US benchmark yields and increasing concerns of rise in defaults of outstanding loans in the private sector. The situation improved in May'21, even as they have started the fiscal year with Rs1.2bn worth of net outflows in April. As of May 14th, 2021, net inflows of FIIs stood at Rs7.3bn despite of having a slow recovery of the economy with rising coronavirus cases, several lockdown measures in multiple states and slowdown in vaccination drive across the country.

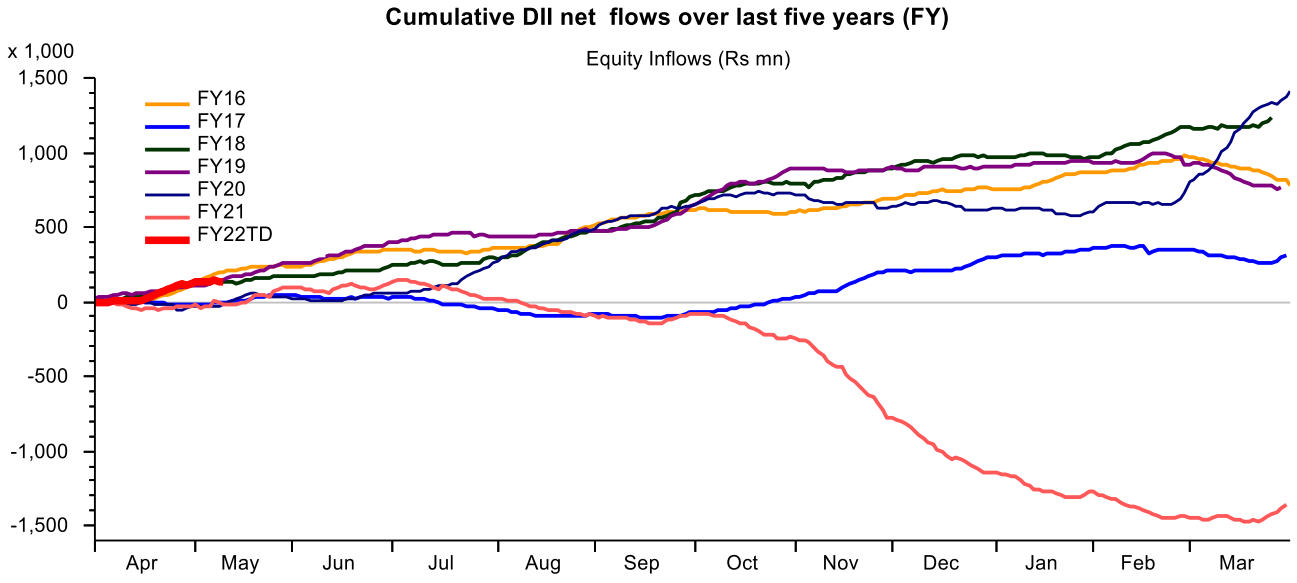
Figure 103: Cumulative FII net inflows over last five years in India as of May 14th, 2021



Source: CMIE.

Unlike FIIs, Domestic institutional investors (DIIs) increased their net investment over the fiscal year FY22: In the equity market, after a significant rise in net sales in FY21, DIIs' net investment started rising since the second half of May'22 despite of sudden spike in total coronavirus cases, slowdown in high frequency indicators and higher likelihood of having a slow recovery in economic growth. Till now, net investment of DIIs has increased to a decent level of Rs133bn as of May 11th, 2021.

Figure 104: Overall net inflows by DIIs in Indian equity markets



Source: Refinitiv Datastream.

Fund mobilisation through NSE

Market Statistics: Primary market

Funds raising dropped after rising sequentially for three months: The amount of fund raising through equity and debt issuance dropped 37% MoM in April, after rising sequentially for three months. Companies raised Rs162bn through equity issuances in April as compared to Rs199bn in March – a drop of 18.4% MoM. Preferential allotment was the preferred mode for raising funds, amounting to Rs91bn or 56% of the total equity funds raised in April as compared to Rs28bn or 14% of total equity fund raised in the previous month. Four (4) companies including two (2) SMEs listed on NSE raised Rs29bn through IPOs.

Twenty-four (24) percent of total equity raised were through QIPs with three (3) issues amounting to Rs40bn as compared to 54% (11 issues) or Rs107bn in the previous month. Corporates have raised Rs2.1tn in the previous fiscal through equity, with QIPs and Preferential Allotment being the most preferred option (nearly 53% of the total equity issuances).

Fund raised by corporates through debt issuances decreased 61.7% MoM during the month of April as compared to +46.4% MoM in the previous month. Total funds raised (total equity + total debt excl. public issue of G sec, T-Bills & SDLs) by corporates declined 56.7% MoM, with nearly 78% of the total funds or Rs586bn raised from the debt markets (CPs and NCDs) as compared to Rs1.5tn in March. Private placement of NCDs and CPs continued to be the most preferred option for raising debt among corporates. While Rs21bn was raised through public issue of NCDs in March, there were no public issue in April on NSE platform.

Figure 105: Funds mobilised through NSE platform

Particulars	Apr-21			Mar-21		
	No. of Issues	Amount Raised (Rsm)	Amount Raised (USDm)	No. of Issues	Amount Raised (Rsm)	Amount Raised (USDm)
Equity issuances						
IPOs	4	29,810	400	11	62,925	864
Rights Issue	1	1,998	27	2	345	5
Preferential Allotment	19	90,547	1,216	19	28,079	386
QIPs	3	40,100	539	5	107,747	1,480
Total equity raised		162,455	2,182		199,096	2,735
Debt issuances						
Public issue of NCDs	0	-	-	4	21,771	299
Public issue of G sec, T-Bills & SDLs	33	2,468,094	33,155	118	3,379,792	46,426
Private Placement of NCD	23	151,529	2,036	64	592,322	8,136
Private Placement of CPs	98	431,120	5,792	158	908,000	12,473
Total debt raised		3,050,743	40,983		4,901,885	67,334
Total funds raised (equity + debt)		3,213,198	43,165		5,100,981	70,068

Source: NSE. Note: In case of debt issuances, the above table reports no. of ISINs instead of issues. IPOs in the month of February 2021 includes one (1) REITs issuance.

New listings in the month

Seven new companies listed their equities on NSE in April: While four (7) companies were listed on NSE through IPOs (including two SMEs), one (1) company was listed through direct listing in April. The month also witnessed migration of two (2) SME companies to the Main Board. Out of the seven companies that debuted on the NSE in April, two (2) companies gained on their respective listing dates.

Figure 106: **Companies listed on NSE in Feb'21**

Listing Date	Security Name	Listing Gain %	Market Cap (Rsm)	Gross Turnover (Rsm)	Listing
07-Apr-21	Barbeque Nation Hospitality Limited	(2.0)	22,068	2,949	IPO
07-Apr-21	Siddhika Coatings Limited	(3.5)	176	5	SME-IPO
09-Apr-21	V Marc India Limited	19.2	1,073	32	SME-IPO
19-Apr-21	Macrotech Developers Limited	(10.3)	208,115	5,130	IPO
22-Apr-21	Nitiraj Engineers Limited	(0.5)	443	0	Migrated from SME to NSE Main Board
23-Apr-21	Tembo Global Industries Limited	15.0	1,221	23	Migrated from SME to NSE Main Board
27-Apr-21	Deep Industries Limited	(51.2)	1,139	1	New listing

Source: NSE. Note: Figures in brackets indicate negative

Trend of NSE's turnover across different segments

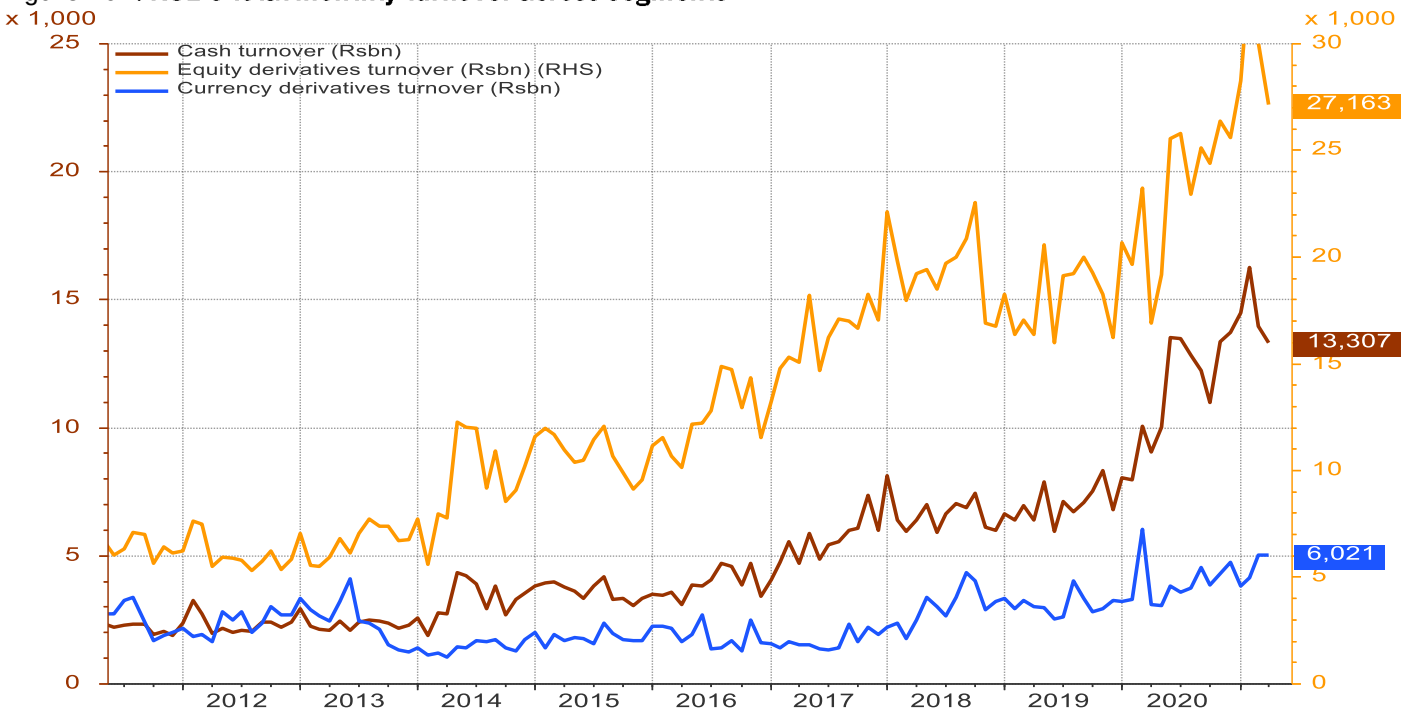
Impact of macro indicators on NSE's turnover

NSE's turnover recorded a sharp rise in the Cash market over the months during FY21 with an average monthly turnover of Rs12.8trn, largely led by surplus liquidity, thanks to policy easing measures by global central banks to counter the economic impact of the pandemic. Its monthly turnover in the first month of the current fiscal (FY22) grew by 46.9% YoY higher than a 41.5% YoY growth in April last year but lower than average monthly growth of 73.2% on an YoY basis over the period of Apr'20-Mar'21. While volatility measured by the India VIX index has fallen meaningfully by 32.3% YoY in April, it increased 11.5% MoM from the March levels.

Post the roller coaster ride in 2019, NSE's monthly turnover recorded a strong growth in 2020, thanks to a sharp rise in volatility, a strong rally in global equity prices and a significant rise in total liquidity due to monetary policy easing by global central banks. NSE's equity derivatives segment registered a growth of 60.6% YoY in April significantly higher than a 3.3% YoY growth in April last year and an average growth in monthly turnover of 33.4% in FY21.

The overall trend in the currency segment, however, has been different. Growth in monthly turnover languished during 2014-17, before rising gradually over the next three years. The monthly turnover grew by an average rate of -1.5% on an YoY basis during 2014-17 as compared to 37.8% post 2017 till date. In FY21, total turnover in currency derivatives segment recorded 23.2% growth till March on YOY basis. In April, the currency derivatives segment has registered a growth of 61.3% YoY, significantly higher than 3% YoY growth during the same month last year.

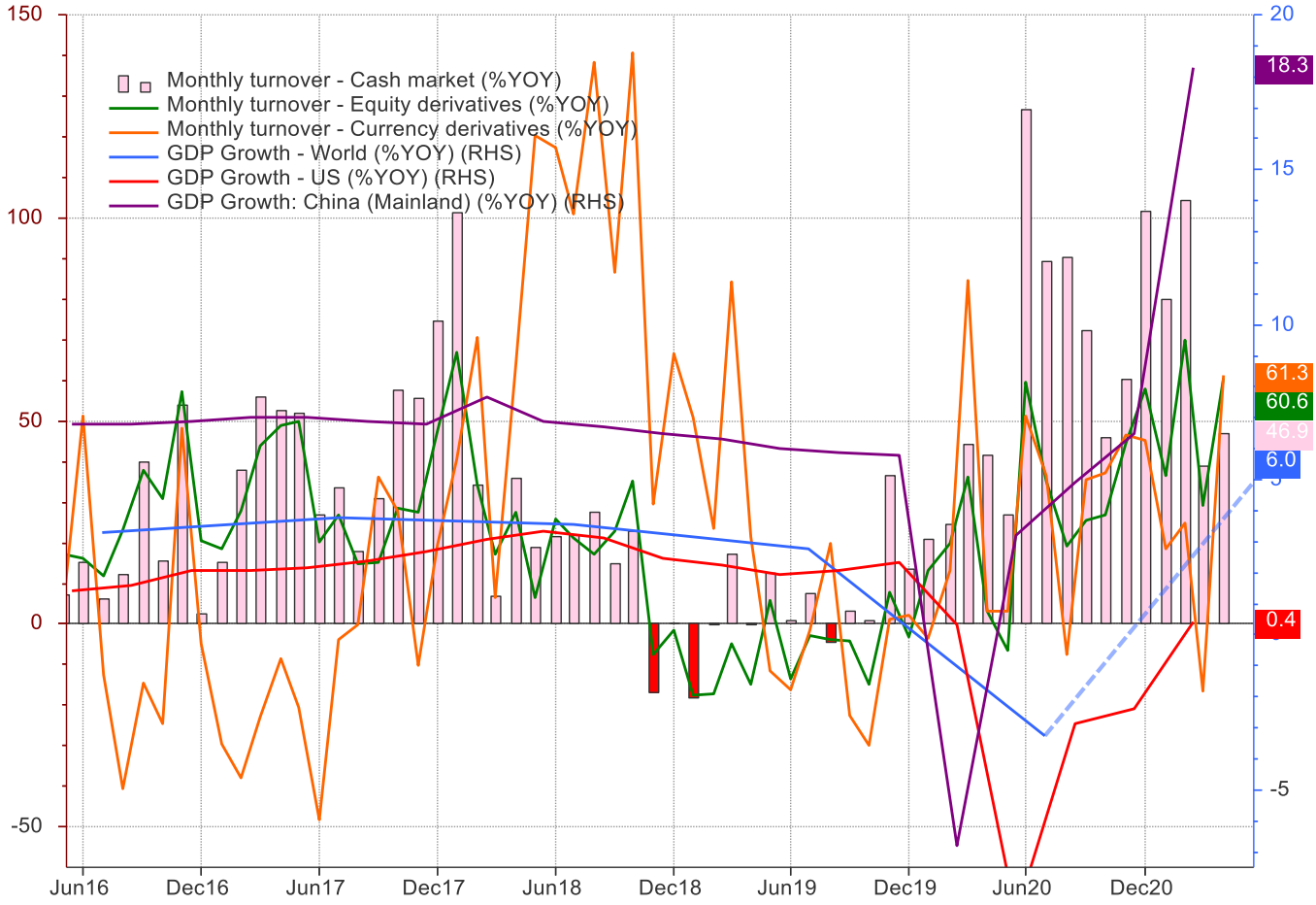
Figure 107: **NSE's total monthly turnover across segments**



Source: NSE. Note: Total turnover for derivatives includes gross traded value of futures and total premium turnover of options.

A recovery in economic growth momentum witnessed last year after normalisation of business and economic activities, and an ample liquidity push by global central banks had given a boost to NSE's turnover across all segments. A surge in trading by retail investors and FIIs, partly offset by substantial selling by DIIs, have led a rally in equity prices post a sharp correction in March'20. However, the emergence of a second wave of COVID-19 infections since February caused by a more virulent variant of the virus, subsequent lockdowns in large states, slow pace of immunisation in India and growth uncertainty has raised concerns among investors.

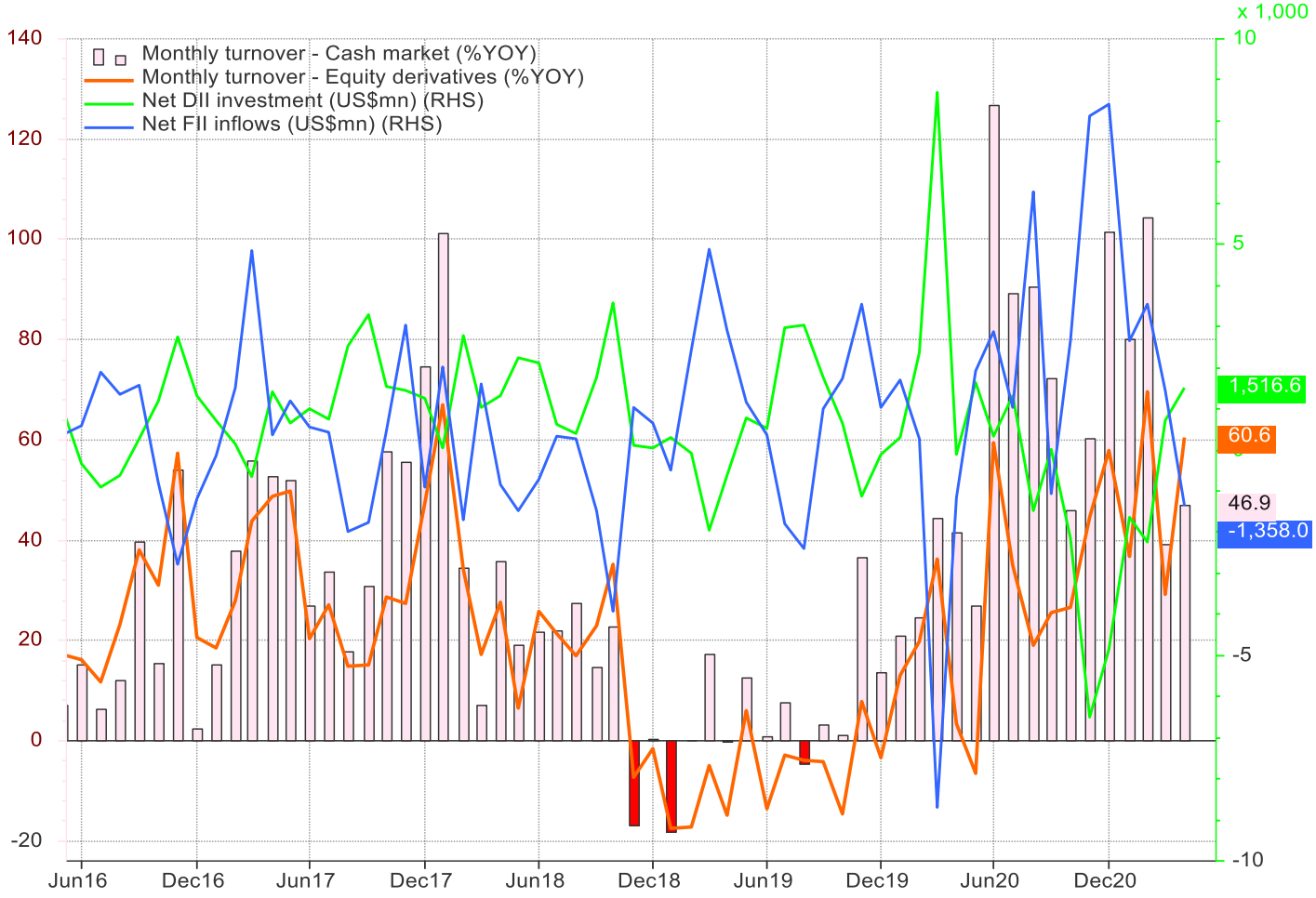
Figure 108: Impact of global slowdown on overall turnover growth across segments



Source: Refinitiv Datastream, NSE.

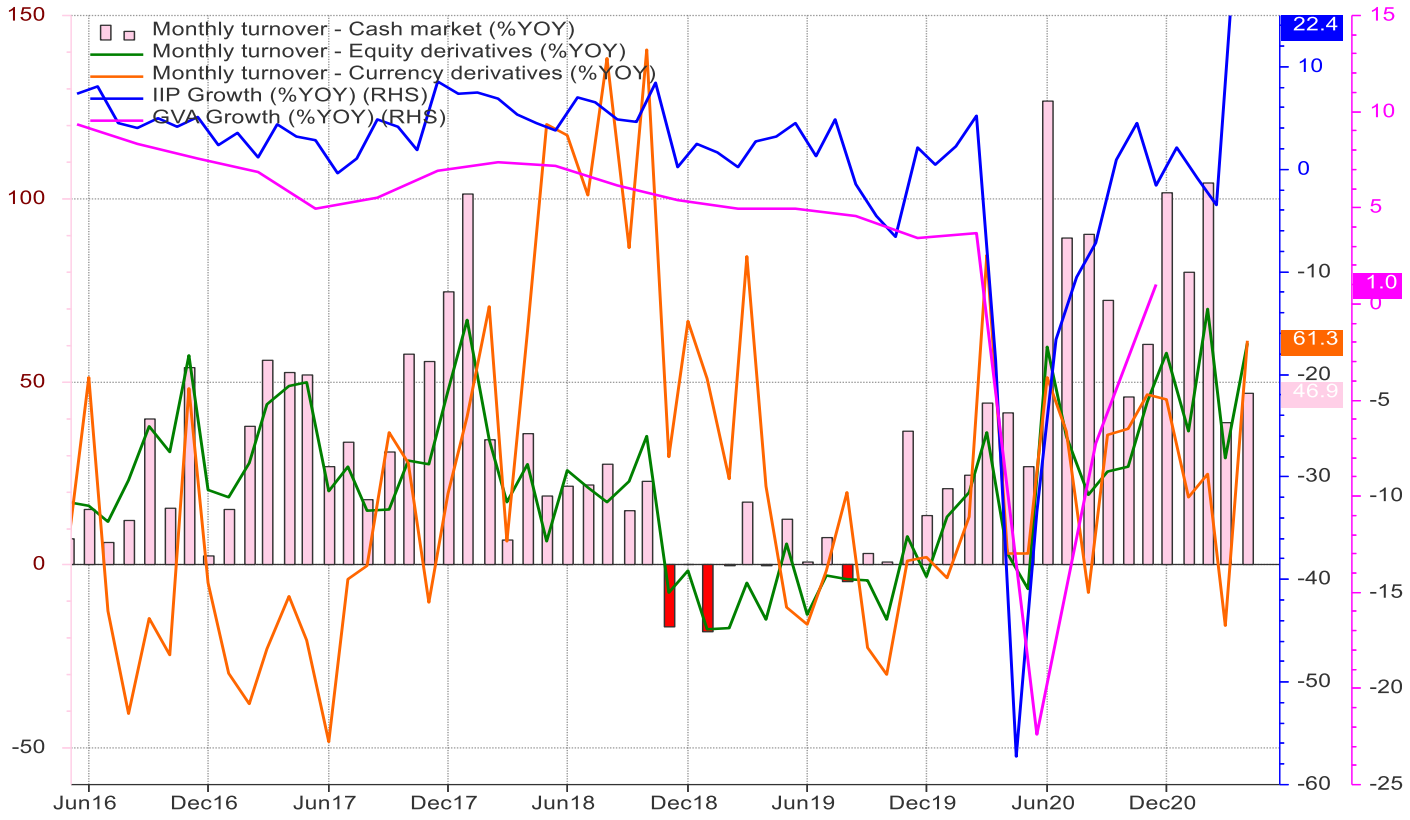
A risk-on sentiment among FIIs amid enhanced policy support, favourable economic outlook and optimism over vaccine roll-out globally and domestically had led to a surge in NSE's turnover growth last year, even as DIIs net investment remained negative during the year due to redemption pressures and profit-booking. While FII net investments had been the highest last fiscal, DII net investment has been the lowest in FY21 compared to last five years. However, a sharp surge in COVID-19 infections since February caused by highly virulent variant of the virus followed by imposition of lockdowns in large states, slow pace of immunisation in India and growth uncertainty has raised concerns among investors. FIIs sold Indian equities worth US$1.358m on a nert basis in April for the first time after six months of consecutive buying.

Figure 109: **Growth of NSE's turnover vs. Institutional flows**



Source: Refinitiv Datastream, NSE.

Figure 110: **Growth rates of NSE's turnover** *vs* IIP and GVA growth



Source: Refinitiv Datastream, NSE

Institutional investments through NSE platform

FIIs turned net sellers in NSE CM segment after buying for six consecutive months: FIIs sold equities worth Rs122bn in April in the secondary market on a net basis, after buying sequentially for six months. While FIIs were net buyers in March, the buying momentum had tapered compared to the previous months, because of concerns over resurgence in COVID-19 cases resulting in a second wave of infections in India and imposition of strict lockdowns in major states impacting business activities. FIIs bought equities worth Rs1.6tn in FY21 in NSE CM segment.

While FIIs sold, DIIs bought equities on net basis: After remaining net sellers in equities for most part of the previous fiscal because of redemption pressures and profit booking, DIIs invested in Indian equities for two months sequentially on a net basis, registering an inflow of Rs106bn in April and Rs34bn in March in NSE's cash segment. During FY21, DIIs sold equities worth Rs1,455bn net in NSE's cash segment.

DII selling in the equity derivatives segment was offset by FII buying for two months: While DIIs sold equity derivatives contracts worth Rs43bn, FIIs bought contracts worth Rs41bn in the month of April on a net basis. While FIIs bought equities in the cash segment during FY21, they remained net sellers in the equity derivatives segment during the fiscal.

FIIs and DIIs were net sellers in currency futures: FIIs and DIIs sold currency futures contracts worth Rs23bn and Rs6bn on a net basis in currency futures. The institutional investors have been net sellers in currency futures segment during FY21, selling contracts worth Rs111bn on a net basis. Institutional trading activity in the currency options contracts and interest rate derivatives continues to remain negligible.

Figure 111: Foreign and domestic institutional flows (Rsbn) in secondary markets up to April 2021

	Apr-21			Mar-21			FY22TD			FY21TD		
Category	Buy	Sell	Net	Buy	Sell	Net	Buy	Sell	Net	Buy	Sell	Net
Cash Market												
DII	1,005	899	106	1096	1062	34	1,005	899	106	725	738	(13)
FII	1,343	1,465	(122)	1844	1,804	40	1,343	1,465	(122)	1,194	1,243	(48)
Equity Futures												
DII	1,007	1,050	(43)	984	1,032	(48)	1,007	1,050	(43)	582	598	(15)
FII	4,473	4,432	41	4,908	4,858	50	4,473	4,432	41	4,310	4,250	60
Equity Options												
DII	2	1	1	0	1	(0)	2	1	1	0	1	(0)
FII	510	510	(0)	601	602	(1)	510	510	(0)	226	228	(2)
Currency Futures												
DII	132	138	(6)	105	117	(11)	132	138	(6)	78	82	(5)
FII	659	682	(23)	643	641	2	659	682	(23)	657	686	(29)
Currency Options												
DII	-	-	0	0	-	0	-	-	0	-	-	0
FII	2	2	0	2	1	0	2	2	0	0	0	0
Interest Rate Futures												
DII	0	0	(0)	5	4	0	0	0	(0)	4	4	(0)
FII	0	0	0	0	0	0	0	0	0	0	2	(2)
Interest Rate Options												
DII	-	-	0	-	-	0	-	-	0	-	-	0
FII	-	-	0	-	-	0	-	-	0	-	-	0

Source: NSE. * DII – Domestic Institutional Investors, FII – Foreign Institutional Investors; Above table reports premium turnover for Options contracts. Figures in brackets indicate negative numbers.

Figure 112: Foreign and domestic institutional flows (Rsbn) in secondary markets during FY21 and CY21

	FY21			CY21TD		
Category	Buy	Sell	Net	Buy	Sell	Net
Cash Market						
DII	10,205	11,660	(1455)	4,080	4,240	(161)
FII	18,289	16,687	1601	6,666	6,515	152
Equity Futures						
DII	9,124	9,350	(226)	3,767	3,932	(165)
FII	58,898	59,203	(305)	19,209	19,215	(6)
Equity Options						
DII	6	5	1	4	3	0
FII	4,413	4,417	(4)	2,078	2,081	(3)
Currency Futures						
DII	694	740	(46)	355	385	(29)
FII	8,280	8,345	(65)	2,443	2,411	32
Currency Options						
DII	0	-	0	0	-	0
FII	9	5	5	6	4	2
Interest Rate Futures						
DII	61	60	1	12	12	(0)
FII	6	7	(2)	1	1	0
Interest Rate Options						
DII	-	-	0	-	-	0
FII	-	-	0	-	-	0

Source: NSE*DII – Domestic Institutional Investors, FII – Foreign Institutional Investors; Above table reports premium turnover for Options contracts. Figures in brackets indicate negative numbers.

Total turnover in capital markets and derivatives segment of NSE

Turnover in CM and equity derivatives segment declined in April: While the turnover in NSE's capital market segment and equity derivatives segment in April declined by 4.9% MoM and 9.9% MoM respectively owing to lesser trading days (19 days in April *vs* 21 days in March), the turnover in both segments was higher than the average monthly turnover in FY21 by 9% and 7.4% respectively. NSE's turnover in the cash segment touched Rs13.3tn in the month of April followed by a 14% MoM decline witnessed in March when the turnover had touched Rs13.9tn. While overall turnover in CM segment during the month declined, the average daily turnover in CM segment increased 5.1% MoM.

A similar trend was witnessed in the equity derivatives segment. The turnover touched Rs27tn in the month of April, resulting in a decline of 9.6% MoM in April followed by a decline of 9.9% MoM in March when turnover had touched Rs30tn. The decline in equity derivatives turnover in April was resultant of a drop both in index futures turnover (-20.6% MoM) and index options premium turnover (-10.2% MoM) turnover, partly due to lesser trading days during the month.

While currency derivatives turnover rose 21.7% MoM in March to touch Rs6.1tn – the highest monthly turnover in FY21, it declined marginally 0.6% MoM to Rs6tn in April. However, an opposite trend was witnessed in currency futures and options turnover While currency futures declined -0.6% MoM and premium turnover in currency options increased 15% MoM in April.

Figure 113: Total turnover in different segments (Rsbn) during 2021 (January – April)

Cash Market	Jan-21	Feb-21	Mar-21	Apr-21
Cash Market	14,494	16,275	13,989	13,307
Equity futures	24,987	29,034	25,585	23,049
Index futures	7,327	9,107	9,132	7,250
Stock futures	17,660	19,927	16,453	15,799
Equity options	3,270	4,309	4,469	4,114
Index options	2,545	3,497	3,884	3,488
Stock options	725	812	585	626
Currency derivatives	4,604	4,978	6,056	6,021
Currency futures	4,594	4,966	6,037	5,998
Currency options	10	12	20	23
Interest rate derivatives	41	67	44	24
Interest rate futures	41	67	44	24
Interest rate options	0.00	0.00	0.00	0.00
Commodity derivatives	8.6	9.5	17.0	6.1
Commodity futures	8.4	9.3	16.8	6.0
Commodity options	0.2	0.1	0.1	0.1

Source: NSE. *NA refers to not applicable as Interest rate options were launched in Dec'19; Above table reports premium turnover for Options contracts and excludes auction market turnover.

Average daily turnover (ADT) in capital markets and derivatives segment of NSE

NSE's ADT in cash market segment inched up in the month of April: NSE's ADT in capital markets segment increased 5.1% MoM and 39.2% YoY in the month of April to touch Rs700bn, even as overall turnover during the month declined 4.9% MoM mainly because of lesser trading days. The ADT in April 2021 was 13.3% higher than the ADT in last fiscal, i.e., FY21, as participation by retail investors and proprietary traders improved in terms of average daily turnover in April offset by decline in FII participation. While ADT in Main Board equities – accounting for 99% of the CM turnover increased 5.5% MoM and 39.2% YoY, while trading declined MoM across other CM products.

The ADT in CM turnover in FY21 recorded a significant jump of 69.7% YoY over FY20. The increase in average daily turnover in the previous fiscal was broad-based, largely led by trading in SGBs (+246% YoY), InvIts (+109% YoY) and Main Board Equities (+69.5% YoY).

Figure 114: Average daily turnover in NSE Capital Market (Rsm)

Product	Apr-21	Mar-21	% Change	FY22TD	FY21TD	% Change	FY21	CY21TD
Capital Market	700,361	666,165	5.1	700,361	503,223	39.2	618,390	725,818
Equities (Main Board)	695,647	659,630	5.5	695,647	499,734	39.2	612,808	719,446
Exchange Traded Funds	2,968	3,216	(7.7)	2,968	3,024	(1.9)	2,638	3,096
SME Emerge	38	45	(14.6)	38	15	157.0	37	41
Sovereign Gold Bonds	29	48	(39.5)	29	28	2.3	36	39
InvITs	82	93	(12.3)	82	38	113.7	107	82
REITs	264	552	(52.2)	264	142	85.8	362	443
Mutual Funds (Close Ended)	2	3	(35.7)	2	1	202.2	2	3
Others	1,332	2,577	(48.3)	1,332	241	451.4	2,401	2,667

Source: NSE. Note: Average daily turnover (ADT) excludes auction market turnover. Equities (Main Board) include stocks in EQ, BE, BL and BZ series. Others include corporate and government debt instruments (excl. SGBs), preferential shares, partly paid-up shares, warrants etc., among others. Figures in brackets indicate negative numbers.

ADT in equity derivatives trading declined marginally: Average daily turnover (ADT) of NSE's equity derivatives declined marginally by 0.1% MoM in April to touch Rs1,429bn, after a 14.2% MoM drop witnessed in the previous month. The decline in average daily traded value, was largely led by index futures and options contracts falling 12.3% MoM and 0.8% MoM respectively in the month of April. ADT of single stock derivatives, on the other hand, increased 6.6% MoM registering a turnover of Rs864bn.

The ADT in equity derivatives in FY21, however, recorded a jump of 32% YoY to touch Rs1,219bn compared to Rs925bn in FY20. While, average daily turnover of single stock derivatives surged 22.7% YoY to touch Rs750bn in the current fiscal, the average daily turnover of index derivatives increased by a much higher 49.4% YoY during the same period.

Figure 115: Average daily turnover in Equity derivatives (Rsm)

Product	Apr-21	Mar-21	% Change	FY21TD	FY20TD	% Change	FY20	CY21TD
Single stock derivatives								
Stock futures	831,538	783,465	6.1	831,538	530,538	56.7	726,842	872,984
Stock options	32,968	27,852	18.4	32,968	11,681	182.2	23,267	34,354
Index futures								
BankNifty	186,175	212,466	(12.4)	186,175	134,636	38.3	183,694	204,331
Nifty	194,796	221,594	(12.1)	194,796	195,728	(0.5)	179,320	204,671
FinNifty	600	797	(24.7)	600	0	NA	339	1,199
NiftyIT	0	0	NA	0	34	NA	6	0
Index options								
BankNifty	114,750	112,758	1.8	114,750	31,559	263.6	62,966	104,431
Nifty	68,686	72,082	(4.7)	68,686	35,601	92.9	42,589	63,067
FinNifty	124	124	0.2	124	0	NA	45	170
NiftyIT	0	0	NA	0	0	NA	0	0

Source: NSE. Note: Above table reports premium turnover for Options contracts; FINNIFTY was launched on January 11th, 2021; Trading in weekly and monthly derivative contracts of Nifty IT index was discontinued from June 4th, 2020 and June 25th, 2020 respectively. Figures in brackets indicate negative numbers.

Trading in USDINR contracts continued to aid the rise in ADT of currency derivatives: The average daily turnover of currency derivatives increased 22.8% MoM to Rs354bn as compared to an increase of 10% MoM in the previous month. While average daily currency options premium turnover increased 42.1% MoM to touch Rs1,331m, the currency futures turnover increased 22.7% MoM to touch Rs352bn. The USDINR contracts continued to be the highly traded contracts in April, both in futures and options segment, reaching an average daily value of Rs292bn – nearly 8.9% and 17.1% higher than March 2021 and FY21 respectively. Trading in EURINR and GBPINR contracts also witnessed a rise in currency futures segment, albeit lower than USDINR contracts.

Figure 116: Average daily turnover in Currency derivatives (Rsm)

Product	Apr-21	Mar-21	% Change	FY21TD	FY20TD	% Change	FY20	CY21TD
Currency futures								
EURINR	18,990	15,680	21.1	18,990	7,029	170.2	17,195	17,073
EURUSD	96	107	(10.5)	96	76	26.1	229	157
GBPINR	39,121	35,080	11.5	39,121	13,916	181.1	32,364	40,336
GBPUSD	139	234	(40.8)	139	130	6.5	345	321
JPYINR	3,611	4,014	(10.0)	3,611	3,099	16.5	4,189	3,728
USDINR	290,874	232,325	25.2	290,874	194,693	49.4	179,289	218,826
USDJPY	9	13	(31.9)	9	1	508.8	4	8
Currency options								
EURINR	0.80	1.02	(21.1)	0.80	0.00	403828.3	0.46	1.18
EURUSD	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00
GBPINR	4.76	2.94	62.2	4.76	0.00	NA	1.93	3.78
GBPUSD	0.00	0.00	NA	0.00	0.00	NA	0.02	0.00
JPYINR	0.01	0.01	(30.1)	0.01	0.00	NA	0.01	0.01
USDINR	1,325.69	932.90	42.1	1,325.69	624.56	112.3	600.22	837.43
USDJPY	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00

Source: NSE. Note: Above table reports premium turnover for Options contracts. Figures in brackets indicate negative numbers.

Trading in interest rate derivatives declined in April: Average daily turnover of interest rate futures declined sequentially for two months registering Rs1,391m in April – a decline of 33.5% MoM as participation from DIIs (ex-banks) and retail investors declined. Three (3) interest rate futures contracts witnessed trading activity in this month, 585GS2030 was the highly traded contract in this segment with ADT doubling from previous month to touch Rs1,119m from Rs555m.

Figure 117: Average daily turnover in Interest rate derivatives (Rsm)

Product	Apr-21	Mar-21	% Change	FY21TD	FY20TD	% Change	FY20	CY21TD
Interest rate futures	1,391	2,090	(33.5)	1,391	5,543	(74.9)	3,940	2,284
Interest rate options	-	-	NA	-	NA	NA	0.8	0.0

Source: NSE. Note: Above table reports premium turnover for Options contracts. Figures in brackets indicate negative numbers.

ADT in commodities derivatives touched 4-month low: The ADT in commodity derivatives declined 60.6% MoM to a 4-month low of Rs285m, owing to decline in degummed soy oil futures contracts. While ADT in soya bean oil contracts declined 61% MoM, gold mini contracts (futures + options premium turnover) declined 4.9% MoM.

Figure 118: Average daily turnover in commodities derivatives (Rsm)

Product	Apr-21	Mar-21	% Change	FY22TD	FY21TD	% Change	FY21	CY21TD
Commodity futures	285	732	(61.0)	285	32	795.1	215	483
Commodity options	4.9	5.1	(3.7)	5	-	NA	11	6

Source: NSE. Note: Above table reports premium turnover for Options contracts. Figures in brackets indicate negative numbers. NSE commenced trading in Commodity Derivatives with the launch of bullion futures on October 12, 2018. NSE launched commodities options contracts on June 8th, 2020 by introducing options contracts in gold mini.

Turnover of top traded symbols over the month

The turnover of top 10 traded stocks increased 20.2% MoM in the month of April, resulting in an expansion in the share of these stocks in the overall CM turnover by 540bps MoM from 20.3% in March to 25.7% in April. Eight (8) out of the top 10 stocks witnessed an uptick in the total traded turnover in April, with JSWSTEEL and ADANIPORTS rising 335% MoM and 90.8% MoM respectively. Tata Steel was the top traded stock in April with a turnover of Rs463bn (+48.5% MoM) or 3.5% of the overall CM turnover during the month.

Figure 119: Top 10 symbols based on total turnover of Cash market (Rsm)

Symbol	Apr-21	Mar-21	%Change
TATASTEEL	463,480	312,287	48.4
ADANIPORTS	428,380	224,522	90.8
TATAMOTORS	347,625	460,461	(24.5)
HDFCBANK	336,251	273,875	22.8
JSWSTEEL	332,794	76,461	335.2
SBIN	322,326	320,073	0.7
BAJFINANCE	320,806	232,420	38.0
ICICIBANK	314,052	289,309	8.6
RELIANCE	296,401	406,899	(27.2)
AXISBANK	254,072	245,211	3.6

Source: NSE

While the turnover of the top 10 traded stocks in the single stock futures segment expanded 8.8% MoM in April, the turnover of top 10 single stock options expanded by 25.4% MoM during the same period. This led to expansion of share of top 10 traded stocks in stock futures turnover increased 358bps MoM from 27% in March to 30.6% in April and the share of top 10 stocks in stock options turnover increased 580bps MoM from 33.9% to 39.7% during the same period. Tata Steel was the highly traded stock across all segments i.e. stock futures, stock options and CM segment. Three (3) of the top 10 stocks in futures and options segment declined in this month on a MoM basis across all segments.

Figure 120: Top 10 symbols based on total turnover of Stock futures (Rsm)

Symbol	Apr-21	Mar-21	%Change
TATASTEEL	720,864	498,427	44.6
ADANIPORTS	526,756	375,960	40.1
ICICIBANK	521,893	493,787	5.7
TATAMOTORS	481,840	627,142	(23.2)
JSWSTEEL	479,068	159,691	200.0
SBIN	471,278	593,896	(20.6)
HDFCBANK	425,098	415,176	2.4
RELIANCE	420,296	580,169	(27.6)
BAJFINANCE	398,077	340,189	17.0
ADANIENT	384,501	355,570	8.1

Source: NSE

Figure 121: Top 10 symbols based on total turnover of Stock options (Rsm)

Symbol	Apr-21	Mar-21	%Change
TATASTEEL	46,482	26,584	74.8
ADANIPORTS	29,024	14,745	96.8
JSWSTEEL	26,779	4,831	454.3
TATAMOTORS	25,927	37,437	(30.7)
SBIN	24,816	33,124	(25.1)
BAJFINANCE	21,786	14,116	54.3
ADANIENT	20,820	15,032	38.5
RELIANCE	18,772	30,655	(38.8)
ICICIBANK	17,239	14,926	15.5
WIPRO	17,076	6,850	149.3

Source: NSE

Client category-wise participation in total turnover

This section gives a detailed analysis on client-wise participation in total trading activities across all product segments at NSE. The clients are broadly classified into six categories, *viz*. Foreign institutional investors (FIIs), Domestic institutional investors (DIIs), Corporates, Proprietary traders, Individual investors and Others. The Individual investors category includes individual domestic investors, NRIs, sole proprietorship firms and HUFs. The category Others includes Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. which are not included in any other categories mentioned above.

Retail participation in CM segmented expanded in April as share of institutional investors dropped: Retail participation in the CM segment expanded by 150bps MoM from 41.8% to 43.3%. NSE has added nearly 10 lakh new investors in the first month of current fiscal. While retail participation increased in April, share of FII and DII decreased 250bps MoM (-480bps YoY) and 60bps MoM (0bps YoY) respectively.

The last six (fiscal) years have witnessed a considerable change in the distribution of NSE's total turnover in capital market segment (cash segment) across different client categories. The market share of individual investors rose markedly by 12 percentage points from 33% in FY16 to 45% in FY21, rising sharply in FY21, offsetting the decline in the share of FIIs and public and private corporates during the same period. The significant rise in the share of individual investors in FY21 can be attributed to the increase in new investor registrations witnessed since the beginning of the fiscal, which has led to addition of nearly 90 lakh new investors.

While the percentage share of DIIs in the overall turnover was steady during FY16-FY20, it has witnessed a decline in FY21 to 7% of the overall market, as they lost market share to individual investors participating directly in the secondary markets. The percentage share of corporates has halved during this period from 10% to 5%. Notwithstanding a decline in market share for a brief period during FY17 (17%) and FY18 (18%) from 21% in FY16, proprietary traders have maintained their market share between 22%-25% in the last three fiscal years.

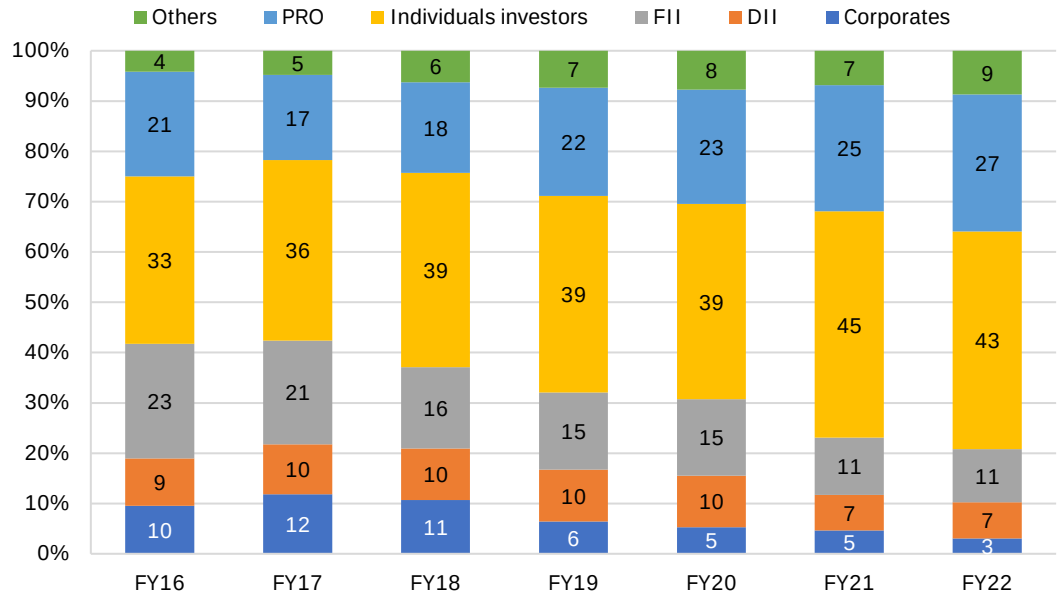
Figure 122: Share of client participation in Capital Market segment of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Capital Market								
Corporates	3.1	4.3	(1.2)	3.1	4.9	(1.8)	4.6	4.0
DII	7.2	7.7	(0.6)	7.2	8.1	(0.9)	7.1	7.2
FII	10.6	13.0	(2.5)	10.6	13.5	(2.9)	11.4	11.4
Individuals investors	43.3	41.8	1.5	43.3	43.9	(0.6)	45.0	43.4
PRO	27.3	26.6	0.7	27.3	22.7	4.6	25.1	27.2
Others	8.7	6.6	2.0	8.7	7.0	1.7	6.9	6.9

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 123: Trends in share of client participation in Capital Market at NSE (%)



Source: NSE.
Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

The share of all investor categories in equity derivatives changed marginally in April: While share of proprietary traders – the largest category in equity derivatives segment – dropped 20bps MoM in April to 35.5% of the overall equity derivatives (premium turnover), share of DIIs expanded 40bps MoM. The share of individual investors declined 20bps MoM, even as their share expanded in the CM segment.

The last six years has witnessed the share of individual investors increase in equity derivatives segment, in-line with the increase in their share in cash segment. While their share in equity derivatives premium turnover has increased nearly two (2) percentage points, their share in notional turnover has increased seven (7) percentage points during this period.

Contrary to the trend in cash segment, the share of FIIs in overall derivatives premium turnover has increased in the last six years. The FIIs share of total premium turnover in the segment jumped up from 16% in FY16 to 25% in FY20 and settling at nearly 21% in FY21. While the share of proprietary traders has declined marginally from 31% to 30%, the percentage share of corporates has nearly halved from 15% to 8% over the same period, which was primarily offset by the rise in participation by individual investors and FIIs. DIIs' contribution, however, remains low over the period due to the extant regulatory restrictions.

Figure 124: Share of client participation in Equity Derivatives segment of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Equity Derivatives (Premium Turnover)								
Corporates	8.0	8.4	(0.4)	8.0	8.9	(1.0)	8.3	8.3
DII	3.8	3.4	0.4	3.8	3.5	0.3	3.0	3.2
FII	18.3	18.2	0.0	18.3	26.6	(8.4)	20.9	17.9
Individuals investors	25.3	25.5	(0.2)	25.3	30.0	(4.7)	29.7	26.4
PRO	35.5	35.7	(0.2)	35.5	23.8	11.6	30.3	35.2
Others	9.2	8.9	0.4	9.2	7.1	2.1	7.8	8.9
Equity Derivatives (Notional Turnover)								
Corporates	5.5	5.6	(0.1)	5.5	8.5	(3.0)	6.6	6.0
DII	0.1	0.1	0.0	0.1	0.3	(0.2)	0.1	0.1
FII	12.0	12.8	(0.8)	12.0	17.2	(5.2)	13.2	12.4
Individuals investors	26.8	26.2	0.6	26.8	31.3	(4.5)	29.2	27.0
PRO	49.2	48.2	1.0	49.2	32.4	16.8	42.6	47.5
Others	6.3	7.0	(0.7)	6.3	10.3	(4.0)	8.2	7.0

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 125: Trends in share of client participation in Equity Derivatives (Notional Turnover) at NSE (%)

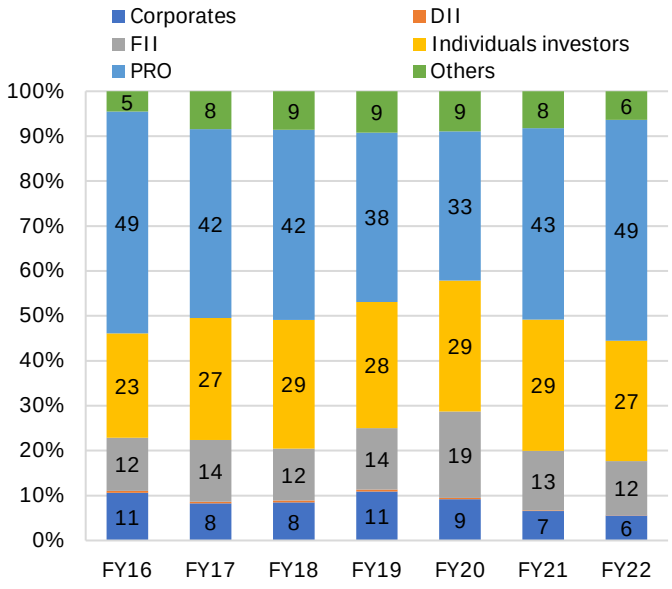
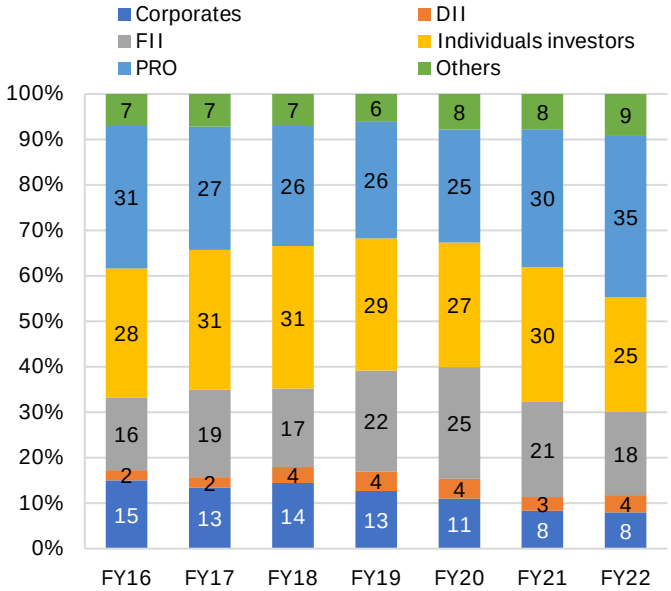


Figure 126: Trends in share of client participation in Equity derivatives (Premium Turnover) at NSE (%)



Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

Share of FIIs in index futures turnover touched 9-month high in April: The share of FIIs in index futures turnover touched a 9-month high of 15.5% expanding 110bps MoM, even as it declined 420bps YoY. The share of individual investors and DIIs also expanded marginally by 30bps MoM and 10bps MoM respectively, while share of proprietary traders and corporates declined 40bps MoM and 60bps MoM respectively.

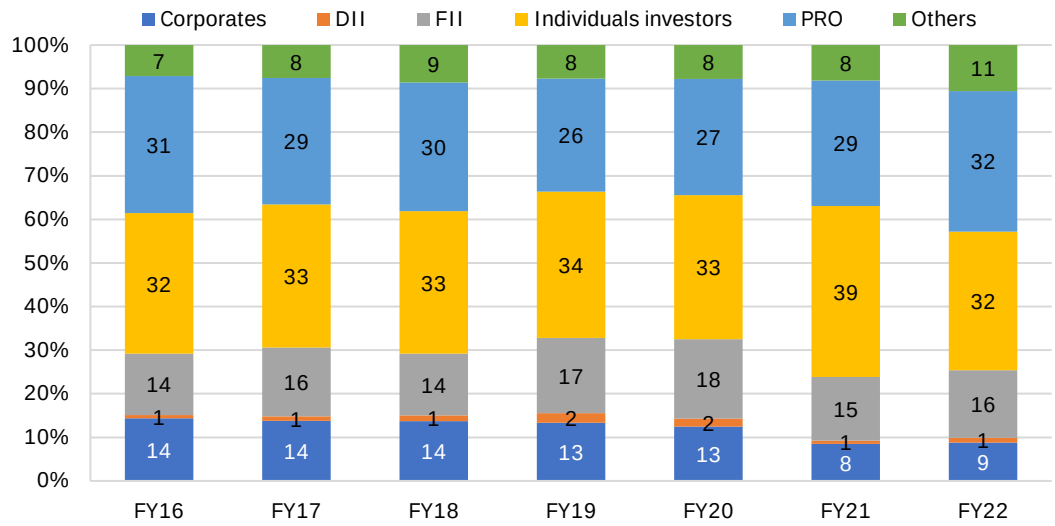
The market share of proprietary traders has gradually declined in terms of overall index futures notional turnover by three (3) percentage points from 31% in FY16 to 29% in FY21, followed by Corporates whose share has declined by six (6) percentage points from 14% to 8% over the same period. This overall fall in their shares has been largely compensated by an increased participation by individual investors from 32% to 39% during the same period. The share of FIIs rose marginally from 14% in FY16 to 15% in the current fiscal after touching 18% in the previous fiscal – the highest in last six years. The share of DIIs, however, remained low during this period, which can be attributed to the regulatory restrictions on their trading activities in the derivatives segment.

Figure 127: Share of client participation in Index Futures of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Index Futures								
Corporates	8.8	9.4	(0.6)	8.8	9.0	(0.3)	8.5	8.9
DII	1.1	0.9	0.1	1.1	0.7	0.4	0.8	0.9
FII	15.5	14.4	1.1	15.5	19.7	(4.2)	14.6	14.0
Individuals investors	31.8	31.5	0.3	31.8	39.6	(7.7)	39.3	33.7
PRO	32.3	32.7	(0.4)	32.3	25.1	7.2	28.7	32.2
Others	10.6	11.1	(0.6)	10.6	5.9	4.7	8.2	10.3

Source: NSE.
Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 128: Trends in share of client participation in Index Futures at NSE (%)



Source: NSE.
Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

Share of retail investors in stock futures turnover in April was the lowest in a year: Retail participation as percentage of overall stock futures turnover declined 10bps MoM and 300bps YoY to 20.7% - the lowest percentage share in 12 months. The increase of FIIs' share in index futures was offset by decline in their share in stock futures. The percentage share of FIIs also declined 60 bps MoM and 1150bps YoY to 21.1%. The share of DIIs, however, improved 40bps MoM and 30bps YoY to touch 6% in April.

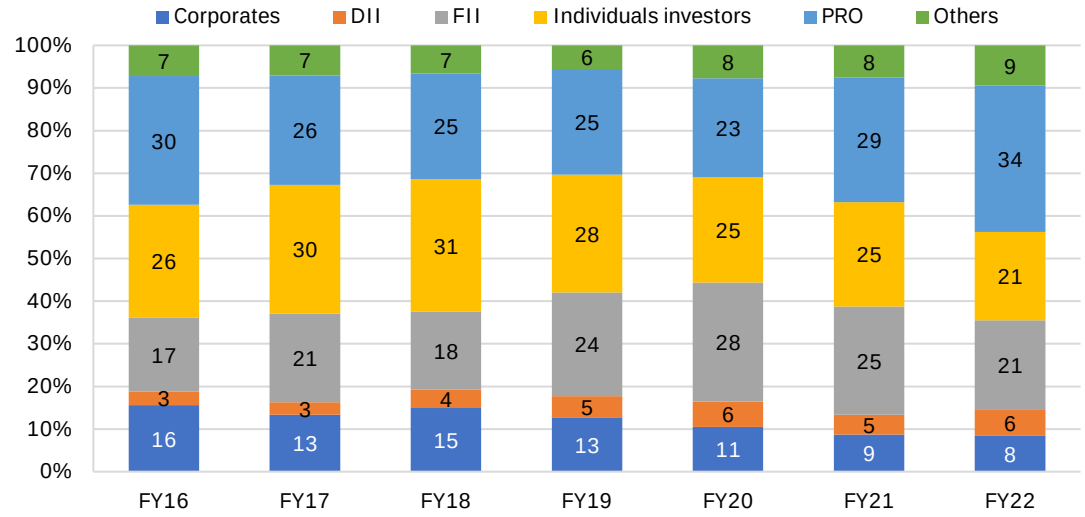
While DIIs' contribution in stock futures turnover has increased marginally from 3% in FY16 to 5% in FY21, the share of FII trading in stock futures during the same period has increased significantly from 17% to 25% Among other categories, Individual investors have maintained their share at 25% of the total trades in FY21 - nearly at same level as FY16 - after rising to 31% in FY18. Proprietary traders and corporates have lost their share in the market, which was mainly offset by FIIs and DIIs. In FY21, Proprietary traders and Corporates accounted for 29% and 9% of total turnover and remaining 8% were traded by Others in the segment.

Figure 129: Share of client participation in Stock Futures of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Stock Futures								
Corporates	8.4	8.7	(0.3)	8.4	9.0	(0.6)	8.7	8.8
DII	6.0	5.6	0.4	6.0	5.7	0.3	4.7	5.1
FII	21.1	21.7	(0.6)	21.1	32.5	(11.5)	25.3	21.0
Individuals investors	20.7	20.8	(0.1)	20.7	23.7	(3.0)	24.5	22.0
PRO	34.4	35.2	(0.8)	34.4	21.5	12.9	29.2	34.6
Others	9.4	8.1	1.3	9.4	7.5	1.9	7.5	8.6

Source: NSE.
Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 130: Trends in share of client participation in Stock Futures at NSE (%)



Source: NSE.
Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

Share of proprietary traders and individual investors in index options witnessed an uptick in April: The percentage share of proprietary traders and individual investors in index options premium turnover expanded by 150bps MoM (+1150bps YoY) and 70bps MoM (-10bps YoY) in the month of April. The percentage share of FIIs in index, on the other hand, declined 100bps MoM and 460bps YoY to touch 13.3% - its lowest share in at least two (2) years. A similar trend was witnessed in the share of corporates in index options premium turnover.

While the share of proprietary traders in Index options declined nearly 14 percentage points from 53% of the total premium turnover in FY16 to 39% in FY21, they hold the largest share in index options premium turnover as on date. The fall in market share of prop traders was largely offset by a significant rise (10 percentage points) in the share of individual investors from 22% to 32% over the same period. Among other clients, share of Corporate declined nearly five (5) percentage points from 11% to 6% over the period, whereas FIIs' share increased from 11% to 16%. DIIs' investment remains negligible in the segment throughout the period due to regulatory restrictions in derivatives segment.

Figure 131: Share of client participation in Index Options of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Index Options (Premium Turnover)								
Corporates	4.8	5.0	(0.2)	4.8	8.4	(3.5)	5.8	5.4
DII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FII	13.3	14.3	(1.0)	13.3	18.0	(4.6)	15.6	14.2
Individuals investors	31.3	30.6	0.7	31.3	31.4	(0.1)	31.5	30.9
PRO	44.3	42.8	1.5	44.3	32.8	11.5	39.3	42.5
Others	6.3	7.3	(1.0)	6.3	9.5	(3.3)	7.7	7.1
Index Options (Notional Turnover)								
Corporates	5.5	5.5	(0.0)	5.5	8.6	(3.1)	6.5	5.9
DII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FII	12.0	12.8	(0.8)	12.0	16.7	(4.8)	13.1	12.4
Individuals investors	26.8	26.2	0.6	26.8	31.3	(4.5)	29.1	27.0
PRO	49.6	48.6	1.0	49.6	32.8	16.7	43.0	47.9
Others	6.3	7.0	(0.8)	6.3	10.6	(4.3)	8.2	6.9

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 132: Trends in share of client participation in Index Options (Notional Turnover) at NSE (%)

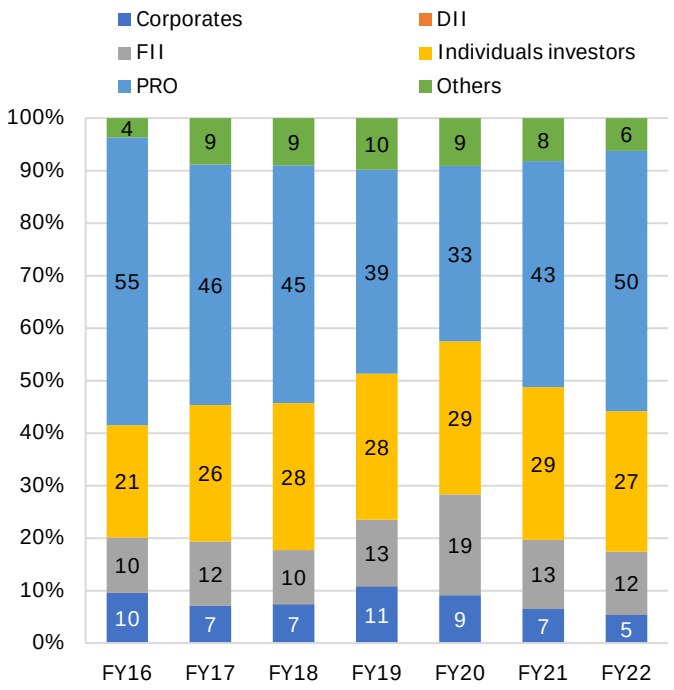
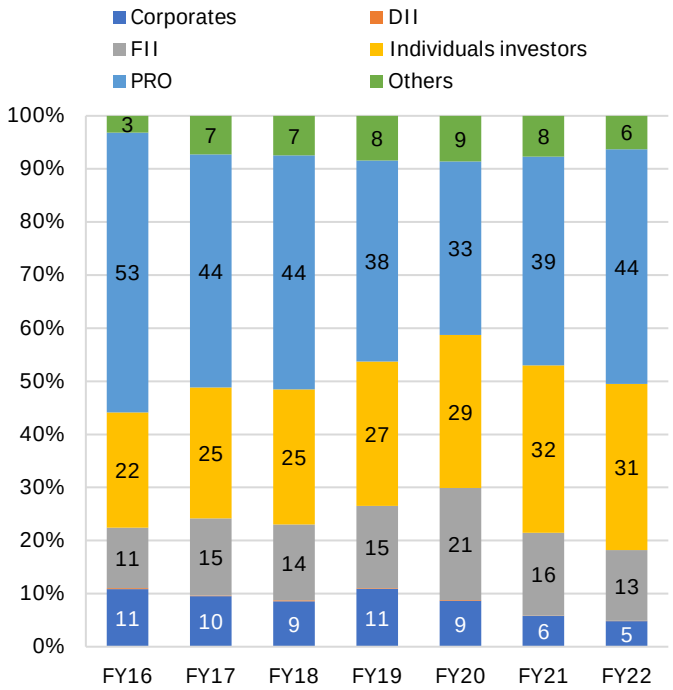


Figure 133: Trends in share of client participation in Index Options (Premium Turnover) at NSE (%)



Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

Share of retail investors in stock options premium turnover improved in April: The percentage share of retail investors in stock options premium turnover improved 110bps MoM to touch 31.4%, after falling for two consecutive months. Share of FIIs dropped marginally by 60bps MoM to 7.1%, after touching a 17-month high of 7.6% in previous month, while share of prop traders remained unchanged MoM.

While FIIs enjoy double-digit share in equity futures segment and index options segment, their share in stock options turnover has fallen significantly from 11% in FY16 to 5% in FY21, which was offset by proprietary traders and Individual investors. Out of total premium turnover in stock options, around 48% was contributed by Proprietary traders and 32% by Individual investors in FY21, which accounts for the largest share in equity options turnover.

Figure 134: Share of client participation in Stock Options of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Stock Options (Premium turnover)								
Corporates	4.9	5.6	(0.7)	4.9	6.4	(1.5)	5.3	5.1
DII	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0
FII	7.1	7.6	(0.5)	7.1	4.6	2.5	5.2	6.6
Individuals investors	31.4	30.2	1.1	31.4	33.3	(1.9)	32.4	31.4
PRO	50.7	50.7	(0.0)	50.7	43.5	7.2	47.7	49.5
Others	5.9	5.8	0.1	5.9	12.2	(6.4)	9.4	7.4
Stock Options (Notional turnover)								
Corporates	4.8	5.7	(0.9)	4.8	6.9	(2.1)	5.5	5.1
DII	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0
FII	8.6	9.4	(0.7)	8.6	5.8	2.8	6.8	8.2
Individuals investors	29.7	28.9	0.8	29.7	33.5	(3.7)	31.1	29.9
PRO	50.7	50.0	0.8	50.7	42.4	8.3	47.3	49.2
Others	6.0	6.0	0.0	6.0	11.3	(5.3)	9.3	7.5

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 135: Trends in share of client participation in Stock Options (Notional Turnover) at NSE (%)

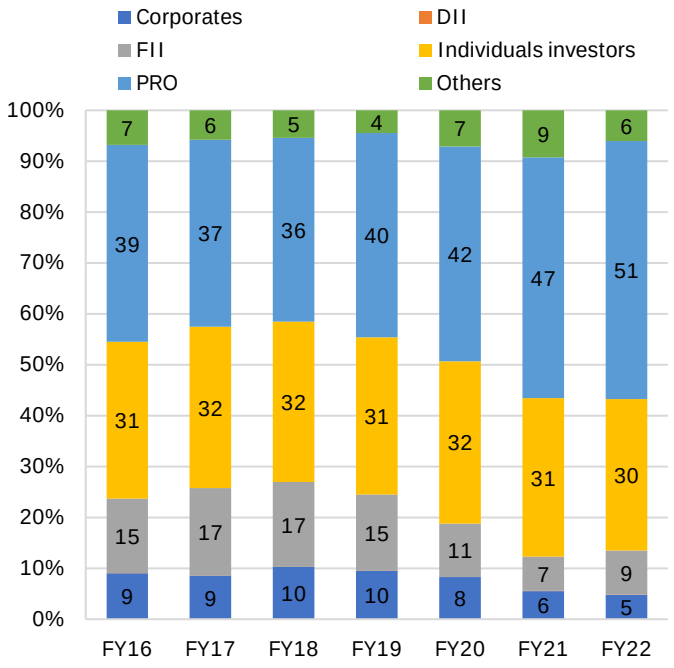
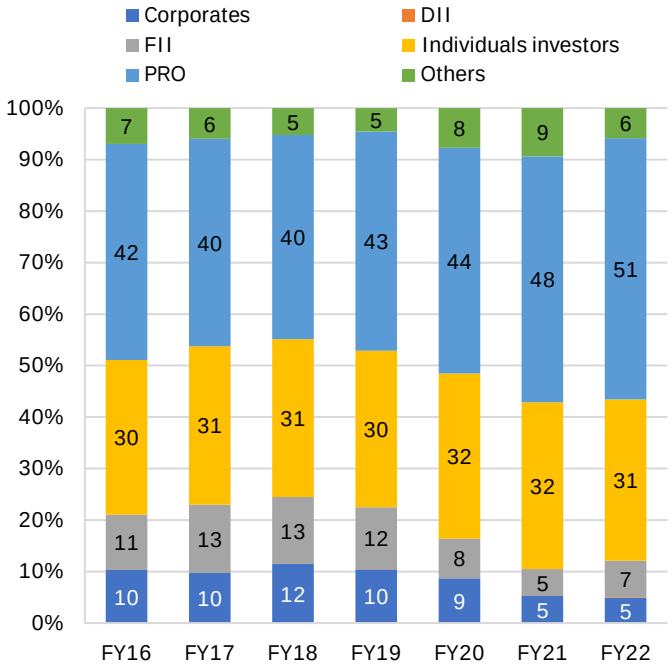


Figure 136: Trends in share of client participation in Stock Options (Premium Turnover) at NSE (%)



Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

Share of proprietary traders in currency derivatives touched the highest level in two years: The percentage share of proprietary traders in currency derivatives premium tunover improved 260bps MoM to touch 51% - the highest level in last two years. The percentage share of proprietary traders has risen for three consecutive months. The share of banks, on the other hand, contracted 230bps MoM to touch 8.2%, falling for two months sequentially after touching 11.9% in February – the highest level in last two financial years.

Proprietary traders-excl. banks maintained the highest market share in the currency segment, even as their share declined significantly over the last six years from 49% in FY16 to 43% in FY21, while share of banks' turnover declined from 16% to 8% respectively. Among other categories, Individual investors have been able to increase their share in these segments during this period from 12% in FY16 to 22% in FY21. FIIs have gained a significant share in Currency futures since FY19, while DIIs—excluding banks do not have much presence in both futures and options.

Figure 137: Share of client participation in Currency Derivatives segment of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Currency Derivates (Premium Turnover)								
Corporates	7.9	8.8	(0.9)	7.9	9.4	(1.5)	8.9	9.0
FII	11.2	10.6	0.5	11.2	18.0	(6.8)	14.5	11.2
Banks	8.2	10.5	(2.3)	8.2	8.1	0.1	8.7	9.9
DII ex-banks	0.3	0.3	(0.0)	0.3	0.1	0.2	0.2	0.4
PRO ex-banks	51.0	48.4	2.6	51.0	36.9	14.1	43.4	47.2
Individuals investors	19.5	19.8	(0.3)	19.5	22.9	(3.4)	21.9	20.4
Others	1.9	1.5	0.4	1.9	4.6	(2.6)	2.4	1.9
Currency Derivatives (Notional Turnover)								
Corporates	5.8	6.8	(1.0)	5.8	7.4	(1.6)	7.2	6.9
FII	8.0	7.3	0.7	8.0	10.7	(2.7)	8.9	7.8
Banks	4.0	5.4	(1.5)	4.0	5.2	(1.3)	5.4	5.2
DII ex-banks	0.1	0.1	(0.0)	0.1	0.1	0.1	0.1	0.2
PRO ex-banks	57.1	54.6	2.5	57.1	47.4	9.7	50.5	53.2
Individuals investors	21.8	22.4	(0.6)	21.8	24.7	(2.9)	24.0	23.2
Others	3.2	3.3	(0.2)	3.2	4.4	(1.3)	3.9	3.5

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 138: Trends in share of client participation in Currency Derivatives (Notional Turnover) at NSE (%)

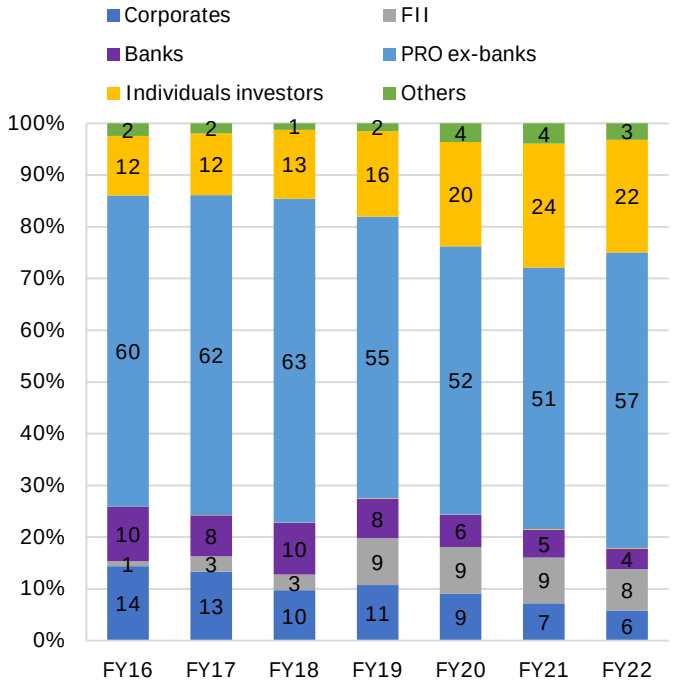
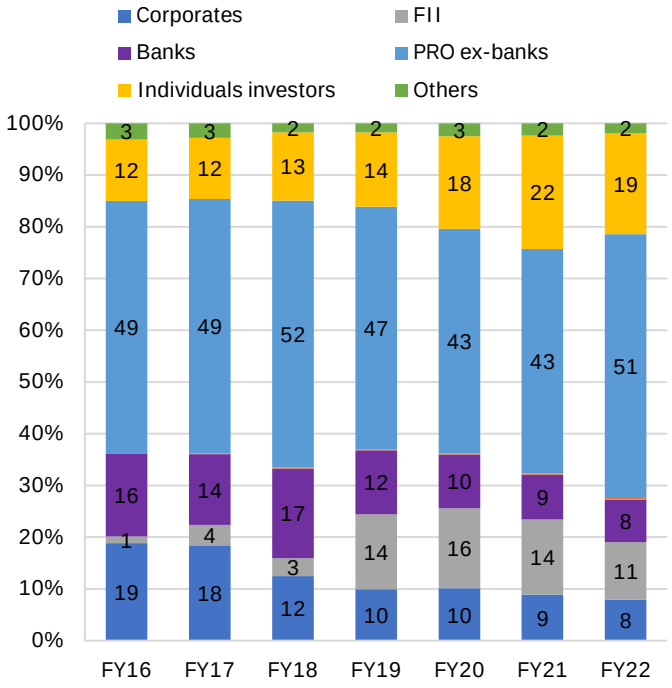


Figure 139: Trends in share of client participation in Currency Derivatives (Premium Turnover) at NSE (%)



Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021. Figures in brackets indicate negative numbers. *percentage points

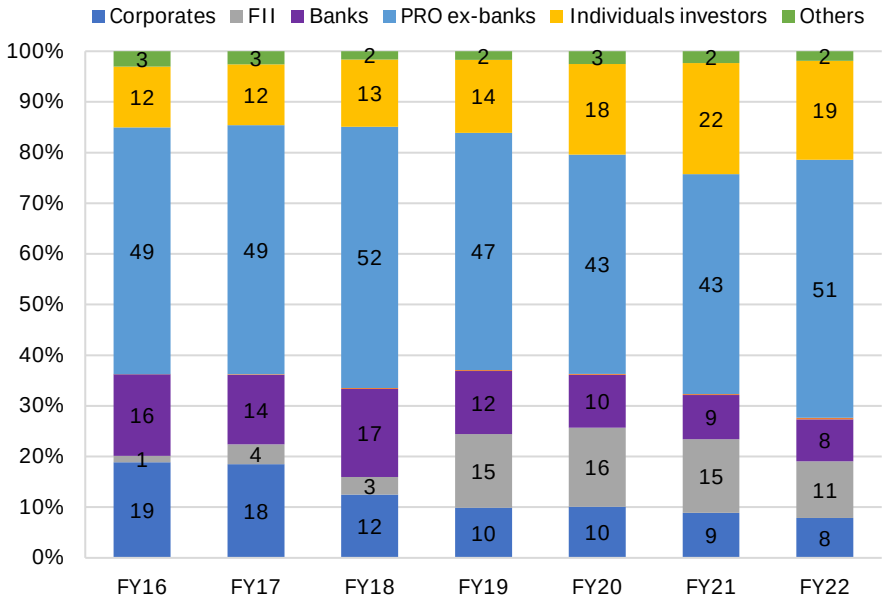
Figure 140: Share of client participation in Currency Futures of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Currency Futures								
Corporates	7.9	8.8	(0.9)	7.9	9.4	(1.5)	8.9	9.0
FII	11.2	10.6	0.5	11.2	18.1	(6.9)	14.5	11.2
Banks	8.2	10.5	(2.3)	8.2	8.1	0.1	8.7	9.9
DII ex-banks	0.3	0.3	(0.0)	0.3	0.1	0.2	0.2	0.4
PRO ex-banks	51.0	48.4	2.6	51.0	36.8	14.1	43.4	47.2
Individuals investors	19.5	19.8	(0.3)	19.5	22.9	(3.4)	21.9	20.4
Others	1.9	1.5	0.4	1.9	4.6	(2.6)	2.4	1.9

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 141: Trends in share of client participation in Currency Futures at NSE (%)



Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

Figure 142: Share of client participation in Currency Options of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Currency Options (Premium Turnover)								
Corporates	5.4	8.0	(2.6)	5.4	6.9	(1.5)	7.5	7.4
FII	8.8	7.1	1.7	8.8	2.5	6.2	4.7	7.5
Banks	1.3	2.0	(0.7)	1.3	3.5	(2.2)	2.5	1.7
DII ex-banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRO ex-banks	63.2	60.5	2.7	63.2	63.8	(0.6)	61.6	60.4
Individuals investors	19.6	20.7	(1.1)	19.6	21.4	(1.8)	21.4	21.0
Others	1.8	1.8	(0.0)	1.8	1.9	(0.1)	2.2	2.0
Currency Options (Notional Turnover)								
Corporates	4.4	5.4	(1.0)	4.4	5.0	(0.6)	5.6	5.3
FII	5.9	5.0	0.9	5.9	2.3	3.6	3.8	5.2
Banks	1.1	1.8	(0.7)	1.1	1.9	(0.8)	2.4	1.6
DII ex-banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRO ex-banks	61.2	59.1	2.2	61.2	59.6	1.6	57.0	57.8
Individuals investors	24.4	25.5	(1.1)	24.4	28.8	(4.4)	27.4	26.6
Others	2.9	3.2	(0.3)	2.9	2.3	0.6	3.7	3.4

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 143: Trends in share of client participation in Currency Options (Notional Turnover) at NSE (%)

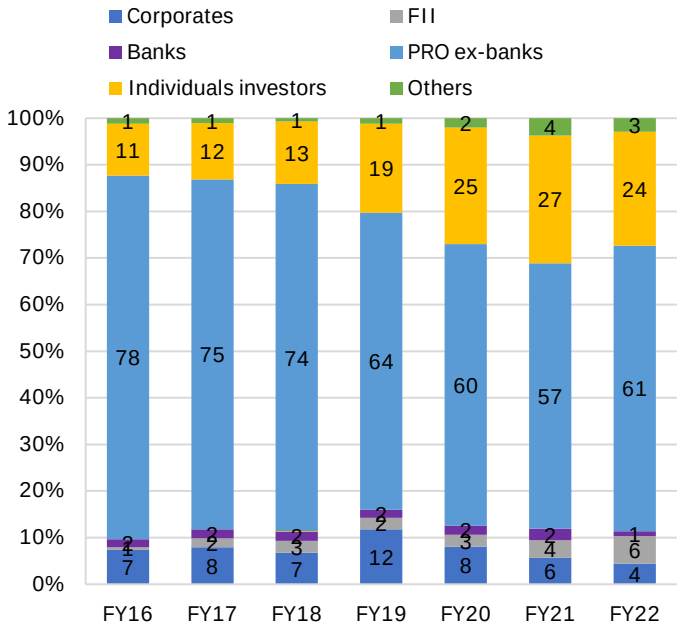
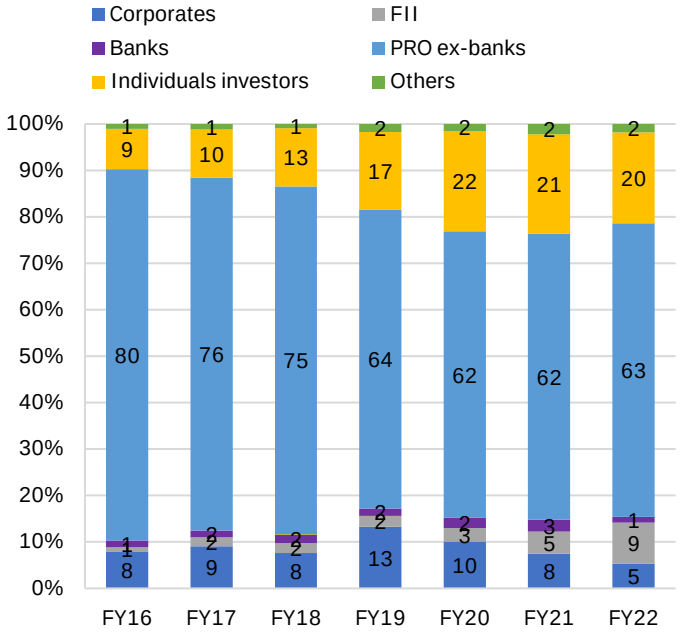


Figure 144: Trends in share of client participation in Currency Options (Premium Turnover) at NSE (%)



Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

Share of proprietary traders in interest rate futures improved as retain participation dropped: The percentage share of proprietary traders improved 1980bps MoM to touch a 13-month high of 38.5%, as a result of decline in share of individual investors that contracted 1460bps MoM to touch – the lowest share in 13 months.

The distribution of turnover in interest rate futures across client categories changed significantly, particularly in FY21 as compared to the previous fiscal years. While, the participation of retail client, banks and corporate in the interest rate futures has inched up in FY21, the share of Proprietary traders—excluding banks declined 23 percentage points from 52% in FY19 to 28% in FY21. Notably, the market share of banks has risen from 16% in FY16 to 27% in FY21.

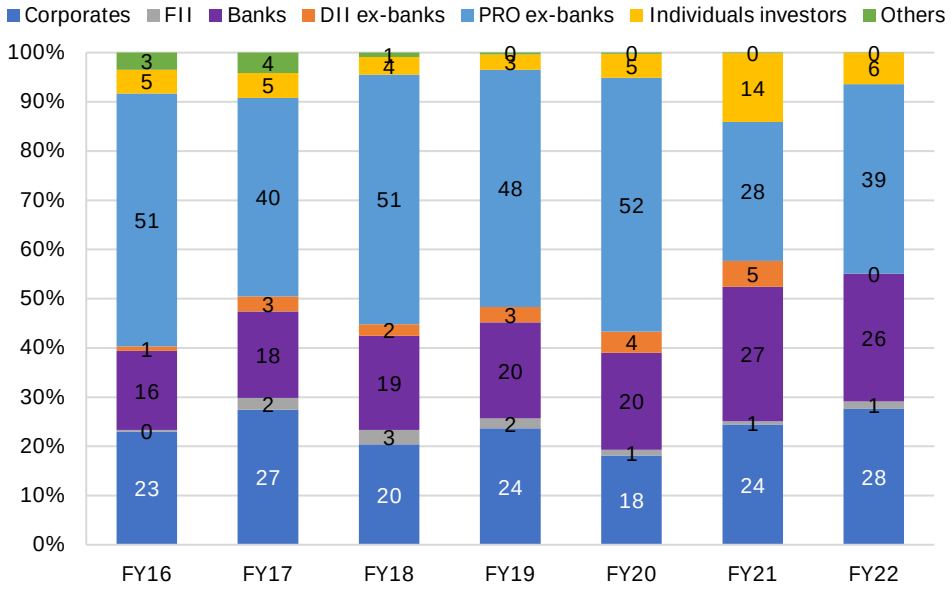
Figure 145: Share of client participation in Interest Rate Futures of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Interest rate futures								
Corporates	27.7	24.7	3.0	27.7	27.4	0.3	24.4	24.4
FII	1.4	0.8	0.7	1.4	0.9	0.5	0.7	0.8
Banks	26.0	26.5	(0.5)	26.0	22.6	3.4	27.3	26.2
DII ex-banks	0.0	8.4	(8.4)	0.0	3.5	(3.5)	5.3	5.3
PRO ex-banks	38.5	18.7	19.8	38.5	34.7	3.8	28.2	25.4
Individuals investors	6.4	21.0	(14.6)	6.4	10.7	(4.3)	14.0	17.9
Others	0.0	0.0	(0.0)	0.0	0.2	(0.2)	0.1	0.0

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Figures in brackets indicate negative numbers. *percentage points

Figure 146: Trends in share of client participation in Interest Rate Futures at NSE (%)



Source: NSE.
Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. FY22 considers data till April 2021.

Figure 147: Share of client participation in Interest Rate Options of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Interest rate options (Premium Turnover)								
Corporates	0.0	0.0	NA	0.0	39.3	NA	41.6	0.0
FII	0.0	0.0	NA	0.0	0.0	NA	0.0	0.0
Banks	0.0	0.0	NA	0.0	26.8	NA	18.9	0.0
DII ex-banks	0.0	0.0	NA	0.0	0.0	NA	0.0	0.0
PRO ex-banks	0.0	0.0	NA	0.0	28.1	NA	33.0	0.0
Individuals investors	0.0	0.0	NA	0.0	5.9	NA	6.5	0.0
Others	0.0	0.0	NA	0.0	0.0	NA	0.0	0.0
Interest rate options (Notional Turnover)								
Corporates	0.0	0.0	NA	0.0	44.2	NA	47.2	0.0
FII	0.0	0.0	NA	0.0	0.0	NA	0.0	0.0
Banks	0.0	0.0	NA	0.0	26.2	NA	15.6	0.0
DII ex-banks	0.0	0.0	NA	0.0	0.0	NA	0.0	0.0
PRO ex-banks	0.0	0.0	NA	0.0	22.5	NA	30.5	0.0
Individuals investors	0.0	0.0	NA	0.0	7.1	NA	6.6	0.0
Others	0.0	0.0	NA	0.0	0.0	NA	0.0	0.0

Source: NSE.
Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Interest rate options were introduced in December 2019. Figures in brackets indicate negative numbers. *percentage points.

Figure **148**: Share of client participation in Interest Rate Derivatives segment of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Interest rate derivatives (Premium Turnover)								
Corporates	27.7	24.7	3.0	27.7	27.4	0.3	24.4	24.4
FII	1.4	0.8	0.7	1.4	0.9	0.5	0.6	0.8
Banks	26.0	26.5	(0.5)	26.0	22.6	3.4	27.3	26.2
DII ex-banks	0.0	8.4	(8.4)	0.0	3.5	(3.5)	5.3	5.3
PRO ex-banks	38.5	18.7	19.8	38.5	34.7	3.8	28.2	25.4
Individuals investors	6.4	21.0	(14.6)	6.4	10.7	(4.3)	14.0	17.9
Others	0.0	0.0	(0.0)	0.0	0.2	(0.2)	0.1	0.0
Interest rate derivatives (Notional Turnover)								
Corporates	27.7	24.7	3.0	27.7	27.9	(0.2)	24.6	24.4
FII	1.4	0.8	0.7	1.4	0.9	0.5	0.6	0.8
Banks	26.0	26.5	(0.5)	26.0	22.7	3.3	27.2	26.2
DII ex-banks	0.0	8.4	(8.4)	0.0	3.4	(3.4)	5.2	5.3
PRO ex-banks	38.5	18.7	19.8	38.5	34.3	4.2	28.2	25.4
Individuals investors	6.4	21.0	(14.6)	6.4	10.6	(4.2)	13.9	17.9
Others	0.0	0.0	(0.0)	0.0	0.2	(0.2)	0.1	0.0

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. Interest rate options were introduced in December 2019. Figures in brackets indicate negative numbers. *percentage points.

Proprietary traders and corporates comprise major investors in the commodities derivatives segment: While proprietary traders comprise nearly 90% of the overall commodities derivatives segment, corporates and individual investors have comparatively higher participation in the commodities options segment, comprising nearly 44% as on end of FY21. Their respective shares in commodities futures segment amount to 3.5% and 0.5% during the same period. April witnessed the share of proprietary traders contracted by 200bps MoM in commodities futures segment and 940bps MoM in commodities options segment (premium turnover), resulting in a contraction of 250bps MoM in the overall commodities derivatives segment.

Figure **149**: Share of client participation in Commodity deivatives segment of NSE (%)

Client category	Apr-21	Mar-21	Change*	FY22TD	FY21TD	Change*	FY21	CY21TD
Commodities futures								
Corporates	2.3	0.4	1.9	2.3	20.3	(18.0)	3.5	0.7
DII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Individuals investors	0.3	0.3	(0.0)	0.3	3.6	(3.3)	0.5	0.3
PRO	97.2	99.2	(2.0)	97.2	76.1	21.1	95.7	98.7
Others	0.2	0.1	0.1	0.2	0.0	0.2	0.3	0.2
Commodities options (Premium Turnover)								
Corporates	34.9	10.1	24.7	34.9	NA	NA	12.7	18.6
DII	0.0	0.0	0.0	0.0	NA	NA	0.0	0.0
FII	0.0	0.0	0.0	0.0	NA	NA	0.0	0.0
Individuals investors	6.5	8.6	(2.2)	6.5	NA	NA	20.8	6.3
PRO	52.5	62.0	(9.4)	52.5	NA	NA	57.2	58.6
Others	6.1	19.3	(13.1)	6.1	NA	NA	9.3	16.4
Commodities derivatives (Premium Turnover)								
Corporates	2.9	0.5	2.4	2.9	20.3	(17.4)	4.0	1.0
DII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Individuals investors	0.4	0.3	0.0	0.4	3.6	(3.2)	1.5	0.4
PRO	96.5	98.9	(2.5)	96.5	76.1	20.4	93.8	98.2
Others	0.3	0.2	0.0	0.3	0.0	0.3	0.7	0.4
Commodities options (Notional Turnover)								
Corporates	17.7	10.5	7.3	17.7	NA	NA	13.3	13.4
DII	0.0	0.0	0.0	0.0	NA	NA	0.0	0.0
FII	0.0	0.0	0.0	0.0	NA	NA	0.0	0.0
Individuals investors	10.0	8.2	1.7	10.0	NA	NA	19.7	6.8
PRO	54.8	61.2	(6.5)	54.8	NA	NA	57.0	58.7
Others	17.5	20.1	(2.6)	17.5	NA	NA	10.1	21.0
Commodities derivatives (Notional Turnover)								
Corporates	11.8	4.6	7.2	11.8	20.3	(8.5)	11.3	7.9
DII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FII	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Individuals investors	6.2	3.6	2.6	6.2	3.6	2.6	15.9	4.0
PRO	71.2	83.3	(12.2)	71.2	76.1	(4.9)	64.6	76.3
Others	10.8	8.4	2.4	10.8	0.0	10.8	8.1	11.9

Source: NSE.

Note: DII: Domestic Institutional Investors, FII: Foreign Institutional Investors, Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, AIF, Depository Receipts, PMS clients, Statutory Bodies, FDI, OCB, FNs, QFIs, VC Funds, NBFC, etc. NSE commenced trading in Commodity Derivatives with the launch of bullion futures on October 12, 2018. NSE launched commodities options contracts on June 8th, 2020 by introducing options contracts in gold mini. Figures in brackets indicate negative numbers. *percentage points.

Asset category-wise open interest (average daily volume)

Figure 150: Average daily volume of open interest in Equity derivatives (million contracts)

Product	Apr-21	Mar-21	% Change	FY22TD	FY21TD	% Change	FY21	CY21TD
Equity Derivatives								
FUTSTK	4,197	4,470	(6.1)	4,197	2,845	47.5	3,541	4,315
OPTSTK	2,798	2,998	(6.7)	2,798	917	205.0	2,190	2,963
Equity Derivatives - Index Futures								
BANKNIFTY	1.8	2.9	(37.6)	1.8	1.3	45.2	1.8	2.1
NIFTY	10.3	12.5	(17.3)	10.3	11.5	(10.3)	12.3	12.3
FINNIFTY	0.0	0.0	(12.7)	0.0	-	NA	0.0	0.0
NIFTYIT	-	-	NA	-	0.0	(100.0)	0.0	-
Equity Derivatives - Index Options								
BANKNIFTY	29.1	29.4	(0.8)	29.1	9.3	214.0	22.9	29.6
NIFTY	153.4	157.5	(2.6)	153.4	89.1	72.1	134.6	152.8
FINNIFTY	0.2	0.2	(13.8)	0.2	0.0	NA	0.1	0.3
NIFTYIT	-	-	NA	-	-	NA	0.0	-

Source: NSE Note: FUTSTK: Stock Futures, OPTSTK: Stock Options; Figures in brackets indicate negative numbers.

Figure 151: Average daily volume of open interest in Currency derivatives (no of contracts)

Category	Apr-21	Mar-21	% Change	FY22TD	FY21TD	% Change	FY21	CY21TD
Futures								
EURINR	184,791	177,649	4.0	184,791	82,593	123.7	202,587	205,243
EURUSD	2,419	2,476	(2.3)	2,419	1,155	109.4	5,343	3,218
GBPINR	267,673	261,361	2.4	267,673	47,787	460.1	147,064	280,121
GBPUSD	2,629	2,131	23.4	2,629	1,060	148.0	2,845	3,495
JPYINR	26,454	44,547	(40.6)	26,454	37,312	(29.1)	37,118	36,658
USDINR	4,551,749	4,750,769	(4.2)	4,551,749	4,654,636	(2.2)	3,248,736	4,466,406
USDJPY	496	368	34.6	496	57	765.9	96	260
Options								
EURINR	4,839	5,985	(19.1)	4,839	6	79771.8	3,664	8,403
EURUSD	0	0	NA	0	0	NA	0	0
GBPINR	17,057	24,412	(30.1)	17,057	0	NA	10,551	22,707
GBPUSD	0	0	NA	0	0	NA	5	0
JPYINR	65	91	(28.3)	65	2	4000.0	100	86
USDINR	4,232,644	4,705,338	(10.0)	4,232,644	2,278,731	85.7	3,591,791	4,482,346

Source: NSE Note: Figures in brackets indicate negative numbers.

Figure 152: Average daily volume of open interest in Interest rate derivatives (no of contracts)

Category	Apr-21	Mar-21	% Change	FY22TD	FY21TD	% Change	FY21	CY21TD
Interest rate futures	59,708	60,173	(0.8)	59,708	85,348	(30.0)	67,667	56,635
Interest rate options	-	-	NA	-	5,344	(100.0)	1,579	-

Source: NSE Note: Figures in brackets indicate negative numbers.

Figure 153: Average daily volume of open interest in Commodities derivatives (no of contracts)

Category	Apr-21	Mar-21	% Change	FY22TD	FY21TD	% Change	FY21	CY21TD
Commodities futures	100	57	77.1	100	23	332.5	34	69
Commodities options	2,745	3,041	(9.7)	2,745	-	NA	2,868	2,814

Source: NSE Note: Figures in brackets indicate negative numbers. NSE commenced trading in Commodity Derivatives with the launch of bullion futures on October 12, 2018. NSE launched commodities options contracts on June 8th, 2020 by introducing options contracts in gold mini.

Internet-based trading

Average daily gross turnover through internet trading inched up in April: ADT of internet-based trading (IBT) increased 12.5% MoM and 28.9% YoY in cash segment to touch Rs161bn and declined marginally by 1% MoM (+27.7% YoY) in equity derivatives segment to touch Rs317bn at a gross level. The increase in average daily internet-based trades was in-line with the increase in the share of individual investors in NSE's CM turnover witnessed during the month. Average daily turnover in currency derivatives through IBT increased by 27.9% MoM and 30.7% YoY in April, as currency futures and option both clocked a rise in turnover through IBT. The ADT in interest rate derivatives, however, witnessed a decline of 65.6% MoM and 64.2% YoY during the same period.

Barring the declines in the last two months of FY21, IBT strengthened across all segments of NSE except interest rate derivatives as compared to the same period in the previous fiscal, largely led by increase in retail participation in these segments. On an average, daily turnover through internet-based trading rose by 70% YoY in Cash market to reach Rs154bn in FY21 (vs. Rs91bn over the same period in FY20).

A similar trend was recorded for Equity derivatives segment as well, where the average daily turnover rose by 43.1% YoY over the same period to reach Rs311bn in FY21 *vs* Rs217bn in the previous fiscal year. The trend in IBT has gained momentum since March'20 due to increased retail participation, particularly since the nationwide lockdown, as retail investors and traders started utilising this online platform to trade from their homes.

Figure 154: Average daily gross turnover through internet-based trading (Rsm)

Segment	Apr-21	Mar-21	% Change	FY22TD	FY21TD	% Change	FY21	CY21TD
Cash Market	161,993	143,952	12.5	161,993	125,639	28.9	154,332	166,243
Equity Derivatives	317,108	320,462	(1.0)	317,108	248,366	27.7	311,085	338,854
Index Futures	120,170	137,070	(12.3)	120,170	124,611	(3.6)	132,632	131,904
Stock Futures	147,089	135,251	8.8	147,089	103,951	41.5	147,547	160,949
Index Options	43,239	42,749	1.1	43,239	17,100	152.9	26,022	39,203
Stock Options	6,611	5,391	22.6	6,611	2,703	144.5	4,884	6,798
Currency Derivatives	55,227	43,194	27.9	55,227	42,261	30.7	39,960	42,758
Currency Futures	54,958	42,967	27.9	54,958	42,149	30.4	39,829	42,562
Currency Options	269	226	18.7	269	112	139.9	130	196
Interest Rate Derivatives	381	1,106	(65.6)	381	1,063	(64.2)	1,195	979
Interest Rate Futures	381	1,106	(65.6)	381	1,063	(64.2)	1,195	979
Interest Rate Options	0	0	NA	0	0	(100.0)	0	0
Commodity derivatives	0.8	1.4	(44.1)	0.8	0.9	(14.4)	4.1	2.3
Commodity futures	0.3	0.6	(55.0)	0.3	0.9	(69.0)	3.1	1.6
Commodity options	0.5	0.8	(35.0)	0.5	0.0	NA	1.0	0.7

Source: NSE. Note: Average daily trading turnover is the average of daily gross turnover i.e., buy side turnover + sell side turnover. *Premium turnover is considered in case of options contracts. Cash market turnover excludes auction market turnover. Figures in brackets indicate negative numbers.

Record statistics

NSE registered yet another record in January: Index options premium turnover touched a new record on January 28th, 2021 of Rs186bn in a single day. Previous record high in Index options were registered on December 22nd, 2020 to touch Rs171bn after creating a record on November 11th, 2020 to touch Rs164bn and on August 31st (Rs160bn) and March 19th (Rs146bn) this year. Stock options premium turnover also touched highest record on January 13th, 2021 to touch Rs56bn after touching Rs33bn on December 21st.

The volatility in Indian equities measured by India Volatility Index increased 46% in the last 12 months as result of sharp rise in trading across several segments. NSE hit record turnover in the Cash market to touch Rs1,475bn on November 27th, 2020 vs Rs990bn on August 31st and Rs835bn on May 29th in 2020. While other segments have recorded a significant growth in their average turnover this year, they did not cross their previous record levels. Index futures had recorded its highest turnover of Rs860bn on September 20th, 2019 after the Finance Minister slashed the corporate tax rate from 30% to 22%.

Figure 155: Segment-wise record turnover till March 31st, 2021

Segment	Turnover (Rsbn)	Trading Date
Cash market	1,475	27-Nov-20
Index futures	860	20-Sep-19
Stock futures	1,954	25-Jan-18
Index options (premium)	186	28-Jan-21
Stock options (premium)	56	13-Jan-21

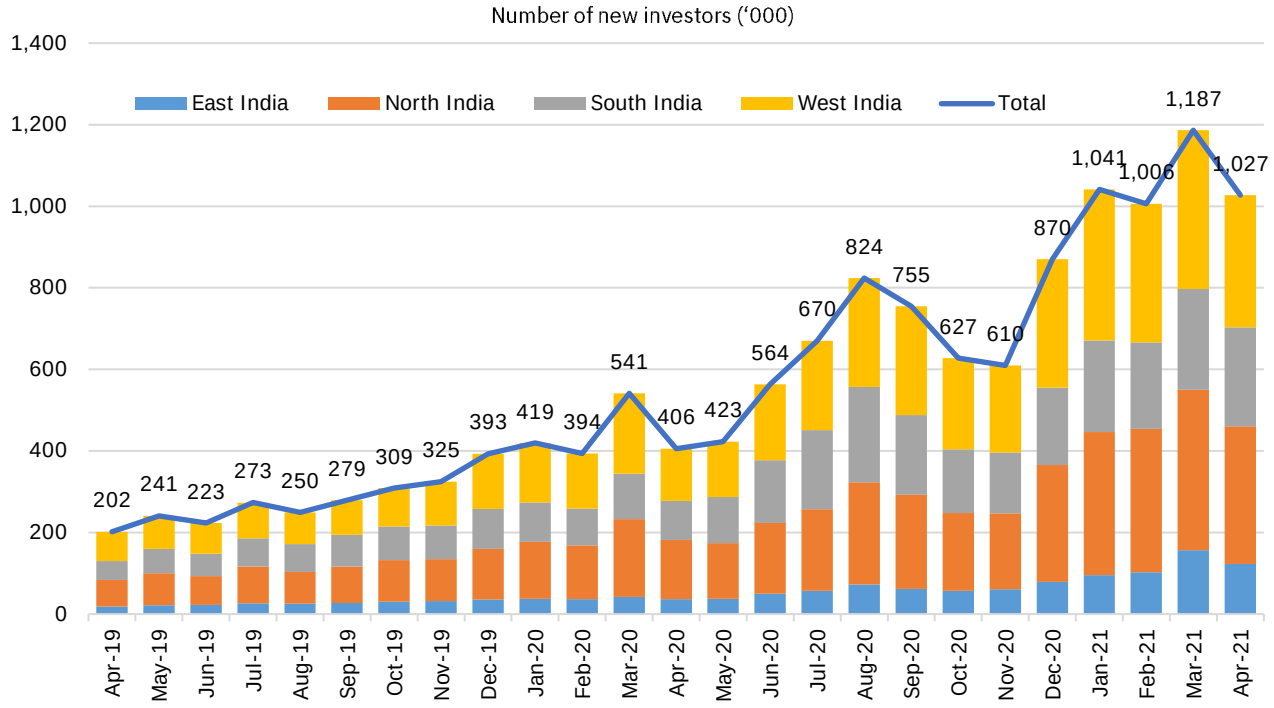
Source: NSE

Spatial distribution of trading activities

Region-wise distribution of new investors registered

Monthly registration of new investors fell 17% in Apr'21 to reach at 1,027 thousand as compared to 1,187 thousand over the previous month. Except a few months, total number of new registrations maintained a positive trajectory on average over the last two fiscal years. As shown in the following chart, monthly registration jumped up five times from 202 thousand in Apr'19 to 1,027 thousand in Mar'21 with a CAGR of 7%.

Figure 156: Region-wise distribution of new investors registered

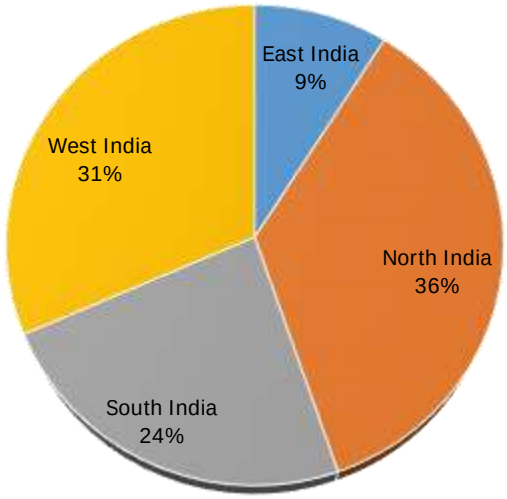


Source: NSE.

Note: East India includes Mizoram, Odisha, West Bengal, Assam, Manipur, Arunachal Pradesh, Tripura, Nagaland, Meghalaya, Sikkim, Chhattisgarh; West India includes Maharashtra, Gujarat, Madhya Pradesh, Daman & Diu, Goa, Dadra & Nagar Haveli; North India includes Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Haryana, Delhi, Punjab, Jammu & Kashmir, Himachal Pradesh, Chandigarh And Rajasthan; South India includes Telengana, Kerala, Andhra Pradesh, Tamil Nadu, Karnataka, Pondicherry, Lakshadweep And Andaman & Nicobar.

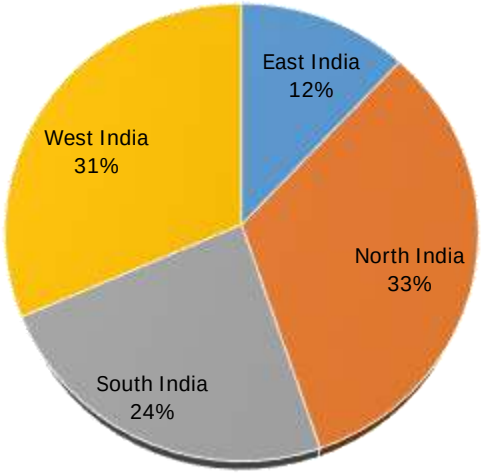
The distributional pattern across regions has slightly changed over the last two years. As of Apr'21, Northern part contributed around 33% of total registration which is around 3 percentage point lower than 36% in Apr'20. The share of total registration in Western and Southern regions remained similar at 31% and 24%, respectively over the period. In contrast, East India's share has increased from merely 9% in Apr'20 to 12% in Apr'21.

Figure 157: Share of new investors across regions in Apr'**20**



Source: NSE.

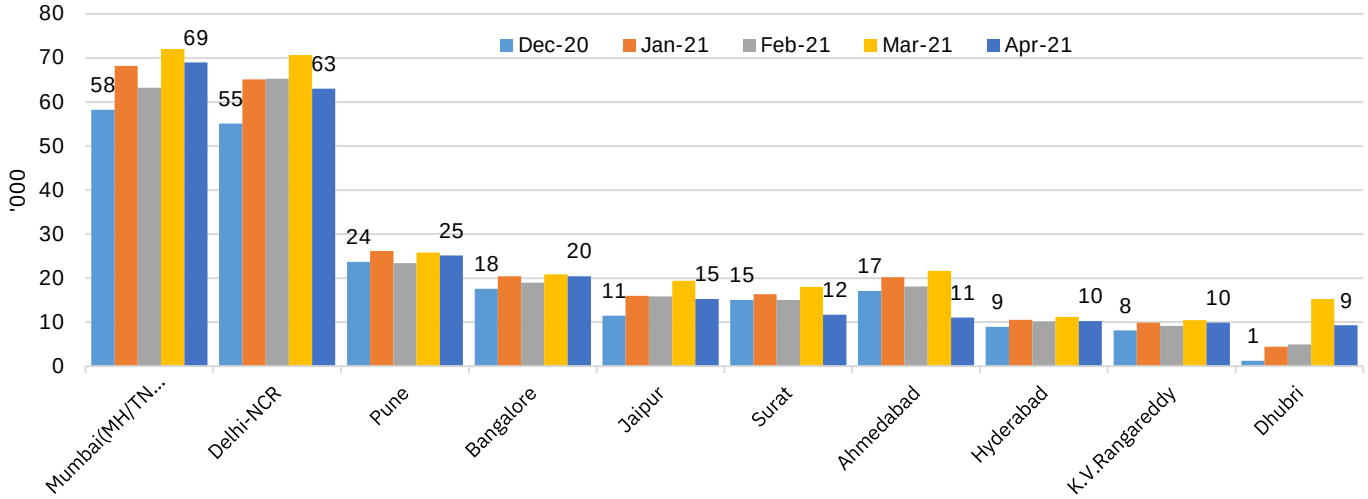
Figure 158: Share of new investors across regions in Apr'**21**



Source: NSE.

The share of new registration is concentrated further in few districts, as shown in the following chart. Over the month of April, top ten districts have contributed a total of 24% of total registration. Among them, around 6.7% of all new investors are from Mumbai region, which is marginally higher than Delhi (6.1%). Among others, 2.4% of all registration over the month happened in Pune, followed by Bangalore and Jaipur (2.0% and 1.5%). Unlike previous months, two districts from the state of Assam—Barpeta and Dhubri have seen a sudden rise in new registration and contributed around 1.7% and 1.3% of total registration in Mar'21 while Dhubri continued to be one among the top ten districts and contributed 0.9% of total registration in Apr'21. Besides, a significant number of investors are registered in Surat, Ahmedabad, Hyderabad and K. V. Rangareddy over the last month.

Figure 159: Number of new investors registered in top 10 districts



Source: NSE
Note: Top 10 districts are chosen based on the last month data.

Region-wise distribution of individual investor turnover in the cash market

Turnover of individual investors remained skewed positively in western and northern region: In Apr'21, Western and Northern regions contributed 36% and 29% of total turnover by individual investors, which is much higher than the other two regions. While the southern region contributed around 26% of total individual investors' turnover, the eastern region contributed remaining 9% over the month. The distributional pattern remained somewhat similar over the last fiscal year as well.

Figure 160: Region-wise distribution of individual **investors' turnover in cash market (%)**

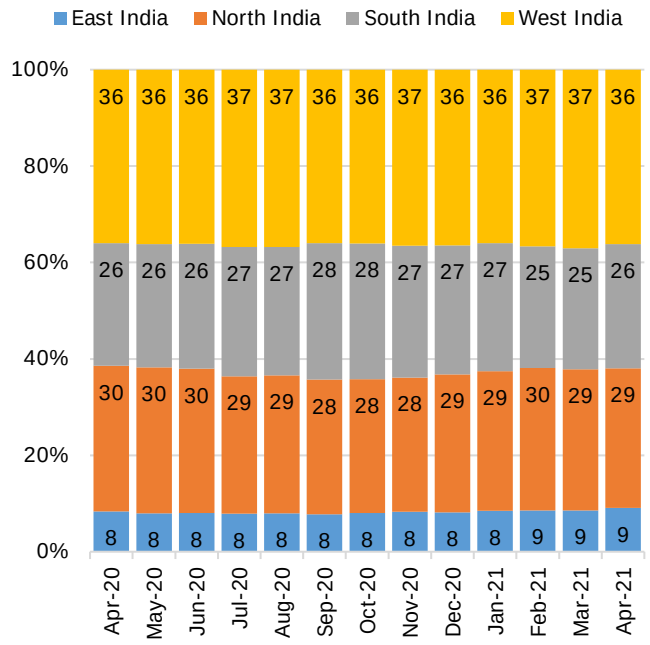
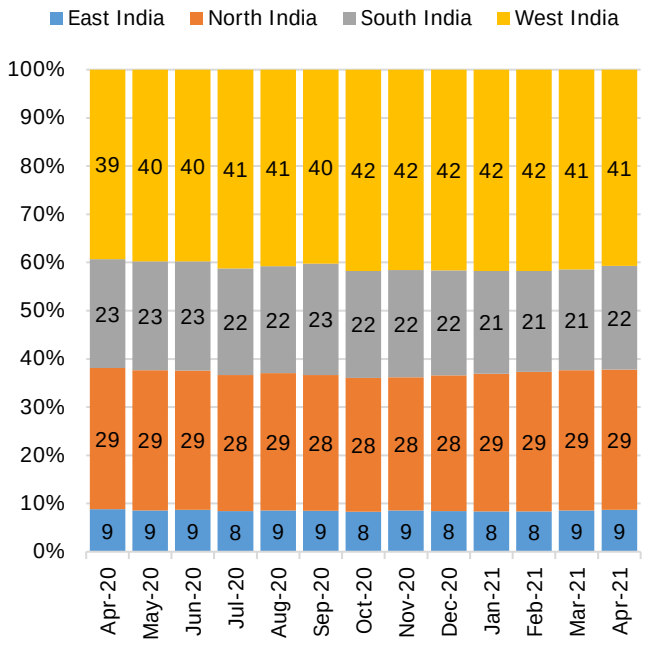


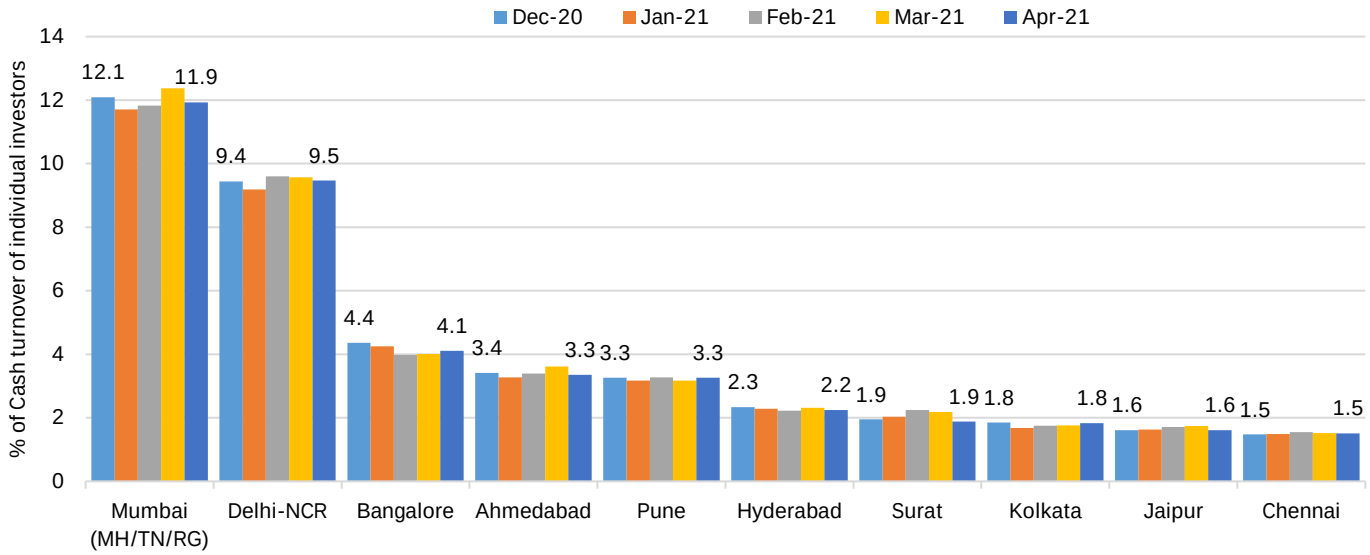
Figure 161: Region-wise distribution of individual **investors' traded volumes**



Source: NSE.

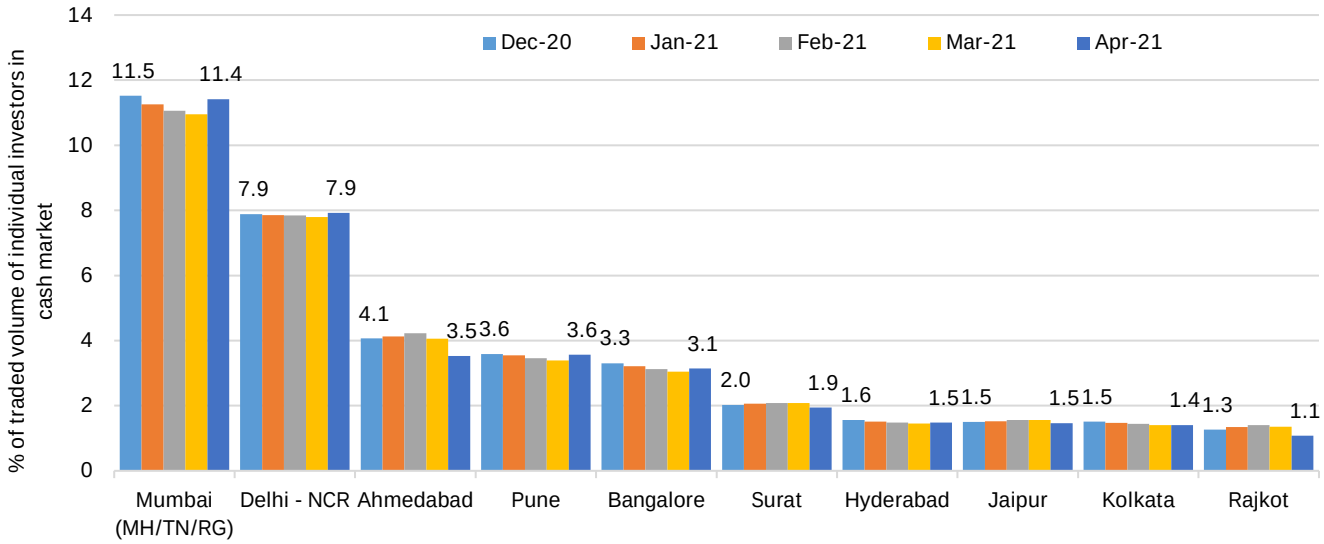
Like new investor registration, total turnover and trade volume of individual investors are further concentrated in a few districts over the last fiscal year. Out of total turnover, top ten districts contributed ~41.1% in Apr'21—marginally lower than 42.3% over the previous month, while they contributed ~37% to retail trade volume over both the months. Amongst them, Mumbai and Delhi have contributed around 11.9% and 9.5% of total turnover respectively over the month, which are somewhat similar than the previous months, while Pune contributed 3.4%, followed by Bangalore (3.3%) and Surat (2.2%) over the month.

Figure 162: Top 10 districts based on Cash turnover of individual investors



Source: NSE.
Note: Individual investors include Individual / Proprietorship firms and HUF. Top ten districts are chosen based on the last month data.

Figure 163: Top 10 districts based on individual investors traded



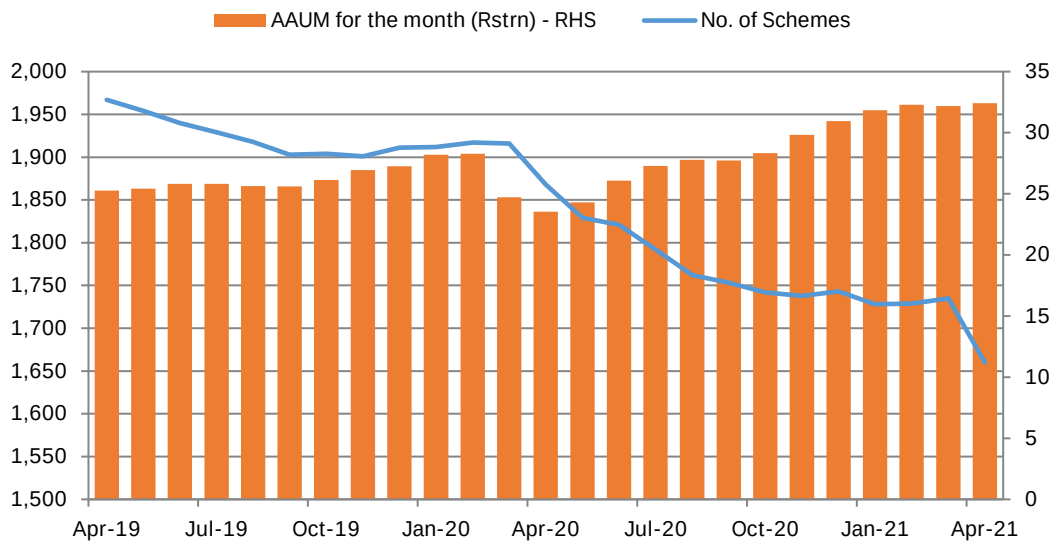
Source: NSE
Note: Individual investors include Individual / Proprietorship firms and HUF. Top ten districts are chosen based on the last month data.

Investment through mutual funds in India

Mutual funds' asset under management (AUM) grew slightly in Apr'21,...: Post a sharp contraction in average AUM over Mar-Apr'20, MFs registered a continuous recovery since May'20 with global market rally in equity prices, thanks to prompt fiscal and monetary responses in all major countries and continuous rise in FII net inflows over the period. Besides, the recent vaccination drives, continuous recovery in high frequency indicators reflects a sharp economic recovery globally. This may have helped MFs' average AUM to reach at a 2-year high of Rs32.4trn in Apr'21. However, the recent rise in coronavirus cases and slowdown in vaccination coverage in India may hamper the pace of economic recovery which may have negative impact on average AUM as well.

Total number of MF schemes fell further by 4% in Apr'21: Unlike AUM of MFs which registered record rise since May'20, total number of MF scheme continues to fall since March'20 from 1,916 to merely 1,735 in Mar'21 and further to 1,660 in Apr'21, largely due to recategorization and rationalisation of mutual funds by the market regulator, weakening debt market over the period, and rise in concentration to large-cap companies.

Figure 164: Monthly trend of total MF schemes and average AUM



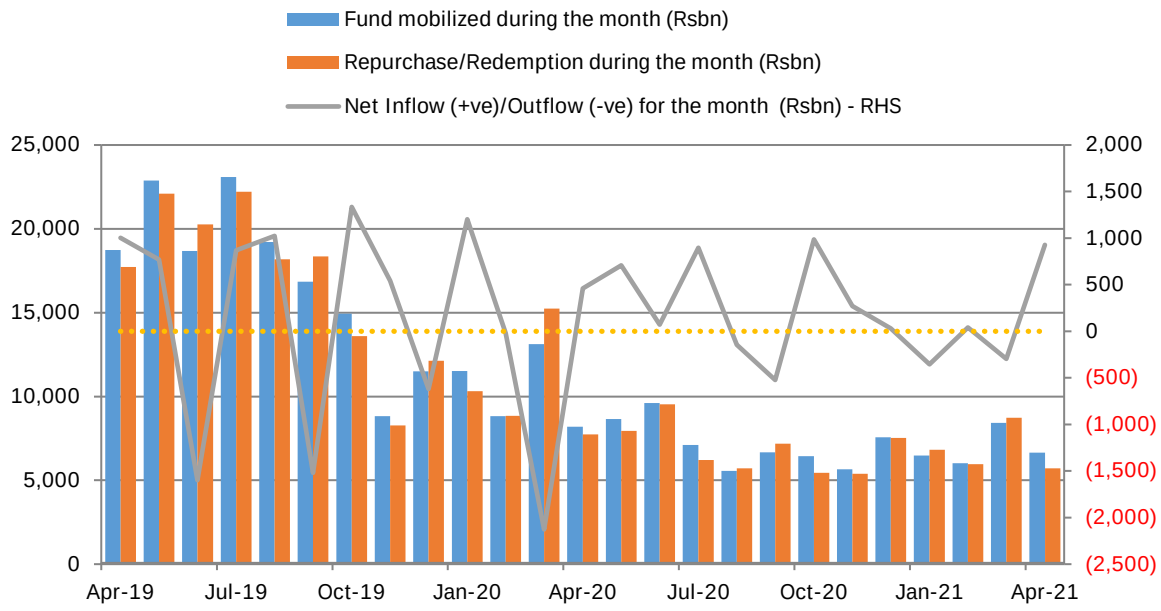
Source: AMFI. *AAUM-Average Asset under Management.

MFs' net purchase rose significantly in Apr'21: MFs' net investment jumped up in Apr'21 to Rs929bn as compared to Rs297bn net sales over the previous month and Rs460bn in Apr'20. There was a 102% rise in net investment on YoY basis, despite of sudden spike in coronavirus cases, slowdown in vaccination drive and rise in possibility of having a slow economic recovery in India.

The overall trend was quite volatile in over the previous two fiscal years, as shown in the following chart. Their net sales reached to a record high level of Rs2.1trn in Mar'20 before having Rs2.1trn net purchases over the next four months. Net investment again turned negative during Aug-Sep'20, followed by a temporary and marginal increase in net investment over Oct-Dec'20. Mutual funds turned net sellers in Q4-FY21 and recorded Rs612bn net sales over the period due to profit booking activities. In aggregate, however,

MFs net investment has been more than doubled in FY21 to Rs2.1trn as compare to Rs870 in FY20.

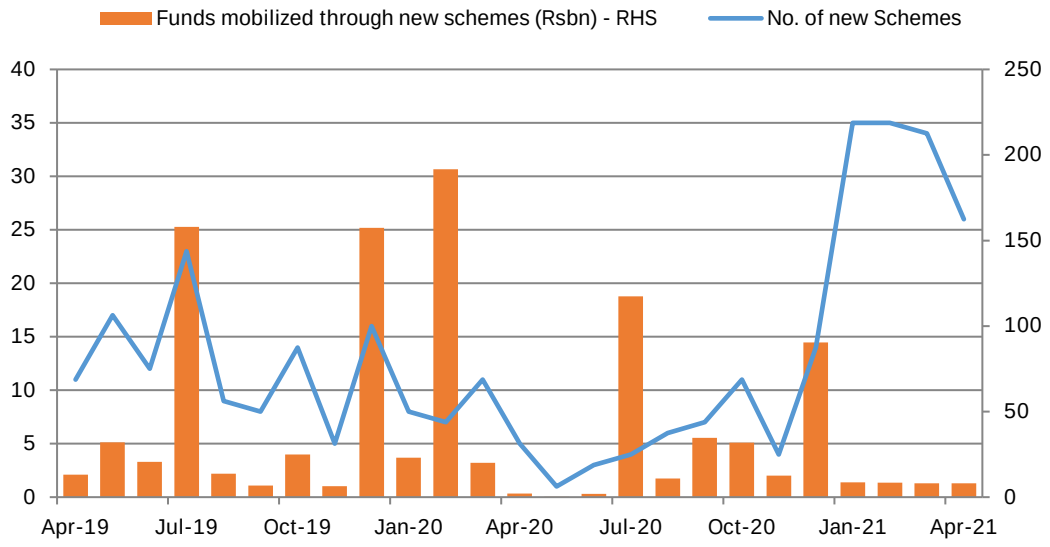
Figure 165: Monthly trend of total investment through mutual funds



Source: AMFI.

Number of new MF schemes fell sharply in Apr'21: Total number of MF schemes increased significantly in Jan'21 to 35 new schemes, vs. six new schemes on average over the previous nine months. Total number of new schemes remained elevated over the next two months as economic situation started showing signs of recovery. The situation reversed again in Apr'21 and number of new MF schemes fell by 24% to 26 in Apr'21 partly due to rise in uncertainty and volatility in market performance over the recent rise in coronavirus cases and slowdown in vaccination drive throughout the country. Total fund mobilisation through new schemes has, however, remained stable over the last four months. Average fund mobilisation through new funds was merely Rs8.3bn on average over Jan-Apr'21 as compared to Rs42.4bn on average over the previous four months.

Figure 166: Monthly trend of total investment through new schemes



Source: AMFI.

Policy developments

India

Policy measures by the SEBI during April 2021 [15]

April 22nd, 2021	Relaxations relating to procedural matters for Rights Issue –Issues and Listing SEBI vide dated May 6th, 2020 had granted one-time relaxations from strict enforcement of certain regulations of SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2018, pertaining to Rights Issue opening up to July 31st, 2020. As per the latest circular on this matter, the relaxations shall be applicable for Rights Issues opening up to September 30th, 2021, provided that the issuer along with the lead manager(s) shall continue to comply with point (v) of the May 6th circular. The issuer, lead manager(s), registrar and other recognized intermediaries (as incorporated in the mechanism) shall additionally ensure: 1. Refund for un-allotted / partial allotted application shall be completed on or before T+1 day (T: Basis of allotment day). 2. Registrar to the issue shall ensure that all data w.r.t. refund instructions is error free to avoid any technical rejections, and technical rejection of refund instruction shall be addressed promptly.
April 27th, 2021	Standardizing and strengthening policies on provisional rating by Credit Rating Agencies (CRAs) for Debt Instruments In view of strengthening and standardising the policies on provisional rating, SEBI has decided the following: 1. Rating Symbol: All Provisional Ratings ('long term' or 'short term')for debt instruments shall be prefixed as 'Provisional' before the rating symbol in all communications. 2. Standardized Term: A rating shall be considered as provisional, and not final, when it is contingent upon occurrence steps or execution of documents laid out in the circular. The provisional rating shall be converted into a final rating within 90 days from the date of issuance of the debt instrument. Final rating assigned after the end of 90 days shall be consistent with the available documents or completed steps, as applicable. An extension of 90 days may be granted on a case-to-case basis by the CRA's rating committee(s) and policies. No CRA shall assign any provisional rating to a debt instrument upon the expiry of 180 days from the date of its issuance. SEBI has laid out the disclosures required through Press Release/website, in addition to the ones already made by CRAs.
April 29th, 2021	Relaxation from compliance with certain provisions of the SEBI LODR, 2015 Because of the ongoing second wave of the CoVID-19 pandemic and restrictions imposed by various state governments, SEBI has decided to extend the timelines for various filings

[15] For more details, please visit http://www.sebi.gov.in

	and relaxation from certain compliance obligations under the LODR Regulations for the quarter/half -year/year ending March 31st, 2021 to June 30th, 2021
April 29th, 2021	Relaxation in timelines for compliance with regulatory requirements In light of the ongoing second wave of the CoVID-19 pandemic and restrictions imposed by various state governments, SEBI has decided to extend the timelines for various compliance with regulatory requirements by the trading members/clearing members/depository participants/ KYC registration agencies
April 29th, 2021	**Addendum to SEBI Circular on "Relaxation in adherence to prescribed timelines issued by SEBI due to Covid 19"** dated April 13th, 2020 SEBI circular dated April 13th, 2020 had provided relaxation in timelines for carrying out various shareholder requests and for other regulatory filings by RTAs in view of the Covid-19 pandemic. The April 13th circular listed 12 specific items wherein such relaxation in prescribed timelines were granted. SEBI has now decided to add, 'Processing of the demat requests' to this list.
April 30th, 2021	Extension of timelines for updation of Scheme Information Document (SID) and Key Information Memorandum (KIM) Taking into account the difficulties expressed by the industry in light of continuing COVID 19 scenario, it has been decided that the updation of SID and KIM for the half-year ended March, 2021 shall be completed by May 31, 2021.

Global policy developments

ESMA makes recommendations for Organised Trading Facilities under MIFID II/MIFIR[16]

ESMA published a final report on the functioning of Organised Trading Facilities. Trading on OTFs mainly takes place in bonds and derivatives. Wholesale market participants choose to trade on OTFs mainly for the market knowledge and network, which allow them to execute larger transactions, while limiting transaction costs. The report contains recommendations and possible amendments to MiFID II/MiFIR with a view to reducing the level of complexity for market participants and making the legal framework more effective. This report was submitted to the European Commission and is expected to be taken into consideration for further legislative proposals on the MiFID II regime.

[16] https://www.esma.europa.eu/sites/default/files/esma70-156-4225_mifid_ii_final_report_on_functioning_of_otf.pdf

Economic calendar for major countries (May 2021)

Date	Country	Indicator Name	Period	Reuters Poll	Prior Period	Unit
3 May 2021	India	IHS Markit Mfg PMI	Apr	51.6	55.4	Index (diffusion)
3 May 2021	Euro Zone	Markit Mfg Final PMI	Apr	63.3	63.3	Index (diffusion)
3 May 2021	Brazil	Markit Mfg PMI	Apr		52.8	Index (diffusion)
3 May 2021	United States	ISM Manufacturing PMI	Apr	65.0	64.7	Index
4 May 2021	Russia	Markit Mfg PMI	Apr		51.1	Index (diffusion)
4 May 2021	United Kingdom	Markit/CIPS Mfg PMI Final	Apr	60.7	60.7	Index (diffusion)
5 May 2021	India	IHS Markit Svcs PMI	Apr	51.1	54.6	Index (diffusion)
5 May 2021	South Africa	Std Bank Whole Econ PMI	Apr		50.3	Index (diffusion)
5 May 2021	Euro Zone	Markit Serv Final PMI	Apr	50.3	50.3	Index (diffusion)
5 May 2021	Brazil	Industrial Output YY	Mar	7.6%	0.4%	Percent
5 May 2021	United States	ADP National Employment	Apr	800k	517k	Person
5 May 2021	Brazil	Markit Services PMI	Apr		44.1	Index (diffusion)
5 May 2021	United States	ISM N-Mfg PMI	Apr	64.3	63.7	Index
6 May 2021	Brazil	Selic Interest Rate	6 May	3.50%	2.75%	Percent
6 May 2021	Russia	Markit Services PMI	Apr		55.8	Index (diffusion)
6 May 2021	United Kingdom	Markit/CIPS Serv PMI Final	Apr	60.1	60.1	Index (diffusion)
6 May 2021	United Kingdom	BOE Bank Rate	May	0.10%	0.10%	Percent
7 May 2021	Japan	Services PMI	Apr		48.3	Index (diffusion)
7 May 2021	China (Mainland)	Caixin Services PMI	Apr		54.3	Index (diffusion)
7 May 2021	United States	Non-Farm Payrolls	Apr	978k	916k	Person
7 May 2021	Russia	CPI YY	Apr	5.5%	5.8%	Percent
11 May 2021	China (Mainland)	CPI YY	Apr	1.0%	0.4%	Percent
12 May 2021	United Kingdom	Industrial Output YY	Mar	2.9%	-3.5%	Percent
12 May 2021	United Kingdom	GDP Prelim YY	Q1	-6.1%	-7.3%	Percent
12 May 2021	Euro Zone	Industrial Production YY	Mar	11.7%	-1.6%	Percent
12 May 2021	India	CPI Inflation YY	Apr	4.20%	5.52%	Percent
12 May 2021	India	Industrial Output YY	Mar	17.6%	-3.6%	Percent
12 May 2021	United States	CPI MM, SA	Apr	0.2%	0.6%	Percent
14 May 2021	India	WPI Inflation YY	Apr	9.05%	7.39%	Percent
17 May 2021	China (Mainland)	Industrial Output YY	Apr	9.8%	14.1%	Percent
18 May 2021	Japan	GDP QQ Annualised	Q1	-4.6%	11.7%	Percent
18 May 2021	United Kingdom	ILO Unemployment Rate	Mar		4.9%	Percent
18 May 2021	Euro Zone	GDP Flash Estimate YY	Q1	-1.8%	-1.8%	Percent
19 May 2021	United Kingdom	CPI YY	Apr		0.7%	Percent
19 May 2021	South Africa	CPI YY	Apr		3.2%	Percent
19 May 2021	Euro Zone	HICP Final YY	Apr	1.7%	1.6%	Percent
19 May 2021	Russia	Industrial Output	Apr	6.5%	1.1%	Percent
20 May 2021	South Africa	Repo Rate	May		3.50%	Percent
21 May 2021	United Kingdom	GfK Consumer Confidence	May		-15	Net balance
21 May 2021	United States	Existing Home Sales	Apr	6.06M	6.01M	Number of
21 May 2021	Euro Zone	Consumer Confid. Flash	May		-8.1	Net balance
24 May 2021	Russia	Unemployment Rate	Apr	5.4%	5.4%	Percent
25 May 2021	United States	Consumer Confidence	May		121.7	Index
27 May 2021	United States	GDP 2nd Estimate	Q1		6.4%	Percent
28 May 2021	Japan	CPI, Overall Tokyo	May		-0.6%	Percent
28 May 2021	Japan	Unemployment Rate	Apr		2.6%	Percent
31 May 2021	India	GDP Quarterly YY	Q4		0.4%	Percent

Source: Refinitiv Datastream

Annual Macro Snapshot

	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21*
National income										
GDP (Current) (Rs trn)	87.4	99.4	112.3	124.7	137.7	153.9	170.9	188.9	203.5	195.9
GDP (Current) Growth (%)	14.4	13.8	13.0	11.0	10.5	11.8	11.0	10.5	7.8	-3.8
GDP (Constant) Growth (%)	5.2	5.5	6.4	7.4	8.0	8.3	6.8	6.5	4.0	-8.0
GVA (Constant) Growth (%)	5.2	5.4	6.1	7.2	8.0	8.0	6.2	5.9	4.1	-6.5
Agriculture growth (%)	6.4	1.5	5.6	-0.2	0.6	6.8	6.6	2.6	4.3	3.0
Industry growth (%)	3.6	3.3	3.8	7.0	9.6	7.7	5.9	5.3	-1.2	-8.2
Services growth (%)	5.9	8.3	7.7	9.8	9.4	8.5	6.3	7.2	7.2	-8.1
Per Capita GDP (Curr) (Rs)	71,609	80,518	89,796	98,405	1,07,341	1,18,489	1,30,061	1,42,328	1,51,760	144,503
Prices										
CPI Inflation (%)		10.1	9.3	5.9	4.9	4.5	3.6	3.4	4.8	6.2
CPI – Rural (%)		10.7	9.6	6.1	5.5	5.0	3.6	3.0	4.2	6.0
CPI – Urban (%)		9.5	9.1	5.4	4.1	4.0	3.6	3.9	5.4	6.4
WPI Inflation (%)	8.9	6.9	5.2	1.2	-3.7	1.7	3.0	4.3	1.7	1.2
Primary articles (%)	9.8	11.4	9.9	2.2	-0.4	3.5	1.3	2.8	6.8	1.5
Fuel & power (%)	13.9	7.1	7.1	-6.1	-19.7	-0.2	8.1	11.6	-1.8	-8.1
Manuf. prods (%)	7.3	5.3	3.0	2.5	-1.8	1.4	2.8	3.6	0.3	2.6
Money, banking & interest rates										
Money supply (M3) growth (%)	13.5	13.6	13.4	10.9	10.1	10.1	9.2	10.5	8.9	
Aggregate deposit growth (%)	13.5	14.2	14.1	10.7	9.3	15.3	6.2	10.0	7.9	
Bank credit growth (%)	17.0	14.1	13.9	9.0	10.9	8.2	10.0	13.3	6.1	
Non-food credit growth (%)	16.8	14.0	14.2	9.3	10.9	9.0	10.2	13.4	6.1	
Cash Reserve Ratio (%, eop)	4.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
Bank Rate (%, eop)	9.50	8.50	9.00	8.50	7.75	6.75	6.25	6.50	4.65	4.25
Public Finance										
GOI rev. receipts growth (%)	-4.7	17.0	15.4	8.5	8.5	15.0	4.4	8.2	8.4	-7.7
Tax receipts growth (%)	12.1	16.5	9.9	9.3	16.9	17.9	11.8	8.4	-3.4	-5.5
GOI Expenditure growth (%)	8.9	8.1	10.6	6.7	7.6	10.3	8.4	8.1	16.0	28.4
Subsidies growth (%)	25.7	18.0	-1.0	1.4	2.3	-11.1	-4.4	-0.7	17.5	147.3
Interest expense growth (%)	16.7	14.7	19.5	7.5	9.7	8.8	10.0	10.2	5.1	13.2
External transactions										
Exports growth (%)	21.9	-1.8	4.9	-1.5	-15.5	5.1	10.1	8.8	-5.2	-7.5
POL exports growth (%)	34.9	8.7	4.3	-10.7	-46.1	3.4	18.8	24.5	-11.6	-38.2
Non-POL exports (%)	19.3	-4.2	5.1	0.8	-8.6	5.4	9.0	6.6	-4.1	-2.7
Imports growth (%)	32.4	0.2	-8.4	-0.3	-15.0	1.0	21.2	10.5	-7.8	-18.2
POL exports growth (%)	46.4	5.7	0.7	-16.4	-40.1	5.3	25.0	29.9	-7.5	-37.0
Non-POL exports growth (%)	26.8	-2.3	-13.0	9.1	-3.8	-0.2	20.1	4.5	-7.8	-10.9
Net FDI (US$bn)	21.9	19.8	21.6	31.3	36.0	35.6	30.3	30.7	43.0	
Net FII (US$bn)	17.2	26.9	4.8	42.2	-4.1	7.6	22.1	-0.6	-1.4	
Trade Balance – RBI (US$bn)	-189.7	-195.7	-147.6	-144.9	-130.1	-112.4	-160.0	-180.3	-157.5	
Current Acc. Balance (US$bn)	-78.2	-87.8	-32.4	-26.7	-22.1	-15.2	-48.7	-57.2	-24.6	
Forex Reserves (US$bn)	294.4	292.6	303.7	341.4	355.6	370.0	424.4	411.9	475.6	579.3
Exchange rate (USDINR)	47.95	54.45	60.50	61.15	65.46	67.09	64.45	69.89	70.88	74.20

Source: CMIE Economic Outlook, NSE. * FY21 GDP data pertains to Second Advance Estimates. FY21 public finance data are revised estimates.

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1	13-May-21	Macro Review: IIP and Inflation
2	16-Apr-21	Macro Review: India Monthly Trade
3	16-Apr-21	Market Pulse April 2021: A monthly review of Indian economy and markets
4	12-Apr-21	Macro Review: IIP and Inflation
5	07-Apr-21	Macro Review: RBI Monetary Policy
6	01-Apr-21	Macro Review: Q3FY21 Balance of Payments
7	16-Mar-21	Macro Review: India Monthly Trade
8	16-Mar-21	Market Pulse March 2021: A monthly review of Indian economy and markets
9	25-Mar-21	India Ownership Tracker December 2020
10	12-Mar-21	Macro Review: IIP and Inflation
11	08-Mar-21	Conversations on Corporate Governance: Dialogue 6
12	01-Mar-21	Q2FY21 Corporate Performance Review
13	27-Feb-21	Macro Review: Q3FY21 GDP
14	15-Feb-21	Macro Review: IIP and Inflation
15	12-Feb-21	Market Pulse February 2021: A monthly review of Indian economy and markets
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17	05-Feb-21	Macro Review: RBI Monetary Policy
18	01-Feb-21	Union Budget FY2021-22
19	17-Jan-21	Macro Review: India Monthly Trade
20	11-Jan-21	Market Pulse January 2021: A monthly review of Indian economy and markets
21	11-Jan-21	Macro Review: FY21 GDP Advance Estimates
22	05-Jan-21	India Ownership Tracker September 2020
23	31-Dec-20	Macro Review: Q1FY21 Balance of Payments
24	16-Dec-20	Conversations on Corporate Governance: Dialogue 4
25	07-Dec-20	Market Pulse Nov-Dec 2020: A monthly review of Indian economy and markets
26	05-Dec-20	Macro Review: RBI Monetary Policy
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30	28-Oct-20	Conversations on Corporate Governance: Dialogue 3
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Economic Policy & Research

Tirthankar Patnaik, PhD	tpatnaik@nse.co.in	+91-22-26598149
Prerna Singhvi, CFA	psinghvi@nse.co.in	+91-22-26598316
Runu Bhakta, PhD	rbhakta@nse.co.in	+91-22-26598163
Ashiana Salian	asalian@nse.co.in	+91-22-26598163
Sparsh Chhabra	schhabra@nse.co.in	+91-22-26598163
Simran Keswani	skeswani@nse.co.in	+91-22-26598163
Aanchal Dusija	consultant_adusija@nse.co.in	+91-22-26598163

We gratefully acknowledge the valuable contribution of Arsh Mogre and Esha Paigankar to this report.

Marketing

Rajesh Jaiswal	rjaiswal@nse.co.in	+91-22-26598380

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