March 2020

Investment in India

A deep-dive from three different perspectives

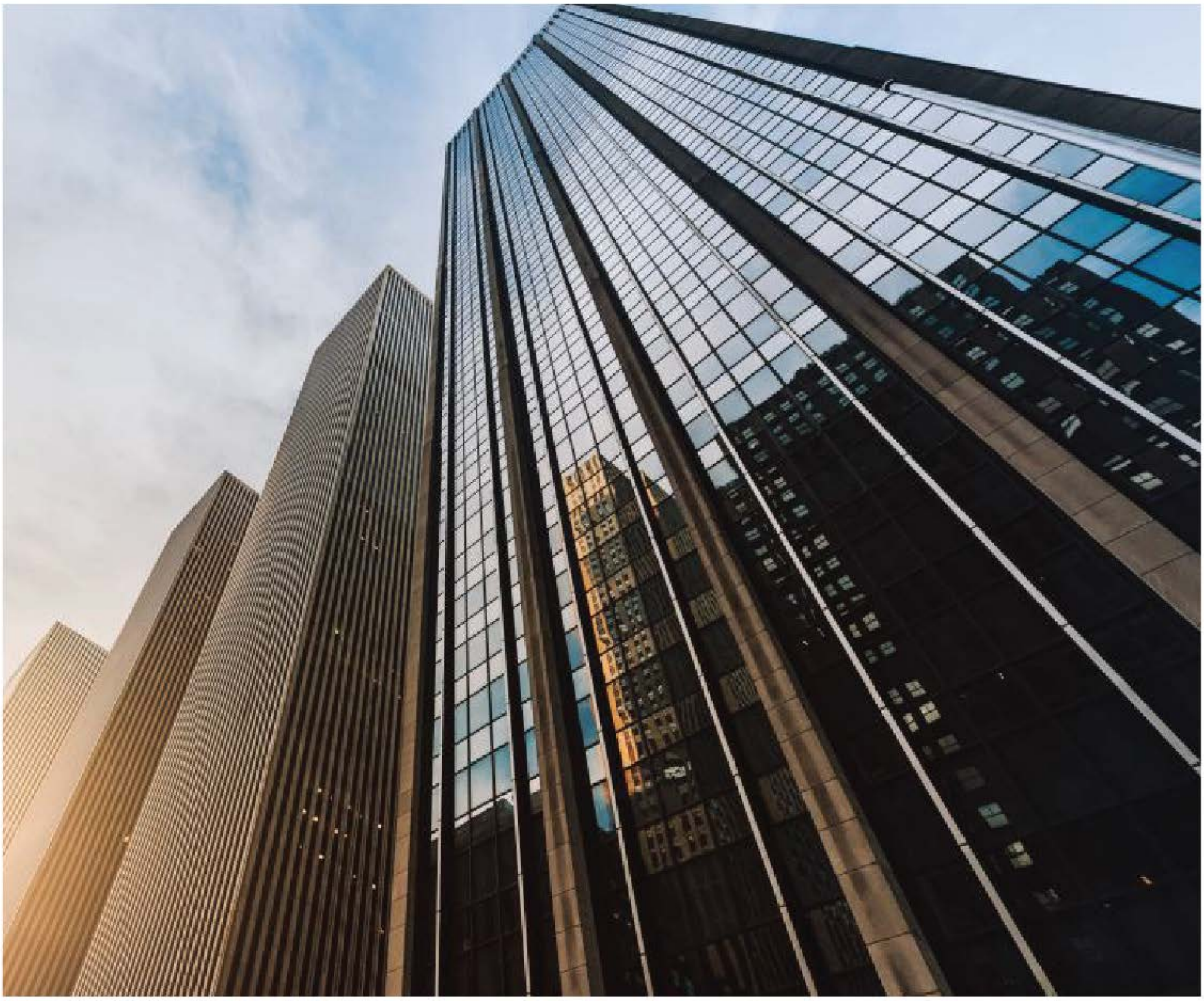

Table of Contents

The evolution of investment in India over the last 25 years

We attempt a deep-dive into an important facet of the India growth story with perspectives from three relatively orthogonal dimensions, *viz.*, national accounts (top-down view), bottom-up capex (the on-the-ground story), and analyst estimates (forward-looking) of the top, listed companies. Analysing 25 years of data during 1995-2020 over which fixed capital formation has risen from Rs3trn to Rs54trn, we attempt to answer the following questions for a medium-term outlook of investment:

Who invests in India, and how is it financed? What is the sector-wise and regional distribution, and industries that lead them? What has been the state of existing projects and new announcements, especially in the overhang of the recent slowdown?

Research on capital formation has been widely covered, with illustrative examples like China where it has translated into sustained periods of growth, and of India, where the lack of consistency has hurt growth prospects after initial years of success.

Several factors have contributed to the recent slowdown in investment growth in India, starting from growth assumptions of an extended high-growth period that didn't quite pan out, a long period of negative real rates that encouraged leverage, but ended up inflationary for the consumer. Controlling inflation also led to high real rates, and a sharp drop in bank asset quality weighed on an investment revival. A number of recent events, specifically the tight financial conditions since 2018 have exacerbated the investment climate further, and our analysis rules out a quick revival, at least in private corporate capex.

Government spending has provided the anti-cyclical response to capex over the last five years, with central and state capex combined rising at a CAGR of 13% over 2014-19. Our analysis reflects the various stages of the macro environment over this period—high-growth, high inflation and leverage, policy paralysis, asset quality stress and the current deleveraging.

Across sectors, the industrial sector has suffered more than services and agriculture: Since its peak of 26% in FY05, industry capex growth bottomed out at -0.6% in FY15 before rising to 14% in FY18. The space ceded by the Private sector has also been taken up by public corporations/Government, supported by the Households sector, with investments in the Construction sector primarily financed through Household savings. Apart from Construction, the Transportation sector, and to some extent, Renewable energy also stand out.

Large projects announcements (>Rs10m) saw their golden period during 2005-10 with a 33% CAGR (with both private and public sectors participating), but have since on a general downward trajectory, barring a short revival between 2013-16. What is heartening in this story is the renewed focus of policymakers into ensuring completion of viable projects, while allowing a legal framework (IBC) to take care of the truly stressed ones.

In this era of competitive federalism, states like Maharashtra and Gujarat have traditionally led as investment avenues (and they still do), but the last decade also seen potential in the rise of states like UP, AP, Odisha and Tamil Nadu.

Analysts estimates for FY20 Capex of NIFTY companies reflect negative sales (and PAT) growth, but Capex is expected to decline in FY21 as well (by 5.6%), despite building in a revival scenario in top-line and profits. Apart from a base effect, operating leverage in a weak demand scenario that does not warrant fresh capex, esp. with low overall capacity utilizations. Leading sectors for the listed space are Energy, Utilities, Consumer Discretionary and Materials.

To summarize, we chart the course of investment in India across three separate and largely independent routes of enquiry and find a sea change in almost every major indicator over the last 25 years; India has indeed come a long way since 1995. That said, the road ahead, the scope for further improvement remains immense, and while our analysis rules out an early recovery from the current state of the economy (which could worsen in the near term with the Corona virus scare, the ongoing price war in crude, and after-effects of the Yes Bank moratorium), it's quite clear that the steps taken during this period would prove instrumental in getting the Indian economy back to a phase of high, investment-led growth.

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Executive Summary

A bumpy ride of investments so far; set to meet further uncertainty ahead

Investment[1] is a major driving factor to achieve sustainable economic growth in an economy. Global experience shows that its impact on growth differs widely across countries. Countries like China have seen their consistently high rates of investment (%GDP) translate into long-periods of double-digit income growth that lifted millions over the poverty line and made it the second largest economy in the World. India also maintained a high investment rate over a long period that saw the economy rise from a sub-billion-dollar economy in 2017, to a ~US$3trn behemoth, the 5th largest in the world. Unlike China, however, India has had a less-than-stellar record in maintaining consistency in its investment rate and growth slipped to a five-year low of ~5% that has coincided with investment share fall from 30.1% in FY15 to 27.5% in FY20.

In this report, we attempt a deep dive into this important facet of the India growth story that was primarily responsible for the rise in growth in the early noughties from 3.8% to 8.1% (2003-07). To be specific, we answered the following questions for a medium-term outlook of investment in India:

Who invests in India, and how it is financed? What is the sector-wise and regional distribution, and industries that lead them? What has been the state of existing projects and new announcements. In this executive summary we explain the three approaches of our analysis and then provide quick takeaways.

Top-down approach: We used the national accounts data to show how investments have changed over the last 25 years, major sources of investment funds, and distributional pattern of investments across sectors and ownership.

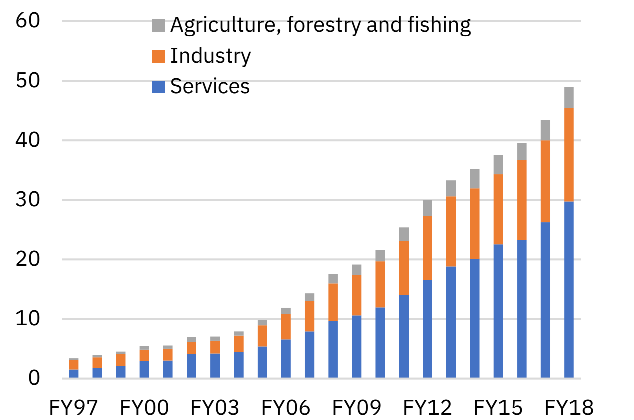
Bottom-up analysis: We also studied investments on large projects (>Rs10m) by corporations and government sectors since FY96 using the CMIE Capex database to understand the state of existing projects and new announcements across sectors.

Forward-looking analysis: The analysis is further widened for the listed universe using data from the Refinitiv Datastream which has given data not only on capital expenditure and overall financial performance in the previous years, but also their estimates in the coming years. These estimates have given a forward-looking view to understand how investment pattern would change in the medium term, particularly for the large listed enterprises.

The key findings of the *Top-down* analysis are as follows,

- **Total investments in India have increased substantially** from Rs3.4trn in FY97 to Rs56.0trn in FY20 (in nominal terms), having grown at a CAGR of 13%, in-line with overall economic growth. However, growth has fallen significantly post the Global Financial Crisis (GFC). For instance, the 16% CAGR seen between FY00-08 has dropped to 10% since then.
- Some of the **key factors behind investment slowdown over the last 10 years** have been a) assumptions of an extended high-growth period along with a long period of negative real rates that encouraged leverage but ended up inflationary for the consumer. The central bank's response thereon to control inflation, but the resultant high real rates also weighed on growth and a sharp drop in bank asset quality extended a vicious circle of curtailing investments. The situation further deteriorated by b) the more recent crisis in the shadow banking sector; c) fall in capacity utilisation amid slowdown in domestic and global demand; d) disruptions caused by policy decisions viz. Demonetisation and GST; e) policy uncertainty hurting business sentiments, and f) declining savings rate creating

Sector-wise composition to total GFCF in nominal terms (Rstrn)



Source: CMIE Economic Outlook.

[1] Usually expressed as GFCF (Gross Fixed Capital Formation) in National Accounts.

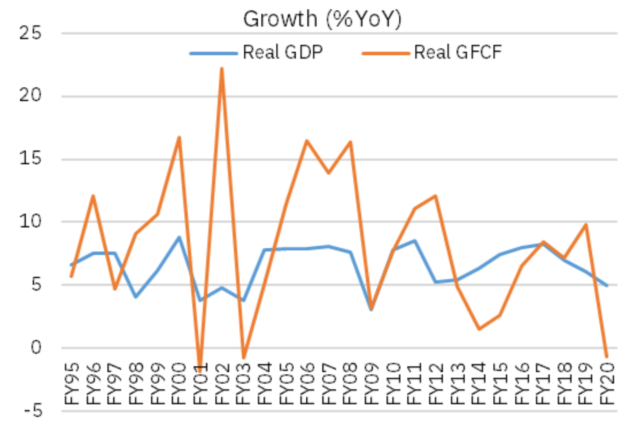
supply-side constraints. As a result, **India's investment growth plummeted in FY20 to 17-year low of 1.9% in nominal terms and -0.6% in real terms.**

- **Investment growth in industry deteriorated at a faster rate than services sector** over the last decade. Growth of investment in industry has been falling since FY05 from its peak of 26% in FY05 to -0.6% in FY15 before rising to 14% in FY18. Investment growth in the Services sector, on the other hand, has been rather volatile. Investments in agriculture remain low throughout the period and recorded a turbulent growth pattern since FY13 due to the uncertainty prevails in crop production that largely depends on rainfall over the years.
- Apart from FY16 and FY17, **households have been the major contributors to total investment in India accounting for a significant portion of Construction activity in the economy, followed by** private corporations, that have focused on intellectual property. Both these channels are **largely financed through domestic savings**, where households and private non-financial corporations contributed a major share of total savings throughout the period.

Our *Bottom-up* analysis has also provided similar insights that are summarized below:

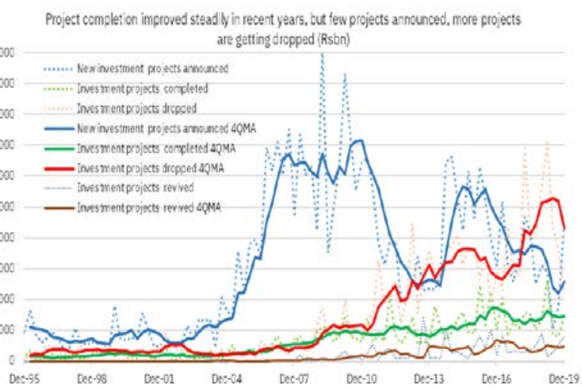
- **Large project announcements recorded a CAGR of 33%** during 2005-10 with both private and public sectors participating, but have since been on a general downward trajectory, barring a short revival between 2013-16.
- **Worst case of stalled projects:** Since 1995, growth in the value of stalled projects has always been high except 2000-05, mainly due to lack of promoter interest, land acquisition problems, unfavourable market conditions, lack of funds and lack of clearance from the government.
- **On the positive side, however, (a) project completions have seen a substantial improvement,** particularly in the Government sector; (b) **Implementation rate has improved significantly since 2008**, mainly due to rise in completion rate, decline in new announcements and substantial increase in the number of total projects dropped during this period. This **essential *self-selection* into only the most viable projects** has been an ongoing feature of the large-project investment space.
- **Over the last decade, large projects were mostly implemented in Transport Services,** followed by Electricity. While Conventional electricity continues to contribute a large share, investment in Renewable energy and Electricity transmission has gained momentum since 2011.
- Across states, **Gujarat and Maharashtra have been preferable investment avenues** for both Indian and foreign investors, thanks to the relative ease of doing business, convenient trade routes and multiple established large business houses. Besides these two, the last decade has also

Investment growth plummeted in FY20 to 17-year low of -0.6% in real terms.



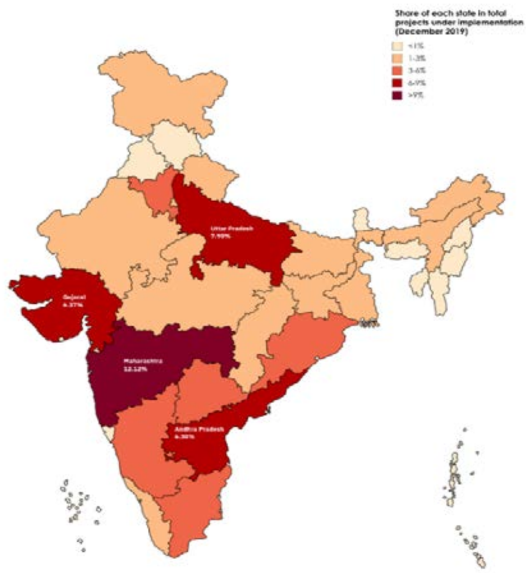
Source: CMIE Economic Outlook.

Fresh announcements on downward trajectory, worst case of dropped projects, while completion and revival rates improved in recent years.



Source: CMIE Capex.

State's share in projects under implementation (Dec'19)



Source: CMIE Capex, NSE.

seen potential in the rise of states like UP, AP, Odisha and Tamil Nadu due to **favourable economic environment, necessary infrastructure, tax and non-tax incentives and government subsidies.**

Our *forward-looking* analysis of IBES earnings shows:

- **Capex incurred by listed financial companies witnessed strong growth during FY17-19.** However, IBES estimates for FY20/21 point to a significant cut in capex over the next two years. **Capex of Nifty 50 companies is expected to decline by 1.3% in FY20**, mainly due to fall in their estimated sales growth, PAT growth and capital intensity. Their capex **may decline further in FY21 despite having a recovery in sales and PAT growth**, which indicates that companies would be working towards higher operating leverage.

Major policy measures taken in 2019:

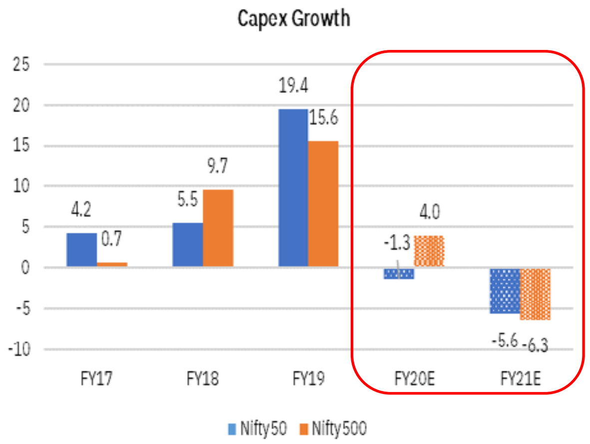
- Several policy measures are taken so far, *viz.*, a **significant corporate tax rate cut, 100 per cent tax exemption on interest, dividend and capital gains on investments by sovereign wealth funds, lower rate of withholding of 5% for interest payment to FPIs and QFIs on bonds** to increase total investment in the economy. In addition, the **INR 105trn 'National Infrastructure Pipeline'** also expected to revive investment growth.

- The central bank has also taken several policy measures like the **policy rate cut by 135bps during Feb-Oct'19**, Operation Twist and **Long-term Repo Operations** to provide additional liquidity in the banking system, and thereby help bring down the cost of funds in the economy.

Medium-term outlook:

- Based on our analysis across the three segments of investment in the economy, we expect **investment activity in the economy to remain below potential over the next few years** as bottlenecks arising from weak demand environment and tight financial conditions are unlikely to go away in a hurry. The situation may worsen further in the near-term, thanks to three events, viz., the sudden outbreak of the deadly novel-coronavirus (COVID19) in Jan'20, an ensuing crude oil-price war between Saudi Arabia and Russia that has seen oil prices correct the most since '91, and closer home, the systemic fallout of a temporary moratorium on Yes Bank, India's fourth largest private bank.
- A **big-boost to investment in Agriculture remains essential** to achieve an inclusive growth as agriculture is one of the major employers in India, and the salutary impact of such investment on reducing poverty levels has been widely recognized.
- **A holistic approach is required to achieve inclusive and sustainable growth of investment** by incorporating all plausible inter-linkages across sectors, industries, asset classes, states and different institutions.

Capex of top listed companies is estimated to decline in FY20 and FY21



Source: Refinitiv Datastream, NSE.

Cross-country comparison

In China, investment remains to be a major driving factor of economic growth.

Investment is a major driving factor to achieve higher economic growth in a country. Among all major economies, China's rate of investment has remained remarkably high for the last three decades, contributing significantly in its overall economic growth. With 33.4% investment rate, China's GDP grew by 8.5% in 2000 and accelerated further in 2010 to achieve 10.6% growth rate with 45.1% investment rate to become second largest economy in the world. In 2018, China's investment rate has somewhat declined to 42.3%, and might have contributed to a decline in its growth to 6.6% over the year.

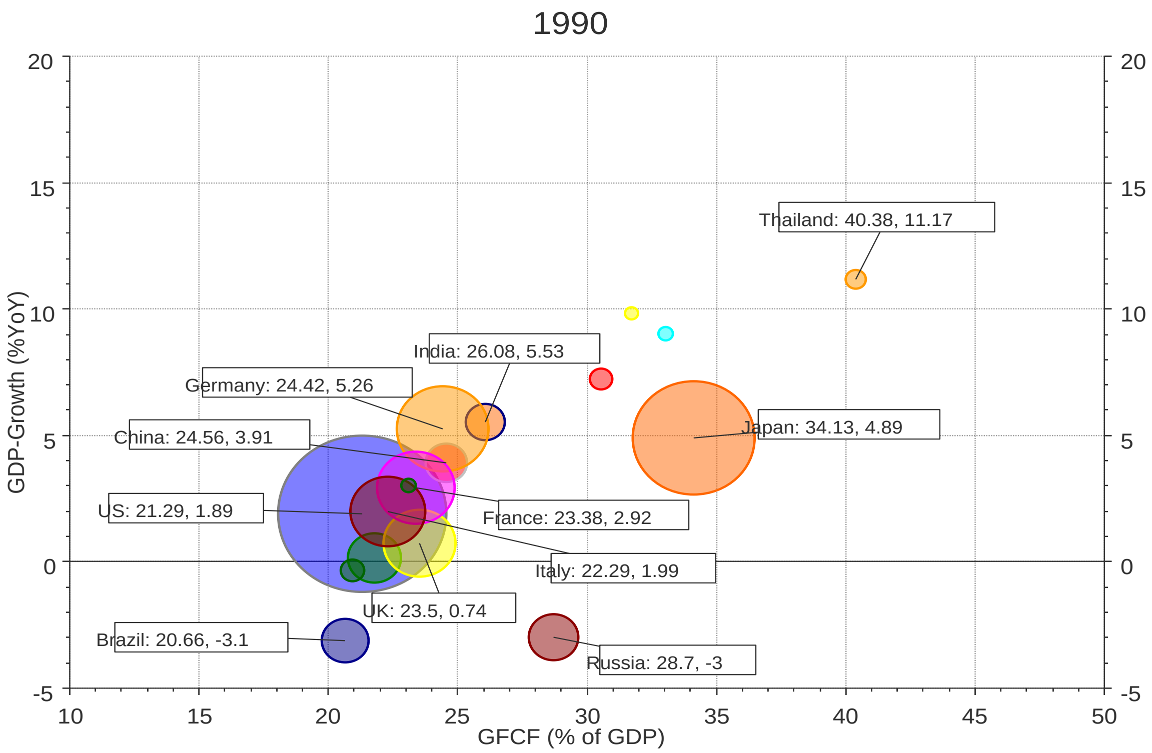
There is no other major country in the world that has maintained both growth rate and investment rate at such a high level over the last three decades. For instance, Russia's growth was remarkably high (~17%) in 2000 with merely 16.9% rate of investment. Its growth rate declined to 4.5% in 2010 and further to 2.3% in 2018, even though rate of investment increased towards ~21% over the next decade. Brazil's growth rate increased substantially from 4.4% in 2000 to 7.5% in 2010 with an increase in investment rate. However, its growth had declined gradually over the next years.

Decline in investment growth in India has coincided with a fall in GDP growth since FY15.

In case of India, rate of investment remains more than 25% over last three decades that surely has had helped the country to be one of the fastest growing economy for several years and become $2trn economy in 2014. Unlike China, however, India has had a less-than-stellar record in maintaining consistency in its investment rate. Growth slipping to ~5% levels in FY19 has coincided with investment share fall from 30.1% in FY15 to 27.5% in FY20, and a distinct shift of new money to the new-economy sectors, like shared mobility, telecommunications, among others.

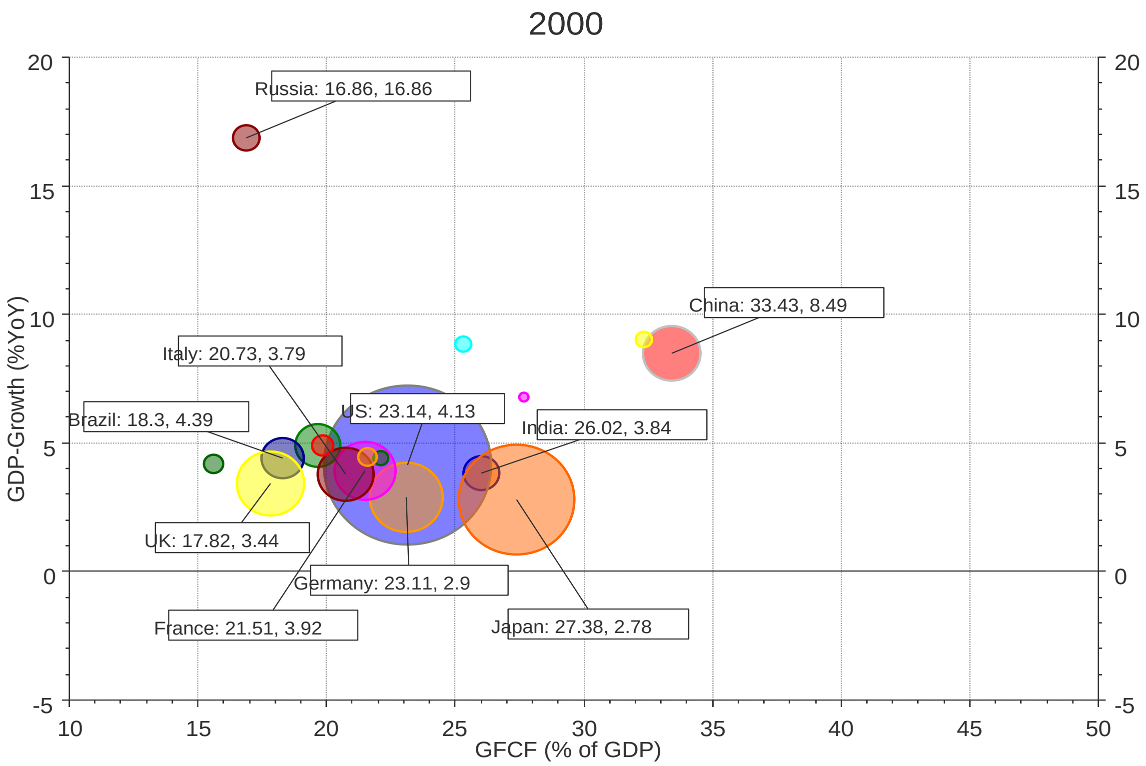
The bubble charts on the following pages point out some interesting trends amongst major global economies. Even as the US maintains positioning as the dominant global economy, the rise of China over ~30 years to become the second largest is clearly visible, as is the sustained high level of its investment rate, which has risen from 24.6% of GDP in 1990 to ~42.3% in 2018. In complete contrast with China's experience is that of a diminishing Japanese economy. Countries like Thailand—one of the Asian tigers—shone in the early 90s due to their high investment rates but have since joined the herd. The Indian economy is also readily apparent by this investment-led-growth model.

Figure 1: Cross country relationship between rate of investment and GDP-Growth in 1990 (Bubble size = GDP)



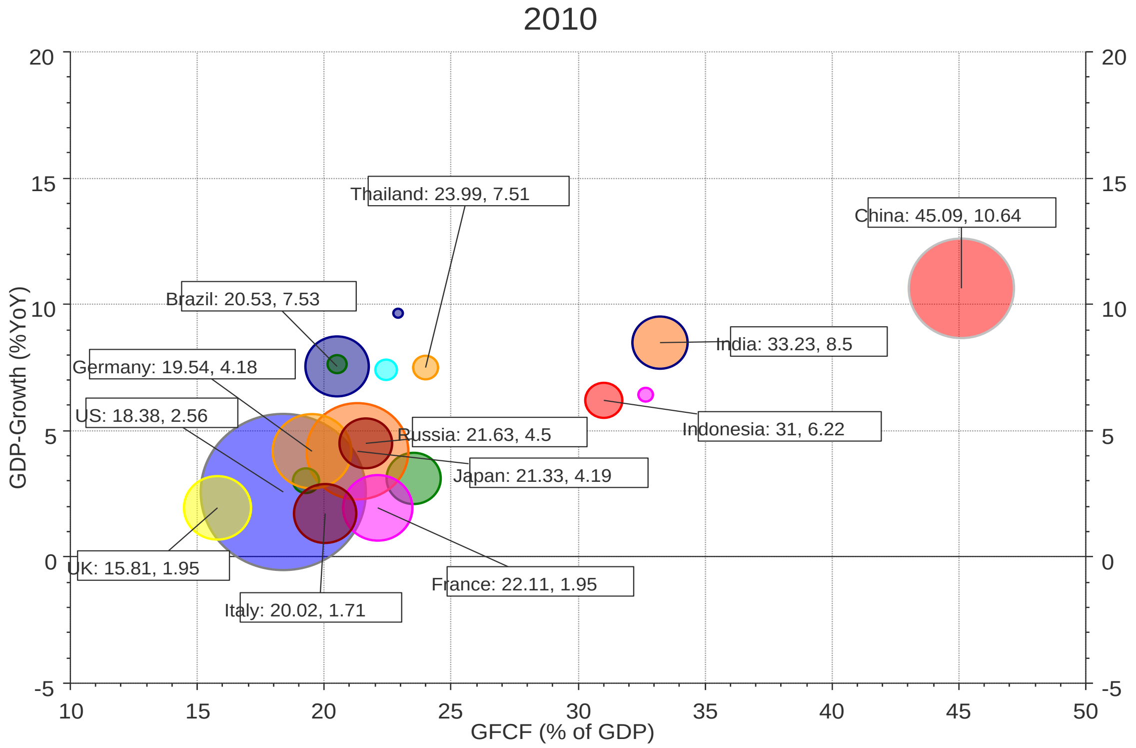
Source: Refinitiv Datastream, NSE. *values mentioned in boxes show GFCF (as % of GDP) and GDP-growth. For instance, the United Kingdom's (23.5, 0.74) implies an investment rate of 23.5% of GDP in the year 1990, commensurate with 0.74% growth that year.

Figure 2: Cross country relationship between rate of investment and GDP-Growth in 2000 (Bubble size = GDP)



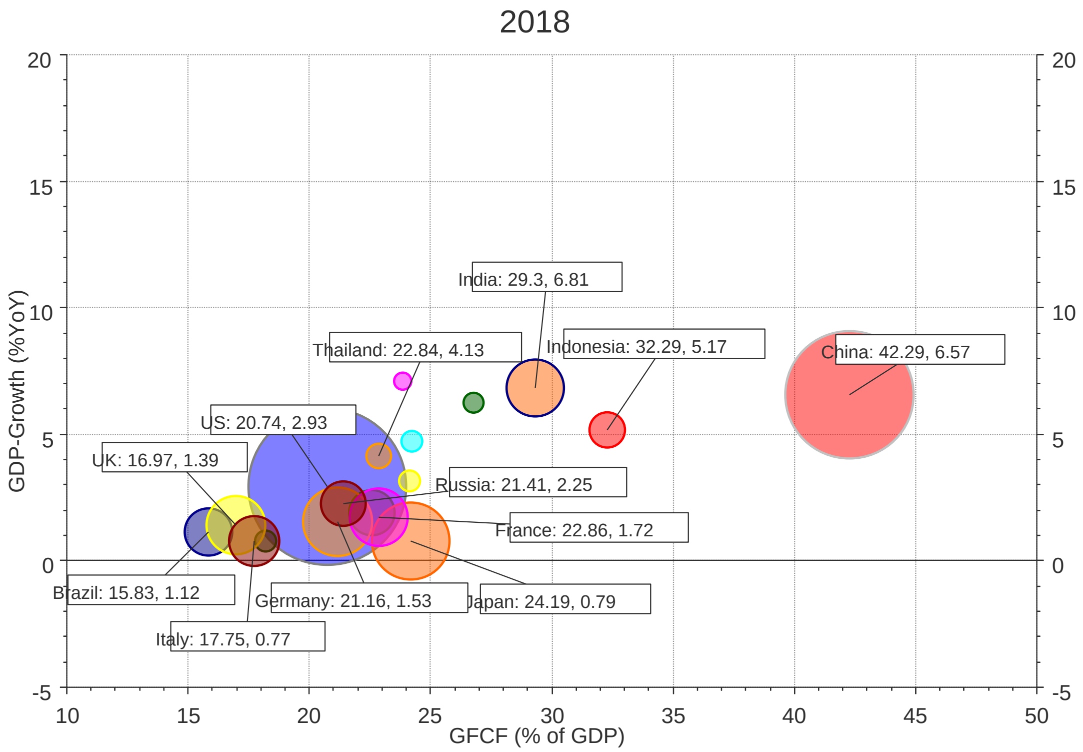
Source: Refinitiv Datastream, NSE. *values mentioned in boxes show GFCF (as % of GDP) and GDP-growth.

Figure 3: Cross country relationship between rate of investment and GDP-Growth in 2010 (Bubble size = GDP)



Source: Refinitiv Datastream, NSE. *values mentioned in boxes show GFCF (as % of GDP) and GDP-growth.

Figure 4: Cross country relationship between rate of investment and GDP-Growth in 2018 (Bubble size = GDP)



Source: Refinitiv Datastream, NSE. *values mentioned in boxes show GFCF (as % of GDP) and GDP-growth.

An overview of total investment in India – A demand-side analysis

Structural slowdown in investment growth in India post Global Financial Crisis (GFC).

Investments in India, expressed as Gross Fixed Capital Formation (GFCF), increased substantially over the last 25 years, having grown at a CAGR of 13% and 8% in nominal and real terms respectively, in-line with the overall economic growth. However, growth has fallen significantly post the Global Financial Crisis (GFC). For instance, investments have grown at an average rate of 10% in nominal terms during the post-GFC period, much lower than the nominal GDP growth rate of 13% during this period and compares unfavourably with an average growth of 16% seen between FY00 and FY08. In real terms, average investment growth during the post-GFC period stood at 6% vs. average real GDP growth of 7%, with a large part of the drop attributed to decline in household investments.

Figure 5: Nominal GFCF vs. nominal GDP growth

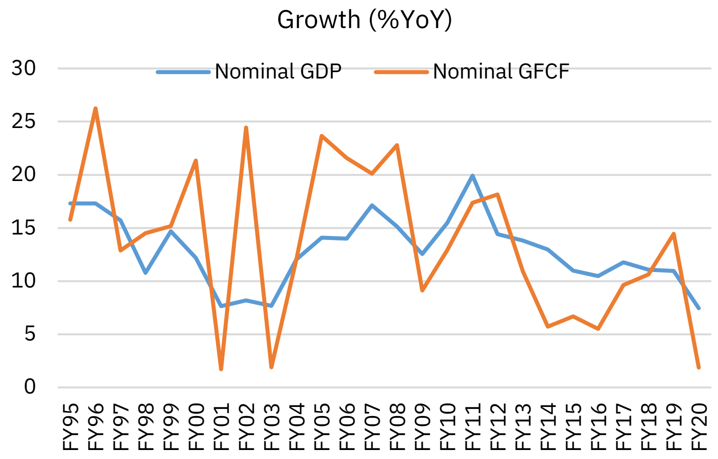
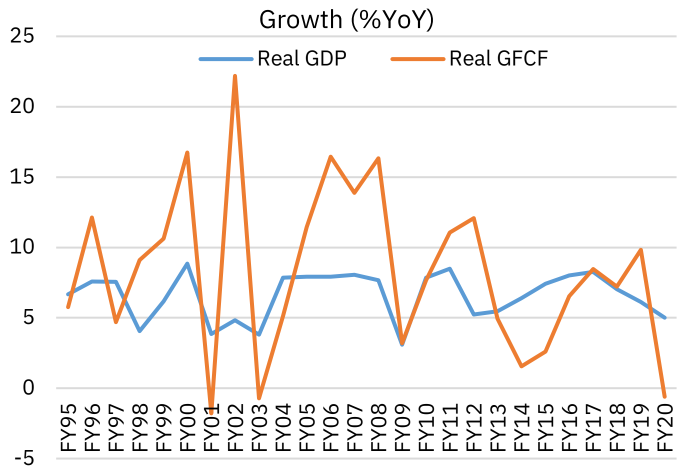


Figure 6: Real GFCF vs. real GDP growth



Source: CMIE Economic Outlook, NSE

India's investment growth plummeted to 17-year low in FY20

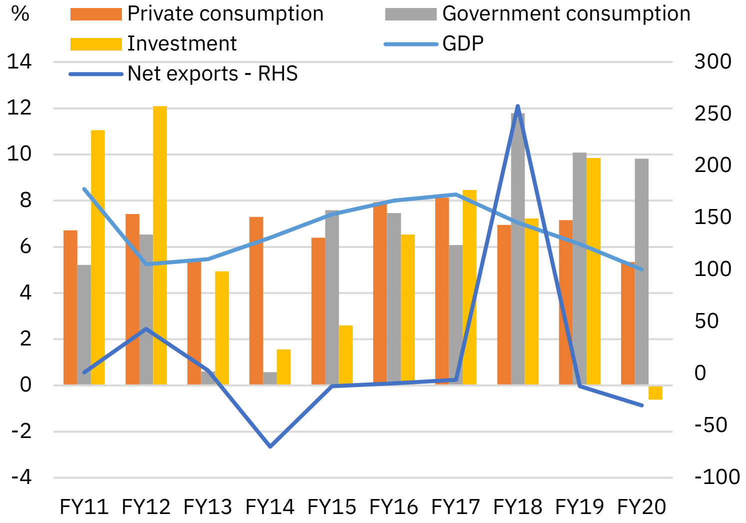
India's investment growth plummeted to 17-year low in FY20 amid weak demand environment, low business confidence, low capacity utilisation, tight financial conditions, demonetisation and GST.

In India, total investment (in nominal terms) is projected to increase by merely 2% in FY20—lowest in last 17 years after 1.9% growth in FY03—to reach Rs56.0trn, while real investment may decline by 0.6% (down from 9.8% in FY19), amid weak demand environment, low business confidence, low capacity utilisation and tight financial conditions. During this year, investment has contributed merely 27.5% of total GDP which is lower than 29.0% in FY19.

Weak consumption expenditure may have led to such low investment growth

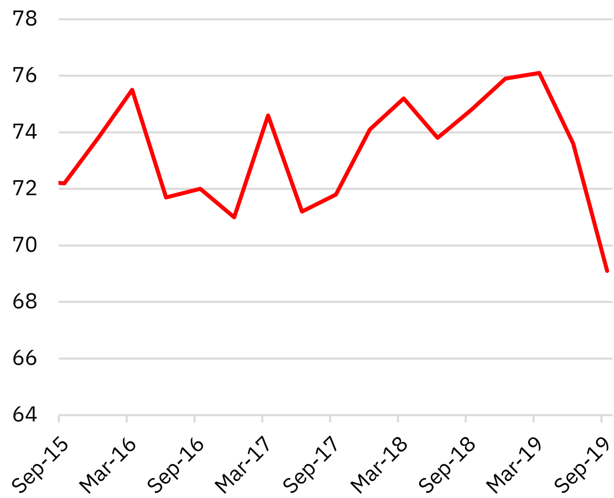
India's expenditure growth has remained weak over the past few quarters due to tight financial conditions amidst an inimical global environment. Private consumption grew by merely 5.3% while net export declined by 30% in FY20, adding little to the already low levels of capacity utilisation and therefore leaving little incentive for private and public companies to invest in the current scenario.

Figure 7: Trend of investment growth with other GDP components (in real terms)



Source: CSO, RBI, NSE.

Figure 8: Capacity utilisation (%)



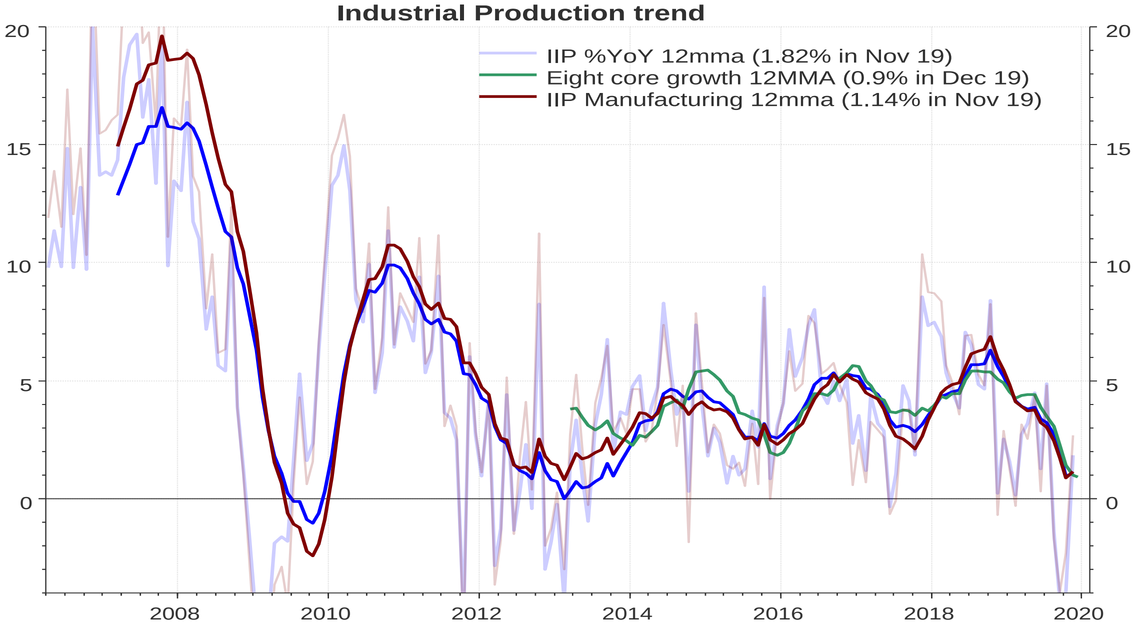
Government spending vs. private investment

Government spending increased substantially since FY15 to maintain a high economic growth throughout the period which has increased total fiscal deficit in the country given a slow growth in govt. revenue during this period. This, in turn, has resulted in government investment replacing investment from the private as well as household sector, providing the much-needed anti-cyclical boost given limited sources of funds available in the economy along with tight financial condition.

Overhang of stagnant industrial production

Total industrial production declined sharply over the last half of 2019 which was mainly attributed by Electricity, followed by mining and manufacturing sectors (shown in the following charts). These sectors recorded a sharp decline during Sep-Oct'19 that was partly offset in the month of December in manufacturing and mining, while total production in electricity continued to decline in December as well. The recent slowdown along with a sharp decline in capacity utilisation since Jun'19 remains an overhang on incremental investment growth by corporates in the near term.

Figure 9: Indian industrial production (12MMA) since 2007



Source: Refinitiv Datastream, NSE

The weak investment thesis in India

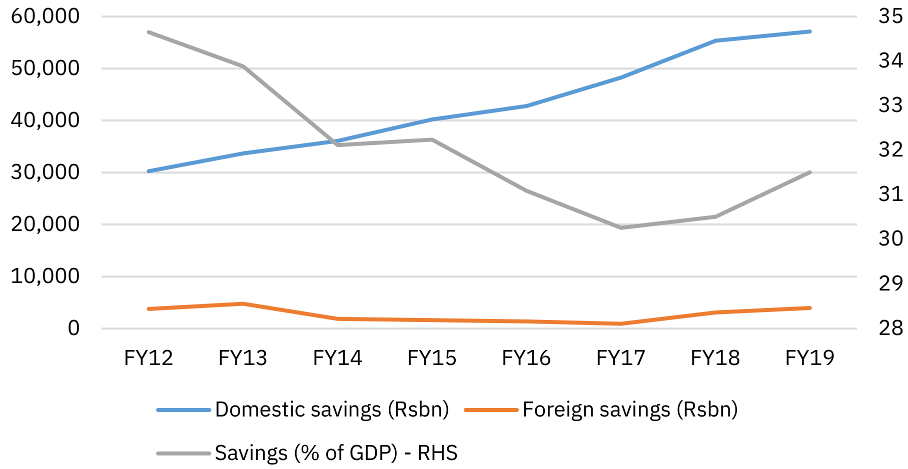
Beyond the near-term causes, it is instructive to examine the background conditions that led to the current state of investment in India:

(i) A structural slowdown in investment growth since FY09 mainly due to the Global Financial Crisis (GFC) translated into weak global demand and scarce capital; (ii) Assumption of an extended high-growth period didn't quite pan out, and a long period of negative real rates that encouraged leverage but ended up inflationary for the consumer. The central bank response thereon managed to control inflation, but the resultant high real rates also weighed on growth and a sharp drop in bank asset quality extended a vicious circle of curtailing investments. The situation further deteriorated after several NBFCs were defaulted in 2019 which has created financial distress in the economy, particularly for households, micro, small and medium size enterprises who are largely dependent on NBFCs to fund their investment projects; (iii) Policy decisions like demonetisation, implementation of the GST across the country have had a disproportionate impact on the economy and particularly affected the unorganised sectors. While formalisation of the economy is a long-term desirable, it has also negatively affected near-term growth in the economy, which has affected consumption demand, increased inventories and unemployment, weighed on capacity utilisation and further deteriorated the investment climate in the country.

Sources of financing investment – A supply-side view

Total investment in India is mainly financed through domestic savings
Investments are generally financed through domestic savings and net capital inflows from rest of the world. In India, total savings increased from Rs34trn in FY12 to Rs61.1trn in FY19, at a CAGR of 9%, of which 94% was domestic (i.e., Rs57.1trn). During this period, gross domestic savings also registered a CAGR of 9% which has helped balance fluctuations in foreign savings. However, the savings rate has declined significantly since FY12 as growth in total savings could not match up to the level of growth in nominal GDP, barring a slight improvement in FY19.

Figure 10: Sources of financing investment and savings rate



Source: CMIE Economic Outlook.

Foreign savings remain quite low and uncertain over the years
Foreign savings, i.e., net capital inflow from rest of the world registered a sharp decline from Rs3.8trn in FY12 to merely Rs930bn in FY17 amid a global slowdown, uncertainty over the final turn of Brexit and an increase in overall risk in global financial markets. Despite all these negative factors, there was a remarkable comeback in FY18 due to an improvement in India's competitive edge in the securities market over other peer countries, led by lower corporate taxes, a relaxation in FPI limits across several market segments and a relative increase in financial uncertainty across other countries. The upward trend is maintained in FY19 as well.

Growth in total savings is mainly attributed by a continuous growth in domestic savings
In contrast, domestic savings continue to increase throughout the period which has contributed to an overall growth in total savings in the country. If we dig down further, we can see, out of total domestic savings, households are the largest contributor in the economy with 68% share in FY12, followed by private non-financial corporations with 24% share. Among others, public financial corporations contributed merely 6% while Public non-financial corporations and private financial corporations contributed 4% and 3% respectively in FY12.

Government announced several expansionary measures to revive economic growth

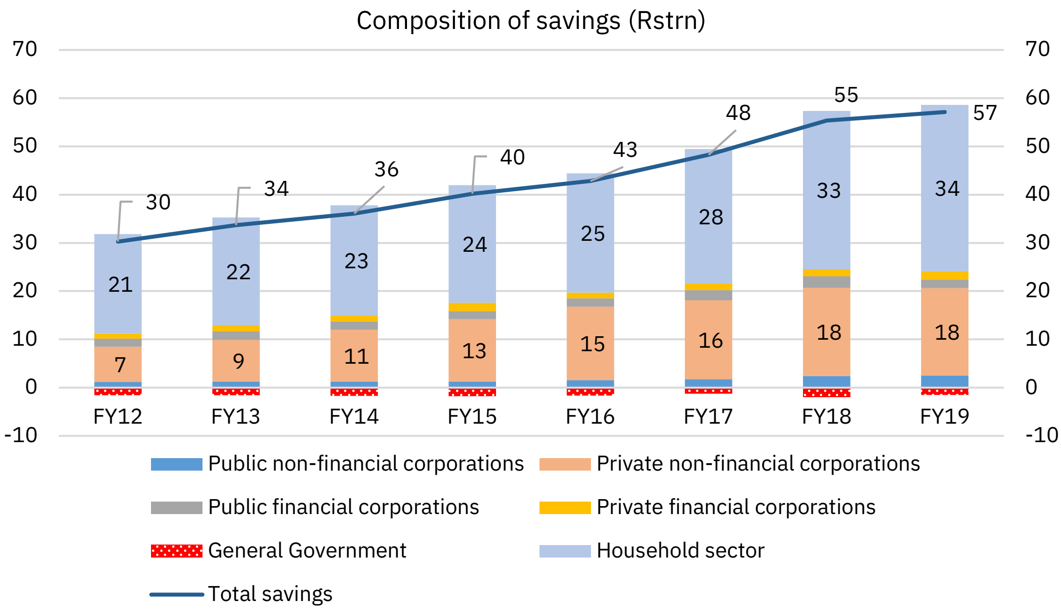
Government savings remain negative throughout the years which are mainly financed through the bond market. Total government dis-savings increased significantly between FY13 and FY15 before coming down in FY16 and FY17 to meet its target level of 3% of GDP according to the FRBM Act. However, government could not continue to reduce its deficit in FY18 due to continuous slowdown in the economy during this time. It became compulsory to take several expansionary measures which has resulted a massive increase in fiscal deficit, and its dis-savings jumped up by 61% in FY18. This may have a negative impact on investments done by private and household sectors. However, total dis-savings by government is estimated to ease down marginally in FY19.

Figure 11: Growth in different sources of financing GCF since FY13

Sources of Financing Gross Capital Formation	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Total savings	**13.1**	**(1.4)**	**10.2**	**5.8**	**11.2**	**18.9**	**4.4**
Net capital inflow from rest of the world	27.0	(61.1)	(14.0)	(12.2)	(33.8)	234.4	27.3
Domestic savings	11.3	7.1	11.4	6.5	12.7	14.8	3.2
Non-financial corporations	17.1	21.3	17.7	18.4	8.0	14.3	(0.4)
Public non-financial corporations	0.2	1.8	2.3	19.3	11.8	40.1	6.2
Private non-financial corporations	20.0	24.1	19.6	18.3	7.6	11.6	(1.3)
Financial corporations	10.4	(2.5)	15.7	(14.0)	19.5	11.2	(8.6)
Public financial corporations	3.5	(6.7)	4.1	3.9	22.0	10.3	(25.4)
Private financial corporations	21.6	3.3	30.2	(31.9)	15.7	12.7	18.0
General Government (Dis-savings)	0.4	9.3	0.9	(7.8)	(24.8)	61.3	(24.3)
Household sector	8.2	2.2	6.7	1.5	12.6	17.6	5.2
Net financial saving	14.2	13.4	5.8	26.2	(12.7)	16.4	
Gross financial saving	14.1	11.9	5.6	19.0	7.9	27.6	(3.2)
Financial liabilities	13.9	8.6	5.1	2.3	21.6	57.5	3.7
Saving in physical assets	5.4	(3.3)	6.8	(12.9)	21.0	20.0	14.0
Saving in the form of gold & silver ornaments	9.0	0.4	23.9	2.0	0.1	(10.8)	(13.8)

Source: CMIE Economic Outlook.

Figure 12: Composition of total savings across different sources

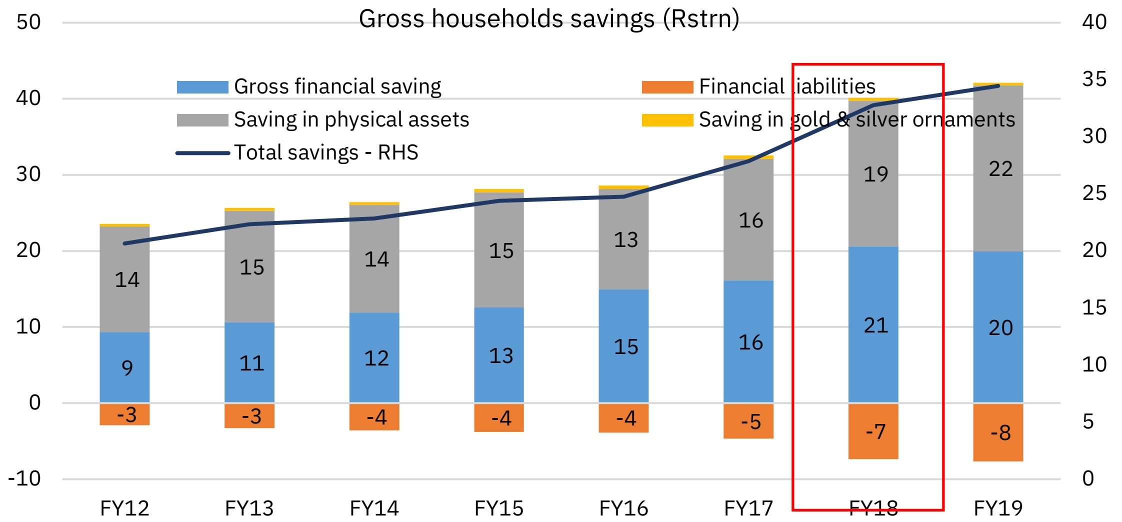


Source: CMIE Economic Outlook.

Households are the largest contributor in total savings.

Households are the major source of total savings in India
In FY19, households contributed Rs34.5trn (i.e., 60%) to total domestic savings in India, while their preference towards physical assets remains intact as they saved 63% of their total savings in physical assets, followed by 36% in the form of financial savings.

Figure 13: Composition of gross savings of households

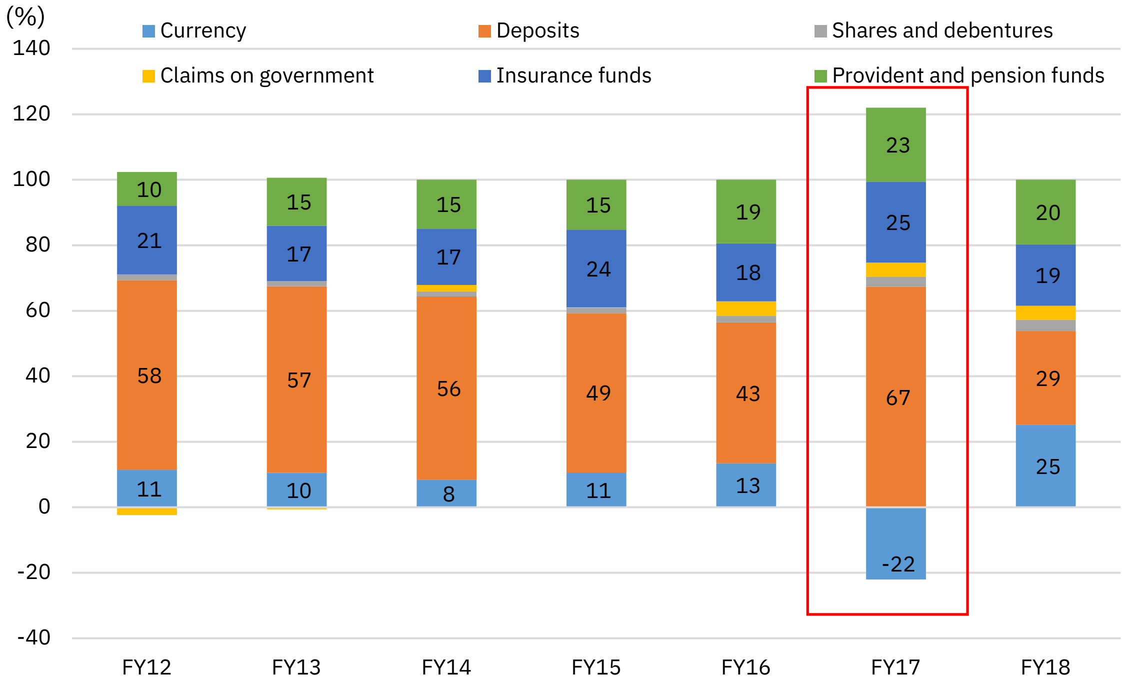


Source: CMIE Economic Outlook.

Households financial liability increased significantly over the years
There is a significant change in savings behaviour of households in recent years where financial liability raised by 15% annually (CAGR) between FY12 and FY18 as compared to 14% rise in their gross financial savings. This was mainly due to jump in total investment of dwellings and other buildings which was mostly financed by taking additional loans from banks and NBFCs. As a result, share of financial liability jumped up from 14% of total savings to 22% over the last seven years to reach a gross liability of Rs7.7trn in FY19 vs. Rs2.9trn in FY12.

Post demonetisation, the composition of gross financial savings by households changed drastically since FY17
Demonetisation in FY17 had a large impact on total savings in the form of currency as 86% of all currencies circulated in the economy were demonetised on November 8th, 2016. Total savings in currency accounted for almost 13% of gross financial savings in FY16 which turned negative in FY17 post demonetisation announcement, which was partly replaced by a sudden increase in bank deposits by 50%. Overall, demonetisation had a significant but transitory impact on the instrument used for mobilizing surplus by households, and savings in the form of currency has again raised to Rs5trn in FY18 (vs. Rs2trn in FY16), while bank deposit declined by 17% over the period (reached at Rs5trn in FY18 similar to the level of FY12). Besides, households' preference towards insurance, provident and pension funds remain intact over the years.

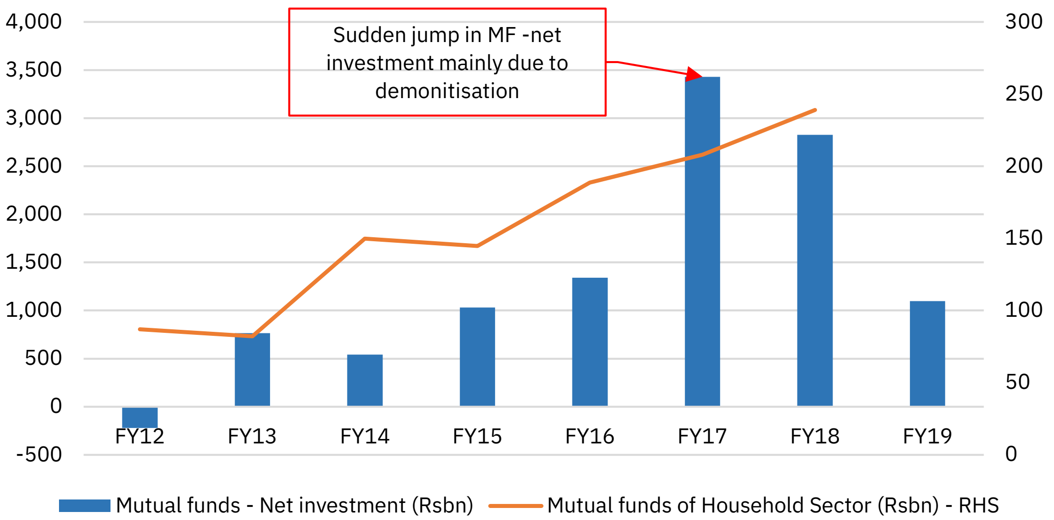
Figure 14: Composition of gross financial savings of household sector



Source: CMIE Economic Outlook.

Demonetisation helped to increase total savings on shares and debentures
Post-demonetisation, total savings on shares and debentures increased exponentially, with 56% growth in FY17 and 42% growth in FY18 to reach Rs630bn. However, it has contributed only 3% of total financial savings, marginally higher than the pre-demonetisation period. This, in turn, has magnificent impact on net investment through mutual funds by households as well as corporates in FY17. Afterwards, households' savings through mutual funds continued to increase, while net investment in mutual funds by others like corporates started declining from FY18 onwards as rate of return has declined significantly during this period.

Figure 15: Trend of net capital inflow from rest of the world and Mutual funds



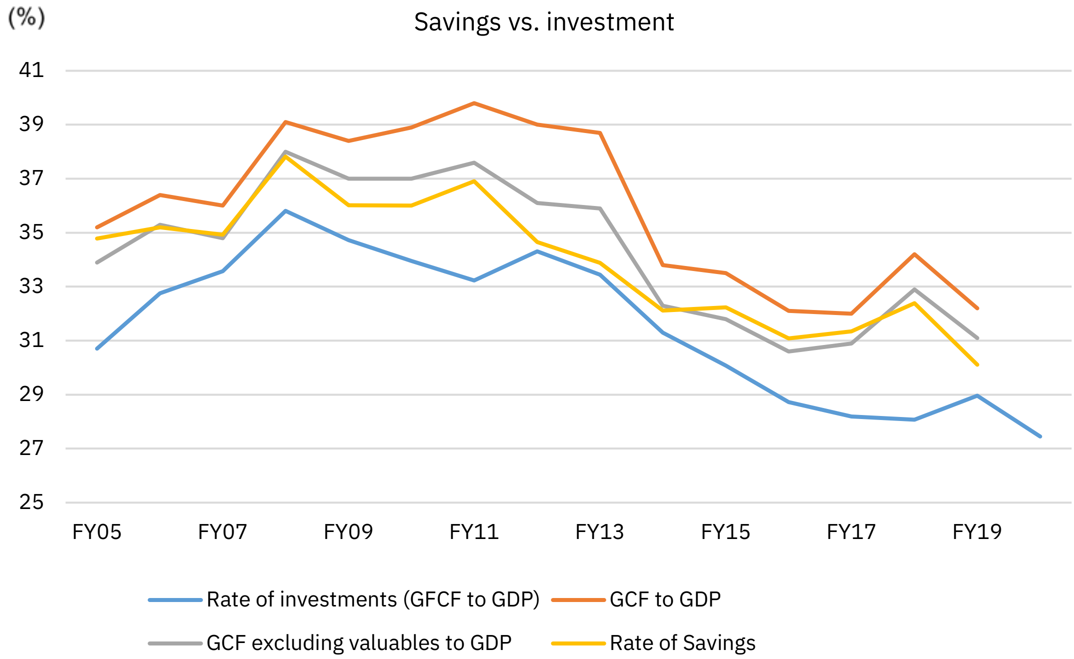
Source: CMIE Economic Outlook.
Note: Net capital inflows from rest of the world and mutual funds of households are not available for FY19.

Overall, the savings rate declined which may have adversely affected total investment

Despite of maintaining a decent growth in total savings in India, savings rate (% of GDP) has been declining since FY11 from 37% to 30.1% in FY19, which has created a supply side constraint for total investment, and may have resulted an overall fall in investment rate over the period.

Continuous fall in savings rate since FY12 may have created supply-side constraint on investment growth in the economy.

Figure 16: Trend of rate of savings vs. investment

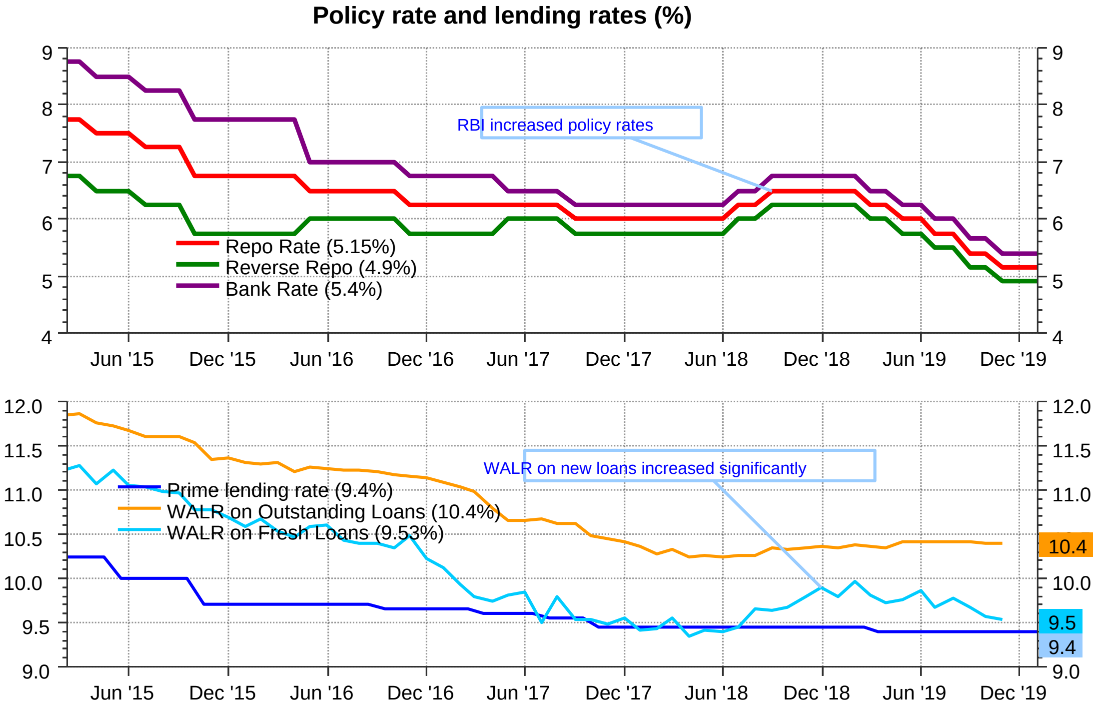


Source: CMIE Economic Outlook.

The monetary policy impact

The RBI revised its repo rate upward from 6% in May'18 to 6.5% in Aug'18 which has direct impact on lending rate particularly for new loans, raising the cost of funds during this period. Later the RBI has also taken several expansionary measures to combat with the ongoing economic slowdown, including 135bps cut in repo rate during Feb-Oct'19. However, lending rate declined by merely 44bps during this period. Besides, overall decline in savings rate made it difficult for banks to reduce their lending rates further in the near futures. This has also weakened monetary transmission in the system and sources of funds remain limited in the economy.

Figure 17: Policy rates and lending rates



Source: Refinitiv Datastream.

Investment by institutions

Households are the major contributor to total investment in India

Apart from FY16 and FY17, households are the major contributor to total investment in India followed by private corporations. Among others, total investment by public corporations remains similar to that of government investment. Overall their total investment recorded a significant rise since FY12 barring few (fiscal) years. In FY16, total investment by household sector recorded 13.8% drop which has attributed to a fall in their expenditure on dwellings, buildings and other services. Besides, total investment by public and private corporations plummeted in FY17 partly due to demonetisation and credit constraints after the rise in NPAs in banking sector. Investment growth of private corporations fell to 3.5% in FY17 (vs. 18.9% in FY16), whereas total investment of public corporations declined by 6.5% during this year. Despite of all these adverse conditions, government was able to maintain a steady growth in its total investment throughout the years which may have additional crowd out impact on total investment made by corporates.

Figure 18: Investment by institutions (Rstrn)

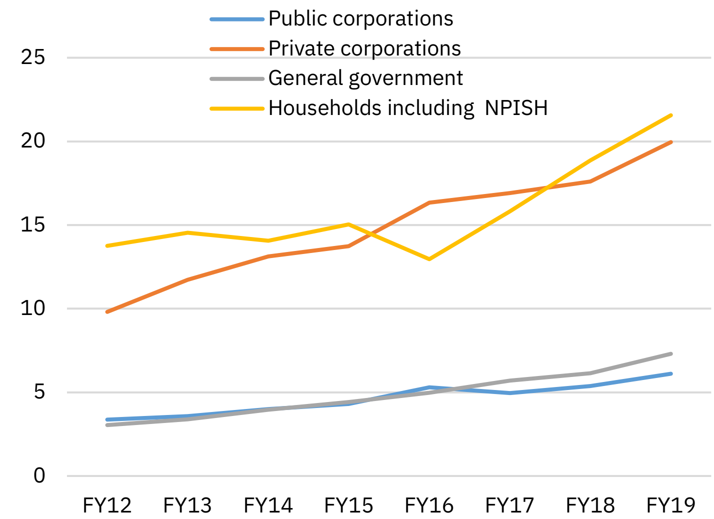
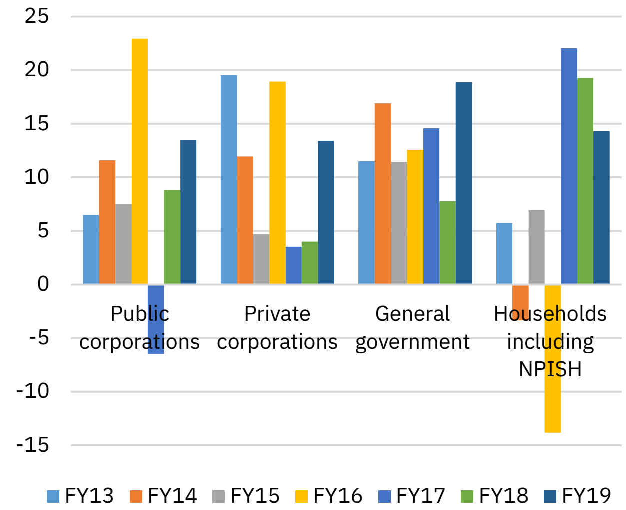


Figure 19: Growth in investment by ownership (%YoY)



Source: CMIE Economic Outlook.

Dwelling and other buildings are most preferred asset classes for investment

Except private corporations, all institutions spent a large share of their investment on dwelling, other buildings and services. Till FY15, the scenario was quite different for public corporations when 49% of their investment was spent on machinery and equipment and 43% on dwelling, other buildings and services. Overtime they started investing more on dwelling, buildings and services. In FY19, public corporations invested 56% on dwelling, other building and services and 38% on machinery and equipment.

General government and households spent a large share of investment on dwellings and other buildings throughout the period. As in FY19, they spent 82% and 68% of their total investment on dwelling, other building and services respectively.

Dwelling and other buildings are the most preferred asset classes for investment.

Households invested mostly on dwelling, other buildings and services, while private corporates invested more on intellectual property products.

Investment share on intellectual property products has been continuously declining since FY12.

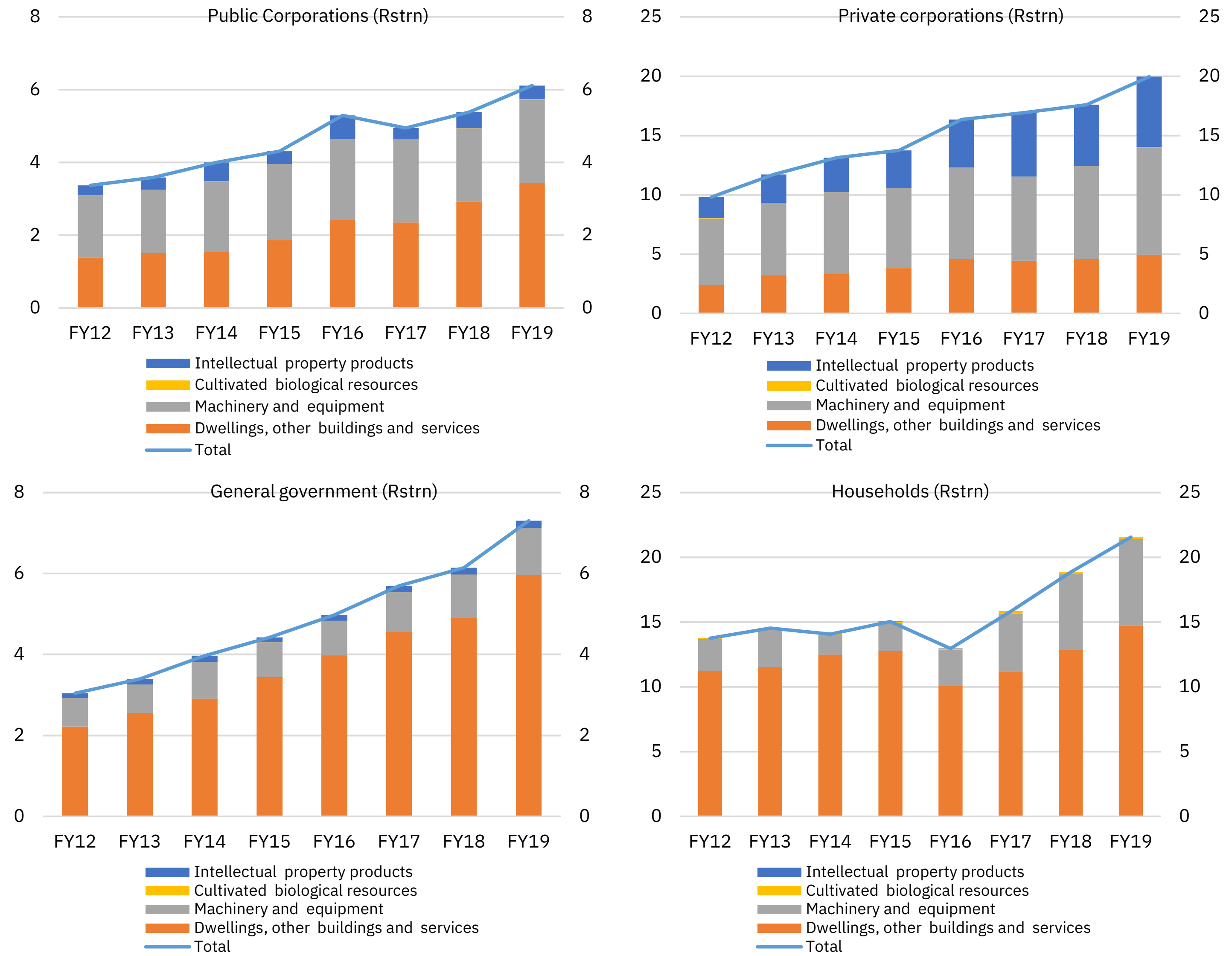
Private corporations spend more on machinery, equipment and intellectual property products

In contrast, private corporations invest more on machinery and equipment, followed by intellectual property products, dwelling, other buildings and services. In case of machinery and equipment, they spent Rs9.1trn in FY19 while households spent Rs6.7trn, followed by public companies (Rs2.3trn) and government (Rs1.2trn).

Private companies helped to improve productivity in the economy by investing a large amount on intellectual property products.

Among other asset classes, private corporations invested around 30% on intellectual property products in FY19 which is remarkably higher than other institutes. For instance, public corporations spent only 6.1% and government spent 2.4% of their total investment in the same year. Besides, investment share of private corporations increased substantially on intellectual property products since FY12 while other institutions recorded a slowdown in their investment share. In FY19, private corporations spent Rs5.9trn as compared to Rs370bn by public corporations and Rs172bn by government.

Figure 20: Investment by institutions across different asset classes



Source: CMIE Economic Outlook.

Sector-wise contribution of total investment

Rate of investment, i.e., share of investment in total GDP raised sharply between FY97 and FY08

Investment in both industry and services increased exponentially till FY08 due to availability of cheap funds, rise in consumption demand from both domestic and global markets. As a result, investment rate increased from 24.5% in FY97 to 35.8% in FY08. Service sector was the largest contributor whose investment rate raised from 10.7% in FY97 to 19.8% in FY08, whereas investment rate in industry increased merely by 150bps towards 12.83% of GDP in FY08. Afterwards, investment rate stared falling in both the sectors.

Investment growth in industry deteriorated at a faster rate than services sector.

Growth of investment in industry has been reducing since FY05 from its peak of 25.9% towards 3.4% in FY15. This slowdown is mainly due to low investment in manufacturing and Electricity. In case of services sector, investment growth recorded several ups and downs since FY97. Notably, total investment in service recorded a negative growth in FY03 and FY04 after 30% and 32% rise in FY00 and FY02 respectively. Since then, it has never increased back to that level. This radical shift in growth trajectory was solely due to fall in total investment in Real Estate and professional services. Investment growth in services has fluctuated between 2.7% and 11.3% during FY13-FY18.

Figure 21: Share of sector-wise GFCF to GDP (%)

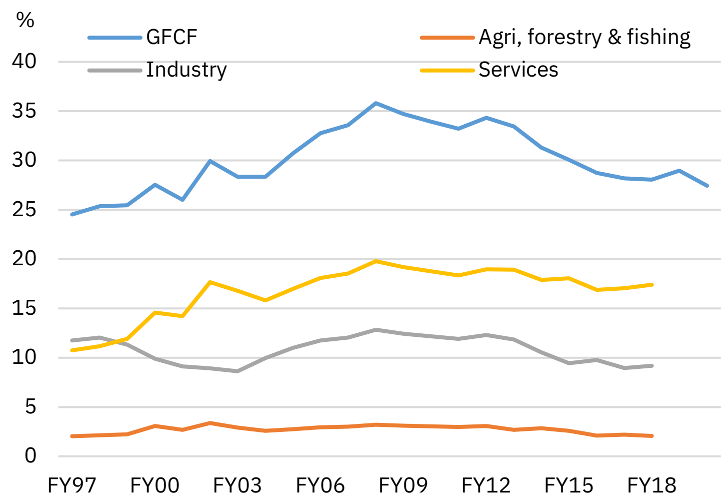
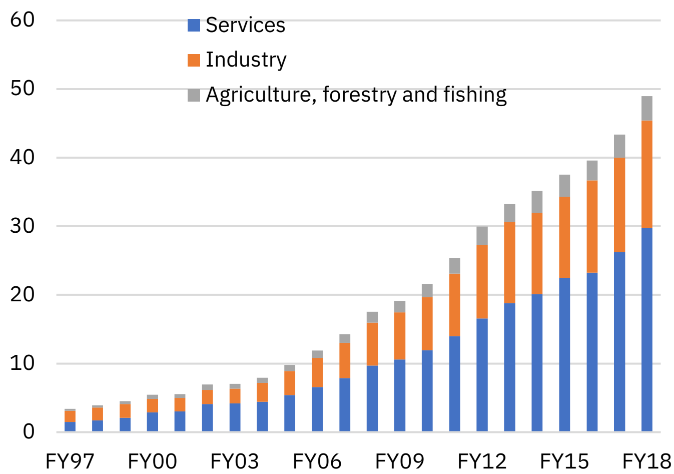


Figure 22: Sector-wise composition to total GFCF (Rstrn)



Source: CMIE Economic Outlook.

Investment in Agriculture experienced a roller-coaster ride since FY13

As seen in the below chart, investments in agricultural sector had a rather turbulent growth pattern since FY13 which was mainly contributed by total investment in crops. Total investment in Agriculture dropped by 13.2% in FY16 as investment in crops declined by 12.4% due to bad monsoon. In the next year, investment in agriculture sector grew remarkably by 12.9%, thanks to low base in the previous year, out of which crops had only contributed about 11.1%.

Among other categories, investment in fishing and aquaculture recorded a decent growth throughout the period, while investment in livestock, forestry and logging recorded significant decline in a few years. This, in turn, has changed the composition of total investment in agriculture across different categories. On one hand, investment in crops has declined by 2 percentage points from 87.2% in FY12 to 85.2% in FY18, which was partially offset by investment in fishing and aquaculture and its share increased from 4.4% in FY12 to 6.5% in FY18.

Figure 23: Sub-sector wise contribution in Agriculture to GFCF growth

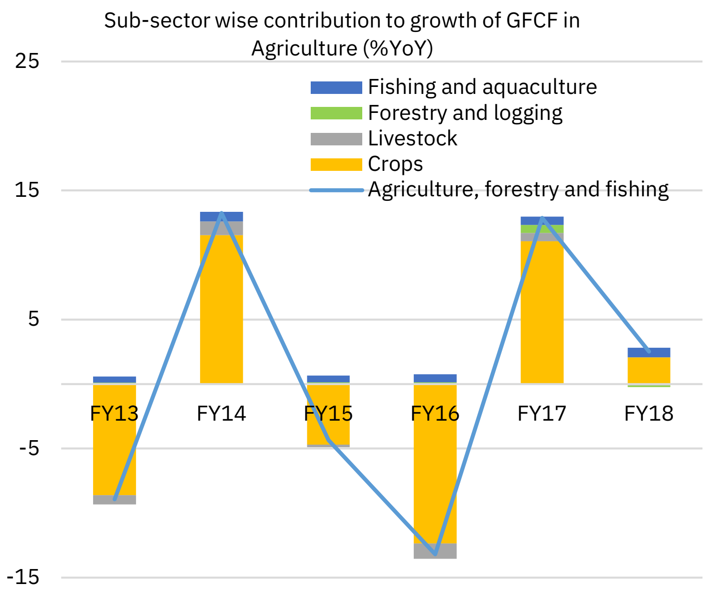
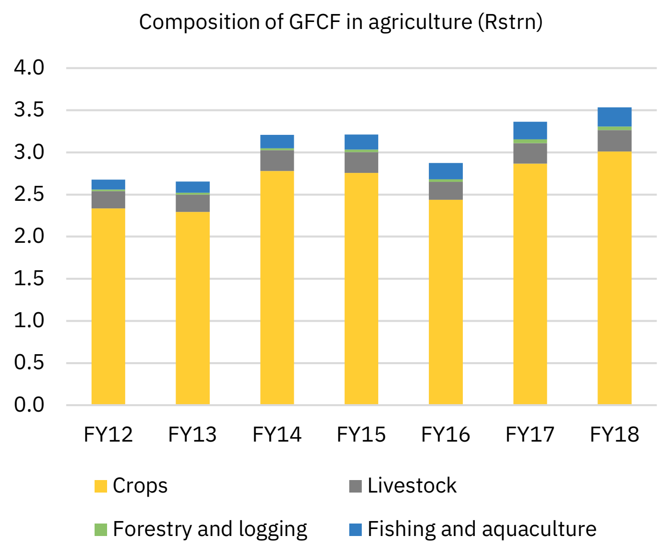


Figure 24: Sub-sector wise GFCF composition in Agriculture



Source: CMIE Economic Outlook.

In Agriculture, investment is mostly done by households

Agriculture remains to be the major employer in India even though it contributes merely 17% of total GVA. NSSO data suggest, many workers moved from agriculture to construction sector during 2000-2011 as they were getting higher wages in the Construction sector. However, the scenario has changed after the implementation of MGNREGA in 2006. Rural wage rates increased substantially which had demotivated villagers to migrate to urban areas. At the same time, growth in the Construction sector had declined and workers started to migrate from construction towards agriculture. In such a scenario, it is important to increase total investment in agriculture which will not be enough if done solely by households. On the contrary, the following chart shows that out of total investment in agriculture, households spent around 79% whereas 20% was invested by public sector, and private sector invested less than 1% in FY18. The composition of investment has fairly remained same over the years.

India would not be able to generate additional employment if total investment remains low and done mainly by households. In this condition, government should encourage more investment in agriculture through co-operatives where public and private corporates will be willing to invest more. This will perhaps enhance productivity in the sector through more investment on technology, machinery and intellectual products.

Figure 25: Growth in contribution to GFCF in Agriculture by ownership

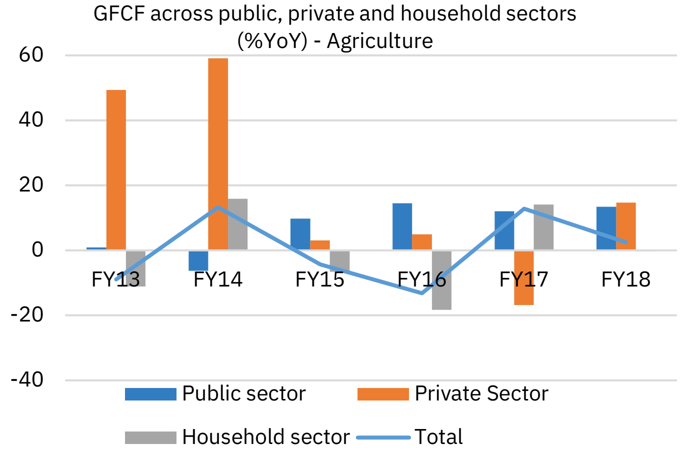
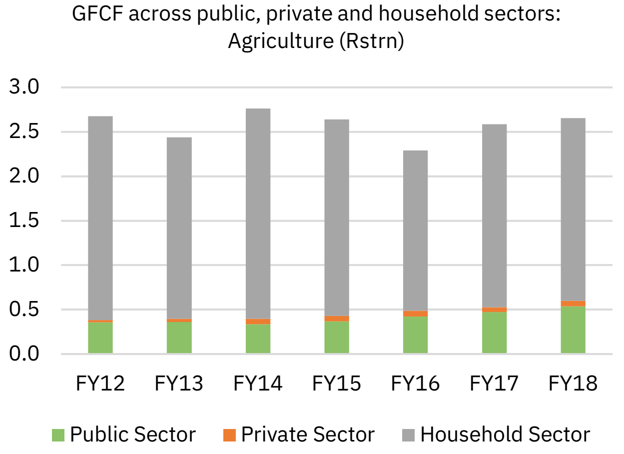


Figure 26: GFCF composition in Agriculture by ownership



Source: CMIE Economic Outlook.

Slowdown of investment growth in Industry is mainly attributed to low investment in manufacturing and Electricity

As seen in Figure 26, growth rate of investment in industrial sector has been reducing since its peak growth rate of 25.9% in FY05 to a decline of 3.4% in FY15 after which it started improving again. Over the years, manufacturing and Electricity are the main drivers of growth of investment in the industrial sector. Moreover, the composition of investment in industrial sector reveals that manufacturing remains the major component of investment in the industrial sector, followed by Electricity and other utility services.

Figure 27: Sub-sector wise contribution in Industry to GFCF growth

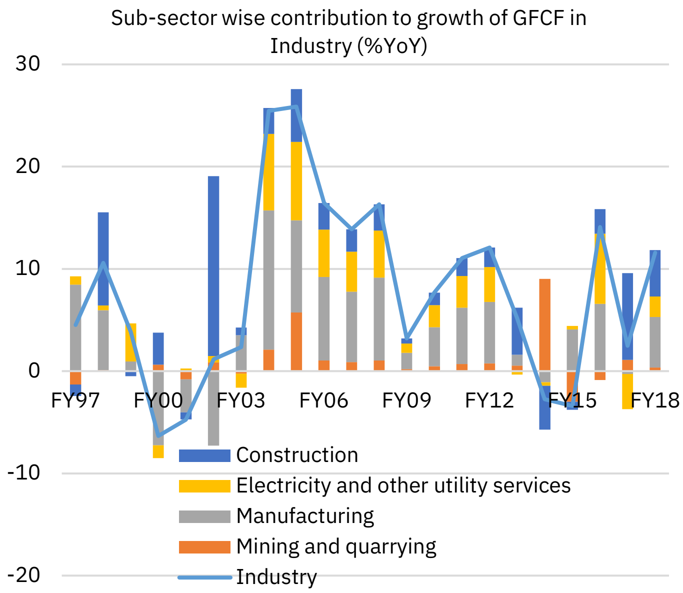
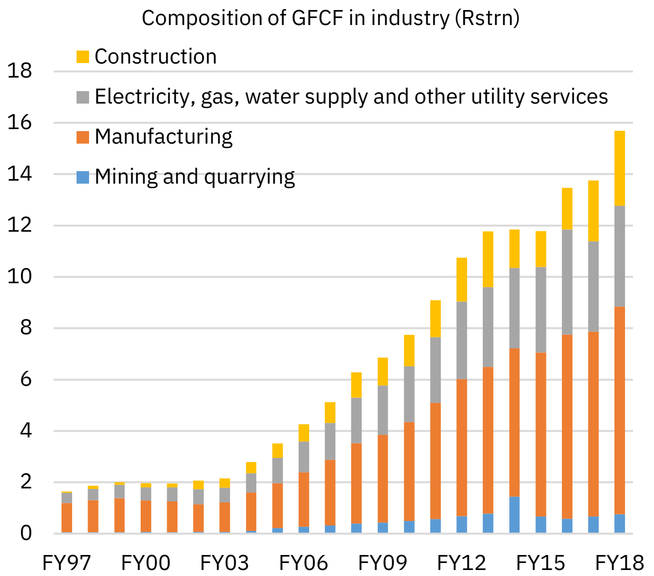


Figure 28: Sub-sector wise GFCF composition in Industry



Source: CMIE Economic Outlook.

Demonetisation may have adversely affected investment growth for both public and private sectors

Demonetisation may have adverse impact on investment growth for both public and private sectors in FY17, as seen in the following chart, it was transitory in nature. Overall, the composition of investment across these three sectors has fairly remained same over the years, as shown in Figure 29, with public and private sector comprising around 85% of total investment in the industrial sector.

Figure 29: Growth in contribution to GFCF in Industry by ownership

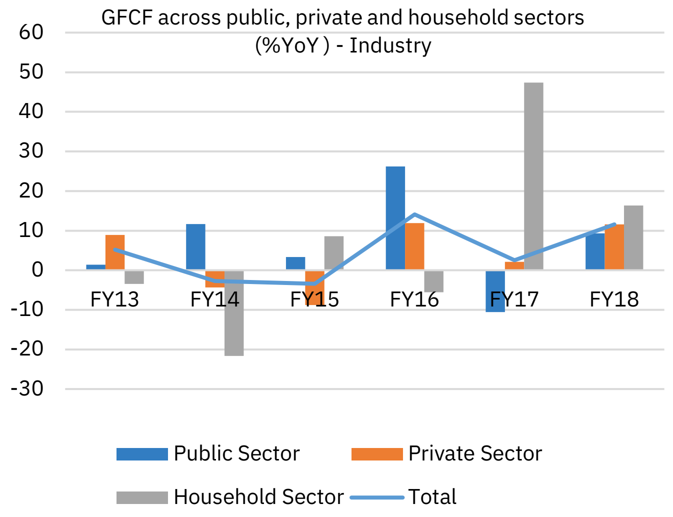
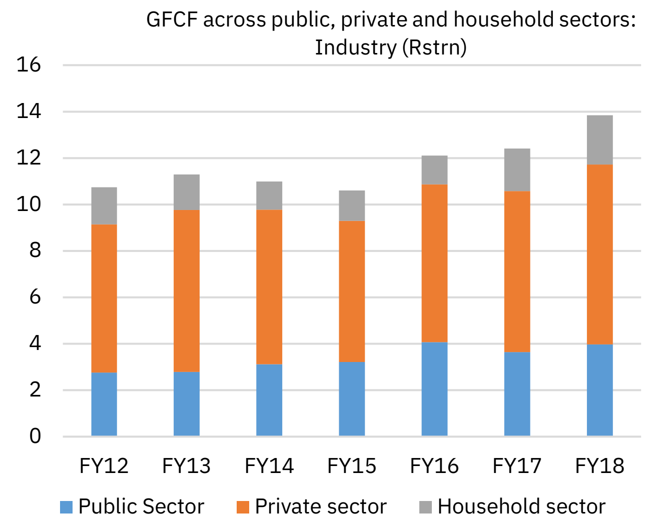


Figure 30: GFCF composition in Industry by ownership



Source: CMIE Economic Outlook.

In services, share of total investment in trade, hotel, communication and broadcasting increased remarkably since FY15

Investment growth in service sector recorded several ups and downs since FY97. Notably, total investment in service has fallen in FY03 and FY04 after 30% rise in FY00 and 32% growth in FY02. This radical shift in growth trajectory was solely due to fall in total investment in financial services, Real Estate and professional services. Since then, trade, hotel, transport, communication and related services gained importance in the market, and they became main drivers to the growth of investment in service sector besides financial services and Real Estate. Over time, share of investment in financial services and Real Estate declined from 52.6% in FY97 to merely 38.4% in FY18 which was largely captured by trade, hotel, transport, communication and related services.

Figure 31: Sub-sector wise contribution in Services to GFCF growth

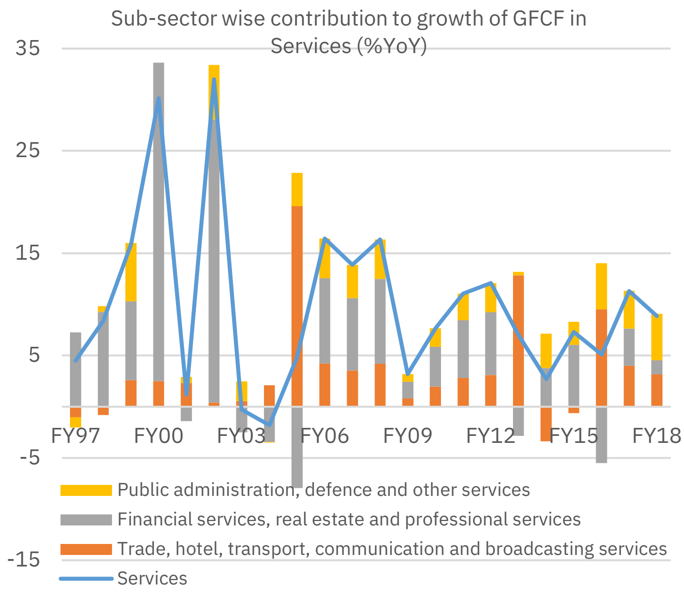
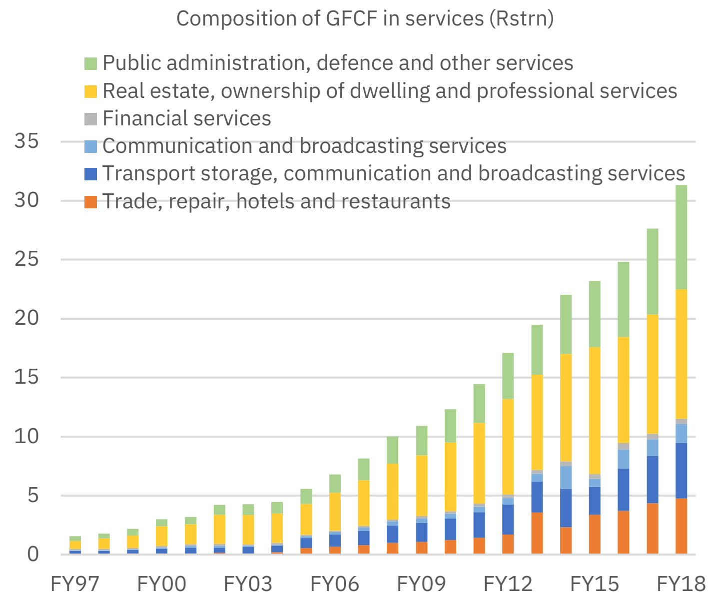


Figure 32: Sub-sector wise GFCF composition in Services



Source: CMIE Economic Outlook.

Share of household sector in total investment of services dropped rapidly since FY14

Households' total investment in services declined by more than 10% in FY14 and FY16 which resulted a rapid decline in their share to total investment from 60% in FY12 to 41% in FY16 before recovering partially to 43% in FY18. This share was mainly taken over by private sector which has contributed around 34% in FY18, followed by public sector (23%).

Figure 33: Growth in contribution to GFCF in Services by ownership

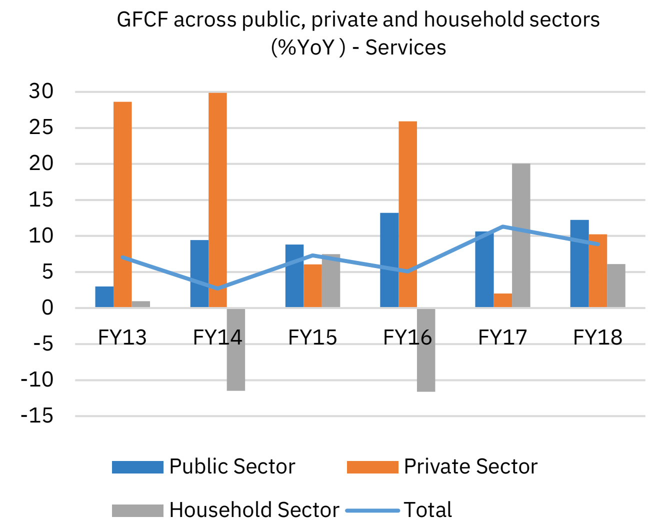
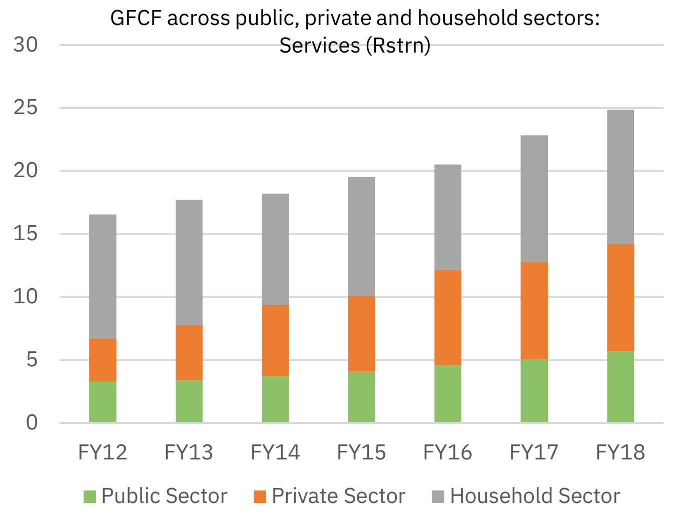


Figure 34: GFCF composition in Services by ownership



Source: CMIE Economic Outlook.

Investment by projects status: A bottom-up approach

We have also done a bottom-up deep dive by analysing investment data from the CMIE Capex database which tracks investment projects on a quarterly basis since FY95 across the lifecycle and status of projects, *viz*. new projects announced, projects outstanding, under implementation, revived projects, stalled due to several reasons and projects those are completed. This database only consists those investment projects that involve setting up of new capacities and entail a capital expenditure of Rs10m or more. Data also gives sector-wise distribution of total investment for all investment projects taken by government and private sector.

Investment on new projects have been on a downward trajectory since 2010

After a slow growth in investment announcements on new projects during 1995-00, it stated increasing by 9.7% (CAGR) during 2000-05 and jumped up to 33% during 2005-10. Afterwards its growth remains on a general downward trajectory barring a temporary recovery during 2015-16 and recorded a 12.7% decline during 2015-19. Only Rs12trn worth of total investment were announced on new projects in FY19 compared to a total investment of Rs21trn in FY15.

However, growth of total investment of completed and projects under implementation remain quite low during 2000-05 which have then increased substantially during 2005-10 and revival has more than doubled during this period mainly due to availability of timely and cheap funds and increased in consumption demand over the period. The scenario reversed during the post-GFC period when project announcements declined by 2.1% during 2010-15 and by 12.7% during 2015-19. During this time growth of completion remains positive initially and improved to 12% during 2015-19 along with a higher growth of revival. However, growth of dropped projects in value terms remains quite high during this time. This has marginally improved the rate of implementation. Since FY07, the share of projects under implementation in total outstanding projects has constantly increased towards 60% by the end of Dec’19.

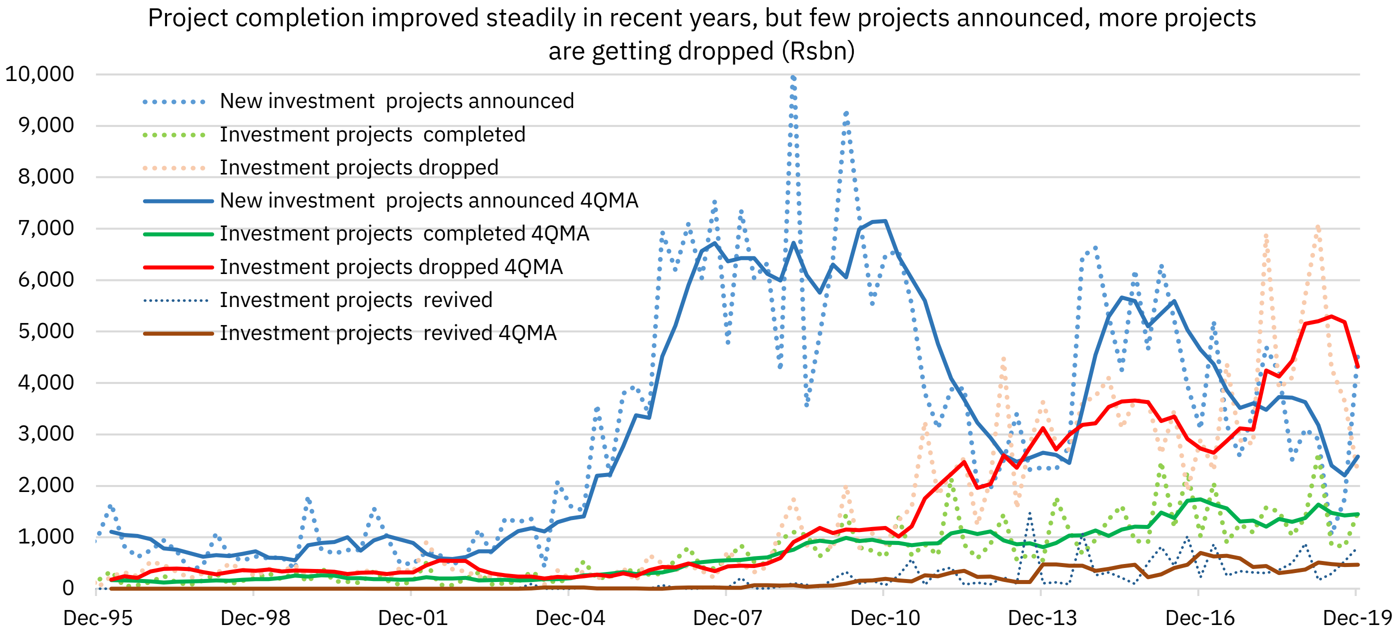
Figure 35: Quinquennial growth of total investment by project status in India (%CAGR)

New project announcements have fallen at a CAGR of 12.7% over the last four-year period, while growth in completed projects has picked up meaningfully. Projects under implementation has registered a CAGR of 4.4% during 2015-19.

Project Status	1995-00	2000-05	2005-10	2010-15	2015-19
New projects announced	-5.4	9.7	33.2	-2.1	-12.7
Projects completed	12.2	-0.3	30.8	0.8	12.0
Projects dropped	17.8	-6.7	36.8	25.1	10.0
Projects revived			105.7	22.9	1.8
Projects Outstanding	8.4	9.4	34.1	6.1	1.4
Projects under implementation	6.7	6.6	35.6	9.1	4.4

Source: CMIE – Capex. *Data extracted on January 24, 2019.

Figure 36: Trend of total investment by project status (announced, completed, dropped vs. revived)



Source: CMIE – Capex. *Data extracted on January 24, 2019.

Fresh announcements declined drastically for both government and private sectors

During 2005-10, both government and private sectors performed quite well in terms of fresh announcements, total projects completed, rate of revived projects and projects under implementation. Afterwards, their investment weakened mostly in terms of new announcements and completion rate. The situation deteriorated further during 2015-19 when government's fresh announcements declined by 20%, growth of revived projects declined drastically (-6.2%).

Government's announcements of new projects declined by 20% (CAGR) while total investment in revived projects fell by 6.2% (CAGR) during 2015-19.

Overall situation remains gloomy for private sector as well.

Since 2010, overall situation remains gloomy for private sector as well, mainly due to lack of funds, low investment demand, financial tightening and decline in export demand. New announcement declined by 6% annually during 2010-15 and then by 4% during 2015-19.

Worst case of stalled projects

Since 1995, growth of investment in stalled projects has always been high except 2000-05. In the government sector, total investment in stalled projects grew by 47% in 1995-00, which had temporarily declined 2% during 2000-05 before increasing again in the later years. Since 2001, quinquennial growth of investment remained 20% on average. Situation was quite similar in the private sector. Besides 2000-05, quinquennial growth of total investment on stalled projects was around 23% on average. As can be seen in Figure 43, total investment on stalled projects in private sector remains substantially higher than the government sector throughout the period.

Since 1995, growth of investment in stalled projects has always been high except 2000-05.

Stalled projects in private sector remains substantially higher than the government sector throughout the period.

Total investment on completed projects increased substantially in government sector

On the positive side, total investment in completed projects increased by 26.6% during 2015-19 (vs. 1.8% in 2010-15) in the government sector. However, the situation is not that impressive for private sector. Though, total

On the positive side, total investment on completed projects increased by 26.6% (CAGR) during 2015-19 (vs. 1.8% (CAGR) in 2010-15) in the government sector.

completion increased in private sector throughout the period, its growth was merely 0.3% during 2010-15 and 2.2% during 2015-19.

In terms of the revival rate, private sector performed better than government sector.

For government sector, the growth of investment on revived projects was 80% (CAGR) during 2005-10 and 32% (CAGR) during 2010-15 before turning negative to 6.2% (CAGR) during 2015-19. On the other hand, private sector maintained a continuous growth in total investment on revived projects since 2005. It recorded massive growth during 2005-10, which then slowed down to 10% during 2010-15 before rising to 17.3% during 2015-19.

Investment growth on revived projects remains higher in private sector as compared to government sector.

Figure 37: Quinquennial growth of total investment by project status in Government sector (%CAGR)

Decline in new project announcements has been largely led by the Government as it remained focused on completing the ongoing projects. Growth in projects stalled or dropped in the public sector remains stubbornly high, translating into a modest 4.3% growth in outstanding projects despite a sharp drop in new project announcements. Projects under implementation have registered a robust 10.4% CAGR over the last four-year period.

Project Status	1995-00	2000-05	2005-10	2010-15	2015-19
New projects announced	2.0	2.2	42.4	0.5	-19.9
Projects completed	8.6	10.5	14.3	1.8	26.6
Projects dropped	47.0	1.9	23.3	21.0	17.4
Projects revived			80.1	32.0	-6.2
Projects Outstanding	13.6	10.1	26.1	10.0	4.3
Projects under implementation	12.7	9.4	24.7	14.2	10.4

Source: CMIE – Capex. *Data extracted on January 24, 2019.

Figure 38: Quinquennial growth of total investment by project status in Private sector (%CAGR)

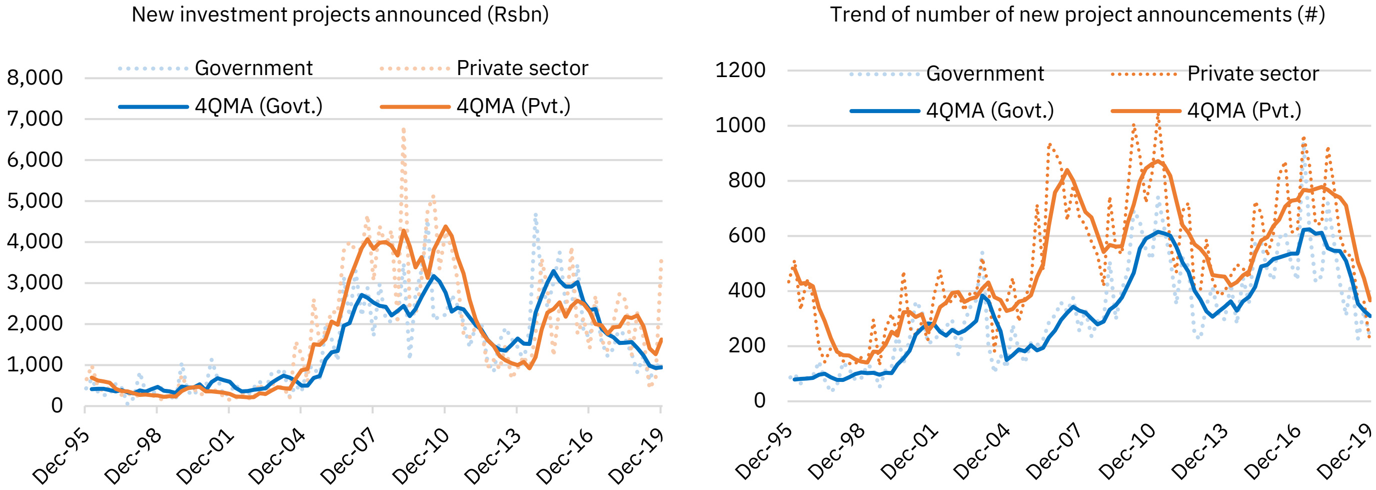
Private sector has also seen a meaningful drop in new project announcements over the last 10 years, as tight financial conditions triggered by the NPA woes in the banking sector and weak demand environment kept business sentiments muted. On the positive side, growth in the value of projects that were shelved or dropped has come off over the last four years, while that of revived projects has increased substantially.

Project Status	1995-00	2000-05	2005-10	2010-15	2015-19
New projects announced	-10.7	15.5	28.1	-6.1	-3.9
Projects completed	14.8	-10.4	48.0	0.3	2.2
Projects dropped	9.3	-13.8	49.5	27.1	6.7
Projects revived			258.4	10.0	17.3
Projects Outstanding	2.6	8.5	44.0	2.5	-1.8
Projects under implementation	0.7	2.3	49.8	5.0	-3.7

Source: CMIE – Capex. *Data extracted on January 24, 2019.

Figure 39: New projects announced — Government vs. Private sector

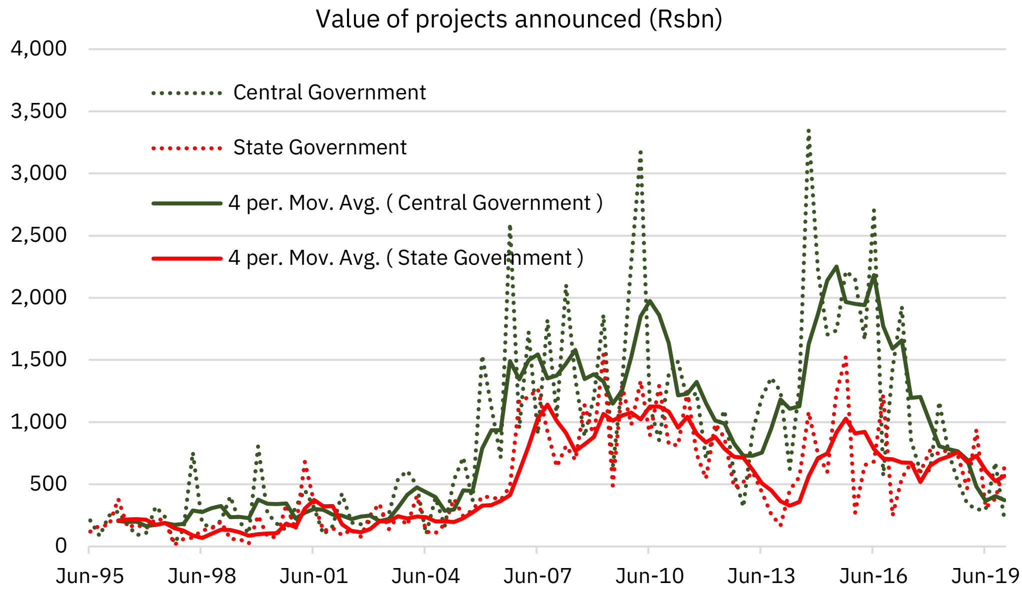
New project announcements by the private sector in value terms has seen a meaningful pick-up in the last quarter, largely concentrated in Transport Services and Chemical & Chemical Products sectors, even as that by the Government continue to trend downwards. However, the number of new project announcements by the Government as well as private have maintained a declining trend for over three years now.



Source: CMIE – Capex. *Data extracted on January 24, 2019.

Figure 40: New announcements —Central Government vs. State Government

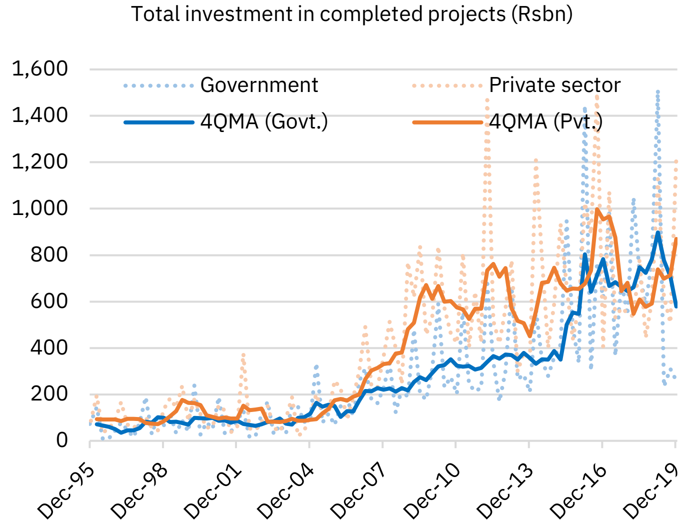
New announcements by Centre has almost always exceeded the State Government. However, the trend reversed in 2019 when States announced more investment projects than the Central Government.

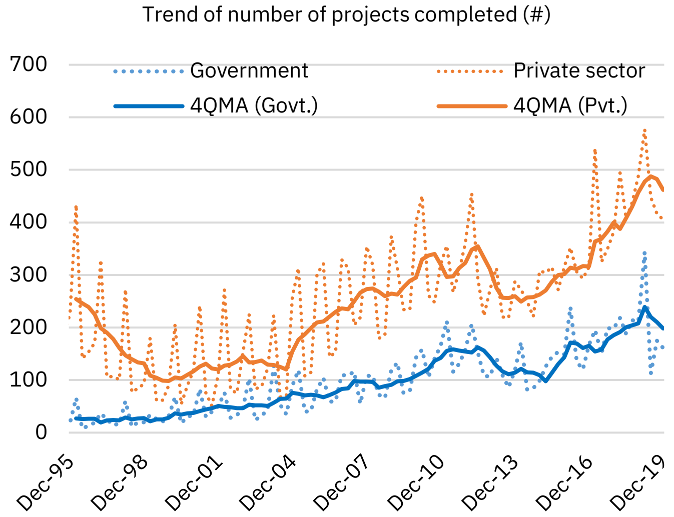


Source: CMIE – Economic Outlook.

Figure 41: Completed projects —Government vs. Private sector

The Government has focused more on completing the ongoing projects over the last few years, barring a slowdown in activity over last one year. The private sector has also started catching up since last two years.

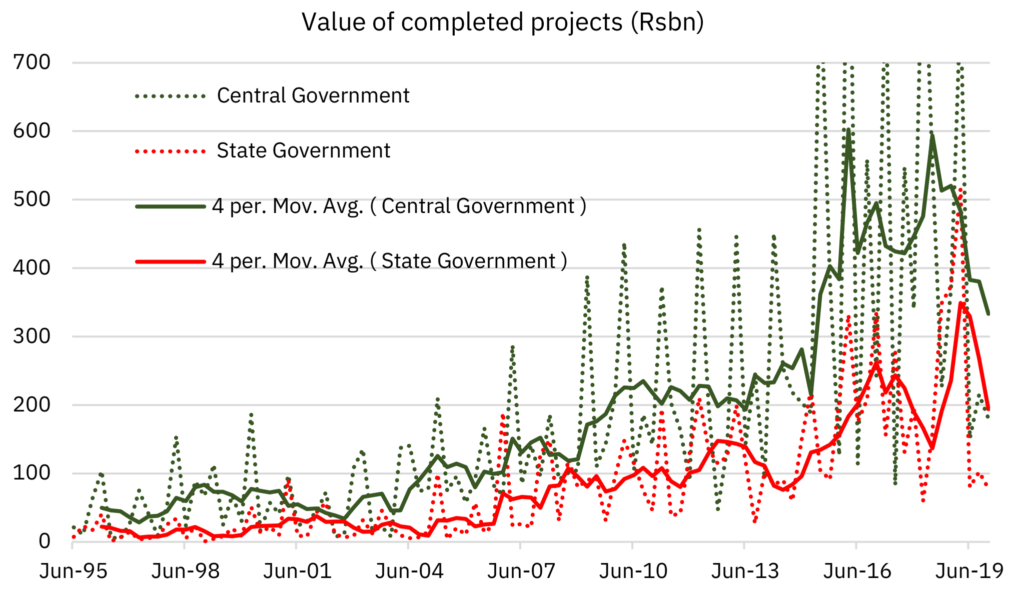




Source: CMIE – Capex. *Data extracted on January 24, 2019.

Figure 42: Projects Completed —Central Government vs. State Government

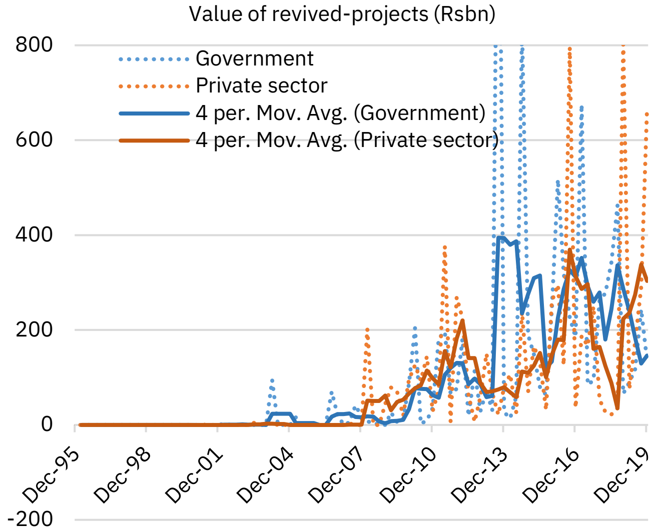
Centre exceeded State Government in terms of total value of projects completed throughout the period, and their completion rate improved significantly since FY14, before started falling in FY18 due to tight financial conditions triggered by the NPA woes in the banking sector and weak demand environment.

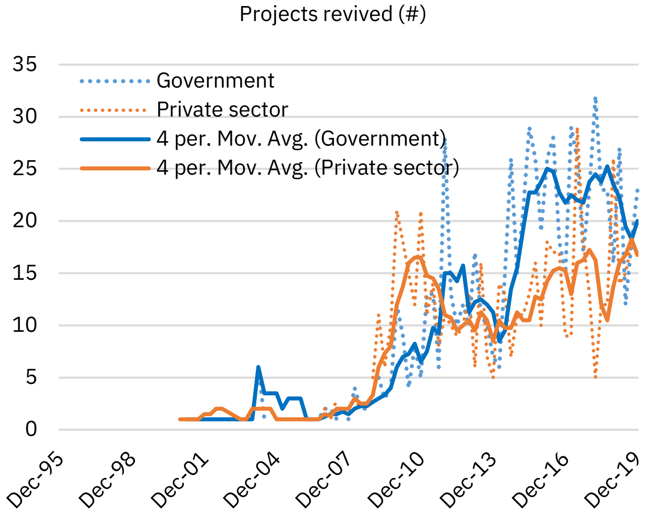


Source: CMIE – Economic Outlook.

Figure 43: Revived projects —Government vs. Private sector

The number of projects getting revived since 2011 have been higher in the government sector. But, in terms of total value of revived projects, the scenario is not quite clear. On average, there is a substantial rise in total value of revived projects in both Government and Private sectors.

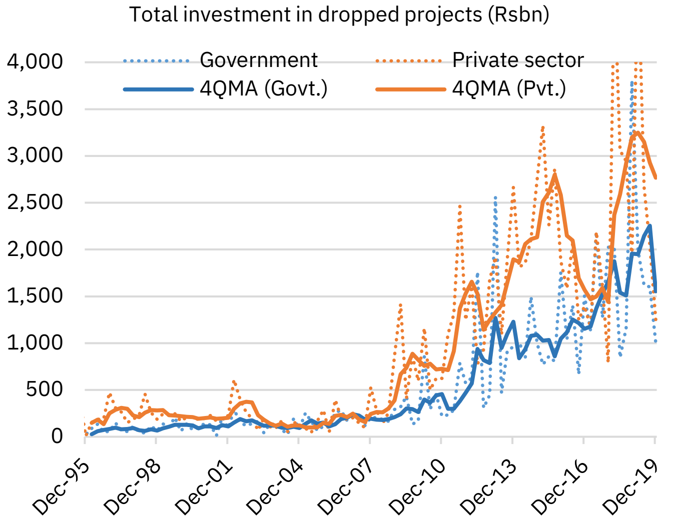


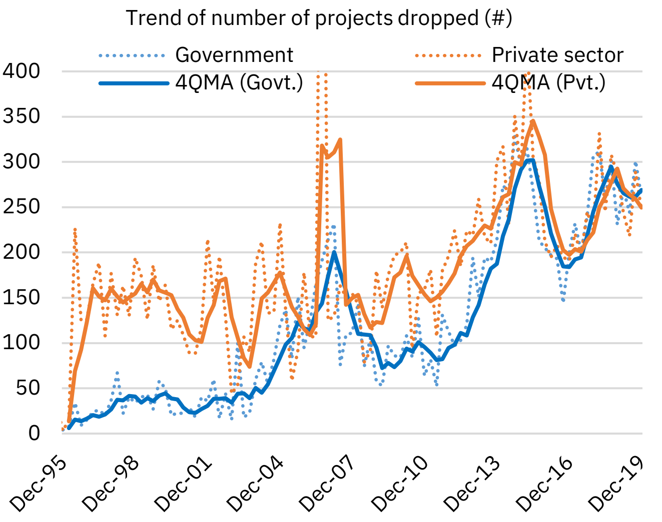


Source: CMIE – Capex. *Data extracted on January 24, 2019.

Figure 44: Dropped projects —Government vs. Private sector

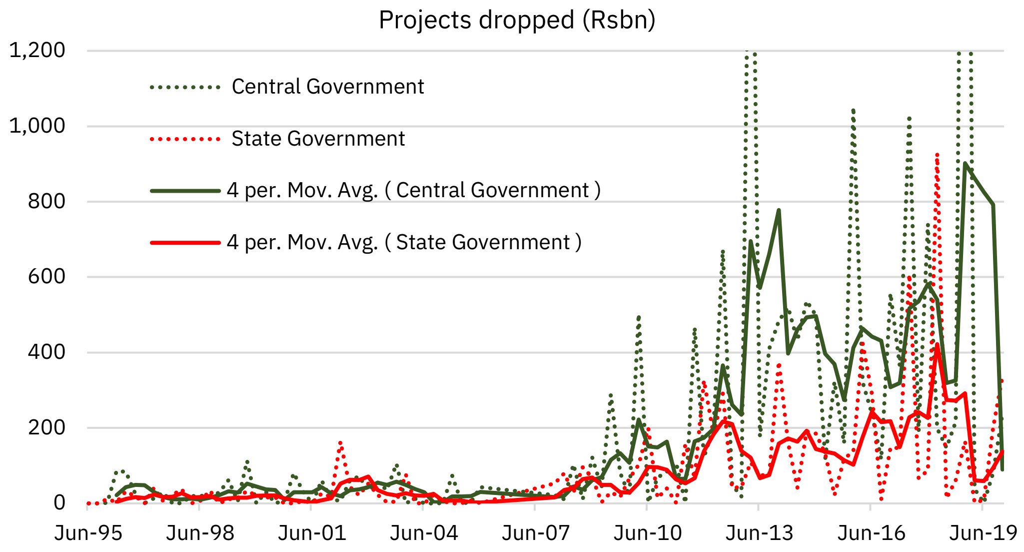
After witnessing a significant increase between 2007 and 2015 following the Global Financial Crisis, value of projects dropped or shelved fell substantially, only to rise again post December 2017, thanks to tight liquidity conditions and weak demand environment. Notably, the number and value of projects getting stalled or shelved have been higher in the private sector. Several policy initiatives such as demonetisation and GST have also added adding to the woes over the last couple of years, with value of such projects rising to the highest level in March 2019. However, worst seems to be behind us, as both value and number of such projects have started to come off for public as well as private sector.





Source: CMIE – Capex. *Data extracted on January 24, 2019.

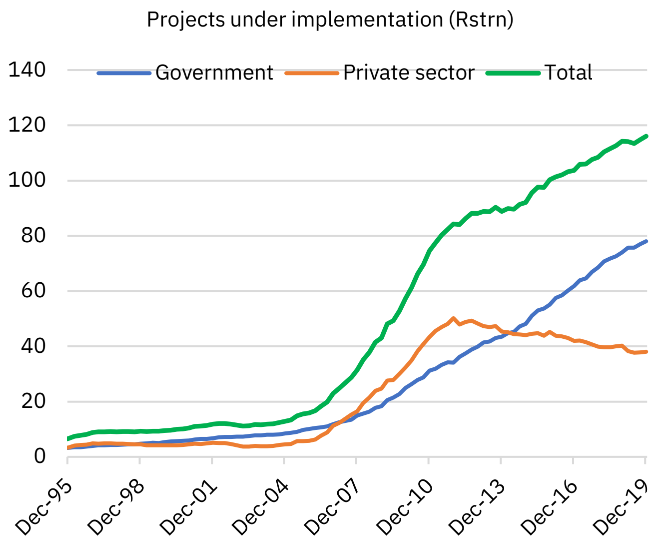
Figure 45: Projects dropped —Central Government vs. State Government
Like fresh announcements, value of revived and completed projects, Centre has a higher share than the State Government in terms of value of projects dropped, particularly since FY09. In fact, in FY14 and FY19, more than 90% of total projects stalled/ shelved/abandoned were started by the Central Government.

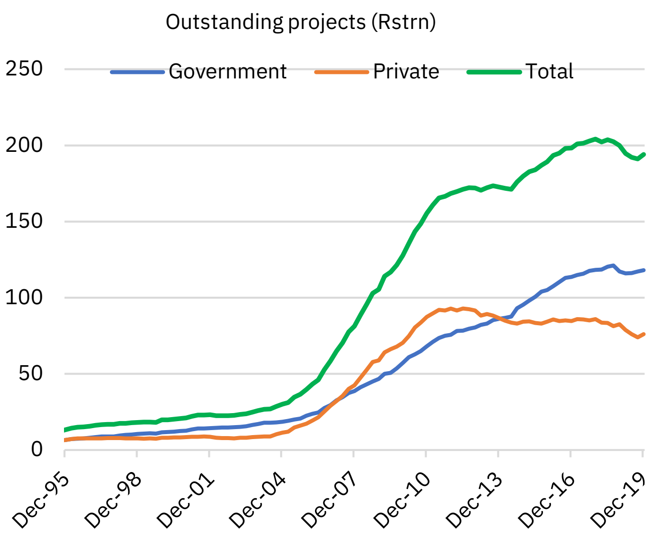


Source: CMIE – Economic Outlook.

Share of total investment on projects under implementation has improved significantly since 2008
Notwithstanding the investment headwinds, the rate of implementation on the total projects outstanding has improved significantly from 37% in 2007 to 60% in 2019, mainly due to rise in completion rate, decline in new announcements and substantial increase in number of total projects getting stalled during the time period.

Figure 46: Under implementation and outstanding projects—Government vs. Private sector
Despite fewer projects were announced by the Government over the last few years, Government has been leading in terms of projects under implementation as well as outstanding projects, partly explained by strong growth in value of projects getting shelved.

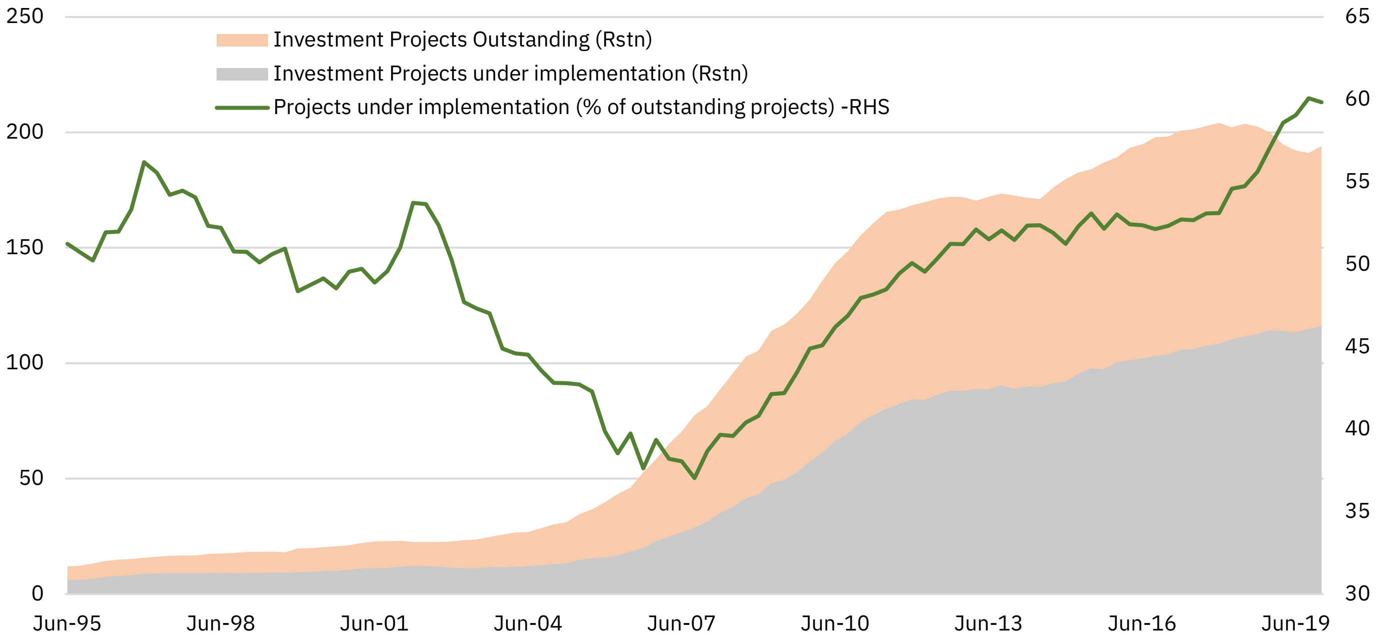




Source: CMIE Capex. *Data extracted on January 24, 2020.

Figure 47: Trend of investment projects under implementation vs. total outstanding projects

Implementation rate improved significantly from 37% of the outstanding projects in 2007 to 60% in 2019, largely led by the Government. This has been mainly due to strengthened focus on completing the ongoing projects, decline in new project announcements and substantial increase in number of projects getting stalled during this period.



Source: CMIE – Capex. *Data extracted on January 24, 2019.

Share of outstanding projects under implementation improved significantly since 2008.

Out of total projects outstanding, rate of implementation has improved significantly from 37% in 2007 to 60% in 2019 mainly due to rise in completion rate, decline in new announcements and substantial increase in number of total projects getting stalled during the time period.

As of Dec'19, Private sector is lagging behind Government sector in terms of the rate of implementation.

Implementation rate in government sector projects is generally higher than in private sector

Government sector performed better than the private sector in terms of implementation rate. For government projects, out of the total outstanding 66% were under implementation in the quarter ending Dec'19 whereas, only 50% projects were under implementation in case of private sector.

Figure 48: Trend of projects under implementation in Government sector

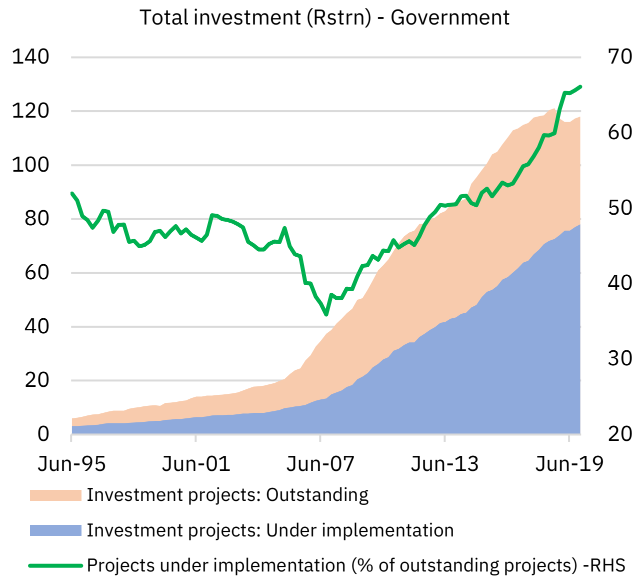
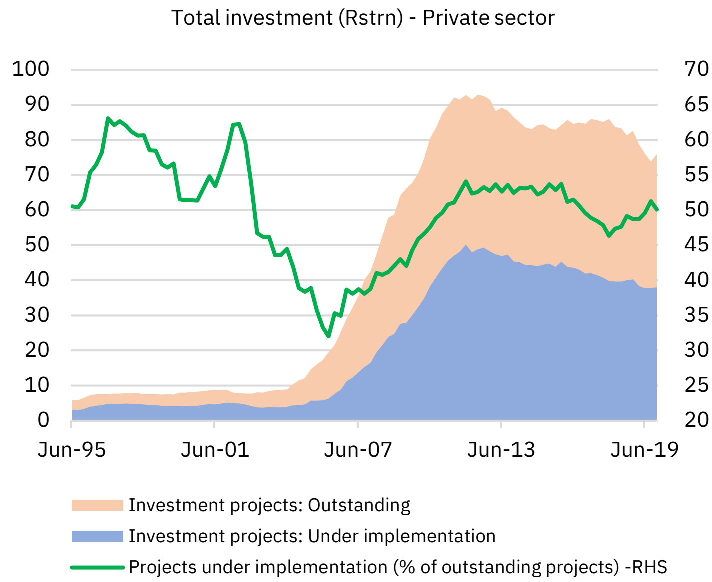


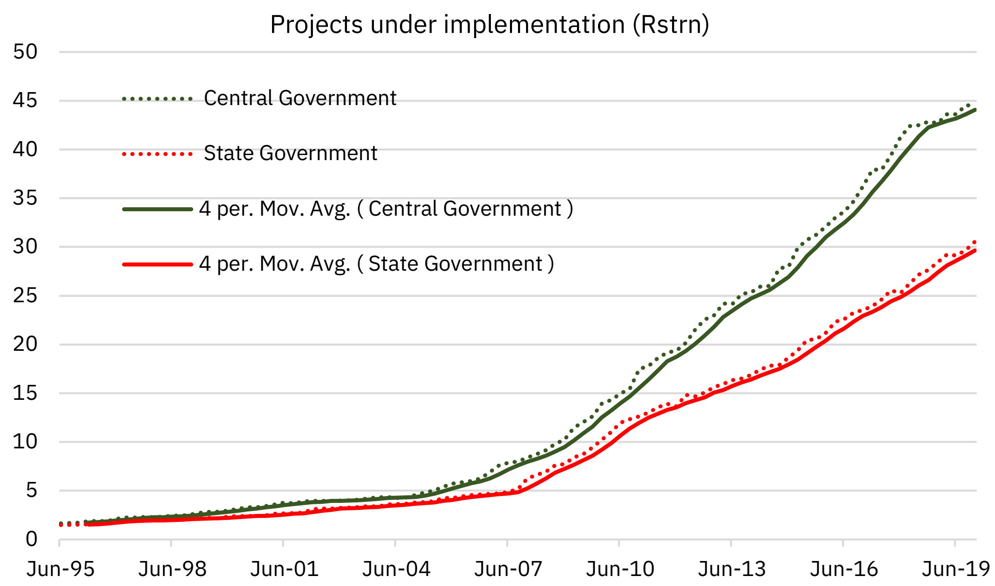
Figure 49: Trend of projects under implementation in Private sector



Source: CMIE – Capex. *Data extracted on January 24, 2019.

Figure 50: Projects under implementation —Central Government vs. State Government

Government's performance has started improving since FY08 when value of projects under implementation improved significantly for both State and Central Governments. Implementation was consistently higher with central projects during this period.



Source: CMIE – Economic Outlook.

New projects were mostly announced in transport, Electricity, Chemicals and Chemical projects

Sectors like Transport Services, Chemicals & Chemical Products have proven to be divergent with the general trend of declining project announcements since 2011. Average annual investment in Transport Services has increased from Rs3.8trn during 2006-10 to Rs4.1trn and Rs5.6trn during 2011-15 and 2016-19 respectively. A large part of investments in Transport Services sector have happened in roads and railways. Average investment in Chemical & Chemical Products sector has also increased substantially from Rs1.2trn during 2006-10 to Rs1.4trn and Rs2.1trn during 2011-15 and 2016-19 respectively, largely attributed to petroleum products and cement. Sectors where new project announcements have fallen significantly over the last 10 years include Metal & Metal Products and Electricity.

In 2019, nearly 26.5% of the new project announcements were in Transport Services, followed by Electricity (20.3%), Chemicals & Chemical Products (19.1%) and Construction & Real Estate (7.2%).

Out of all sectors, only Transport Services recorded significant growth in total investment in projects under implementation over the last five years.

Government is implementing major projects in Railways and roads whereas private sector is in the process of implementing big projects on Aircraft and Hyperloop.

Figure 51: Share of total investment in new projects announced for top five sectors in 2019 (%)

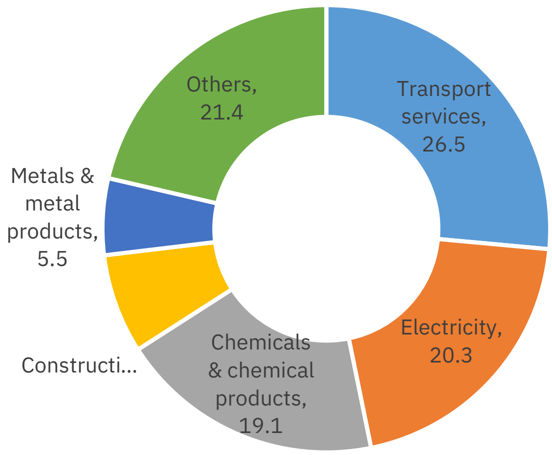
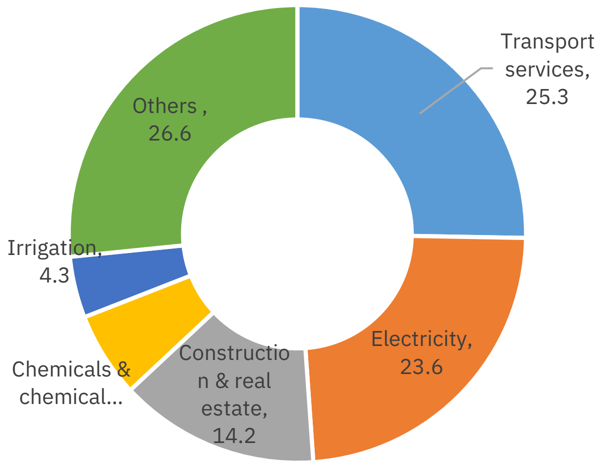


Figure 52: Share of total investment in projects completed for top five sectors in 2019 (%)



Source: CMIE – Capex. *Data extracted on February 10, 2020

Figure 53: Sector-wise average new investment projects announced

Average (Rsbn)	1996-00	2001-05	2006-10	2011-15	2016-19
Non-financial sector	3,157	3,832	22,511	16,591	16,169
Manufacturing	1,096	1,119	5,861	4,311	4,826
Food & agro-based products	36	44	173	180	259
Textiles	49	42	189	95	144
Chemicals & Chemical products	**527**	**260**	**1,216**	**1,358**	**2,082**
Consumer goods	25	18	78	38	172
Construction materials	63	34	437	474	276
Metals & Metal Products	**219**	**597**	**2,626**	**1,354**	**798**
Machinery	37	29	474	314	511
Transport equipment	97	54	586	374	387
Miscellaneous manufacturing	43	43	82	124	198
Mining	105	194	618	492	391
Electricity	**987**	**967**	**7,149**	**4,408**	**2,692**
Services (other than financial)	901	1,335	6,274	6,019	7,229
Hotels & tourism	32	64	177	184	87
Wholesale & retail trading	130	100	403	341	185
Transport Services	**505**	**718**	**3,763**	**4,144**	**5,626**
Communication services	78	66	466	120	167
Information Technology	32	102	505	145	120
Miscellaneous services	123	286	962	1,086	1,044
Construction & Real Estate	**69**	**216**	**2,610**	**1,361**	**1,030**
Irrigation	71	106	283	241	256
All industries	3,228	3,938	22,795	16,832	16,424

Source: CMIE – Capex. *Data extracted on February 10, 2020. Sectors in bold are further broken down to sub-sector level below in Figure 44.

Figure 54: Growth of total investment in new projects over last five years

%YoY	FY15	FY16	FY17	FY18	FY19
Non-financial sector	**105**	**1**	**(20)**	**(19)**	**(9)**
Manufacturing	0	79	(39)	(24)	32
Food & agro-based products	(28)	115	8	(43)	(14)
Textiles	(66)	160	49	15	(63)
Chemicals & Chemical products	(19)	165	(53)	(21)	107
Consumer goods	24	374	(25)	84	(45)
Construction materials	36	(30)	105	(36)	34
Metals & Metal Products	(19)	(53)	116	(64)	44
Machinery	685	205	(90)	35	42
Transport equipment	94	113	(63)	2	(37)
Miscellaneous manufacturing	321	178	(79)	282	(71)
Mining	138	(57)	(6)	285	(80)
Electricity	141	(41)	(44)	47	(8)
Services (other than financial)	230	(3)	(0)	(38)	(22)
Hotels & tourism	69	50	(35)	(48)	5
Wholesale & retail trading	105	(5)	(75)	95	61
Transport Services	310	2	2	(36)	(27)
Communication services	(24)	(54)	1,436	(92)	(96)
Information Technology	(68)	66	(4)	(77)	385
Miscellaneous services	234	(22)	(26)	(27)	(18)
Construction & Real Estate	45	(2)	5	(8)	(10)
Financial services					
Irrigation	**47**	**23**	**197**	**(63)**	**3**
All industries	**104**	**1**	**(18)**	**(20)**	**(9)**

Source: CMIE – Capex. *Data extracted on February 10, 2020

Figure 55: Average investment in major sub-sectors: New announced

Average (Rsbn)	1996-00	2001-05	2006-10	2011-15	2016-19
Chemicals & Chemical products	**527**	**260**	**1,216**	**1,358**	**2,082**
Petroleum products	173	102	711	759	1,243
Organic Chemicals	182	68	113	111	340
Inorganic Chemicals	35	33	123	49	119
Fertilisers	94	7	81	204	100
Drugs & pharmaceuticals	11	23	81	72	75
Others	32	27	106	163	205
Electricity	**987**	**967**	**7,149**	**4,408**	**2,692**
Conventional electricity	929	861	6,531	2,850	760
Renewable electricity	39	41	338	1,150	1,696
Electricity transmission	19	62	275	392	183
Electricity distribution	-	3	4	16	54
Transport Services	**505**	**718**	**3,763**	**4,144**	**5,626**
Road transport & allied services	179	425	1,115	1,141	2,312
Railway transport & allied services	129	99	1,366	1,931	1,652
Air transport & allied services	43	56	647	663	1,081
Shipping transport & allied services	143	123	504	318	426
Transport logistics services	11	15	131	91	154
Construction & Real Estate	**69**	**216**	**2,610**	**1,361**	**1,030**
Housing construction	32	52	1,379	1,030	741
Commercial complexes	37	164	1,230	331	289
Metals & Metal Products	**219**	**597**	**2,626**	**1,354**	**798**
Ferrous metals	184	531	2,458	1,285	630
Non-ferrous metals	35	64	168	63	167
Diversified metal & Metal Products	0	2	0	6	1

Source: CMIE – Capex. *Data extracted on February 10, 2020

In 2019, project completions were largely confined to Transport, Electricity, Construction and Real Estate

In FY00, Chemicals & Chemical Products led all other sectors in terms of completion rate, followed by Electricity. The trend has changed significantly over the years. Out of total investment projects completed in 2019, about 25% are finished in Transport Services, followed by Electricity (23.6%), Construction and Real Estate (14.2%), while the share of Chemicals & Chemical products declined considerably over the years.

On average, Rs1.9trn worth of investment projects are completed in Electricity during 2016-19. This has helped to rise India's electrification from 88% households in 2017 to almost 100% in 2019. In Transport Services, Rs1.1trn worth of investment projects are completed annually that raised total road length in India to 5.9m kms in Mar'19 with a CAGR of 2.8% over a period of last seven years, while the total railways route length rose to 68,000 kms with a CAGR of 0.86% over the same period.

Among others, Rs508bn worth investment projects were completed in both the Construction & Real Estate and Chemicals & Chemical products sectors. Other than Transport Services, all sectors recorded a slowdown in terms of total value of completed projects over the last five years, amid economic slowdown, tight financial conditions and fall in consumption demand.

Figure 56: Sector-wise average investment projects completed

Average (Rsbn)	1996-00	2001-05	2006-10	2011-15	2016-19
Non-financial sector	**705**	**773**	**2,426**	**3,793**	**5,851**
Manufacturing	436	233	952	1,145	1,306
Food & Agro-based products	15	13	66	47	89
Textiles	38	15	79	72	43
Chemicals & Chemical products	193	76	268	322	508
Consumer goods	10	9	23	18	37
Construction materials	25	17	82	73	83
Metals & Metal Products	72	53	216	343	294
Machinery	16	11	59	94	87
Transport equipment	49	31	125	148	117
Miscellaneous manufacturing	19	8	35	28	48
Mining	43	26	200	126	204
Electricity	137	199	425	1,202	1,914
Services (other than financial)	89	304	775	1,123	1,919
Hotels & tourism	6	14	21	42	60
Wholesale & retail trading	14	25	77	108	78
Transport Services	39	94	347	647	1,095
Communication services	9	99	132	117	384
Information Technology	7	29	42	38	39
Miscellaneous services	19	43	155	171	360
Construction & Real Estate	2	12	73	198	508
Irrigation	**12**	**20**	**33**	**61**	**110**
All industries	**715**	**793**	**2,459**	**3,855**	**5,961**

Source: CMIE – Capex. *Data extracted on February 10, 2020

Figure 57: Growth of total investment in completed projects over last five years

%YoY	FY15	FY16	FY17	FY18	FY19
Non-financial sector	**16**	**44**	**9**	**(25)**	**30**
Manufacturing	(16)	57	(16)	(26)	11
Food & agro-based products	83	5	82	(6)	(10)
Textiles	47	(6)	(4)	(65)	(32)
Chemicals & Chemical products	(31)	120	(3)	(2)	(25)
Consumer goods	127	(19)	(7)	25	185
Construction materials	(30)	94	11	(61)	11
Metals & Metal Products	(12)	48	(47)	(79)	344
Machinery	(22)	13	(5)	31	49
Transport equipment	(11)	23	(43)	9	(8)
Miscellaneous manufacturing	(82)	309	89	(33)	(64)
Mining	144	47	(58)	(18)	81
Electricity	68	34	(12)	(14)	(12)
Services (other than financial)	(40)	96	92	(37)	59
Hotels & tourism	(7)	51	(6)	(1)	136
Wholesale & retail trading	(75)	(5)	153	(56)	66
Transport Services	(27)	84	2	35	50
Communication services	(84)	(100)		(100)	1,657
Information technology	42	184	(56)	45	(54)
Miscellaneous services	(50)	191	(9)	3	92
Construction & Real Estate	368	(31)	41	(14)	151
Financial services					
Irrigation	**(27)**	**259**	**146**	**(77)**	**1,189**
All industries	**15**	**44**	**10**	**(26)**	**36**

Source: CMIE – Capex. *Data extracted on February 10, 2020

Projects were stalled mostly in Electricity

Out of total stalled projects in 2019, about 26% were in Electricity, followed by Chemical and Chemical products (23.6%), transport service (23.4%) and Construction & Real Estate (9.4%). Though several projects were announced in Electricity during 2006-10, many of them were stalled in subsequent years. Average investment in stalled projects increased from Rs605bn during 2006-10 to Rs3.0trn during 2011-15 to Rs5.1trn during 2016-19. Similar trend was seen in Transport Services as well, where, average investment increased ten times from Rs301bn during 2006-10 to Rs3trn during 2016-19.

Figure 58: Share of total investment in stalled projects for top five sectors in 2019 (%)

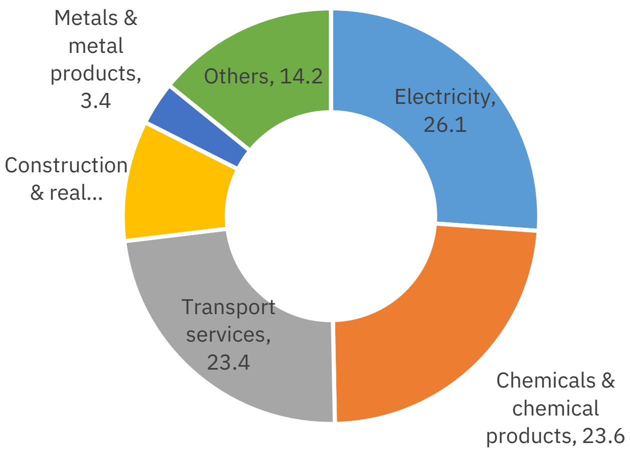
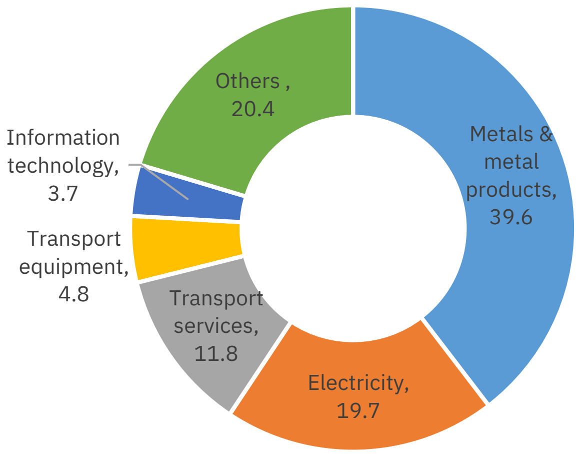


Figure 59: Share of total investment in revived projects for top-five sectors in 2019 (%)



Source: CMIE – Capex. *Data extracted on February 10, 2020

Figure 60: Sector-wise average investment dropped-projects (Stalled/ shelved/abandoned and due to lack of information)

Average (Rsbn)	1996-00	2001-05	2006-10	2011-15	2016-19
Non-financial sector	1,231	1,290	2,553	9,618	15,325
Manufacturing	735	420	916	3,472	4,654
Food & agro-based products	29	21	44	57	168
Textiles	36	18	47	52	53
Chemicals & Chemical products	**334**	**262**	**239**	**867**	**1,822**
Consumer goods	7	5	30	45	33
Construction materials	38	17	49	345	344
Metals & Metal Products	**197**	**48**	**301**	**1,696**	**1,673**
Machinery	14	12	138	224	227
Transport equipment	47	28	38	113	170
Miscellaneous manufacturing	42	8	29	73	164
Mining	23	28	55	223	282
Electricity	330	499	605	3,015	5,109
Services (other than financial)	126	321	675	2,142	4,280
Hotels & tourism	18	14	38	115	116
Wholesale & retail trading	57	62	79	186	178
Transport Services	**61**	**150**	**301**	**1,037**	**3,015**
Communication services	4	17	109	166	32
Information Technology	13	19	62	163	317
Miscellaneous services	26	59	86	475	623
Construction & Real Estate	**21**	**22**	**303**	**766**	**999**
Irrigation	8	5	45	40	33
All industries	1,239	1,296	2,598	9,658	15,359

Source: CMIE – Capex. *Data extracted on February 10, 2020. Sectors in bold are further broken down to sub-sector level below in Figure 51.

Figure 61: Growth of total investment in dropped-projects over last five years

%YoY	FY15	FY16	FY17	FY18	FY19
Non-financial sector	**31**	**(8)**	**(19)**	**61**	**22**
Manufacturing	19	(15)	(8)	(14)	99
Food & agro-based products	181	(33)	172	(3)	(10)
Textiles	(29)	24	(78)	411	(55)
Chemicals & Chemical products	(49)	(25)	(4)	15	469
Consumer goods	61	(60)	44	20	110
Construction materials	374	(64)	34	(22)	(45)
Metals & Metal Products	59	10	(32)	(20)	(52)
Machinery	10	34	168	(45)	(48)
Transport equipment	110	(69)	389	(54)	97
Miscellaneous manufacturing	(18)	4	(83)	262	386
Mining	209	(12)	(67)	66	(22)
Electricity	96	10	(39)	92	(14)
Services (other than financial)	26	(20)	19	110	10
Hotels & tourism	25	(39)	8	(24)	(4)
Wholesale & retail trading	23	20	(58)	121	28
Transport Services	23	(22)	(0)	271	4
Communication services	2,900	(59)	(59)	329	(86)
Information technology	133	(7)	170	(75)	3
Miscellaneous services	(3)	(18)	35	(1)	64
Construction & Real Estate	(56)	(32)	(22)	226	62
Financial services					
Irrigation	**132**	**(11)**	**(3)**	**(23)**	**22**
All industries	**31**	**(8)**	**(19)**	**61**	**22**

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 62: Average investment in major sub-sectors: Stalled/ shelved/abandoned

Average (Rsbn)	1996-00	2001-05	2006-10	2011-15	2016-19
Chemicals & Chemical products	**196**	**178**	**142**	**636**	**848**
Petroleum products	91	69	89	500	764
Fertilisers	28	30	6	47	48
Inorganic Chemicals	1	3	1	43	16
Drugs & pharmaceuticals	1	0	9	11	15
Caustic soda	0	-	1	-	3
Others	75	77	36	36	1
Electricity	**173**	**238**	**233**	**1,305**	**1,513**
Conventional electricity	166	227	214	1,247	1,420
Renewable electricity	6	12	18	53	84
Electricity transmission	0	-	0	5	9
Electricity distribution	-	-	1	0	-
Transport Services	**29**	**74**	**171**	**383**	**2,029**
Road transport & allied services	15	8	65	64	266
Railway transport & allied services	-	18	66	180	706
Air transport & allied services	7	4	15	35	866
Shipping transport & allied services	6	43	21	98	184
Transport logistics services	1	2	6	5	8
Construction & Real Estate	**10**	**13**	**279**	**537**	**106**
Housing construction	-	0	96	247	49
Commercial complexes	10	13	182	290	57
Metals & Metal Products	**124**	**18**	**182**	**1,262**	**870**
Ferrous metals	118	16	176	1,212	782
Non-ferrous metals	5	3	5	49	88
Diversified metal & Metal Products	-	-	1	1	-

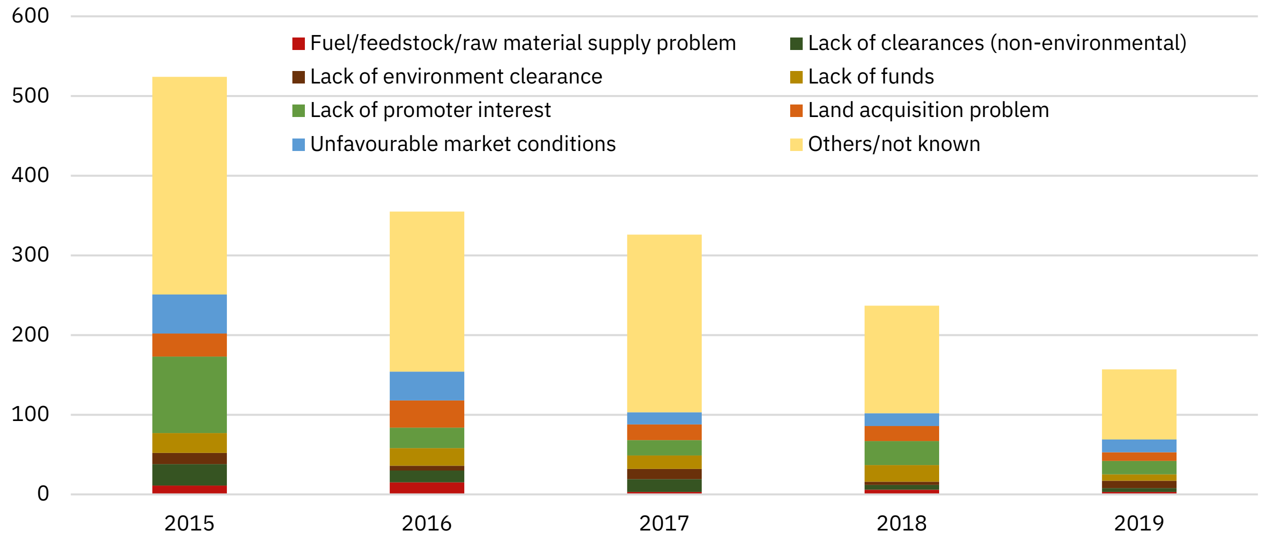
Source: CMIE – Capex. *Data extracted on February 10, 2020

The number of projects stalled has decreased continuously since 2015.
As shown in the following chart, lack of promoter interest, land acquisition problems, unfavourable market conditions, lack of funds and lack of clearance from the government are major reasons for projects being stalled.

In 2015, the maximum number of projects stalled were due to lack of promoters' interest and unfavourable market conditions which included mostly infrastructure, energy and steel projects, whereas in 2016, land acquisition problem and unfavourable market conditions have become prominent causes for stalling besides lack of promoters interest. In the private sector, projects were stalled mainly due to lack of favourable market conditions, whereas in the Government sector, land acquisition problem appeared to be the prominent factor for projects to be stalled in 2016.

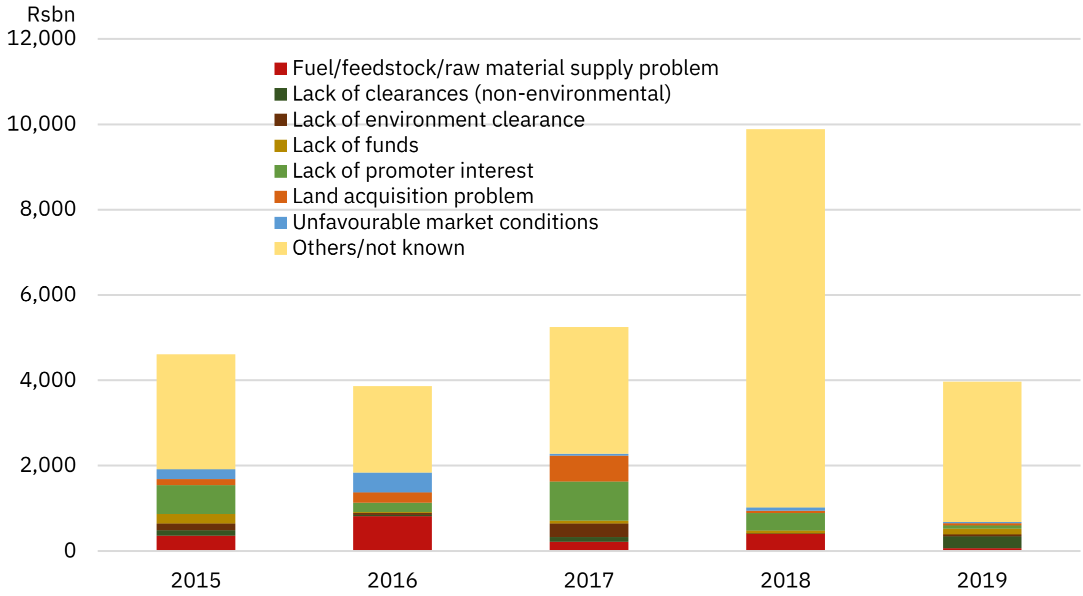
In 2017, demonetization, GST and the Real Estate (Regulation and Development) Act brought in additional worries into the system, resulted Rs912bn worth of projects to get stalled solely due to lack of promoter interest. Most of these projects were in the private sector. In case of the Government sector, lack of environment clearance and land acquisition problem were two major reasons for many projects to get stalled. These issues persist in the following years as well, and as a result, there was a sudden jump in the value of stalled projects in 2018. However, this has somewhat calmed down in 2019 may be due to the fact that value of fresh announcements and outstanding projects came down considerably over the year.

Figure 63: Reason for projects getting stalled (No. of projects)



Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 64: Reason for projects getting stalled (cost of projects)



Source: CMIE – Capex. *Data extracted on February 10, 2020

Figure 65: Top 5 stalled projects since 2015

Company Name	Project Name	Cost (Rsbn)	Industry	Ownership
2015				
North Eastern Electric Power Corpn. Ltd.	Siang Upper / Intermediate Hydel Power Project	1,000	Conventional electricity	Central Govt. - Commercial Enterprises
Western Railways	Churchgate-Virar Elevated Rail Project	240	Railway transport infrastructure services	Central Govt. - Departmental Undertaking
Jindal Steel & Power Ltd.	Asanboni Integrated Steel Project	220	Steel	Om Prakash Jindal Group
Gwalior Agriculture Co. Ltd.	Gwalior Multi Services SEZ Project	200	Commercial complexes	Private (Indian)
Tata Steel Ltd.	Chhattisgarh Steel Phase 1 Project	135	Steel	Tata Group
2016				
Arcelor Mittal India Pvt. Ltd.	Kudathini Steel Plant Project	300	Steel	Private (Foreign)
Rajasthan Rajya Vidyut Utpadan Nigam Ltd.	Kalisindh Phase 2 Super Thermal Power Project	79	Conventional electricity	State Govt. - Commercial Enterprises
Mumbai Port Trust	Mumbai International Cruise Terminal Project	18	Shipping transport infrastructure services	Central Govt. - Statutory Bodies
Jaipur Development Authority	Jaipur International Convention Centre & Golf Course Project	16	Other recreational & allied services	Government Local Bodies
N T P C Ltd.	Dadri IGCC Technology Demonstration Power Project	15	Conventional electricity	Central Govt. - Commercial Enterprises
2017				
Nuclear Power Corpn. Of India Ltd.	Mithi Virdi Atomic Power Project	600	Conventional electricity	Central Govt. - Commercial Enterprises
G A I L (India) Ltd.	LNG (Liquefied Natural Gas) Vessels Project	423	Shipping Transport Services	Central Govt. - Commercial Enterprises
Andhra Pradesh Power Generation Corpn. Ltd.	Srikakulam Super Critical Coal Based Thermal Power Project	260	Conventional electricity	State Govt. - Commercial Enterprises
Gujarat State Electricity Corpn. Ltd.	Gujarat Second Ultra Mega Power Project	240	Conventional electricity	State Govt. - Commercial Enterprises
Chhattisgarh Surguja Power Ltd.	Chhattisgarh (Surguja) Ultra Mega Power Project	200	Conventional electricity	Central Govt. - Commercial Enterprises
2018				
Ratnagiri Refinery & Petrochemicals Ltd.	Maharashtra West Coast Mega Refinery Project	5,000	Refinery	Central Govt. - Commercial Enterprises
Interglobe Aviation Ltd.	Indigo A320Neos (250) Aircraft Acquisition Project	1,550	Air Transport Services	Private (Indian)
Uttar Pradesh Expressways Indl. Devp. Authority	Ganga Expressway Project	700	Road transport infrastructure services	State Govt. - Departmental Undertaking
Greater Visakhapatnam Municipal Corpn.	Vizag ITIR Project	252	Computer software	Government Local Bodies
Tata Steel B S L Ltd.	Salanpur Greenfield Steel Phase 1 Project	200	Steel	Tata Group
2019				
Kerala High Speed Rail Corpn. Ltd.	Thiruvananthapuram-Kasargod High Speed Rail Project	1,278	Railway transport infrastructure services	Private (Indian)
Jet Airways (india) Ltd.	75 Boeing 737 Max 8 Aircraft Purchase Project (Phase 3)	681	Air Transport Services	Private (Foreign)
Jet Airways (india) Ltd.	75 Boeing 737 Max 8 Aircraft Acquisition Project (Phase 2)	630	Air Transport Services	Private (Foreign)
Uttarakhand Metrorail Urban Infrastructure & Building Construction Corpn. Ltd.	Dehradun-Rishikesh-Haridwar Metro Line Project	250	Railway transport infrastructure services	State Govt. - Commercial Enterprises
Hyderabad Metropolitan Devp. Authority	Hyderabad Information Technology Investment Region Project	150	Computer software	State Govt. - Statutory Bodies

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Metal and Metal Products contributed the most in terms of average value of revived projects

In case of revival of projects, Metal and Metal Products was the biggest contributor. Out of total revived projects in 2019, about 39.6% were in Metal and Metal Products, while Electricity and Transport Services contributed 19.7% and 11.8% respectively. Average investment in revived projects increased from Rs106bn during 2006-10 to Rs458bn during 2016-19 in Metal and Metal Products. Among others, Transport Services, Electricity and Chemical and Chemical products have seen considerable rise over the period.

Figure 66: Sector-wise average investment projects revived

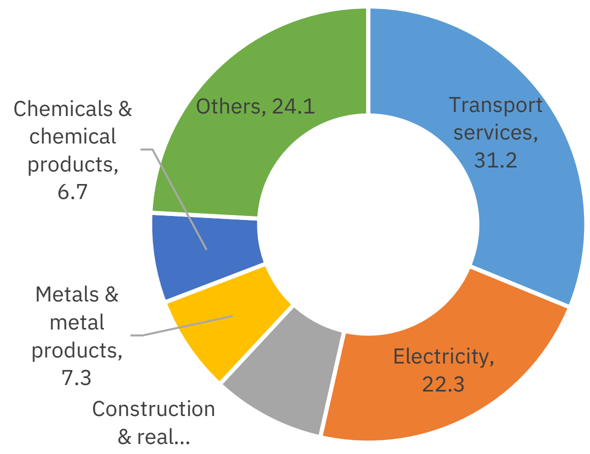
Average (Rsbn)	2006-10	2011-15	2016-19
Non-financial sector	**216**	**1,190**	**1,817**
Manufacturing	124	643	722
Food & agro-based products	2	4	6
Textiles	11	2	2
Chemicals & Chemical products	4	65	164
Consumer goods	7	5	3
Construction materials	4	49	34
Metals & Metal Products	106	636	458
Machinery	18	8	4
Transport equipment	71	19	53
Miscellaneous manufacturing	21	4	3
Mining	18	24	43
Electricity	55	278	367
Services (other than financial)	60	217	495
Hotels & tourism	3	1	5
Wholesale & retail trading	8	23	26
Transport Services	45	170	355
Communication services	6	40	
Information Technology	0	12	43
Miscellaneous services	8	22	80
Construction & Real Estate	3	34	189
Irrigation	**17**	**7**	**11**
All industries	**229**	**1,196**	**1,825**

Source: CMIE – Capex. *Data extracted on February 10, 2020

Transport Services and Electricity account for majority of outstanding projects.
Transport Services accounted for nearly one-third of the outstanding projects (in value terms) during the last four-year period, thanks to a sharp surge in new project announcements, with value of such projects rising from Rs5.8trn in 2005 to Rs60.8trn in2019. Similarly, Chemical & Chemical Products sector has also seen a significant jump in the value of outstanding projects during this period. Investment in such projects has come off meaningfully for Metal & Metal Products and Electricity owing to a sharp drop in new project announcements and an increase in stalled projects in these sectors.

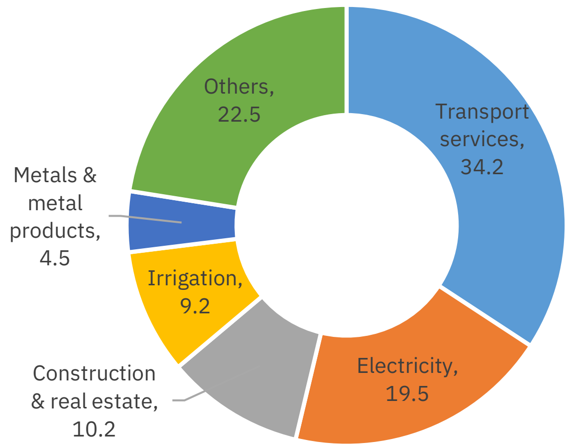
In 2019, about 31.2% of the outstanding projects were in Transport Services and 22.3% in Electricity, followed by 8.4% in Construction & Real Estate and 7.3% in Metal & Metal Products

Figure 67: Share of total investment in outstanding projects for top five sectors in 2019 (%)



Source: CMIE – Capex. *Data extracted on February 10, 2019.

Figure 68: Share of total investment in projects under implementation for top five sectors in 2019 (%)



Source: CMIE – Capex. *Data as on February 10, 2019.

Figure 69: Sector-wise average investment projects outstanding

Average (Rsbn)	1996-00	2001-05	2006-10	2011-15	2016-19
Non-financial sector	**15,229**	**22,768**	**85,531**	**164,628**	**187,286**
Manufacturing	4,925	4,538	21,324	36,380	38,154
Food & agro-based products	117	153	425	809	1,104
Textiles	181	113	540	509	600
Chemicals & Chemical products	2,547	2,037	5,171	9,111	12,770
Consumer goods	71	71	218	201	523
Construction materials	236	183	1,163	2,907	2,095
Metals & Metal Products	1,258	1,540	11,360	17,550	13,980
Machinery	83	118	950	1,539	2,393
Transport equipment	281	193	1,141	3,098	3,893
Miscellaneous manufacturing	151	131	356	657	797
Mining	488	1,177	2,879	5,763	6,447
Electricity	6,580	8,865	29,036	54,523	48,893
Services (other than financial)	3,077	7,339	23,359	51,201	76,081
Hotels & tourism	114	261	641	1,328	1,056
Wholesale & retail trading	275	634	1,640	2,716	2,841
Transport Services	1,985	4,516	14,839	36,807	58,538
Communication services	315	409	1,208	1,018	1,899
Information Technology	67	348	1,760	2,457	2,012
Miscellaneous services	321	1,172	3,272	6,876	9,735
Construction & Real Estate	159	849	8,933	16,760	17,710
Irrigation	**2,014**	**2,434**	**3,877**	**6,462**	**10,596**
All industries	**17,244**	**25,202**	**89,408**	**171,091**	**197,883**

Source: CMIE – Capex. *Data extracted on February 10, 2020

Figure 70: Growth of total investment in outstanding projects over last five years

%YoY	FY15	FY16	FY17	FY18	FY19
Non-financial sector	**6**	**5**	**4**	**(0)**	**(4)**
Manufacturing	(2)	3	1	4	(2)
Food & agro-based products	(1)	21	5	(7)	(8)
Textiles	(14)	(0)	22	20	7
Chemicals & Chemical products	4	25	9	10	(6)
Consumer goods	(11)	97	28	53	8
Construction materials	(21)	(10)	(6)	(6)	6
Metals & Metal Products	(3)	(18)	(1)	(3)	4
Machinery	22	57	(15)	(1)	2
Transport equipment	2	22	(3)	10	(8)
Miscellaneous manufacturing	(1)	33	(4)	19	(31)
Mining	8	(9)	1	11	2
Electricity	3	(4)	(4)	(9)	(7)
Services (other than financial)	16	17	10	3	(2)
Hotels & tourism	(8)	(1)	(4)	(8)	(14)
Wholesale & retail trading	4	1	0	(6)	1
Transport Services	17	17	15	4	(2)
Communication services	16	138	(25)	10	(1)
Information technology	(3)	(5)	(20)	(6)	4
Miscellaneous services	25	17	4	3	(3)
Construction & Real Estate	5	3	7	(2)	(10)
Financial services					
Irrigation	**8**	**23**	**12**	**16**	**1**
All industries	**6**	**6**	**4**	**1**	**(4)**

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Transport Services and Electricity account more than 50% of total investment in projects under implementation in 2019

Out of total investment across projects under implementation, Electricity, Chemical & Chemical Products, Metals & Metal Products and Transport Services were the major sectors since 1996. Among them, Electricity and Chemical & Chemical Products were leading in terms of average investment during 1996-00, as can be seen in the below figure. Average investment on projects under implementation was Rs8.9trn during 1996-00, out of which Electricity contributed Rs3.5trn and Chemical & Chemical Products invested Rs1.5trn, while average investment in Transport Services was merely Rs522bn. The distributional pattern has changed quite significantly till now. During 2016-19, average investment was Rs108trn, where only investment in Transport Services and Electricity contributed Rs33trn and Rs25.4trn respectively. In 2019, Transport Services contributed 34% of total projects under implementation, while Electricity contributed 19.5%, followed by Construction and Real Estate (10.2%) and irrigation (9.2%).

Figure 71: Sector-wise average investment in projects under implementation

Average (Rsbn)	1996-00	2001-05	2006-10	2011-15	2016-19
Non-financial sector	7,880	10,634	35,026	82,589	99,282
Manufacturing	3,018	2,365	7,893	15,745	13,362
Food & agro-based products	72	83	158	349	418
Textiles	110	48	270	325	294
Chemicals & Chemical products	**1,543**	**1,249**	**2,483**	**4,295**	**4,049**
Consumer goods	37	29	53	81	164
Construction materials	144	90	326	987	767
Metals & Metal Products	**837**	**630**	**3,811**	**7,840**	**5,543**
Machinery	44	66	280	699	576
Transport equipment	149	92	338	855	1,323
Miscellaneous manufacturing	83	79	174	314	229
Mining	261	633	1,228	3,053	4,256
Electricity	**3,506**	**3,960**	**10,945**	**27,236**	**25,316**
Services (other than financial)	1,027	3,110	9,793	25,174	44,355
Hotels & tourism	67	164	274	730	551
Wholesale & retail trading	61	200	698	1,476	1,927
Transport Services	**522**	**1,723**	**5,590**	**17,037**	**33,185**
Communication services	235	343	799	722	1,596
Information Technology	32	197	980	1,474	1,237
Miscellaneous services	110	482	1,451	3,735	5,859
Construction & Real Estate	**68**	**565**	**5,166**	**11,380**	**11,993**
Irrigation	1,006	1,259	2,173	4,583	8,692
All industries	8,886	11,893	37,199	87,172	107,974

Source: CMIE – Capex. *Data extracted on February 10, 2020. Sectors in bold are further broken down to sub-sector level below in Figure 60.

Transport Services recorded significant growth in projects under implementation over the last five years

Out of all sectors, only Transport Services recorded significant growth in total investment in projects under implementation over the last five years.

Out of all sectors, only Transport Services recorded significant growth in value of projects under implementation over the last five years. This has helped the sector to increase its average investment from Rs17trn during 2011-15 to Rs33trn during 2016-19. During this period, railway transport & allied services recorded highest growth in total investment followed by roads transport and allied services.

Government is implementing major projects in Railways and roads whereas private sector is in the process of implementing big projects on Aircraft and Hyperloop.

Notably, government invested a large amount on Mumbai-Ahmadabad Bullet Train (High Speed Rail) Project, Chennai-Mysuru High Speed Rail Project, Bilaspur-Manali-Leh Railway Link Project, etc. In private sector, Interglobe Aviation Ltd. invested Rs719bn on the Indigo A-320 & A-321 Neos (180)

Aircraft Induction Project and Virgin Hyperloop One investing Rs700bn on the Pune-Mumbai Hyperloop Project.

Among others, total investment increased substantially in Electricity

Among other sectors, major projects are getting implemented in Electricity.

Average investment in projects under implementation increased substantially in Electricity rose from Rs3.5trn during 1996-00 to Rs25.3trn during 2016-19. Out of this, average Conventional electricity contributed major amount over the period. However, it registered a significant decline since 2015. Average investment in project under implementation declined from Rs.25trn during 2011-15 to Rs21.6trn during 2016-19. Still, conventional (thermal) power attracts more than 80% of total investment that implies it will remain to be the largest electricity provider in the coming years as well.

Conventional electricity attracts more than 80% of total investment, followed by renewable energy and Electricity transmission.

Due to the rising environment concerns and rise in total investment of ESG, total investment on renewable energy gained momentum since 2011 and average investment in Renewable electricity increased from Rs241bn during 2006-10 towards Rs1,879bn during 2016-19. Investment in Electricity transmission also rose remarkably over this period (Rs255bn during 2006-10 vs. Rs1,788bn during 2016-19).

Figure 72: Growth of total investment in projects under implementation over last five years

%YoY	FY15	FY16	FY17	FY18	FY19
Non-financial sector	**6**	**5**	**5**	**2**	**3**
Manufacturing	0	(14)	2	5	(2)
Food & agro-based products	12	(5)	6	1	(6)
Textiles	(15)	9	(19)	24	12
Chemicals & Chemical products	6	(1)	3	11	(1)
Consumer goods	(15)	29	16	96	24
Construction materials	(7)	(11)	(8)	(13)	39
Metals & Metal Products	1	(26)	5	(1)	(12)
Machinery	(7)	(31)	3	(9)	(19)
Transport equipment	(11)	33	0	29	1
Miscellaneous manufacturing	(3)	(7)	(21)	(42)	224
Mining	3	1	10	(3)	24
Electricity	2	(0)	(5)	(12)	(6)
Services (other than financial)	12	20	16	13	8
Hotels & tourism	(9)	(8)	2	(7)	(23)
Wholesale & retail trading	20	4	6	(10)	18
Transport Services	11	20	24	17	6
Communication services	38	149	(51)	17	41
Information technology	(9)	(5)	9	(15)	5
Miscellaneous services	19	13	11	5	12
Construction & Real Estate	7	2	(5)	(4)	(0)
Financial services					
Irrigation	**18**	**28**	**3**	**30**	**9**
All industries	**6**	**6**	**4**	**4**	**3**

Source: CMIE – Capex. *Data extracted on February 10, 2020

Figure 73: Average investment in major sub-sectors: Under implementation

Average (Rsbn)	1996-00	2001-05	2006-10	2011-15	2016-19
Chemicals & Chemical products	**1,543**	**1,249**	**2,483**	**4,295**	**4,049**
Petroleum products	810	710	1,557	2,572	2,158
Fertilisers	118	62	89	429	733
Organic Chemicals	390	298	295	519	348
Inorganic Chemicals	141	114	327	347	269
Drugs & pharmaceuticals	18	37	129	188	252
Others	67	28	86	240	289
Electricity	**3,506**	**3,960**	**10,945**	**27,236**	**25,316**
Conventional electricity	3,357	3,768	10,436	24,949	21,564
Renewable electricity	63	72	241	908	1,879
Electricity transmission	86	119	255	1,360	1,788
Electricity distribution	-	1	13	19	84
Transport Services	**522**	**1,723**	**5,590**	**17,037**	**33,185**
Road transport & allied services	85	589	1,793	5,340	11,921
Railway transport & allied services	292	604	1,610	6,536	15,317
Air transport & allied services	22	203	1,198	2,394	3,157
Shipping transport & allied services	118	306	893	2,303	2,454
Transport logistics services	5	21	96	464	336
Construction & Real Estate	**68**	**565**	**5,166**	**11,380**	**11,993**
Housing construction	27	218	1,893	7,058	8,936
Commercial complexes	41	348	3,274	4,323	3,057
Metals & Metal Products	**837**	**630**	**3,811**	**7,840**	**5,543**
Ferrous metals	484	267	3,026	6,868	5,089
Non-ferrous metals	352	363	784	962	448
Diversified metal & Metal Products	0	0	1	10	6

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 74: Top five new projects announced in last four quarters: Transport Services

Industry	Project Name	Cost (Rsbn)	Ownership
Mar-19			
Road transport infrastructure services	Meerut-Prayagraj (Allahabad) Four Lane Greenfield Expressway Project (Phase 1 of Ganga Expressway)	359	Government State
Railway transport infrastructure services	Kanjumarg-Badlapur Metro Rail Project (Metro 14)	135	Government State
Road transport infrastructure services	Bulandshahar-Syana-Garh Road (SH-65) Four Lane Highway Project	15	Government State
Road transport infrastructure services	Dobbaspet-Dodaballapur Bypass (NH-648) Four/Six Lane Highway Project (Package 1)	14	Central Government
Road transport infrastructure services	Paonta Sahib-Gumma-Feduzpul section of NH-707 Highway Project	14	Government State
Jun-19			
Railway transport infrastructure services	CST-Thane Underground Fast Rail Corridor Project (MUTP-4)	180	Central Government
Railway transport infrastructure services	Ahmadabad-Rajkot Semi-High-Speed Rail Project	113	Government State
Shipping transport infrastructure services	Karanja Multipurpose Port Terminal Expansion & Ship Repair Facility Project	28	Indian Private
Road Transport Services	Uttar Pradesh Electric Bus Purchase Project	9	Government State
Road Transport Services	InterCity Smart Bus Procurement Project	7	Indian Private
Sep-19			
Road transport infrastructure services	Dhanara Village-Tumbigura Highway Project (Phase 2)	81	Central Government
Road transport infrastructure services	Jhanki Village-Marangpuri Village Highway Project (Phase 1)	41	Central Government
Railway transport infrastructure services	Kirti Nagar-Dwarka 25 (Exhibition Cum Convention Centre) Metrolite Project	27	Government State
Road transport infrastructure services	Aluru-Sabbavaram Highway Project (Phase 3)	25	Central Government
Road transport infrastructure services	KPHB-Gachibowli Financial District Elevated Bus Rapid Transit System (EBRTS) Corridor Project	24	Government State
Dec-19			
Air Transport Services	A320, A321 Neo & A321 XLR (300) Aircraft Acquisition Project	2,343	Indian Private
Road transport infrastructure services	Neeleshwaram-Thaliparambha (NH-66) Six Lanning Highway Project	16	Central Government
Shipping Transport Services	14 Mini-Bulk Carriers Acquisition Project	9	Indian Private
Road transport infrastructure services	Arniyakala-Hejariya-Bolda-Nishana-Bankakhedi-Dunglay-Panchdehriya-Bishankheda Road Project	9	Government State
Road transport infrastructure services	Janoli-Kheda Fatehpur-Jirway-Narayankheda-Modriya-Jalodiya Road Project	8	Government State

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 75: Top five new projects announced in last four quarters: Chemicals & Chemical products

Industry	Project Name	Cost (Rsbn)	Ownership
Jan-Mar'19			
Organic chemicals	Mundra Port Chemical Complex (Acrylics Value Chain) Project	160	Foreign Private
Refinery	Nanavali (Dighi Port) Petrochemical Complex Project	21	Indian Private
Organic chemicals	Dahej Greenfield Aniline, Carbon Black & Synthetic Organic Plant Project	20	Indian Private
Other chemical products	Dahej PCPIR Bio Refinery Project	20	Foreign Private
Other chemical products	Uttar Pradesh Bio Fuel Plant Project	17	Government State
Apr-Jun'19			
Other chemical products	Kadodara Synthetic Organic Chemicals & Pesticides Manufacturing Unit Expansion Project	15	Indian Private
Organic chemicals	Vagra Synthetic Organic Chemicals Plant Expansion Project	9	Indian Private
Drugs & pharmaceuticals	Nellore Navayuga Pharma City Project	7	Indian Private
Other chemical products	Saykha Chemicals Manufacturing Unit Project	3	Indian Private
Other chemical products	Karakhadi Fine Chemicals & Agro Intermediates Unit Expansion Project	3	Indian Private
Jul-Sep'19			
Pesticides	Dahej Agrochemical & Speciality Chemical Manufacturing Plant Project	8	Indian Private
Inorganic chemicals	Mokha Carbon Black Plant Expansion Project	7	Indian Private
Organic chemicals	Jhagadia Phthalic Anhydride & Plasticizers Manufacturing Plant Project	6	Indian Private
Drugs & pharmaceuticals	Harohalli Active Pharmaceutical Products (API) Manufacturing Unit Project	5	Indian Private
Pesticides	Panoli Pesticide Technical, Pesticide Intermediates & Fine Chemicals Manufacturing Unit Expansion Project	5	Indian Private
Oct-Dec'19			
Refinery	Jamnagar Refinery Crude-to-Chemical Unit Project	700	Indian Private
Organic chemicals	Dahej Synthetic Organic and Inorganic Chemicals Manufacturing Plant Project	15	Indian Private
Drugs & pharmaceuticals	Panelav API & API Intermediates Unit 2 Expansion Project	6	Indian Private
Polymers	Gujarat Biodegradable Polymer Plant Project	6	Indian Private
Inorganic chemicals	Dahej Fluorochemicals Greenfield Plant Project	5	Indian Private

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 76: Top five new projects announced in last four quarters: Electricity

Industry	Project Name	Cost (Rsbn)	Ownership
Mar-19			
Renewable electricity	1,800 MW ISTS Connected Wind Power Projects (Tranche 8)	108	Indian Private
Renewable electricity	2,000 MW CPSU scheme Phase-II Grid-Connected Solar PV Power Project (Tranche 1)	70.1	Indian Private
Conventional electricity	Koradi Coal-Based Supercritical Thermal Power Expansion Project	52.8	Government State
Renewable electricity	769 MW (2,000 MW CPSU scheme Phase-II, Tranche 1) Grid-Connected Solar PV Power Project	50.0	Central Government
Renewable electricity	1,200 MW ISTS Connected Wind Power Projects (Tranche 7)	43.2	Indian Private
Jun-19			
Renewable electricity	1,000 MW CPSU scheme Phase-II Grid-Connected Solar PV Power Project (Tranche 1)	65	Central Government
Renewable electricity	Maharashtra (Four Dams) Floating Solar Power Projects	22.3	Government State
Renewable electricity	Uttar Pradesh Solar PV Power Project	5.2	Indian Private
Renewable electricity	Solar Power Project	1.0	Indian Private
Electricity distribution	Mangaluru & Udupi 33/11 KV Gas Insulated Substations along with Construction of Associated 33/11 KV Transmission Lines Project	0.8	Government State
Sep-19			
Renewable electricity	1,200 MW ISTS Connected Solar PV Power Projects	78	Central Government
Renewable electricity	1,200 MW ISTS Connected Wind Power Projects (Tranche 9)	72	Central Government
Renewable electricity	1,200 MW ISTS Connected Wind Power Project 2	72	Central Government
Renewable electricity	923 MW CPSU scheme Phase-II Grid-Connected Solar PV Power Project (Tranche 2)	71.8	Central Government
Conventional electricity	Madhya Pradesh Coal-Based Power Project 1	52.8	Government State
Dec-19			
Renewable electricity	Kolimigundla Solar Power Project	260	Government State
Conventional electricity	Sukhpura Standalone Pumped Storage Hydel Power Project	200.3	Indian Private
Renewable electricity	1,000 MW (DBDT Scheme) Grid-Connected Solar PV Power Project	65	Central Government
Conventional electricity	MP 30 Gandhi Sagar Standalone Pump Storage Hydro Power Project	60.5	Indian Private
Conventional electricity	Mhaismal Standalone Pump Storage Hydro Power Project	39.1	Indian Private

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 77: Top 20 projects under implementation in 3QFY20: Electricity

Project Name	Cost (Rsbn)	Ownership
Jaitapur Nuclear Power Project	1,150	Central Government
Kovvada (Srikakulam) Nuclear Power Project	1,000	Central Government
Kudankulam Phase 3 Atomic Power Project	496	Central Government
Kudankulam Phase 2 Atomic Power Project	398	Central Government
Talabira Thermal Power Project	349	Central Government
Banka Ultra Mega Power Project	300	Central Government
Yadadri Thermal Power Project	300	Government State
Bedabahal Ultra Mega Power Project	290	Central Government
Dibang Multipurpose Hydro Power Project	281	Central Government
Kutch SEZ Super Critical Coal Based Thermal Power Project	280	Indian Private Sector
Kadaladi Ultra Mega Thermal Power Project	280	Government State
Pudimadaka Coal Based Super Thermal Power Project	280	Central Government
Cheyyur Ultra Mega Power Project	260	Central Government
Etalin (Arunachal Pradesh) Hydel Power Project	253	Indian Private Sector
Tilaiya Ultra Mega Power Project	250	Government State
Etah Ultra Mega Power Project	250	Central Government
Bursar Multipurpose Hydro Electric Power Project	246	Central Government
Chitrangi Mega Thermal Power Project	213	Indian Private Sector
Barh (Stage 1) Super Thermal Power Project	213	Central Government
Mahi Banswara Nuclear Power Project	210	Central Government

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 78: Top 20 projects under implementation in 3QFY20: Transport Services

Project Name	Cost (Rsbn)	Ownership
Mumbai-Ahmadabad Bullet Train (High Speed Rail) Project	1,080	Central Government
Chennai-Mysuru High Speed Rail Project	1,002	Central Government
Bilaspur-Manali-Leh Railway Link Project	834	Central Government
Indigo A-320 & A-321 Neos (180) Aircraft Induction Project	719	Indian Private Sector
Pune-Mumbai Hyperloop Project	700	Foreign Private Sector
Chennai Metro Rail Phase 2 Project	690	Central and State
Brahmaputra Express Highway Project	646	Central Government
Meerut-Prayagraj (Allahabad) Four Lane Greenfield Expressway Project (Phase 1 of Ganga Expressway)	580	Government State
72 A320 Neo Aircraft Purchase Project	544	Indian Private Sector
Western High-Speed Freight Corridor Project	511	Central Government
Char Dham Rail Connectivity Project	500	Central Government
Dhamra Port Phase 3 (Revised Plan) Project	489	Indian Private Sector
Delhi Metro Rail Phase 4 Project	468	Government State
Mumbai-Vadodara (Baroda) (NH-8) Expressway Project (Delhi-Mumbai Super Expressway)	440	Central Government
Delhi Metro Rail Phase 3 Project	377	Government State
Devanahalli (Kempegowda) Airport Expansion Project (Stage 2 & 3)	372	Indian Private Sector
Delhi-Ludhiana-Amritsar-Katra Expressway Project	350	Central Government
Aircraft (A320) Fleet (72 Aircraft) Project	324	Indian Private Sector
Delhi-Ghaziabad-Meerut Regional Rapid Transit System (Phase I) Project	307	Central Government
Ludhiana-Sonnagar Eastern Freight Corridor Project	304	Central Government

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 79: Top 20 projects under implementation in 3QFY20: Construction & Real Estate

Project Name	Cost (Rsbn)	Ownership
Gandhinagar Nano GIFT City Project	700	Indian Private Sector
Lucknow Sushant Golf City Project	700	Indian Private Sector
Ghaziabad Aquapolis Phase 2 Township Project	460	Indian Private Sector
Greater Noida Sushant Megapolis Hi-Tech Township Project	268	Indian Private Sector
Dharavi Redevelopment Project	260	Government State
Redevelopment of BDD Chawls Project	220	Government State
Taloja (PMAY) Affordable Housing Project	180	Government State
Gurgaon Krisumi City Residential Project	130	Indian Private Sector
Sarojini Nagar General Pool Residential Accommodation (GPRA) Redevelopment Project	117	Central Government
Ghaziabad Aquapolis Phase 3 Township Project	115	Indian Private Sector
Aurangabad Industrial City Township (AURIC) (SBIA) Project	110	Indian Private Sector
Bangalore Bhartiya City Township Project	108	Indian Private Sector
Wadala Lodha New Cuffe Parade Project	105	Indian Private Sector
Gurgaon IREO City Township Project	100	Indian Private Sector
Nanded City Township Project	100	Indian Private Sector
Noida Wave City Centre Project	100	Indian Private Sector
Sanand Chinese Industrial Park Project	100	Government State
Nagawara (Bangalore) Karle Town Centre Mixed-Use Development Project	95	Indian Private Sector
Hadapsar Amanora Park Town Project	90	Indian Private Sector
Hyderabad Rajiv Swagruha Housing Scheme Project	82	Indian Private Sector

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 80: Top 20 projects under implementation in 3QFY20: Irrigation

Project Name	Cost (Rsbn)	Ownership
Kalpasar Dam Project	1,000	Government State
Kaleshwaram Irrigation Project	805	Government State
Polavaram Multipurpose Irrigation Project	555	Government State
Sardar Sarovar Project	548	Government State
Kurumurthy (Palamuru-Ranga Reddy) Lift Irrigation Project	520	Government State
Upper Krishna Stage 3 Project	511	Government State
Eastern Rajasthan Canal Project	372	Government State
Ken-Betwa Link (Phase 1) Project	250	Central Government
Gosikhurd Irrigation Project	185	Government State
Lower Penganga Irrigation Project	170	Government State
Saurashtra Narmada Avataran Irrigation (SAUNI) Project	165	Government State
Subarnarekha Irrigation Project	150	Government State
Damanganga-Pinjal River Link Project	145	Central Government
Jigaon Irrigation Project	139	Government State
Godavari (Devadula) Lift Irrigation Project	134	Government State
Sitarama Integrated Lift Irrigation Phase 1 Project	134	Government State
Upper Bhadra Irrigation Project	123	Government State
Handri Neeva Sujala Sravanti Irrigation Project	117	Government State
Sarayu Nahar Project	107	Government State
Sondur Reservoir Project	102	Government State

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 81: Top projects stalled in 2019: Transport Services

Industry	Project Name	Cost (Rsbn)	Ownership
Mar-19			
Railway transport infrastructure	Thiruvananthapuram-Kasargod High Speed Rail Project	1,278	Indian Private
Air transport	75 Boeing 737 Max 8 Aircraft Purchase Project (Phase 3)	681	Foreign Private
Air transport	75 Boeing 737 Max 8 Aircraft Acquisition Project (Phase 2)	630	Foreign Private
Railway transport infrastructure	Ghanuali-Dehradun Railway Project	37	Central Govt.
Railway transport infrastructure	Bengaluru Pod Taxi System Project	15	Govt. Local Bodies
Jun-19			
Road transport infrastructure	Widening of Banga-Garhshankar-Shri Anandpur Saheb-Naina Devi National Highway Project	6	Govt. State
Transport logistics services	Fleet (Truck) Expansion Project	4	Indian Private
Sep-19			
Road transport infrastructure	Four/ Six Laning of Kharar-Banur-Tepla (NH-205) Road Project	21	Central Govt.
Road transport infrastructure	Kotdwar-Ramnagar Road Project (Kandi Road)	20	Govt. State
Transport logistics	Jammu & Kashmir Inland Logistic Hubs (Dry Port) Project	15	Foreign Private
Road transport infrastructure	Jowai-Ratachera (NH-44) Four Laning Highway Project	15	Central Govt.
Road transport infrastructure	Alternate Route to Chandigarh International Airport Project	12	Govt. State
Dec-19			
Railway transport infrastructure	Dehradun-Rishikesh-Haridwar Metro Line Project	250	Govt. State
Railway transport infrastructure	Virar-Vasai-Diva-Panvel Suburban Corridor Project (MUTP-4)	72	Central Govt.
Road transport infrastructure	Bhopal-Indore Six Lane Greenfield Expressway Project (Itaya Kalan to Karnawad)	54	Govt. State
Railway transport infrastructure	Marwar-Mavli Gauge Conversion Project	27	Central Govt.
Railway transport infrastructure	Noida 62-Sahibabad-Mohan Nagar Metro Rail Project (Ghaziabad Metro Phase 3)	19	Govt. State

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 82: Top projects stalled in 2019: Chemicals & Chemical products

Industry	Project Name	Cost (Rsbn)	Ownership
Mar-19			
Plastic packaging goods	Hyderabad Repacking Unit Project	1	Indian Private
Sep-19			
Organic chemicals	Panoli Synthetic Organic Chemical Plant Expansion Project	0.03	Indian Private
Organic chemicals	Vapi Epoxy Plasticizer Manufacturing Plant Expansion Project	0.02	Indian Private
Dec-19			
Drugs & pharmaceuticals	Nallabandagudem Active Pharmaceutical Ingredients Unit 1 Expansion Project	0.1	Indian Private

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 83: Top projects stalled in 2019: Electricity

Industry	Project Name	Cost (Rsbn)	Ownership
Jun-19			
Conventional electricity	Surguja Coal Based Thermal Power Plant Project	85.2	Indian Private
Sep-19			
Conventional electricity	Trombay (Unit 6) R&M Coal Based Power Project	11.7	Indian Private
Dec-19			
Conventional electricity	Chhatru Hydro-Electric Project	14.2	Indian Private
Renewable electricity	1,200 MW ISTS Connected Wind Power Project 1	120.0	Central Govt.

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 84: Top projects stalled in 2019: Construction & Real Estate

Industry	Project Name	Cost (Rsbn)	Ownership
Mar-19			
Housing construction	Lucknow F-Crown Homes Residential Project	10	Indian Private
Jun-19			
Housing construction	Lucknow Urban Village Residential Project	3.2	Indian Private
Sep-19			
Commercial complexes	Kopparthy Village Mega Industrial Park Project	13.1	Govt. State
Commercial complexes	Guwahati Command Control Centre Project	1.9	Govt. State
Dec-19			
Housing construction	Kandivali Atlanta Heights Residential Project	0.8	Indian Private
Housing construction	Jaipur Manglam Aadhar Dwarika Residential Project	0.4	Indian Private

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Geographical spread of India's investment

In early 2000s, a major chunk of investment was done in states with easy and convenient transportation services.

Favourable economic environment, necessary infrastructure, tax and non-tax incentives and subsidies by the state government attracts investments over the last decade.

Gujarat and Maharashtra continue to have major share of projects under implementation over the last 20 years

Out of total projects under implementation in Dec'00, more than 45% were in Gujarat, Maharashtra, Karnataka, Tamil Nadu and Odisha. A similar distribution could be seen in Dec'10 as well when major investment projects continue to happen in the western and southern part of the country, **however, the level of concentration declined** as these states contributed 40.1% of total projects under implementation. Towards the end of decade, Gujarat and Maharashtra continue to be in the top five states along with Uttar Pradesh, Andhra Pradesh and Odisha accounting for 38.7% of total value of projects under implementation. The overall share of these major states has started declining since 2010, while the share of Uttar Pradesh, Andhra Pradesh and Jammu& Kashmir have risen their shares. On the other side, Himachal Pradesh, Tamil Nadu, Karnataka, Madhya Pradesh and West Bengal witnessed a decline in their shares over the period. Among others, Jammu & Kashmir and several north-eastern states are still lagging in terms of the share of projects under implementation in the country.

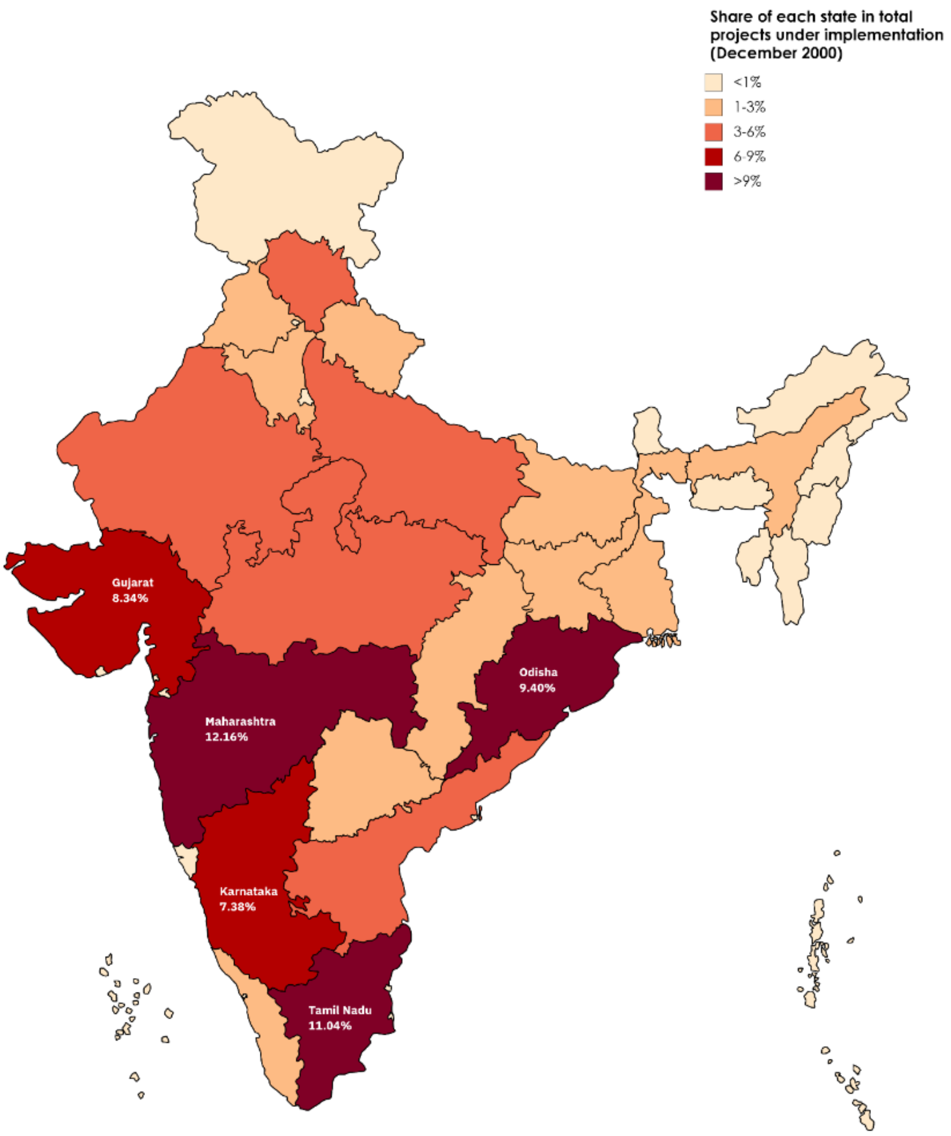
Investment has largely been in the areas of transportation, Electricity and irrigation. In the early 2000s, a major chunk of investment was done in states with easy and convenient transportation services, i.e., coastal states. The share of these states in the total investments has declined over years and other states like Uttar Pradesh, Assam, Himachal Pradesh and Jammu & Kashmir became new investment avenues in the country.

Odisha became a favourable investment destination in the early 2000s, leading to inflows in food, IT, Chemicals, textiles and metals, though its share in total has declined, the actual investment increased during 2000-10. Tamil Nadu despite being the most favourable trade location in India, with the largest SEZ established, has witnessed a major decline in its share in terms of total value of projects under implementation.

Favourable economic environment, necessary infrastructure, tax and non-tax incentives and subsidies by the state government attracts investments, both Indian and Foreign. Ease of doing business is the reason few states attract more investments than others. Andhra Pradesh, Telangana, Haryana, Jharkhand and Gujarat are the ranked top 5 in the ease of doing business ranking by DIPP. Gujarat has been a preferable investment avenue for both Indian and foreign investors due to ease of doing business, convenient trade routes and home to established large business houses. Though its share in total has declined, investment in the state has increased. Maharashtra on the western coast of India, with easy import and export services and being the most industrialized state attracts investments opportunities and has maximum share (12.12% in Dec'19) in terms of projects under implementation.

Figure 85: State's share in projects under implementation (Dec'00)

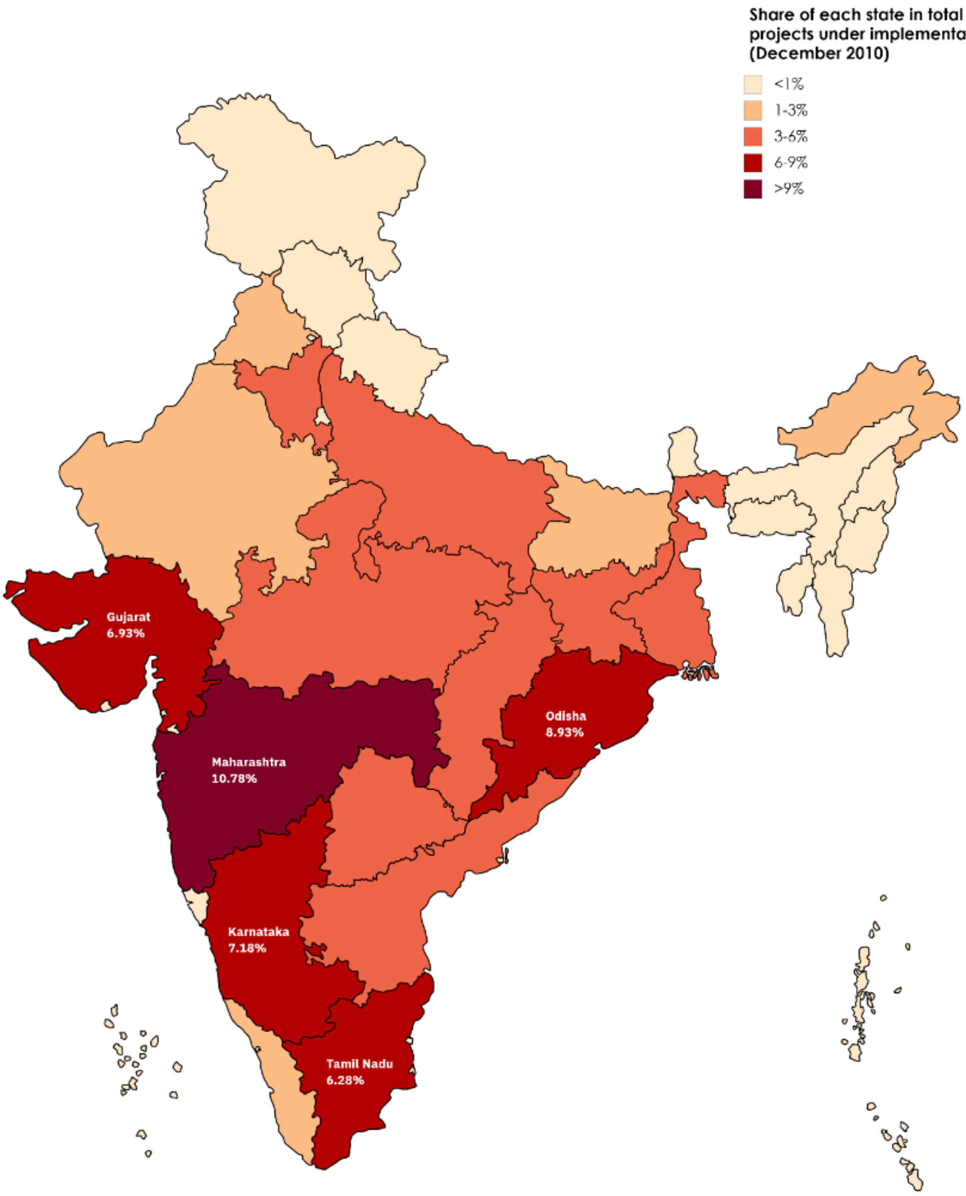
Out of total projects under implementation in Dec'00, more than 12% were in Maharashtra, followed by Tamil Nadu (11%) and Odisha (9.4%). Among others Gujarat and Karnataka contributed a significant share in total investment, while Jammu & Kashmir and several north-eastern states are lagging in terms of the share of projects under implementation in the country.



Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 86: State's share in projects under implementation (Dec'10)

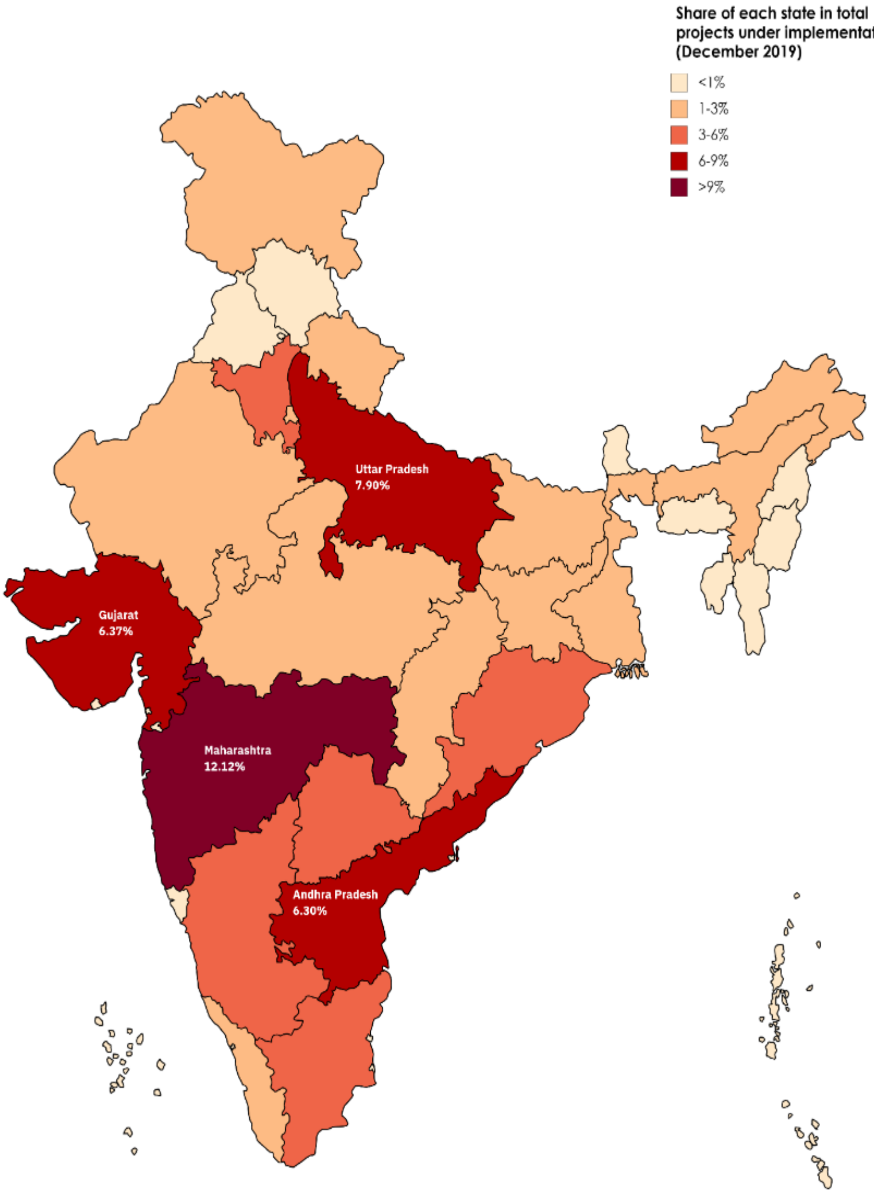
The overall distribution remains somewhat similar across states. Maharashtra contributed a large share of total projects under implementation in Dec'10 as well, along with Karnataka, Tamil Nadu, Odisha and Gujarat. Jammu & Kashmir and several north-eastern states are still lagging in terms of the share of projects under implementation in the country; While Himachal Pradesh, Uttarakhand and Rajasthan had lost their share over the decade.



Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 87: State's share in projects under implementation (Dec'19)

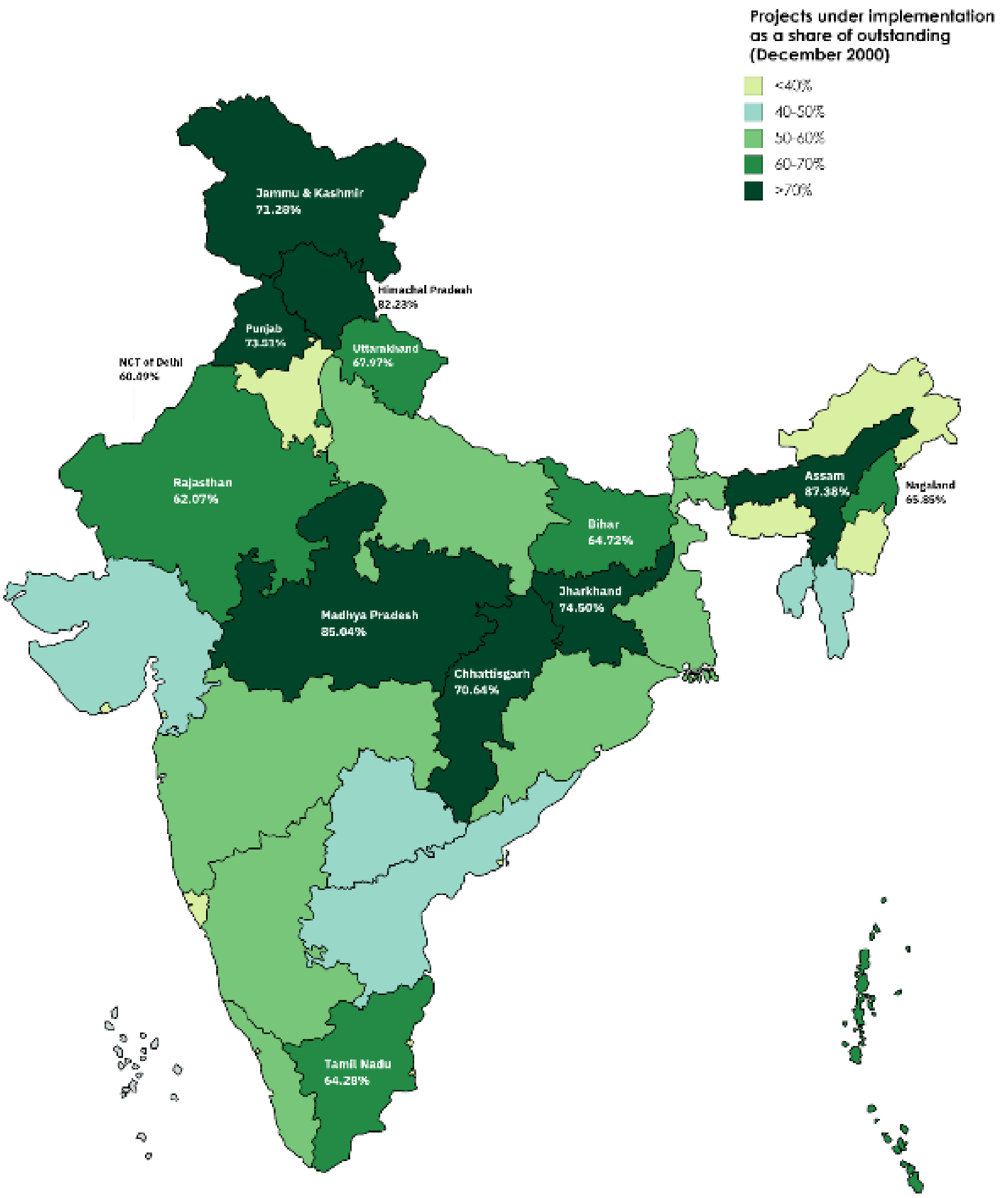
Major investment projects continue to happen in the western and southern part of the country. Out of total projects under implementation in Dec'19, more than 12% are in Maharashtra. While Gujarat continue to contribute a major share, total investment increased significantly in Uttar Pradesh and Andhra Pradesh. On the other side, investment share declined in Rajasthan, West Bengal, Jharkhand and Chhattisgarh. Jammu & Kashmir and several north-eastern states are still lagging in terms of the share of projects under implementation in the country.



Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 88: Rate of under implementation (% of total outstanding) as of Dec'00

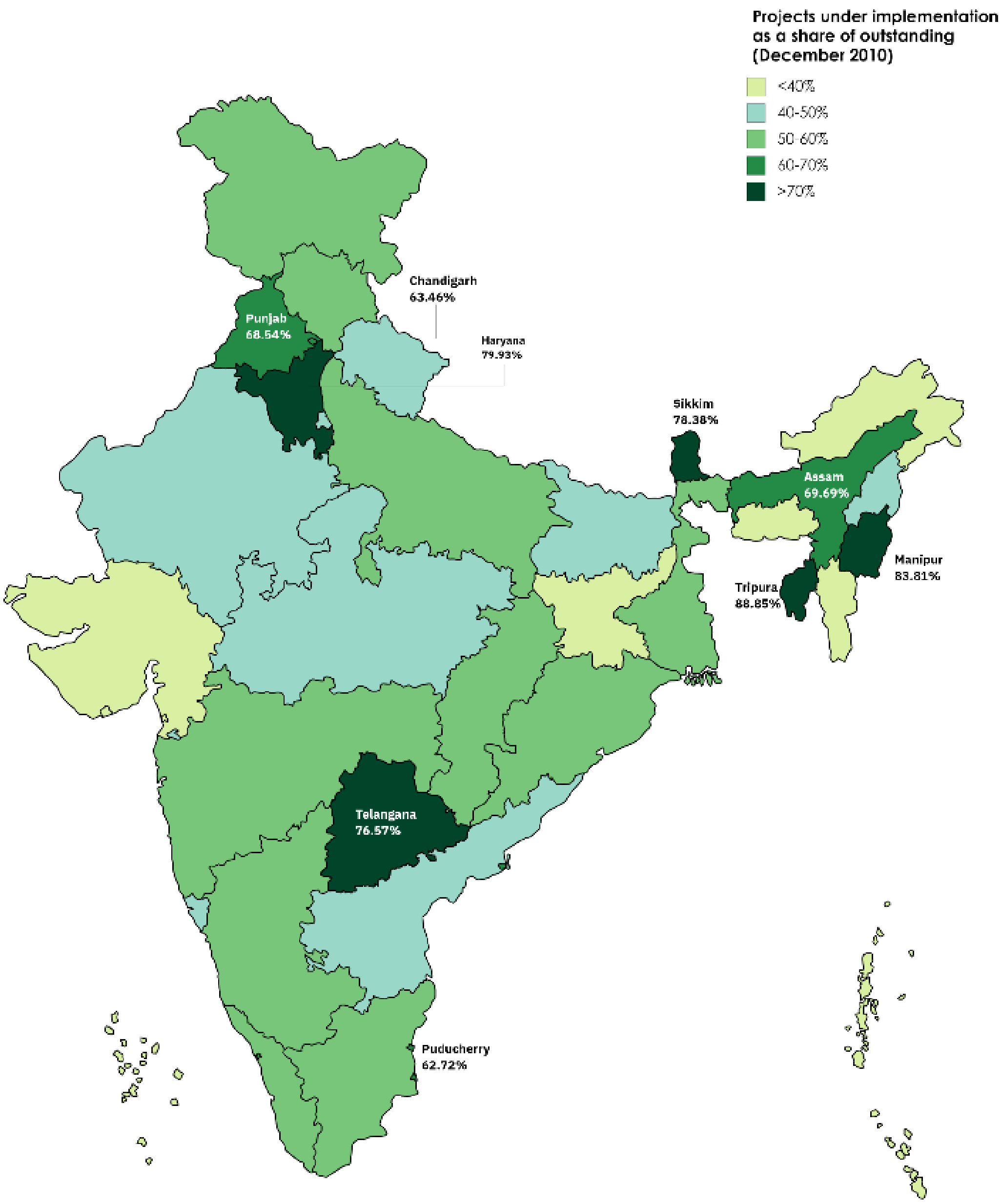
Though major projects are concentrated in the western and southern parts of India, they did not perform well in terms of implementation rate i.e., value of projects under implementation as a share of outstanding projects. Implementation rate is quite high in Assam, Madhya Pradesh, Jharkhand and Jammu & Kashmir, while states from West and South India were lagging, as shown in the following chart.



Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 89: Rate of under implementation (% of total outstanding) as of Dec'10

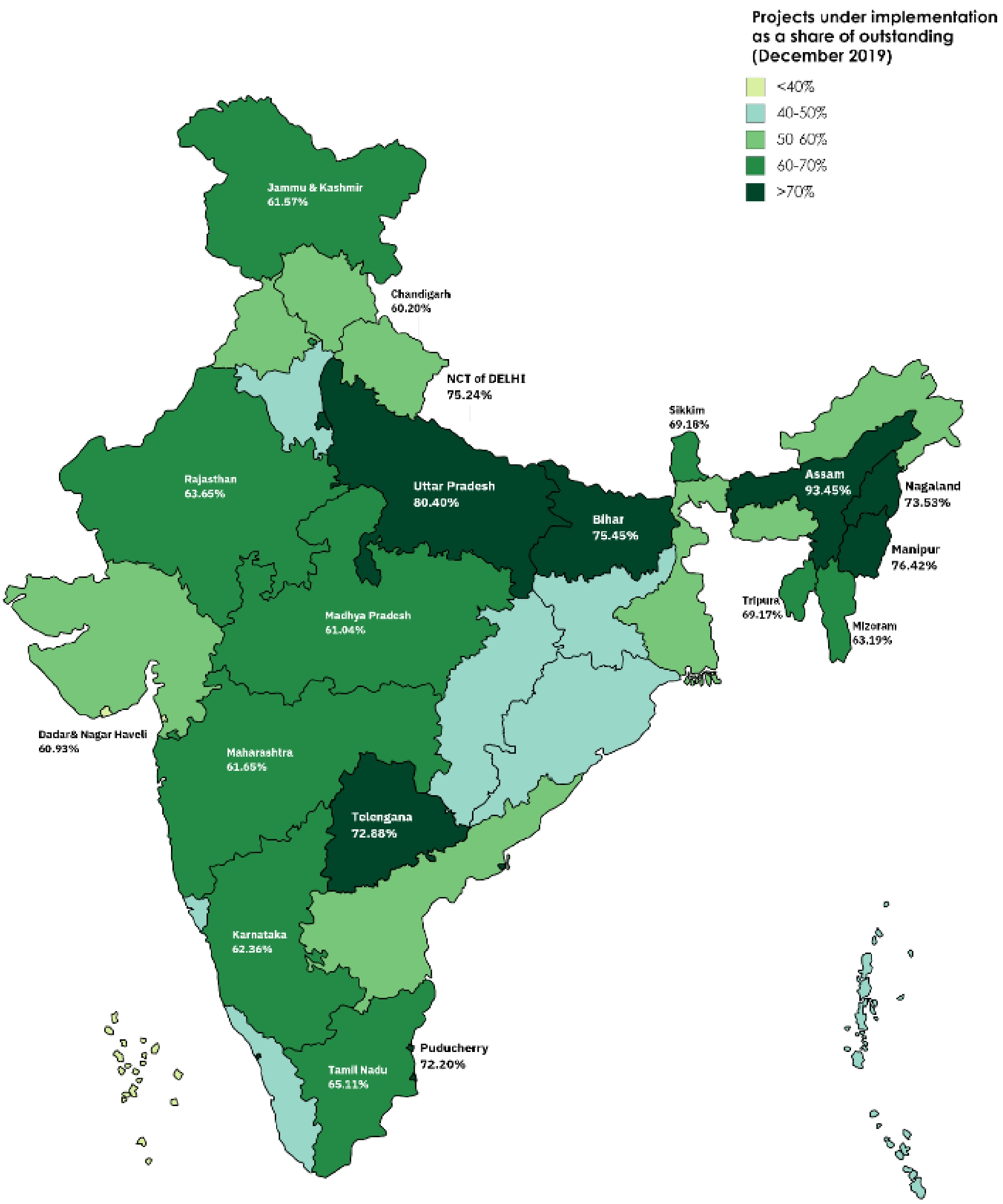
Performance of several states deteriorated in Dec'10. For instance, implementation rate of MP declined from 85% in Dec'00 to merely 43% in Dec'10. Performance of states from the southern part of India improved during this time. For example, Telengana's implementation rate raised from 48% in Dec'00 to 77% in Dec'10.



Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 90: Rate of under implementation (% of total outstanding) as of Dec'19

There is a significant improvement in terms of implementation rate across many states in Dec'19, as shown in the following chart. It has improved not only in the western and southern parts in India, many less developed states like UP, Bihar, Rajasthan performed quite well during this time. Among small states, overall performance of Northeast states improved remarkably over the period.



Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 91: Value of projects under implementation in top ten states in Dec'19 (Rsbn)

Maharashtra topped among all states in India in terms of value of projects under implementation, followed by UP, Gujarat and AP due to favourable economic environment, necessary infrastructure, tax and non-tax incentives and subsidies offered by the state government. A large share of all these projects were in services-ex financial, Construction & Real Estate and Electricity. Major irrigation projects were mostly done in these states. East and north east regions are lagging in this aspect as they were lacking in terms of ease of doing business.

States	Manufacturing	Mining	Electricity	Services (other than financial)	Construction & Real Estate	Irrigation	All industries
Maharashtra	1,042	114	1,588	7,698	2,558	1,100	14,101
Uttar Pradesh	469	25	1,544	4,296	2,616	244	9,192
Gujarat	1,693	318	1,243	1,919	1,038	1,232	7,443
Andhra Pradesh	1,290	974	1,757	2,052	166	1,085	7,324
Odisha	2,381	532	1,808	1,812	147	271	6,950
Tamil Nadu	571	163	2,816	2,452	456	36	6,495
Karnataka	1,584	29	440	2,496	921	872	6,341
Telangana	824	54	892	1,325	307	856	4,258
Haryana	331	0	390	2,120	899	11	3,751
Madhya Pradesh	234	167	1,221	907	88	855	3,473
Rajasthan	663	171	860	976	166	544	3,379
Bihar	204	-	1,121	1,465	17	112	2,918
Jharkhand	657	722	913	499	36	81	2,907
West Bengal	458	560	267	973	248	30	2,537
NCT of Delhi	1	-	4	1,515	692	-	2,212
Assam	363	21	79	1,587	52	10	2,112
Chhattisgarh	524	511	582	303	20	133	2,074
Jammu & Ladakh	4	-	707	963	2	3	1,679
Arunachal Pradesh	1	3	1,394	171	1	-	1,569
Kerala	318	-	25	925	98	43	1,411
Uttarakhand	14	-	303	1,041	18	-	1,376
Punjab	325	-	11	600	124	41	1,101
Himachal Pradesh	17	10	546	261	15	115	963
Manipur	0	-	109	262	1	20	391
Meghalaya	0	10	107	131	2	-	250
Goa	6	-	-	160	25	-	191
Sikkim	-	-	132	56	-	-	188
Nagaland	8	-	-	171	0	-	179
Mizoram	1	1	18	160	-	-	179
Tripura	1	4	55	69	1	-	130
Andaman & Nicobar	-	-	12	61	-	-	72
Puducherry	0	-	-	57	4	-	61
Chandigarh	-	-	3	24	12	-	40
Dadra & Nagar Haveli	10	-	-	2	-	-	12
Daman & Diu	-	-	-	0	-	-	0

Source: CMIE – Capex. *Data extracted on February 10, 2020. * States are sorted based on value of projects under implementation in all industries.

Figure 92: Value of projects under implementation in top ten states in Dec'19 (Rsbn)

In top ten states, in terms of value of projects under implementation, investments were mostly done in Transport Services, Electricity and Irrigation. In case of manufacturing sector, Odisha is leading with Rs2.4trn investment, followed by Gujarat and Karnataka. In Odisha, only Metal & Metal Products and Chemical & Chemical Products attracted huge amount of investment. These industries were leading in other states as well. Besides, a large amount of investment was made in transport equipment, particularly in Maharashtra, Gujarat and Tamil Nadu mainly due to favourable economic conditions, necessary infrastructure, tax and non-tax incentives and subsidies offered by the state government.

States	Maharashtra	Uttar Pradesh	Gujarat	Andhra Pradesh	Odisha	Tamil Nadu	Karnataka	Telangana	Haryana	Madhya Pradesh
Non-financial	**13,000**	**8,948**	**6,211**	**6,239**	**6,679**	**6,459**	**5,469**	**3,403**	**3,741**	**2,617**
Manufacturing	**1,042**	**469**	**1,693**	**1,290**	**2,381**	**571**	**1,584**	**824**	**331**	**234**
Food & agro-based products	55	51	25	45	25	12	49	7	12	16
Textiles	7	0	125	13	1	25	34	16	0	35
Chemicals & Chemical products	268	224	555	378	756	152	107	733	264	11
Consumer goods	21	113	10	41	1	60	0	8	5	0
Construction materials	75	16	55	169	65	31	123	20	0	142
Metals & Metal Products	189	11	234	252	1,514	11	1,161	5	2	15
Machinery	5	2	421	16	4	21	20	13	4	1
Transport equipment	395	34	264	121	9	227	89	13	43	10
Miscellaneous manufacturing	28	18	4	254	7	33	1	9	1	3
Mining	**114**	**25**	**318**	**974**	**532**	**163**	**29**	**54**	**0**	**167**
Electricity	**1,588**	**1,544**	**1,243**	**1,757**	**1,808**	**2,816**	**440**	**892**	**390**	**1,221**
Services (other than financial)	**7,698**	**4,296**	**1,919**	**2,052**	**1,812**	**2,452**	**2,496**	**1,325**	**2,120**	**907**
Hotels & tourism	64	30	56	8	41	10	16	17	13	3
Wholesale & retail trading	112	94	283	76	110	54	98	17	20	1
Transport Services	6,888	3,761	1,374	1,453	1,375	1,875	1,552	633	1,706	796
Communication services	0	0	0	0	0	0	8	0	0	5
Information technology	82	84	22	18	2	66	383	43	168	12
Miscellaneous services	552	326	184	497	282	448	438	615	213	90
Construction & Real Estate	2,558	2,616	1,038	166	147	456	921	307	899	88
Irrigation	1,100	244	1,232	1,085	271	36	872	856	11	855
All industries	**14,101**	**9,192**	**7,443**	**7,324**	**6,950**	**6,495**	**6,341**	**4,258**	**3,751**	**3,473**

Source: CMIE – Capex. *Data extracted on February 10, 2020.

Figure 93: Value of projects across states for different project status (Rsbn)

Maharashtra's performance was quite impressive in terms of value of projects under implementation, fresh announcements, completion and revived during Apr-Dec'19. On the other side, value of dropped projects is highest in Uttarakhand, followed by Telangana.

States	New Announced (Apr-Dec'19)	Completed (Apr-Dec'19)	Dropped (Apr-Dec'19)	Revived (Apr-Dec'19)	Outstanding (end of Dec'19)	Under Implementation (end of Dec'19)
Maharashtra	626	590	86	638	22,867	14,096
Uttar Pradesh	144	218	56	43	11,434	9,192
Gujarat	888	149	50	112	14,622	7,415
Andhra Pradesh	512	276	38	135	14,272	7,324
Odisha	183	388	5	280	14,334	6,950
Tamil Nadu	224	194	13	8	9,975	6,495
Karnataka	110	349	23	53	10,166	6,340
Telangana	74	98	152	47	5,845	4,260
Haryana	2,405	75	-	96	8,134	3,751
Madhya Pradesh	240	45	65	20	5,689	3,473
Rajasthan	264	180	29	129	5,308	3,379
Bihar	5	29	0	9	3,868	2,918
Jharkhand	153	35	8	1	6,483	2,810
West Bengal	63	127	3	1	4,859	2,537
NCT of Delhi	193	14	6	11	2,940	2,212
Assam	11	52	2	-	2,263	2,114
Chhattisgarh	121	17	86	4	4,740	2,074
Jammu, Kashmir & Ladakh	20	11	15	0	2,728	1,679
Arunachal Pradesh	0	6	-	17	2,969	1,569
Kerala	50	12	1	5	3,422	1,411
Uttarakhand	11	8	270	-	2,294	1,376
Punjab	42	89	3	3	1,925	1,101
Himachal Pradesh	87	16	20	19	1,627	963
Manipur	-	1	-	-	512	391
Meghalaya	2	9	23	-	423	250
Goa	1	10	-	-	471	191
Sikkim	4	-	-	-	272	188
Nagaland	-	-	-	-	244	179
Mizoram	0	-	-	-	283	179
Tripura	22	37	-	-	188	130
Andaman & Nicobar	-	2	-	-	160	72
Puducherry	0	-	-	-	84	61
Chandigarh	0	6	12	-	66	40
Dadra & Nagar Haveli	0	1	-	-	19	12
Daman & Diu	-	0	-	-	5	0
Lakshadweep	3	-	-	-	19	-
Multi States	89	142	45	8	25,234	18,373
Unallocated	887	-	120	-	3,737	801
India	7,435	3,185	1,130	1,636	194,484	116,308

Source: CMIE – Capex. *Data extracted on February 10, 2020. * States are sorted based on value of projects under implementation.

Investments by listed corporates: A forward-looking analysis

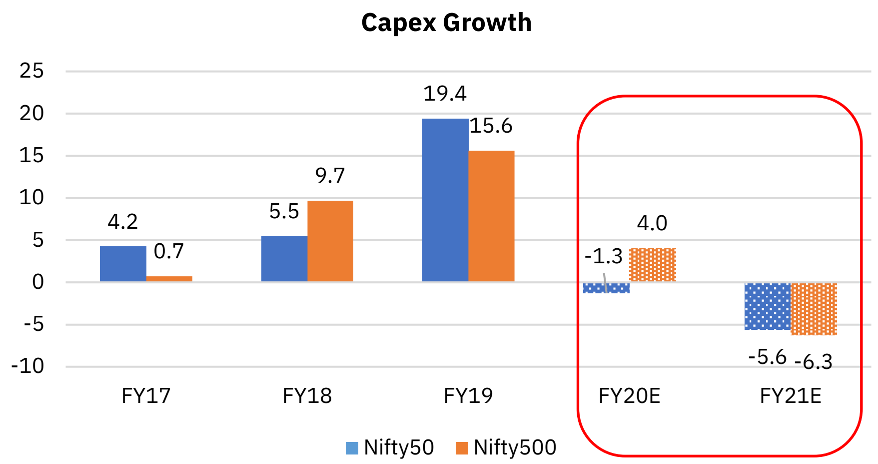
We have extended our analysis to understand how investment pattern has changed over last few years for large listed non-financial corporates. Towards this, we studied growth in capital expenditure (capex) of large non-financial companies from Nifty50 and Nifty500. We have also taken capex estimates for these companies in FY20 and FY21 to get a forward-looking view in the listed universe using data from a unique database called IBES from Refinitiv Datastream.

Capex growth of large listed non-financial companies is somewhat tallied with the overall trend of total investment in the economy.

Large listed non-financial companies recorded a continuous rise in their capex growth between FY17 and FY19.
Capex growth of Nifty 50 non-financial companies increased exponentially from 5.5% in FY18 to 19.4% in FY19 as they recorded a relatively higher growth in their total sales in FY18 and FY19. Similar trend was observed for Nifty500 as well, where capex growth increased from 0.7% in FY17 towards 15.6% in FY19. However, the capex growth is estimated to decline rapidly since FY20 amid no sign of recovery in economic growth and tight financial conditions in banks and NBFCs. According to the IBES estimates, capex of Nifty 50 companies would decline by 1.3% in FY20 and 5.6% in the following year. Nifty500 companies may also register a slowdown in their capex growth to 4% in FY20 (down from 15.6% in FY19), and their capex may decline by 6.3% in FY21.

Major sectors: Energy, Utilities, Consumer discretionary and Materials.

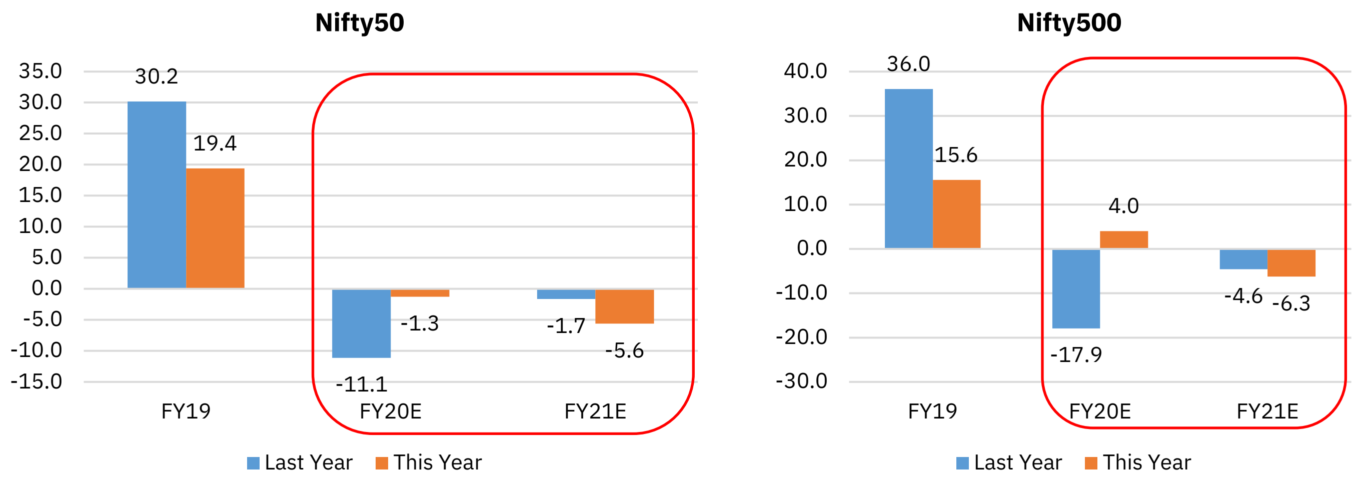
Figure 94: Capex growth of Nifty 50 and Nifty 500 Index excluding financial companies



Source: Refinitiv Datastream, NSE. *The estimate depends on capex data of 40 non-financial companies in Nifty 50 data for other companies were not available in the IBES database. For Nifty500, we have taken 314 non-financial companies whose data is available in the IBES database between FY17 and FY21.

Recovery of capex growth is unlikely in the medium term
The recent estimates of capex growth are revised upward for FY20, while IBES revised capex growth of FY21 downward, which further emphasizes the fact that the recovery of capex growth is unlikely in the medium term due to continuous slowdown in the economy, tight financial conditions and weak global demand.

Figure 95: Revision in capex growth outlook



Source: Refinitiv Datastream, NSE. *The estimate depends on capex data of 40 non-financial companies in Nifty 50 data for other companies were not available in the IBES database. For Nifty500, we have taken 314 non-financial companies whose data is available in the IBES database between FY17 and FY21.

Decline in capex growth in FY20 mainly due to fall in sales growth, PAT growth and capital intensity

As can be seen in the below figures, large listed companies in India is estimated to have a significant slowdown in their sales growth, PAT growth and capital intensity in FY20 which may lead to a drop in their capital expenditure over the year. However, it is quite interesting to see that their capex may decline further in FY21 even though their sales growth and PAT growth are expected to jump upwards during this year. This may be due to continuous fall in their capital intensity over the year. This indicates that the additional demand during the recovery in FY21 will be met by utilizing their unused capacity. Companies, in other words are working towards higher operating leverage.

In FY20, large companies may register a sharp drop in their capex growth amid a significant fall in sales growth, PAT growth and increase in capacity utilisation.

Capex growth may decline further due to the sudden outbreak of the deadly novel-coronavirus.

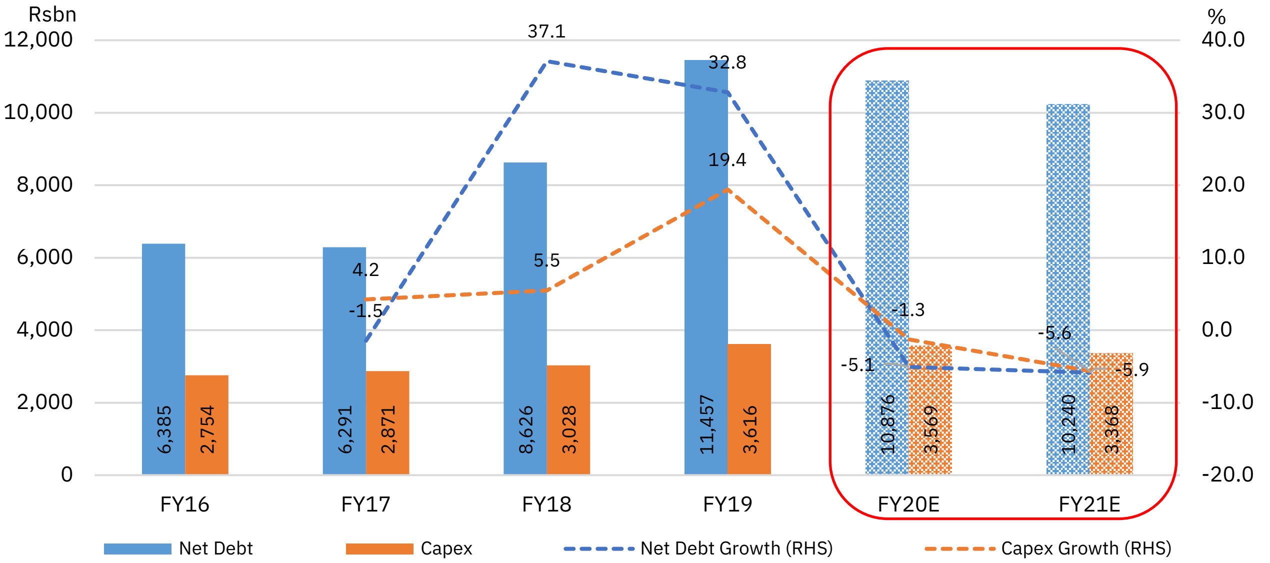
The situation may worsen further due to the sudden outbreak of the deadly novel-coronavirus in Jan'20, which has taken 3,110 lives as of February 3rd, 2020 and spread across 73 countries where 90,892 positive cases were confirmed. This has mainly affected the manufacturing hub, China where more than 80,000 people got affected. This will certainly have negative impact on both global demand and global supply chain. Several key sectors may get adversely affected in India such as, steel, oil & gas, pharma, auto ancillaries, consumer durables, IT services and Chemicals due to low global demand and supply shock of necessary ingredients.

Figure 96: Performance of Nifty 50 and Nifty 500 Index excluding financial companies

Source: Refinitiv Datastream, NSE. *The estimate depends on capex data of 40 non-financial companies in Nifty 50 data for other companies were not available in the IBES database. For Nifty500, we have taken 314 non-financial companies whose data is available in the IBES database between FY17 and FY21.

Companies are expected to deleverage their balance sheets: Net debt of Nifty 50 non-financial companies has increased at a CAGR of 21.5% during FY16-19, which implies companies are expected to retire their debts, as they cut capex in FY20 and FY21 and expand existing utilisation for higher revenues and meet higher sales.

Figure 97: Trends in Net Debt and Capex of Nifty 50 companies

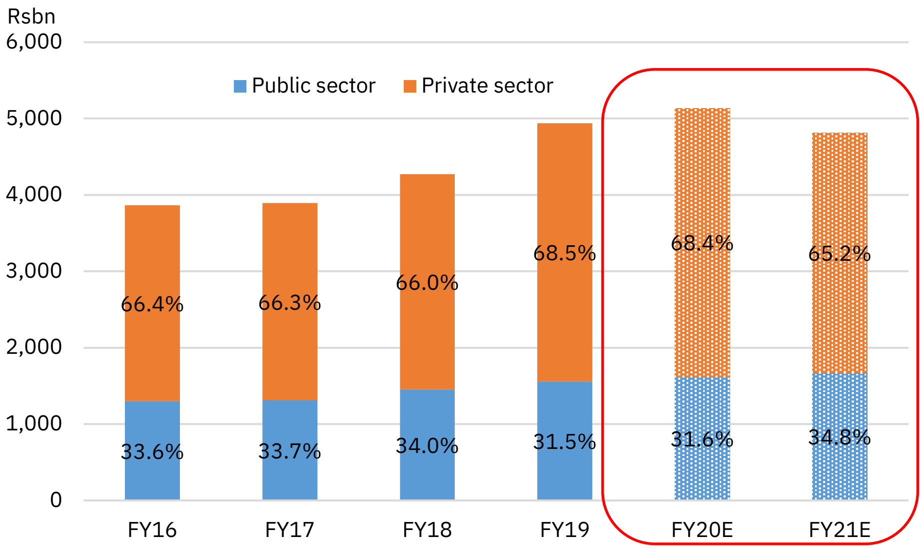


Source: Refinitiv Datastream, NSE. *The estimate depends on capex data of 40 non-financial companies in Nifty 50 data for other companies were not available in the IBES database.

Private companies continue to contribute more than 65% of total capex

Private companies contributed 66.4% of total capex in FY16 in Nifty500 universe, which has gradually increased to 68.5% in FY19. However, their share may again fall to 65.2% in FY21 due to fall in total capex by ~7% in FY21 amid ongoing economic slowdown, sharp fall in export demand and tight financial conditions. In contrast, capex by the government owned companies is estimated to rise by ~7% during this period which will contribute to an overall rise in their share by ~3%.

Figure 98: Capex by public and private sector non-financial companies in the Nifty 500 Index



Source: Refinitiv Datastream, NSE. * The estimate depends on capex data of 314 non-financial companies in Nifty500 whose data is available in the IBES database between FY17 and FY21.

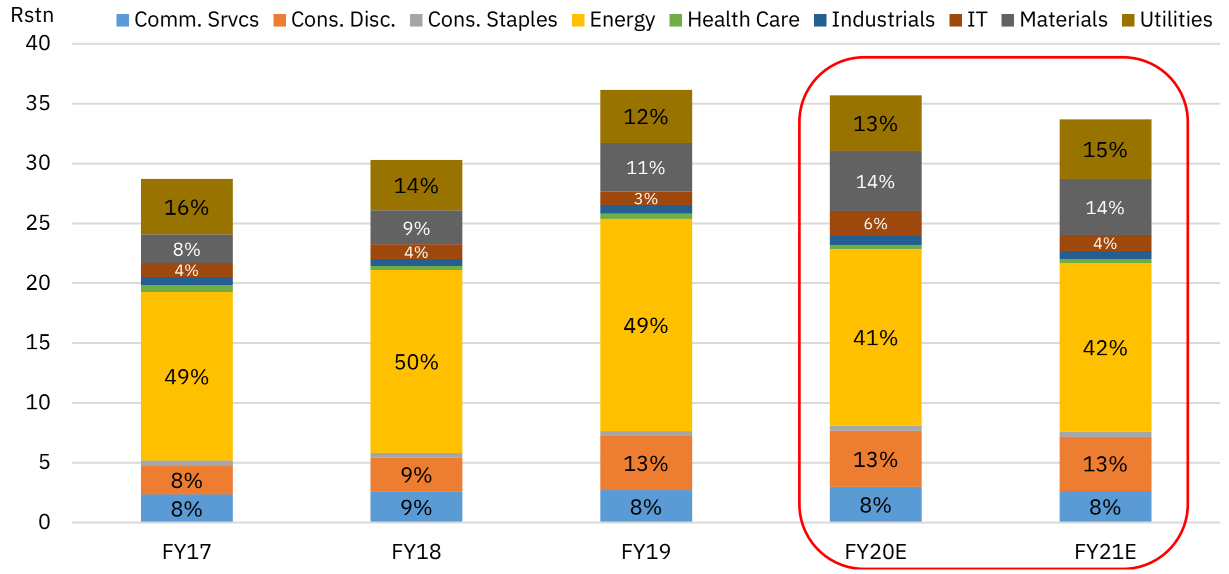
Sector-wise distribution of total capex remains somewhat similar for Nifty 50 and Nifty500

Energy contributed 40.9% of total capex in Nifty50 ex-financial universe in FY16 which has further increased to ~50.3% in FY18 before started falling in FY19 and estimated to continue declining in the later years as well amid current slowdown in consumption and export demand. Similar trend was seen for Nifty 500 as well.

In this sector, Reliance Industries dropped its capex by Rs302bn from Rs936bn in FY19 to Rs634bn in FY20 partly since its focus shifts to reducing debt in that particular year, which had significant impact on total capex in energy sector.

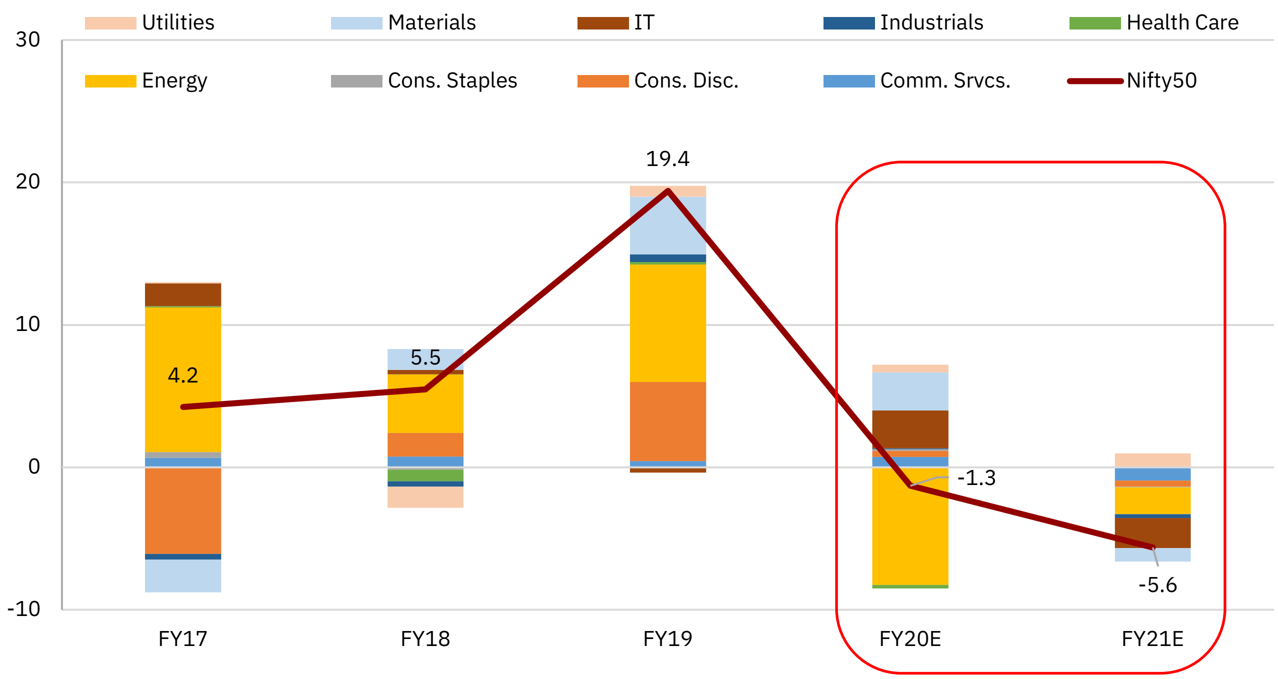
Among other sectors, utilities, consumer discretionary, materials are the largest contributor in both Nifty50 and Nifty500. In consumer discretionary, total capex of Tata Motors increased by Rs154bn from Rs199bn in FY18 to Rs353bn in FY19. On the contrary, capex of IT sector is estimated to fall, as HCL Technologies and Infosys likely to shrink their capex from Rs86bn in FY20 to Rs38bn in FY21 and from Rs41bn in FY20 to Rs30bn in FY21 respectively.

Figure 99: Sector-wise capex of Nifty 50 companies



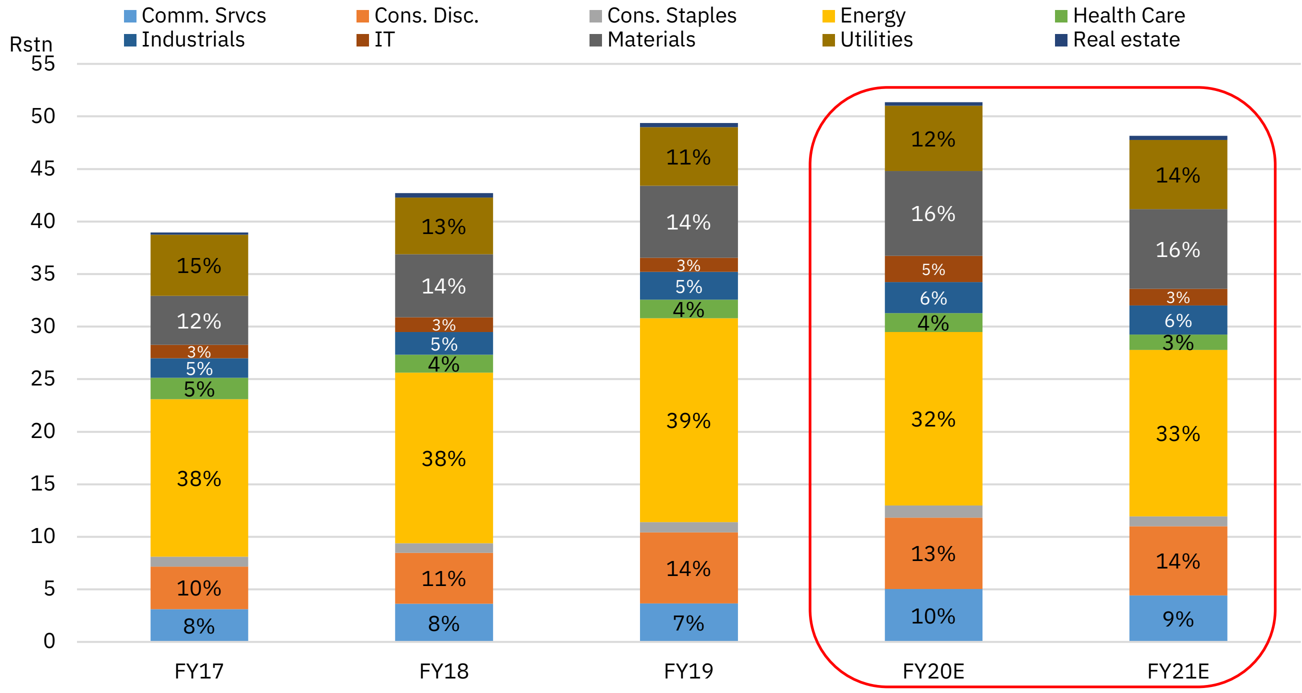
Source: Refinitiv Datastream, NSE. *The estimate depends on capex data of 40 non-financial companies in Nifty 50 data for other companies were not available in the IBES database.

Figure 100: Sector-wise contribution to capex growth of Nifty 50 companies



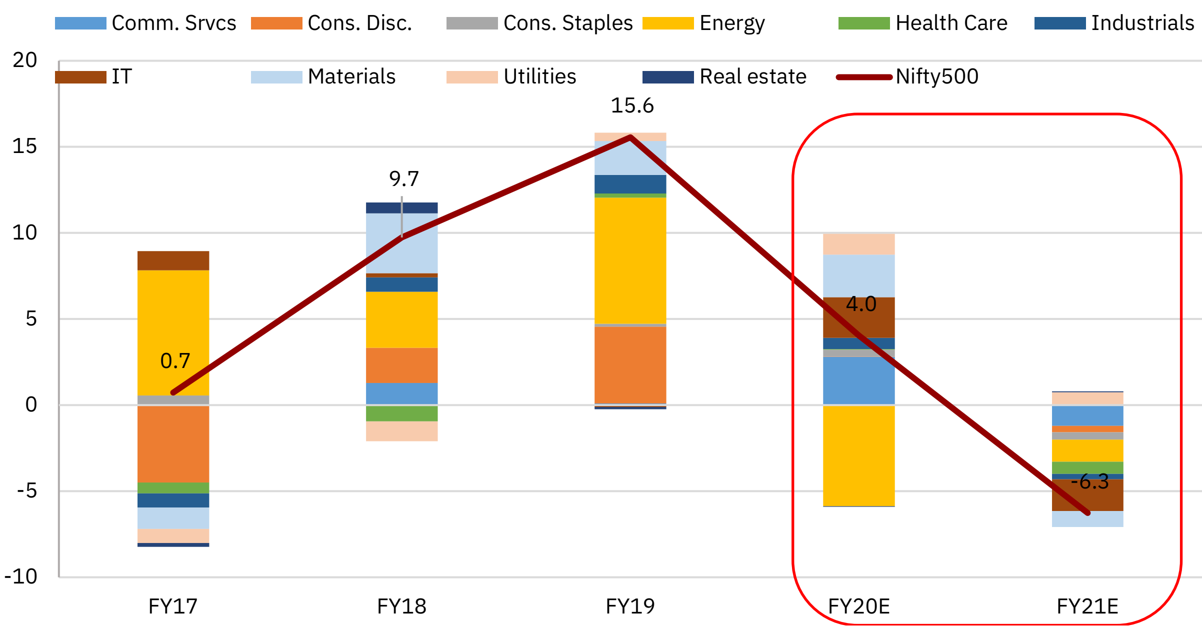
Source: Refinitiv Datastream, NSE. *The estimate depends on capex data of 40 non-financial companies in Nifty 50 data for other companies were not available in the IBES database.

Figure 101: Sector-wise capex of Nifty 500 companies



Source: Refinitiv Datastream, NSE. * The estimate depends on capex data of 314 non-financial companies in Nifty500 whose data is available in the IBES database between FY17 and FY21.

Figure 102: Sector-wise contribution to capex growth of Nifty 500 companies

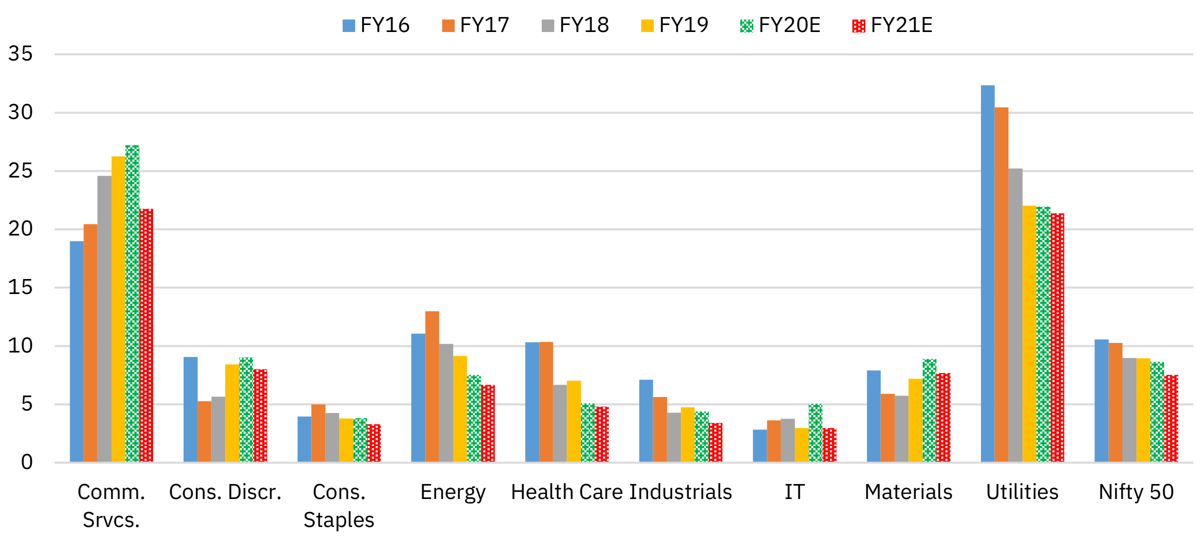


Source: Refinitiv Datastream, NSE. * The estimate depends on capex data of 314 non-financial companies in Nifty500 whose data is available in the IBES database between FY17 and FY21.

Low capacity utilization may have adverse effect on capex growth in energy, health care and utilities sectors

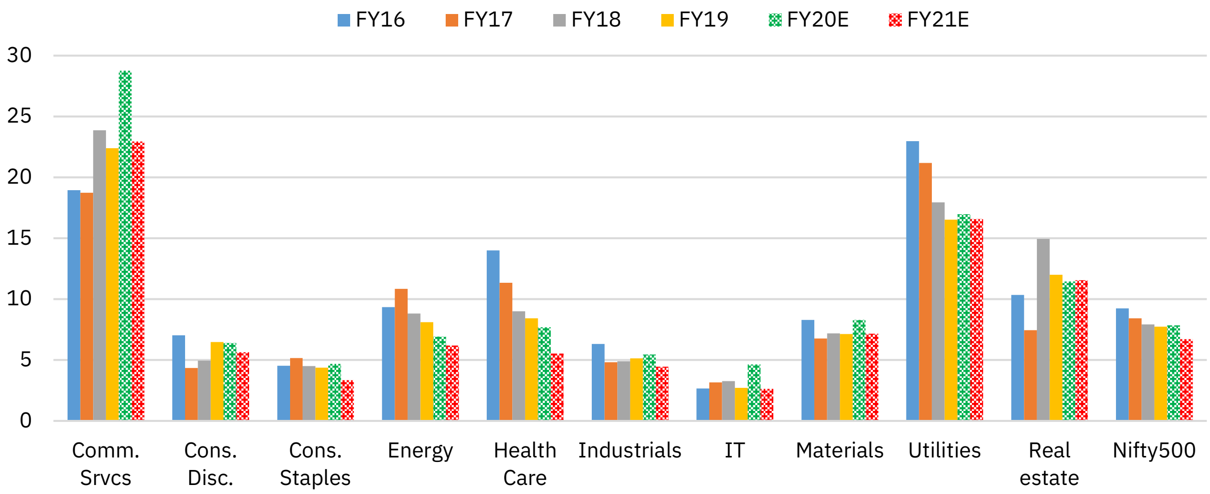
The overall capital intensity of Nifty 50 Index and Nifty 500 Index has been showing a declining trend during the period FY16-19 because of low capacity utilization. In other words, revenue growth in several industries was higher than their capex growth. As a result, energy, utilities and health care sectors recorded a sharp fall in their capital intensity perhaps because these sectors are working towards higher operating leverage.

Figure 103: Sector-wise capital intensity of Nifty 50 companies



Source: Refinitiv Datastream, NSE. *The estimate depends on capex data of 40 non-financial companies in Nifty 50 data for other companies were not available in the IBES database.

Figure 104: Sector-wise capital intensity of Nifty 500 companies



Source: Refinitiv Datastream, NSE. *The estimate depends on capex data of 314 non-financial companies in Nifty500 whose data is available in the IBES database between FY17 and FY21.

Policy measures to revive investment growth

Policy initiatives by the GOI and RBI may help to revive medium term growth of total investment.

Major policies taken by the GOI: Corporate tax rate cut, withdrawal of additional income tax on FPIs, the National Infrastructure Pipeline.

The Government has taken several policy measures in 2019 which may help to revive investment growth in the coming years. For instance, the Finance Minister announced a significant corporate tax rate cut in 2019 which may encourage private sectors to increase investment in FY21 as they will get a higher profit in the coming year. Besides, the withdrawal of additional income tax on FPIs improved India's competitiveness in the global market which attracted additional foreign capital into the economy. This had also helped to improve overall liquidity in the system.

The Government proposed to **grant 100 per cent exemption on interest, dividend and capital gains income on investments by sovereign wealth funds** made in infrastructure and other notified sectors. The timeline for availing this benefit has been fixed at March 31, 2024, with a minimum lock-in period of three years. It has also extended the period for lower rate of withholding of 5 per cent under section 194LD for interest payment to Foreign Portfolio Investors (FPIs) and Qualified Foreign Investors (QFIs) on bonds issued by Indian companies and government securities by up to June 30, 2023.

Additional govt. spending may, however, crowd out total investment by private and household sectors.

Besides, the government unveiled the INR 105trn 'National Infrastructure Pipeline' to revive economic growth: The Government revealed the National Infrastructure Pipeline (NIP) in Jan'20 to draw the investment pipeline on social and economic infrastructure projects over the next five years. They identified investments worth Rs102trn over the next five years, with nearly 60% in development stage or under implementation. The balance Rs3trn worth of projects would be announced in a few months following the confirmation from states. While the Centre and states would fund 39% each, the balance 22% would be funded by the private sector. Roads, urban and housing, railways, power and irrigation comprise ~80% of the NIP. The Plan expects the Centre's budgetary support to increase from 0.74% of GDP in FY20 to 1.11% in FY25, assuming a nominal GDP CAGR of 12.2% during this period.

Major policies taken by the RBI: Policy rate cut by 135bps, withdrawal of a one-sided target of liquidity provision, introduction of Long-term Repo Operations (LTRO) facility, etc.

RBI has taken several policy measures to improve liquidity in the system which may have positive impact on overall growth of investment in the economy. RBI has reduced its policy rate by 135bps during Feb-Oct'19. Besides, it has decided to withdraw of a one-sided target of liquidity provision of 1% of net demand and time liabilities (NDTL). This will perhaps provide adequate liquidity to banks as per market conditions without any ceiling. The RBI has also announced introduction of Long-term Repo Operations (LTRO) facility comprising of 1-year and 3-year term repos up to a total amount of Rs1trn at the policy repo rate. This will provide slightly long-term liquidity to the banking system at policy rate, thereby bringing down their cost of funds and consequently improving monetary transmission. Now, banks are exempted from maintaining CRR against incremental credit to auto, residential housing and MSMEs up to the fortnight ending July 31st, 2020, thereby providing credit boost to these sectors.

Medium-term outlook

Investment outlook remains gloomy in FY20 and FY21.
As we have discussed in the report thus far, investment growth in India has been on a downward trajectory since FY09, which has further deteriorated in recent years amid low consumption demand, tight financial conditions, low global demand, policy uncertainty and rise in downside risk in the financial markets.

Investment outlook remains gloomy in FY20 and FY21.

Recovery of capex growth is unlikely in the near term.
The downward revisions to FY21 capex estimates over last one year for Nifty50 as well as Nifty500 point to a shallow recovery ahead due to continuous slowdown in the economy, tight financial conditions and weak global demand. The situation may worsen further due to the sudden outbreak of the deadly novel-coronavirus in Jan'20, the ongoing price war in crude, and after-effects of the Yes Bank moratorium.

Banks are exempted from maintaining CRR against incremental credit to auto, residential housing and MSMEs.

Monetary policies may improve monetary transmission and revive consumption demand in the medium-term.
RBI's recent policy actions like policy rate cut by 135bps in 2019, withdrawal of a one-sided target of liquidity provision of 1% of NDTL, the LTRO facility may reduce demand side constraints through better monetary transmission in the economy and bring down average cost of funds in the banking system. This may also help to revive consumption demand as availability of funds to the NBFCs is expected to improve.

Government focuses on Transport Services, Electricity, Construction and Real Estate sectors to generate more employment and overall productivity in the economy.

On the supply-side, banks are exempted from maintaining CRR against incremental credit to auto, residential housing and MSMEs up to the fortnight ending July 31st, 2020, thereby providing credit boost to these sectors as well.

Rise in total investment in Real Estate may have positive impact on several sectors providing critical inputs like cement, steel, etc.

Government focus on employment generation and improving infrastructure.
Government focuses on raising total investment in Transport Services, Electricity, Construction and Real Estate sectors, which would generate additional employment in the economy, and help to revive total consumption demand in the economy.

Significant rise in total investment in Transport Services will improve connectivity in the economy which may have positive impact on overall productivity and economic growth in the coming years.

Government should encourage more investment in agriculture through co-operatives to improve return on investment through higher productivity in agriculture.

Pradhan Mantri Awas Yojana to boost Real Estate sector and related industries.
Government raised total investment in Real Estate through Pradhan Mantri Awas Yojana to boost affordability of houses against an inflated Real Estate sector. The scheme aims to achieve its objective of "Housing for All" by 31 March 2022, the 150th birth anniversary year of Mahatma Gandhi, by constructing 20 million houses across the nation. This policy may have positive impact on several sectors providing critical inputs like cement, steel, etc.

A significant upturn in overall growth in industry and consumption demand is necessary to improve investment growth in electricity.

Government should take a holistic approach to design its investment policy by incorporating all plausible inter-linkages across sectors, industries, asset classes, states and different institutions

Investment growth in electricity solely depends on overall growth in industry and consumption demand.
Total investment has remained meaningful in Electricity even though per-capita consumption of energy showed a CAGR of merely 2.5% for the period FY12-18. Further, industry accounted for the largest share of total consumption of Electricity (41.5%), followed by domestic consumption (24.2%), agriculture (18.1%) and commercial sectors (8.5%) in FY18. The continuous slowdown in industry and consumption demand resulted a rise in

total number of stalled projects in FY19 and total investment in this sector declined from Rs26trn in 2017 to Rs22trn in 2019. The trend may not revive in the medium-term unless there are significant upturn in overall growth in industry and consumption demand.

A big-boost of investment in Agriculture remains to be essential to achieve an inclusive growth as agriculture is one of the major employers in India, and this may, in turn, help to recover the rural demand. At the same time, government should give incentives to revive labour-intensive sectors like Construction to employ excess unskilled labour in the economy.

A holistic investment policy is required for an inclusive and sustainable development.
A holistic approach is required which will incorporate all plausible inter-linkages across sectors, industries, asset classes, states and different institutions. Government should not only focus on infrastructure and Electricity, rather it should design an investment policy for a long period of time towards achieving a high, inclusive and sustainable development across sectors, asset classes and different regions.

Economic Policy & Research

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