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# India Data Diviner Insightbook



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MACQUARIE HAS COLLABORATED WITH INDIADATAHUB FOR MACRO DASHBOARDS IN THIS REPORT.

21 August 2020

India

**EQUITIES****IntellectualProperty****INSIDE**

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## India Data Diviner – Annual Insightbook

### Themes and Trends driving India

**Key points**

- Macquarie in collaboration with IndiaDataHub launch our annual India Insightbook.
- This curated, one-stop product provides context on where India stands today as well as perspective on the nation's evolution over time.
- 180+ dashboards, 2,000+ indicators across GDP, demographics, banking, govt' finances, money supply, infrastructure, trade, capital markets etc.

**What caught our eyes?**

As a navigation guide for sector and stock implications see pages 2-7, here we provide a few snippets to whet your appetite.

- **Money supply** – Whilst broad money supply (M3) has expanded nearly 8x since 2005 to \$2.2 trillion, India's money multiplier has effectively flatlined at 5.5x, and money supply to GDP has fallen from 88% to 83%. Curiously, currency in circulation is back above the long-term average despite demonetization and a sharp rise in digital transactions.
- **Credit growth** – Along with the capex cycle in the 2000s India's bank credit-to-GDP quickly expanded from 20% to 50%. However, for the past decade India has stagnated around these levels with the corporate sector de-leveraging while retail credit has expanded. With India's non-performing loan problem among the highest in EMs, credit growth could remain anaemic.
- **Digital Dreams** – India's internet user base has increased over 2x to 720 million in the past five years, while data consumption per user is up 3x in the last two years. 97% of all retail payment transactions are now done digitally, and in just 4 years UPI has emerged as the biggest mode of payment. By value, in the last ten years, retail payments have increased 3.5x, and within this digital retail payments have increased ~45x.
- **Tax reform** – GST is now the biggest source of revenue to the Government accounting for a third of total tax revenues.
- **Services boom** – India's I.T. services industry today accounts for 3.5% of world services exports, a level that continues to grow.
- **Make in India** – Manufacturing contribution to GDP has been flat at 17% for the last decade while the share of global goods exports has stagnated at 1.5%.
- **Electrification** – Over the past 20 years about 750 million people have for the first time been able to switch on a light at home.
- **Agriculture renaissance** – India's cropped acreage has essentially not changed for the past 15 years, but we have seen an improvement in yield due to increased use of fertilizers, pesticides, better irrigation etc. This is a multi-decade trend and India has a long way to catch-up to China.
- **Logistics** – India has a longer railway network than China, yet rail continues to lose share to roads... upcoming Dedicated Freight Corridors will help.
- **Consumption nuances** – More Indian households own a television or a two-wheeler than a refrigerator.

(continued inside with sector, stock linkages)

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## Themes and Trends driving India

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# Themes and Trends driving India

## Macro

**India's GDP per capita is stagnating at ~\$2K**

**GDP** – India's **GDP per capita** is stagnating at ~\$2K today, ranks 145 globally, and a mere one-fifth that of China (fig 2). Over the past 20 years, the share of **Services** has risen ~10 points to 55%, while 'Agriculture' contribution has fallen to under 15% and 'Industry' is essentially flat at 30%. Over the past five years, government consumption and private consumption has supported India's GDP growth, whilst private sector **capex** has been a drag (figs 9-10). Overall Indian **savings rate** is at a 15-year low, while household savings are at a 30-year low... this combined with reduced corporate sector profitability and relatively high debt levels remains a key headwind for future growth in consumption and investments (fig 6). **Manufacturing** has contributed ~17% to GDP for the past decade... 'Make in India', corporate tax rate cut in '19, state-level incentives should help increase this ratio over time (fig 8, 10).

**India remains amongst the least urbanised in its peer group**

**Demographics** – India has a relatively **young demographic** (median age 28 years) with about 2/3<sup>rd</sup> of the population of a 'working age'. Infant mortality rate has more than halved since 2000 (figs 13-14). Over the past 20 years, India's **urban population** share has risen 7 points to now 35%... but India remains amongst the least urbanised in its peer group (figs 15-16). Interestingly more households own a television or a two-wheeler than a refrigerator (fig 19).

**GST is now the biggest source of gov't revenue**

**Government Finances** – Central Government's **revenue expenditure**, relative to GDP, has seen a compression in the last decade even as capex has remained stable (fig 60). State governments tend to operate with a balanced revenue position (figs 65-66). On **capex**, states outspend the centre by a big margin (fig 69). Central government **debt repayment** is the biggest expenditure component and nearly 2x government capex (fig 64). **GST** is now the biggest source of revenue to the Government accounting for a third of total tax revenues (figs 61, 71). India's **gov't debt to GDP** remains high versus EMs at around 70% (figs 74-75), while gov't revenue-to-GDP is bottom-quartile at sub-20% (fig 76).

**India's gov't debt to GDP remains high versus EMs**

**Monetary** – Whilst **broad money supply** (M3) has expanded nearly 8x since 2005 to \$2.2 trillion, India's money multiplier has effectively flatlined at 5.5x. Money supply to GDP has fallen from 88% to 83% in the last ten years (figs 24-25). Curiously, **currency in circulation** is back above the long-term average despite demonetization and a sharp rise in digital transactions (figs 28-29). **RBI's balance sheet** has seen a 11x expansion since 2000 to ~\$550 billion, of which over 70% is overseas investments (or FX reserves) and gold (figs 32-33). Consumer **inflation** in India has moderated sharply in the last few years, but still high relative to other EMs (figs 30-31).

**Currency in circulation is back above the long-term average**

**External Indicators** – India has run a **current account deficit** for most of the past 30 years (fig 77). Among its key trading partners, India runs a trade surplus with only the US – a dynamic that highlights why the success of **Make in India** is crucial to India's economic development. China accounts for ~15% of India's imports and ~5% of exports (figs 88-90). A 7x expansion in **FDI** since 2000 (fig 94), with further traction this year in the telecoms sector. **External debt** to GDP remains low versus other EMs (figs 97-98).

**7x expansion in FDI since 2000**

## Financials

### Financial Inclusion

**A four-fold expansion in the number of bank accounts** to about 2 billion today or ~1.5 accounts per person supported by rising working population and PM Modi's Jan Dhan scheme; however from a nationwide financial inclusion standpoint there is still ~20% of the population without bank accounts (fig 43).

**Stagnant bank credit to GDP and a chronic NPA problem**

**Bank credit to GDP** – Along with the capex cycle in the 2000s India's bank credit-to-GDP quickly expanded from **20%** to **50%**. However, for the **past decade India has stagnated around these levels with the corporate sector de-leveraging while retail credit has expanded** (fig 53). For context, Indonesia is at 33%, Brazil 60%, Turkey 65%, China 160%. Within this backdrop, the private sector banks continue to take share away from the public sector (fig 26). From a top-down perspective let's say India's GDP rises to \$3.5 trillion by 2025 (target \$5 trillion) and we see a stimulus induced capex cycle and credit-to-GDP expands to 60% (similar to levels in Brazil), then the size of India's bank credit extended could expand over 60% from \$1.3 trillion today to \$2.1 trillion. Layering on top market share gains, the size of private sector bank loan books could expand ~80-100% in the same period. However, India has a **non-performing loan problem, among the highest in EMs** (fig 54), and this particularly came to the fore following the Asset Quality Review under Raghuram Rajan.

India's chronic NPA problem and the lack of a capex cycle explains why credit growth rates in India have continued to fall and even pre-Covid was near a 40-year low.

- We stick with the quality private sector banks and in our base case build in overall system credit growth of 7-8% for the next three years, and within this 15%-20% for the likes of  **HDFC** and  **ICICI**. We expect retail to remain the key driver of credit growth while corporate loan growth could remain weak as capex led demand will take time to recover. Also, on the liabilities side, we expect private sector deposit growth to grow at 15-20% over the next 3-5 years whereas we expect the system deposit growth to be around 10%.

### **Underdeveloped debt markets**

There is a wide gap between funds raised from **debt capital markets** in India versus peer countries, and the size of India's debt market is one-fourth that of equity (fig 105).

- Development of debt capital markets has been a focus area for the government and regulators, but demand for bonds and debt mutual funds from retail customers remains poor. Bank deposits are the go-to for debt income investing. Until debt markets are developed, disintermediation will not occur, and bank margins should remain safe. Conversely, non-bank financials (NBFCs) will remain competitively disadvantaged as their cost of funds will be structurally higher than banks' and availability of funds will be volatile.
- While we have an Outperform rating on mass market home finance **LICHF** on valuations, it is a business model which will structurally face headwinds on margins from bank competition. On the flip side, NBFCs catering to "blue ocean" product segments like microfinance, used vehicle finance, rural-focused NBFCs, affordable housing finance companies will have better pricing power and margins. We have an Outperform rating on **CIFC** (top quality rural auto-financier).

## **India's Digital Dreams**

### **Data consumption per user up 3x in the past two years**

**Internet penetration** – India's internet user base has increased over 2x to 720 million in the past five years, while data consumption per user is up 3x in '18-19 alone driven by aggressive pricing. Still user penetration is below many EMs. Fig 137-138

- We see **Reliance Industries**, **Bharti Airtel**, **I.T. Services**, **Banks** as key beneficiaries of this theme, with Bharti Airtel our preferred pick. Specific to Reliance, we believe the stock is today trading far ahead of fundamentals and hence we rate the stock Underperform.

**Digital payments** – Digital is now 97% of total retail payment transactions while cheques have become basically non-existent. By value, retail payments have increased 3.5x in the last ten years... while digital retail payments have increased ~45x and now account for 80% of total transactions. In just four years, **UPI** (unified payments interface) has emerged has the biggest mode of payment in volume terms and fourth-biggest mode of payment in value terms. Fig 34-35

- The macro trend in India is that UPI (example Google Pay) and mobile wallets (PayTM) will rapidly gain market share from retail cash transactions, as has been the trend in China. In our view, these new payment alternatives will not cannibalize spends from card transactions, but rather act as a feeder source for new card customers who are comfortable transacting digitally. For context, in China – 95% of retail payments are digital, and card spends have grown at 27% CAGR over the last 10 years on a much larger base.
- We believe the long-term potential for credit cards in India is massive. There's room for both increasing penetration of cards and more use cases for card spends. **SBICARD**, the only pure-play credit card company in India, is our top pick with average ROE and EPS compounding of 28% expected over FY20-23E.

## **I.T. Services**

### **India today accounts for ~3.5% of world services exports**

**Services exports** – India's booming I.T. and business services industry underpinned by a technically educated, English speaking, cost competitive workforce. India today accounts for ~3.5% of world services exports – a level that continues to grow; while the world exports share of goods manufactured from India has stagnated over the last decade at ~1.5%. Fig 79-80

- The Indian IT service industry has grown at CAGR of ~8% over last 5 years, higher than the overall software growth at 5% in India. Indian IT service industry has moved up the value chain significantly in last 20 years and we expect the sector to continue growing at 8-9% CAGR over the next 10 years. Our top picks in the sector are **HCL Tech** and **Infosys**.

## Energy

**Fuel demand up over 50% in the last decade**

India's **retail fuel demand** has grown by over 50% in the last decade led by petrol (gasoline) and diesel for transport, and LPG for cooking. Globally, India is set to be the only growth market for oil products of any significance. *Fig 142*

- We see deep value in the Indian fuel marketing companies, with **Hpcl** our preferred exposure for marketing volume growth.

**Rising gas penetration**

**Natural Gas** – a 2.1x increase in piped natural gas connections and 25% increase in demand over the past five years. *Fig 146*

- We forecast India's gas consumption to rise from 64bcm to ~100bcm by 2025, but this is still only 7% of the energy mix versus the government's aspiration of 15%. LNG will be the main incremental supply source given disappointments in domestic supply. We are positive on the entire gas value chain with **Gail**, **Petronet LNG**, **GSPL** our preferred names, while we wait for a better valuation on the city-gas distribution names.

**India has made significant strides to ensure full access to electricity**

**Electrification** – Over the past 20 years about 750 million people have for the first time been able to switch on a light at home. Powerplant capacity has increased 2.4x over the past 15 years, led by the private sector which now accounts for slightly over 30% of India's generation capacity. *Fig 147-149*

- Despite universal electrification, sub-optimal 55% plant load factor (PLF) indicates sectoral overcapacity. The other factor pertains to poor billing and collection efficiency of distribution companies (discom) leading to losses on every unit of power they sell in some regions and thus voluntary power cuts to limit losses. Recent government actions on payment security mechanism, Rs900bn conditional package to clear past discom dues and renewed thrust on privatization will help bring-in discipline. This will benefit private power generation companies such as **Tata Power** and **JSW Energy**, both in collection of receivables and award of new power purchase agreements (PPAs).
- Consumer durable companies like **Havells** and **Crompton Consumer** will also be beneficiaries of improved access to electricity as it would boost demand of electrical products from first time users. In addition, improved power availability will also support consumer upgrade from necessity to comfort products like air coolers, home appliances etc.

**Share of renewable energy in power generation has doubled**

**Share of renewable energy** in power generation has doubled this decade to 11% currently. Capacity is up over 5x off a low base over the last decade against slightly under 90 GW renewable capacity today, India's (renewed) aspiration is to scale this to 227GW and 275GW by 2022-27 respectively... towards this end, India has introduced national competitive auctions for wind and solar, that complements other policy measures such as Renewable Purchase Obligations and support for rooftop solar installations. *Fig 150*

- Pace of solar capacity addition may moderate going forward predominantly due to the recently introduced 15-25% customs duty on import of various solar power equipment from China. The utilization and grid integration of existing installed capacity, however, will go up as the government is exploring renewable-thermal hybrid PPA. **Ntpc** can benefit from such PPAs given its large thermal baseload generation base and growing renewables capacity.

## Infrastructure

**India has a longer railway network than China**

**Railway Freight** – India has a longer railway network than China... yet railway freight continues to lose share to roads. Over 2015-19, total freight carried by Railways has grown just 11% or barely 2.6% CAGR predominantly because of rail network congestion. Such congestion impacts delivery timelines and service quality for clients and thus the railway share in India's freight transport has remained low between 25-30%. *Fig 119-120*

- We believe, this scenario is set to change in the next two years with commissioning of Dedicated Freight Corridors which will eliminate congestion for rail freight. Key beneficiary in the listed space will be **Concor** due to expected modal shift of cargo from road to rail on the North-West route

**Railway Electrification** – Out of 67,000 route-km (RKM) of Indian Railways, only 34,000 RKM were electrified as of 2019. Government has targeted to electrify all the routes in the coming few years and has made budget provision for electrification of 5000-6000 RKM every year for the last three

**India's road network is second longest in the world... but far more to be done**

announced budgets (FY19, FY20 and FY21). At this rate, railway electrification is likely to get completed in another 4 years. *Fig 122*

- During this period, key beneficiaries will be **KEC** (for all project sizes), **L&T** (accepts large projects only) on the EPC side as well as **ABB**, **BHEL** and **Siemens** for supply of transmission and distribution equipment (transformers and substations). For KEC, railways are a fast-growing business and provides diversification from mainstay utility scale T&D.

**India's Road Network** – India's road network is second longest in the world... but relative to the nation's large population, there is more to be done. While National Highways Authority of India (NHAI) ordering has gone up significantly in the last 5 years, the key bottleneck remains on the construction side where stressed bank balance sheets and risk aversion has dried up funding for private road operators. *Fig 125-126*

- Faster land acquisition, faster clearances, and progress on asset monetization plan can help unlock NHAI's capital and improve awarding under EPC mode. We highlight that road construction is among the most labour-intensive infrastructure works and likely to be a focus area of any fiscal stimulus in post-Covid situation. Also see [Life After Covid – MMT and unleashing infrastructure stimulus](#)

## Agriculture

**While agri yield continues to improve... India has a long way to catch-up to China**

**Foodgrain Yield** – While India's cropped acreage has essentially not changed for the past 15 years, we have seen an improvement in yield due to adoption of modern agricultural methods – increased use of fertilizers, pesticides, tractors etc. That said, India has a long way to catch up to China. *Fig 158-159*

- We see a long growth runway for India's agrochemical companies **Rallis**, **Bayer Crop Science**, **Sumitomo Chemicals**, **PI Industries**, **UPL**, for details see [India Agrochemicals – Bold reforms, unshackled growth](#)

## What else caught our eyes?

### Trade

- **Merchandise Exports** – Chemicals and jewellery the main categories shipped to US and UAE (India's top 2 export destinations). *Fig 82*

- **Imports** – India's import bill dominated by oil, with 9 out of every 10 barrels fed to local refineries being imported, a problem that is here to stay given structural mature field declines at ONGC. *Fig 85-86*

- **China** a key supplier of electronic goods, chemicals, machinery to India. *Fig 87*

- **Equity Markets** – Bombay Stock Exchange ranks 1 on # of listed companies... but lower on market cap. India has over 5,000 listed companies, a level that hasn't changed much over the past decade. *Fig 99*

- **Money market debt**, relative to bank credit, has stagnated in the last couple of years. *Fig 105*

- **Mutual Fund Assets Under Management** – a 15x expansion in 15 years to ~\$300 billion; within this the share of investments in equity schemes has risen from ~30% towards 50%, while that in debt schemes has fallen from 70% to 50%. *Fig 109*

- **Bank Deposits** – System-wide 7x expansion in 15 years to ~\$1.7 trillion or ~60% of GDP, within which the private sector is up 12x; higher proportion of savings deposits linked to the growth in private sector banks (higher rate offered versus public sector), while lower share of term deposits can be simply explained by emergence of other investment avenues. *Fig 42*

- **Bank Credit** – Total system credit has grown 9x in the past 15 years to now ~\$1.4 trillion or ~50% of GDP; credit cycle in the past five years has been entirely driven by 'retail' while the share of loans extended to fund 'industry' has fallen nearly 10 points. *Fig 47*

- **Bank Credit** – Over the last five years, loans to 'individuals' have accounted for over 50% of system-wide credit extended, and this ratio increases to over 70% including small businesses... explains why the moratoriums during the lockdown were essential. *Fig 49*

- **Bank Credit** – Loans extended by private sector banks is up ~15x in 15 years and the share of system-wide credit has expanded from 20% in '05 to 33% today... a trend that we see continuing;

### Capital Markets

### Banks

average outstanding loan balances has trended lower since '15 explained by the aforementioned growth in retail credit. **Fig 51**

### Agriculture

- **Agricultural Acreage** – Over 85% of land is with marginal and small-scale farmers and the average size of land holdings continues to fall – a key headwind for efficiency. **Fig 155**
- **Irrigation Coverage** – While improving, irrigated land in India is still under 50% and as such the sector's dependence on a good monsoon season remains high. **Fig 157**
- **Size of India's Foodgrain, Fruit, Vegetable, Oilseed, Fiber, Spice Market** – While in volume terms the growth has been far from exciting, in value terms, the market has expanded over 4x in the past 15 years to now a ~\$250 billion size. **Fig 164**
- **Storage bottlenecks** – Only a gradual increase in cold storage capacity; however agricultural [reform measures](#) announced in May-20, specifically dilution of Essential Commodities Act, should support higher investments in the agriculture supply chain. **Fig 165**
- **Livestock share rising** – While the share of agriculture in India's economy is falling, that of livestock and fisheries has been increasing over the past ten years. **Fig 168**
- **Agriculture Trade** – India's trade surplus has stagnated in recent years. **Fig 170**

### Energy & Infrastructure

- Public sector contributes almost 20% of India's GDP. Within this, energy, power, and financials are the key sectors for public sector enterprises. **Fig 180**
- India's **per capita energy consumption** is just a third of world average. Coal and Oil still make up a lion's share of India's energy mix. **Fig 139-140**
- India has the fourth-largest **refining** capacity in the world. **Fig 143**
- India is the second-largest **coal** producer globally behind China; the share of coal in India's primary energy mix has risen since the 70s and today accounts for ~45% of primary energy demand and ~75% of electricity supply; Indian coal is typically of an inferior quality with a lower calorific content and higher ash content. **Fig 145**
- **Aviation** – Until Covid, India had seen strong growth in air passenger traffic driven by a combination of rising incomes, increased airport connectivity and falling air fares due to low-cost air carriers. India's number of domestic passengers is up nearly three-fold to 145 million in 2019 from only ~50 million in 2010. **Fig 130-131**
- Per Capita **Greenhouse Gas Emissions** in India are less than half the global average, while its share of global total CO2 emissions is just shy of 7%. **Fig 152**
- **Port handling** – Non-major ports have grown faster than major ports due to evacuation challenges at major ports due to insufficient capacity of road-rail connectivity. **Fig 133-134**
- **Global Shipping Connectivity** – India compares favorably to many EMs but is well below China and Malaysia. **Fig 136**

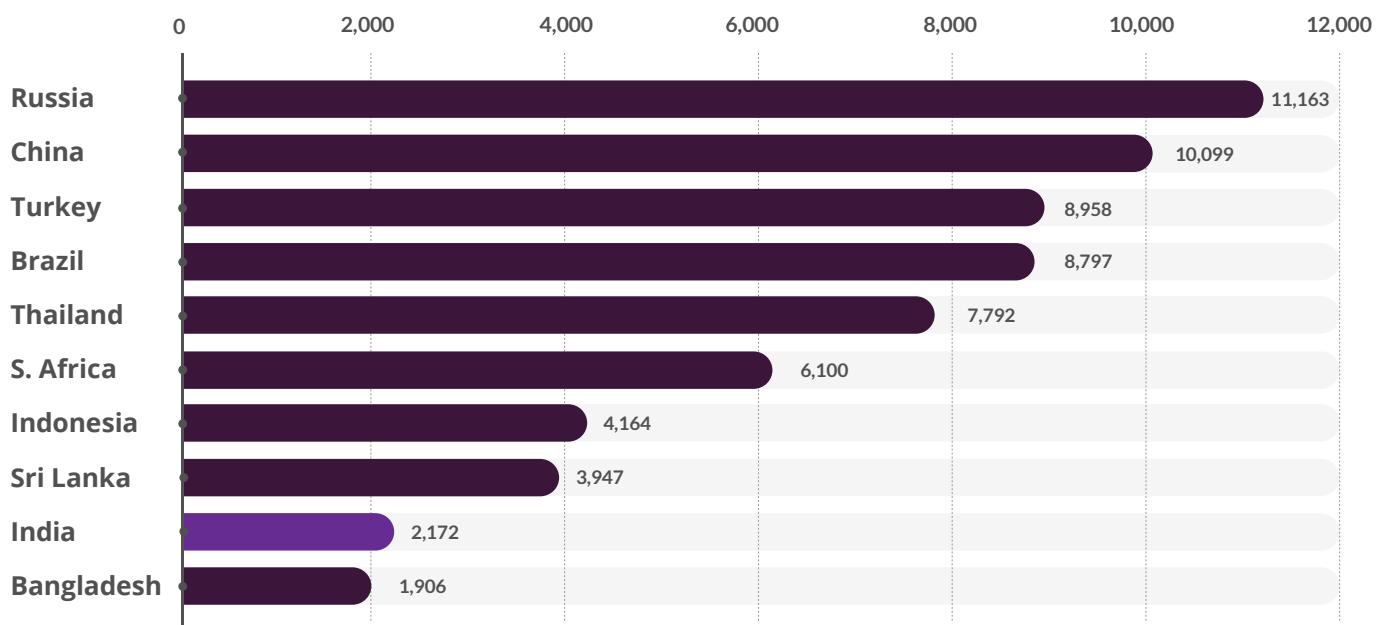
## National Accounts

- India is the world's fifth-largest economy (~\$3 trillion), but on a per capita basis (\$2K) ranks a lowly 145.
- India's investment rate, although falling, is still amongst the highest in EM peers.
- Household financial savings, relative to GDP, has declined to a 30-year low.

Fig 1 The Indian Economy: ~\$3 trillion today with aspirations to scale to \$5 trillion

	2000	2005	2010	2015	2020
Nominal GDP (Rs billion) <sup>1</sup>	19,883	31,863	63,664	124,680	203,398
Per Capita GDP (Rs) <sup>1</sup>	19,863	29,259	54,414	98,405	151,677
<b>Nominal GDP (US\$ billion)<sup>2</sup></b>	477	834	1,708	2,104	<b>2,936</b>
Share in World GDP	1.4	1.8	2.6	2.8	3.4
Rank in World	13	13	9	7	5
<b>Per Capita GDP (US\$)<sup>2</sup></b>	463	747	1,423	1,640	<b>2,172</b>
Rank in World	154	156	148	148	145
Nominal PPP GDP (US\$ billion) <sup>2</sup>	2,086	3,240	5,311	8,031	11,326
Share in World PPP GDP	4.2	4.8	5.9	6.9	8.0
Rank in World	5	4	3	3	3
Per Capita PPP GDP (US\$) <sup>2</sup>	2,026	2,903	4,424	6,260	8,378
Rank in World	146	143	136	130	124

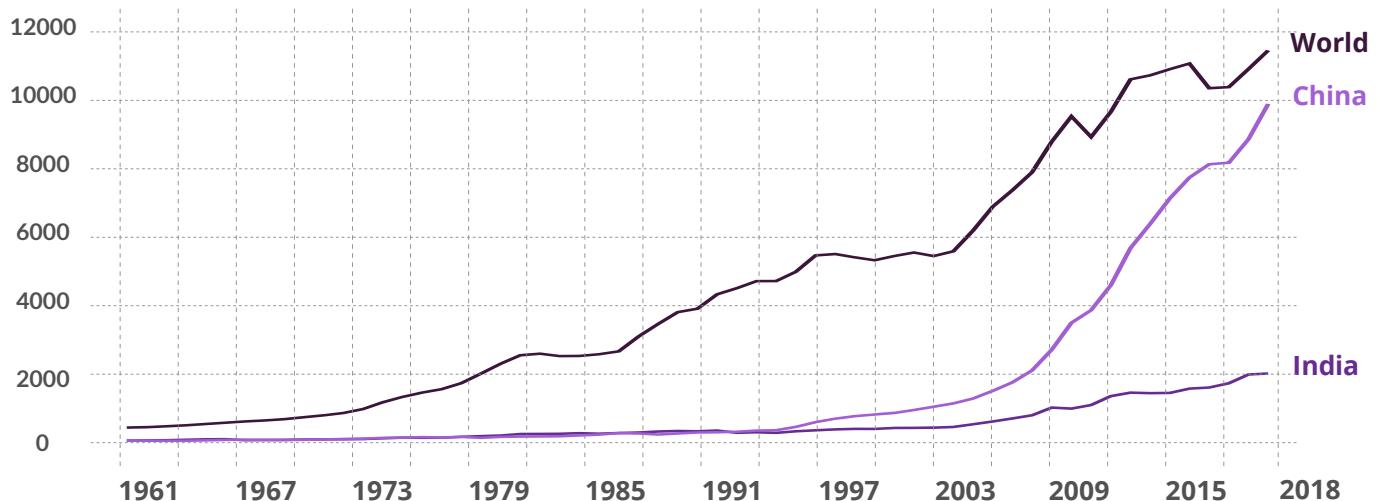
### Per Capita GDP (US Dollar, 2019)<sup>2</sup>



**Fig 2 Per Capita GDP – India is stagnating at ~\$2K today and a mere one-fifth that of China**

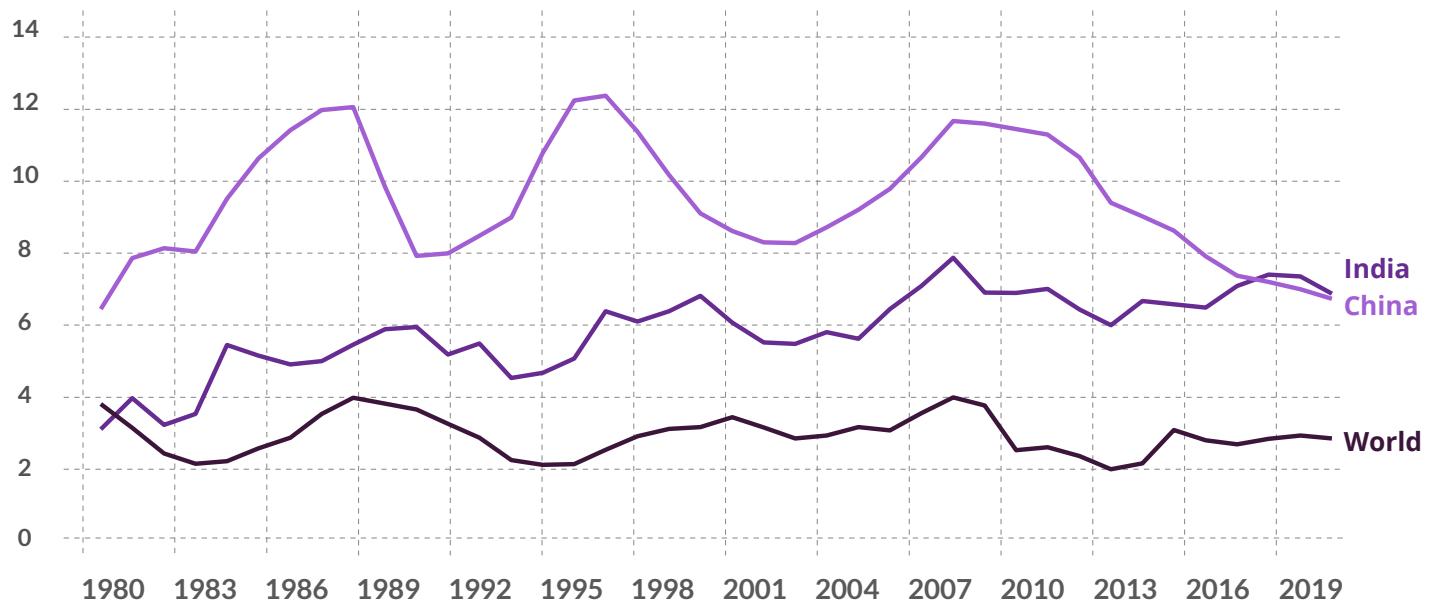
### Per Capita GDP Trends - India vs China vs World

#### Per Capita GDP (nominal US Dollars)



### India's GDP growth relative to China and Global average

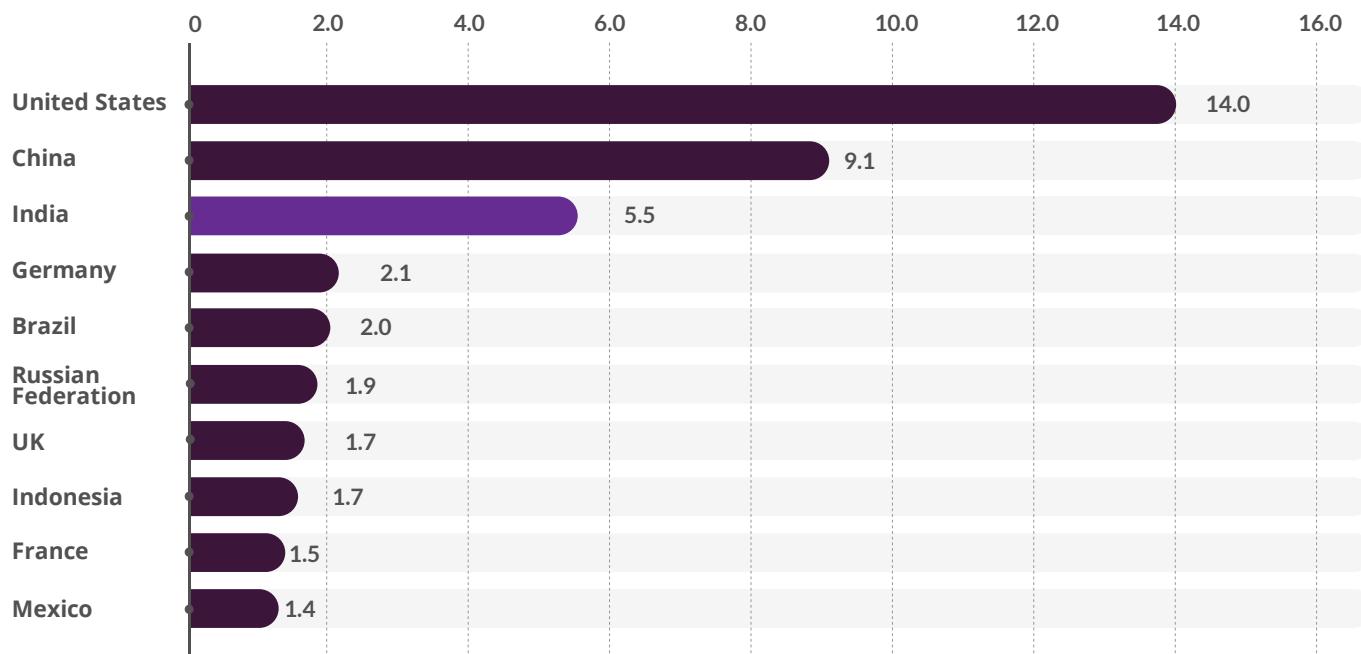
#### Real GDP Growth (trailing 5yr Cagr)



**Fig 3 Consumption Share of GDP – At about 60% India is marginally above the global average but well above China**

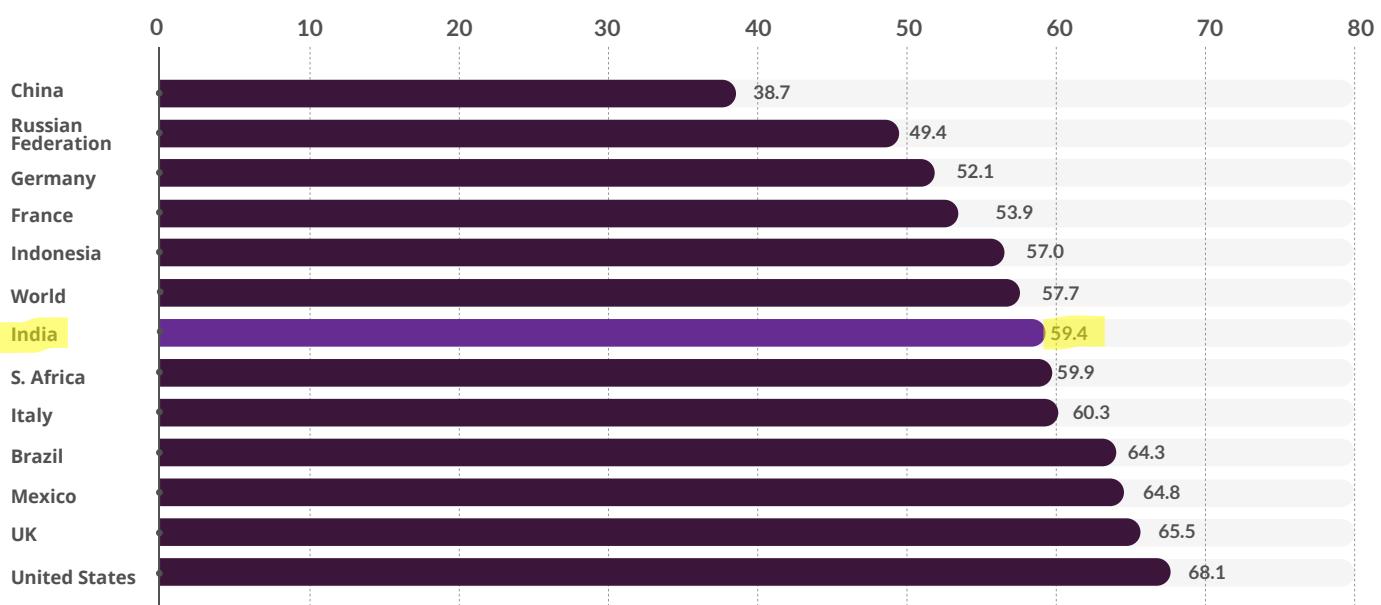
### India is the third largest Consumption Market globally in PPP terms

#### Household & Non-Profit Final Consumption Expenditure (US Dollar trillion, PPP terms, 2018)



### Consumption share of GDP for India is only slightly above world average

#### Household and Non-Profit Final Consumption Expenditure Share of GDP (%), 2018



**Fig 4 Investment Share of GDP** – India's investment rate particularly in the private sector continues to decline (explains India's anaemic credit growth, see fig 47) albeit relative to other comparable emerging economies the share of investments in India's GDP is 5-10 points higher

(y/e March)

	2005	2012	2015	2018	2019
<b>Gross Capex (GCF, Rs billion)<sup>1</sup></b>	<b>10,762</b>	<b>32,057</b>	<b>40,631</b>	<b>50,502</b>	<b>58,134</b>
Public Sector	2,359	6,584	8,845	11,745	13,732
- <i>Government</i>	<i>na</i>	3,066	4,407	6,233	7,354
- <i>Public Corporations</i>	<i>na</i>	3,518	4,438	5,512	6,378
Private Sector	8,402	25,474	31,786	38,757	44,402
- <i>Private Corporations</i>	4,247	11,580	16,655	19,629	22,594
- <i>Households</i>	4,156	13,893	15,131	19,128	21,808
<b>Gross Capex (GCF, % of GDP)<sup>1</sup></b>	<b>33.8</b>	<b>36.7</b>	<b>32.6</b>	<b>29.5</b>	<b>30.6</b>
Public Sector	7.4	7.5	7.1	6.9	7.2
- <i>Government</i>	<i>na</i>	3.5	3.5	3.6	3.9
- <i>Public Corporations</i>	<i>na</i>	4.0	3.6	3.2	3.4
Private Sector	26.4	29.2	25.5	22.7	23.4
- <i>Private Corporations</i>	13.3	13.3	13.4	11.5	11.9
- <i>Households</i>	13.0	15.9	12.1	11.2	11.5

### India's Investment Rate, though falling, is higher than several Emerging Economies

#### Average Gross Fixed Capital Formation (% of GDP)<sup>2</sup>



#### Notes:

1: Gross Capex (GCF) excludes Valuables and Statistical Discrepancies. Data is in nominal terms.

2: Data is on calendar year basis for all countries. Last data point for China is average from 2016 - 2018.

Source: Ministry of Statistics and Programme Implementation, World Bank, IndiaDataHub, Macquarie Research, August 2020

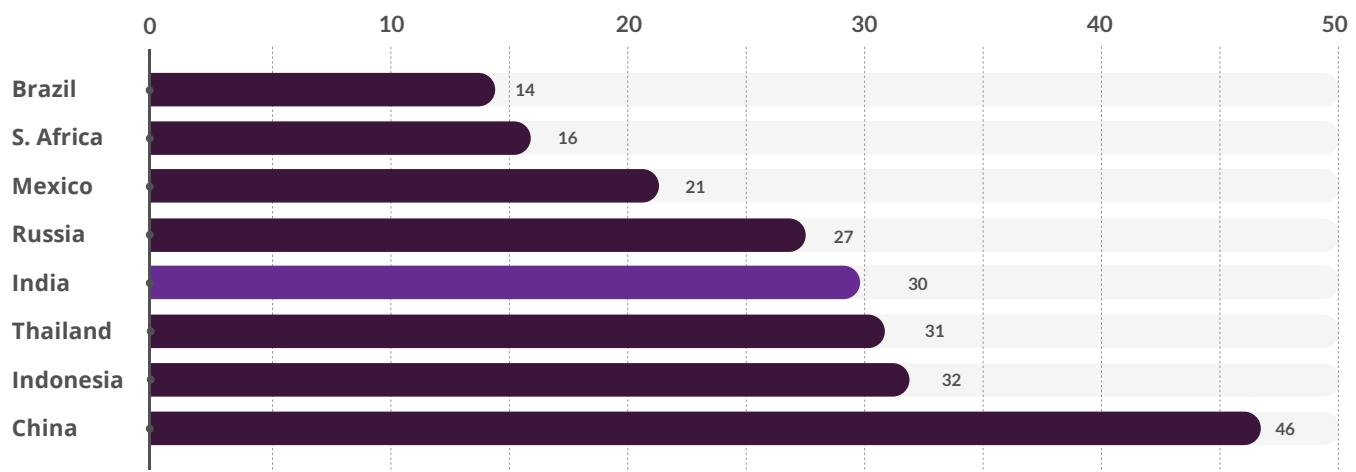
**Fig 5 Savings Rate relative to GDP** – India's savings rate expanded from ~10% in '50s to ~35% in mid-2000s but has since fallen to ~30% today

(y/e March)

	2005	2012	2015	2018	2019
<b>Domestic Savings (Rs Billion)</b>	<b>11,082</b>	<b>30,268</b>	<b>40,200</b>	<b>55,384</b>	<b>57,129</b>
Public Sector	840	1,345	1,238	2,828	2,850
- <i>Government</i>	-653	-1,582	-1,752	-1,959	-1,483
- <i>Public Corporations</i>	1,493	2,927	2,990	4,787	4,333
Private Sector	10,242	28,924	38,962	52,556	54,279
- <i>Households'</i> <sup>1</sup>	7,478	20,656	24,391	32,773	34,468
- <i>Private Corporations</i>	2,764	8,268	14,571	19,783	19,812
<b>Domestic Savings (% of GDP)</b>	<b>34.8</b>	<b>34.6</b>	<b>32.2</b>	<b>32.4</b>	<b>30.1</b>
Public Sector	2.6	1.5	1.0	1.7	1.5
- <i>Government</i>	-2.0	-1.8	-1.4	-1.1	-0.8
- <i>Public Corporations</i>	4.7	3.4	2.4	2.8	2.3
Private Sector	32.1	33.1	31.2	30.7	28.6
- <i>Households'</i> <sup>1</sup>	23.5	23.6	19.6	19.2	18.2
- <i>Private Corporations</i>	8.7	9.5	11.7	11.6	10.4

### Savings Rate in Key Emerging Markets

#### Gross National Savings (2015-18 average, % of GDP)



#### Notes:

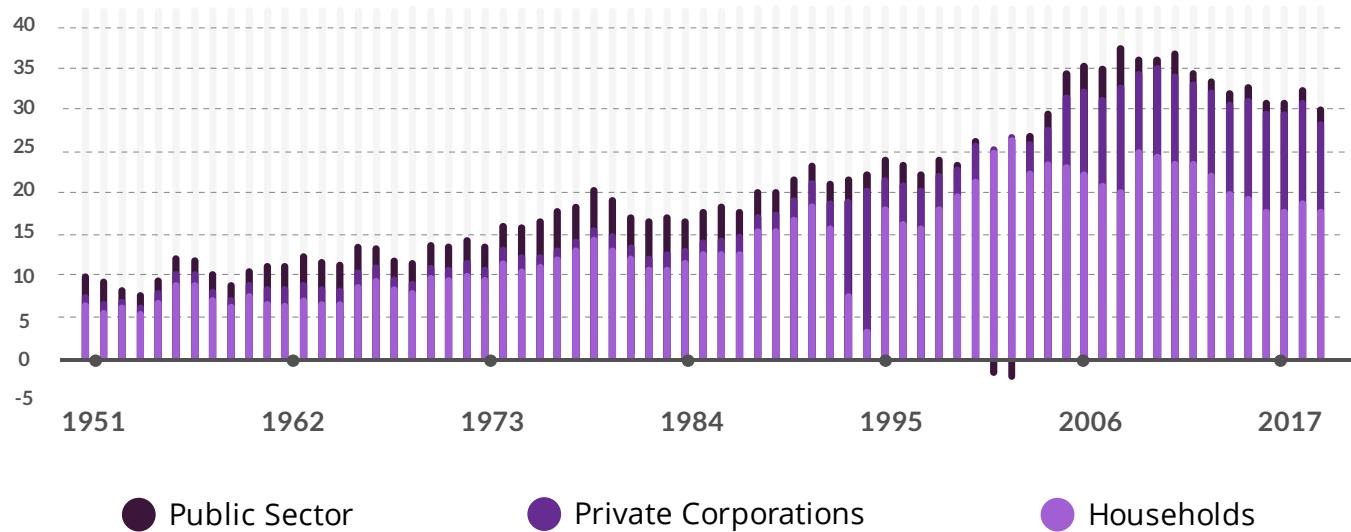
1: Households includes non-profits and non-incorporated businesses.

Source: Ministry of Statistics and Programme Implementation, IndiaDataHub, Macquarie Research, August 2020

**Fig 6 Savings Rate relative to GDP – Today overall Indian savings rate is at a 15-year low, while household savings are at a 30-year low... this combined with reduced corporate sector profitability and relatively high debt levels remains a key headwind for future growth in consumption and investments**

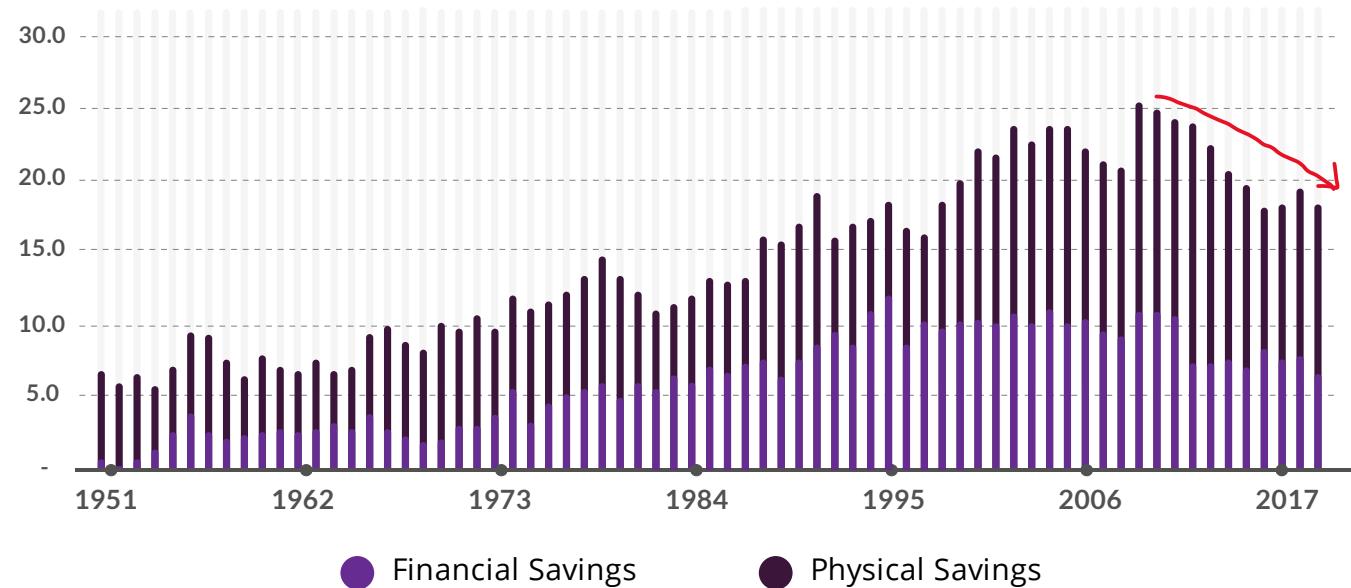
### Domestic savings, relative to GDP, are estimated to be at a 15-year low in 2018-19

#### Gross Domestic Savings (% of GDP)



### Household Financial Savings, relative to GDP, are estimated to decline to a 30-year low in FY19

#### Household Savings (% of GDP)



Source: Ministry of Statistics and Programme Implementation, IndiaDataHub, Macquarie Research, August 2020

**Fig 7 Where do Indian households save? Within a falling overall household savings rate... real estate / physical assets still account for over 60% of household savings, while equity investments are less than 1%**

(y/e March)

	2005	2012	2015	2018	2019
<b>Household Savings (Rs Billion)<sup>1</sup></b>	7,478	20,656	24,391	32,773	34,468
<b>Physical Savings</b>	4,288	14,230	15,587	19,543	22,166
Gold	na	336	456	415	358
Other Physical Assets	na	13,893	15,131	19,128	21,808
<b>Financial Savings (net)</b>	3,191	6,426	8,804	13,230	12,302
Gross Financial Savings <sup>2</sup>	4,406	9,327	12,572	20,610	19,957
- <i>Currency</i> <sup>2</sup>	373	1,062	1,333	4,708	na
- <i>Deposits</i> <sup>2</sup>	1,673	5,405	6,124	5,353	na
- <i>Shares, Bonds, Mutual Funds</i> <sup>2</sup>	33	165	204	630	na
- <i>Government Securities/Instruments</i>	1,043	-219	10	822	na
- <i>Insurance</i> <sup>2</sup>	720	1,957	2,993	3,504	na
- <i>Provident and Retirement Funds</i> <sup>2</sup>	563	957	1,909	3,679	na
Less: Gross Financial Liabilities	1,215	2,901	3,768	7,381	7,655
<b>Household Savings (% of GDP)<sup>1</sup></b>	23.5	23.6	19.6	19.2	18.2
<b>Physical Savings</b>	13.5	16.3	12.5	11.4	11.7
Gold	na	0.4	0.4	0.2	0.2
Other Physical Assets	na	15.9	12.1	11.2	11.5
<b>Financial Savings (net)</b>	10.0	7.4	7.1	7.7	6.5
Gross Financial Savings <sup>2</sup>	13.8	10.7	10.1	12.1	10.5
- <i>Currency</i> <sup>2</sup>	1.2	1.2	1.1	2.8	na
- <i>Deposits</i> <sup>2</sup>	5.2	6.2	4.9	3.1	na
- <i>Shares, Bonds, Mutual Funds</i> <sup>2</sup>	0.1	0.2	0.2	0.4	na
- <i>Government Securities/Instruments</i>	3.3	-0.3	0.0	0.5	na
- <i>Insurance</i> <sup>2</sup>	2.3	2.2	2.4	2.0	na
- <i>Provident and Retirement Funds</i> <sup>2</sup>	1.8	1.1	1.5	2.2	na
Less: Gross Financial Liabilities	3.8	3.3	3.0	4.3	4.0

**Notes:**

1: Households includes non-profits and non-incorporated businesses.

2: Data for Gross Financial Savings is as per First Revised Estimates while that for components is as per First Estimates. As such, the sum of components does not add up to the Gross Financial Savings.

Source: Ministry of Statistics and Programme Implementation, World Bank, IndiaDataHub, Macquarie Research, August 2020

**Fig 8 Gross Value Added by Sector – Over the past 20 years, the share of ‘Services’ has risen ~10 points to 55%, while ‘Agriculture’ contribution has fallen to under 15% and ‘Industry’ is essentially flat at 30%**

(y/e March)

(Rs Billion)	2000	2005	2010	2015	2020
<b>Real GVA (2011-12 prices)<sup>1</sup></b>	38,645	50,925	71,318	97,121	134,346
<b>Share in Value Added (% of total)</b>					
Agriculture	27.6	22.6	18.2	16.5	14.4
Industry	29.4	30.5	33.0	31.1	30.2
- <i>Mining</i>	4.8	4.6	3.9	3.0	2.6
- <i>Manufacturing</i>	15.3	15.6	17.8	17.3	17.4
- <i>Utilities</i>	2.4	2.3	2.3	2.2	2.3
- <i>Construction</i>	6.8	8.1	9.1	8.6	7.8
<b>Services</b>	<b>44.7</b>	<b>46.9</b>	<b>48.8</b>	<b>52.4</b>	<b>55.4</b>
- <i>Trade, Hotels, Transport, Telecom</i>	14.4	16.7	16.7	18.6	19.6
- <i>Financial, Real Estate etc</i>	19.0	19.4	19.6	21.4	22.3
- <i>Public Admin, Defence, Others</i>	11.3	10.8	12.5	12.4	13.6
<b>Real GDP (2011-12 prices)<sup>1,2</sup></b>	<b>41,667</b>	<b>54,804</b>	<b>76,511</b>	<b>105,277</b>	<b>145,660</b>
<b>Share in Final Expenditure (% of total)</b>					
Private Consumption	61.7	58.9	56.0	56.2	57.2
Government Consumption	11.9	10.0	11.3	10.0	11.3
<b>Gross Capital Formation<sup>3</sup></b>	<b>24.9</b>	<b>29.7</b>	<b>36.2</b>	<b>34.8</b>	<b>32.9</b>
- <i>Gross Fixed Capital Formation</i>	24.2	25.6	31.5	31.1	29.8
- <i>Inventories</i>	2.3	2.6	3.3	2.6	1.9
- <i>Valuables</i>	0.9	1.4	2.3	1.8	1.3
Exports	10.2	16.2	20.3	23.9	19.3
Imports	13.1	16.7	25.5	25.3	21.4

#### Notes:

1: Data for 2000 and 2005 is based on the back series of National Accounts with base year 2011-12.

2: Data for 2020 is a summation of Gross Fixed Capital Formation, Inventories and Valuables without adjustment for discrepancies

Source: Ministry of Statistics and Programme Implementation, IndiaDataHub, Macquarie Research, August 2020

**Fig 9 Gross Value Add and GDP Growth (Trailing 5-Year CAGR) – Over the past five years, government consumption and private consumption has supported India's GDP growth, whilst private sector capex has been a drag**

(y/e March)

(trailing 5-year Cagr, %)	2000	2005	2010	2015	2020
<b>Real GVA (2011-12 prices)<sup>1</sup></b>	<b>6.8</b>	<b>5.7</b>	<b>7.0</b>	<b>6.4</b>	<b>6.7</b>
Agriculture	3.0	1.6	2.4	4.4	3.9
Industry	6.2	6.5	8.7	5.1	6.0
- <i>Mining</i>	4.6	4.6	3.7	0.7	4.2
- <i>Manufacturing</i>	6.6	6.0	9.9	5.8	6.8
- <i>Utilities</i>	6.5	4.3	6.7	5.9	7.7
- <i>Construction</i>	6.6	9.3	9.5	5.2	4.7
Services	9.1	6.7	7.8	7.9	7.9
- <i>Trade, Hotels, Transport, Telecom</i>	9.6	8.9	6.9	8.7	7.8
- <i>Financial, Real Estate etc</i>	8.7	6.1	7.3	8.2	7.6
- <i>Public Admin, Defence, Others</i>	9.2	4.6	10.2	6.2	8.7
<b>Real GDP (2011-12 prices)<sup>1</sup></b>	<b>6.8</b>	<b>5.6</b>	<b>6.9</b>	<b>6.6</b>	<b>6.7</b>
Private Consumption	5.9	4.7	5.8	6.7	7.1
<b>Government Consumption</b>	<b>9.5</b>	<b>2.0</b>	<b>9.5</b>	<b>4.1</b>	<b>9.4</b>
<b>Gross Capital Formation<sup>2</sup></b>	<b>8.8</b>	<b>9.4</b>	<b>11.2</b>	<b>5.7</b>	<b>5.6</b>
- <i>Gross Fixed Capital Formation</i>	10.6	6.9	11.4	6.4	5.7
- <i>Inventories</i>	19.7	8.7	12.3	1.6	-0.4
- <i>Valuables</i>	na	16.9	18.2	1.0	0.5
Exports	12.9	15.8	11.9	10.1	2.3
Imports	12.8	10.9	16.2	6.5	3.2

**Notes:**

1: Data for 2000 and 2005 is based on the back series of National Accounts with base year 2011-12.

2: Data for 2020 is a summation of Gross Fixed Capital Formation, Inventories and Valuables without adjustment for discrepancies

Source: Ministry of Statistics and Programme Implementation, IndiaDataHub, Macquarie Research, August 2020

**Fig 10 Investment / Capex by Sector – Manufacturing still accounts for sub-20% of capex... ‘Make in India’, corporate tax rate cut in ’19, state-level incentives should help increase this ratio over time**

(y/e March)

	2005	2012	2015	2018	2019
<b>Gross Capex (GCF, Rs billion)<sup>1</sup></b>	<b>10,762</b>	<b>32,057</b>	<b>40,631</b>	<b>50,502</b>	<b>58,134</b>
Agriculture & Allied Activities	903	2,739	3,319	3,796	4,271
Industry	4,202	12,229	13,330	15,248	18,527
- <i>Mining</i>	218	671	718	859	995
- <i>Manufacturing</i>	2,121	6,150	6,935	8,177	9,842
- <i>Construction</i>	848	2,325	2,287	2,898	3,724
- <i>Electricity, Gas, Water Supply</i>	1,015	3,084	3,390	3,315	3,965
Services <sup>2</sup>	5,657	17,089	23,982	31,457	35,336
- <i>Trade &amp; Repair</i>	551	1,599	3,505	4,986	4,985
- <i>Road Transport</i>	na	1,180	732	1,878	2,621
- <i>Communication, Broadcasting</i>	177	544	706	2,774	3,058
- <i>Real Estate, Professional Svcs</i>	2,676	8,168	11,414	10,589	12,638
- <i>Public Administration</i>	816	2,480	3,400	4,667	5,683
<b>Gross Capex (GCF, % of GDP)<sup>1</sup></b>	<b>33.8</b>	<b>36.7</b>	<b>32.6</b>	<b>29.5</b>	<b>30.6</b>
Agriculture & Allied Activities	2.8	3.1	2.7	2.2	2.3
Industry	13.2	14.0	10.7	8.9	9.8
- <i>Mining</i>	0.7	0.8	0.6	0.5	0.5
- <i>Manufacturing</i>	6.7	7.0	5.6	4.8	5.2
- <i>Construction</i>	2.7	2.7	1.8	1.7	2.0
- <i>Electricity, Gas, Water Supply</i>	3.2	3.5	2.7	1.9	2.1
Services <sup>2</sup>	17.8	19.6	19.2	18.4	18.6
- <i>Trade &amp; Repair</i>	1.7	1.8	2.8	2.9	2.6
- <i>Road Transport</i>	na	1.4	0.6	1.1	1.4
- <i>Communication, Broadcasting</i>	0.6	0.6	0.6	1.6	1.6
- <i>Real Estate, Professional Svcs</i>	8.4	9.3	9.2	6.2	6.7
- <i>Public Administration</i>	2.6	2.8	2.7	2.7	3.0

**Notes:**

1: Gross Capex (GCF) excludes Valuables and Statistical Discrepancies. Data is in nominal terms.

2: Only Key components are shown

Source: Ministry of Statistics and Programme Implementation, IndiaDataHub, Macquarie Research, August 2020

**Fig 11 What do Indian households spend on?** Food ~30%, Household maintenance & essentials ~20%, Transport <20%, Discretionary consumption (shopping, eating out etc) ~10%, while Health and Education each account for under 5%

(y/e March)

(Rs Billion)	2005	2012	2015	2018	2019
<b>Aggregate Household Consumption <sup>1</sup></b>	<b>18,674</b>	<b>49,360</b>	<b>72,817</b>	<b>101,520</b>	<b>113,059</b>
<b>Consumption by Item</b>					
Food and Beverages	6,959	16,370	24,342	31,874	33,709
Clothing and Footwear	1,048	3,115	5,050	6,478	7,315
Housing, Electricity, Gas etc	3,191	8,073	11,510	14,309	15,744
Household equipment, Maintenance	488	1,584	2,309	2,921	3,273
Health	922	1,813	3,003	4,595	5,370
Transport	3,167	7,447	10,045	16,433	18,805
Communication	527	1,141	1,799	2,350	2,831
Recreation and Culture	178	507	686	809	900
Education	581	1,824	2,749	4,308	5,023
Restaurants and Hotels	321	1,165	1,491	1,983	2,219
Misc. Goods and Services	1,293	6,320	9,833	15,459	17,868
<b>Consumption by Category</b>					
Durable goods	na	1,513	2,133	2,905	3,265
Semi- Durable goods	na	3,897	6,102	7,733	8,699
Non- Durable goods	na	20,949	30,612	41,456	44,634
Services	na	23,000	33,970	49,427	56,462

#### Notes:

1: Private Final Consumption Expenditure in Domestic Market. Data is in nominal terms. Includes final expenditure by households, non-profit entities and unincorporated businesses. Data for 2005 is based on the back series of National Accounts with 2011-12 base year.

Source: Ministry of Statistics and Programme Implementation, IndiaDataHub, Macquarie Research, August 2020

**Fig 12 What do Indian households spend on?** Aggregate household consumption per capita has expanded at a 12% CAGR since '05 to slightly over \$1.1K per annum... within this a mere ~\$100 is spent annually on health and education

(y/e March)

(Rs per Capita)	2005	2012	2015	2018	2019
<b>Aggregate Household Consumption<sup>1</sup></b>	<b>17,147</b>	<b>40,459</b>	<b>57,472</b>	<b>77,260</b>	<b>85,199</b>
<b>Consumption by Item</b>					
Food and Beverages	6,390	13,418	19,212	24,257	25,402
Clothing and Footwear	962	2,554	3,985	4,930	5,513
Housing, Electricity, Gas etc	2,930	6,617	9,085	10,890	11,865
Household equipment,Maintenance	448	1,298	1,822	2,223	2,467
<b>Health</b>	<b>847</b>	<b>1,486</b>	<b>2,370</b>	<b>3,497</b>	<b>4,047</b>
Transport	2,908	6,104	7,928	12,506	14,171
Communication	484	936	1,420	1,788	2,133
Recreation and Culture	164	416	542	616	678
<b>Education</b>	<b>533</b>	<b>1,495</b>	<b>2,170</b>	<b>3,279</b>	<b>3,785</b>
Restaurants and Hotels	295	955	1,177	1,509	1,672
Misc. Goods and Services	1,187	5,181	7,761	11,764	13,465
<b>Consumption by Category</b>					
Durable goods	na	1,240	1,683	2,211	2,461
Semi - Durable goods	na	3,195	4,816	5,885	6,555
Non - Durable goods	na	17,172	24,161	31,550	33,635
Services	na	18,852	26,811	37,615	42,548

#### Notes:

1: Private Final Consumption Expenditure in Domestic Market. Data is in nominal terms. Includes final expenditure by households, non-profit entities and unincorporated businesses. Per capita consumption is calculated by dividing consumption in each category by estimated mid-year population during the year. Data for 2005 is based on the back series of National Accounts with 2011-12 base year.

Source: Ministry of Statistics and Programme Implementation, IndiaDataHub, Macquarie Research, August 2020

## Demographics

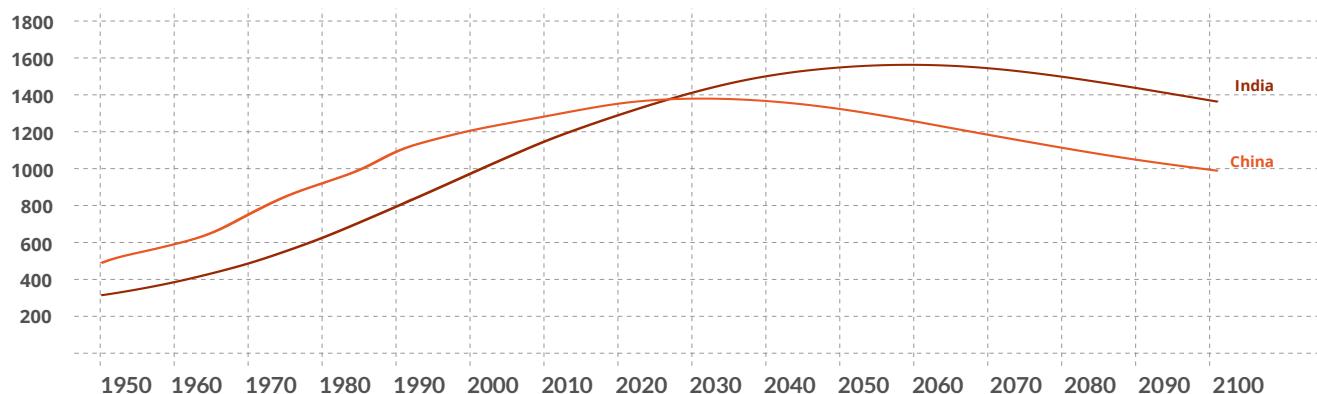
- India has a relatively young demographic (median age 28 years) with about two-thirds of the population of a ‘working age’.
- Over the past 20 years, India’s urban population share has risen 7 points to now 35%... but India remains amongst the least urbanised in its peer group.
- Infant mortality rate has more than halved in the last two decades.
- More households own a television or a two-wheeler than a refrigerator.

**Fig 13 Population – With 1.4 billion people, India accounts for about 18% of the world population**

	2000	2005	2010	2015	2020e
<b>Population (million)</b>	1,057	1,148	1,234	1,310	1,380
Growth rate (CAGR) <sup>1</sup>	1.9	1.7	1.5	1.2	1.0
Share in World Population (%)	17.2	17.5	17.7	17.8	17.7
Median age (years)	22.7	23.8	25.1	26.8	28.4
<b>Population composition (%)</b>					
Children (0-4 years)	12.1	11.3	10.4	9.1	8.5
Young (0-14 years)	34.7	32.7	30.8	28.4	26.2
<b>Working age (15-64 years)</b>	60.9	62.5	64.1	65.9	67.3
Old age (65+ years)	4.4	4.7	5.1	5.6	6.6
Annual increase in working age population (million) <sup>2</sup>	14.4	14.8	14.8	14.5	12.9
<b>Sex Ratio (females per 1000 males)</b>					
Overall	923	922	922	923	924
At Birth <sup>3</sup>	900	899	908	910	910

**India's population will cross that of China in this decade and will peak around 2060**

### Population (million)

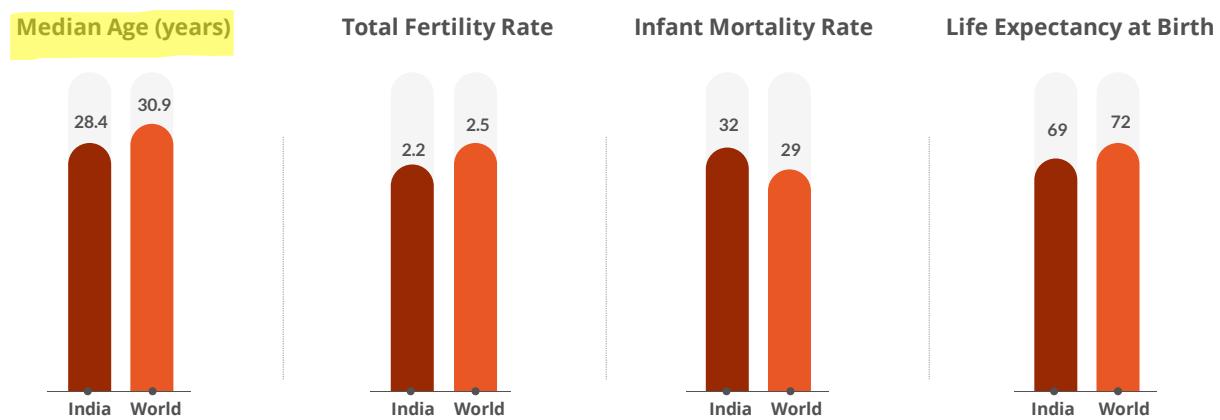


Source: United Nations, World Population Prospects 2019, IndiaDataHub, Macquarie Research, August 2020

**Fig 14 Population – India versus World – India has a relatively young demographic (median age 28 years) with about 2/3<sup>rd</sup> of the population of a ‘working age’**

	2000	2005	2010	2015	2018
Birth Rate (%)	2.6	2.4	2.2	2.1	2.0
Death Rate (%)	0.9	0.8	0.7	0.7	0.6
Natural Population Growth Rate (%) <sup>1</sup>	1.7	1.6	1.5	1.4	1.4
Total Fertility Rate	3.2	2.9	2.5	2.3	2.2
<b>Life Expectancy at Birth (years)<sup>2</sup></b>	<b>63</b>	<b>65</b>	<b>67</b>	<b>69</b>	
- <i>Rural</i>	62	64	66	68	
- <i>Urban</i>	68	69	71	72	
<b>Infant Mortality Rate<sup>3</sup></b>	<b>68</b>	<b>58</b>	<b>47</b>	<b>37</b>	<b>32</b>
- <i>Neo-natal Mortality rate<sup>4</sup></i>	44	37	33	25	23
- <i>Post Neo-natal Mortality rate<sup>5</sup></i>	23	22	14	12	9
Still-Birth rate	8	9	7	4	4
Maternal Mortality Rate <sup>6</sup>	327	254	178	130	122

### India vs World - Key Demographic Stats (2020e)<sup>7</sup>



#### Notes:

1: The difference between Birth Rate and Death Rate. It is the rate at which population would grow but for immigration or emigration

2: Data is based on Life Tables published by the Office of the Registrar General and Census Commissioner, and pertains to mid-point of 5-year reference period. Thus, data for 2015 pertains to the average during 2013-17 and so on.

3: Infant mortality is the number of deaths in the first 12 months of life divided by the total number of live births during the year. Data is expressed as number of deaths per 1000 live births.

4: Neo-natal mortality is the number of deaths in the first 28 days of life divided by the total number of live births during the year. Data is expressed as number of deaths per 1000 live births.

5: Post neo-natal mortality is the number of deaths post the first 28 days of life but before the first 12 months divided by the total number of live births during the year. Data is expressed as number of deaths per 1000 live births.

6: Calculated as maternal deaths per 100,000 live births. Data is average for a 3-year period closest to the year for which data is shown. Data in 2018 column pertains to the period 2015-2017 while data in 2015 column pertains to the period 2014-16.

7: Data based on projections/estimates by United Nations Population Division as per the World Population Prospects (2019) report.

Source: Office of the Registrar General and Census Commissioner, India, United Nations, Department of Economic and Social Affairs, Population Division (2019), World Population Prospects 2019, IndiaDataHub, Macquarie Research, August 2020

**Fig 15 Urbanisation – Over the past 20 years, India's urban population share has risen 7 points to now 35%...**

(data as of mid-year)

	2000	2005	2010	2015	2020e
Urban Population (million)	291	334	381	429	483
Growth Rate ( CAGR, %) <sup>1</sup>	2.7	2.8	2.6	2.4	2.4
Rural Population (million)	762	810	850	880	900
Growth Rate ( CAGR, %) <sup>1</sup>	1.6	1.2	1.0	0.7	0.5
Urban population share (%)	27.7	29.2	30.9	32.8	34.9
Urbanisation Rate (%) <sup>2</sup>	0.8	1.1	1.1	1.2	1.3
<b>Number of Cities<sup>3</sup></b>					
More than 300,000 people	116	130	144	170	191
More than 1 million people	36	41	48	59	63
More than 10 million people	3	3	3	4	6
<b>Population in Cities (% of total population)<sup>3</sup></b>					
10-million plus cities	4.3	4.3	4.4	5.3	7.1
Million plus cities	10.6	11.5	12.8	14.6	16.0
Slum population (million) <sup>4</sup>	121	116	112	103	
- Percentage of Urban population <sup>5</sup>	41.5	34.8	29.4	24.0	

**Notes:**

1: Growth rate is compounded annual rate of growth over the preceding 5 years

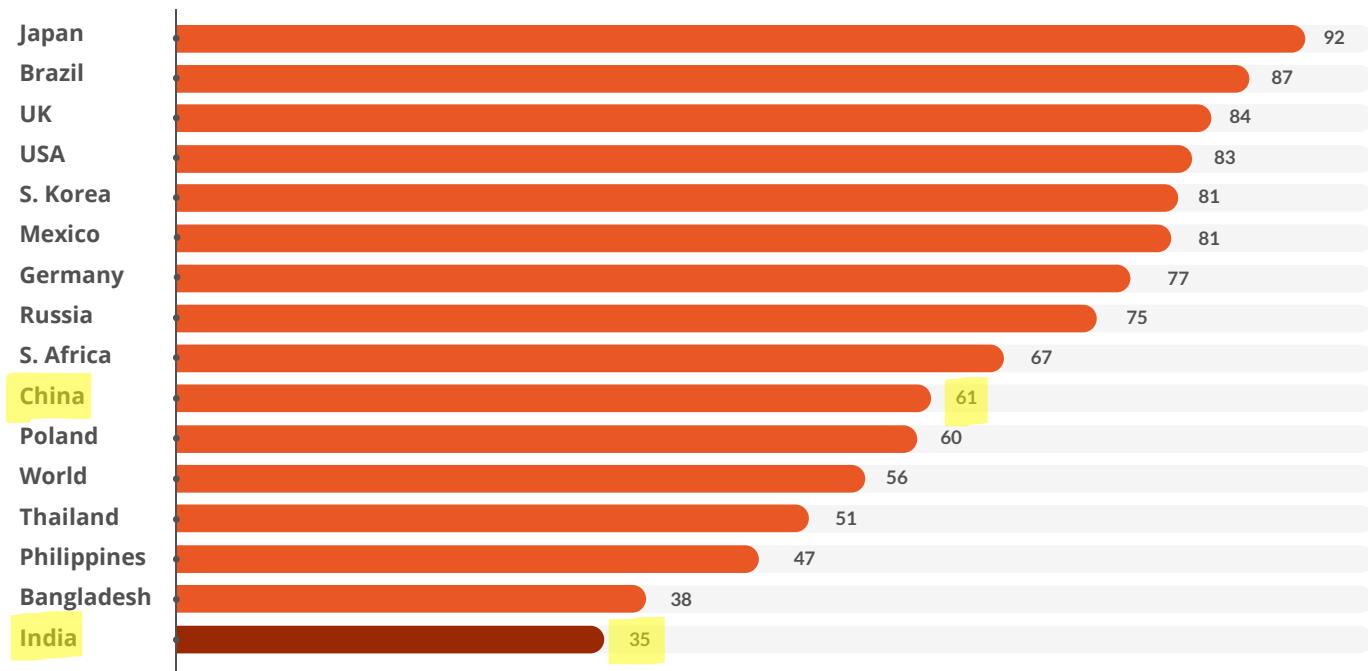
2: Urbanisation rate is calculated as Compounded Annual Growth Rate in the Percentage of Urban Population

3: UN Population Division uses the term 'Urban Agglomerations' instead of Cities. The numbers are with respect to population of the cities/urban agglomerations which may have a broader coverage than the city.

4: Derived by multiplying the percentage of urban population living in slums by the total urban population

5: Data is sourced from World Bank's World Development Indicators and comes from United Nations Millennium Development Goals database. Data for 2010 is for 2009 and that for 2015 is for 2014

Source: United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision, Online Edition, IndiaDataHub, Macquarie Research, August 2020

**Fig 16 Urbanisation – ... but India remains amongst the least urbanised in its peer group****Urban Population Share (% of total, 2020e)****Largest cities in India (2020e)<sup>1</sup>**

(Population data as of mid-year in millions)

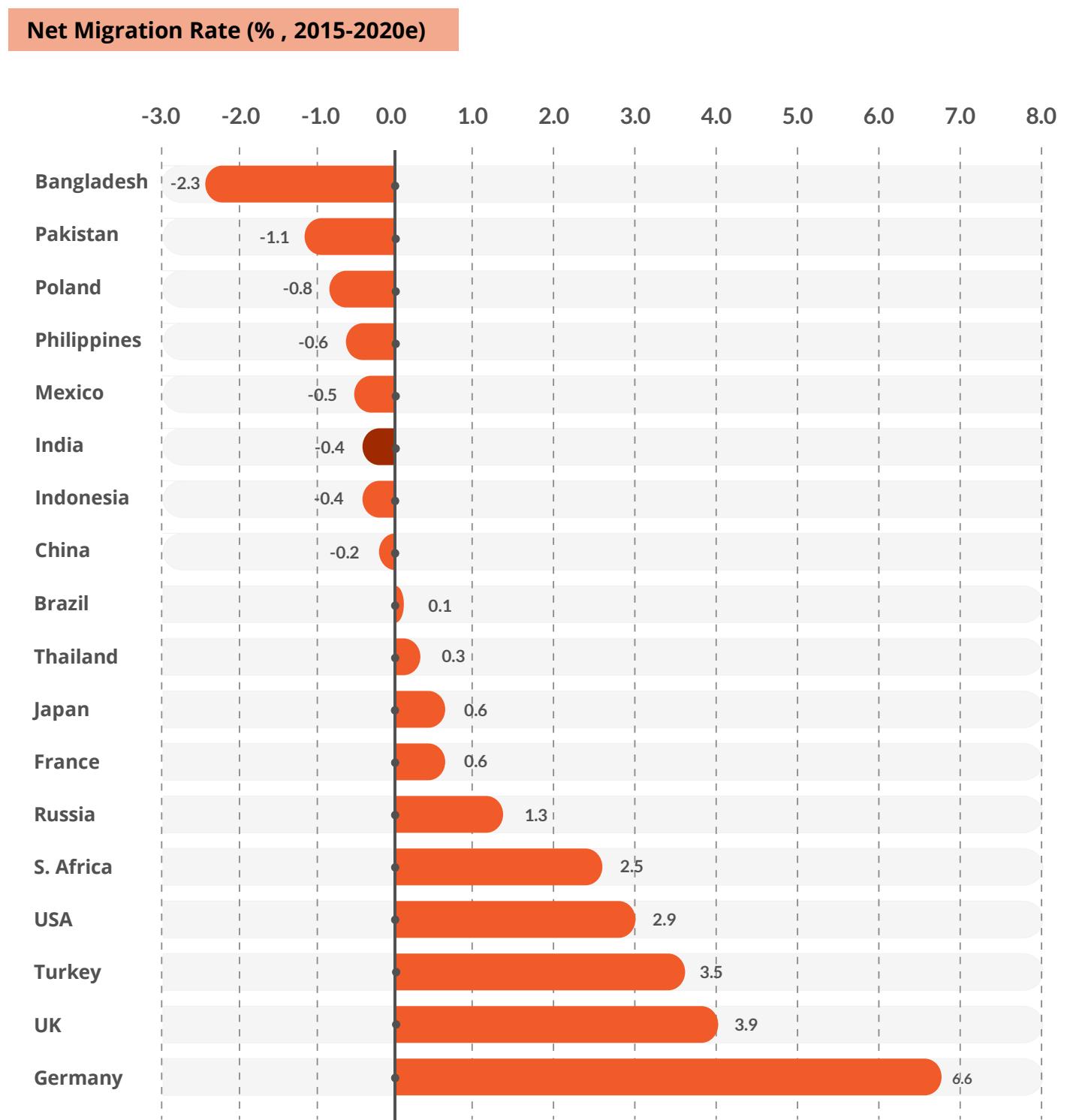
Sr.	Name	Population	Sr.	Name	Population
1	Delhi	30.3	11	Lucknow	3.7
2	Mumbai	20.4	12	Kozhikode	3.6
3	Kolkata	14.9	13	Malappuram	3.4
4	Bengaluru	12.3	14	Kanpur	3.1
5	Chennai	11.0	15	Kochi	3.1
6	Hyderabad	10.0	16	Thrissur	3.1
7	Ahmedabad	8.1	17	Indore	3.0
8	Surat	7.2	18	Nagpur	2.9
9	Pune	6.6	19	Coimbatore	2.8
10	Jaipur	3.9	20	Thiruvananthapuram	2.6

**Notes:**

1: UN Population Division uses the term 'Urban Agglomerations' instead of Cities. The numbers are with respect to population of the urban agglomerations which may have a broader coverage than the city.

Source: United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision, Online Edition, IndiaDataHub, Macquarie Research, August 2020

Fig 17 Migration Rate – Mild outflow from India



Net migration rate is the number of immigrants minus the number of emigrants over a period, divided by the person-years lived by the population of the receiving country over that period. It is expressed as net number of migrants per 1,000 population. Accordingly, a negative number indicates that the country has seen more emigration than immigration.

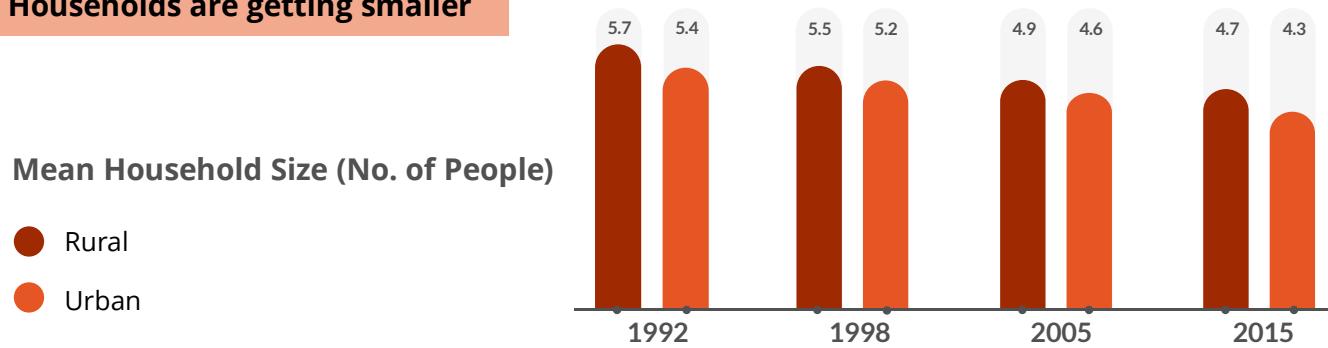
Source: United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition, IndiaDataHub, Macquarie Research, August 2020

## Household Characteristics

**Fig 18 Household Characteristics – India, rural in particular, still has a long way to go to ensure a minimum standard of living**

(Access/Usage - % of households)	1992	1998	2005	2015
<b>Access to Electricity</b>	50.9	60.1	67.9	88.2
- Rural	38.7	48.1	55.7	83.2
- Urban	82.8	91.3	93.1	97.5
<b>Piped Drinking Water <sup>1</sup></b>	33.1	38.7	42.3	46.5
- Rural	19.3	25.0	28.0	34.2
- Urban	69.5	74.5	71.8	69.7
<b>Access to Toilet</b>	30.3	36.0	44.7	61.1
- Rural	12.9	18.9	26.0	45.9
- Urban	75.9	80.7	83.2	89.5
<b>Use of Clean Cooking Fuel <sup>2</sup></b>	11.0	17.6	25.6	43.8
- Rural	2.0	5.8	8.7	24.0
- Urban	34.4	48.3	60.1	80.6
<b>Living in Pucca House</b>	23.7	32.0	45.9	56.4
- Rural	11.2	19.0	28.8	41.3
- Urban	56.6	66.0	81.2	84.5

### Households are getting smaller



**Notes:**

1: Numbers for 2005 and 2015 include households with piped water into the dwelling as also with Public tap or standpipe. Additionally, for 2005 it includes Bottled water and for 2015 it includes Community RO Plant

2: Includes LPG, Electricity or Biogas

Source: National Family Health Surveys. Data for 1992 is from NFHS for the year 1992-93, data for 1998 is from NFHS 1998-99, 2005 from NHFS 2005-06, 2015 from NFHS 2015-16, IndiaDataHub, Macquarie Research, August 2020

**Fig 19 Household Characteristics – Households with bank accounts has seen a significant leap over the past 15 years; (curiously) Indian households own 2.2x more TVs than refrigerators**

(Ownership - % of households)	1992	1998	2005	2015
<b>Refrigerator</b>	6.8	10.6	15.3	29.6
- Rural	1.7	3.7	6.6	16.4
- Urban	20.1	28.8	33.5	54.2
<b>Television</b> <sup>1</sup>	20.7	34.8	44.2	65.2
- Rural	8.9	20.5	30.1	53.5
- Urban	51.7	72.1	73.2	87.0
<b>Two-Wheeler</b>	8.1	11.2	17.2	37.7
- Rural	3.8	6.0	10.8	30.3
- Urban	19.2	25.0	30.5	51.5
<b>Car</b>	1.1	1.6	2.7	6.0
- Rural	0.3	0.6	1.0	3.2
- Urban	3.2	4.4	6.1	11.4
<b>Computer</b>			3.0	9.0
- Rural			0.6	3.6
- Urban			8.0	19.2
<b>Bank Account</b> <sup>2</sup>			40.2	89.4
- Rural			32.3	88.0
- Urban			56.6	92.0
<b>BPL Card</b>			27.3	38.6
- Rural			32.9	45.8
- Urban			15.8	25.2

**Notes:**

1: For 1998, data is summation of households owning a B&W television set and those owning colour television sets

2: Includes households having a Post-office account

Source: National Family Health Surveys. Data for 1992 is from NFHS for the year 1992-93, data for 1998 is from NFHS 1998-99, 2005 from NHFS 2005-06, 2015 from NFHS 2015-16, IndiaDataHub, Macquarie Research, August 2020

## Health, Education

**Fig 20 National Health – Women**

(% of total)	1992	1998	2005	2015
<b>Women's Health</b>				
<b>Births in Health Facility</b> <sup>1</sup>	25.5	33.6	38.6	78.9
- Rural	16.0	24.6	28.9	75.1
- Urban	57.6	65.1	67.4	88.7
<b>Received Antenatal Care</b> <sup>2</sup>	62.2	65.3	77.1	83.4
- Rural	56.8	59.6	72.3	80.5
- Urban	81.1	85.8	90.7	90.7
<b>Delivery by Healthcare Professional</b> <sup>1,3</sup>	34.2	42.3	46.6	81.4
- Rural	25.0	33.5	37.4	78.1
- Urban	65.3	73.3	73.4	90.0
<b>Median age at first birth (years)</b> <sup>4</sup>	19.4	19.4	19.8	21.0
- Rural	19.0	19.0	19.3	20.6
- Urban	20.5	20.6	20.9	21.9
<b>Prevalence of Anaemia</b> <sup>5</sup>	51.8	55.3	53.0	53.0
- Rural	53.9	57.4	54.2	54.2
- Urban	45.7	50.9	50.8	50.8
<b>Underweight Women</b> <sup>6</sup>	35.6	22.9		
- Rural	40.6	26.8		
- Urban	25.0	15.5		
<b>Prevalence of Obesity</b> <sup>7</sup>	2.8	5.1		
- Rural	1.3	3.1		
- Urban	6.1	9.1		
<b>Prevalence of Diabetes</b> <sup>8</sup>	0.9	1.7		
- Rural	0.6	1.2		
- Urban	1.4	2.6		

**Notes:**

1: Data for 2005 and 2015 is based on all births to women in the age group 15-49 in the 5 years preceding the survey. Data for 1998 is based on last two births in the 3 years preceding the survey. Data for 1992 is based on births in the 4-years prior to the survey.

2: Data for 2005 and 2015 is based on the last birth to women in the age group 15-49 in the 5 years preceding the survey. Data for 1998 is based on last birth in the 3 years preceding the survey. Data for 1992 is based on all births in the 4-years prior to the survey.

3: Healthcare Professional is either a Doctor, Nurse, Midwife, Auxiliary Nurse Midwife, Lady Health Visitor, or other health personnel.

4: Median age at first birth among women aged 25-49 years at the time of the survey

5: Blood haemoglobin level below 12g/dl for women in the age group 15-49. Data is adjusted for altitude and smoking status, if known.

6: Percentage of women currently between 15-49 years with BMI below 18.5. Excludes pregnant and new mothers

7: Percentage of women currently between 15-49 years with BMI above 30. Excludes pregnant and new mothers

8: On Self-reported basis

Source: National Family Health Surveys, IndiaDataHub, Macquarie Research, August 2020

**Fig 21 National Health – Men, Children**

(% of total)	1992	1998	2005	2015
<b>Men's Health</b>				
<b>Prevalence of Anaemia</b> <sup>1</sup>				
- Rural		24.2	22.7	
- Urban		27.7	25.2	
		17.7	18.4	
<b>Underweight Men</b> <sup>2</sup>				
- Rural		34.2	20.2	
- Urban		38.4	23.0	
		26.5	15.5	
<b>Prevalence of Obesity</b> <sup>3</sup>				
- Rural		1.3	3.0	
- Urban		0.6	2.0	
		2.4	4.7	
<b>Prevalence of Diabetes</b>				
- Rural		1.1	1.7	
- Urban		0.9	1.5	
		1.4	2.1	
<b>Child Health</b>				
<b>Full Immunization</b> <sup>4</sup>				
- Rural	35.4	42.0	43.5	62.0
- Urban	30.9	36.6	38.6	61.3
	50.7	60.5	57.6	63.9
<b>Stunted Children</b> <sup>5</sup>				
- Rural	52.0	45.5	48.0	38.4
- Urban	54.1	48.5	50.7	41.2
	44.8	35.6	39.6	31.0
<b>Underweight Children</b> <sup>6</sup>				
- Rural	53.4	47.0	42.5	35.7
- Urban	55.9	49.6	45.6	38.2
	45.2	38.4	32.7	29.1
<b>Anaemic Children</b> <sup>7</sup>				
- Rural	74.3	69.5	69.5	58.4
- Urban	75.3	71.5	71.5	59.4
	70.8	63.0	63.0	55.9

**Notes:**

1: Blood Haemoglobin level below 13g/dl for men in the age group 15-49. Data is adjusted for altitude and smoking status, if known.

2: Percentage of men currently between 15-49 years with BMI below 18.5.

3: Percentage of men currently between 15-49 years with BMI above 30.

4: Children aged 12-23 months who have received the following vaccinations at the time of survey: BCG, Measles, 3 doses of DPT and 3 doses of Polio (excluding polio vaccine at birth).

5: Children who are 2SD below the height for age benchmark for their age. Data from 2005 includes all children under the age of 5. Data for 1998 includes children under the age of 3, while data for 1992 includes children under the age of 4. The data is thus not strictly comparable.

6: Children who are 2SD below the weight for age benchmark for their age. Data from 2005 includes all children under the age of 5. Data for 1998 includes children under the age of 3 while data for 1992 includes children under the age of 4. The data is thus not strictly comparable.

7: Children with haemoglobin level below 11g/dl. Data adjusted for altitude. Data from 2005 includes all children under the age of 5 while prior data includes only the last 2 children of ever married women under the age of 3. The data is thus not strictly comparable across years.

Source: National Family Health Surveys. National Family Health Surveys did not cover data for men prior to 2005-06 survey, IndiaDataHub, Macquarie Research, August 2020

Fig 22 Education – Improving enrolment in higher education

	2006	2010	2014	2016	2017
<b>Student Population (million)</b>					
<b>Elementary Level</b> <sup>1</sup>	168	188	199	197	190
- Boys	89	97	103	102	98
- Girls	80	91	96	95	92
<b>Higher Education</b> <sup>3</sup>	14.3	20.7	32.3	34.6	35.7
- Boys	8.8	12.4	17.5	18.6	19.0
- Girls	5.5	8.3	14.8	16.0	16.7
<b>Gross Enrolment Ratio (%)</b>					
<b>Elementary</b> <sup>1</sup>	94.9	101.5	97.0	96.9	
- Boys	98.5	102.5	95.1	94.5	
- Girls	91.0	100.4	99.1	99.6	
<b>Secondary</b> <sup>2</sup>	40.4	49.4	62.5	68.1	
- Boys	44.6	52.5	62.5	67.6	
- Girls	35.8	46.1	62.6	68.7	
<b>Higher Education</b> <sup>3</sup>	11.6	15.0	23.0	24.5	25.2
- Boys	13.5	17.1	23.9	25.4	26.0
- Girls	9.4	12.7	22.0	23.5	24.5
	2006	2010	2014	2016	2017
<b>Number of Schools (million)</b> <sup>1,2</sup>	1.12	1.30	1.45	1.45	1.47
Government Schools	0.93	1.05	1.09	1.08	1.07
Private Schools	0.19	0.25	0.32	0.33	0.35
Average Students per Classroom	39	32	28	27	25
Number of Teachers (million) <sup>1</sup>	4.7	5.8	7.7	8.1	8.3
Single - Teacher Schools (%) <sup>1</sup>	12.2	9.3	8.3	7.5	7.2

**Notes:**

1: Elementary level includes up to class VIII or equivalent

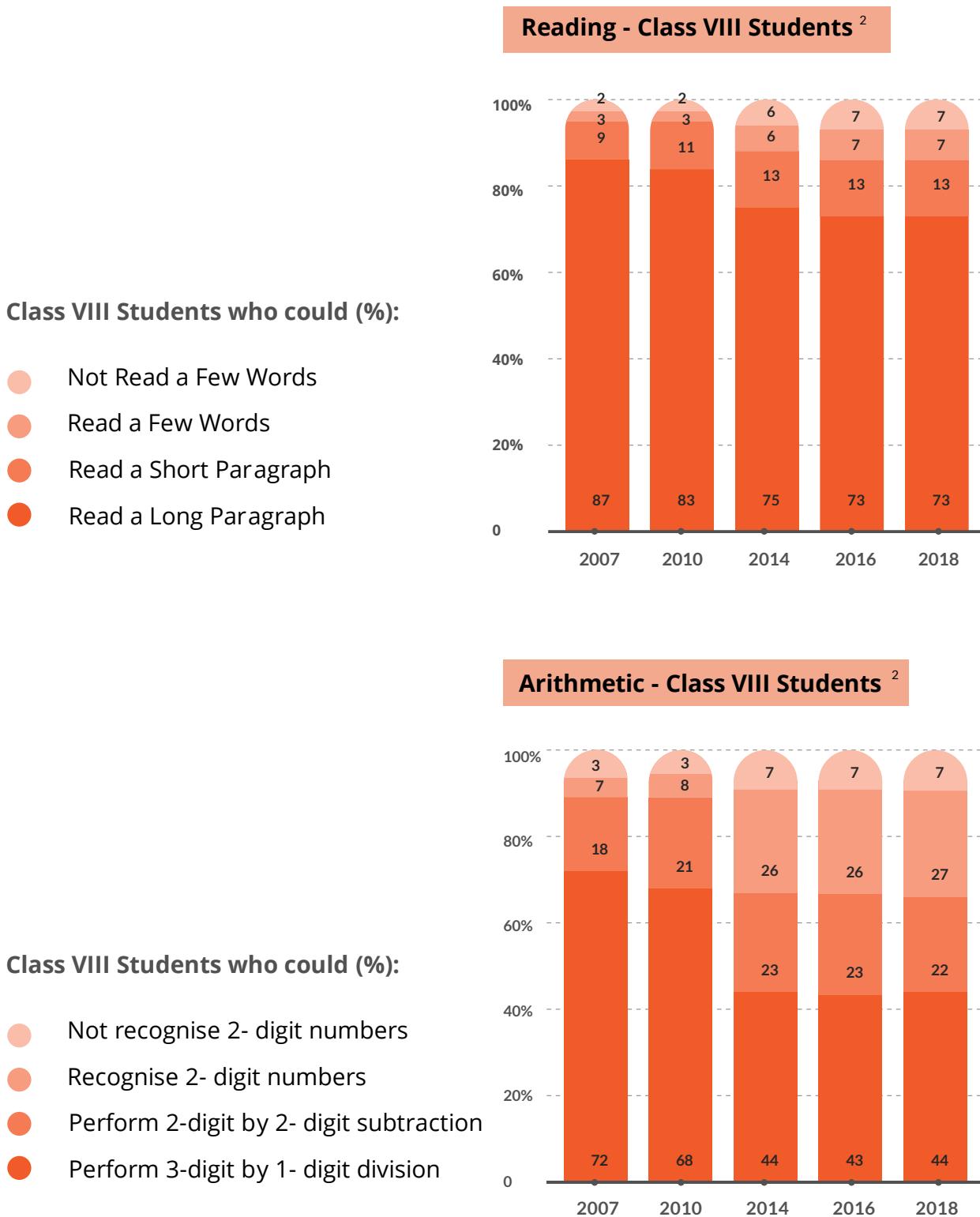
2: Secondary level is from class IX to class XII or equivalent

3: Higher education starts from under-graduate level up to PhD

4: Others primarily includes Private unaided schools

Source: Educational Statistics - At a Glance - 2018, Ministry of Human Resource Development; National Institute of Educational Planning and Administration, Department of School Education and Literacy, Government of India, IndiaDataHub, Macquarie Research, August 2020

Fig 23 Learning Outcomes in Rural India

**Notes:**

1: Data pertains to rural areas only

2: All children in the age group 5-16 are administered a “floor level” test of basic arithmetic. The highest level tested is 3-digit by 1-digit division. Each child is marked at the highest-level which s/he can do comfortably. The tests are (in descending order of difficulty): a) Division : Can solve a 3-digit by 1-digit division problem; b) Subtraction : Can solve two 2-digit by 2-digit subtraction problems with carryover; c:) Number recognition 11-99 : Can identify 4 out of 5 numbers between 11 and 99; d) Number recognition 1-9 : Can identify 4 out of 5 numbers between 1 and 9; e) Nothing : Identifies fewer than 4 out of 5 single-digit numbers correctly.

Source: ASER, IndiaDataHub, Macquarie Research, August 2020

## Monetary

- Money supply has fallen from 88% of GDP in 2020 to 83% of GDP currently.
- Curiously, currency in circulation is back above the long-term average.
- In just 4 years, India's [Unified Payments Interface](#) (UPI) has emerged as the biggest mode of payment in volume terms and 4<sup>th</sup> biggest mode of payment in value terms.
- Cashless payments, relative to GDP, is amongst the lowest in India relative to other EMs.

**Fig 24 Money Supply – Whilst broad money (M3) has expanded nearly 8x since 2005 to \$2.2 trillion, India's money multiplier has effectively flatlined at 5.5x**

(y/e March)

(Rupees billion)	2005	2010	2015	2019	2020
<b>Broad Money (M3)</b>	<b>22,457</b>	<b>56,027</b>	<b>105,502</b>	<b>154,321</b>	<b>167,999</b>
<b>Components</b>					
Currency with Public	3,563	7,675	13,862	20,522	23,497
Bank Deposits	18,829	48,314	91,494	133,481	144,117
Others	65	38	146	317	385
<b>Sources</b>					
Bank Credit to Government	7,524	16,692	30,074	43,885	49,066
- by RBI	-180	2,116	3,645	8,020	9,922
- Other Banks	7,704	14,576	26,429	35,865	39,144
Bank Credit to Commercial Sector	12,759	34,914	70,497	103,827	110,386
- by RBI	14	13	148	154	132
- Other Banks	12,745	34,901	70,349	103,674	110,255
FX Assets of Banks <sup>1</sup>	6,493	12,815	22,506	30,708	37,989
- RBI	6,128	12,319	21,273	28,486	35,904
- Other Banks	365	495	1,234	2,223	2,085
Government's Currency Liability	74	113	194	259	263
Less: Non-Monetary Liabilities of Banks <sup>1,2</sup>	4,394	8,506	17,770	24,359	29,705
- RBI	1,198	3,016	7,853	10,588	13,783
- Other Banks	3,196	5,490	9,918	13,771	15,922
<b>Monetary Base<sup>3</sup></b>	<b>4,891</b>	<b>11,557</b>	<b>19,285</b>	<b>27,705</b>	<b>30,297</b>
<b>Money Multiplier (X)<sup>4</sup></b>	<b>4.6</b>	<b>4.8</b>	<b>5.5</b>	<b>5.6</b>	<b>5.5</b>

**Notes:**

1: On a Net Basis

2: Non-Monetary Liabilities of Banks is deducted from other sources of Money Supply to arrive at total Money Supply

3: Commonly referred to as Reserve Money

4: Calculated as Broad Money divided by Monetary Base

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 25 Money Supply – M3 as proportion of GDP has fallen from 88% in '10 to 83%; this is broadly in line with EMs, but within this India has a higher share of 'credit to the Government' explained by the country's high debt levels and the banking sectors' statutory liquidity requirement**

(% of GDP)	2005	2010	2015	2019	2020
<b>Broad Money (M3)</b>	70.5	88.0	84.6	81.3	82.6
<b>Components</b>					
Currency with Public	11.2	12.1	11.1	10.8	11.6
Bank Deposits	59.1	75.9	73.4	70.4	70.9
Others	0.2	0.1	0.1	0.2	0.2
<b>Sources</b>					
Bank Credit to Government	23.6	26.2	24.1	23.1	24.1
- <i>by RBI</i>	-0.6	3.3	2.9	4.2	4.9
- <i>Other Banks</i>	24.2	22.9	21.2	18.9	19.2
Bank Credit to Commercial Sector	40.0	54.8	56.5	54.7	54.3
- <i>by RBI</i>	0.0	0.0	0.1	0.1	0.1
- <i>Other Banks</i>	40.0	54.8	56.4	54.6	54.2
FX Assets of Banks <sup>1</sup>	20.4	20.1	18.1	16.2	18.7
- <i>RBI</i>	19.2	19.4	17.1	15.0	17.7
- <i>Other Banks</i>	1.1	0.8	1.0	1.2	1.0
Government's Currency Liability	0.2	0.2	0.2	0.1	0.1
Less: Non-Monetary Liabilities of Banks <sup>1,2</sup>	13.8	13.4	14.3	12.8	14.6
- <i>RBI</i>	3.8	4.7	6.3	5.6	6.8
- <i>Other Banks</i>	10.0	8.6	8.0	7.3	7.8
<b>Monetary Base<sup>3</sup></b>	<b>15.4</b>	<b>18.2</b>	<b>15.5</b>	<b>14.6</b>	<b>14.9</b>

#### Notes:

1: On a Net Basis

2: Non-Monetary Liabilities of Banks is deducted from other sources of Money Supply to arrive at total Money Supply

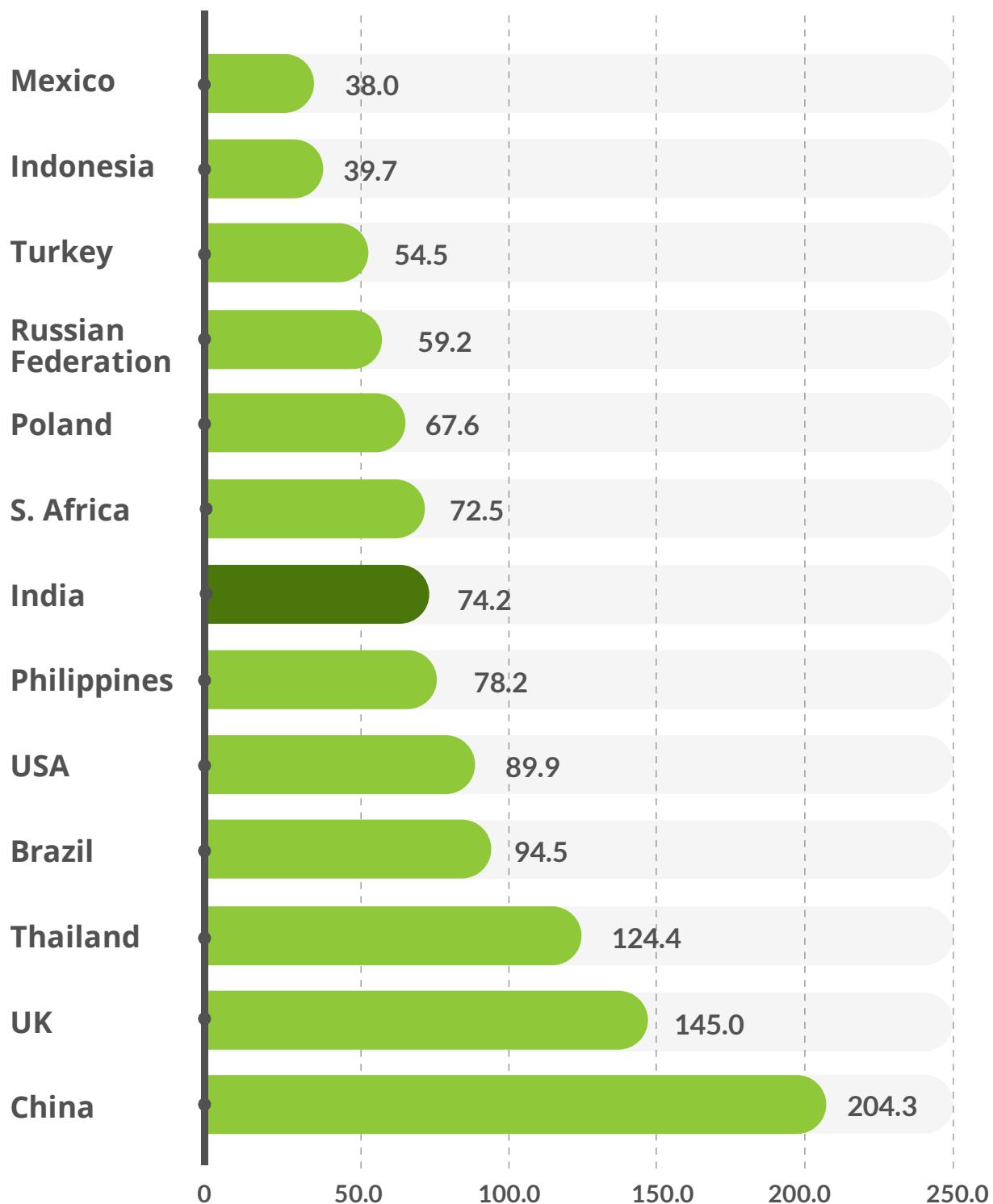
3: Commonly referred to as Reserve Money

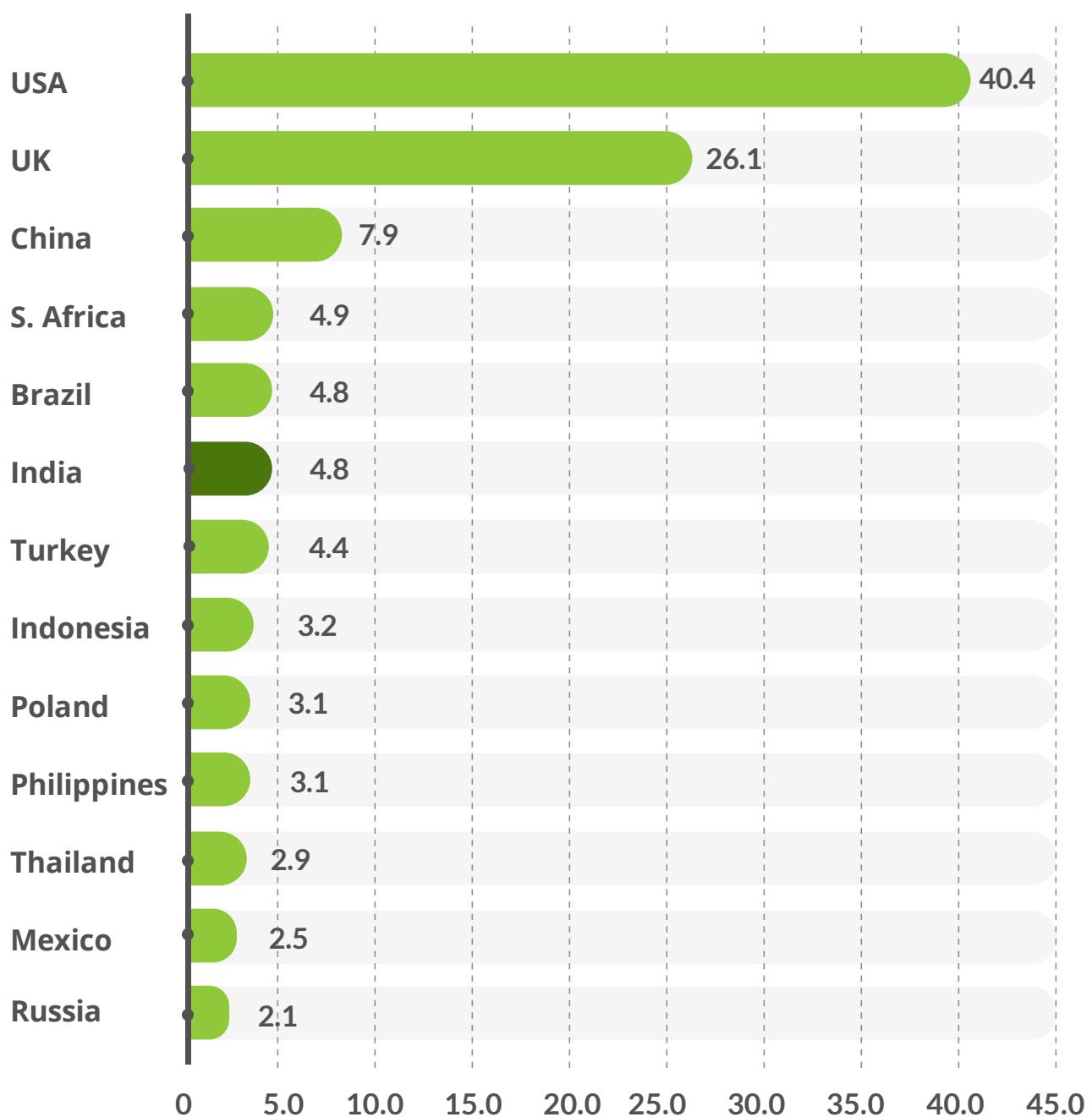
Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 26 Money Supply to GDP:** India's Broad Money to GDP ratio is broadly comparable to other emerging economies but well below China at over 200%

### India's Broad Money to GDP ratio is broadly comparable to other Emerging Economies

Broad Money (% of GDP, 2016-2018 average)



**Fig 27 Money Supply:** India's money supply is ~5x its FX Reserves, lower than China at ~8x and US at 40x**Broad Money to FX Reserves ratio (2016-2018 average)**

**Fig 28 Currency in Circulation as % of GDP: India has surprisingly reverted to the long-run average despite demonetization in 2016 and sharp rise in digital transactions - popularity of hard cash rising again?**

(y/e March)

	2005	2010	2015	2018	2019
<b>Currency in Circulation (Rs billion)</b>	3,683	7,994	14,483	18,293	21,367
<b>Coins (%)</b>	1.9	1.4	1.3	1.4	1.2
Rs 5 denomination	0.7	0.5	0.4	0.5	0.4
Rs 10 denomination	na	0.0	0.2	0.3	0.2
Other denominations	1.2	0.9	0.7	0.7	0.6
<b>Notes (%)</b>	98.1	98.6	98.7	98.6	98.8
Rs 10 denomination	1.8	2.3	2.1	1.7	1.5
Rs 20 denomination	1.1	0.6	0.6	1.1	0.8
Rs 50 denomination	8.1	2.6	1.2	2.0	2.0
Rs 100 denomination	33.5	17.3	10.4	12.1	9.4
Rs 200 denomination	na	na	na	2.0	3.7
Rs 500 denomination	41.5	45.6	45.3	42.3	50.4
Rs 1000 denomination	11.4	29.8	38.8	0.4	na
Rs 2000 denomination	na	na	na	36.8	30.8
Other denominations	0.7	0.4	0.3	0.2	0.2

### Currency in Circulation is back to its long-term average

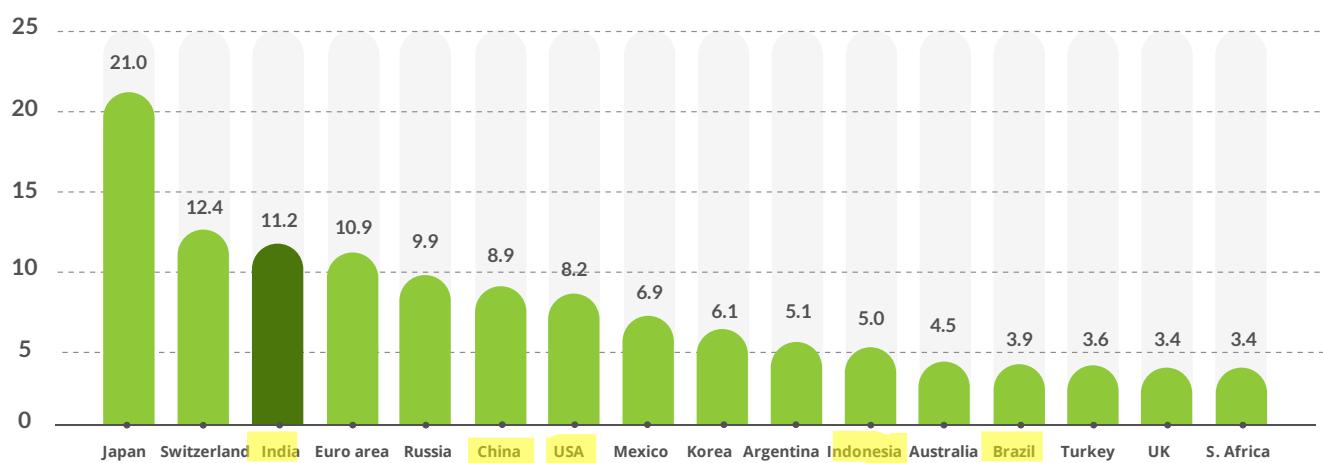
#### Currency in Circulation (% of GDP)



Fig 29 **Currency in Circulation: India's currency in circulation relative to GDP at 11% is well above that in several EMs**

(y/e March)

	2005	2010	2015	2018	2019
<b>Coins in Circulation (Billion pieces)</b>	84	105	99	119	120
Small Denominations	54	55	15	15	15
Re 1 denomination	18	29	42	50	50
Rs 2 denomination	6.4	13	27	33	33
Rs 5 denomination	5.2	7.8	13	17	17
Rs 10 denomination	na	0.1	2.8	5.0	4.9
<b>Notes in Circulation (Billion pieces)</b>	37	57	84	102	109
Rs 10 denomination	6.8	19	30	31	31
Rs 20 denomination	1.9	2.3	4.4	10	8.7
Rs 50 denomination	6.0	4.2	3.5	7.3	8.6
Rs 100 denomination	12	14	15	22	20
Rs 200 denomination	na	na	na	1.9	4.0
Rs 500 denomination	3.1	7.3	13	15	22
Rs 1000 denomination	0.4	2.4	5.6	0.1	na
Rs 2000 denomination	na	na	na	3.4	3.3
Other denominations	6.5	8.0	12	11	11

**India has amongst the highest Currency in Circulation relative to GDP****Bank Notes and Coins (% of GDP, 2018)**

**Fig 30 Inflation – India's inflation has been contained at 4% in the last five years (gov't target 4% +/- 2%), with both food and non-food components under control**

(CAGR, Calendar Year basis)	2000-2005	2006-2011	2011-2015	2015-2019
<b>Consumer Price Index<sup>1</sup></b>	<b>4.0</b>	<b>9.3</b>	<b>7.7</b>	<b>4.0</b>
<b>Food and Beverages</b>	<b>2.8</b>	<b>10.6</b>	<b>8.6</b>	<b>3.1</b>
Cereals	1.0	8.9	7.4	3.0
Pulses	2.1	10.8	11.3	-2.4
Fruits & Vegetables	4.6	10.1	10.1	2.9
Meat, Fish, Eggs	4.2	13.0	9.2	5.2
Milk & Milk Products	3.2	12.2	9.5	3.1
Spices	2.4	15.1	6.1	3.1
Oils & Fats	6.0	9.5	6.4	2.5
<b>Non-Food Items</b>	<b>5.5</b>	<b>7.9</b>	<b>9.7</b>	<b>6.3</b>
Pan, Tobacco, Intoxicants	3.1	10.3	9.7	6.3
Clothing, Footwear <sup>2</sup>	2.2	5.9	9.2	4.1
Housing	9.6	11.8	7.0	5.8
Fuel & Light	6.4	7.1	7.1	4.0
Education & Recreation	5.9	4.1	7.1	5.3
Health	4.0	5.6	6.4	5.7
Transport & Communication	6.1	5.4	4.3	3.1
Household Goods & Services <sup>3</sup>	4.0	8.6	7.3	4.5
Personal Care and Effects	3.8	6.8	6.1	4.9
CPI Urban			7.2	4.1
CPI Rural			8.1	3.9
<b>Wholesale Price Index (WPI)<sup>4</sup></b>	<b>4.8</b>	<b>6.9</b>	<b>3.0</b>	<b>2.4</b>
- Manufactured Goods	3.9	5.2	2.7	1.9
<b>House Price Inflation<sup>5</sup></b>			<b>16.7</b>	<b>6.0</b>

**Notes:**

1: Data from 2012 is based on the new CPI series with 2012 as the base year. Data prior to 2012 is based on CPI Industrial Workers with 2001 as the base year.

2: Data prior to 2011 which is based on CPI Industrial Workers series also included Bedding. The current series of CPI with 2012 as the base year includes Bedding in Household Goods & Services. The data from the two series is thus not strictly comparable.

3: There was no separate category for Household Goods & Services in CPI Industrial Workers with 2001 or 1982 as the base years. Shown here is the growth for 'Others' category which has the most overlap with the items included in Household Goods & Services in the current CPI series (2012 base year)

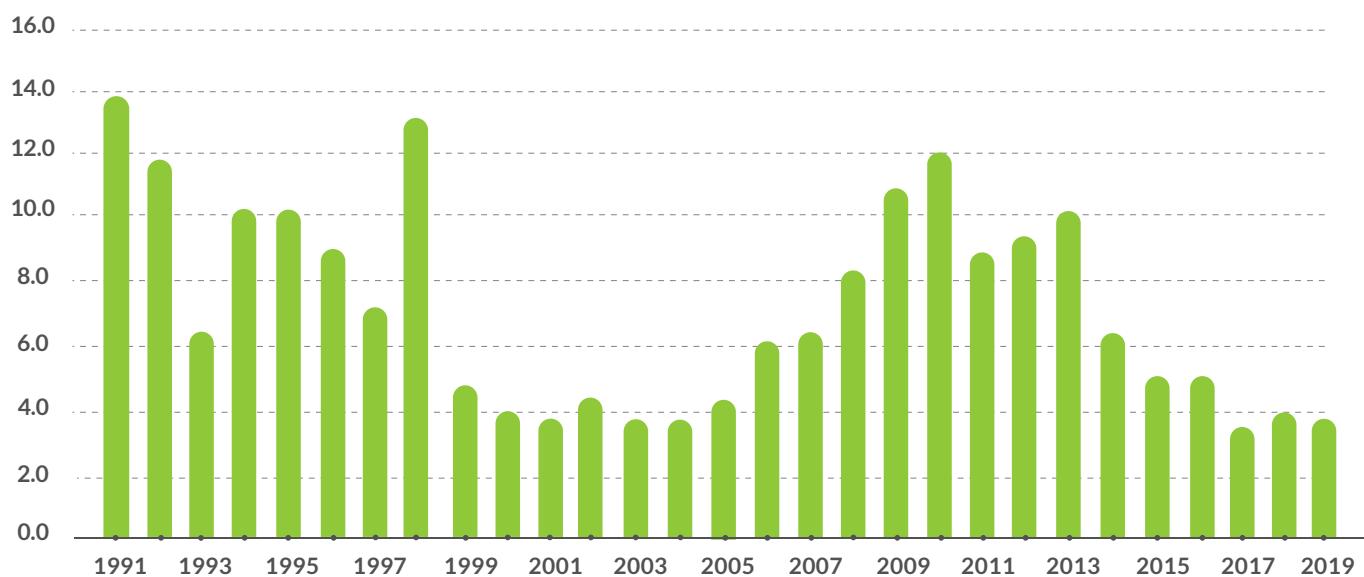
4: Data from 2012 is based on WPI series with 2011-12 as the base year. Data between 2004-05 and 2011-12 is based on WPI series with 2004-05 as the base year. Data prior to that is based on WPI series with 1993-94 as the base year.

5: Based on RBI's House Price Index.

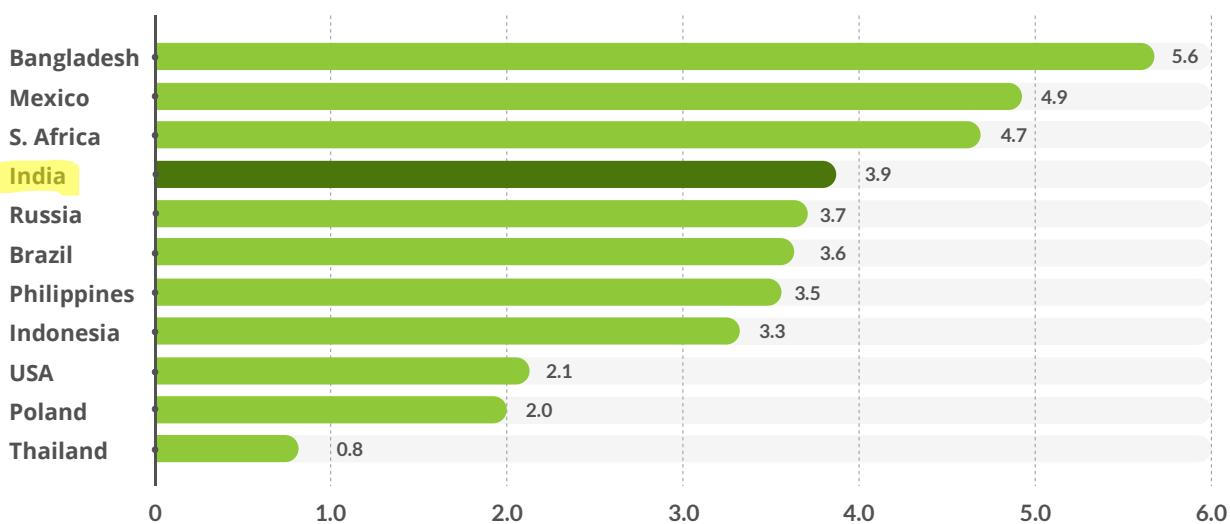
Source: RBI, CSO, Office of Economic Advisor, Labour Bureau, IndiaDataHub, Macquarie Research, August 2020

**Fig 31 Inflation: Consumer inflation in India has moderated sharply in the last few years, but still high relative to other EMs**

### CPI Inflation (YoY%)<sup>1</sup>



### Consumer Price Inflation (2017-2019 average)<sup>2</sup>



#### Notes:

1: Data from 2012 is based on the new CPI series with 2012 as the base year. Data prior to 2012 is based on CPI Industrial Workers with 2001 as the base year and its back series.

2: Data is from the April-2020 revision of IMF's World Economic Outlook Database

Source: RBI, IMF, IndiaDataHub, Macquarie Research, August 2020

**Fig 32 Reserve Bank of India Balance Sheet – a 11x expansion in India's central bank balance sheet to ~\$550 billion, of which over 70% is overseas investments (or FX reserves) and gold**

(y/e June)

(Rupees Billion)	2000	2010	2015	2018	2019
<b>Assets</b>	<b>3,600</b>	<b>15,531</b>	<b>28,892</b>	<b>36,176</b>	<b>41,029</b>
Notes & Coins	1.3	1.5	2.1	9.4	8.4
Gold Coin & Bullion	132	927	1,216	1,440	1,675
<b>Overseas Investments</b>	<b>1,509</b>	<b>11,644</b>	<b>21,359</b>	<b>26,351</b>	<b>27,852</b>
Domestic Investments	1,518	2,782	5,185	6,297	9,899
Other Assets <sup>1</sup>	440	176	1,129	2,078	1,595
<b>Gold Holding (tonnes)</b>	<b>358</b>	<b>558</b>	<b>558</b>	<b>566</b>	<b>618</b>
<b>Liabilities</b>	<b>3,600</b>	<b>15,531</b>	<b>28,892</b>	<b>36,176</b>	<b>41,029</b>
Capital & Reserves <sup>2</sup>	120	67	67	67	67
Deposits	806	3,754	5,187	6,526	7,649
Notes issued	2,015	8,420	14,732	19,120	21,688
Currency & Gold Revaluation Account <sup>3</sup>	276	1,191	5,592	6,916	6,645
Contingency Fund	299	1,586	2,216	2,321	1,963
Asset Development Fund	32	146	218	228	229
Other Liabilities	51	366	879	997	2,788
<b>Income<sup>4</sup></b>	<b>220</b>	<b>329</b>	<b>793</b>	<b>783</b>	<b>1,930</b>
From Domestic Sources	154	78	535	509	1,181
- Provision written back <sup>5</sup>	0.0	0.0	0.0	0.0	526
From Foreign Sources	65	251	257	274	750
<b>Expenditure<sup>4</sup></b>	<b>126</b>	<b>141</b>	<b>134</b>	<b>283</b>	<b>170</b>
Printing of Notes	11	28	38	49	48
Agency Charges <sup>6</sup>	12	29	30	39	39
Employee Cost	8	20	41	38	69
Provisions <sup>4</sup>	73	57	10	142	0.6
Others	22	8	15	14	14
<b>Surplus to Central Government</b>	<b>94</b>	<b>188</b>	<b>659</b>	<b>500</b>	<b>1,760</b>

**Notes:**

1: Includes Investments in Subsidiaries, Loans and Advances and Other Assets. In 2015, RBI changed the accounting policy for Repo/Reverse Repo whereby these transactions are now accounted for as Secured Loans/Deposits. Prior to 2015 they were accounted for as sale/purchase of securities. Data is thus not comparable.

2: Includes National Industrial Credit (Long Term Operations) Fund and National Housing Credit (Long Term Operations) Fund.

3: Was referred to as Exchange Fluctuation Fund in 2000

4: RBI changed its accounting policy in 2015, following which, transfers to Contingency Fund and Asset Development Fund have been made via 'Provisions' head. Prior to 2015, these transfers were made by way of reduction in Income. Data presented here is adjusted historically to reflect the accounting policy from 2015 onwards (for consistency).

5: Pursuant to the Report by the committee under the Chairmanship of Dr. Bimal Jalan to determine the appropriate Economic Capital Framework for the RBI, the RBI wrote back excess provisions in the year ended June-2019.

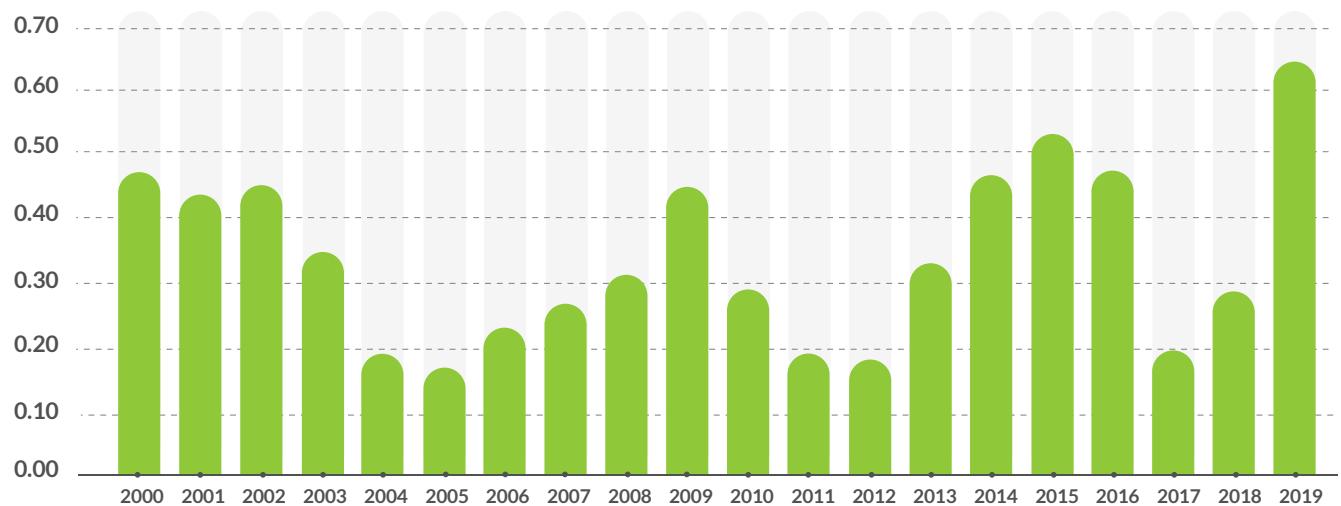
6: Includes Agency Commission on Government Transactions, Underwriting Commission to Primary Dealers, Fees paid to External Asset Managers, Custodians etc

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 33 Reserve Bank of India Balance Sheet – Surplus in 2019 driven booking of gains on overseas investments**

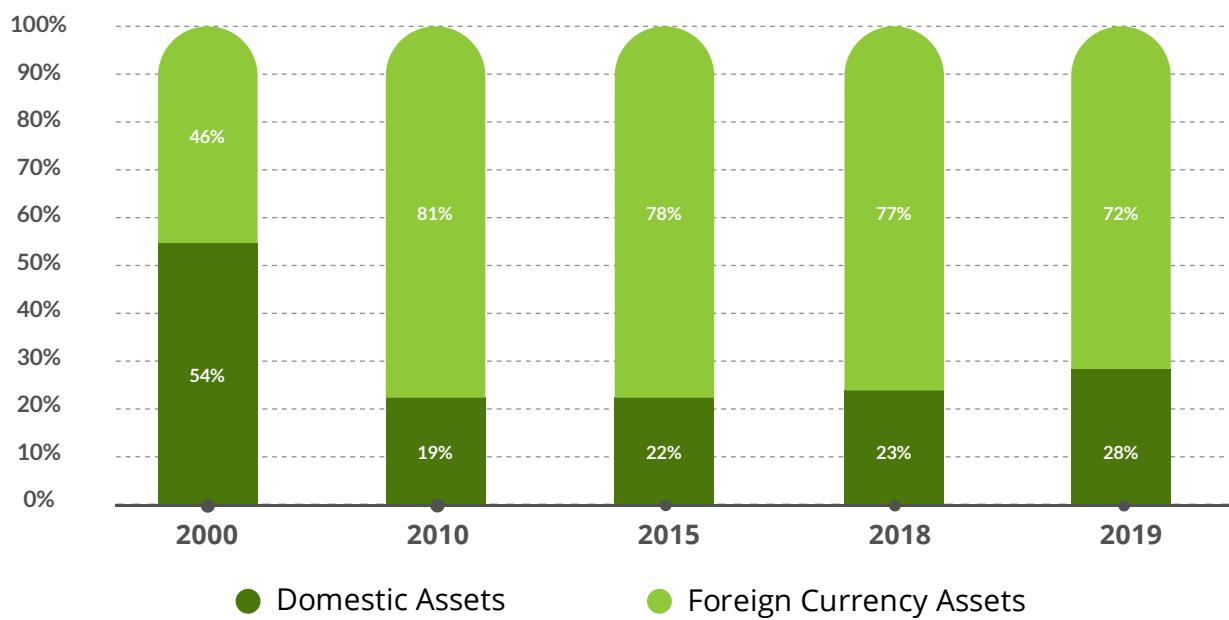
**RBI's Surplus has averaged ~0.35% of GDP over the past 20 years (adjusted for one-off gains)**

### RBI's Surplus as % of GDP<sup>1</sup>



**Share of Domestic Assets in RBI's Balance Sheet has increased in the last decade**

### Composition of RBI's Balance Sheet



#### Notes:

1: Excludes one-off gain from transfer of RBI's stake in SBI to Govt in 2007 and from write-back on excess provisions on assessment of economic capital in 2019

2: Gold is included in Foreign Currency Assets

Source: RBI, CSO, IndiaDataHub, Macquarie Research, August 2020

## Payments

**Fig 34 Payment Value Share – Retail payments (below ~Rs100,000 per transaction) have increased 3.5x in the last ten years... while digital retail payments have increased ~45x and now account for 80% of total transactions**

(y/e March)

	2010	2015	2018	2019	2020
<b>Retail Payments (Rs billion)<sup>1</sup></b>	110,948	154,126	285,691	364,146	389,843
<b>Retail Digital Payments<sup>2</sup></b>	6,849	68,692	203,756	281,685	311,594
NEFT	4,095	59,804	172,229	227,936	229,456
Cheques	104,099	85,434	81,935	82,461	78,248
IMPS	na	582	8,925	15,903	23,374
Recurring Payments <sup>3</sup>	1,871	4,980	10,864	14,917	19,813
Credit Cards <sup>4</sup>	618	1,899	4,590	6,034	7,309
Debit Cards <sup>4</sup>	264	1,213	4,601	5,935	8,049
Prepaid Instruments	na	213	1,416	2,133	2,156
- Wallets	na	82	1,087	1,833	1,814
UPI	na	na	1,098	8,770	21,317
NETC	na	na	33	57	113
<b>Retail Payments (% of total)<sup>1</sup></b>	100.0	100.0	100.0	100.0	100.0
<b>Retail Digital Payments<sup>2</sup></b>	6.2	44.6	71.3	77.4	79.9
NEFT	3.7	38.8	60.3	62.6	58.9
Cheques	93.8	55.4	28.7	22.6	20.1
IMPS	na	0.4	3.1	4.4	6.0
Recurring Payments <sup>3</sup>	1.7	3.2	3.8	4.1	5.1
Credit Cards <sup>4</sup>	0.6	1.2	1.6	1.7	1.9
Debit Cards <sup>4</sup>	0.2	0.8	1.6	1.6	2.1
Prepaid Instruments	na	0.1	0.5	0.6	0.6
- Wallets	na	0.1	0.4	0.5	0.5
UPI	na	na	0.4	2.4	5.5
NETC	na	na	0.01	0.02	0.03

**Notes:**

1: Includes payments through Cheques, NEFT, IMPS, Credit Cards, Debit Cards, Prepaid Payment Instruments, UPI, NETC, NACH, ECS, Aadhaar Enabled Payment System, Aadhaar Payment Bridge and BHIM Aadhaar Pay

2: Retail Digital Payments is Retail Payments excluding Cheques

3: Includes ECS (both Credit and Debit), National Automated Clearing House (NACH) and Aadhaar Payment Bridge Transactions

4: Only includes transactions at POS terminals including online transactions. Excludes cash withdrawals at ATMs.

Source: RBI, NPCI, IndiaDataHub, Macquarie Research, August 2020

**Fig 35 Payment Transaction Share: Digital now 97% of total retail payments, of which UPI (unified payments interface) has risen from zero to ~35% in the last three years... cheques have become basically non-existent**

(y/e March)

	2010	2015	2018	2019	2020
<b>Retail Payments (Million Transactions)<sup>1</sup></b>	2,098	4,622	15,888	24,629	35,804
<b>Retail Digital Payments<sup>2</sup></b>	718	3,425	14,717	23,505	34,762
NEFT	66	928	1,946	2,319	2,744
Cheques	1,380	1,197	1,171	1,124	1,041
IMPS	na	78	1,010	1,753	2,579
Recurring Payments <sup>3</sup>	247	682	2,511	3,041	3,700
Credit Cards <sup>4</sup>	234	615	1,405	1,763	2,177
Debit Cards <sup>4</sup>	170	808	3,343	4,414	5,124
Prepaid Instruments	na	314	3,459	4,607	5,332
- Wallets	na	255	3,026	4,141	4,243
<b>UPI</b>	na	na	915	5,353	12,519
NETC	na	na	127	254	583
<b>Retail Payments (% of total)<sup>1</sup></b>	100.0	100.0	100.0	100.0	100.0
<b>Retail Digital Payments<sup>2</sup></b>	34.2	74.1	92.6	95.4	97.1
NEFT	3.2	20.1	12.3	9.4	7.7
<b>Cheques</b>	65.8	25.9	7.4	4.6	2.9
IMPS	na	1.7	6.4	7.1	7.2
Recurring Payments <sup>3</sup>	11.8	14.7	15.8	12.3	10.3
Credit Cards <sup>4</sup>	11.2	13.3	8.8	7.2	6.1
Debit Cards <sup>4</sup>	8.1	17.5	21.0	17.9	14.3
Prepaid Instruments	na	6.8	21.8	18.7	14.9
- Wallets	na	5.5	19.0	16.8	11.8
<b>UPI</b>	na	na	5.8	21.7	35.0
NETC	na	na	0.8	1.0	1.6

**Notes:**

1: Includes payments through Cheques, NEFT, IMPS, Credit Cards, Debit Cards, Prepaid Payment Instruments, UPI, NETC, NACH, ECS, Aadhaar Enabled Payment System, Aadhaar Payment Bridge and BHIM Aadhaar Pay

2: Retail Digital Payments is Retail Payments excluding Cheques

3: Includes ECS (both Credit and Debit), National Automated Clearing House (NACH) and Aadhaar Payment Bridge Transactions

4: Only includes transactions at POS terminals including online transactions. Excludes cash withdrawals at ATMs.

Source: RBI, NPCI, IndiaDataHub, Macquarie Research, August 2020

**Fig 36 Payment Ticket Size:** Average transaction sizes have fallen along with the aforementioned exponential rise in UPI  
(y/e March)

	2010	2015	2018	2019	2020
<b>Average Transaction Size (Rs)</b>					
<b>Retail Non-Cash Payments<sup>1</sup></b>	52,871	33,349	17,982	14,786	10,888
NEFT	61,729	64,475	88,488	98,295	83,607
Cheques	75,418	71,403	69,951	73,379	75,136
IMPS	na	7,424	8,838	9,072	9,063
Recurring Payments <sup>2</sup>	7,563	7,307	4,327	4,905	5,355
Credit Cards <sup>3</sup>	2,639	3,087	3,266	3,423	3,357
Debit Cards <sup>3</sup>	1,552	1,502	1,376	1,344	1,571
Prepaid Instruments	na	679	409	463	404
- Wallets	na	321	359	443	428
<b>UPI</b>	na	na	1,200	1,638	1,703
NETC	na	na	264	226	194
<b>Number of Cards (million)</b>					
<b>Credit Cards<sup>5</sup></b>	18	21	37	47	58
<b>Debit Cards<sup>4,5</sup></b>	182	553	861	906	829
<b>Prepaid Instruments (million)</b>					
Wallets					1,825
Prepaid Cards					1,703
ATMs (thousands) <sup>5</sup>	60	189	222	222	234
Micro ATMs (thousands)					271
POS Terminals (million)		1.1	3.1	3.7	5.1
Bharat QR Codes (million)					2.0

**Notes:**

1: Includes payments through Cheques, NEFT, IMPS, Credit Cards, Debit Cards, Prepaid Payment Instruments, UPI, NETC, NACH, ECS, Aadhaar Enabled Payment System, Aadhaar Payment Bridge and BHIM Aadhaar Pay

2: Includes ECS (both Credit and Debit), National Automated Clearing House (NACH) and Aadhaar Payment Bridge Transactions

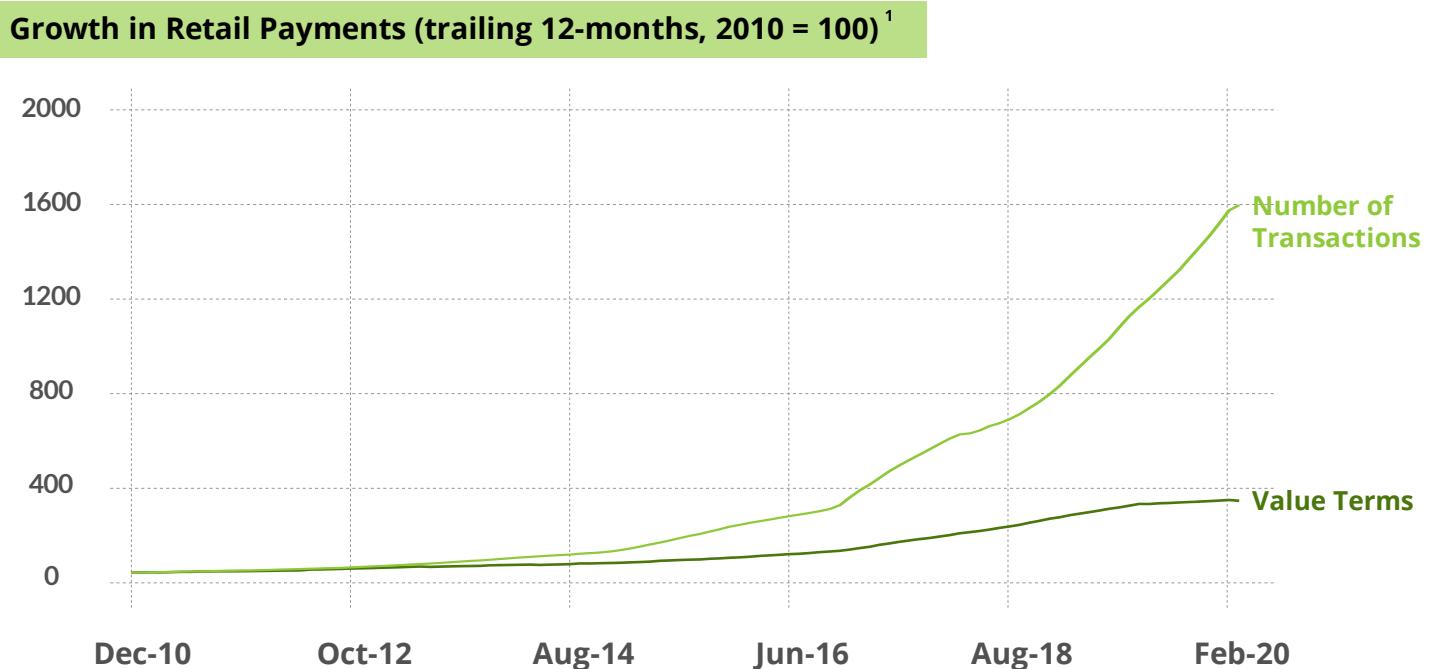
3: Only includes transactions at POS terminals including online transactions. Excludes cash withdrawals at ATMs.

4: RBI Mandated replacing all existing Debit Cards with 'chip' feature by May-2019 which resulted in several inactive Debit Cards being cancelled during March-2019 to May-2019. Hence the number of Debit Cards declined in the financial year 2019-20

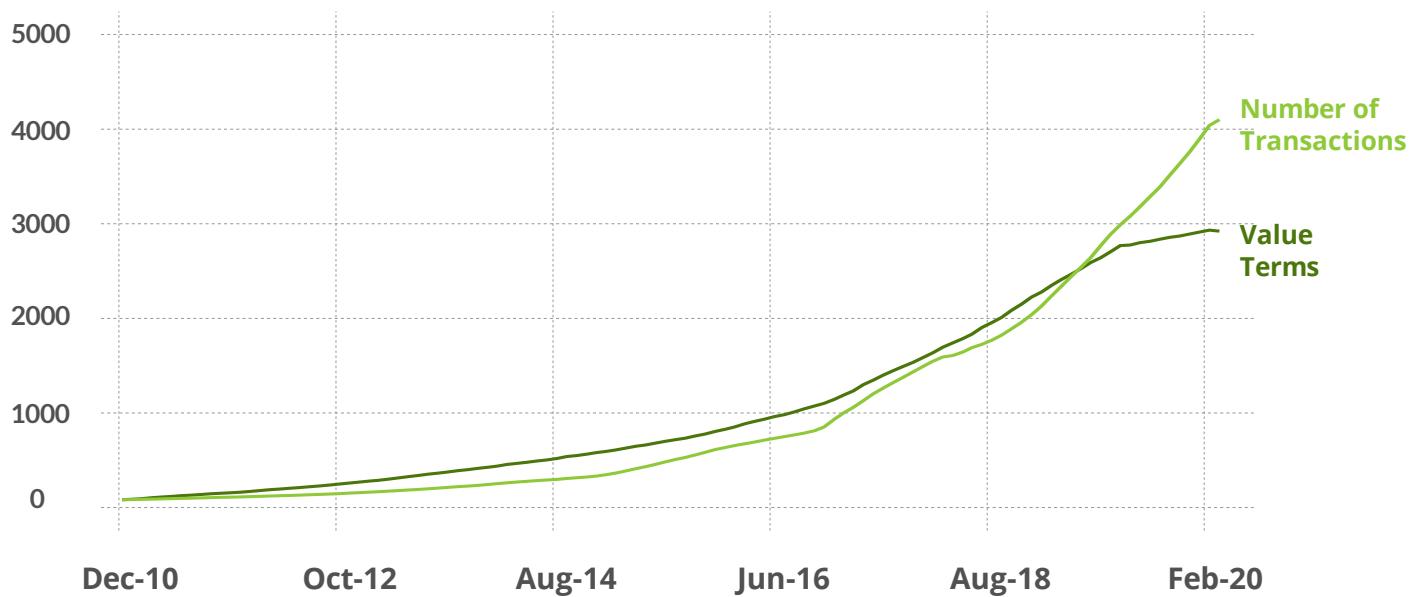
5: Data for Scheduled Commercial Banks only.

Source: RBI, NPCI, IndiaDataHub, Macquarie Research, August 2020

**Fig 37 Payments:** Growth in digital payments ~10x that of overall retail payments growth in value terms



**Growth in Retail Digital Payments (trailing 12-months, 2010 = 100)<sup>2</sup>**



#### Notes:

1: Includes payments through Cheques, NEFT, IMPS, Credit Cards, Debit Cards, Prepaid Payment Instruments, UPI, NETC, NACH, ECS, Aadhaar Enabled Payment System, Aadhaar Payment Bridge and BHIM Aadhaar Pay

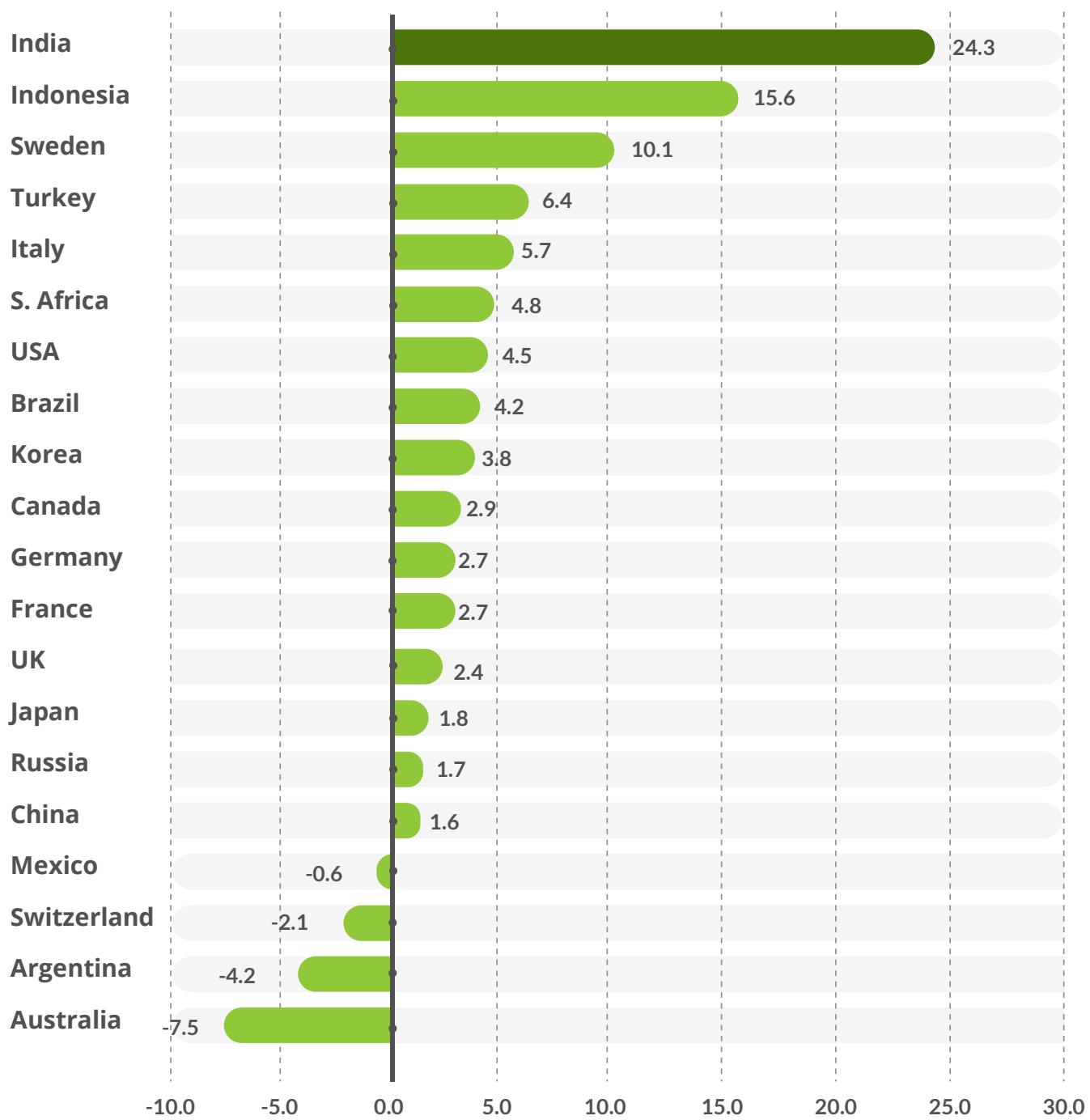
2: Retail Digital Payments is Retail Payments excluding Cheques

Source: RBI, NPCI, IndiaDataHub, Macquarie Research, August 2020

**Fig 38 Cashless Payments:** India is the fastest growing cashless payments market, albeit of a low base

**But India is seeing amongst the fastest growth rates of cashless payments**

### Cashless Payments Growth (US Dollars, 2015-18 Cagr)<sup>1,2</sup>



**Notes:**

1: Data for United States is for the 3-year period 2015-2017

2: Data includes all cashless payments, not just retail payments. Underlying data is in US Dollar terms and thus the growth captures the exchange rate movements also

Source: BIS Red Book, IndiaDataHub, Macquarie Research, August 2020

# Banking

- India's bank credit-to-GDP has stagnated around ~50% over the past decade – Indonesia (33%), Brazil (60%), Turkey (65%), China (160%) – as corporates have deleveraged.
- While top-down growth narratives are compelling, India's non-performing loan problem is amongst the highest in EMs at slightly over 9% and likely here to stay.
- Private sector banks continue to significantly take share away from the public sector.

**Fig 39 Bank Network – Public Sector and Regional Banks continue to consolidate; while the private sector banks have expanded footprint (# of branches, ATM network etc)**

	2005	2010	2015	2019
<b>Scheduled Commercial Banks</b>	<b>284</b>	<b>164</b>	<b>147</b>	<b>147</b>
Public Sector Banks	28	27	27	20
Private Sector Banks <sup>1</sup>	29	22	20	29
Regional Rural Banks	196	83	56	53
Foreign Banks	31	32	44	45
<b>Number of Co-operative Credit Institutions<sup>2</sup></b>	<b>111,796</b>	<b>97,439</b>	<b>95,492</b>	<b>97,792</b>
Urban Co-operative Banks	1,872	1,674	1,579	1,544
- <i>Scheduled Banks</i>	55	53	50	54
- <i>Non-Scheduled Banks</i>	1,817	1,621	1,529	1,490
Rural Credit Institutions <sup>2</sup>	109,924	95,765	93,913	96,248
- <i>State Co-operative Banks</i>	31	31	32	33
- <i>District Central Co-operative Banks</i>	367	370	370	363
- <i>State Co-operative Agriculture and Rural Development Banks</i>	20	20	20	13
- <i>Primary Co-operative Agriculture and Rural Development Banks</i>	727	697	702	601
- <i>Primary Agricultural Credit Societies</i>	108,779	94,647	92,789	95,238
<b>Number of Banking Offices (000s)<sup>3</sup></b>	<b>68</b>	<b>84</b>	<b>126</b>	<b>142</b>
Public Sector Banks	47	59	87	88
Private Sector Banks <sup>1</sup>	6	10	19	31
Regional Rural Banks	14	15	19	22
Foreign Banks	0.2	0.3	0.3	0.3
<b>Branch less Banking Outlets in Rural Areas (000s)<sup>4</sup></b>	<b>na</b>	<b>34</b>	<b>504</b>	<b>545</b>
<b>Number of ATMs (000s)<sup>3</sup></b>	<b>18</b>	<b>60</b>	<b>189</b>	<b>222</b>

**Notes:**

1: Includes Small Finance Banks

2: Data in the 2019 column in case of Rural Credit Institutions pertains to March-2018

3: Data pertains to Scheduled Commercial Banks only

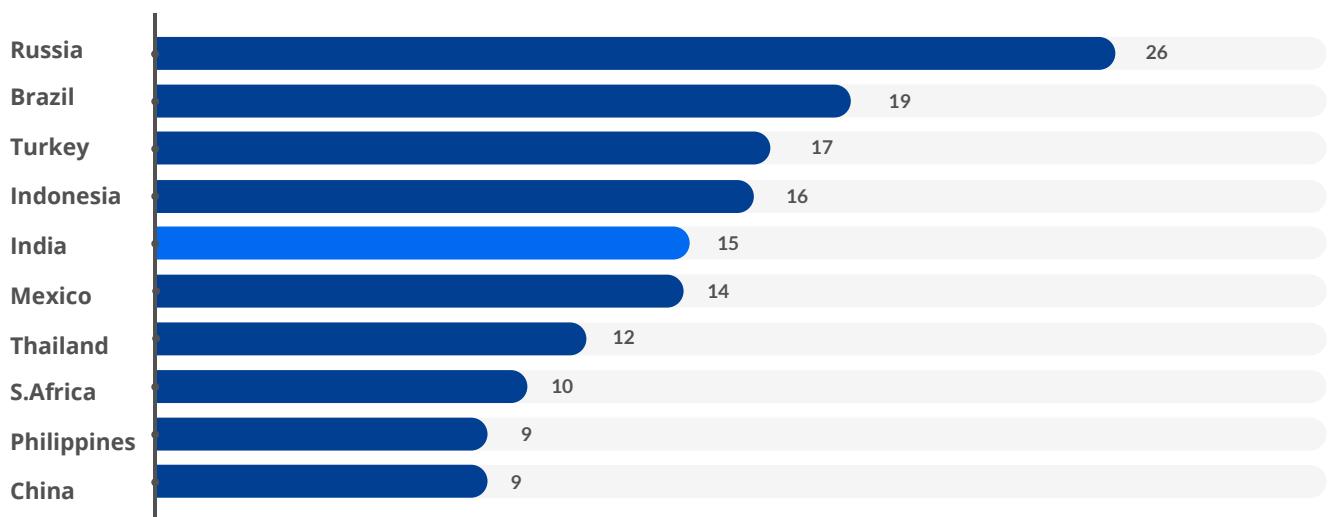
4: Includes Banking Correspondents and Facilitators

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 40 Bank Network Penetration** – Versus other EMs, India's physical branch intensity is mid-ranking, but ATM network remains under-penetrated particularly in rural India

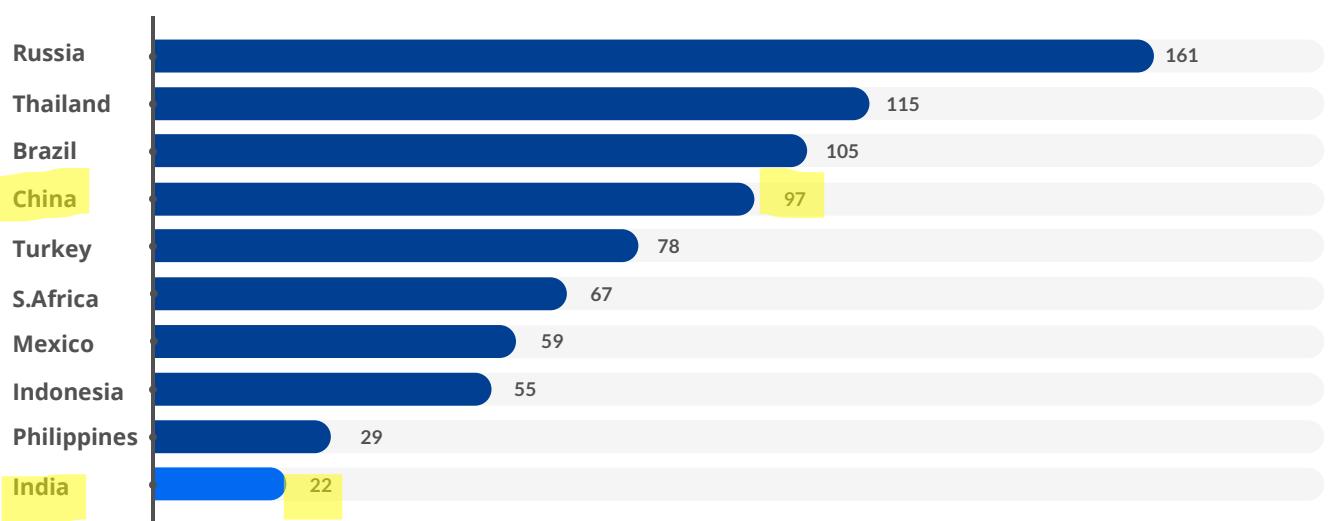
### India has a reasonably large Banking Network relative to other EM countries

#### Commercial Bank Branches per 100,000 adults (2018)



### ATM network in India is very low relative to other EM countries

#### ATMs per 100,000 adults (2018)



Source: World Bank, IndiaDataHub, Macquarie Research, August 2020

## Bank Deposits

**Fig 41 Bank Deposits – Private sector banks continue to take share away from the public sector... a trend that if any has gathered pace and structurally underpins the growth outlook for our preferred names HDFC Bank, ICICI Bank etc.**

(y/e March)

	2005	2010	2015	2018	2019
<b>Distribution of Deposits by Category<sup>1</sup></b>					
<b>Total Deposits (Rs billion)</b>	17,468	45,610	89,221	114,345	126,390
Public Sector Banks (%)	74	74	73	67	63
Private Sector Banks (%) <sup>2</sup>	18	18	20	26	29
Regional Rural Banks (%)	3.5	3.1	3.0	3.4	3.4
Foreign Banks (%)	4.4	5.0	4.4	4.2	4.5
<b>Savings Deposits (Rs billion)</b>	4,707	12,305	23,467	37,654	41,174
Public Sector Banks (%)	80	76	73	70	68
Private Sector Banks (%) <sup>2</sup>	11	15	19	23	26
Regional Rural Banks (%)	6.5	6.2	5.6	5.3	5.4
Foreign Banks (%)	3.0	3.0	2.0	1.5	1.4
<b>Current Deposits (Rs billion)</b>	2,119	5,552	8,639	10,753	11,902
Public Sector Banks (%)	63	63	60	47	44
Private Sector Banks (%) <sup>2</sup>	24	24	28	39	41
Regional Rural Banks (%)	1.3	1.3	1.3	0.9	0.9
Foreign Banks (%)	12	12	11	13	14
<b>Term Deposits (Rs billion)</b>	10,641	27,753	57,115	65,938	73,314
Public Sector Banks (%)	74	76	75	68	64
Private Sector Banks (%) <sup>2</sup>	20	18	19	25	29
Regional Rural Banks (%)	2.7	2.1	2.2	2.7	2.6
Foreign Banks (%)	3.4	4.5	4.5	4.2	4.6

**Notes:**

1: Data pertains to Scheduled Commercial Banks and excludes Interbank Deposits

2: Includes Small Finance Banks also

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 42 Bank Deposits – System-wide 7x expansion in 15 years to ~\$1.7 trillion or ~60% of GDP, within which the private sector is up 12x; higher proportion of savings deposits linked to the growth in private sector banks (higher rate offered versus public sector), while lower share of term deposits can be simply explained by emergence of other investment avenues**

(y/e March)

	2005	2010	2015	2018	2019
<b>Distribution of Deposits by Bank Ownership<sup>1</sup></b>					
<b>Total Deposits (Rs billion)</b>	<b>17,468</b>	<b>45,610</b>	<b>89,221</b>	<b>114,345</b>	<b>126,390</b>
Savings Deposits (%)	27	27	26	33	33
Current Deposits (%)	12	12	10	9.4	9.4
Term Deposits (%)	61	61	64	58	58
<b>Public Sector Banks (Rs billion)</b>	<b>12,960</b>	<b>33,843</b>	<b>65,025</b>	<b>76,460</b>	<b>79,925</b>
Savings Deposits (%)	29	28	26	34	35
Current Deposits (%)	10	10	8.0	6.7	6.5
Term Deposits (%)	61	62	66	59	59
<b>Private Sector Banks (Rs billion)<sup>2</sup></b>	<b>3,129</b>	<b>8,066</b>	<b>17,573</b>	<b>29,208</b>	<b>36,545</b>
Savings Deposits (%)	16	23	26	30	29
Current Deposits (%)	16	16	14	14	13
Term Deposits (%)	67	61	60	56	58
<b>Regional Rural Banks (Rs billion)</b>	<b>614</b>	<b>1,420</b>	<b>2,679</b>	<b>3,911</b>	<b>4,266</b>
Savings Deposits (%)	49	53	49	51	53
Current Deposits (%)	4.6	5.1	4.1	2.4	2.4
Term Deposits (%)	46	42	47	46	45
<b>Foreign Banks (Rs billion)</b>	<b>765</b>	<b>2,282</b>	<b>3,944</b>	<b>4,765</b>	<b>5,653</b>
Savings Deposits (%)	19	16	12	12	10
Current Deposits (%)	33	29	24	29	30
Term Deposits (%)	48	55	65	59	59

#### Notes:

1: Data pertains to Scheduled Commercial Banks and excludes Interbank Deposits

2: Includes Small Finance Banks also

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

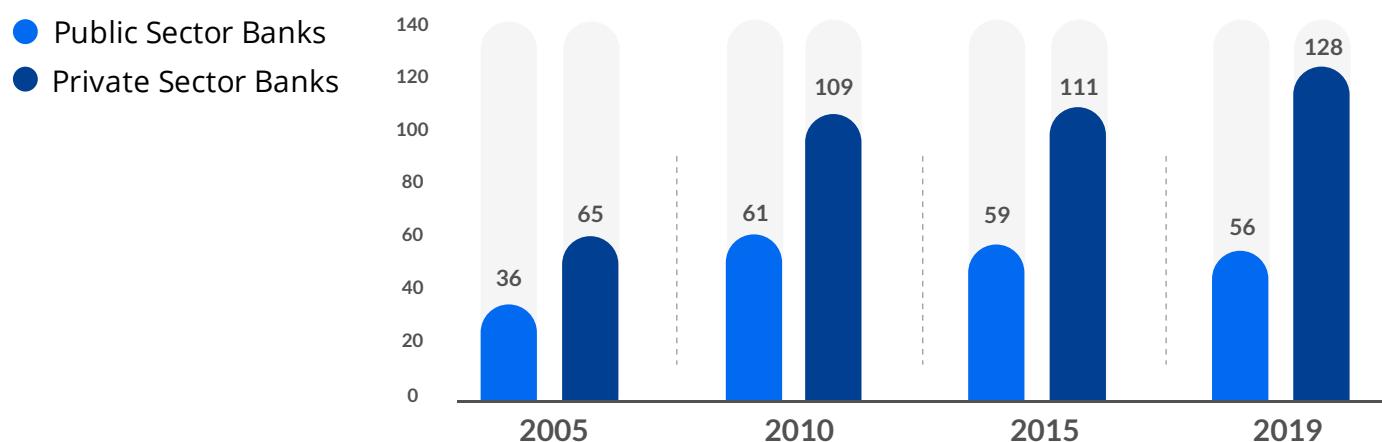
**Fig 43 Bank Accounts** – A four-fold expansion in the number of bank accounts to about 2 billion today or ~1.5 accounts per person supported by rising working population and PM Modi's Jan Dhan scheme; however from a nationwide financial inclusion standpoint there is still ~20% of the population without bank accounts

(y/e March)

	2005	2010	2015	2018	2019
<b>Distribution of Deposit Accounts<sup>1</sup></b>					
<b>Number of Accounts (millions)</b>	467	735	1,440	1,912	1,973
Savings Deposits	320	560	1,170	1,596	1,643
Current Deposits	18	32	53	76	81
Term Deposits	129	144	217	239	248
<b>Deposit Accounts (per 100 People)</b>	43	63	114	145	148
Savings Deposits	29	48	92	121	123
Current Deposits	1.6	2.7	4.2	5.8	6.1
Term Deposits	12	12	17	18	19
<b>Deposit Accounts (% of total)</b>	100	100	100	100	100
Savings Deposits	69	76	81	84	83
Current Deposits	3.8	4.3	3.7	4.0	4.1
Term Deposits	28	20	15	13	13

### Private Sector Banks have much higher Deposit account balances than Public Sector Banks

#### Average Year End Total Deposit Account Balance (Rs 000s)<sup>1,2</sup>



#### Notes:

1: Data pertains to Scheduled Commercial Banks and excludes Interbank Deposits

2: Calculated as Deposit balance as at end of the year divided by number of year end deposit accounts

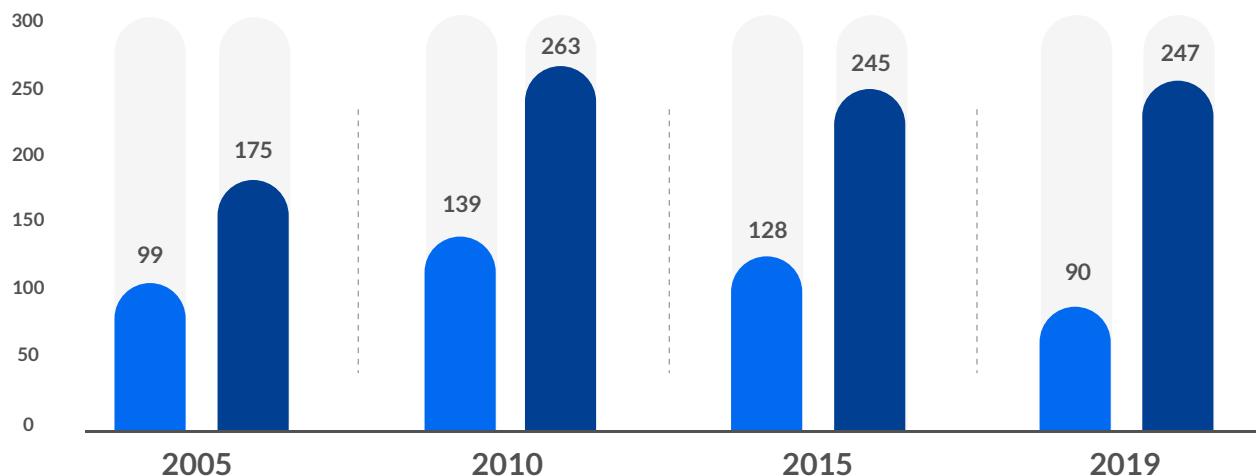
Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 44 Bank Accounts** – Average account balances in private sector banks is ~2-3x that of the public sector simply due to better banking platforms and ease of transacting

### Gap in Current account balances between Private and Public banks has widened sharply

#### Average Year End Current Account Balance (Rs 000s)<sup>1,2</sup>

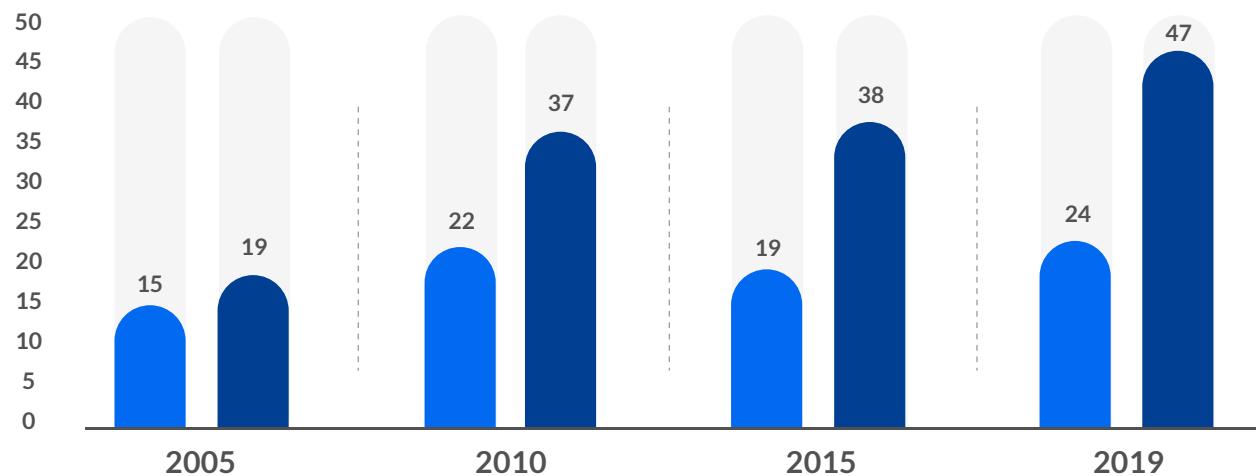
- Public Sector Banks
- Private Sector Banks



#### Private Sector Banks have almost 2x the balance in Savings accounts as Public Sector Banks

#### Average Year End Savings Account Balance (Rs 000s)<sup>1,2</sup>

- Public Sector Banks
- Private Sector Banks



#### Notes:

1: Data pertains to Scheduled Commercial Banks and excludes Interbank Deposits

2: Calculated as Deposit balance as at end of the year divided by number of year end deposit accounts

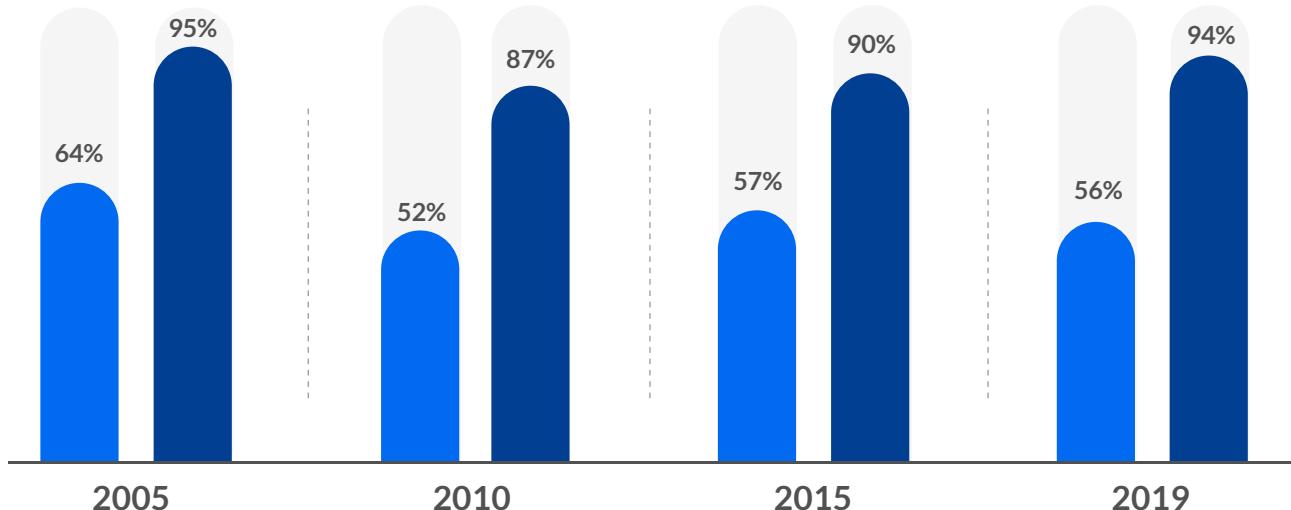
Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 45 Bank Deposits** – While individual accounts make up over 90% of banks accounts, in value terms this gets watered down to the mid-50s

### Just over half of Bank deposits, in value terms, are contributed by Individuals

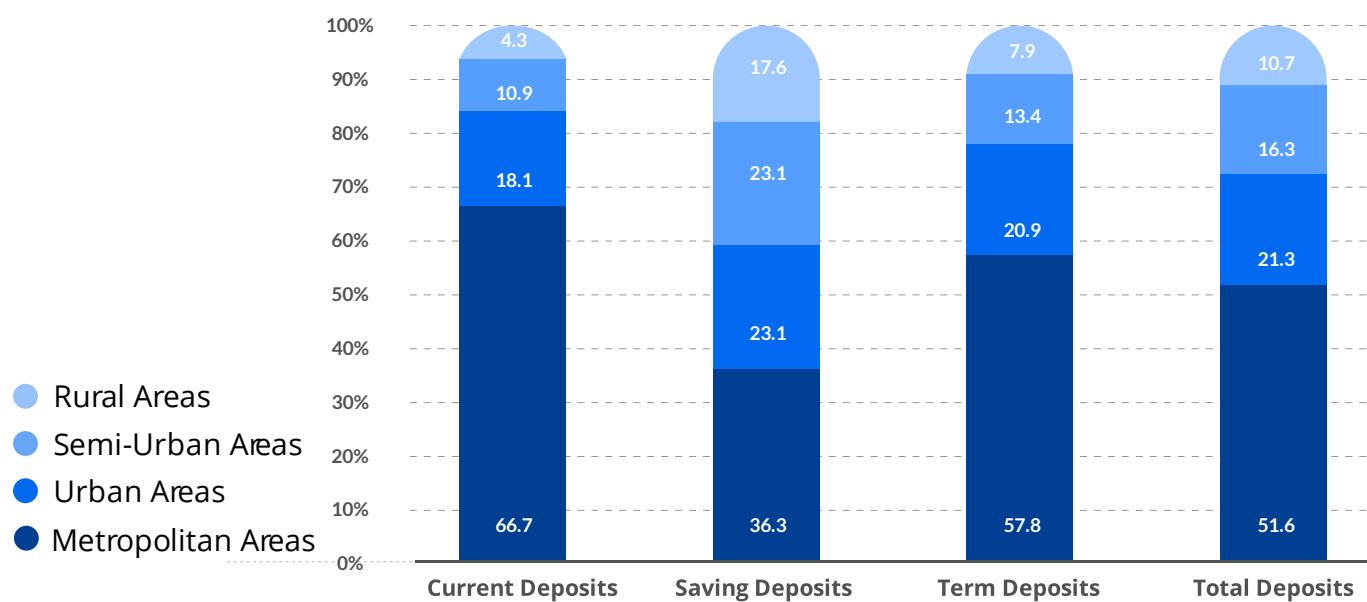
#### Share of Individuals in Bank Deposits<sup>1</sup>

- Value of Deposits
- Number of Depositor Accounts



### Metropolitan areas contribute 2/3 of Current Deposits but just over a 1/3 of Savings Deposits

#### Distribution of Bank Deposits by Geography (% of total, March-2019)<sup>1</sup>



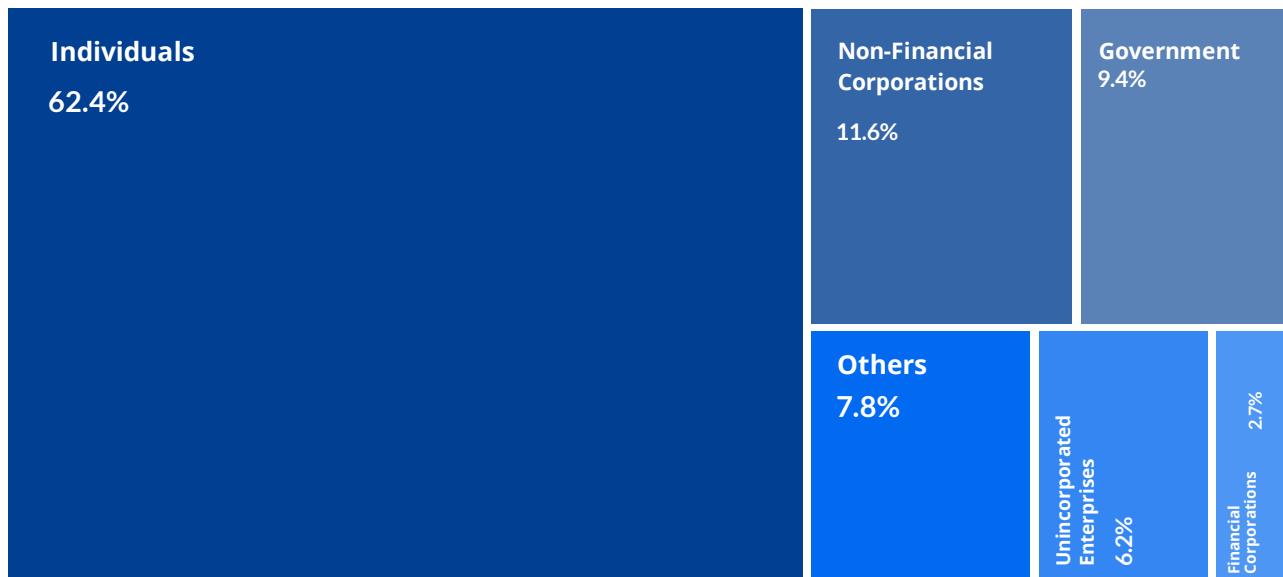
#### Notes:

1: Data pertains to Scheduled Commercial Banks and excludes Interbank Deposits

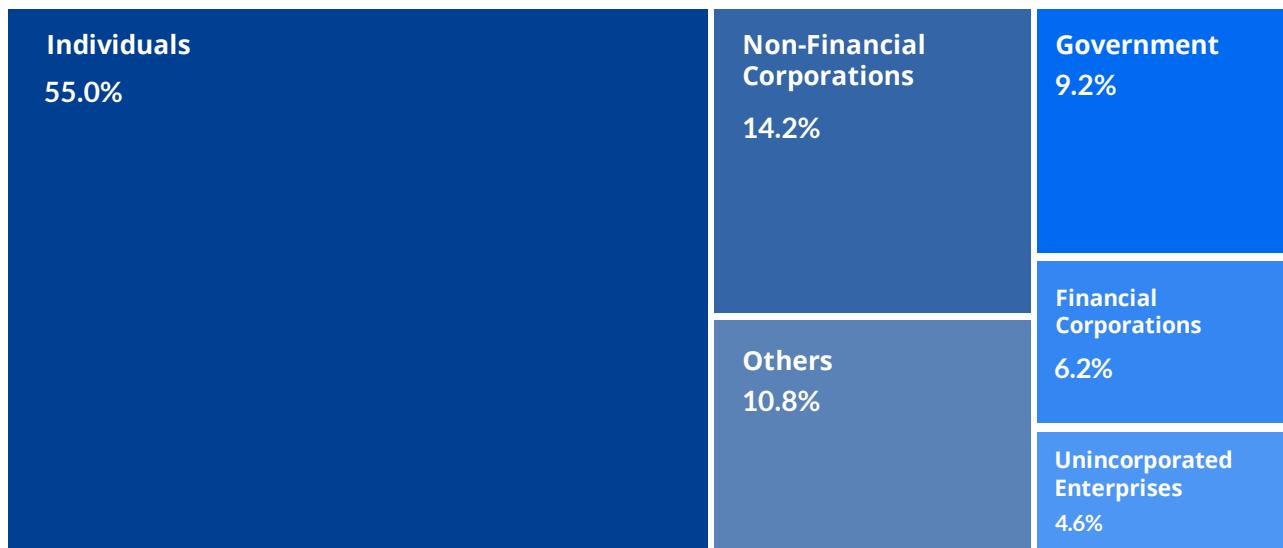
Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 46 Bank Deposits – unsurprisingly, individuals account for over 60% of current-saving account deposits**

**Distribution of Outstanding CASA deposits (March-2019)<sup>1</sup>**



**Distribution of Outstanding total deposits (March-2019)<sup>1</sup>**



**Notes:**

1: Data pertains to Scheduled Commercial Banks & includes Interbank Deposits. Government includes Central, State & Local Govts.  
Source: RBI, IndiaDataHub, Macquarie Research, August 2020

## Bank Loans / Credit

**Fig 47 Bank Credit** – Total system credit has grown 9x in the past 15 years to now ~\$1.4 trillion or ~50% of GDP; credit cycle in the past five years has been entirely driven by ‘retail’ while the share of loans extended to fund ‘industry’ has fallen nearly 10 points

(y/e March)

	2005	2010	2015	2018	2019
<b>Distribution of Loans by Scheduled Commercial Banks by Sector</b>					
<b>Total Bank Credit (Rs billion)</b>	<b>11,525</b>	<b>33,452</b>	<b>68,785</b>	<b>87,670</b>	<b>98,976</b>
Agriculture	1,244	3,903	9,043	11,993	13,496
Industry	4,468	13,552	28,360	30,387	31,951
- Mining	158	434	590	824	775
- Manufacturing	3,363	8,984	16,946	18,065	18,414
- Construction	584	2,613	6,631	6,753	7,395
- Electricity, Water etc	363	1,522	4,194	4,745	5,366
Services <sup>1</sup>	3,253	10,407	19,942	26,641	32,163
- Financial Sector	733	2,431	5,607	7,289	9,377
- Retail Trade	561	1,635	3,307	4,256	5,039
- Wholesale Trade	735	1,420	3,320	4,187	4,480
- Transport Operators	137	858	1,341	1,951	2,270
Personal Loans <sup>1</sup>	2,560	5,589	11,440	18,649	21,366
- Housing	1,268	3,063	6,399	9,687	11,514
- Vehicles		446	1,144	2,157	2,460
- Education		384	632	770	785
- Credit Cards		218	366	777	1,015
<b>Total Bank Credit (share in total)</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Agriculture	10.8	11.7	13.1	13.7	13.6
Industry	38.8	40.5	41.2	34.7	32.3
- Mining	1.4	1.3	0.9	0.9	0.8
- Manufacturing	29.2	26.9	24.6	20.6	18.6
- Construction	5.1	7.8	9.6	7.7	7.5
- Electricity, Water etc	3.2	4.5	6.1	5.4	5.4
Services <sup>1</sup>	28.2	31.1	29.0	30.4	32.5
- Financial Sector	6.4	7.3	8.2	8.3	9.5
- Retail Trade	4.9	4.9	4.8	4.9	5.1
- Wholesale Trade	6.4	4.2	4.8	4.8	4.5
- Transport Operators	1.2	2.6	1.9	2.2	2.3
Personal Loans <sup>1</sup>	22.2	16.7	16.6	21.3	21.6
- Housing	11.0	9.2	9.3	11.0	11.6
- Vehicles		1.3	1.7	2.5	2.5
- Education		1.1	0.9	0.9	0.8
- Credit Cards		0.7	0.5	0.9	1.0

**Notes:**

1: Only Key Components shown

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

Fig 48 Bank Credit - # of accounts

(y/e March)

	2005	2010	2015	2018	2019
<b>Distribution of Borrower Accounts of Scheduled Commercial Banks by Sector</b>					
<b>Borrower Accounts (000s)</b>	<b>77,151</b>	<b>118,648</b>	<b>144,240</b>	<b>196,977</b>	<b>232,302</b>
Agriculture	26,656	42,770	73,886	90,852	100,142
Industry	3,717	3,254	3,173	8,177	8,887
- Mining	18	26	51	74	77
- Manufacturing	3,411	2,929	2,623	7,563	8,240
- Construction	283	292	382	454	494
- Electricity, Water etc	5.1	8.2	117	86	76
Services <sup>1</sup>	13,943	21,937	17,950	29,636	38,333
- Financial Sector	108	1,067	496	1,169	3,851
- Retail Trade	5,592	6,303	6,100	11,545	13,011
- Wholesale Trade	499	504	539	997	1,250
- Transport Operators	578	962	2,071	2,815	3,184
Personal Loans <sup>1</sup>	32,835	50,687	49,231	68,312	84,940
- Housing	3,666	6,038	7,455	8,348	8,931
- Vehicles		4,270	5,584	8,140	10,087
- Education		2,040	2,683	2,566	2,385
- Credit Cards		19,503	16,928	29,516	39,577
<b>Borrower Accounts (share in total)</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Agriculture	34.6	36.0	51.2	46.1	43.1
Industry	4.8	2.7	2.2	4.2	3.8
- Mining	0.02	0.02	0.04	0.04	0.03
- Manufacturing	4.4	2.5	1.8	3.8	3.5
- Construction	0.4	0.2	0.3	0.2	0.2
- Electricity, Water etc	0.01	0.01	0.08	0.04	0.03
Services <sup>1</sup>	18.1	18.5	12.4	15.0	16.5
- Financial Sector	0.1	0.9	0.3	0.6	1.7
- Retail Trade	7.2	5.3	4.2	5.9	5.6
- Wholesale Trade	0.6	0.4	0.4	0.5	0.5
- Transport Operators	0.7	0.8	1.4	1.4	1.4
Personal Loans <sup>1</sup>	42.6	42.7	34.1	34.7	36.6
- Housing	4.8	5.1	5.2	4.2	3.8
- Vehicles		3.6	3.9	4.1	4.3
- Education		1.7	1.9	1.3	1.0
- Credit Cards		16.4	11.7	15.0	17.0

**Notes:**

1: Only Key Components shown

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 49 Bank Credit – Over the last five years, loans to ‘individuals’ have accounted for over 50% of system-wide credit extended, and this ratio increases to over 70% including small businesses... explains why the moratoriums during the lockdown were essential**

(y/e March)

	2013	2015	2018	2019
<b>Distribution of Loans of Scheduled Commercial Banks by Borrowing Entity <sup>1</sup></b>				
<b>Total Bank Credit (Rs billion)</b>	<b>55,253</b>	<b>68,785</b>	<b>87,670</b>	<b>98,976</b>
Public Sector	9,013	12,184	14,965	16,610
- Central, State Governments <sup>2</sup>	2,077	2,165	2,575	3,323
- Government Corporations	6,936	10,019	12,390	13,287
Private Corporate Sector	20,097	26,816	28,723	32,026
- Financial Companies	2,611	5,162	4,383	5,797
- Non-Financial Companies	17,486	21,653	24,340	26,229
Individuals	19,741	22,326	33,498	38,463
- Male	16,405	18,334	26,651	30,405
- Female	3,336	3,992	6,847	8,058
Proprietorships, Partnerships, HUFs	4,365	5,810	7,999	8,871
Others <sup>3</sup>	2,038	1,650	2,485	3,005
- Microfinance Institutions	913	408	717	894
<b>Total Bank Credit (share in total, %)</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Public Sector	16.3	17.7	17.1	16.8
- Central, State Governments <sup>2</sup>	3.8	3.1	2.9	3.4
- Government Corporations	12.6	14.6	14.1	13.4
Private Corporate Sector	36.4	39.0	32.8	32.4
- Financial Companies	4.7	7.5	5.0	5.9
- Non-Financial Companies	31.6	31.5	27.8	26.5
Individuals	35.7	32.5	38.2	38.9
- Male	29.7	26.7	30.4	30.7
- Female	6.0	5.8	7.8	8.1
Proprietorships, Partnerships, HUFs	7.9	8.4	9.1	9.0
Others <sup>3</sup>	3.7	2.4	2.8	3.0
- Microfinance Institutions	1.7	0.6	0.8	0.9

#### Notes:

1: Comparable data starts from 2013, hence data for earlier periods is not shown

2: Includes Local and Quasi Government bodies

3: Includes Cooperatives, NGOs, Trusts, Microfinance, Joint Liability Groups, Non-Resident Indians, Non-Profit Institutions.

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 50 Bank Credit - # of accounts** – a ~50% expansion in the number of individual loan accounts since 2015, within which, encouragingly the # of loans extended to females has increased 110% of a lower base

(y/e March)

	2013	2015	2018	2019
<b>Distribution of Borrower Accounts of Scheduled Commercial Banks by Borrowing Entity <sup>1</sup></b>				
<b>Number of Borrower Accounts (000s)</b>	<b>128,286</b>	<b>144,240</b>	<b>196,977</b>	<b>232,302</b>
Public Sector	182	117	177	140
- <i>Central, State Governments<sup>1</sup></i>	50	48	83	74
- <i>Government Corporations</i>	132	69	94	65
Private Corporate Sector	977	971	1,191	1,239
- <i>Financial Companies</i>	160	94	136	94
- <i>Non-Financial Companies</i>	817	877	1,055	1,145
Individuals	122,400	137,045	179,422	207,799
- <i>Male</i>	99,462	108,180	128,643	147,055
- <i>Female</i>	22,938	28,865	50,780	60,744
Proprietorships, Partnerships, HUFs	2,267	2,644	3,794	4,122
Others <sup>2</sup>	2,461	3,464	12,393	19,003
- <i>Microfinance Institutions</i>	1,811	2,399	6,374	5,974
<b>Bank Borrower Accounts (share in total, %)</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Public Sector	0.14	0.08	0.09	0.06
- <i>Central, State Governments<sup>1</sup></i>	0.04	0.03	0.04	0.03
- <i>Government Corporations</i>	0.10	0.05	0.05	0.03
Private Corporate Sector	0.8	0.7	0.6	0.5
- <i>Financial Companies</i>	0.12	0.06	0.07	0.04
- <i>Non-Financial Companies</i>	0.6	0.6	0.5	0.5
Individuals	95.4	95.0	91.1	89.5
- <i>Male</i>	77.5	75.0	65.3	63.3
- <i>Female</i>	17.9	20.0	25.8	26.1
Proprietorships, Partnerships, HUFs	1.8	1.8	1.9	1.8
Others <sup>2</sup>	1.9	2.4	6.3	8.2
- <i>Microfinance Institutions</i>	1.4	1.7	3.2	2.6

#### Notes:

1: Comparable data starts from 2013, hence data for earlier periods is not shown

2: Includes Local and Quasi Government bodies

3: Includes Cooperatives, NGOs, Trusts, Microfinance, Joint Liability Groups, Non-Resident Indians, Non-Profit Institutions.

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

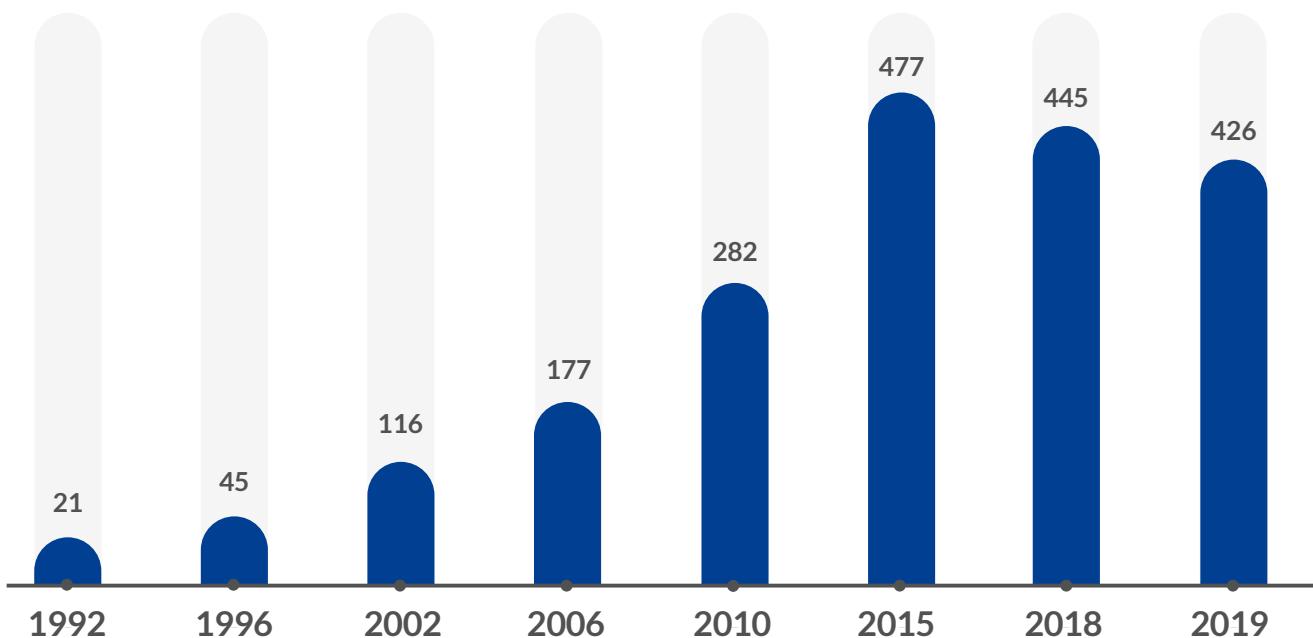
**Fig 51 Bank Credit** – Loans extended by private sector banks is up ~15x in 15 years and the share of system-wide credit has expanded from 20% in '05 to 33% today... a trend that we see continuing; average outstanding loan balances has trended lower since '15 explained by the aforementioned growth in retail credit

(y/e March)

	2005	2010	2015	2018	2019
<b>Distribution of Loans by Scheduled Commercial Banks by Bank Category</b>					
<b>Total Bank Credit (Rs billion)</b>	11,525	33,452	68,785	87,670	98,976
Public Sector Banks	8,173	25,115	49,283	55,433	59,212
Regional Rural Banks	327	828	1,812	2,553	2,845
Private Sector Banks <sup>1</sup>	2,269	5,860	14,334	26,006	32,205
Foreign Banks	755	1,650	3,355	3,678	4,128
<b>Total Bank Credit (share in total)</b>	100	100	100	100	100
Public Sector Banks	71	75	72	63	60
Regional Rural Banks	2.8	2.5	2.6	2.9	2.9
Private Sector Banks <sup>1</sup>	20	18	21	30	33
Foreign Banks	6.6	4.9	4.9	4.2	4.2

### Average outstanding credit per borrower has declined in recent years

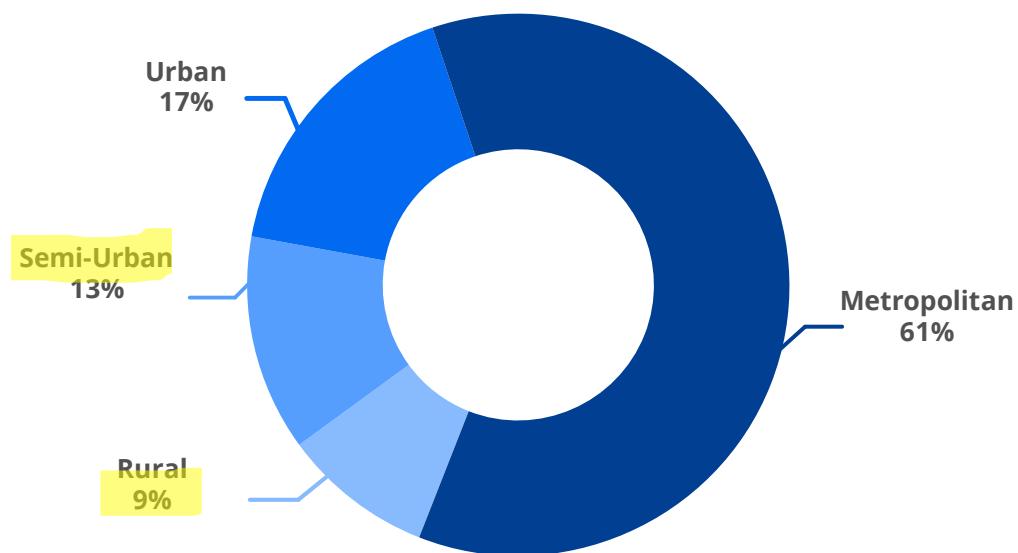
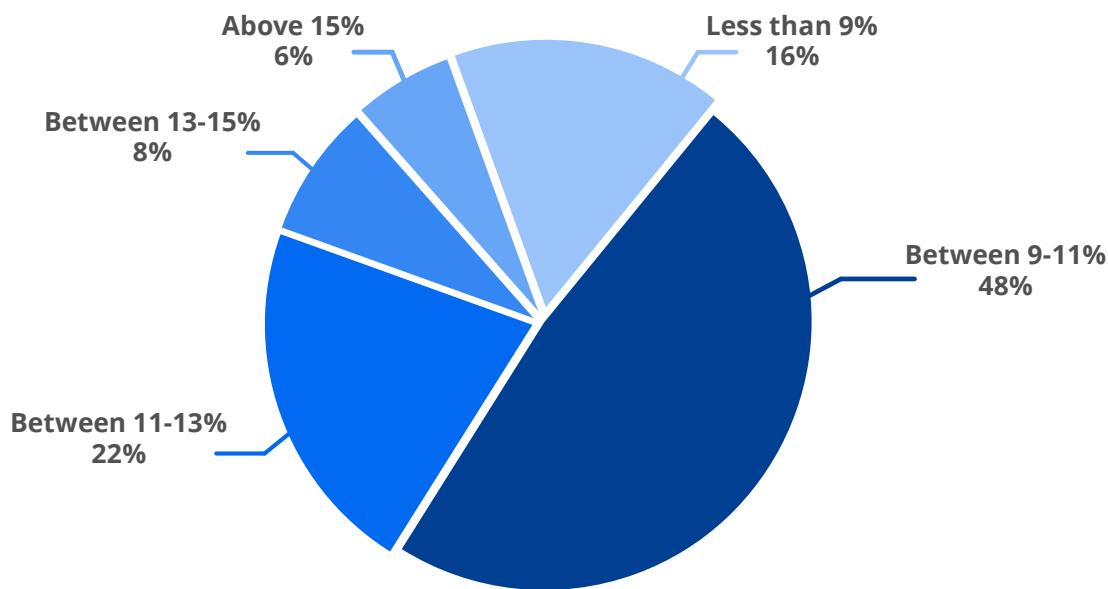
#### Average Year-End Borrower Account Size (Rs 000s)



#### Notes:

1: Includes Small Finance Banks

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 52 Bank Credit – Rural India still less than 10% of the outstanding bank loans****Rural areas account for less than 10% of Outstanding Bank Loans****Distribution of Loans by Region (place of utilisation, % of total, March-2019) <sup>1,2</sup>****Almost half the outstanding loans are between 9-11% rate of Interest****Distribution of Loans by range of Rate of Interest (% of total, March-2019) <sup>1</sup>****Notes:**

1: Data only for Scheduled Commercial Banks

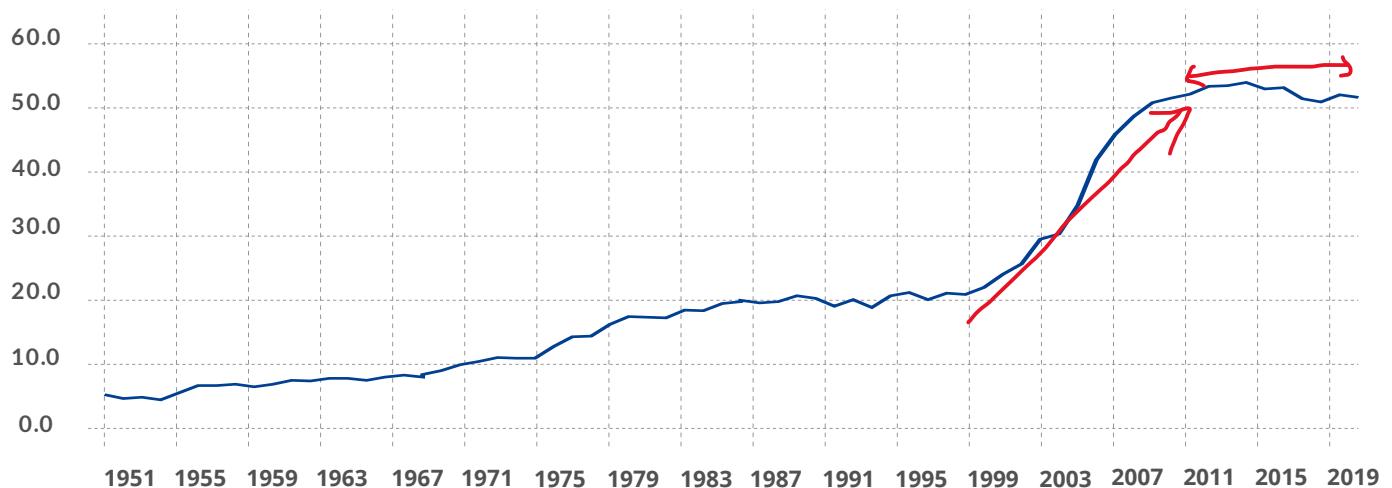
2: Rural areas are centres with population below 10,000; Semi Urban areas with population between 10,000 and 100,000; Urban areas with population between 100,000 and 1 million and Metropolitan areas with population above 1 million. Based on 2011 Census.

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 53 Bank Credit to GDP** – Along with the capex cycle in the 2000s, India's bank credit to GDP quickly expanded from 20% to 50%... however for the past decade we have stagnated around these levels with the corporate sector de-leveraging while retail has expanded... from a top-down perspective let's say India's GDP rises to \$3.5 trillion by 2025 (target \$5 trillion) and there is a stimulus-induced capex cycle and credit-to-GDP expands to 60% (similar to levels in Brazil), then the size of India's bank credit extended would expand over 60% from \$1.3 trillion today to \$2.1 trillion... layering on top market share gains, the size of private sector bank loan books could expand ~80-100% in the same period, however (see next fig)...

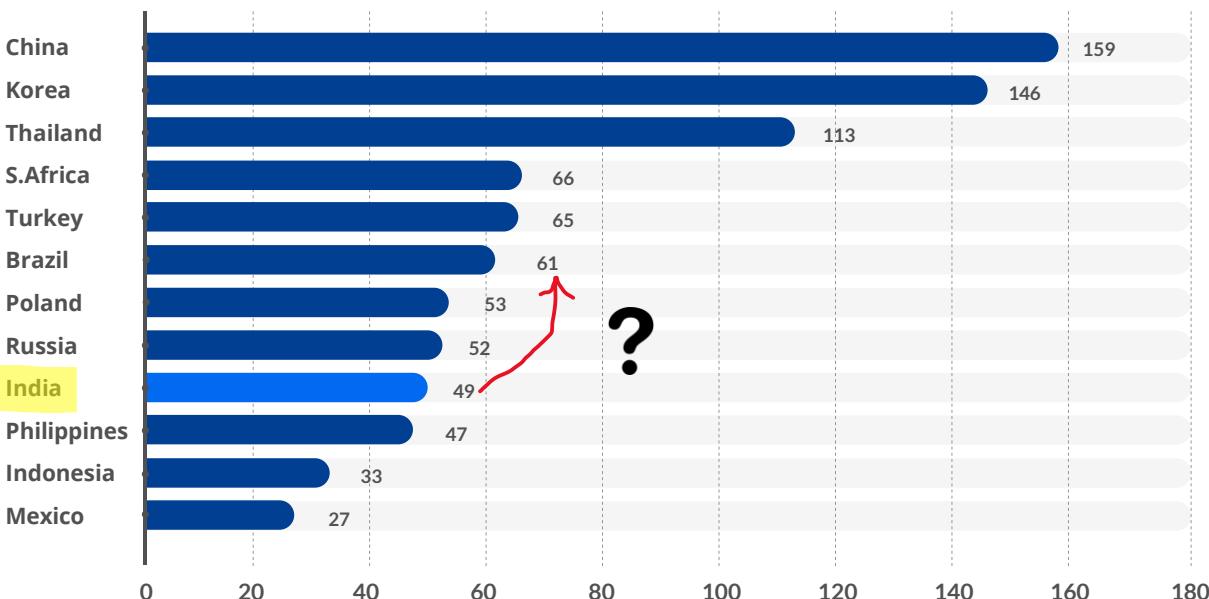
### Bank Credit, relative to GDP, has stagnated at just above 50% over the past decade

#### Bank Credit as percentage of GDP<sup>1</sup>



### Bank Credit in India is smaller, relative to GDP, as compared to several other Emerging Markets

#### Bank Credit to Private Sector (% of GDP, 2016-18 average)



#### Notes:

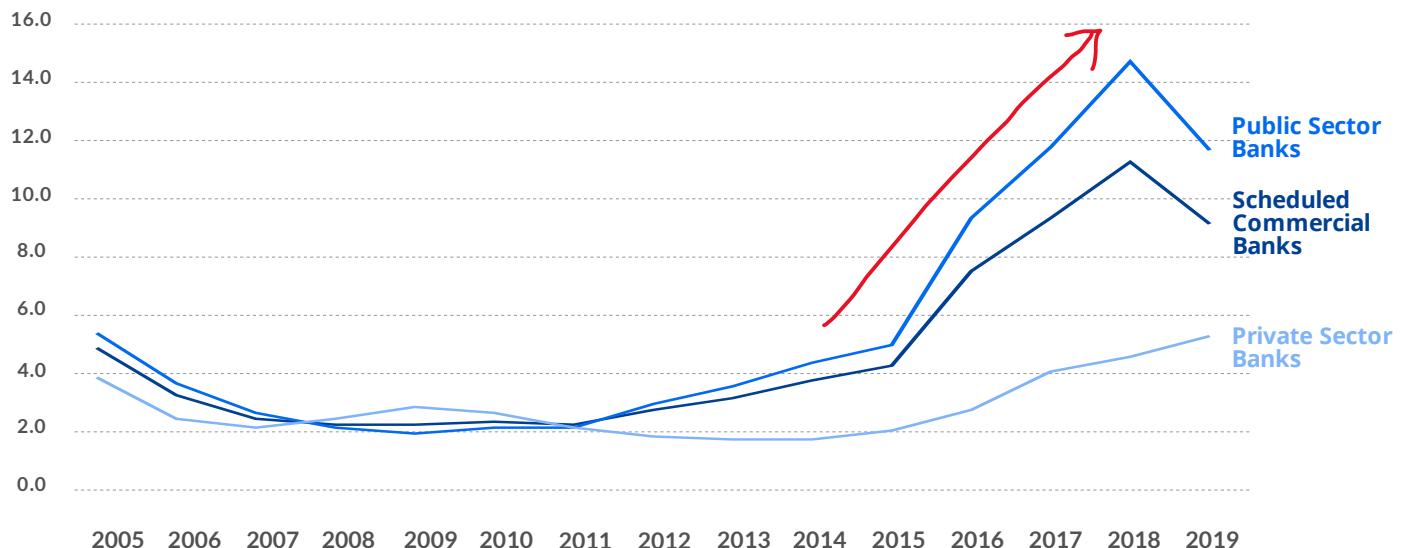
1: Data only for Scheduled Commercial Banks

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

### Bank Performance

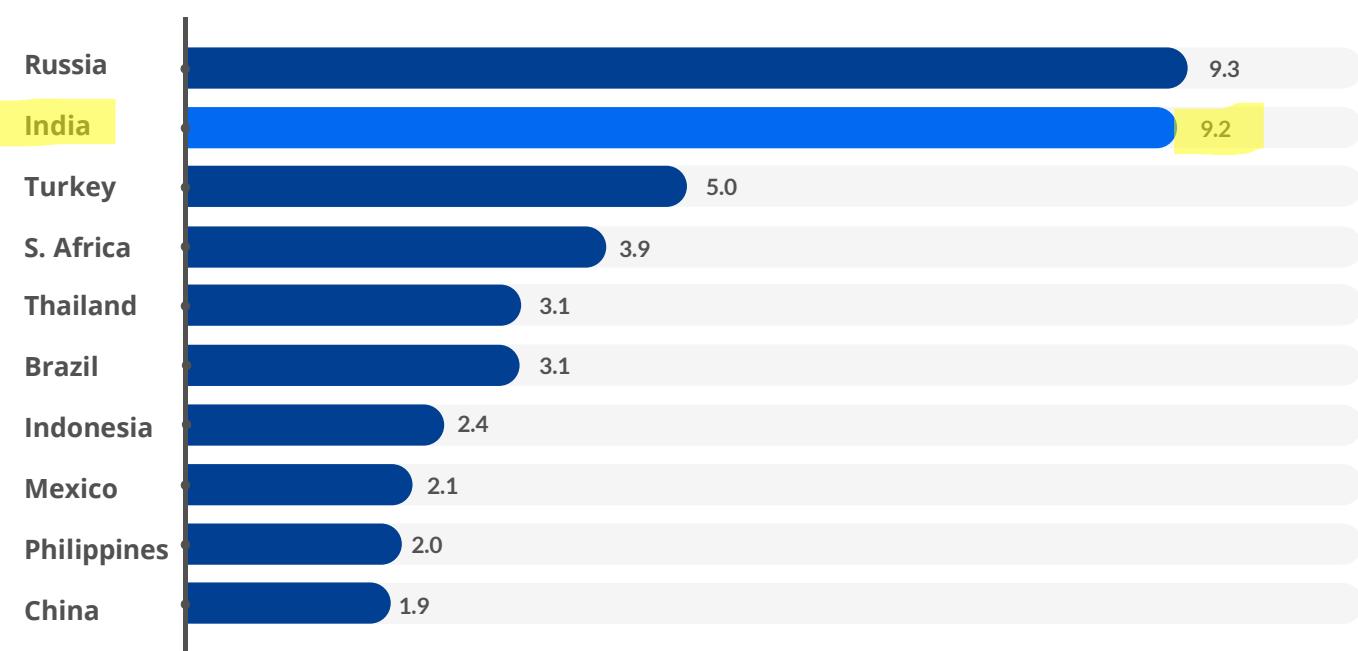
**Fig 54 Non-Performing Loans** – ... India has a chronic non-performing loan problem, among the highest in EMs, and this particularly came to the fore following the Asset Quality Review under Raghuram Rajan; this dynamic explains why credit growth rates in India have continued to fall and even pre-Covid was near a 40-year low

#### Gross Non-Performing Ratio of Scheduled Commercial Banks (%)



#### Indian Banks have amongst the highest NPAs in Emerging Economies

##### Non-performing Loans to Total Gross Loans Ratio (2019)



##### Notes:

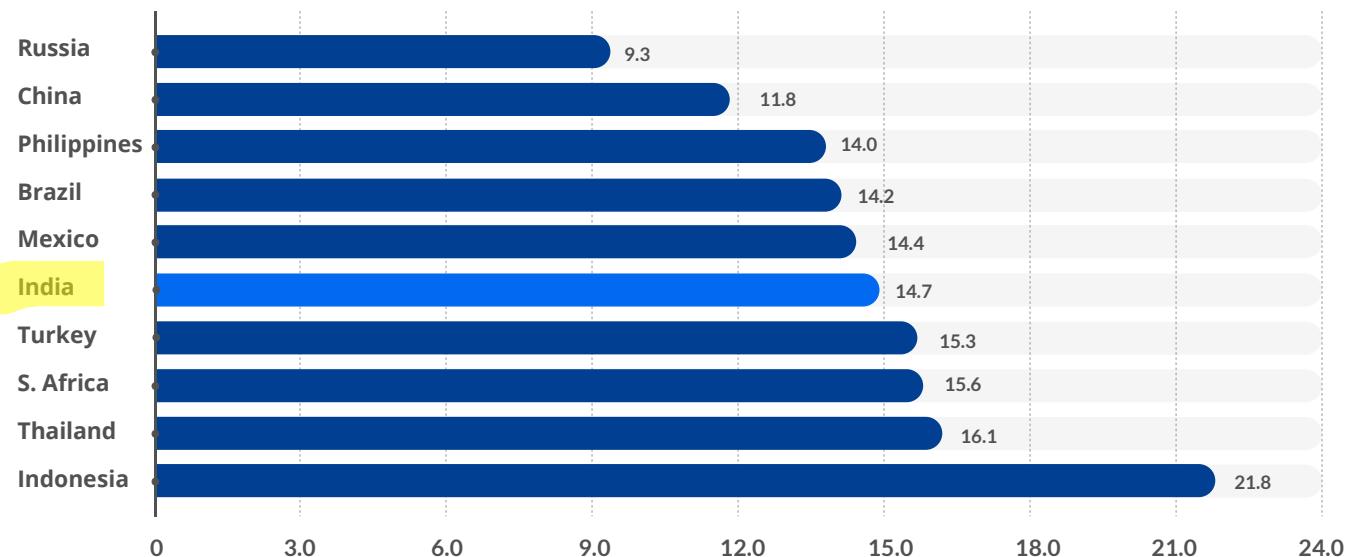
1: Data for China is as of 3Q CY 2019 while for other countries is as of 4Q CY2019

Source: RBI, IMF, IndiaDataHub, Macquarie Research, August 2020

**Fig 55 Banking Performance** – Following a government directed significant recapitalization plan for the public sector banks in 2017 and further capital raises by the private sector, today India's banking system is reasonably well capitalized (and far better than China) to face a likely post-Covid rising NPA cycle

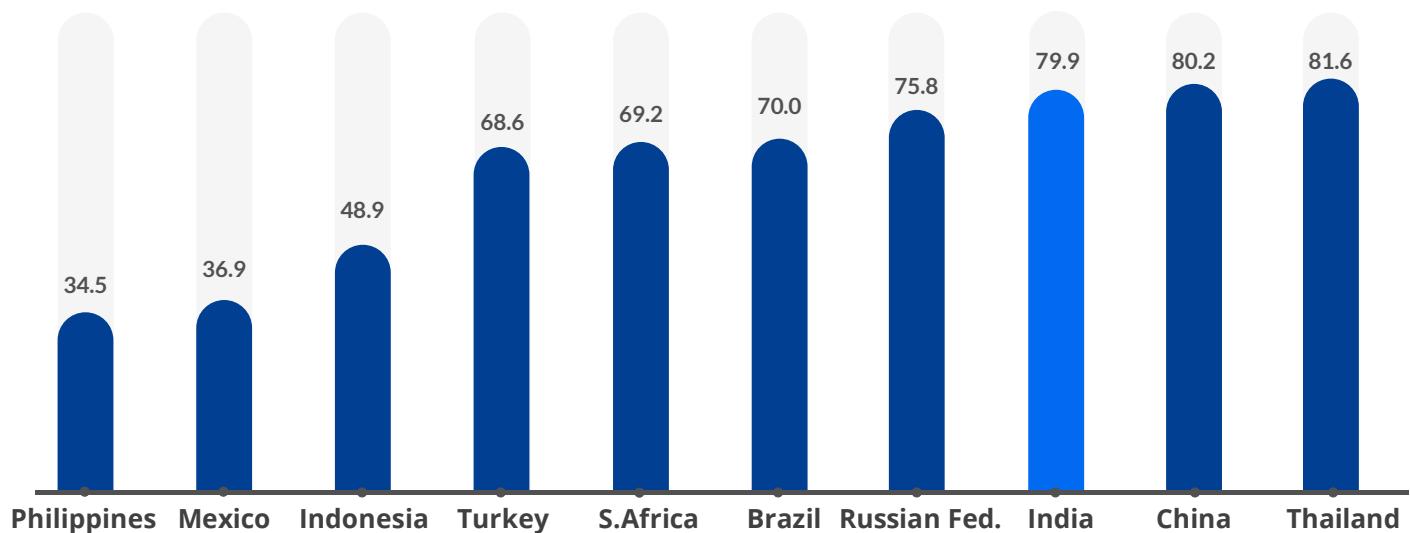
### Indian Banking system is reasonably capitalised relative to other Emerging Economies

#### Regulatory Tier 1 Capital to Risk-Weighted Assets Ratio (2019)<sup>1</sup>



### Banking Penetration is reasonably high in India

#### Percentage of Adults with a Bank Account (2017)<sup>2</sup>



#### Notes:

1: Data for China is as of 3Q CY2019 while for other countries is as of 4Q CY2019

2: Denotes the percentage of respondents, above the age of 15, who report having an account (by themselves or together with someone else) at a bank or another type of financial institution or report personally using a mobile money service in the past 12 months.

Source: World Bank, IMF, IndiaDataHub, Macquarie Research, August 2020

**Fig 56 Banking Performance** – Over the past five years, system-wide pace of credit growth relative to deposits has moderated, NPA provisions made significantly expanded, while ROA is mildly negative... within this unsurprisingly the private sector banks have far outperformed the public sector

(y/e March)

	2005	2010	2015	2018	2019
<b>Credit - Deposit Ratio (%)<sup>1</sup></b>	<b>62.6</b>	<b>73.7</b>	<b>78.3</b>	<b>74.2</b>	<b>75.3</b>
Public Sector Banks	59.5	73.2	76.1	69.0	69.8
Private Sector Banks <sup>2</sup>	70.3	76.9	86.4	88.4	88.3
<b>Deposits share in Total Liabilities (%)<sup>1</sup></b>	<b>78.0</b>	<b>78.8</b>	<b>78.4</b>	<b>77.3</b>	<b>77.6</b>
Public Sector Banks	81.0	83.1	82.9	82.3	83.5
Private Sector Banks <sup>2</sup>	73.5	71.5	70.5	70.1	71.2
<b>Intermediation Costs (% of Assets)<sup>1</sup></b>	<b>2.3</b>	<b>1.8</b>	<b>1.8</b>	<b>1.8</b>	<b>1.9</b>
Public Sector Banks	2.3	1.6	1.6	1.7	1.8
Private Sector Banks <sup>2</sup>	2.2	2.1	2.2	2.2	2.2
<b>Wage Cost to Total Income (%)<sup>1</sup></b>	<b>15.5</b>	<b>11.2</b>	<b>10.3</b>	<b>10.9</b>	<b>11.3</b>
Public Sector Banks	17.4	11.6	10.8	11.9	13.0
Private Sector Banks <sup>2</sup>	9.0	9.1	8.7	8.7	8.4
<b>Cost of Funds (%)<sup>1</sup></b>	<b>4.8</b>	<b>5.5</b>	<b>6.3</b>	<b>5.1</b>	<b>5.1</b>
Public Sector Banks	4.9	5.7	6.4	5.1	5.0
Private Sector Banks <sup>2</sup>	4.9	5.5	6.4	5.2	5.4
<b>Return on Advances (%)<sup>1</sup></b>	<b>8.1</b>	<b>9.3</b>	<b>9.8</b>	<b>8.3</b>	<b>8.7</b>
Public Sector Banks	8.0	9.1	9.5	7.8	8.1
Private Sector Banks <sup>2</sup>	8.5	9.9	10.9	9.5	9.8
<b>Operating Profits to Assets Ratio (%)<sup>1</sup></b>	<b>2.4</b>	<b>2.2</b>	<b>2.0</b>	<b>2.0</b>	<b>1.9</b>
Public Sector Banks	2.4	1.9	1.7	1.6	1.5
Private Sector Banks <sup>2</sup>	1.9	2.7	2.9	2.8	2.5
<b>NPA Provision (% of Operating Profits)<sup>1</sup></b>	<b>11.5</b>	<b>25.1</b>	<b>34.5</b>	<b>109.6</b>	<b>98.3</b>
Public Sector Banks	12.6	22.3	49.4	174.8	153.8
Private Sector Banks <sup>2</sup>	9.7	33.0	14.3	40.3	53.8
<b>Return on Assets (%)<sup>1</sup></b>	<b>1.0</b>	<b>1.0</b>	<b>0.8</b>	<b>-0.2</b>	<b>-0.1</b>
Public Sector Banks	1.0	1.0	0.5	-0.8	-0.7
Private Sector Banks <sup>2</sup>	1.1	1.3	1.7	1.1	0.6

**Notes:**

1: Data for All Scheduled Commercial Banks

2: Excludes Small Finance Banks

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

### Co-Operative / Small-Scale Local Banks

Fig 57 Co-operative Banks

(y/e March)

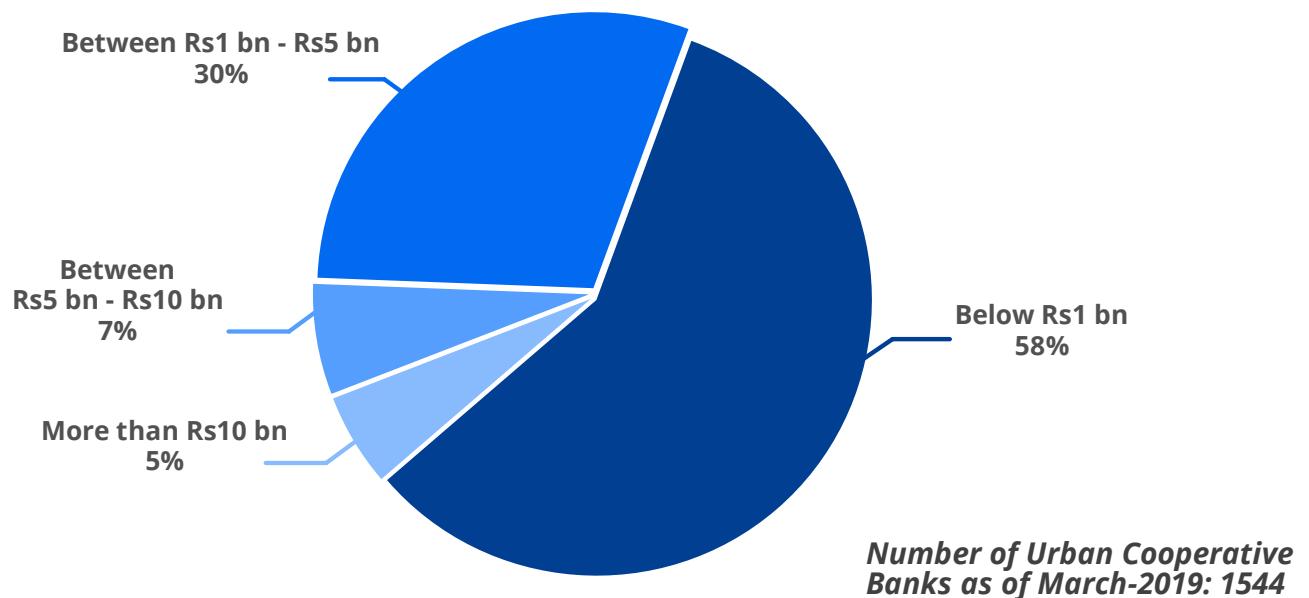
(Rs billion)	2010	2015	2018	2019
<b>Urban Cooperative Banks</b>				
<b>Total Deposits</b>				
- <i>Scheduled Banks</i>	1,832	3,551	4,565	4,843
- <i>Non-Scheduled Banks</i>	802	1,642	2,120	2,257
	1,029	1,909	2,445	2,586
<b>Total Advances</b>				
- <i>Scheduled Banks</i>	1,124	2,243	2,805	3,030
- <i>Non-Scheduled Banks</i>	506	1,057	1,368	1,466
	618	1,186	1,436	1,564
<b>Gross NPA Ratio (%)</b>				
Return on Assets (%)	10.1	6.2	7.2	7.1
	0.6	0.8	0.7	0.7
<b>Rural Cooperatives Institutions</b>				
<b>State Co-operative Banks</b>				
Deposits	792	1,028	1,235	
Loans & Advances	496	1,146	1,319	
<b>District Central Co-operative Banks</b>				
Deposits	1,464	2,588	3,480	
Loans & Advances	1,075	2,194	2,771	
<b>State Co-operative Agriculture &amp; Rural Development Banks</b>				
Deposits	7.6	18	23	
Loans & Advances	170	212	208	
<b>Primary Co-operative Agriculture &amp; Rural Development Banks</b>				
Deposits	4.6	10	13	
Loans & Advances	115	148	158	
<b>Primary Agricultural Credit Societies</b>				
Deposits	353	846	1,196	
Loans & Advances	765	1,472	2,073	

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

Fig 58 Co-operative Banks – Rural cooperative banks have high NPA levels

**Almost 60% of Urban Cooperative Banks have deposits below Rs 1 billion**

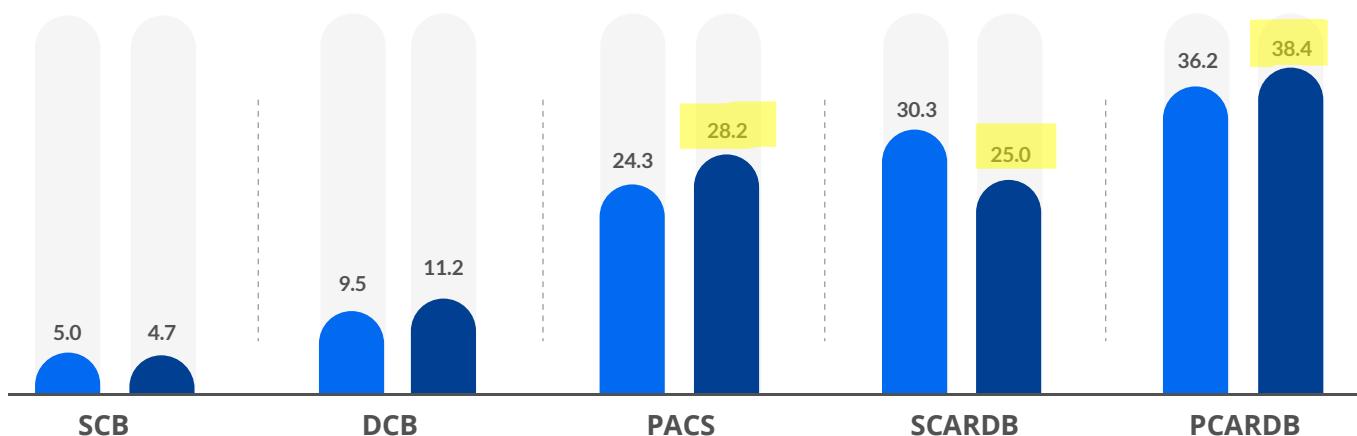
#### Distribution of Urban Cooperative Banks by Size of Deposits (March-2019)



**Rural Cooperatives have high level of NPAs**

#### Non-Performing Assets (% of Loans Outstanding)<sup>1</sup>

- March-2015
- March-2018



#### Notes:

1: SCB refers to State Cooperative Banks; DCB refers to District Cooperative Banks; PACS refers to Primary Agricultural Credit Societies; SCARDB refers to State Cooperative Agriculture & Rural Development Banks; PCARDB refers to Primary Cooperative Agriculture & Rural Development Banks  
Source: RBI, IndiaDataHub, Macquarie Research, August 2020

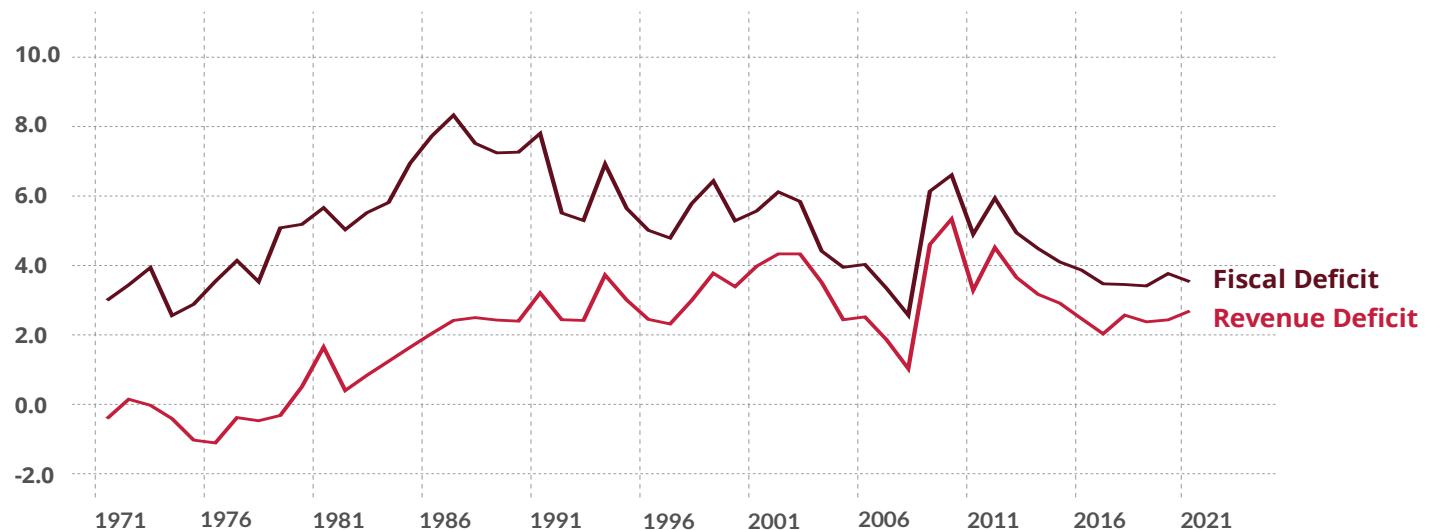
## Government Finances

- Central Government's revenue expenditure, relative to GDP, has seen a sharp compression in the last decade even as capex has remained stable.
- State Governments, in aggregate, tend to be less fiscally profligate with aggregate revenue deficit close to 0%, and states in aggregate, outspend the centre by a big margin.
- GST is now the biggest source of revenue to the Government accounting for a third of total tax revenues. India's gov't debt to GDP remains high versus EMs at around 70%.

Fig 59 Central Government Revenue, Expenditure, Deficits – still a high deficit and rising government debt

(Rs billion)	2010	2015	2019	2020e	2021e
<b>Total Receipts</b>	<b>6,060</b>	<b>11,529</b>	<b>16,657</b>	<b>19,317</b>	<b>22,459</b>
Revenue Receipts	5,728	11,015	15,529	18,501	20,209
Capital Receipts	332	514	1,128	816	2,250
<b>Total Expenditure</b> <sup>2</sup>	<b>10,245</b>	<b>16,637</b>	<b>23,151</b>	<b>26,986</b>	<b>30,422</b>
Revenue Expenditure	9,118	14,670	20,074	23,496	26,301
Capital Expenditure	1,127	1,967	3,077	3,489	4,121
- Capital Outlay	970	1,675	2,795	3,216	3,803
- Loans and Advances	156	292	282	273	318
Fiscal Deficit <sup>2</sup>	4,185	5,107	6,494	7,668	7,963
Revenue Deficit <sup>2</sup>	3,390	3,655	4,545	4,995	6,092
Primary Deficit <sup>2</sup>	2,054	1,083	668	1,417	881
Total Liabilities <sup>3</sup>	36,452	64,112	93,262	103,041	112,186

### Central Government Deficit (% of GDP) <sup>1</sup>



#### Notes:

1: Data for 2020 per revised estimates, 2021 per initial budget estimates. 2: Excludes off-Budget items, 3: Liabilities denominated in foreign currency are valued at period-end exchange rates.

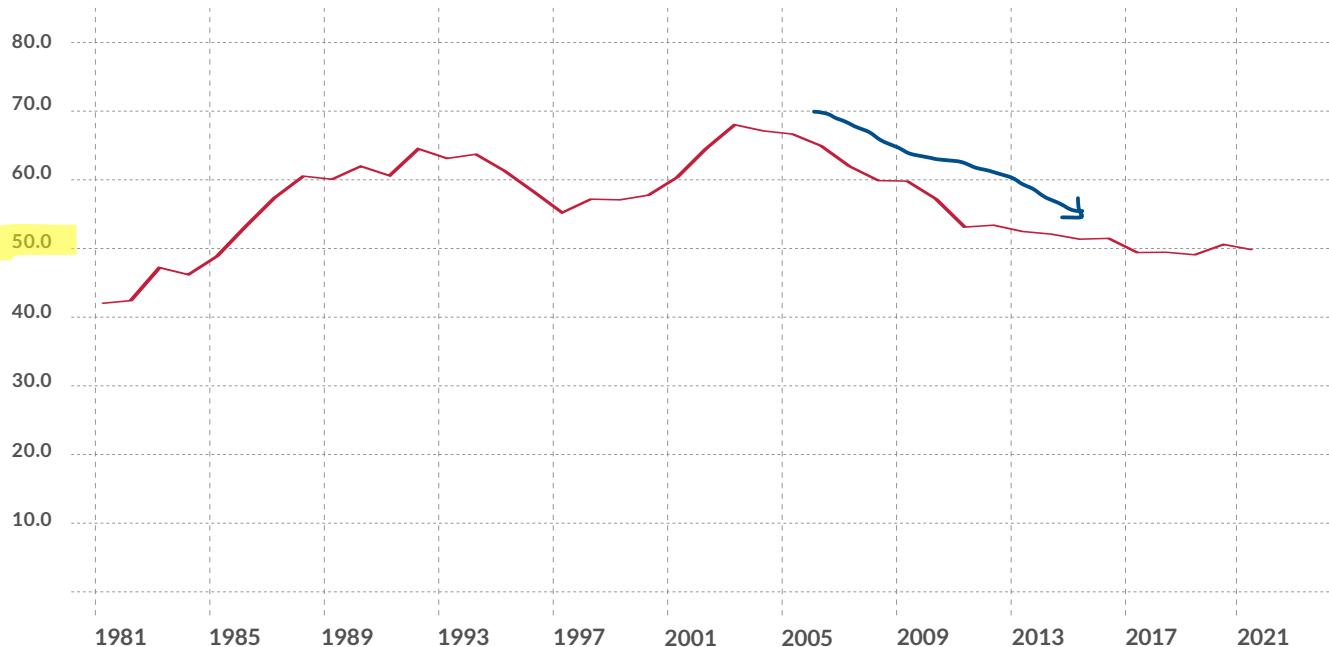
Source: Ministry of Finance, Controller General of Accounts, IndiaDataHub, Macquarie Research, August 2020.

**Fig 60 Central Government Fiscal Deficit and Debt to GDP – After several years of double digit nominal GDP growth, India's central government debt-to-GDP had fallen from ~70% in early-2000s to ~50% (pre-Covid)...**

(y/e March)

(as % of GDP)	2010	2015	2019	2020e	2021e
<b>Total Receipts</b>	<b>9.5</b>	<b>9.2</b>	<b>8.8</b>	<b>9.5</b>	<b>10.0</b>
Revenue Receipts	9.0	8.8	8.2	9.1	9.0
Capital Receipts	0.5	0.4	0.6	0.4	1.0
<b>Total Expenditure <sup>1</sup></b>	<b>16.1</b>	<b>13.3</b>	<b>12.2</b>	<b>13.3</b>	<b>13.5</b>
Revenue Expenditure	14.3	11.8	10.6	11.6	11.7
Capital Expenditure	1.8	1.6	1.6	1.7	1.8
- Capital Outlay	1.5	1.3	1.5	1.6	1.7
- Loans and Advances	0.2	0.2	0.1	0.1	0.1
Fiscal Deficit <sup>1</sup>	6.6	4.1	3.4	3.8	3.5
Revenue Deficit <sup>1</sup>	5.3	2.9	2.4	2.5	2.7
Primary Deficit <sup>1</sup>	3.2	0.9	0.4	0.7	0.4
Total Liabilities <sup>2</sup>	57.3	51.4	49.2	50.7	49.9

### Central Government Debt (% of GDP)<sup>2</sup>



#### Notes:

1: Excludes off-Budget items

2: Liabilities denominated in foreign currency are valued at period-end exchange rates

Source: Ministry of Finance, Controller General of Accounts, IndiaDataHub, Macquarie Research, August 2020

**Fig 61 Central Government Revenue – GST is now the biggest source of revenue to the Government accounting for over a third of total tax revenues; △ GST collections > corporate tax**

(Rs billion)	2010	2015	2019	2020e	2021e
<b>Total Revenues</b>	<b>5,728</b>	<b>11,015</b>	<b>15,529</b>	<b>18,501</b>	<b>20,209</b>
<b>Gross Tax Revenue</b>	<b>6,245</b>	<b>12,449</b>	<b>20,805</b>	<b>21,634</b>	<b>24,230</b>
Corporate Tax	2,447	4,289	6,636	6,105	6,810
Income Tax <sup>2</sup>	1,225	2,583	4,730	5,595	6,380
Customs Duty	833	1,880	1,178	1,250	1,380
Excise Duty	1,030	1,881	2,310	2,480	2,670
Service Tax	584	1,680	69	12	10
Goods & Services Tax <sup>3</sup>	na	na	5,816	6,123	6,905
Other Taxes <sup>4</sup>	126	135	66	69	75
Less: Devolution & Transfer to NCCD	1,680	3,413	7,633	6,588	7,871
<b>Net Tax Revenue</b>	<b>4,565</b>	<b>9,036</b>	<b>13,172</b>	<b>15,046</b>	<b>16,359</b>
Direct Taxes (Gross) <sup>5</sup>	3,782	6,976	11,376	11,700	13,190
Indirect Taxes (Gross) <sup>6</sup>	2,464	5,473	9,429	9,934	11,040
<b>Non-Tax Revenue</b>	<b>1,163</b>	<b>1,979</b>	<b>2,357</b>	<b>3,455</b>	<b>3,850</b>
Interest Receipts	217	238	121	110	110
Dividends & Profits	503	898	1,134	1,999	1,554
Petroleum	103	145	142	121	141
Roads & Bridges	1.3	61	199	216	252
Communication <sup>7</sup>	159	306	408	590	1,330
Others	179	330	353	420	463
<b>Total Capital Receipts</b>	<b>332</b>	<b>514</b>	<b>1,128</b>	<b>816</b>	<b>2,250</b>
Recovery of Loans	86	137	181	166	150
Disinvestment	246	377	947	650	2,100

**Notes:**

1: Includes Securities Transaction Tax

2: Includes Central Goods and Services Tax, Interstate Goods and Services Tax and GST Compensation Cess

3: Includes Interest Tax, Wealth Tax, Gift Tax, Taxes collected under Income Declaration Schemes, Taxes levied in Union Territories

4: Includes Income Tax, Corporate Tax, Interest Tax, Wealth Tax, Gift Tax, Taxes collected from Income Declaration Scheme

5: Includes Customs Duties, Excise Duties, Service Tax, GST and Union Territory Taxes

6: Includes only Other Communication Receipts such as Spectrum and License Fees. Excludes revenues of Department of Telecom and Postal Receipts

Source: Ministry of Finance, Controller General of Accounts, IndiaDataHub, Macquarie Research, August 2020

**Fig 62 Central Government Revenue as % of GDP – Government revenues have generally ranged between 8%-9%**

(y/e March)

(as % of GDP)	2010	2015	2019	2020e	2021e
<b>Total Revenues</b>	<b>9.0</b>	<b>8.8</b>	<b>8.2</b>	<b>9.1</b>	<b>9.0</b>
<b>Gross Tax Revenue</b>	<b>9.8</b>	<b>10.0</b>	<b>11.0</b>	<b>10.6</b>	<b>10.8</b>
Corporate Tax	3.8	3.4	3.5	3.0	3.0
Income Tax <sup>1</sup>	1.9	2.1	2.5	2.8	2.8
Customs Duty	1.3	1.5	0.6	0.6	0.6
Excise Duty	1.6	1.5	1.2	1.2	1.2
Service Tax	0.9	1.3	0.0	0.0	0.0
Goods & Services Tax <sup>2</sup>	na	na	3.1	3.0	3.1
Other Taxes <sup>3</sup>	0.2	0.1	0.0	0.0	0.0
Less: Devolution & Transfer to NCCD	2.6	2.7	4.0	3.2	3.5
<b>Net Tax Revenue</b>	<b>7.2</b>	<b>7.2</b>	<b>6.9</b>	<b>7.4</b>	<b>7.3</b>
Direct Taxes (Gross) <sup>4</sup>	5.9	5.6	6.0	5.8	5.9
Indirect Taxes (Gross) <sup>5</sup>	3.9	4.4	5.0	4.9	4.9
<b>Non-Tax Revenue</b>	<b>1.8</b>	<b>1.6</b>	<b>1.2</b>	<b>1.7</b>	<b>1.7</b>
Interest Receipts	0.3	0.2	0.1	0.1	0.0
Dividends & Profits	0.8	0.7	0.6	1.0	0.7
Petroleum	0.2	0.1	0.1	0.1	0.1
Roads & Bridges	0.0	0.0	0.1	0.1	0.1
Communication <sup>6</sup>	0.2	0.2	0.2	0.3	0.6
Others	0.3	0.3	0.2	0.2	0.2
<b>Total Capital Receipts</b>	<b>0.5</b>	<b>0.4</b>	<b>0.6</b>	<b>0.4</b>	<b>1.0</b>
Recovery of Loans	0.1	0.1	0.1	0.1	0.1
Disinvestment	0.4	0.3	0.5	0.3	0.9

**Notes:**

1: Includes Securities Transaction Tax

2: Includes Central Goods and Services Tax, Interstate Goods and Services Tax and GST Compensation Cess

3: Includes Interest Tax, Wealth Tax, Gift Tax, Taxes collected under Income Declaration Schemes, Taxes levied in Union Territories

4: Includes Income Tax, Corporate Tax, Interest Tax, Wealth Tax, Gift Tax, Taxes collected from Income Declaration Scheme

5: Includes Customs Duties, Excise Duties, Service Tax, GST and Union Territory Taxes

6: Includes only Other Communication Receipts such as Spectrum and License Fees. Excludes revenues of Department of Telecom and Postal Receipts

Source: Ministry of Finance, Controller General of Accounts, IndiaDataHub, Macquarie Research, August 2020

**Fig 63 Central Government Expenses – Capex <15% of central gov't spend and ~1.5% of GDP, while debt service = ~30% of annual central gov't spend**

(y/e March)

(Rs billion)	2010	2015	2019	2020e	2021e
<b>Revenue Expenditure<sup>2</sup></b>	9,118	14,670	20,074	23,496	26,301
<b>General Services<sup>2</sup></b>	4,026	7,072	10,596	11,533	12,706
Debt Servicing	2,131	4,024	5,826	6,251	7,082
Pensions	561	936	1,602	1,841	2,107
Police	261	479	804	906	936
Defence	907	1,368	1,956	2,059	2,093
<b>Social Services<sup>2</sup></b>	955	533	1,018	1,340	1,519
Education, Sports, Arts	400	294	415	511	532
Medical, Public Health	77	97	208	256	298
<b>Economic Services<sup>2</sup></b>	2,663	3,624	4,532	5,684	6,243
Agriculture	1,166	1,693	1,758	2,346	2,650
Rural Development	382	12	639	741	642
Energy	215	702	442	570	607
Industry & Minerals	283	504	749	760	697
Transport	275	280	237	111	113
Science & Technology	128	166	269	281	305
<b>Grants to States</b>	1,369	3,283	3,682	4,470	5,148
<b>Capital Outlay</b>	970	1,675	2,795	3,216	3,803
<b>General Services<sup>2</sup></b>	582	900	1,129	1,238	1,279
Police	53	60	96	91	93
Defence	511	819	952	1,104	1,137
<b>Social Services</b>	28	43	91	96	88
<b>Economic Services<sup>2</sup></b>	345	717	1,558	1,868	2,381
Railway lines	169	301	528	678	700
Roads & Bridges	65	166	698	682	773
<b>Memo Items</b>					
<b>Subsidies<sup>2,3</sup></b>	1,414	2,583	2,230	2,636	2,621
Food Subsidy	584	1,177	1,013	1,087	1,156
Fertiliser	613	711	706	800	713
Petroleum	150	603	248	386	409

**Notes:**

1: Only Key components shown

2: Excludes Off-Budget items

3: Petroleum subsidy was administered via Oil Pool Account under the Administered Pricing Mechanism till it was dismantled in 2002.

Source: Ministry of Finance, Controller General of Accounts, IndiaDataHub, Macquarie Research, August 2020

**Fig 64 Central Government Expenditure – Debt repayments the biggest component and nearly 2x capex; encouragingly, subsidy share of govt. expenditure has dipped from 2.1% to 1.2% over the past five years**

(as % of GDP)	2010	2015	2019	2020e	2021e
<b>Revenue Expenditure</b> <sup>2</sup>	14.3	11.8	10.6	11.6	11.7
<b>General Services</b> <sup>2</sup>	6.3	5.7	5.6	5.7	5.6
Debt Servicing	3.3	3.2	3.1	3.1	3.1
Pensions	0.9	0.8	0.8	0.9	0.9
Police	0.4	0.4	0.4	0.4	0.4
Defence	1.4	1.1	1.0	1.0	0.9
<b>Social Services</b> <sup>2</sup>	1.5	0.4	0.5	0.7	0.7
Education, Sports, Arts	0.6	0.2	0.2	0.3	0.2
Medical, Public Health	0.1	0.1	0.1	0.1	0.1
<b>Economic Services</b> <sup>2</sup>	4.2	2.9	2.4	2.8	2.8
Agriculture	1.8	1.4	0.9	1.2	1.2
Rural Development	0.6	0.0	0.3	0.4	0.3
Energy	0.3	0.6	0.2	0.3	0.3
Industry & Minerals	0.4	0.4	0.4	0.4	0.3
Transport	0.4	0.2	0.1	0.1	0.1
Science & Technology	0.2	0.1	0.1	0.1	0.1
<b>Grants to States</b>	2.2	2.6	1.9	2.2	2.3
<b>Capital Outlay</b>	1.5	1.3	1.5	1.6	1.7
<b>General Services</b> <sup>2</sup>	0.9	0.7	0.6	0.6	0.6
Police	0.1	0.0	0.1	0.0	0.0
Defence	0.8	0.7	0.5	0.5	0.5
<b>Social Services</b>	0.0	0.0	0.0	0.0	0.0
<b>Economic Services</b> <sup>2</sup>	0.5	0.6	0.8	0.9	1.1
Railway lines	0.3	0.2	0.3	0.3	0.3
Roads & Bridges	0.1	0.1	0.4	0.3	0.3
<b>Memo Items</b>					
<b>Subsidies</b> <sup>2,3</sup>	2.2	2.1	1.2	1.3	1.2
Food Subsidy	0.9	0.9	0.5	0.5	0.5
Fertiliser	1.0	0.6	0.4	0.4	0.3
Petroleum	0.2	0.5	0.1	0.2	0.2

**Notes:**

1: Only Key components shown

2: Excludes Off-Budget items

3: Petroleum subsidy was administered via Oil Pool Account under the Administered Pricing Mechanism till it was dismantled in 2002.

Source: Ministry of Finance, Controller General of Accounts, IndiaDataHub, Macquarie Research, August 2020

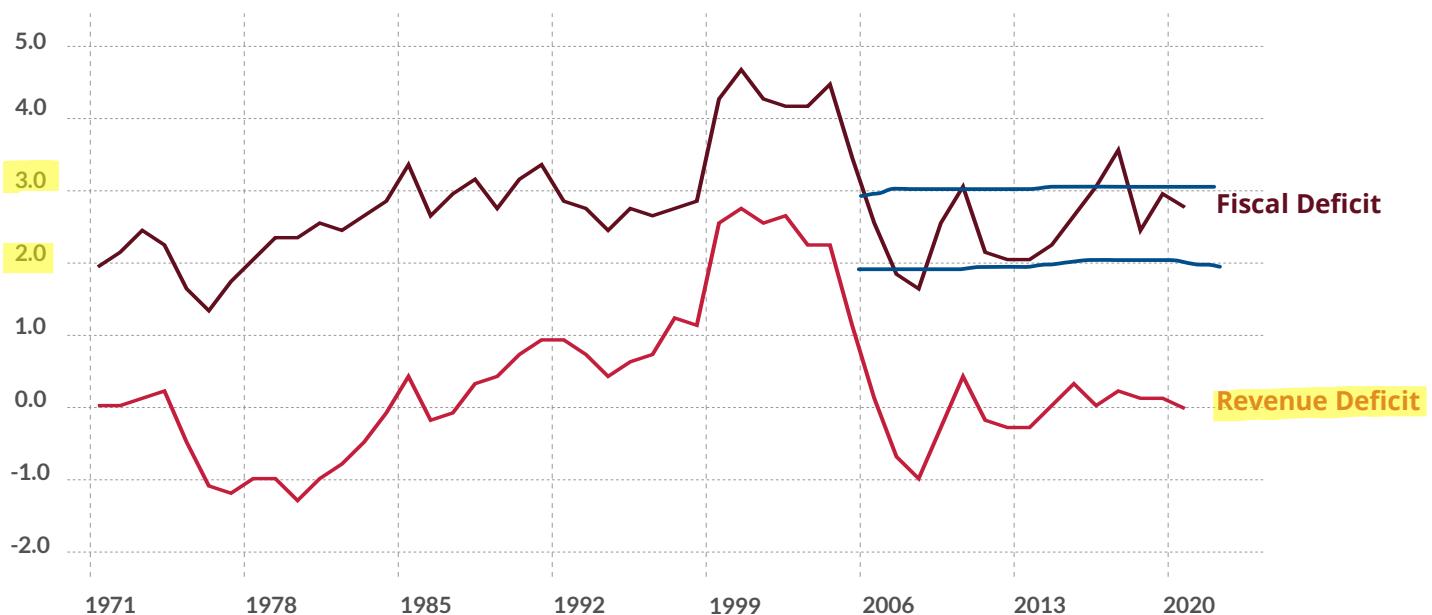
## State Government

**Fig 65 State Governments – Fiscal deficit of 2%-3% over the last decade; state governments tend to operate with a balanced revenue deficit position**

(y/e March)

(Rs billion)	2010	2015	2018	2019e <sup>2</sup>	2020e <sup>2</sup>
<b>Total Receipts</b>	<b>8,007</b>	<b>16,462</b>	<b>23,611</b>	<b>29,144</b>	<b>32,158</b>
Revenue Receipts	7,914	16,259	23,212	28,621	31,541
Capital Receipts	93	203	398	523	617
<b>Total Expenditure</b>	<b>9,936</b>	<b>19,738</b>	<b>27,715</b>	<b>34,699</b>	<b>37,683</b>
Revenue Expenditure	8,161	16,656	23,401	28,749	31,460
<b>Capital Expenditure</b>	<b>1,775</b>	<b>3,082</b>	<b>4,315</b>	<b>5,950</b>	<b>6,223</b>
- Capital Outlay	1,543	2,769	3,936	5,436	5,813
- Loans and Advances	232	313	378	513	409
Fiscal Deficit	1,929	3,276	4,105	5,555	5,524
<b>Revenue Deficit</b>	<b>247</b>	<b>397</b>	<b>188</b>	<b>128</b>	<b>-81</b>
Primary Deficit	774	1,339	1,174	2,360	1,976
Total Liabilities	16,791	27,433	42,925	47,150	52,585

### State Government Deficit (% of GDP)<sup>2</sup>



**Notes:**

1: Covers all State Governments and the Union Territories of Delhi and Puducherry

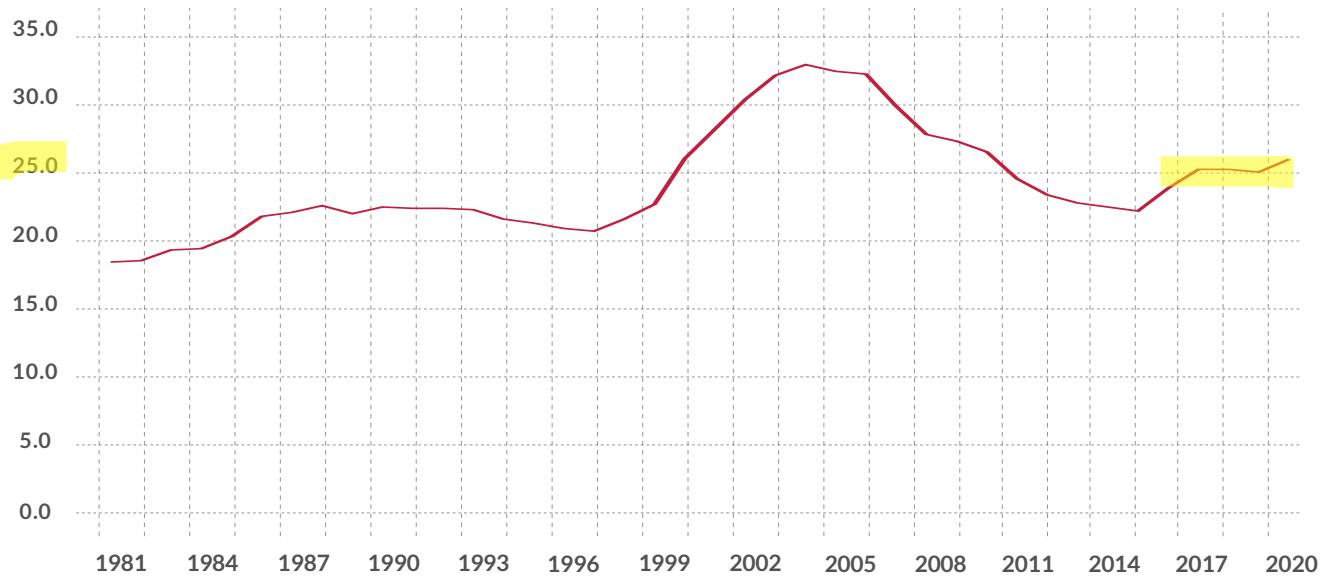
2: Data for 2019 is as per Revised Estimates.

Source: RBI, CSO, IndiaDataHub, Macquarie Research, August 2020

**Fig 66 State Government Debt – Modest increase to ~25%, albeit below peak ~35% levels in early-2000s**

(y/e March)

(as % of GDP)	2010	2015	2018	2019e <sup>2</sup>	2020e <sup>2</sup>
<b>Total Receipts</b>	<b>12.6</b>	<b>13.2</b>	<b>13.8</b>	<b>15.4</b>	<b>15.8</b>
Revenue Receipts	12.4	13.0	13.6	15.1	15.5
Capital Receipts	0.1	0.2	0.2	0.3	0.3
<b>Total Expenditure</b>	<b>15.6</b>	<b>15.8</b>	<b>16.2</b>	<b>18.3</b>	<b>18.5</b>
Revenue Expenditure	12.8	13.4	13.7	15.2	15.5
Capital Expenditure	2.8	2.5	2.5	3.1	3.1
- Capital Outlay	2.4	2.2	2.3	2.9	2.9
- Loans and Advances	0.4	0.3	0.2	0.3	0.2
Fiscal Deficit	3.0	2.6	2.4	2.9	2.7
Revenue Deficit	0.4	0.3	0.1	0.1	0.0
Primary Deficit	1.2	1.1	0.7	1.2	1.0
Total Liabilities	26.4	22.0	25.1	24.9	25.9

**State Government Debt (% of GDP)<sup>2</sup>****Notes:**

1: Covers all State Governments and the Union Territories of Delhi and Puducherry

2: Data for 2019 is as per Revised Estimates.

Source: RBI, CSO, IndiaDataHub, Macquarie Research, August 2020

**Fig 67 State Government Revenue – Grants from the centre and GST account for ~40% of state revenues**

(y/e March)

(Rs billion)	2010	2015	2018	2019e <sup>2</sup>	2020e <sup>2</sup>
<b>Total Revenues</b>	<b>7,914</b>	<b>16,259</b>	<b>23,212</b>	<b>28,621</b>	<b>31,541</b>
<b>Tax Revenues</b>	<b>5,424</b>	<b>11,457</b>	<b>17,356</b>	<b>20,280</b>	<b>22,608</b>
Own Tax Revenues <sup>3</sup>	3,774	8,079	11,305	12,687	14,093
- <i>Taxes on Property</i> <sup>4</sup>	461	975	1,238	1,445	1,595
- <i>Sales Tax</i> <sup>5</sup>	2,312	5,139	4,016	2,967	3,263
- <i>State Excise</i>	503	944	1,267	1,507	1,755
- <i>Taxes on Vehicles</i>	196	430	649	721	782
- <i>Electricity Duty</i>	122	257	348	402	436
- <i>State GST</i>	na	na	3,538	5,520	6,128
Central Tax Devolution	1,650	3,378	6,052	7,593	8,515
<b>Non-Tax Revenue</b>	<b>2,490</b>	<b>4,802</b>	<b>5,856</b>	<b>8,341</b>	<b>8,933</b>
Own Non-Tax Revenue <sup>3</sup>	932	1,456	1,796	2,231	2,452
- <i>Interest Receipts</i>	186	246	280	300	254
- <i>General Services</i>	242	250	328	507	645
- <i>Social Services</i>	92	260	204	260	278
- <i>Economic Services</i>	404	678	960	1,141	1,248
<b>Grants from Centre</b>	<b>1,558</b>	<b>3,346</b>	<b>4,060</b>	<b>6,109</b>	<b>6,481</b>
<b>Memo Items</b>					
States' Own Revenues	4,706	9,535	13,101	14,919	16,545
Revenues Received From Centre	3,209	6,725	10,111	13,703	14,996

**Notes:**

1: Covers all State Governments and the Union Territories of Delhi and Puducherry

2: Data for 2019 is as per Revised Estimates

3: Only Key Components shown

4: Includes Land Revenue, Stamps and Registration charges, and Urban Immovable Property Tax

5: Includes State Sales Tax and Central Sales Tax, Surcharge on Sales Tax and Turnover Tax

Source: RBI, CSO, IndiaDataHub, Macquarie Research, August 2020

Fig 68 State Governments' Revenue as % of GDP

(y/e March)

(as % of GDP)	2010	2015	2018	2019e <sup>2</sup>	2020e <sup>2</sup>
<b>Total Revenues</b>	<b>12.4</b>	<b>13.0</b>	<b>13.6</b>	<b>15.1</b>	<b>15.5</b>
<b>Tax Revenues</b>	<b>8.5</b>	<b>9.2</b>	<b>10.2</b>	<b>10.7</b>	<b>11.1</b>
Own Tax Revenues <sup>3</sup>	5.9	6.5	6.6	6.7	6.9
- <i>Taxes on Property</i> <sup>4</sup>	0.7	0.8	0.7	0.8	0.8
- <i>Sales Tax</i> <sup>5</sup>	3.6	4.1	2.3	1.6	1.6
- <i>State Excise</i>	0.8	0.8	0.7	0.8	0.9
- <i>Taxes on Vehicles</i>	0.3	0.3	0.4	0.4	0.4
- <i>Electricity Duty</i>	0.2	0.2	0.2	0.2	0.2
- <i>State GST</i>	na	na	2.1	2.9	3.0
<b>Central Tax Devolution</b>	<b>2.6</b>	<b>2.7</b>	<b>3.5</b>	<b>4.0</b>	<b>4.2</b>
<b>Non-Tax Revenue</b>	<b>3.9</b>	<b>3.9</b>	<b>3.4</b>	<b>4.4</b>	<b>4.4</b>
Own Non-Tax Revenue <sup>3</sup>	1.5	1.2	1.1	1.2	1.2
- <i>Interest Receipts</i>	0.3	0.2	0.2	0.2	0.1
- <i>General Services</i>	0.4	0.2	0.2	0.3	0.3
- <i>Social Services</i>	0.1	0.2	0.1	0.1	0.1
- <i>Economic Services</i>	0.6	0.5	0.6	0.6	0.6
<b>Grants from Centre</b>	<b>2.4</b>	<b>2.7</b>	<b>2.4</b>	<b>3.2</b>	<b>3.2</b>
<b>Memo Items</b>					
States' Own Revenues	7.4	7.6	7.7	7.9	8.1
Revenues Received From Centre	5.0	5.4	5.9	7.2	7.4

**Notes:**

1: Covers all State Governments and the Union Territories of Delhi and Puducherry

2: Data for 2019 is as per Revised Estimates

3: Only Key Components shown

4: Includes Land Revenue, Stamps and Registration charges, and Urban Immovable Property Tax

5: Includes State Sales Tax and Central Sales Tax, Surcharge on Sales Tax and Turnover Tax

Source: RBI, CSO, IndiaDataHub, Macquarie Research, August 2020

Fig 69 State Government Expenditure – Capex spend by state governments 2x that of centre

(y/e March)

(Rs billion)	2010	2015	2018	2019e <sup>2</sup>	2020e <sup>2</sup>
<b>Revenue Expenditure</b>	<b>8,161</b>	<b>16,656</b>	<b>23,401</b>	<b>28,749</b>	<b>31,460</b>
<b>General Services<sup>3</sup></b>	<b>3,059</b>	<b>5,579</b>	<b>8,057</b>	<b>9,503</b>	<b>10,549</b>
Debt Servicing	1,246	2,029	3,115	3,552	3,867
Pensions	834	1,835	2,754	3,162	3,469
Police	412	815	1,101	1,313	1,456
<b>Social Services<sup>3</sup></b>	<b>3,179</b>	<b>6,483</b>	<b>9,133</b>	<b>11,629</b>	<b>12,607</b>
Education, Sports, Arts	1,558	3,221	4,248	5,122	5,682
Medical, Public Health	347	741	1,122	1,367	1,462
Water Supply & Sanitation	108	213	392	458	461
Housing, Urban Development	301	486	903	1,290	1,386
<b>Economic Services<sup>3</sup></b>	<b>1,712</b>	<b>4,121</b>	<b>5,526</b>	<b>6,792</b>	<b>7,352</b>
Agriculture	447	1,055	1,714	2,232	2,429
Rural Development	289	953	1,322	1,680	1,827
Irrigation, Flood Control	208	310	290	360	360
Energy	325	945	1,177	1,340	1,505
Transport & Communication	224	451	508	520	551
<b>Grants</b>	<b>211</b>	<b>473</b>	<b>684</b>	<b>825</b>	<b>953</b>
<b>Capital Outlay</b>	<b>1,543</b>	<b>2,769</b>	<b>3,936</b>	<b>5,436</b>	<b>5,813</b>
<b>General Services</b>	<b>61</b>	<b>158</b>	<b>191</b>	<b>324</b>	<b>418</b>
<b>Social Services<sup>3</sup></b>	<b>301</b>	<b>647</b>	<b>928</b>	<b>1,342</b>	<b>1,469</b>
Education, Sports, Arts	46	93	131	196	222
Medical and Public Health	41	110	133	192	219
Water Supply & Sanitation	102	188	287	339	428
Housing, Urban Development	73	149	244	419	405
<b>Economic Services<sup>3</sup></b>	<b>1,181</b>	<b>1,964</b>	<b>2,817</b>	<b>3,770</b>	<b>3,926</b>
Agriculture	100	94	167	198	201
Rural Development	72	185	262	405	488
Major/Medium Irrigation Projects	415	557	826	1,100	1,015
Energy	172	340	465	536	552
Transport	349	688	934	1,234	1,220

**Notes:**

1: Covers all State Governments and the Union Territories of Delhi and Puducherry

2: Data for 2019 is as per Revised Estimates

3: Only Key Components shown

Source: RBI, CSO, IndiaDataHub, Macquarie Research, August 2020

Fig 70 State Government Expenditure – Revenue neutral

(y/e March)

(as % of GDP)	2010	2015	2018	2019e <sup>2</sup>	2020e <sup>2</sup>
<b>Revenue Expenditure</b>	12.8	13.4	13.7	15.2	15.5
<b>General Services</b> <sup>3</sup>	4.8	4.5	4.7	5.0	5.2
Debt Servicing	2.0	1.6	1.8	1.9	1.9
Pensions	1.3	1.5	1.6	1.7	1.7
Police	0.6	0.7	0.6	0.7	0.7
<b>Social Services</b> <sup>3</sup>	5.0	5.2	5.3	6.1	6.2
Education, Sports, Arts	2.4	2.6	2.5	2.7	2.8
Medical, Public Health	0.5	0.6	0.7	0.7	0.7
Water Supply & Sanitation	0.2	0.2	0.2	0.2	0.2
Housing, Urban Development	0.5	0.4	0.5	0.7	0.7
<b>Economic Services</b>	2.7	3.3	3.2	3.6	3.6
Agriculture	0.7	0.8	1.0	1.2	1.2
Rural Development	0.5	0.8	0.8	0.9	0.9
Irrigation, Flood Control	0.3	0.2	0.2	0.2	0.2
Energy	0.5	0.8	0.7	0.7	0.7
Transport & Communication	0.4	0.4	0.3	0.3	0.3
<b>Grants</b>	0.3	0.4	0.4	0.4	0.5
<b>Capital Outlay</b>	2.4	2.2	2.3	2.9	2.9
<b>General Services</b>	0.1	0.1	0.1	0.2	0.2
<b>Social Services</b> <sup>3</sup>	0.5	0.5	0.5	0.7	0.7
Education, Sports, Arts	0.1	0.1	0.1	0.1	0.1
Medical and Public Health	0.1	0.1	0.1	0.1	0.1
Water Supply & Sanitation	0.2	0.2	0.2	0.2	0.2
Housing, Urban Development	0.1	0.1	0.1	0.2	0.2
<b>Economic Services</b> <sup>3</sup>	1.9	1.6	1.6	2.0	1.9
Agriculture	0.2	0.1	0.1	0.1	0.1
Rural Development	0.1	0.1	0.2	0.2	0.2
Major/Medium Irrigation Projects	0.7	0.4	0.5	0.6	0.5
Energy	0.3	0.3	0.3	0.3	0.3
Transport	0.5	0.6	0.5	0.7	0.6

**Notes:**

1: Covers all State Governments and the Union Territories of Delhi and Puducherry

2: Data for 2019 is as per Revised Estimates

3: Only Key Components shown

Source: RBI, CSO, IndiaDataHub, Macquarie Research, August 2020

## Combined: Central + State Governments

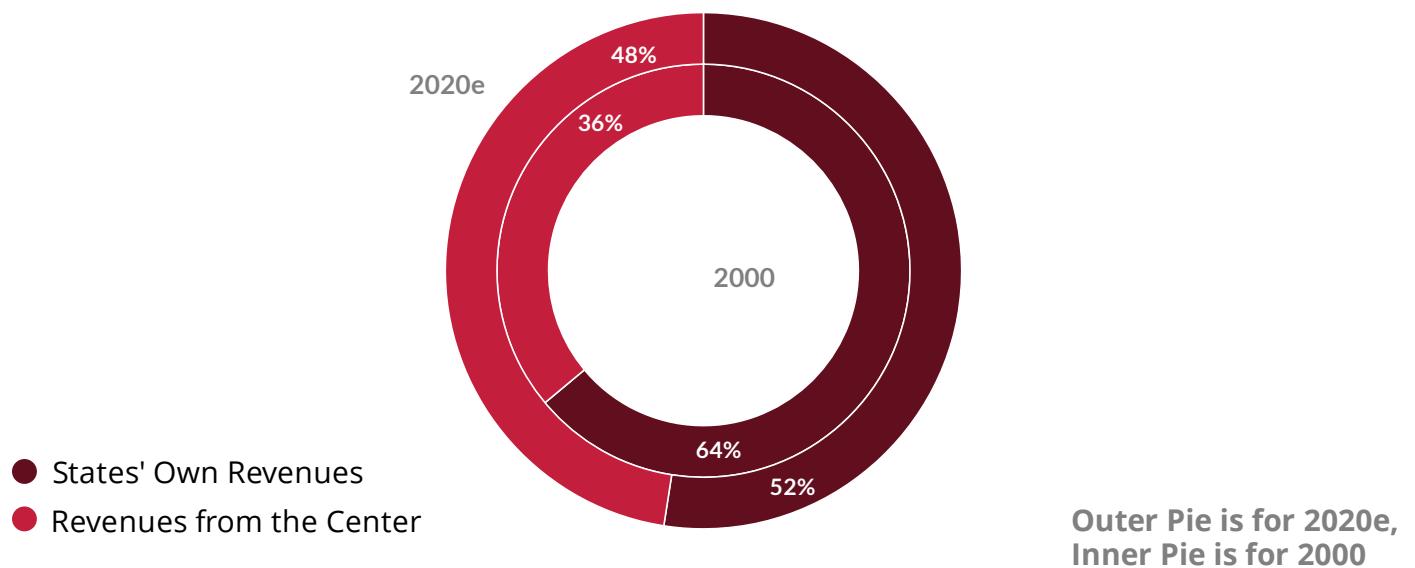
**Fig 71 Combined Finances: GST the biggest component of aggregate government tax revenues at ~35%; State government reliance on funding from centre has increased over the past 20 years**

### Composition of Aggregate Government Tax Revenues (2020e) <sup>1</sup>



**State Government's reliance on Central Government for Revenues has increased sharply**

### Changing Composition of State Government Revenues - 2000 vs 2020e <sup>2</sup>



**Notes:**

1: Data is aggregate of Gross Tax Revenue for the Central Government and Own Tax Revenues of all State Governments. Data for 2019 for State Governments is as per Revised Estimates. Numbers inside the tree map are the shares of the respective tax source to the combined tax revenues of Central Government and all State Governments.

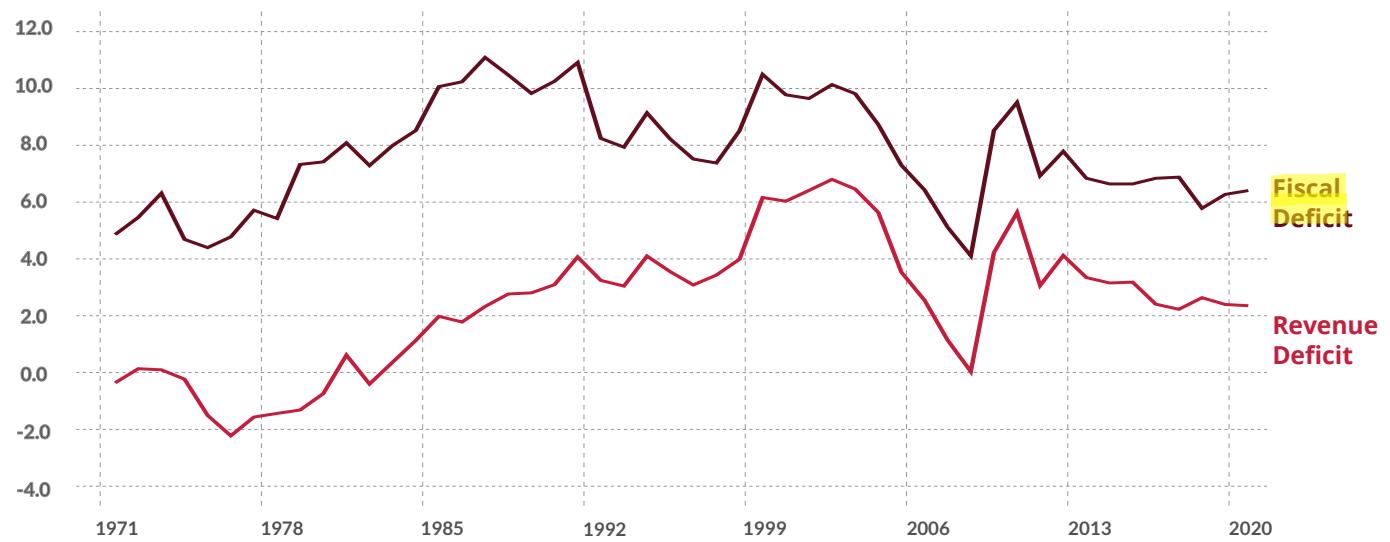
2: Data is for the 12 months ending March of respective years

Source: RBI, Ministry of Finance, IndiaDataHub, Macquarie Research, August 2020

Fig 72 Combined Finances

(y/e March)

(Rs billion)	2010	2015	2018	2019e <sup>1</sup>	2020e <sup>1</sup>
<b>Total Receipts</b>	<b>14,067</b>	<b>27,991</b>	<b>39,120</b>	<b>45,801</b>	<b>51,476</b>
Revenue Receipts	13,642	27,274	37,565	44,150	50,042
Capital Receipts	424	717	1,555	1,651	1,433
<b>Total Expenditure</b>	<b>20,181</b>	<b>36,375</b>	<b>49,135</b>	<b>57,850</b>	<b>64,668</b>
Revenue Expenditure	17,279	31,326	42,189	48,823	54,956
Capital Expenditure	2,902	5,049	6,946	9,027	9,712
- Capital Outlay	2,513	4,444	6,387	8,231	9,029
- Loans and Advances	388	605	559	796	683
Fiscal Deficit	6,114	8,384	10,016	12,049	13,193
Revenue Deficit	3,637	4,052	4,624	4,673	4,914
Primary Deficit	2,828	2,422	1,795	3,027	3,394
Total Liabilities <sup>2</sup>	45,736	83,006	119,281	132,685	146,906

**Combined Government Deficit (% of GDP)<sup>1</sup>****Notes:**

1: Data for 2019 is a combination of Actual Data and Revised Estimates. Data for the Central Government is actual, while that for State Governments is their revised estimates.

2: Central Government Liabilities denominated in foreign currencies are stated at respective period-end exchange rates.

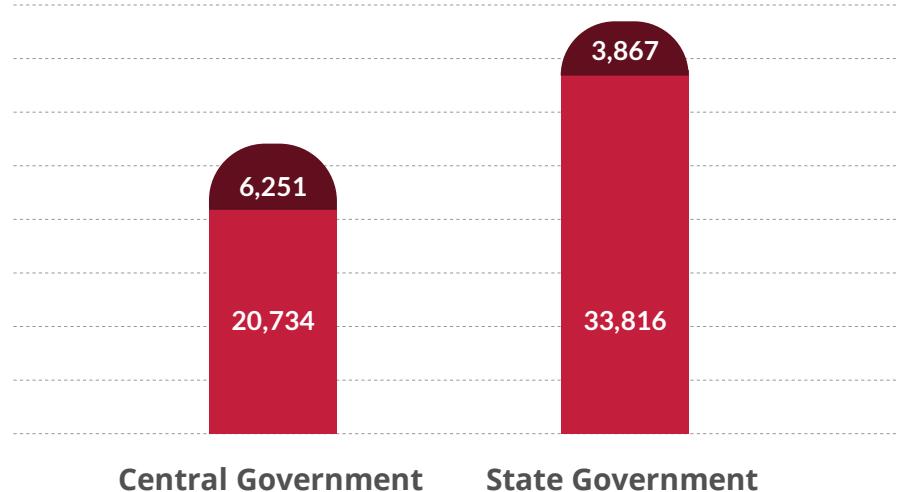
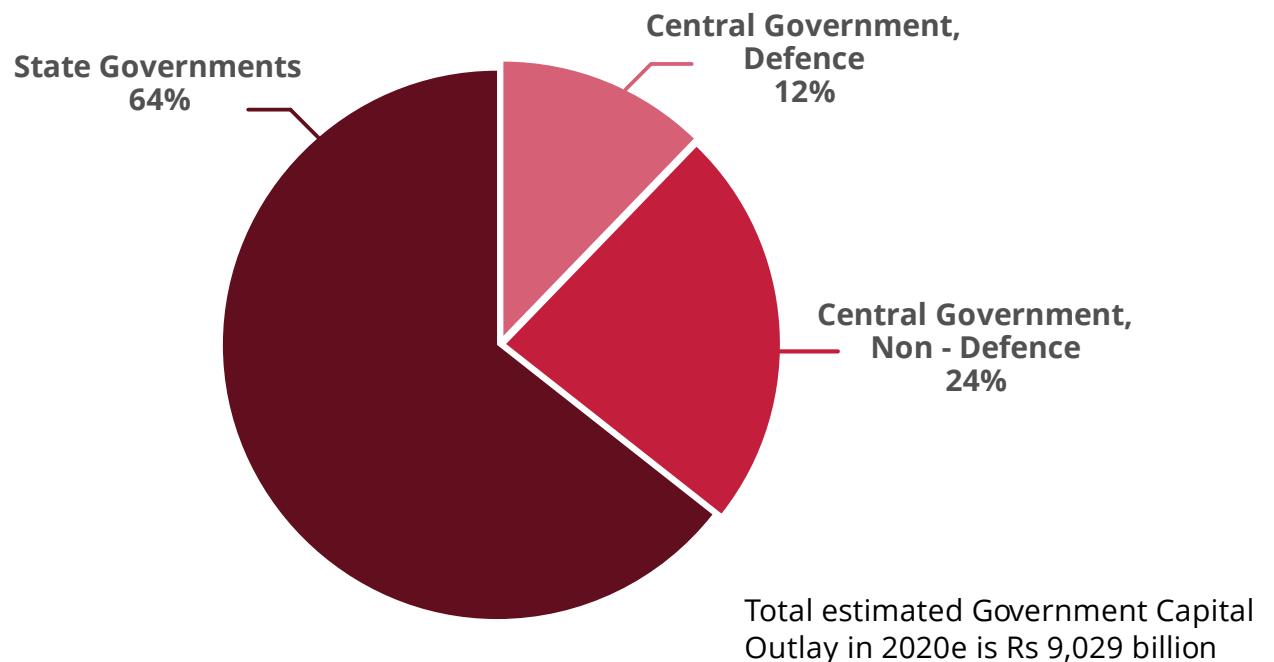
Combined Finances data is a simple aggregation of data for the Central Government and State Governments including the Union Territories of Delhi and Puducherry. Inter-Government transactions are not eliminated. (except in the case of Total Liabilities, where Inter-government debt, due to the NSSF, is eliminated).

Source: RBI, Ministry of Finance, CSO, IndiaDataHub, Macquarie Research, August 2020

Fig 73 Combined Finances Expenditure Mix

**Broad Composition of Central and State Government Expenditure (Rs billion, 2020e)<sup>1</sup>**

- Debt Servicing
- Non - Debt Servicing

**Broad Composition of Total Government Capital Outlay (2020)<sup>1</sup>****Notes:**

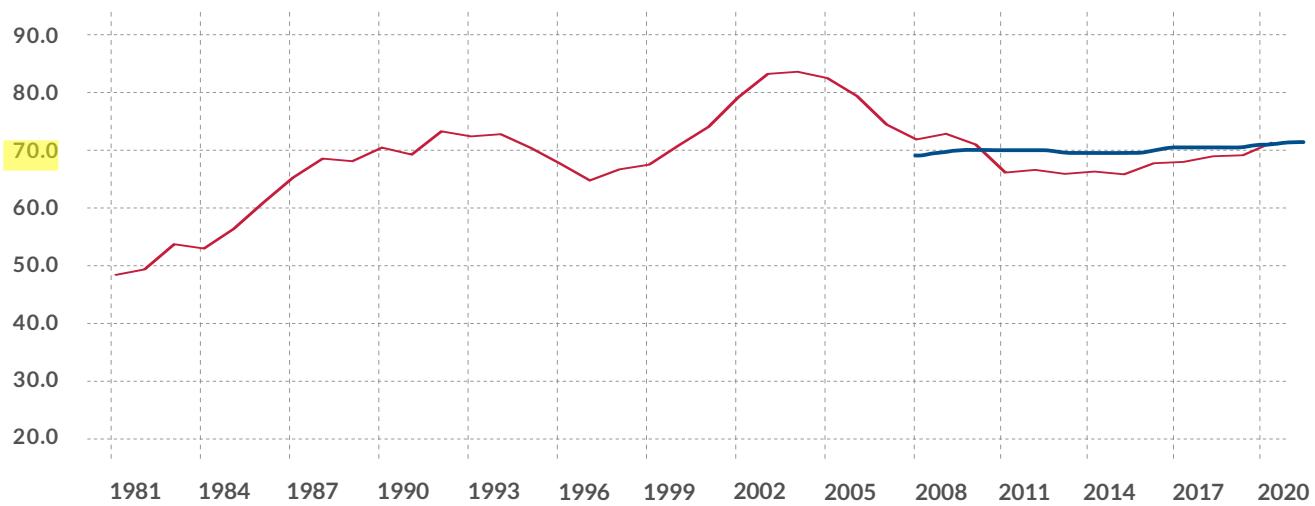
1: Data is for the 12-months ending March

Source: RBI, Ministry of Finance, IndiaDataHub, Macquarie Research, August 2020

Fig 74 Combined Gov't Finances – India's gov't debt to GDP around 70% over the past decade...

(y/e March)

(as % of GDP)	2010	2015	2018	2019e <sup>1</sup>	2020e <sup>1</sup>
<b>Total Receipts</b>	22.1	22.5	22.9	24.1	25.3
Revenue Receipts	21.4	21.9	22.0	23.3	24.6
Capital Receipts	0.7	0.6	0.9	0.9	0.7
<b>Total Expenditure</b>	31.7	29.2	28.7	30.5	31.8
Revenue Expenditure	27.1	25.1	24.7	25.7	27.0
Capital Expenditure	4.6	4.0	4.1	4.8	4.8
- Capital Outlay	3.9	3.6	3.7	4.3	4.4
- Loans and Advances	0.6	0.5	0.3	0.4	0.3
Fiscal Deficit	9.6	6.7	5.9	6.4	6.5
Revenue Deficit	5.7	3.2	2.7	2.5	2.4
Primary Deficit	4.4	1.9	1.0	1.6	1.7
Total Liabilities <sup>2</sup>	71.8	66.6	69.8	69.9	72.2

**Combined Government Debt (% of GDP)<sup>1</sup>****Notes:**

1: Data for 2019 is a combination of Actual Data and Revised Estimates. Data for the Central Government is actual, while that for State Governments is their revised estimates.

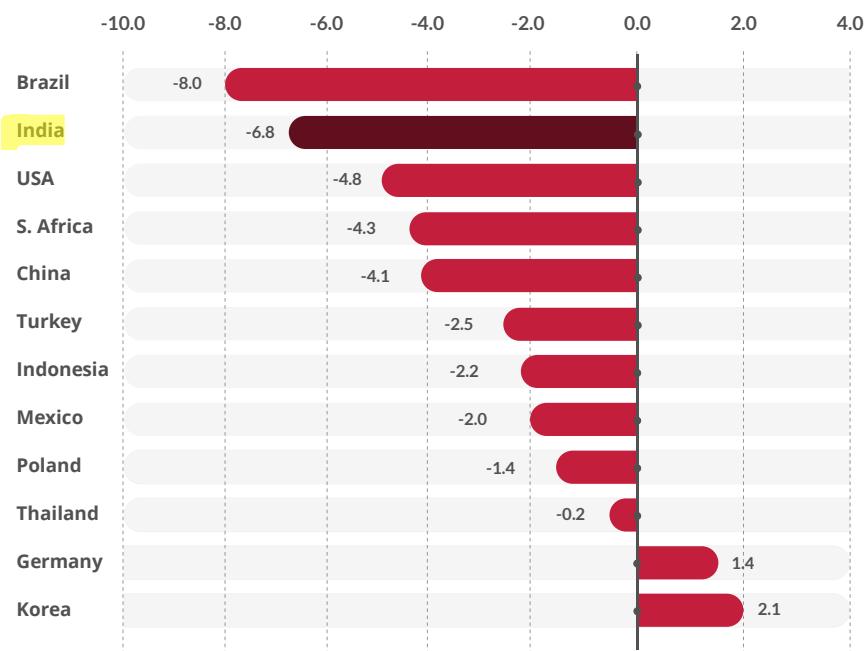
2: Central Government Liabilities denominated in foreign currencies are stated at respective period-end exchange rates. Combined Finances data is a simple aggregation of data for the Central Government and State Governments including the Union Territories of Delhi and Puducherry. Inter-Government transactions are not eliminated. (except in the case of Total Liabilities, where Inter-government debt, due to the NSSF, is eliminated).

Source: RBI, Ministry of Finance, CSO, IndiaDataHub, Macquarie Research, August 2020

**Fig 75 Government Debt to GDP – ... a level that is already high relative to EM peers and a key headwind to any wholesale stimulus package**

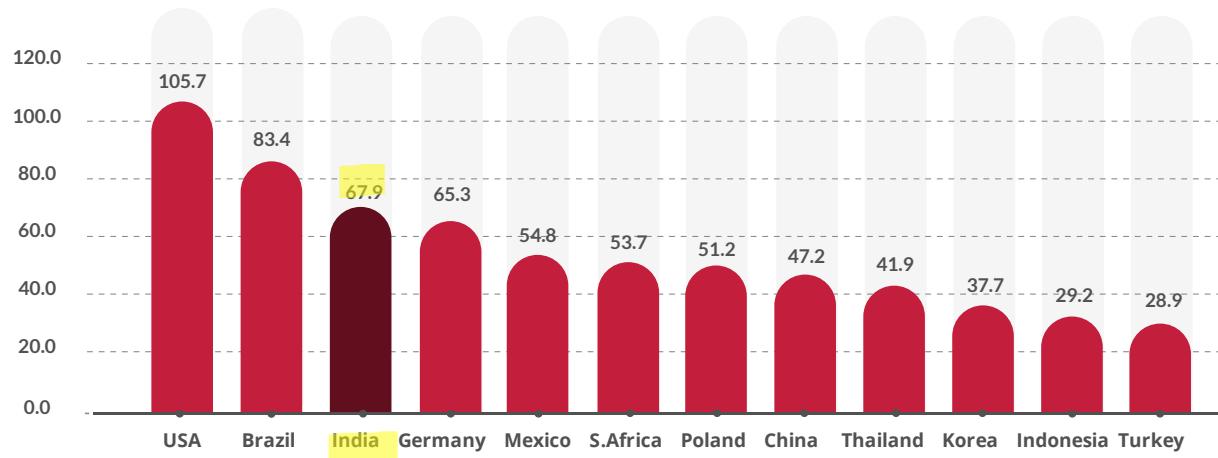
### India's Government Deficit is amongst the highest compared to other Emerging Markets

#### General Government Net Lending (as % of GDP, 2016-2018 average)<sup>1,2</sup>



### India's Government Debt is amongst the highest compared to other Emerging Markets

#### General Government Gross Debt (as % of GDP, 2016-2018 average)<sup>1</sup>

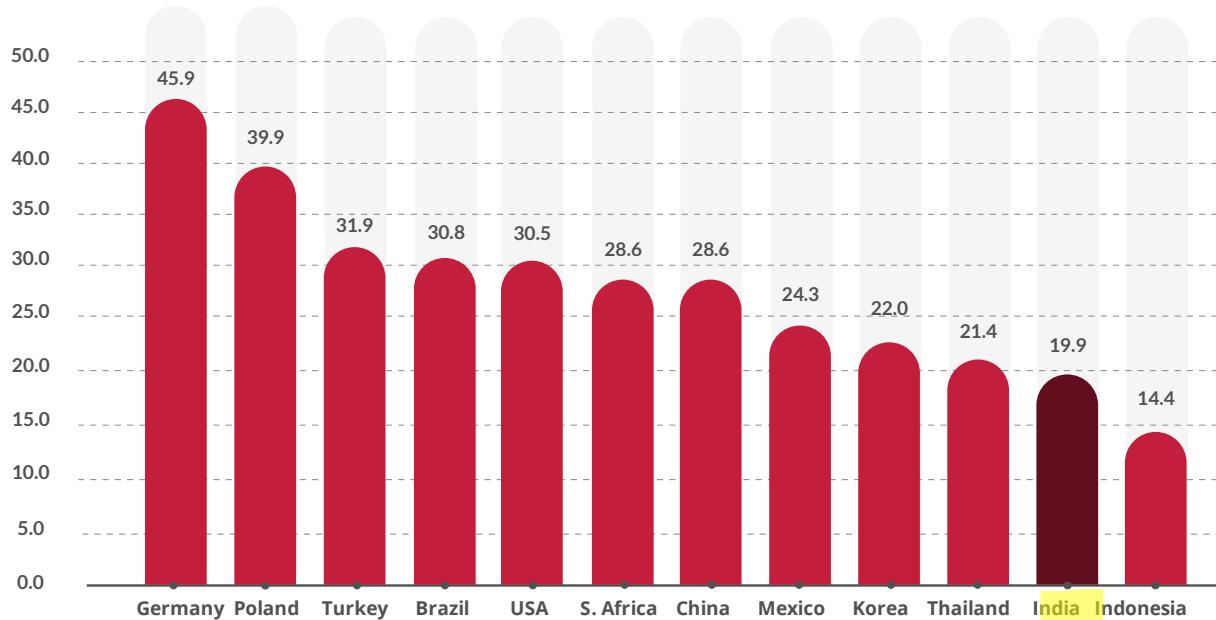
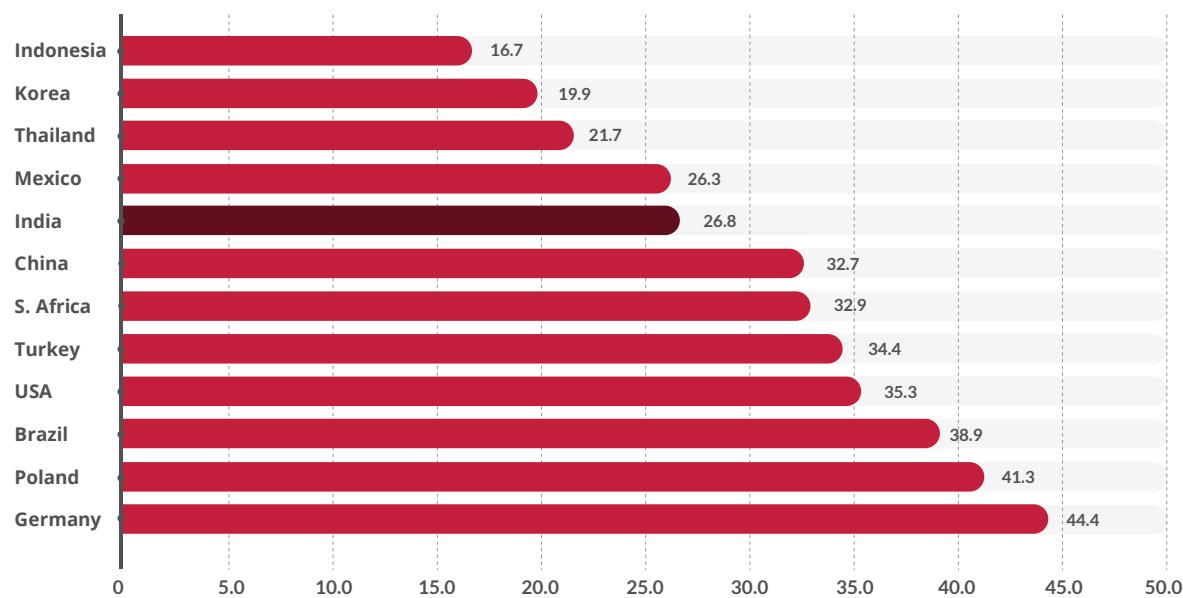


#### Notes:

1: General Government refers to all levels of Government put together

2: Net Lending is a proxy for Government Deficit. A positive number implies that the Government had a surplus and consequently was a net lender to other agents in the economy, while a negative number implies the Government had a deficit and consequently was a borrower from other agents in the economy.

Source: IMF World Economic Outlook, IndiaDataHub, Macquarie Research, August 2020

**Fig 76 Combined Gov't Finances – ... and while India's government revenue relative to GDP is low versus EM peers****General Government Total Revenue (as % of GDP, 2016-2018 average)<sup>1</sup>****India's Government Expenditure is not unusually low relative to other Emerging Markets****General Government Total Expenditure (as % of GDP, 2016-2018 average)<sup>1</sup>****Notes:**

1: General Government refers to all levels of Government put together

Source: IMF World Economic Outlook, October-2019 Update, IndiaDataHub, Macquarie Research, August 2020

## External Indicators

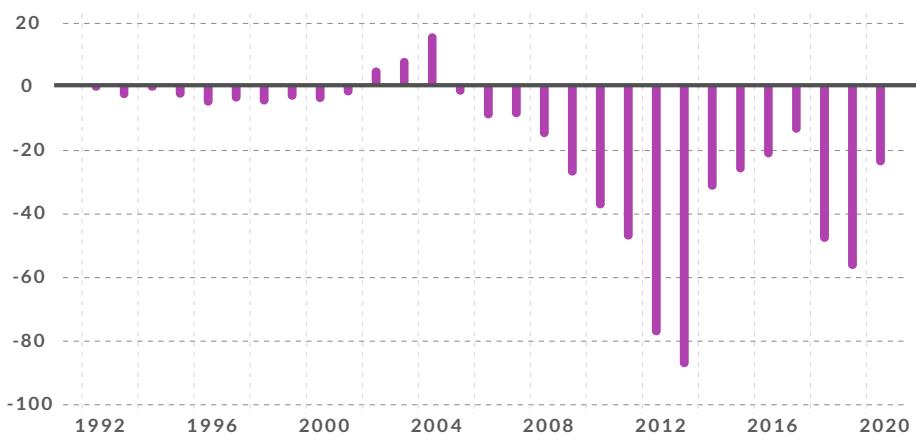
- India's share in world services exports continues to grow and is 2x that in goods.
- Among its key trading partners, India runs a trade surplus with only the US – a dynamic that highlights why the success of Make in India is crucial to India's economic development.
- 7x expansion in FDI since 2000, with further traction this year in the telecoms sector.
- External debt to GDP remains low versus other EMs.

**Fig 77 Current Account Balance – India has run a current account deficit for most of the past 30 years**

(US\$ Billion)	2005	2010	2015	2019	2020
Total Exports	128	278	475	545	534
- Merchandise Exports	85	182	317	337	320
- Services Exports	43	96	158	208	213
Total Imports	147	361	543	644	606
- Merchandise Imports	119	301	461	518	478
- Services Imports	28	60	82	126	128
Remittances <sup>1</sup>	21	52	66	70	75
Income Receipts <sup>2</sup>	-5.0	-8.0	-24	-29	-27
<b>Current Account Balance</b>	<b>-2.5</b>	<b>-38</b>	<b>-27</b>	<b>-57</b>	<b>-25</b>
Foreign Direct Investment	3.7	18	31	31	43
- Into India <sup>3</sup>	6.0	33	35	43	56
- By India <sup>3</sup>	2.3	15	4.0	13	13
Portfolio Investment <sup>4</sup>	9.3	32	42	-0.6	1.4
Loans <sup>5</sup>	11	12	3.2	16	26
NRI Deposits	-1.0	2.9	14	10	8.6
Other Capital Flows	5.1	-14	-1.4	-1.9	4.5
<b>Total Capital Flows</b>	<b>28</b>	<b>52</b>	<b>89</b>	<b>54</b>	<b>83</b>

**India's Current Account has almost always been in a deficit**

**Current Account Balance (US\$ bn)**



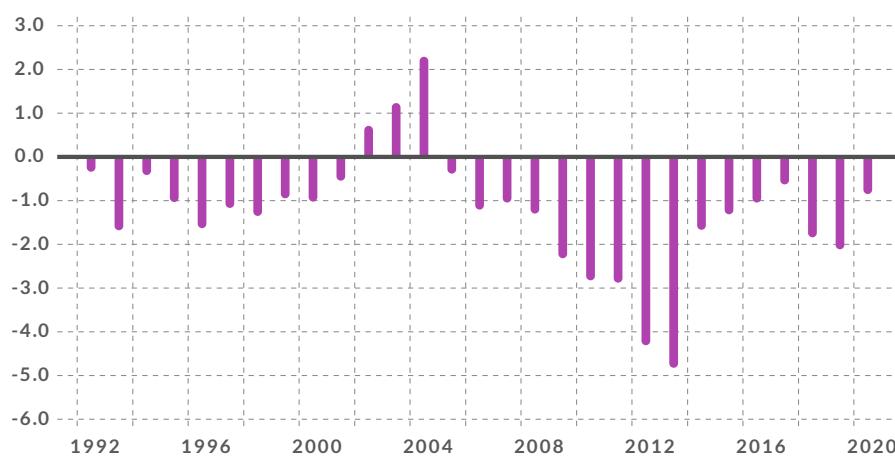
**Notes:** 1: On a net basis (remittances received by India minus remittances from India). Includes both private & official remittances. 2: Income Receipts is on net basis. Includes income received by India on overseas investments minus income paid by India on Foreign investments made in India. Also includes compensation of overseas employees on a net basis. 3: Data is on net basis (adjusted for repatriation of FDI) and includes reinvested earnings. 4: Data is on net basis and includes ADR/GDR issuances. 5: Includes commercial borrowings and trade credit. Excludes borrowings by Commercial banks.

Source: RBI, IndiaDataHub, Macquarie Research, August 2020.

Fig 78 Current Account relative to GDP – an average deficit of 1.3% over the last three decades

(y/e March)

(% of GDP)	2005	2010	2015	2019	2020
Total Exports	18.1	20.7	23.3	20.1	18.6
- Merchandise Exports	12.0	13.6	15.5	12.4	11.2
- Services Exports	6.1	7.1	7.8	7.7	7.4
Total Imports	20.7	26.8	26.6	23.7	21.1
- Merchandise Imports	16.7	22.4	22.6	19.1	16.6
- Services Imports	3.9	4.5	4.0	4.7	4.5
Remittances <sup>2</sup>	2.9	3.9	3.2	2.6	2.6
Income Receipts <sup>3</sup>	-0.7	-0.6	-1.2	-1.1	-0.9
<b>Current Account Balance</b>	<b>-0.4</b>	<b>-2.8</b>	<b>-1.3</b>	<b>-2.1</b>	<b>-0.8</b>
Foreign Direct Investment	0.5	1.4	1.5	1.1	1.5
- Into India <sup>4</sup>	0.8	2.5	1.7	1.6	2.0
- By India <sup>4</sup>	0.3	1.1	0.2	0.5	0.5
Portfolio Investment <sup>5</sup>	1.3	2.4	2.1	0.0	0.0
Loans <sup>6</sup>	1.5	0.9	0.2	0.6	0.9
NRI Deposits	-0.1	0.2	0.7	0.4	0.3
Other Capital Flows	0.7	-1.1	-0.1	-0.1	0.2
<b>Total Capital Flows</b>	<b>3.9</b>	<b>3.8</b>	<b>4.4</b>	<b>2.0</b>	<b>2.9</b>

**India's Current Account has averaged a deficit of 1.3% of GDP in the last 3 decades****Current Account Balance (% of GDP)****Notes:**

1: On a net basis (remittances received by India minus remittances from India). Includes both private &amp; official remittances.

2: Income Receipts is on net basis. Includes income received by India on overseas investments minus income paid by India on Foreign investments made in India. Also includes compensation of overseas employees on a net basis.

3: Data is on net basis (adjusted for repatriation of FDI) and includes reinvested earnings.

4: Data is on net basis (Portfolio Investment inflows into India minus Portfolio Investments by India) and includes ADR/GDR issuances.

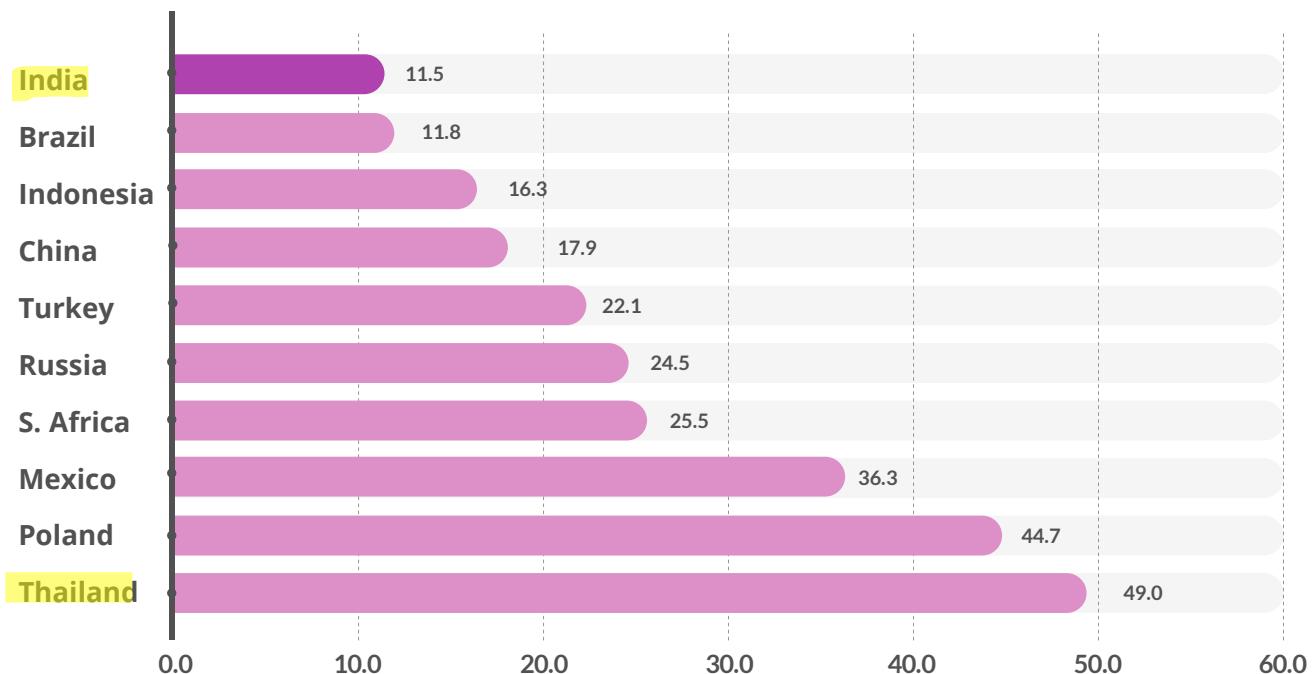
5: Includes commercial borrowings and trade credit. Excludes borrowings by Commercial banks.

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

**Fig 79 Goods & Services Exports relative to GDP – India's exports of goods / merchandise as % of GDP is the lowest relative to EM peers; while the ranking in services fares better this is still a small proportion**

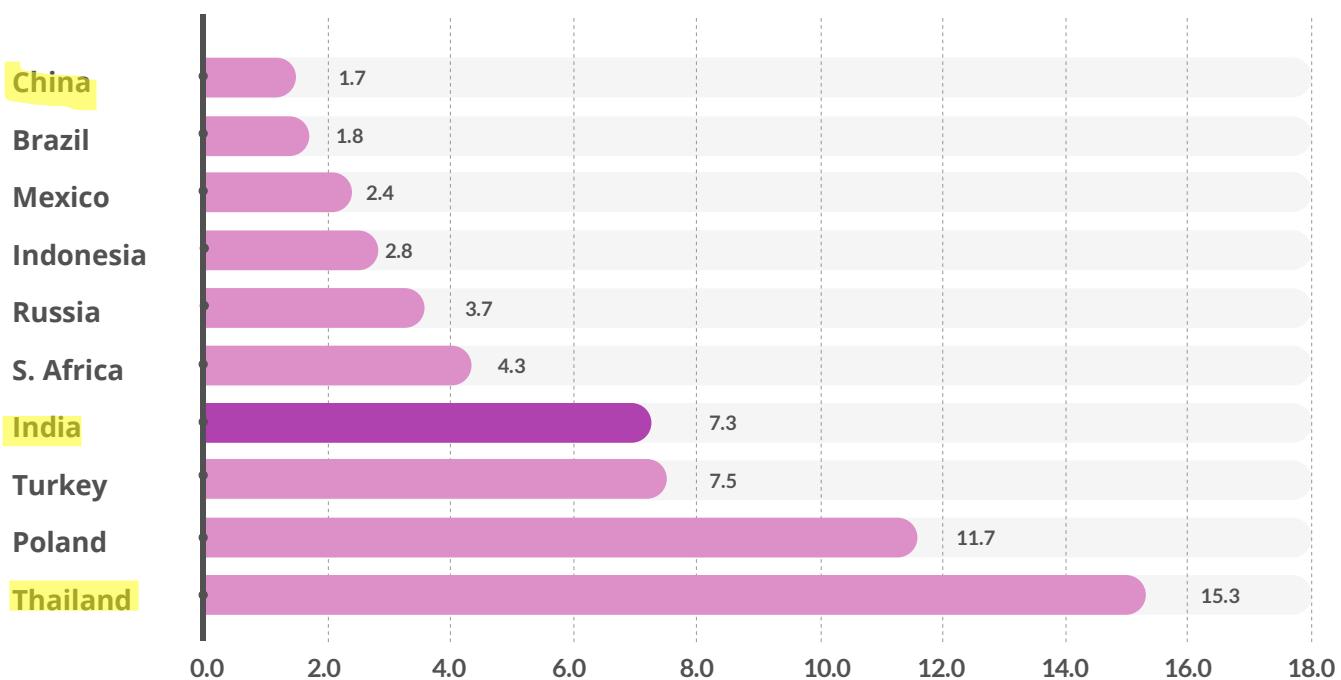
### India's Merchandise Exports, relative to GDP, are among the smallest in EM peers

#### Merchandise Exports relative to GDP (%), 2017-19 average)



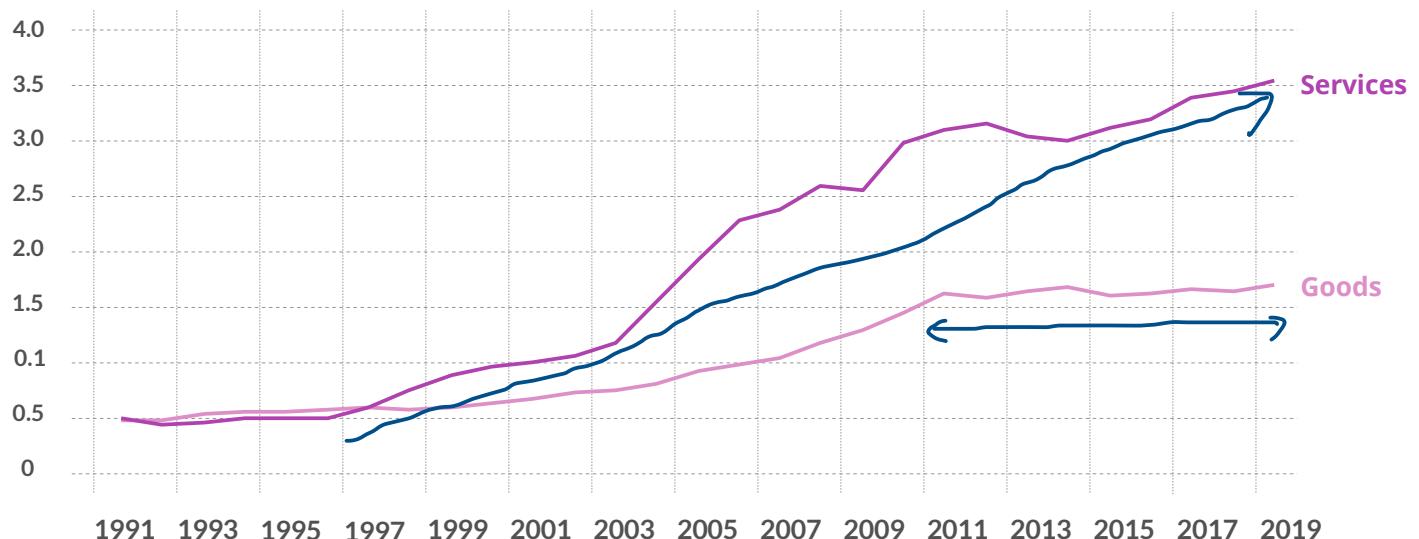
### India's Services Exports, relative to GDP, are higher than several EM peers

#### Services Exports relative to GDP (%), 2017-19 average)



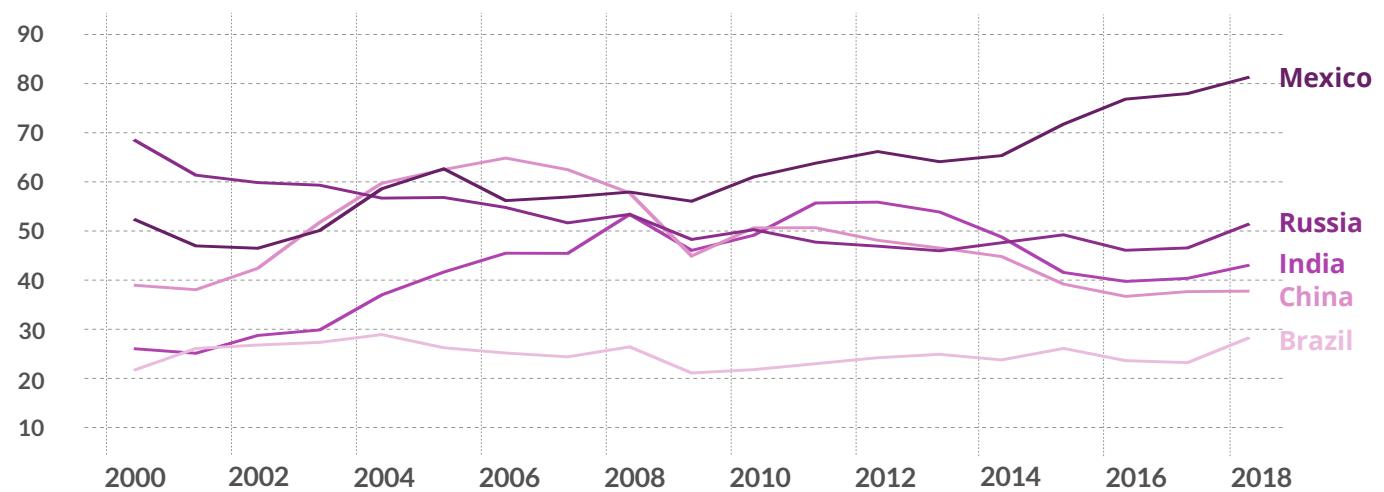
**Fig 80 Share of World Exports – India accounts for ~3.5% of world services exports – a level that continues to grow; while the world exports share of goods manufactured from India has stagnated over the last decade at ~1.5%**

### India's share in World Exports (%)



### Trade is a bigger component of India's GDP than it is for China

#### Total Trade (as % of GDP)<sup>1</sup>



#### Notes:

1: Includes both Merchandise and Services trade and Imports as well as Exports

Source: World Bank, IndiaDataHub, Macquarie Research, August 2020

## Exports of Goods / Merchandise

**Fig 81 Merchandise Exports – No growth from India over the past five years; electronic exports while up is still small**

(y/e March)

(US\$ Billion)	2010	2015	2018	2019	2020
<b>Total Merchandise Exports<sup>1</sup></b>	<b>179</b>	<b>310</b>	<b>304</b>	<b>330</b>	<b>313</b>
Chemicals & Related Products	17.2	31.7	37.6	43.8	45.0
Petroleum & Crude	28.2	56.8	37.5	46.6	41.2
Gems & Jewellery	28.7	41.3	41.5	40.3	35.9
Textiles & Allied Products	23.3	37.1	36.0	36.9	33.7
Machinery	10.2	19.7	24.6	29.1	28.6
Agriculture & Allied Products	13.0	30.1	27.8	28.6	26.2
Base Meals	12.3	24.7	28.2	25.4	23.9
Transport Equipment	10.2	26.6	23.5	26.6	23.7
Electronic Items	5.4	6.0	6.1	8.4	11.2
Plastic & Rubber Articles	3.3	6.6	7.6	9.4	8.2
Marine Products	2.1	5.5	7.4	6.8	6.7
Articles of Cement, Glass, Ceramic etc	2.2	4.0	4.5	5.1	5.3
Leather & Leather Products	3.4	6.2	5.4	5.3	4.8
Ores & Minerals	7.2	2.4	3.3	3.6	4.6
Paper & Related Products	1.2	2.2	2.7	3.5	3.4
Others	10.9	9.2	9.8	10.7	10.7
<b>Growth (Cagr, %)</b>			<b>2010-2015</b>		<b>2015-2020</b>
<b>Total Merchandise Exports<sup>1</sup></b>			<b>11.7</b>		<b>0.2</b>
Chemicals & Related Products			13.0		7.2
Petroleum & Crude			15.0		-6.2
Gems & Jewellery			7.5		-2.8
Textiles & Allied Products			9.8		-1.9
Machinery			14.1		7.7
Agriculture & Allied Products			18.4		-2.8
Base Meals			15.0		-0.7
Transport Equipment			21.1		-2.3
Electronic Items			2.0		13.3
Plastic & Rubber Articles			14.6		4.5
Marine Products			21.3		4.1
Articles of Cement, Glass, Ceramic etc			13.1		5.5
Leather & Leather Products			12.9		-5.0
Ores & Minerals			-19.7		13.8
Paper & Related Products			13.0		9.1
Others			-3.2		3.1

**Notes:**

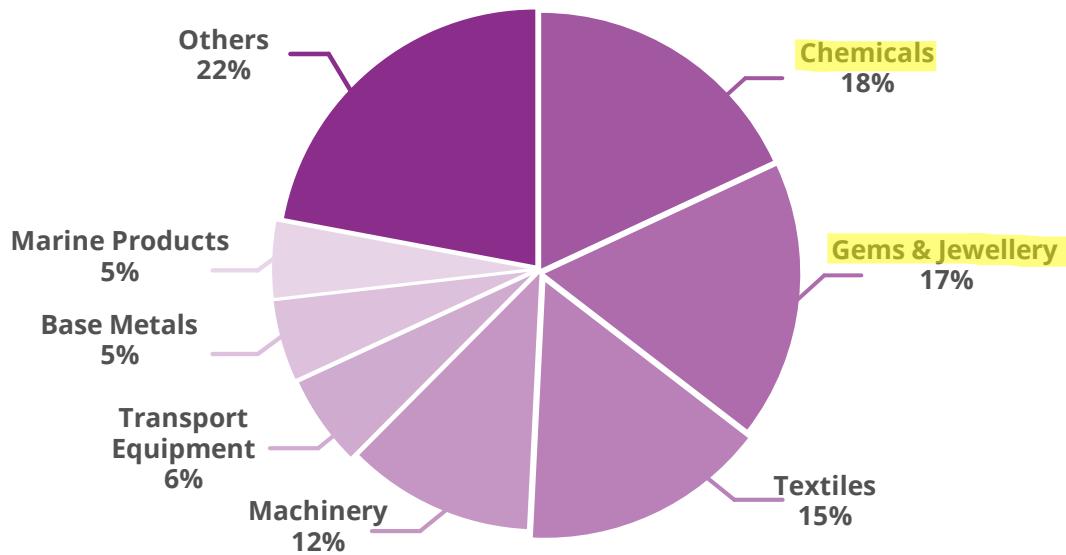
1: Data is as per the Principal Classification of Exports as released by DGCIS. This data will not match with the Merchandise Exports in Key Indicators table as they are from different sources. The data in Key Indicators table is on BoP basis from the RBI.

Source: DGCIS, IndiaDataHub, Macquarie Research, August 2020

**Fig 82 Merchandise Exports – Chemicals and jewellery the main categories shipped to US and UAE (India's top-2 export destinations)**

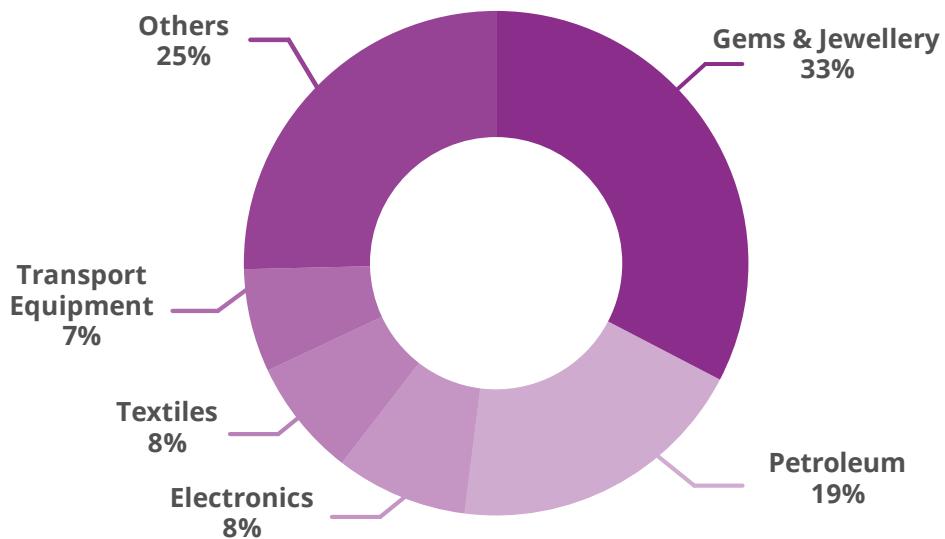
### Chemicals and Gems & Jewellery make up more than a third of Exports to USA

#### Composition of India's Exports to USA (2019-20, %)<sup>1</sup>



### Gems & Jewellery is by far the biggest constituent of Exports to the UAE

#### Composition of India's Exports to UAE (2019-20, %)



**Note:**

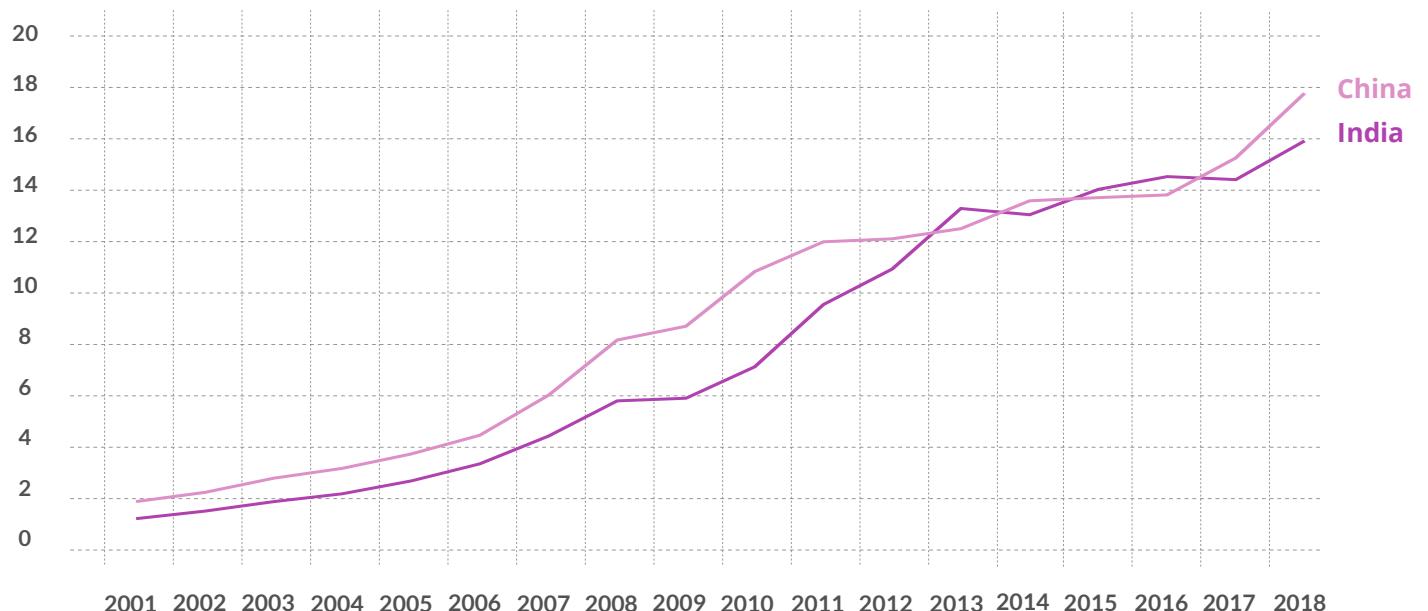
1: Chemicals includes Organic and Inorganic chemicals, Pharmaceuticals as well as Fertilisers

Source: DGCIS, IndiaDataHub, Macquarie Research, August 2020

**Fig 83 Merchandise Exports** – India's pharma exports have grown slower than that of China in the last few years... [we believe this could potentially reverse over the next few years](#) as global pharma companies look to geographically diversify their supply chain from China; in textiles, India has lost share to Vietnam and Bangladesh

### India's Pharmaceuticals Exports have grown slower than that of China in the last few years

#### Pharmaceuticals Exports (US\$ bn)



### India has lost share in Textile and Clothing Exports in the last few years

#### Share in Global Textile and Clothing Exports (%)

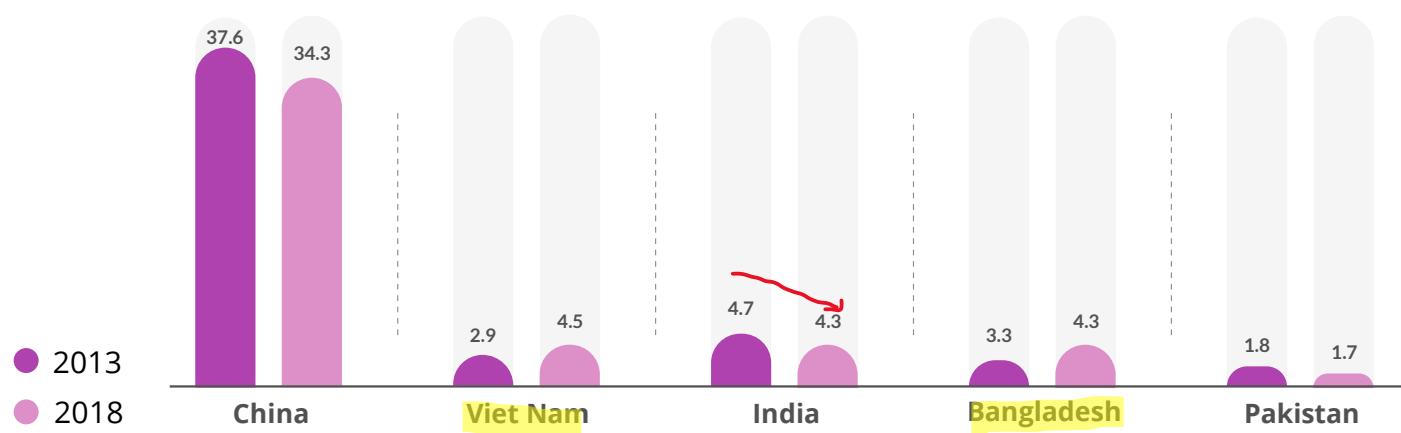


Fig 84 Merchandise Exports – US and UAE are key export markets for India, followed by China

(y/e March)

(US\$ Billion)	2010	2015	2018	2019	2020
<b>Total Merchandise Exports<sup>1</sup></b>	<b>179</b>	<b>310</b>	<b>304</b>	<b>330</b>	<b>313</b>
USA	19.5	42.4	47.9	52.4	53.1
UAE	24.0	33.0	28.1	30.1	28.8
China	11.6	11.9	13.3	16.8	16.6
Hong Kong	7.9	13.6	14.7	13.0	11.0
Singapore	7.6	9.8	10.2	11.6	8.9
United Kingdom	6.2	9.3	9.7	9.3	8.7
Netherlands	6.4	6.3	6.3	8.8	8.4
Germany	5.4	7.5	8.7	8.9	8.3
Bangladesh	2.4	6.5	8.6	9.2	8.2
Nepal	1.5	4.6	6.6	7.8	7.1
Malaysia	2.8	5.8	5.7	6.4	6.4
Saudi Arabia	3.9	11.2	5.4	5.6	6.2
Belgium	3.8	5.5	6.2	6.7	5.8
France	3.8	5.0	4.9	5.2	5.1
Viet Nam	1.8	6.3	7.8	6.5	5.1
Growth (Cagr, %)			2010-2015	2015-2020	
<b>Total Merchandise Exports<sup>1</sup></b>			<b>11.7</b>	<b>0.2</b>	
USA			16.8	4.6	
UAE			6.6	-2.7	
China			0.5	6.8	
Hong Kong			11.5	-4.2	
Singapore			5.3	-1.9	
United Kingdom			8.4	-1.3	
Netherlands			-0.2	5.8	
Germany			6.8	1.9	
Bangladesh			21.5	4.9	
Nepal			24.4	9.4	
Malaysia			15.5	1.8	
Saudi Arabia			23.4	-11.0	
Belgium			8.0	1.0	
France			5.4	0.6	
Viet Nam			27.8	-4.2	

**Note:**

1: Merchandise Exports are as reported by DGCIS. This data will not match with the Merchandise Exports in Key Indicators table as they are from different sources. The data in Key Indicators table is on BoP basis from the RBI.

Source: DGCIS, IndiaDataHub, Macquarie Research, August 2020

## Imports of Goods

**Fig 85 Merchandise Imports** – India's import bill dominated by oil, with 9 out of every 10 barrels fed to local refineries being imported... this problem is here to stay given structural mature field declines at ONGC

(y/e March)

(US\$ Billion)	2010	2015	2018	2019	2020
<b>Merchandise Imports<sup>1</sup></b>	<b>288</b>	<b>448</b>	<b>466</b>	<b>514</b>	<b>474</b>
Petroleum & Products	87.1	138.3	108.7	140.9	130.5
Gems & Jewellery	46.3	62.4	74.7	64.7	54.5
Electronic Goods	22.2	36.9	51.5	55.5	52.5
Machinery	24.7	32.0	39.1	46.1	45.2
Chemicals & Related Products	24.5	38.6	40.4	47.8	44.3
Base Metals	16.1	27.0	27.4	32.4	28.5
Ores & Minerals	14.3	26.9	31.7	33.6	27.4
Transport Equipment	12.0	15.3	19.2	20.7	21.0
Agriculture & Allied Products	10.7	19.0	22.2	18.6	19.0
Plastic & Rubber Articles	7.1	14.3	17.0	18.5	17.1
Paper & Related Products	4.6	7.6	8.3	8.8	7.8
Textiles & Allied Products	3.1	5.5	6.4	6.8	7.5
Optical, Medical Instruments	2.6	4.3	5.3	5.9	5.7
Others	13.0	19.9	13.5	14.0	13.0

Growth (Cagr, %)	2010-2015	2015-2020
<b>Merchandise Imports<sup>1</sup></b>	<b>9.2</b>	<b>1.1</b>
Petroleum & Products	9.7	-1.2
Gems & Jewellery	6.1	-2.7
Electronic Goods	10.6	7.3
Machinery	5.4	7.1
Chemicals & Related Products	9.5	2.8
Base Metals	10.9	1.1
Ores & Minerals	13.4	0.3
Transport Equipment	4.9	6.6
Agriculture & Allied Products	12.2	0.0
Plastic & Rubber Articles	15.1	3.6
Paper & Related Products	10.6	0.4
Textiles & Allied Products	12.1	6.4
Optical, Medical Instruments	10.5	6.0
Others	8.9	-8.2

**Note:**

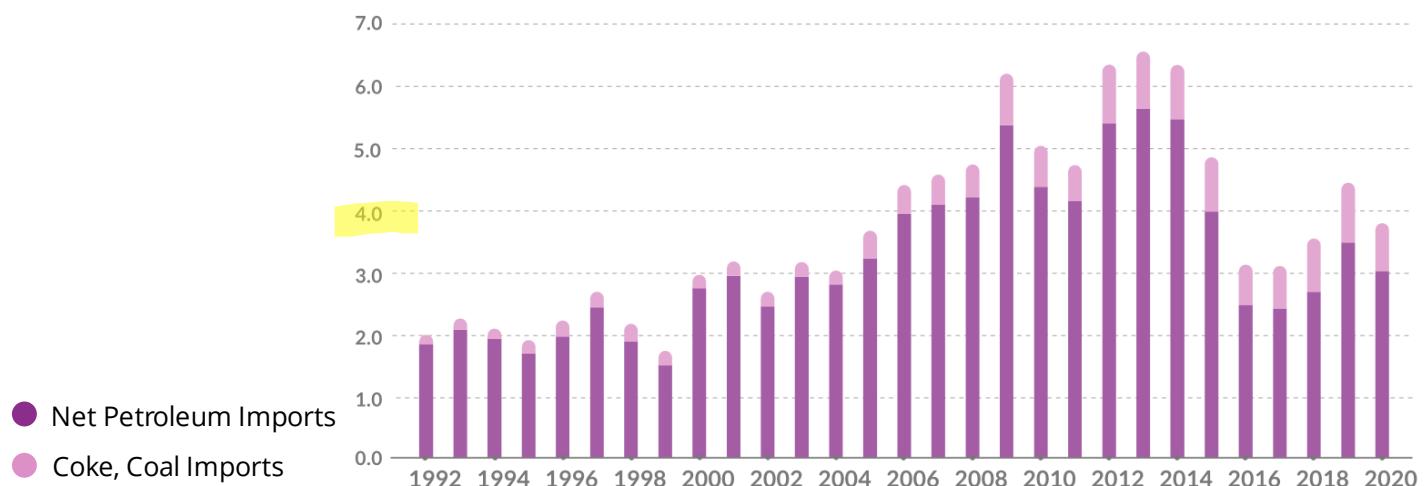
1: Data is as per the Principal Classification of Imports as released by DGCIS. This data will not match with the Merchandise Imports in Key Indicators table as they are from different sources. The data in Key Indicators table is on BoP basis from the RBI

Source: DGCIS, IndiaDataHub, Macquarie Research, August 2020

**Fig 86 Merchandise Imports** – India's energy imports as % of GDP is still a material ~4%, although this ratio has fallen from a high of ~6% when oil was hovering near ~\$100/bbl

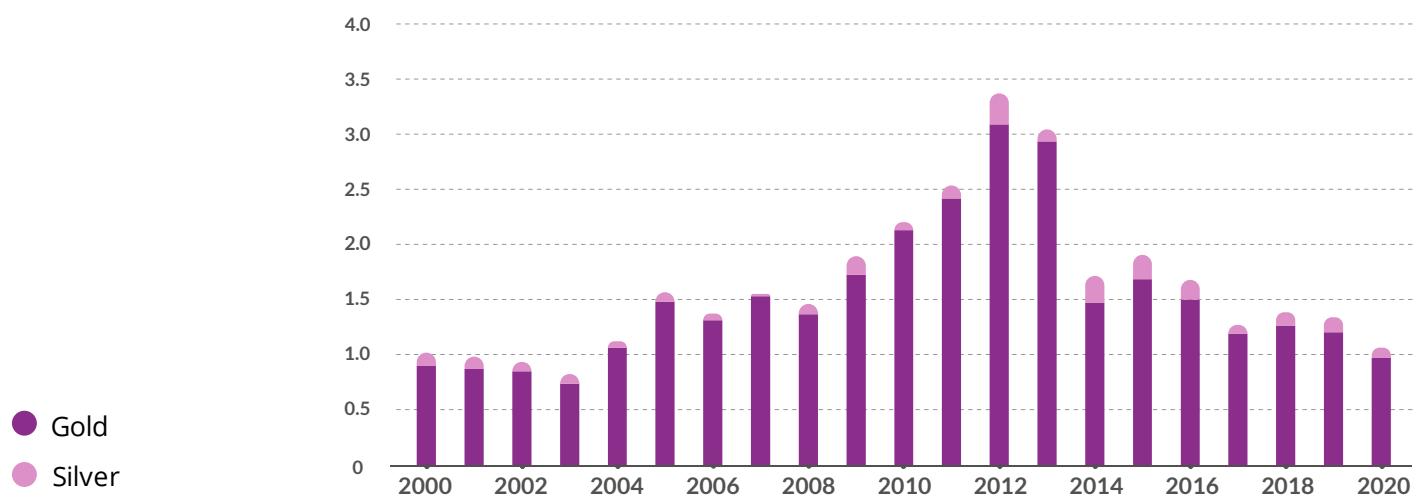
### India's Energy Imports have increased from 2% of GDP in early 1990s to ~4% currently

#### Energy Imports (as % of GDP)<sup>1,2</sup>



### Gold/Silver Imports (relative to GDP) have fallen sharply in last few years

#### Precious Metal Imports (as % of GDP)<sup>1</sup>



#### Notes:

1: Data is for 12-months ended March of respective years.

2: Net Petroleum Imports is calculated as Crude Oil and Petroleum product Imports minus Petroleum product Exports

Source: DGCI, Ministry of Commerce, CSO, IndiaDataHub, Macquarie Research, August 2020

Fig 87 Merchandise Imports – China a key supplier of electronic goods, chemicals, machinery to India

(y/e March)

(US\$ Billion)	2010	2015	2018	2019	2020
<b>Merchandise Imports<sup>1</sup></b>	<b>288</b>	<b>448</b>	<b>466</b>	<b>514</b>	<b>474</b>
China	30.8	60.4	76.4	70.3	65.3
USA	17.0	21.8	26.6	35.5	35.7
UAE	19.5	26.1	21.7	29.8	30.3
Saudi Arabia	17.1	28.1	22.1	28.5	26.9
Iraq	7.0	14.2	17.6	22.4	23.7
Switzerland	14.7	22.1	18.9	18.1	16.9
Hong Kong	4.7	5.6	10.7	18.0	16.9
South Korea	8.6	13.5	16.4	16.8	15.7
Indonesia	8.7	15.0	16.4	15.8	15.1
Singapore	6.5	7.1	7.5	16.3	14.7
Germany	10.3	12.8	13.3	15.2	13.4
Japan	6.7	10.1	11.0	12.8	12.4
Nigeria	7.3	13.7	9.5	10.9	10.2
Australia	12.4	10.2	14.0	13.1	9.8
Malaysia	5.2	11.1	9.0	10.8	9.8
Growth (Cagr, %)			2010-2015		2015-2020
<b>Merchandise Imports<sup>1</sup></b>			<b>9.2</b>		<b>1.1</b>
China			14.4		1.6
USA			5.1		10.3
UAE			6.0		3.0
Saudi Arabia			10.5		-0.9
Iraq			15.2		10.8
Switzerland			8.5		-5.3
Hong Kong			3.3		24.9
South Korea			9.5		3.0
Indonesia			11.6		0.1
Singapore			2.0		15.7
Germany			4.4		0.9
Japan			8.5		4.2
Nigeria			13.4		-5.7
Australia			-3.8		-0.9
Malaysia			16.5		-2.5

**Notes:**

1: Merchandise Imports are as reported by DGCIS. This data will not match with the Merchandise Imports in Key Indicators table as they are from different sources. The data in Key Indicators table is on BoP basis from the RBI.

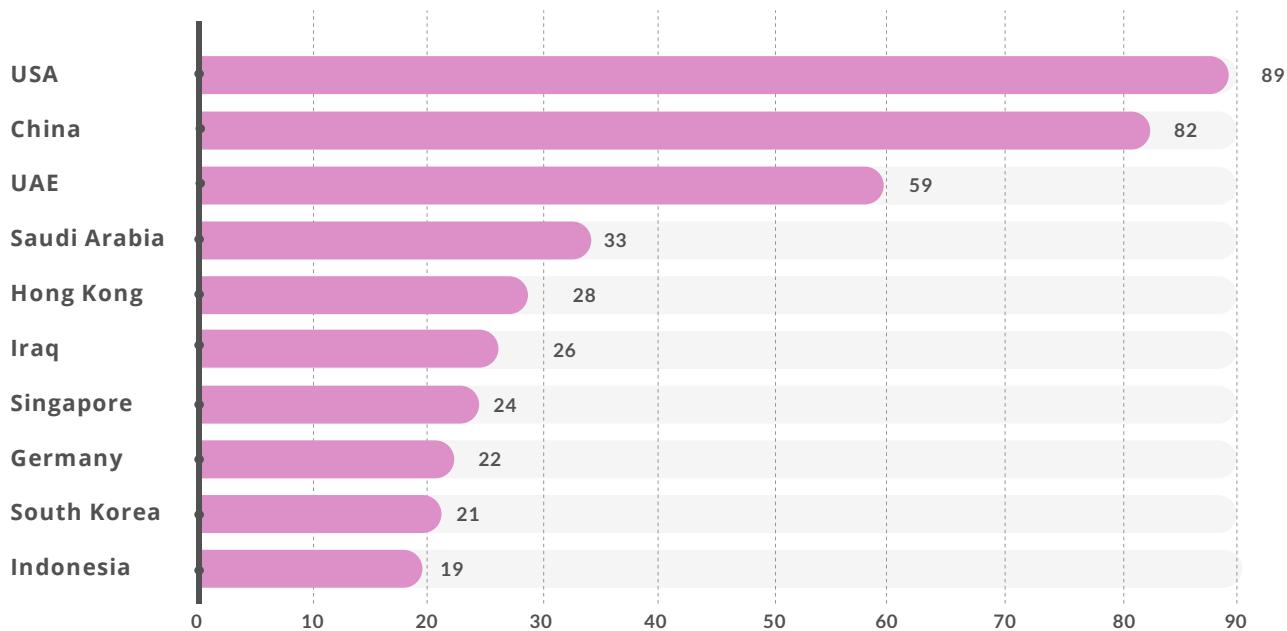
Source: DGCIS, IndiaDataHub, Macquarie Research, August 2020

## Trade Balance for Goods, China

Fig 88 **Trade Balance** – Among its key trading partners, India runs a trade surplus with only the US – a dynamic that highlights why the success of *Make in India* is crucial to India's economic development

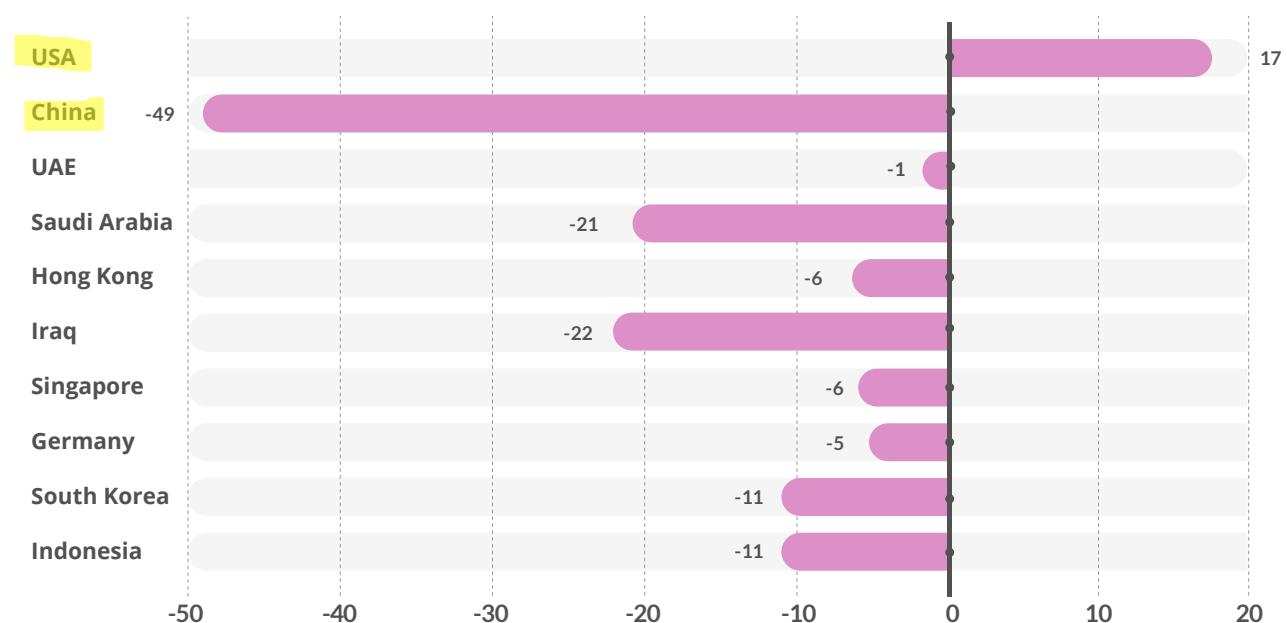
**USA and China are by far India's largest Merchandise trading partners**

**Largest Merchandise Trading Partners (Exports plus Imports in 2019-20, US\$ bn)**



**USA is the only country, among the top trading partners, with whom India has trade surplus**

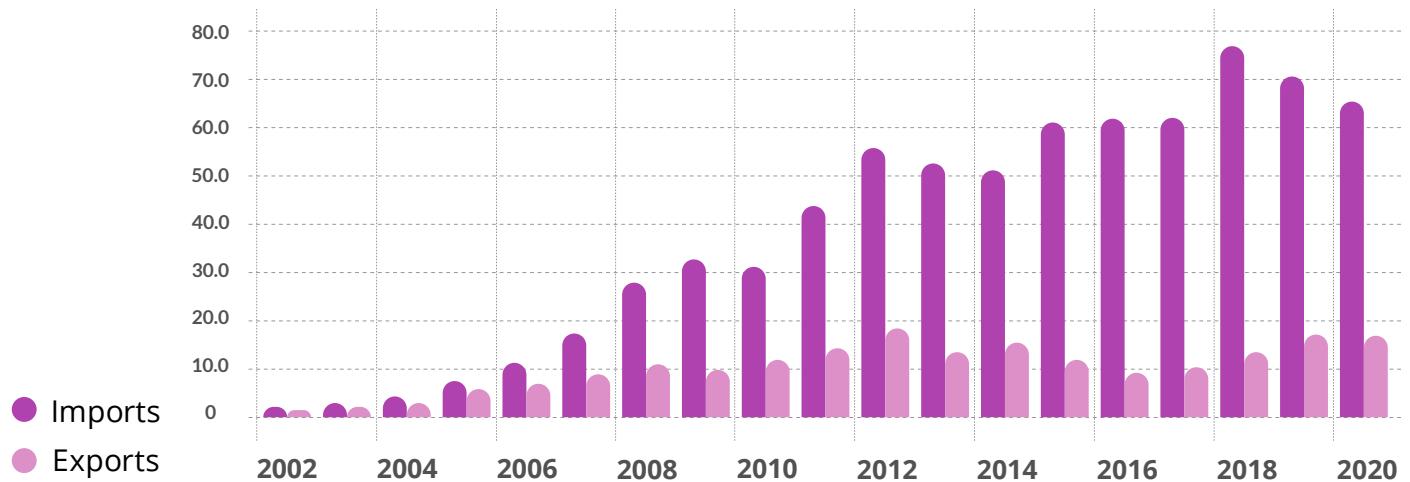
**Merchandise Trade Balance with Trading Partners (2019-20, US\$ bn)**



**Fig 89 Trade with China – A lopsided balance today... China accounts for ~15% of India's imports and ~5% of exports**

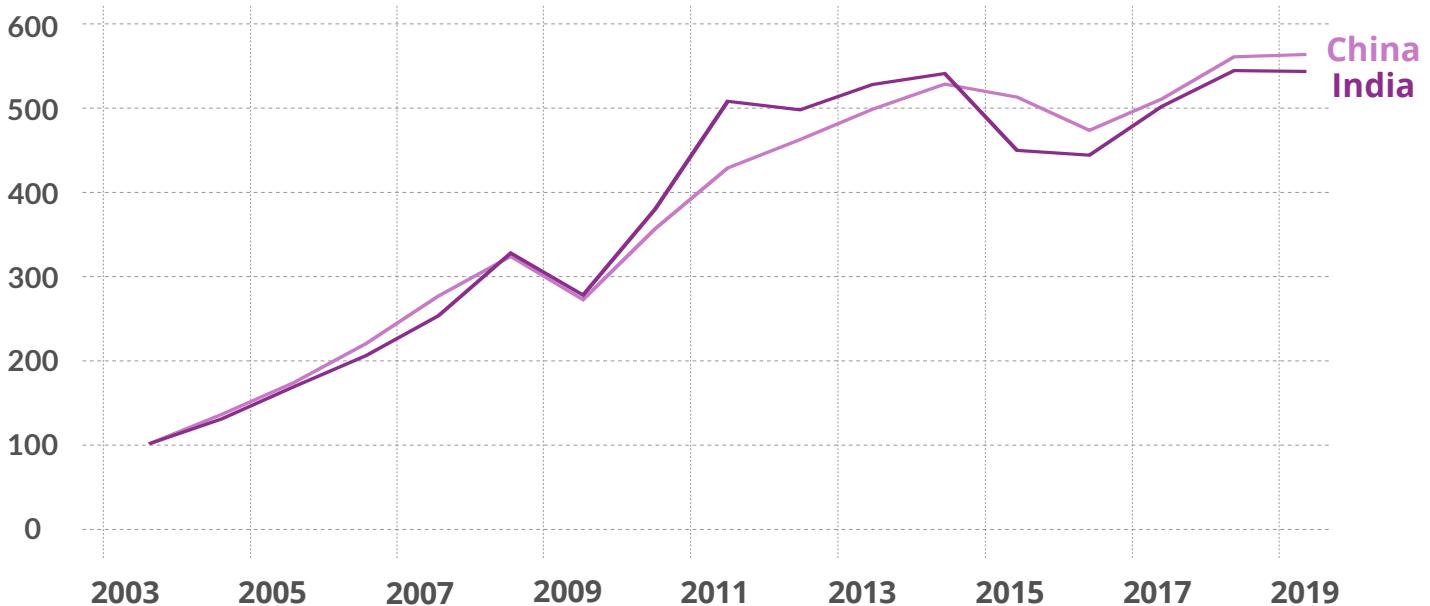
### India's trade with China is very lopsided

#### India's Merchandise Trade with China (US\$ bn)<sup>1</sup>



Since mid-2000s, India's Exports have grown at broadly the same pace as that of China's

#### Merchandise Exports (2003 = 100)<sup>2</sup>



#### Notes:

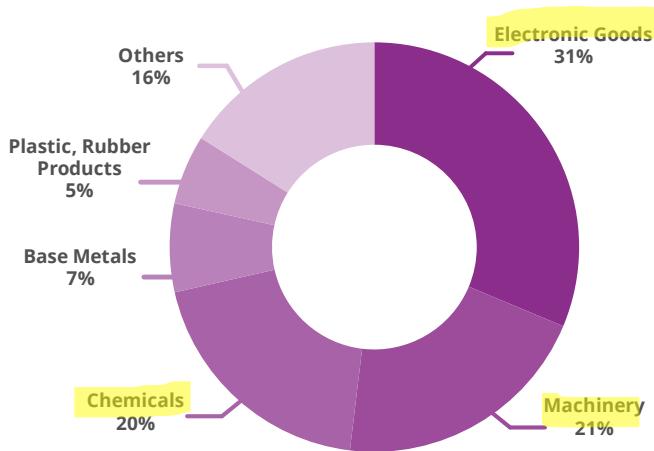
1: Data is for 12-months ending March of respective years

2: Data is on Calendar year basis

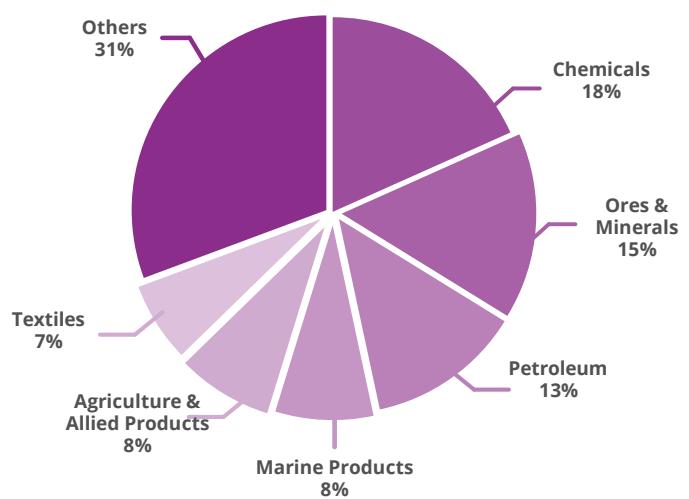
Source: DGCIS, World Bank, IndiaDataHub, Macquarie Research, August 2020.

**Fig 90 Trade with China – Electronics, Machinery, Chemicals the key import categories, while exports from India to China is more broad based**

**Composition of Imports (2019-20, % of total)<sup>1</sup>**

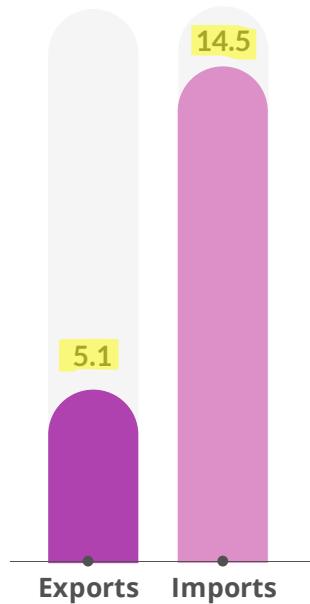


**Composition of Exports (2019-20, % of total)**

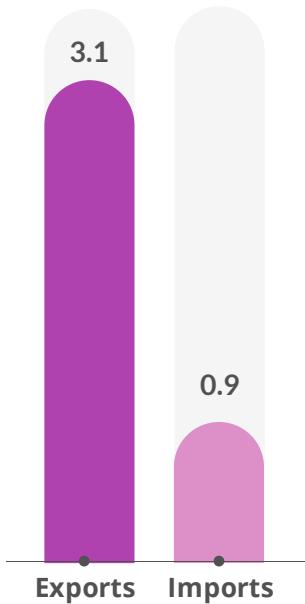


### Importance of Bilateral Merchandise Trade to India-China

**Share of China in India's Trade (2018, %)**



**Share of India in China's Trade (2018, %)**



#### Notes:

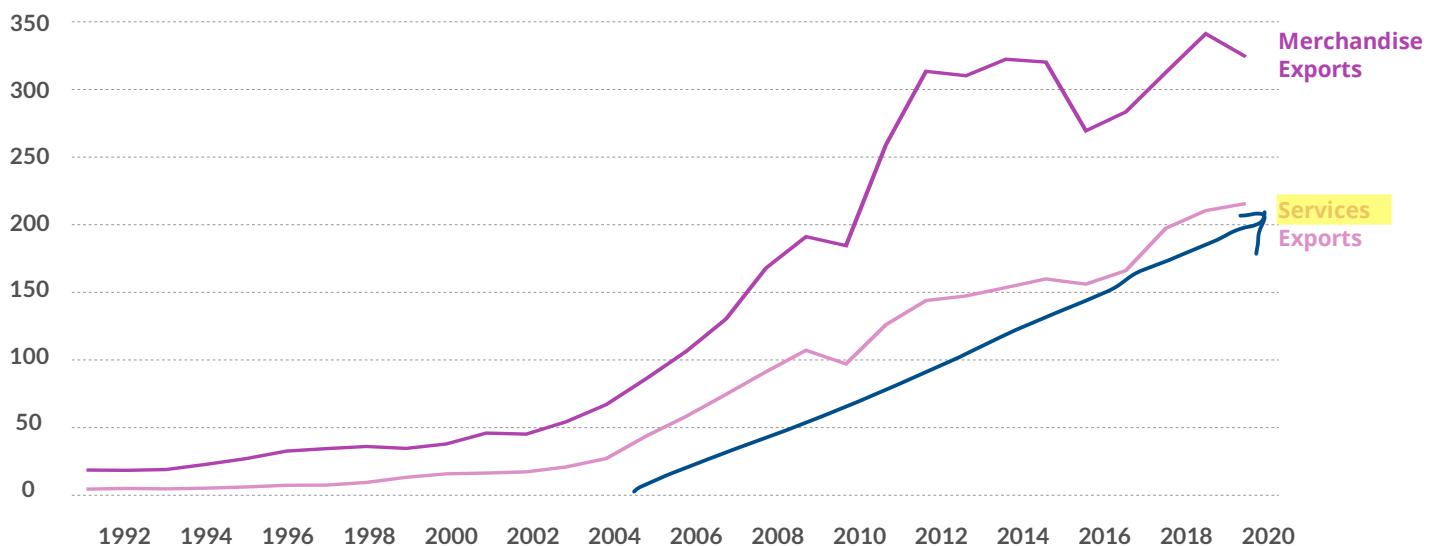
1: Chemicals includes Organic and Inorganic chemicals, Pharmaceuticals as well as Fertilisers  
Source: DGCIS, UN Comtrade, IndiaDataHub, Macquarie Research, August 2020.

## Services Trade

**Fig 91 Service Trade – India's booming I.T. and business services industry underpinned by a technically educated, English speaking, cost competitive workforce**

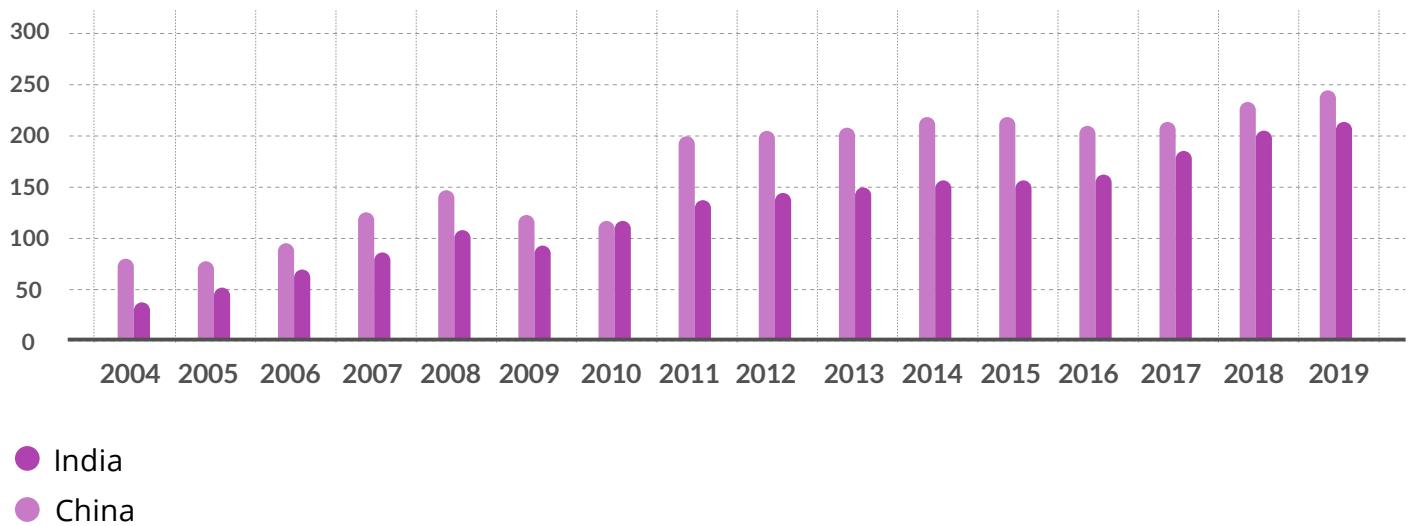
**From being 1/4th in the 1990s, Services Exports are now 2/3rds of Merchandise Exports**

India's Exports (US\$ bn)<sup>1</sup>



**While China's Services Exports are large, that of India are growing faster...**

Services Exports (US\$ bn)<sup>2</sup>



- India
- China

**Notes:**

1: Data is for 12-months ending March of respective years

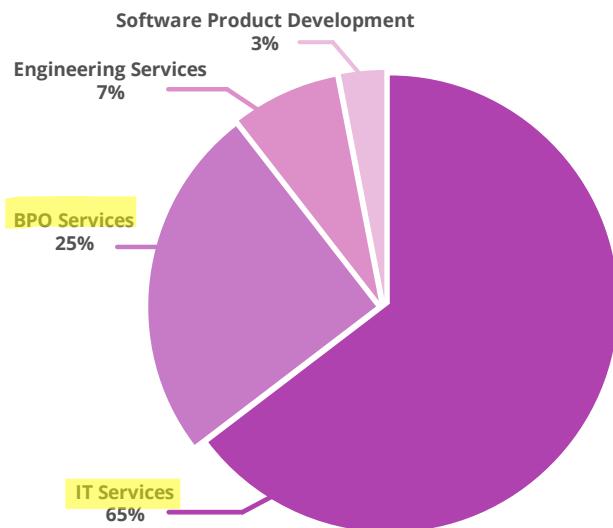
2: Data is on calendar year basis

Source: RBI, World Bank, IndiaDataHub, Macquarie Research, August 2020.

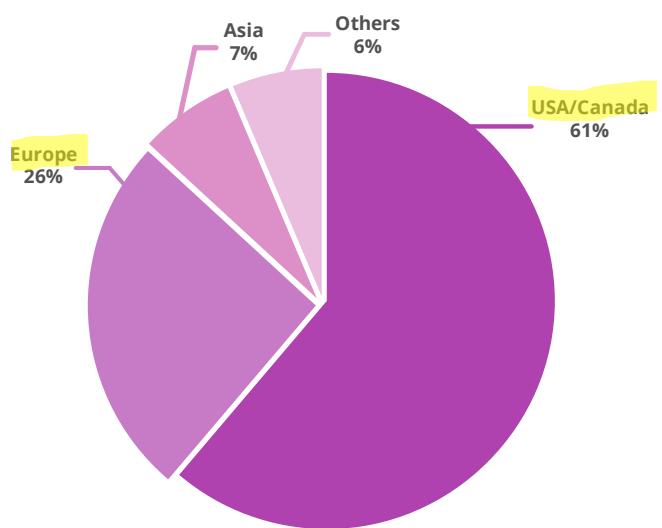
Fig 92 Service Trade – US and Europe account for close to 90% of services revenue

### Composition of India's Software Exports

#### Composition by Category (2018-19, %)<sup>1</sup>

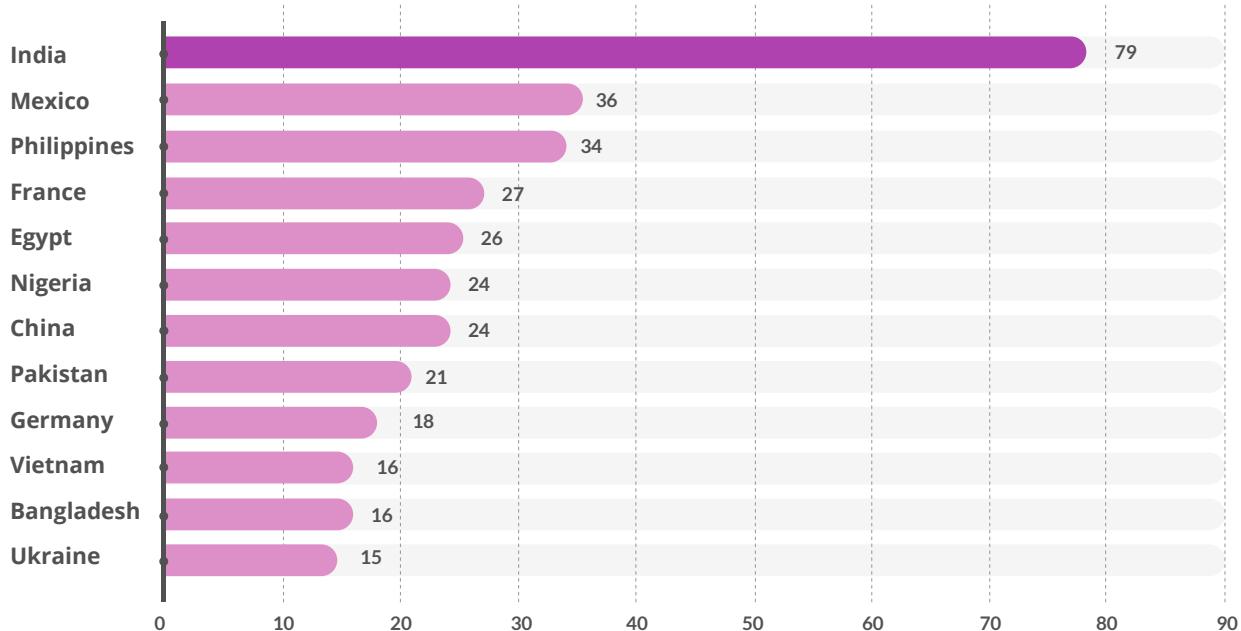


#### Composition by Geography (2018-19, %)<sup>1</sup>



### India is by far the largest recipient of Personal Remittances in the World

#### Largest countries by Personal Remittances (US\$ bn, 2018)



#### Notes:

1: Data is based on the 2018-19 edition of RBI's Survey on Computer Software and Information Technology-Enabled Services Exports. Data Includes Exports from India and revenues of subsidiaries/affiliates of Indian companies in overseas geographies (which technically are not Indian Exports). This data will thus differ from the IT Services Exports data elsewhere in this section.

Source: RBI, World Bank, IndiaDataHub, Macquarie Research, August 2020.

**Fig 93 Service Trade by Sector**

(US\$ Billion)	2005	2010	2015	2019	2020
<b>Total Services Exports</b>	<b>43</b>	<b>96</b>	<b>158</b>	<b>208</b>	<b>213</b>
Software Services	17.7	49.7	73.1	83.5	93.1
Business Services	5.2	11.3	28.4	39.1	45.7
Travel	6.7	11.9	20.3	28.4	30.0
Transportation	4.7	11.2	17.5	19.5	21.0
Financial Services	0.5	3.7	5.7	4.9	4.7
Insurance	0.9	1.6	2.2	2.7	2.4
Telecom	1.4	1.2	2.0	2.6	2.7
Others	6.3	5.5	8.9	27.4	13.5
<b>Total Services Imports</b>	<b>28</b>	<b>60</b>	<b>82</b>	<b>126</b>	<b>128</b>
Business Services	7.3	18.0	27.6	40.4	46.9
Travel	5.2	9.3	15.3	21.7	22.0
Transportation	4.5	11.9	16.2	20.5	24.3
Software Services	0.8	1.5	2.7	5.8	8.5
Financial Services	0.8	4.6	3.6	3.5	2.9
Insurance	0.7	1.3	1.1	1.8	1.7
Telecom	0.7	1.4	1.0	1.1	1.3
Others	7.6	12.0	14.0	31.2	20.7

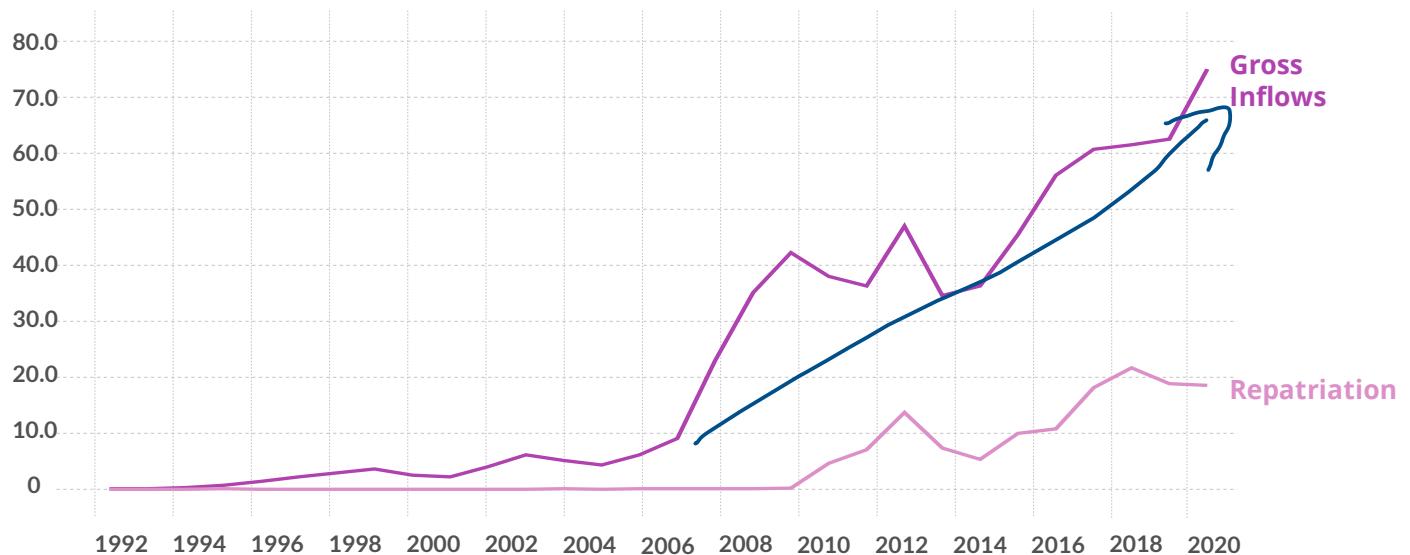
(Cagr, %)	2005-2010	2010-2015	2015-2020
<b>Total Services Exports</b>	<b>17.3</b>	<b>10.5</b>	<b>6.2</b>
Software Services	22.9	8.0	5.0
Business Services	17.0	20.2	10.0
Travel	12.2	11.4	8.1
Transportation	19.0	9.4	3.7
Financial Services	48.5	8.9	-3.5
Insurance	12.8	6.7	2.0
Telecom	-2.4	10.2	6.4
Others	-2.7	10.2	8.7
<b>Total Services Imports</b>	<b>16.6</b>	<b>6.3</b>	<b>9.5</b>

Source: RBI, IndiaDataHub, Macquarie Research, August 2020

## Foreign Direct Investment

**Fig 94 Foreign Direct Investment** – An over 7x expansion since mid-2000s... whilst much remains to be done, India's improving ease of doing business ranking, cost competitiveness, and global supply chain disruptions should further support investment inflows; India was the 9th largest recipient of FDI in 2019 according to World Investment Report 2020 by UNCTAD

**Foreign Direct Inflows into India (US\$ bn)<sup>1</sup>**



**Foreign Direct Investments Inflows (as % of GDP)<sup>2</sup>**



**Notes:**

1: Data is for 12-month period ending March of respective years

2: Data is on calendar year basis and is for FDI Inflows into the country (without adjusting for Outward FDI)

Source: RBI, World Bank, IndiaDataHub, Macquarie Research, August 2020

Fig 95 Ease of Doing Business Rankings – World Bank

Ease of doing business ranking								
Rank	Economy	DB score	Rank	Economy	DB score	Rank	Economy	DB score
1	New Zealand	86.8	65	Puerto Rico (U.S.)	70.1	128	Barbados	57.9
2	Singapore	86.2	66	Brunei Darussalam	70.1	129	Ecuador	57.7
3	Hong Kong SAR, China	85.3	67	Colombia	70.1	130	St. Vincent and the Grenadines	57.1
4	Denmark	85.3	68	Oman	70.0	131	Nigeria	56.9
5	Korea, Rep.	84.0	69	Uzbekistan	69.9	132	Niger	56.8
6	United States	84.0	70	Vietnam	69.8	133	Honduras	56.3
7	Georgia	83.7	71	Jamaica	69.7	134	Guyana	55.5
8	United Kingdom	83.5	72	Luxembourg	69.6	135	Belize	55.5
9	Norway	82.6	73	Indonesia	69.6	136	Solomon Islands	55.3
10	Sweden	82.0	74	Costa Rica	69.2	137	Cabo Verde	55.0
11	Lithuania	81.6	75	Jordan	69.0	138	Mozambique	55.0
12	Malaysia	81.5	76	Peru	68.7	139	St. Kitts and Nevis	54.6
13	Mauritius	81.5	77	Qatar	68.7	140	Zimbabwe	54.5
14	Australia	81.2	78	Tunisia	68.7	141	Tanzania	54.5
15	Taiwan, China	80.9	79	Greece	68.4	142	Nicaragua	54.4
16	United Arab Emirates	80.9	80	Kyrgyz Republic	67.8	143	Lebanon	54.3
17	North Macedonia	80.7	81	Mongolia	67.8	144	Cambodia	53.8
18	Estonia	80.6	82	Albania	67.7	145	Palau	53.7
19	Latvia	80.3	83	Kuwait	67.4	146	Grenada	53.4
20	Finland	80.2	84	South Africa	67.0	147	Maldives	53.3
21	Thailand	80.1	85	Zambia	66.9	148	Mali	52.9
22	Germany	79.7	86	Panama	66.6	149	Benin	52.4
23	Canada	79.6	87	Botswana	66.2	150	Bolivia	51.7
24	Ireland	79.6	88	Malta	66.1	151	Burkina Faso	51.4
25	Kazakhstan	79.6	89	Bhutan	66.0	152	Mauritania	51.1
26	Iceland	79.0	90	Bosnia and Herzegovina	65.4	153	Marshall Islands	50.9
27	Austria	78.7	91	El Salvador	65.3	154	Lao PDR	50.8
28	Russian Federation	78.2	92	San Marino	64.2	155	Gambia, The	50.3
29	Japan	78.0	93	St. Lucia	63.7	156	Guinea	49.4
30	Spain	77.9	94	Nepal	63.2	157	Algeria	48.6
31	China	77.9	95	Philippines	62.8	158	Micronesia, Fed. Sts.	48.1
32	France	76.8	96	Guatemala	62.6	159	Ethiopia	48.0
33	Turkey	76.8	97	Togo	62.3	160	Comoros	47.9
34	Azerbaijan	76.7	98	Samoa	62.1	161	Madagascar	47.7
35	Israel	76.7	99	Sri Lanka	61.8	162	Suriname	47.5
36	Switzerland	76.6	100	Seychelles	61.7	163	Sierra Leone	47.5
37	Slovenia	76.5	101	Uruguay	61.5	164	Kiribati	46.9
38	Rwanda	76.5	102	Fiji	61.5	165	Myanmar	46.8
39	Portugal	76.5	103	Tonga	61.4	166	Burundi	46.8
40	Poland	76.4	104	Namibia	61.4	167	Cameroon	46.1
41	Czech Republic	76.3	105	Trinidad and Tobago	61.3	168	Bangladesh	45.0
42	Netherlands	76.1	106	Tajikistan	61.3	169	Gabon	45.0
43	Bahrain	76.0	107	Vanuatu	61.1	170	São Tomé and Príncipe	45.0
44	Serbia	75.7	108	Pakistan	61.0	171	Sudan	44.8
45	Slovak Republic	75.6	109	Malawi	60.9	172	Iraq	44.7
46	Belgium	75.0	110	Côte d'Ivoire	60.7	173	Afghanistan	44.1
47	Armenia	74.5	111	Dominica	60.5	174	Guinea-Bissau	43.2
48	Moldova	74.4	112	Djibouti	60.5	175	Liberia	43.2
49	Belarus	74.3	113	Antigua and Barbuda	60.3	176	Syrian Arab Republic	42.0
50	Montenegro	73.8	114	Egypt, Arab Rep.	60.1	177	Angola	41.3
51	Croatia	73.6	115	Dominican Republic	60.0	178	Equatorial Guinea	41.1
52	Hungary	73.4	116	Uganda	60.0	179	Haiti	40.7
53	Morocco	73.4	117	West Bank and Gaza	60.0	180	Congo, Rep.	39.5
54	Cyprus	73.4	118	Ghana	60.0	181	Timor-Leste	39.4
55	Romania	73.3	119	Bahamas, The	59.9	182	Chad	36.9
56	Kenya	73.2	120	Papua New Guinea	59.8	183	Congo, Dem. Rep.	36.2
57	Kosovo	73.2	121	Eswatini	59.5	184	Central African Republic	35.6
58	Italy	72.9	122	Lesotho	59.4	185	South Sudan	34.6
59	Chile	72.6	123	Senegal	59.3	186	Libya	32.7
60	Mexico	72.4	124	Brazil	59.1	187	Yemen, Rep.	31.8
61	Bulgaria	72.0	125	Paraguay	59.1	188	Venezuela, RB	30.2
62	Saudi Arabia	71.6	126	Argentina	59.0	189	Eritrea	21.6
63	India	71.0	127	Iran, Islamic Rep.	58.5	190	Somalia	20.0
64	Ukraine	70.2						

Source: World Bank, August 2020

**Fig 96 Foreign Direct Investment by Sector – Manufacturing, Digital / Telecoms (particularly ~\$20 billion from likes of Facebook, Google etc into Reliance's JIO this year), Financials dominate**

(y/e March)

(US\$ billion)	2010	2015	2018	2019	2020
<b>Foreign Direct Investment into India</b>	33.1	35.3	39.4	43.3	56.0
Gross Inflows	37.7	45.1	61.0	62.0	74.4
- Equity	27.1	31.9	45.5	45.1	51.7
- Reinvested Earnings	8.7	10.0	12.5	13.7	14.2
- Other Capital	1.9	3.2	2.9	3.3	8.5
Repatriation	4.6	9.9	21.5	18.7	18.4
<b>FDI from Key Countries<sup>1</sup></b>					
Singapore	2.2	5.1	9.3	14.6	
Mauritius	9.8	5.9	13.4	6.6	
USA	2.2	2.0	2.0	2.8	\$↑
Japan	1.0	2.0	1.3	2.7	
Netherlands	0.8	2.2	2.7	2.5	
United Kingdom	0.6	1.9	0.7	1.2	
South Korea	0.2	0.1	0.3	1.0	
Cayman Islands	na	0.1	1.1	0.9	
UAE	0.4	0.3	0.4	0.9	
Germany	0.6	0.9	1.1	0.8	
<b>FDI in Key Sectors<sup>1</sup></b>					
Manufacturing	5.1	9.6	7.1	7.9	
Financial Services	2.2	3.1	4.1	6.4	
Communication Services	1.9	1.1	8.8	5.4	
Retail & Wholesale Trade	0.5	2.6	4.5	4.3	
Computer Services	0.9	2.2	3.2	3.5	
Business services	1.6	0.7	3.0	2.6	
Power Generation, Distribution	1.9	1.3	1.9	2.4	
Construction	3.5	1.6	1.3	2.0	
Transport	0.2	0.5	1.3	1.0	
Restaurants and Hotels	0.7	0.7	0.5	0.7	
Education, R&D	0.1	0.1	0.3	0.7	

**Notes:**

1: Only includes Equity component under automatic and approval route. Excludes FDI by way of acquisition of shares of existing companies or capital of unincorporated businesses.

Source: RBI, IndiaDataHub, Macquarie Research, August 2020.

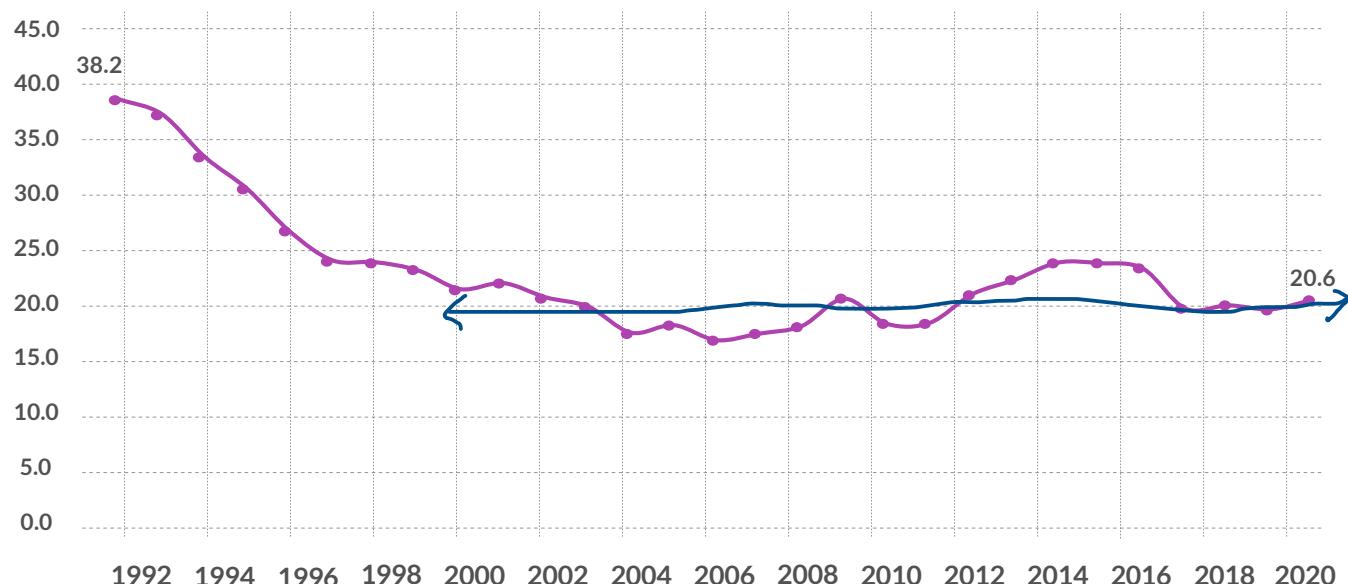
## External Debt

**Fig 97 External Debt** – for the past 20 years India's external debt to GDP has hovered around a low 20% (relative to other EMs, see next figure)

(y/e March)

(US\$ billion)	2005	2010	2015	2019	2020
<b>Total External Debt</b>	134	261	475	543	559
Multilateral	32	43	52	57	60
- <i>Government</i>	29	38	43	46	48
- <i>Others</i>	2.5	5.0	9.4	11	12
Bilateral	17	23	22	26	27
- <i>Government</i>	13	16	14	21	22
- <i>Others</i>	3.9	6.7	7.6	5.1	4.8
Trade Credit	21	64	94	110	109
NRI Deposits	33	48	115	130	131
Commercial Borrowings <sup>1</sup>	28	74	181	208	222
Others	3.3	9.2	9.7	11	10
<b>Memo Items</b>					
Debt due in 12-months	32	108	183	236	237
Concessional Debt <sup>2</sup>	41	44	42	47	48
Sovereign Debt	48	67	90	104	101

### India's External Debt to GDP ratio<sup>3</sup>



#### Notes:

1: Includes overseas borrowings and Foreign Portfolio Investments in Indian Government securities and Corporate bonds

2: Includes the concessional portion of Multilateral and Bilateral debt and rupee denominated debt due to Russia payable through exports.

Source: RBI, IndiaDataHub, Macquarie Research, August 2020.

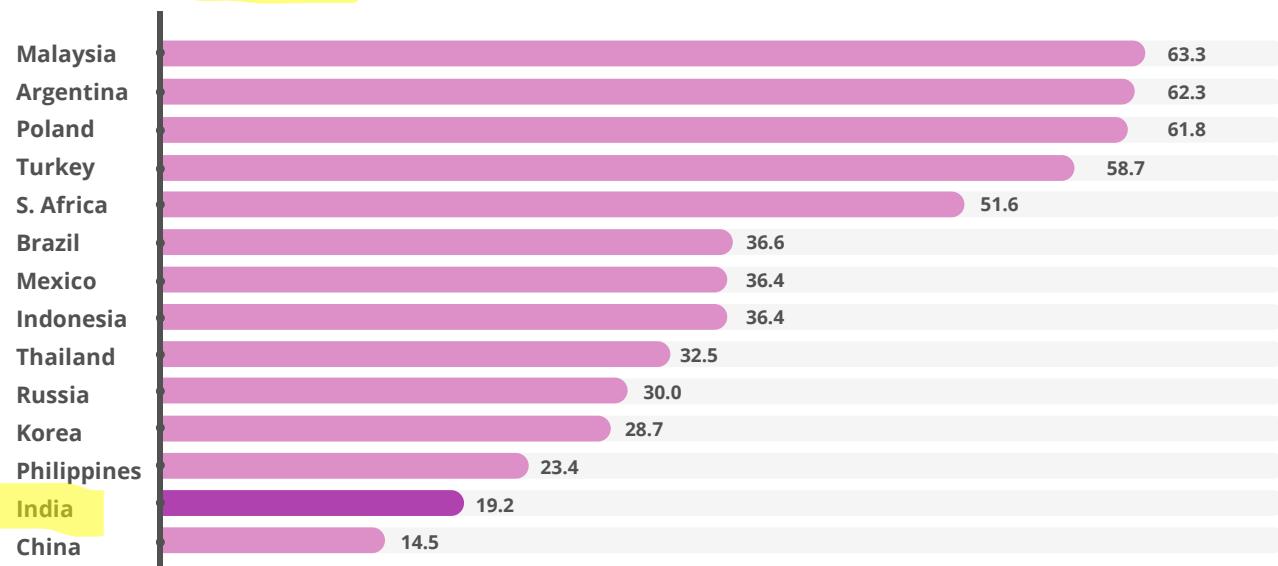
Fig 98 External Debt – India's reliance on foreign funding relative to GDP is low versus EM peers

(y/e March)

(US\$ billion)	2005	2010	2015	2019	2020
Annual External Debt Servicing	9.1	20	42	41	42
- Debt Repayments	6.1	14	30	24	
- Interest	3.0	5.7	13	17	
Foreign Exchange Reserves	142	279	342	413	478
Debt Service Ratio (%) <sup>1</sup>	5.9	5.8	7.6	6.4	6.5
External Debt Cover (x) <sup>2</sup>	1.1	1.1	0.7	0.8	0.9
<b>Currency wise composition of External Debt (% of total)</b>					
US Dollar	48	53	58	50	54
Indian Rupee	19	19	28	36	32
SDR	10	12	4.0	5.0	5.6
Japanese Yen	15	11	5.8	4.9	4.5
Others	7.6	5.9	4.1	4.0	4.3

### India's External Debt is low relative to peer group countries

#### External Debt to GDP ratio (Dec-2019)<sup>3</sup>



#### Notes:

1: Calculated as the ratio of debt servicing during the year to total current receipts. Total current receipts = Merchandise exports plus Invisible receipts (services exports, remittances etc).

2: Calculated as ratio of foreign exchange reserves to external debt.

3: The External Debt data is as of December-2019 sourced from the World Bank while the GDP data is for 2019 from the IMF's World Economic Outlook Database (October-2019 edition) as the April-2020 edition did not provide nominal GDP estimates.

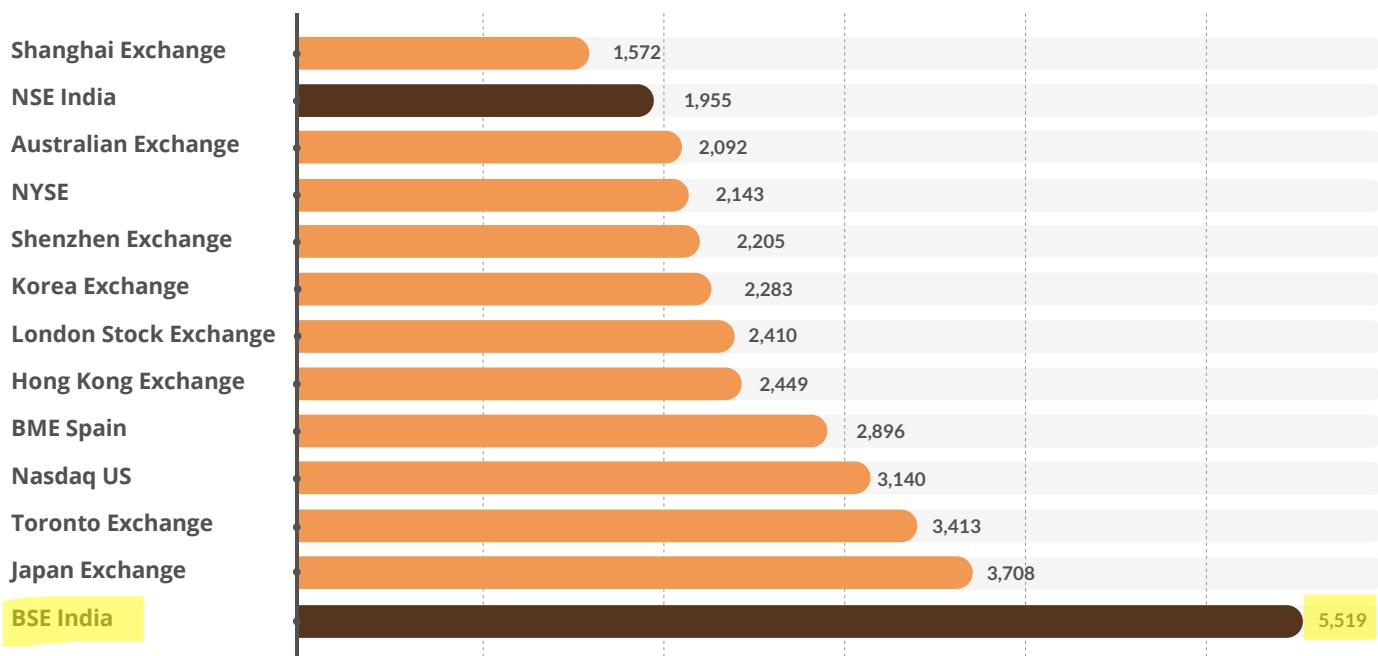
Source: RBI, Ministry of Finance, World Bank, IMF, IndiaDataHub, Macquarie Research, August 2020

# Capital Markets

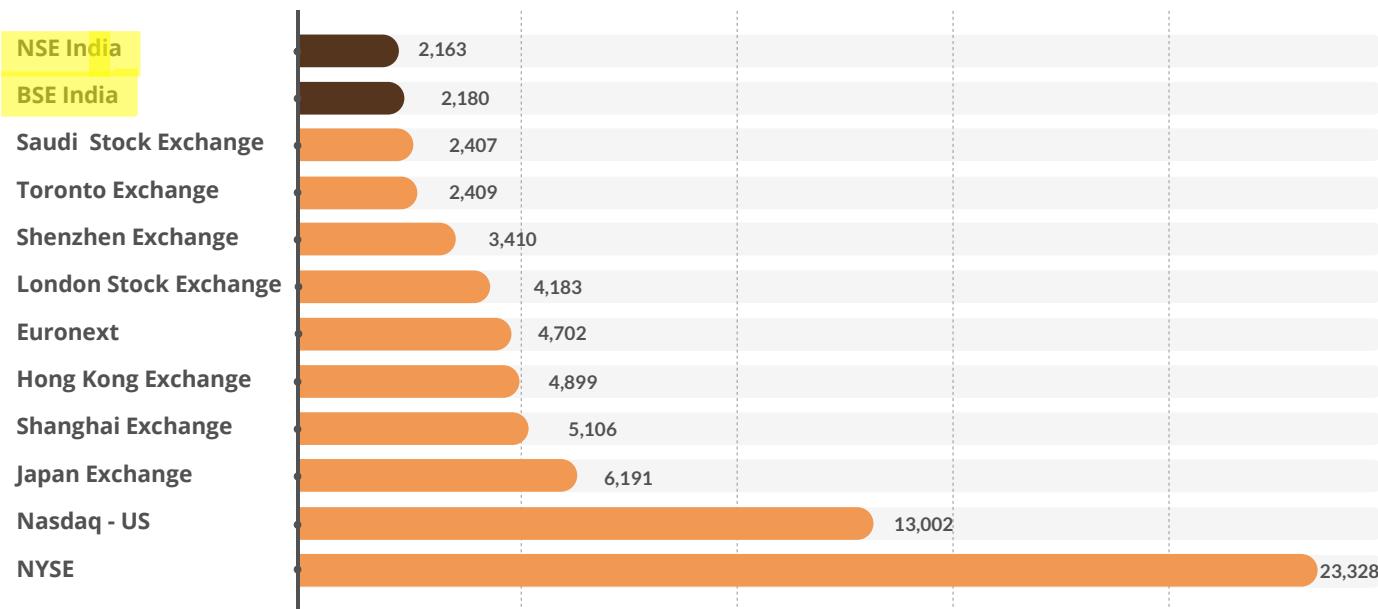
- Growth in Money Market Debt, relative to Bank Credit, has stagnated.
- Indian Rupee is the 16<sup>th</sup> most traded currency globally.
- An overwhelming 84% of listed companies have market capitalisation of less than \$150mn.
- Mutual Fund Folios are only 4% of the number of bank accounts; Share of AUM through direct plans has increased from 11% in 2014 to 19% in 2020 for Individual investors.

**Fig 99 Equity Markets – 1 on # of listed companies... but lower on market cap**

## Number of Listed Companies (Dec-2019)



## Stock Exchange Ranking by Market Capitalisation (USD billion, Dec-2019)



**Fig 100 Indian Equity Markets – Over 5000 listed companies in India... a level that hasn't changed much over the past decade**

(as of March end)

	2005	2010	2015	2019	2020
<b>Number of Listed Companies<sup>1</sup></b>	5,296	4,975	5,624	5,648	5,539
<b>Distribution of Number of Companies by Market Cap Range (%)<sup>2</sup></b>					
Companies with Market Cap > Rs 1000bn	0.0	0.5	0.6	0.8	0.6
Between Rs250bn to Rs1000bn	0.6	1.4	1.8	2.2	1.8
Between Rs 50bn to Rs 250bn	2.3	4.0	5.0	6.1	5.5
Between Rs10bn to Rs50bn	5.6	9.4	9.7	10.8	8.0
Companies with Market Cap < Rs10bn	91.6	84.8	82.8	80.1	84.2
<b>Distribution of Number of Companies by Sectors<sup>2</sup></b>					
Communication Services	2.5	3.0	3.0	3.1	3.0
- <i>Telecom</i>	0.3	0.3	0.3	0.3	0.3
- <i>Media</i>	2.0	2.4	2.4	2.5	2.5
Consumer Staples	7.5	7.1	7.0	7.4	7.8
Consumer Discretionary <sup>3</sup>	19.2	18.9	18.8	19.4	19.3
- <i>Autos</i>	3.7	3.5	3.1	3.1	3.2
Energy	1.3	1.3	1.2	1.0	1.1
Financials <sup>3</sup>	16.9	16.8	18.8	16.6	15.3
- <i>Banking</i>	1.5	1.4	1.2	1.2	1.3
- <i>NBFCs</i>	11.7	11.5	13.2	11.3	10.1
- <i>Insurance</i>	0.1	0.2	0.1	0.3	0.3
Health Care	6.1	5.6	5.2	5.4	5.8
Information Technology	7.1	7.0	6.5	6.3	6.0
Industrials <sup>3</sup>	15.9	16.1	16.4	17.7	18.3
- <i>Capital Goods</i>	4.5	3.9	3.6	3.6	3.7
Materials <sup>3</sup>	19.7	19.2	18.2	18.3	18.7
- <i>Metals</i>	6.7	6.8	6.7	6.5	6.6
- <i>Cement</i>	1.2	1.1	1.0	0.9	0.9
- <i>Chemicals</i>	8.6	7.9	7.2	7.3	7.5
Real Estate	3.1	3.9	3.9	3.6	3.4
Utilities	0.6	1.1	1.0	1.2	1.2

**Notes:**

1: Total Market Cap of all listed companies on the Bombay Stock Exchange as on 31st March of respective years.

2: Calculated as proportion of Total Market Capitalisation contributed by companies in the respective Category/Bucket/Sector. Companies with no sector flag are excluded in Sectoral distribution.

3: Only Key components shown

Source: Company data, IndiaDataHub, Macquarie Research, August 2020.

**Fig 101 Indian Equity Markets** – A near 7x expansion in market cap since 2005; ‘financials’ dominate with index contribution rising 10 points to ~25%, followed by ‘consumer staples’ at 14%, ‘IT’ has remained steady at 12%, while ‘energy’ has fallen to now sub 10%

(as of March end)

	2005	2010	2015	2019	2020
<b>Total Equity Market Cap (Rs trillion)<sup>1</sup></b>	17	62	101	151	113
<b>Distribution of Market Cap by Range (% of Market Cap)<sup>2</sup></b>					
Companies with Market Cap > Rs 1,000bn	8.1	36.3	42.8	48.1	45.6
Between Rs250bn to Rs1,000bn	36.1	27.0	28.2	25.2	25.8
Between Rs 50bn to Rs 250bn	28.9	21.0	18.1	18.0	20.1
Between Rs10bn to Rs50bn	15.7	11.0	7.6	6.3	5.7
Companies with Market Cap < Rs10 bn	11.3	4.8	3.3	2.4	2.8
<b>Distribution of Market Cap by Sectors<sup>2</sup></b>					
Communication Services	4.4	4.6	4.7	2.9	3.3
- <i>Telecom</i>	3.6	3.4	3.3	1.7	2.5
- <i>Media</i>	0.8	1.2	1.4	1.1	0.8
<b>Consumer Staples</b>	<b>6.6</b>	5.5	9.4	10.6	<b>13.9</b>
Consumer Discretionary <sup>3</sup>	7.3	6.5	10.6	9.8	8.0
- <i>Autos</i>	4.5	4.1	7.1	5.4	4.1
<b>Energy</b>	<b>19.0</b>	13.2	10.1	10.5	<b>9.8</b>
<b>Financials<sup>3</sup></b>	<b>14.1</b>	15.4	18.9	26.0	<b>24.4</b>
- <i>Banking</i>	11.1	10.4	12.0	15.2	13.4
- <i>NBFCs</i>	2.6	3.6	5.5	6.9	6.4
- <i>Insurance</i>	0.3	0.5	0.5	2.9	3.3
Health Care	5.1	4.0	8.0	5.4	6.2
Information Technology	13.7	9.2	12.6	11.2	12.4
Industrials <sup>3</sup>	8.2	15.0	10.2	8.2	7.0
- <i>Capital Goods</i>	3.4	4.4	3.2	2.1	1.9
Materials <sup>3</sup>	13.7	15.3	10.2	10.9	10.5
- <i>Metals</i>	8.1	11.0	3.6	3.6	2.5
- <i>Cement</i>	1.6	1.4	2.3	2.1	2.2
- <i>Chemicals</i>	2.2	1.6	2.3	2.9	3.1
Real Estate	0.2	2.4	1.1	1.0	0.9
Utilities	7.7	9.0	4.2	3.6	3.5

**Notes:**

1: Total Market Cap of all listed companies on the Bombay Stock Exchange as on 31st March of respective years.

2: Calculated as proportion of Total Market Capitalisation contributed by companies in the respective Category/Bucket/Sector. Companies with no sector flag are excluded in Sectoral distribution.

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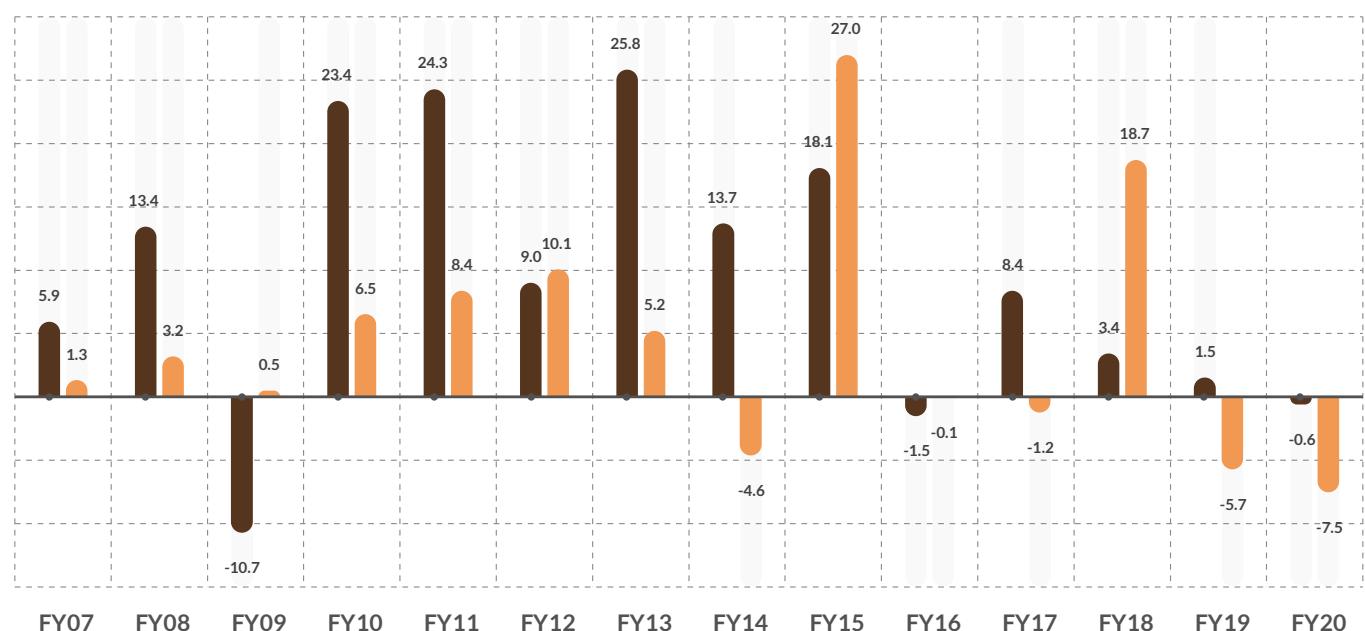
Source: Company data, IndiaDataHub, Macquarie Research, August 2020.

**Fig 102 Equity Market Ownership** – Still over 50% of ownership is with the promoter / insiders, within this over the past 15 years with divestments / stake sales the government's share has fallen from 25% to 7% and will fall further; foreign ownership (FPI) has remained steady at close to 20% over the past five years

(as of March end)

	2005	2010	2015	2019	2020
<b>Equity Market Ownership (%)</b>					
Promoters	56.0	56.4	51.3	49.9	51.0
- Government	25.3	23.1	12.0	8.6	6.6
Foreign Portfolio Investors	13.6	13.7	19.4	19.8	19.2
Domestic Institutional Investors	8.6	11.2	10.2	13.4	14.0
- Mutual Funds	2.8	3.9	4.0	7.4	8.1
- Insurance Cos	na	5.1	4.7	4.6	4.5
Others <sup>1</sup>	21.8	18.6	19.0	17.0	15.8
- Individuals	11.3	8.8	8.5	8.9	8.7

### Foreign Portfolio Flows in India (US\$ bn)



#### Notes:

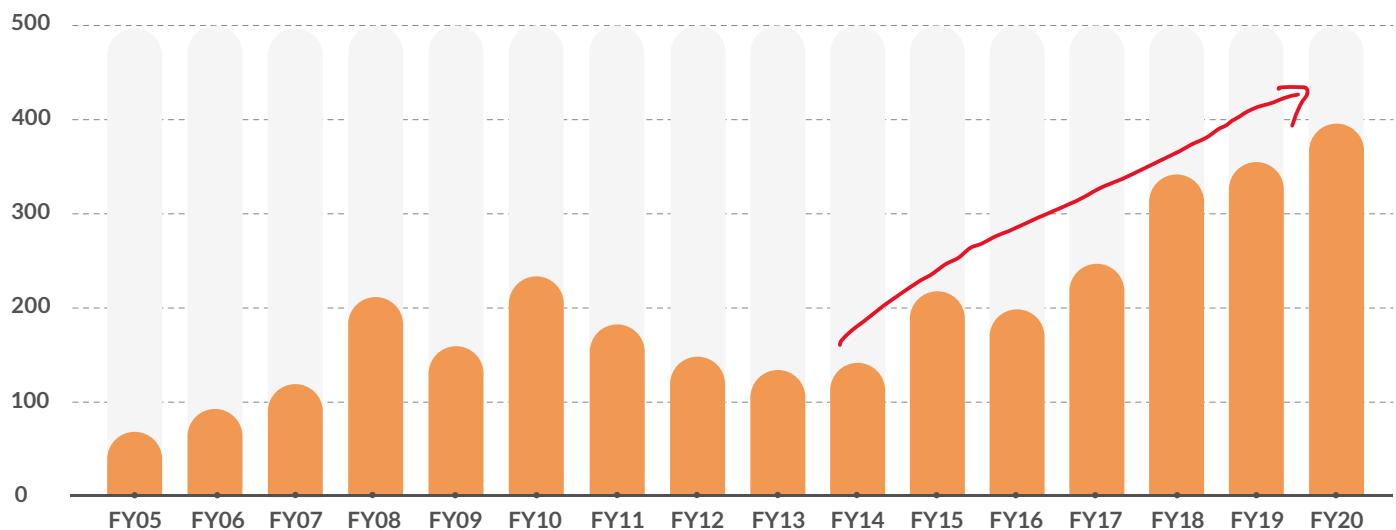
1: Others includes Individuals, HUFs, Corporates, ADR/GDRs

Source: Company data, IndiaDataHub, Macquarie Research, August 2020.

**Fig 103 Equity Market Turnover** – Average daily traded turnover in the cash market has doubled in the past four years and now over \$5 billion per day; equity derivatives notional market turnover an order of magnitude above cash equities

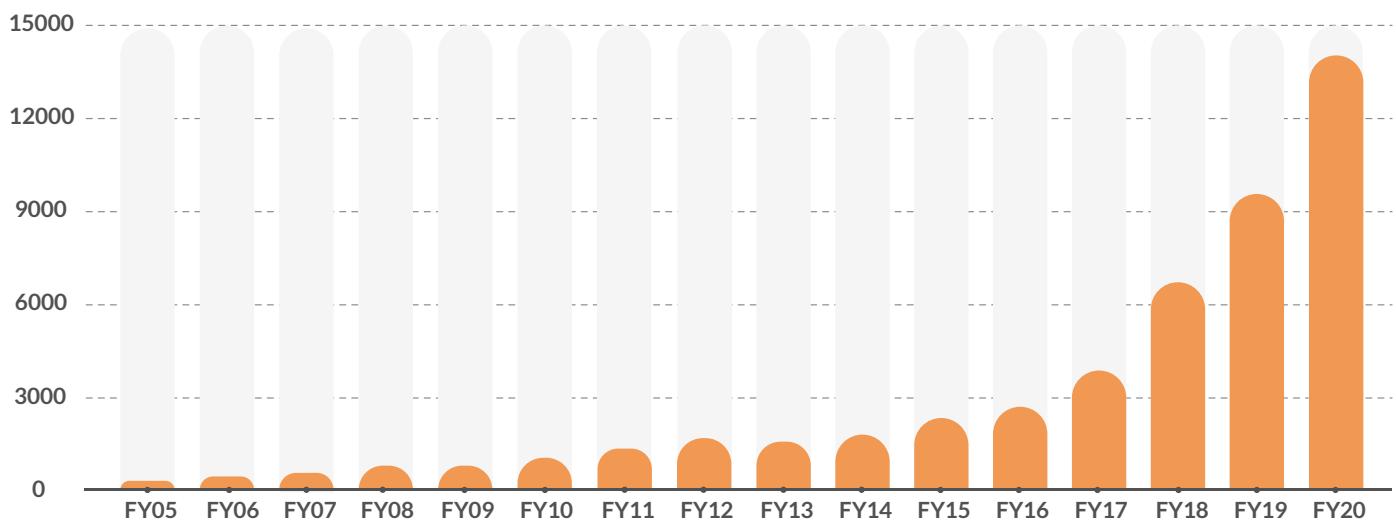
### Cash Market Turnover has almost doubled in the last 4 years

#### Average Daily Cash Equities Turnover (Rs bn)<sup>1</sup>



### Derivatives market turnover has increased 5x in the last 4 years

#### Average Daily Equity Derivatives Turnover (Rs bn)<sup>1</sup>



#### Notes:

1: Includes cash equities trades on both the BSE and the NSE

2: Includes Equity derivatives trades on the NSE only

Source: Company data, IndiaDataHub, Macquarie Research, August 2020.

**Fig 104 Equity Market Intermediaries – India remains an over-brokered market**

(as of March end)

	2005	2010	2015	2019	2020
<b>Market Intermediaries</b>					
<b>Number of Brokers</b>					
Cash Equities	9,129	9,772	6,147	2,315	4,249
Equity Derivatives	994	1,705	2,990	2,435	3,460
Currency Derivatives	na	1,459	2,406	2,110	2,708
Commodity Derivatives	na	na	na	1,708	2,257
Depository Participants	477	758	854	875	899
Custodians	11	17	19	20	19
Demat Accounts (million)	7.3	17	23	36	41
Foreign Portfolio Investors (FPIs) <sup>1</sup>	685	7,091	8,216	9,390	9,679
Domestic Venture Capital Funds	50	158	201	190	189
Foreign Venture Capital Investors	14	143	204	248	251
Alternative Investment Funds (AIF)	na	na	135	532	649
Mutual Funds	39	47	47	47	47
Merchant Bankers	128	164	197	209	215
Portfolio Managers	84	243	188	315	351

**Notes:**

1: Including Deemed FPIs and Sub Accounts

Source: SEBI, IndiaDataHub, Macquarie Research, August 2020.

## Debt

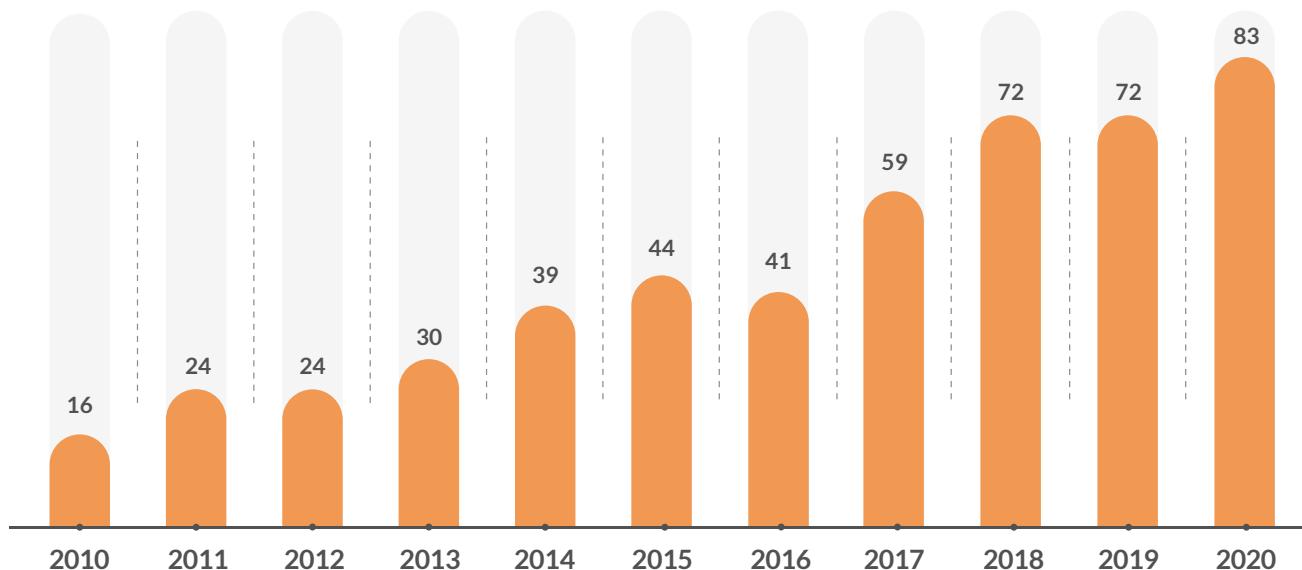
**Fig 105 Corporate Debt Market – ~\$500 billion today, about one-quarter of the size of equity markets**

(as of December end)

	2010	2015	2017	2018	2019
<b>Outstanding as on date (Rs billion)</b>					
<b>Money Market Debt<sup>1</sup></b>	9,361	23,400	32,523	36,866	38,593
Corporate Bonds	8,535	19,112	26,470	29,482	31,443
Commercial Paper	825	3,085	4,091	4,987	4,149
Securitised Debt	na	1,202	1,962	2,397	3,001
<b>Relative to Bank Credit (%)<sup>2</sup></b>					
<b>Money Market Debt<sup>1</sup></b>	24.9	33.5	39.8	39.6	38.7
Corporate Bonds	22.7	27.3	32.4	31.6	31.5
Commercial Paper	2.2	4.4	5.0	5.4	4.2
Securitised Debt	na	1.7	2.4	2.6	3.0
Outstanding Certificate of Deposits (Rs billion) <sup>3</sup>	3,614	2,066	1,270	1,807	1,607
- Relative to Bank Deposits (%)	7.2	2.3	1.2	1.5	1.2

### Despite growth, trading activity in the Bond Market remains modest

Average Daily Traded Volume in Corporate Debt Market (Rs bn)<sup>4,5</sup>



**Notes:**

1: Total Money Market Debt is summation of Outstanding Corporate Bonds, Securitised Debt and Commercial Papers

2: Bank Credit is total loans outstanding of all Scheduled Commercial Banks

3: Bank Deposits is the total deposits outstanding of all Scheduled Commercial Banks

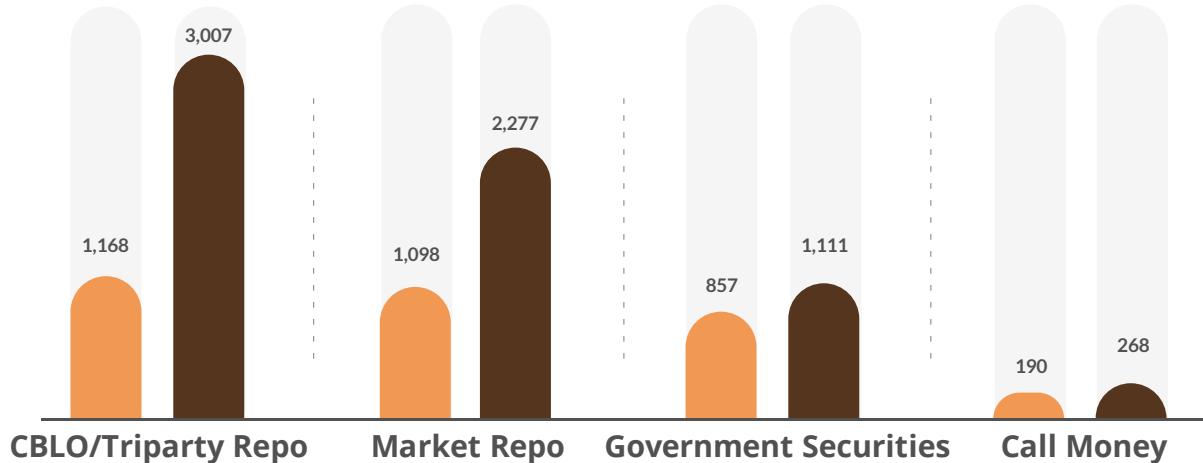
4: Data for 12-months ending March of respective year.

5: Average Daily Traded Volume is calculated by dividing Annual Traded Volume by 250 (number of trading days in a year, on average).

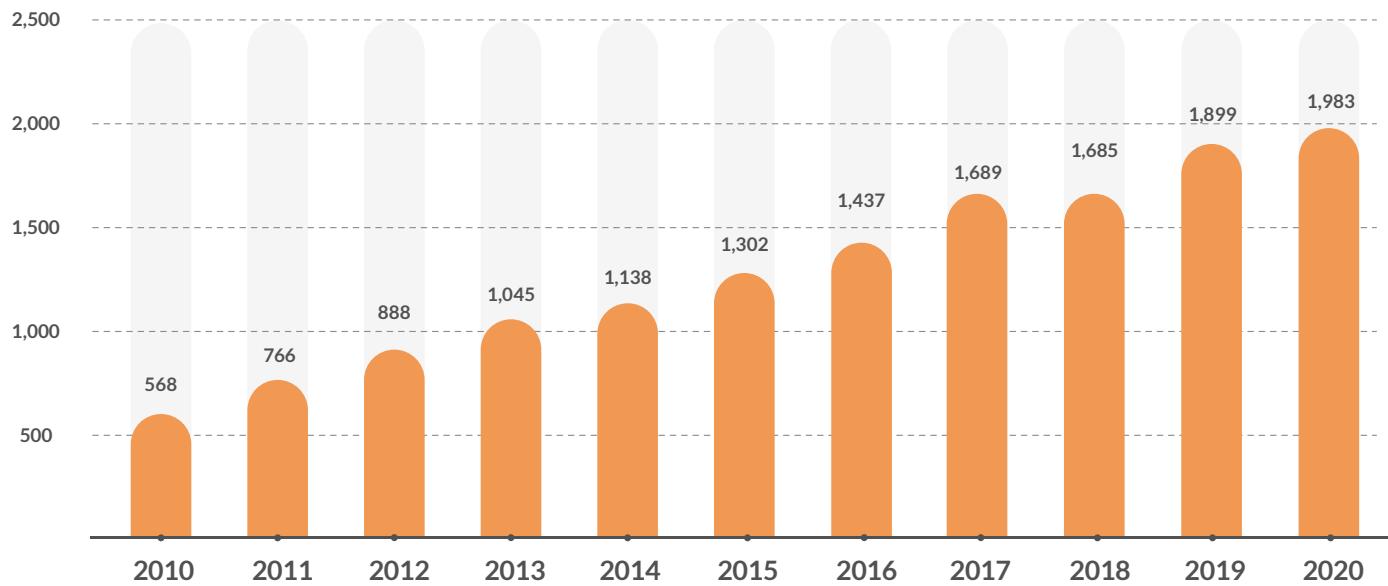
Source: SEBI, RBI, IndiaDataHub, Macquarie Research, August 2020.

**Fig 106 Money Market Turnover****Average Daily Turnover (Rs bn)<sup>1</sup>**

● 2015  
● 2020



**Average daily turnover in FX market has almost quadrupled over the last decade**

**Average Daily Turnover in FX market (Rs bn)<sup>2</sup>****Notes:**

1: Data is for year ending March of respective year.

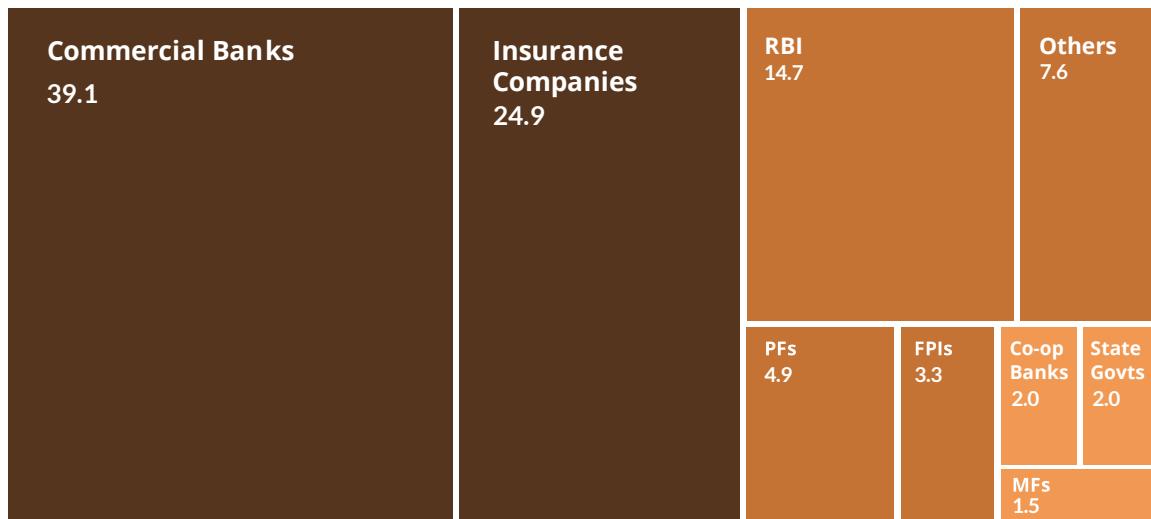
2: Data is for year ending March of respective year and includes turnover on Cash, Spot, Tom and Forward transactions. Daily turnover calculated assuming an average of 250 trading days in each year.

Source: CCIL, RBI, IndiaDataHub, Research, August 2020.

**Fig 107 Who owns debt issued by Government of India?** About 80% of govt long-dated debt is held by banks, insurance companies, RBI; mutual funds more active in the treasury bill market

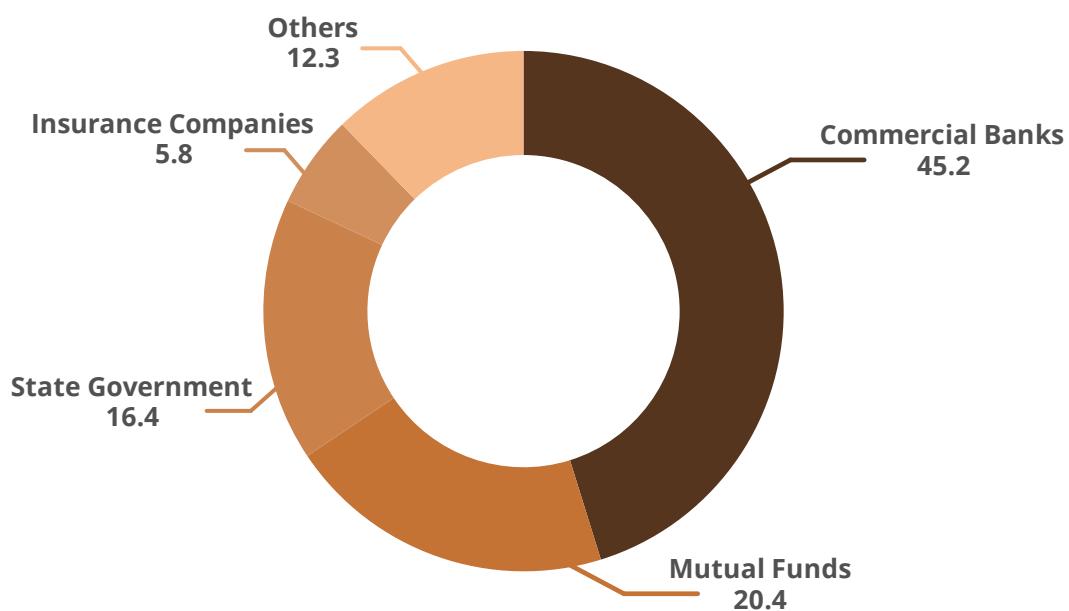
### While Banks are the biggest owners, RBI owns a seventh of Central Government securities

#### Ownership Pattern of Central Government Dated Securities (% of total, Dec-2019)<sup>1</sup>



### A Sixth of Central Government's Treasury Bills are owned by State Governments

#### Ownership of Central Governments Treasury Bills (% of total, Dec-2019)



#### Notes:

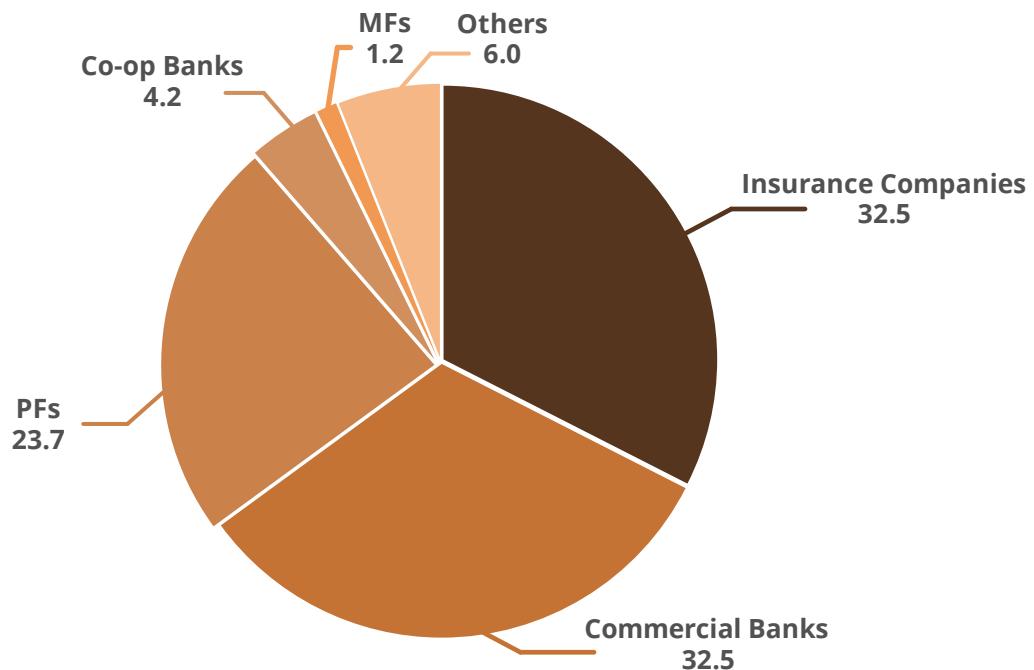
1: Co-op Banks refers to Cooperative Banks, MFs to Mutual funds, PFs to Provident Funds, FPIs to Foreign Portfolio Investors

Source: RBI, IndiaDataHub, Macquarie Research, August 2020.

**Fig 108 Who owns debt issued by State Governments?** An even split between insurance companies and commercial banks, mutual funds largely absent

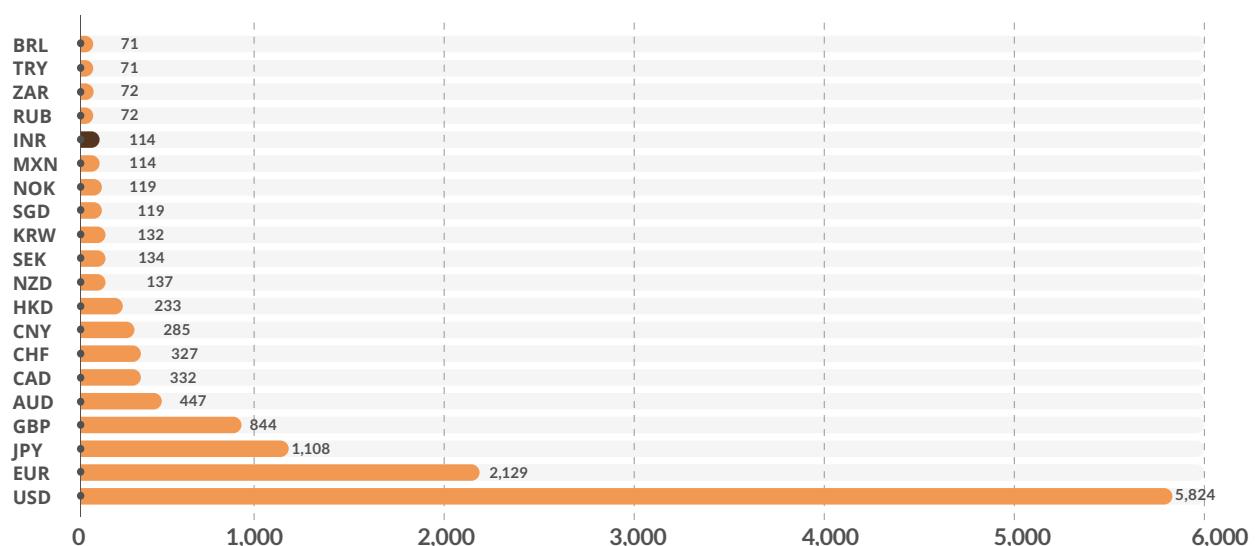
### Insurance companies and Banks own almost 2/3rds of State Government Securities

Ownership Pattern of State Government Securities (% of total, Dec-2019)<sup>1</sup>



### Indian Rupee (INR) is the 16th most traded currency globally

Daily Average OTC Foreign Exchange Turnover (USD Billion, Apr-2019)<sup>2</sup>



**Notes:**

1: MFs refers to Mutual funds, PFs to Provident Funds. Others include primary dealers

2: Data is from BIS's Triennial survey. Data is adjusted for local and cross-border inter-dealer double-counting

Source: RBI, BIS, IndiaDataHub, Macquarie Research, August 2020.

## Mutual Funds

**Fig 109 Mutual Fund Assets Under Management – 15x expansion in 15 years to ~\$300 billion; within this the share of investments in equity schemes has risen from ~30% towards 50%, while that in debt schemes has fallen from 70% to 50%**

(as of March)

	2005	2010	2015	2019	2020
<b>Assets under Management</b>					
<b>(Rs billion)</b>	<b>1,496</b>	<b>6,140</b>	<b>10,828</b>	<b>23,796</b>	<b>22,262</b>
Equity Oriented Schemes <sup>1</sup>	434	2,163	3,796	12,074	10,197
- <i>Equity Schemes</i> <sup>1,2</sup>	385	1,981	3,451	8,400	6,030
- <i>Balanced/Hybrid Schemes</i> <sup>1,2</sup>	49	172	264	2,327	2,621
- <i>Non-Gold ETFs</i>	0	10	81	1,346	1,465
- <i>Index Funds</i> <sup>3</sup>	na	na	na	na	81
Debt Oriented Schemes <sup>1</sup>	1,062	3,932	6,941	11,659	11,802
- <i>Debt Funds</i> <sup>1</sup>	476	3,117	5,170	7,216	7,550
- <i>Liquid/Money Market Schemes</i> <sup>1</sup>	541	781	1,626	4,362	4,149
- <i>Gilt Funds</i>	46	34	146	81	102
Gold ETFs	0	16	67	44	79
Solution Oriented Funds <sup>3,4</sup>	na	na	na	na	157
Fund of Funds Investing Abroad	0	29	24	19	27
<b>Assets under Management</b>					
<b>(% of total)</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Equity Oriented Schemes <sup>1</sup>	29	35	35	51	46
- <i>Equity Schemes</i> <sup>1,2</sup>	26	32	32	35	27
- <i>Balanced/Hybrid Schemes</i> <sup>1,2</sup>	3.3	2.8	2.4	10	12
- <i>Non-Gold ETFs</i>	0.0	0.2	0.7	5.7	6.6
- <i>Index Funds</i> <sup>3</sup>	na	na	na	na	0.4
Debt Oriented Schemes <sup>1</sup>	71	64	64	49	53
- <i>Debt Funds</i> <sup>1</sup>	32	51	48	30	34
- <i>Liquid/Money Market Schemes</i> <sup>1</sup>	36	13	15	18	19
- <i>Gilt Funds</i>	3.1	0.6	1.3	0.3	0.5
Gold ETFs	0.0	0.3	0.6	0.2	0.4
Solution Oriented Funds <sup>3,4</sup>	na	na	na	na	0.7
Fund of Funds Investing Abroad	0.0	0.5	0.2	0.1	0.1

**Notes:**

1: AMFI changed the classification of schemes from April-2019, consequently the data for 2020 is not strictly comparable with prior data

2: Arbitrage schemes are included in Balanced Schemes in 2019 and 2020 and were included in Equity Schemes in prior years

3: Entire category is assumed to consist of Equity Funds. This category has been separately available only from April-2019 onwards.

4: Includes Schemes like Retirement Plans and Children's Plans

Source: AMFI, IndiaDataHub, Macquarie Research, August 2020.

**Fig 110 Mutual Fund Accounts – The number of accounts for equity oriented schemes is over 10x that for debt...**

(as of March)

	2010	2015	2019	2020
<b>Number of Accounts/Folios (000s)</b>	<b>47,964</b>	<b>41,740</b>	<b>82,456</b>	<b>89,746</b>
<b>Equity Oriented Schemes<sup>1</sup></b>	<b>43,793</b>	<b>33,916</b>	<b>70,341</b>	<b>76,411</b>
- <i>Equity Schemes<sup>1,2</sup></i>	40,928	31,692	62,874	64,394
- <i>Balanced/Hybrid Schemes<sup>1,2</sup></i>	2,828	1,991	6,395	9,573
- <i>Non-Gold ETFs</i>	37	234	1,071	1,900
- <i>Index Funds<sup>3</sup></i>	na	na	na	544
<b>Debt Oriented Schemes<sup>1</sup></b>	<b>3,738</b>	<b>7,212</b>	<b>11,670</b>	<b>7,182</b>
- <i>Debt Funds<sup>1</sup></i>	3,467	6,835	9,927	5,129
- <i>Liquid/Money Market Schemes<sup>1</sup></i>	240	312	1,669	1,902
- <i>Gilt Funds</i>	32	65	74	151
Gold ETFs	147	466	321	527
Solution Oriented Funds <sup>3,4</sup>	na	na	na	5,437
Fund of Funds Investing Abroad	285	146	125	190
<b>Number of Accounts/Folios (% of total)</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Equity Oriented Schemes <sup>1</sup>	91	81	85	85
- <i>Equity Schemes<sup>1,2</sup></i>	85	76	76	72
- <i>Balanced/Hybrid Schemes<sup>1,2</sup></i>	5.9	4.8	7.8	11
- <i>Non-Gold ETFs</i>	0.1	0.6	1.3	2.1
- <i>Index Funds<sup>3</sup></i>	na	na	na	0.6
Debt Oriented Schemes <sup>1</sup>	7.8	17	14	8.0
- <i>Debt Funds<sup>1</sup></i>	7.2	16	12	5.7
- <i>Liquid/Money Market Schemes<sup>1</sup></i>	0.5	0.7	2.0	2.1
- <i>Gilt Funds</i>	0.1	0.2	0.1	0.2
Gold ETFs	0.3	1.1	0.4	0.6
Solution Oriented Funds <sup>3,4</sup>	na	na	na	6.1
Fund of Funds Investing Abroad	0.6	0.4	0.2	0.2

**Notes:**

1: AMFI changed the classification of schemes from April-2019, consequently the data for 2020 is not strictly comparable with prior data

2: Arbitrage schemes are included in Balanced Schemes in 2019 and 2020 and were included in Equity Schemes in prior years

3: Entire category is assumed to consist of Equity funds. This data has been separately available only from April-2019 onwards.

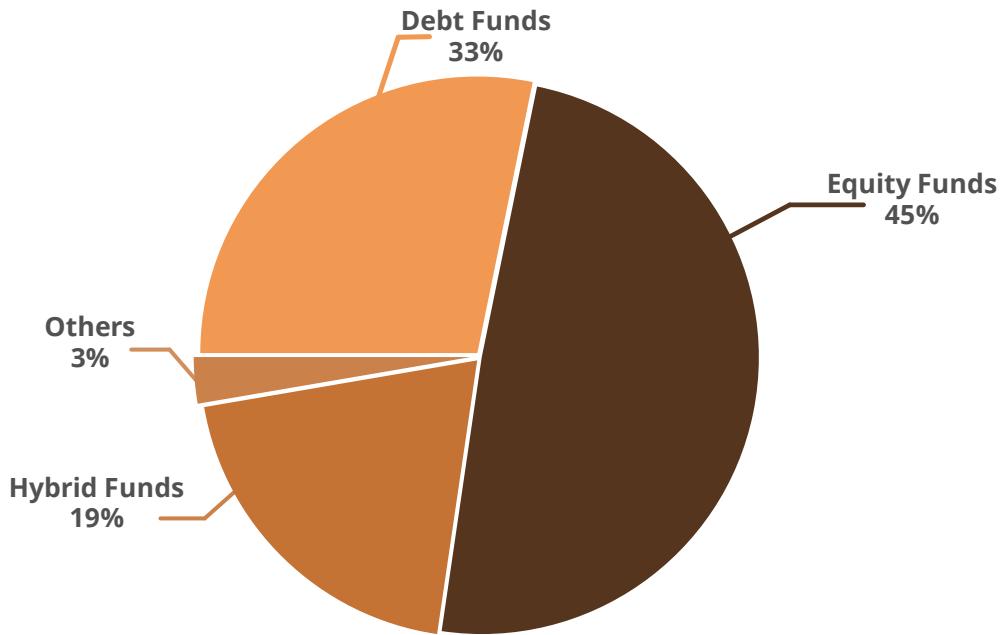
4: Includes Schemes like Retirement Plans and Children's Plans

Source: AMFI, IndiaDataHub, Macquarie Research, August 2020.

**Fig 111 Mutual Fund Accounts – ... but average \$ account size for debt funds about 7x that of pure equity funds**

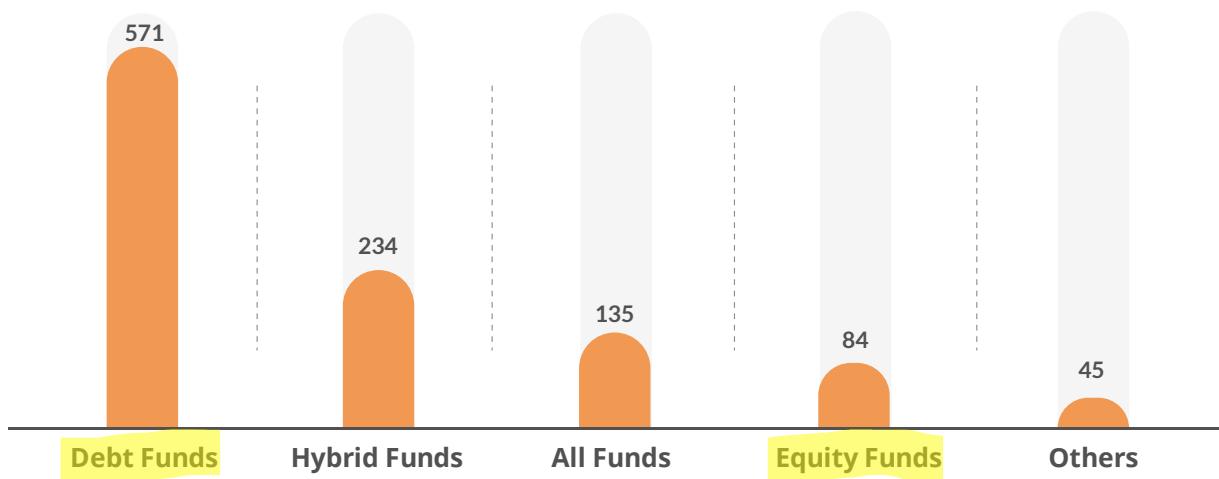
### Composition of Individual Investor's AUM in Mutual Funds

Total AUM: Rs 11,971 bn (March-2020)<sup>1</sup>



### Average Investment in Debt Funds by Individuals is 5x that in Equity Funds

Average Account/Folio size of Individual Investors (Rs 000s, March-2020)<sup>1</sup>



**Notes:**

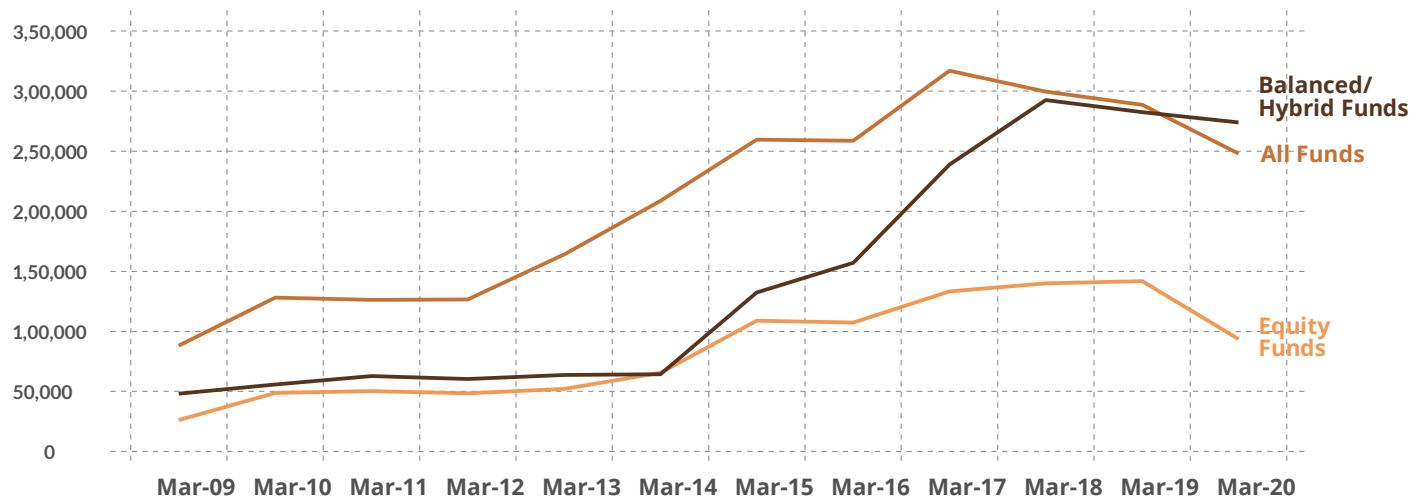
1: Debt AUM includes Liquid/Money Market funds, Income funds and Gilt funds. Equity funds include Equity/Growth schemes and ELSS schemes. Others includes ETFs, Index funds, Solution oriented funds and Fund of Funds investing abroad.

Source: AMFI, IndiaDataHub, Macquarie Research, August 2020.

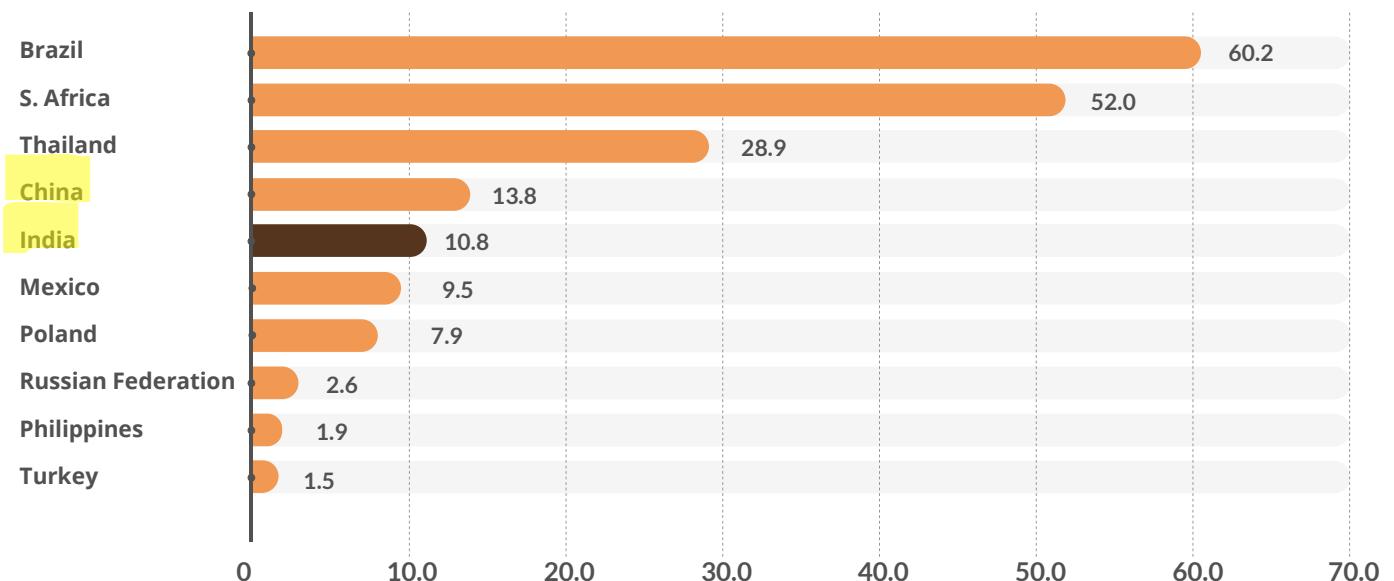
**Fig 112 Mutual Fund Accounts – A gradual reduction in account sizes over the past few years**

### Average Folio Size has trended down in recent years

#### Average Folio Size (Rs)



#### Mutual Fund assets to GDP (%) - 2017

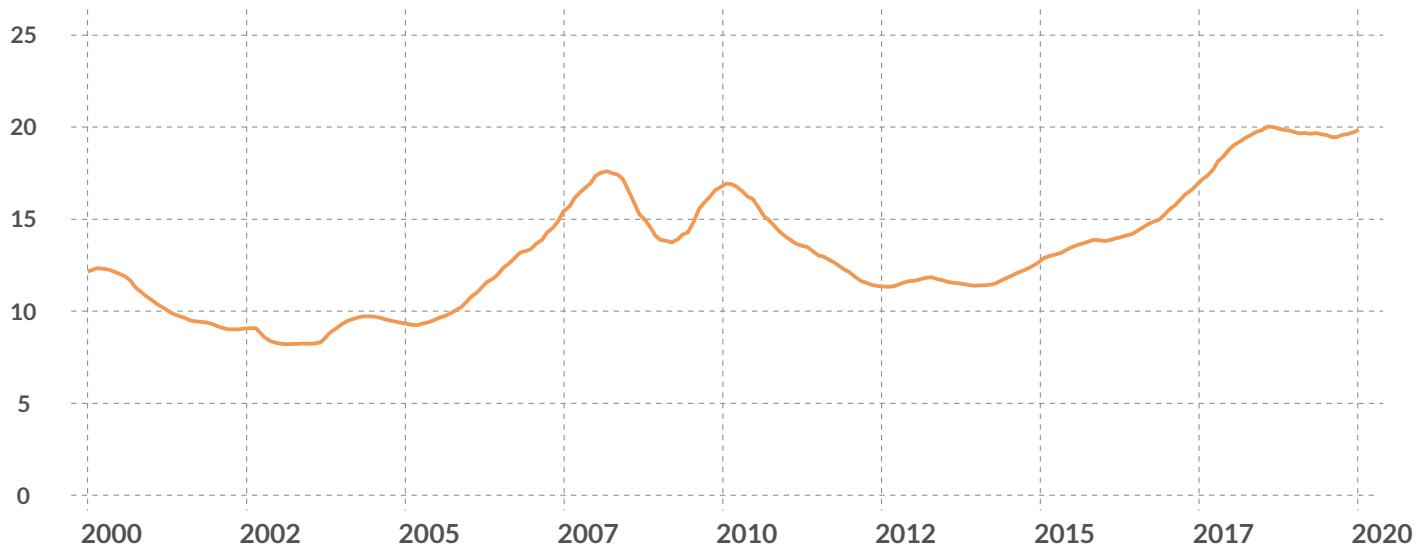


Source: AMFI, World Bank, IndiaDataHub, Macquarie Research, August 2020.

**Fig 113 Mutual Funds' Investments** – Money parked in mutual funds has been steadily rising over the past 6-7 years and for perspective this is now ~20% of bank deposits

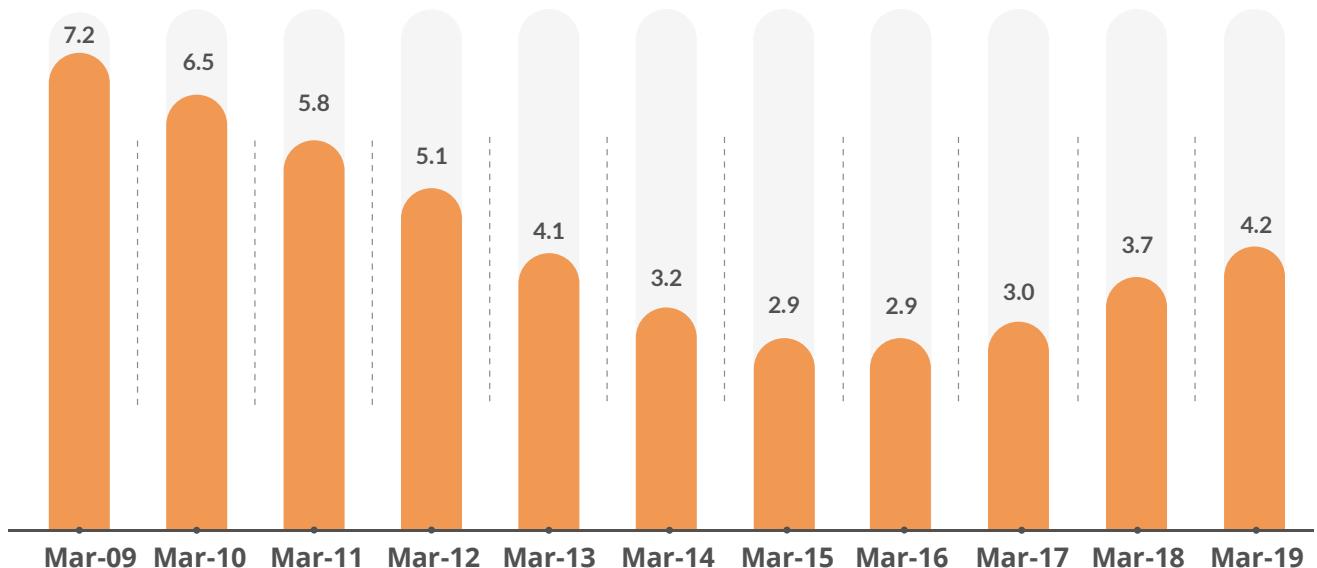
### Intermediation of Savings by Mutual Funds is small relative to that by Banks

#### Mutual Fund AUM as % of Aggregate Deposits of Scheduled Commercial Banks



### Breadth of Mutual Fund coverage is very low relative to Banking Sector<sup>1</sup>

#### Number of Mutual Fund Folios as % of Number of Bank Accounts



#### Notes:

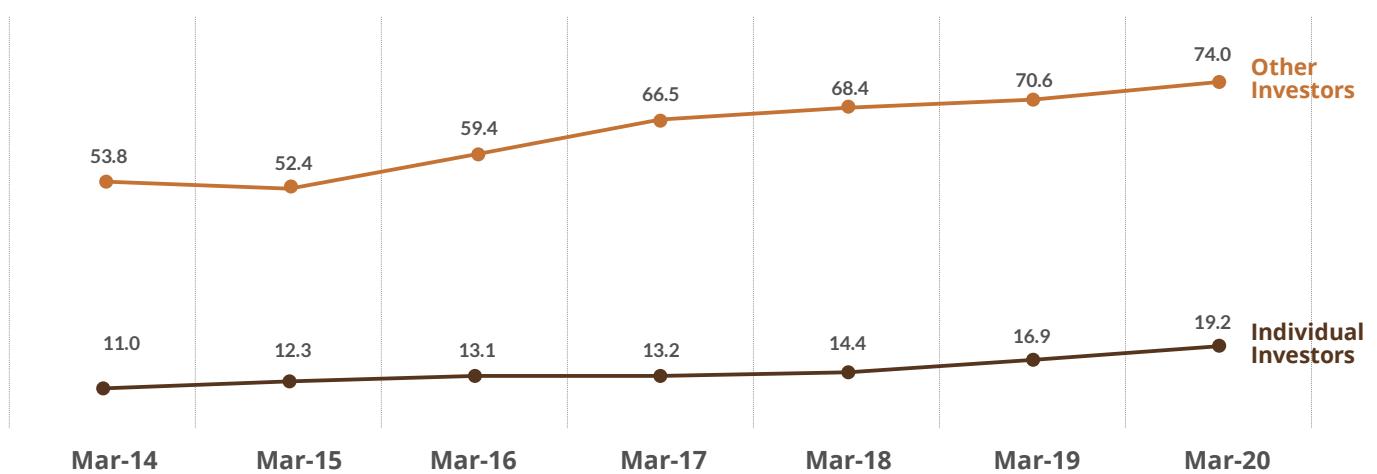
1: Bank Accounts include all Deposit Accounts - Savings, Current and Term - with Scheduled Commercial Banks

Source: AMFI, RBI, IndiaDataHub, Macquarie Research, August 2020.

Fig 114 Mutual Fund Flows – Growing inflows into equity schemes...

(as of March)

	2005	2010	2015	2019	2020
<b>Total Net Inflows into all Mutual Fund Schemes (Rs billion)</b>	32	831	1,033	1,097	870
<b>Equity Oriented Schemes<sup>1</sup></b>	66	14	831	1,582	1,223
- <i>Equity Schemes<sup>1,2</sup></i>	63	21	710	1,119	813
- <i>Balanced/Hybrid Schemes<sup>1,2</sup></i>	4	-7	98	30	-238
- <i>Non-Gold ETFs</i>	0	-0	23	434	598
- <i>Index Funds<sup>3</sup></i>	na	na	na	na	50
<b>Debt Oriented Schemes<sup>1</sup></b>	-34	812	226	-483	-403
- <i>Debt Funds<sup>1</sup></i>	-132	966	51	-1,210	-339
- <i>Liquid/Money Market Schemes<sup>1</sup></i>	103	-121	98	761	-75
- <i>Gilt Funds</i>	-6	-33	77	-34	11
<b>Gold ETFs</b>	0	8	-15	-4	16
<b>Solution Oriented Funds<sup>3,4</sup></b>	na	na	na	na	25
<b>Fund of Funds Investing Abroad</b>	0	-4	-9	2	9

**Adoption of Direct Plans is Increasing****Share of AUM in Direct Plans to Total AUM (%)****Notes:**

1: AMFI changed the classification of schemes from April-2019, consequently the data for 2020 is not strictly comparable with prior data

2: Arbitrage schemes are included in Balanced Schemes in 2019 and 2020 and were included in Equity Schemes in prior years

3: Separately available from April-2019 onwards

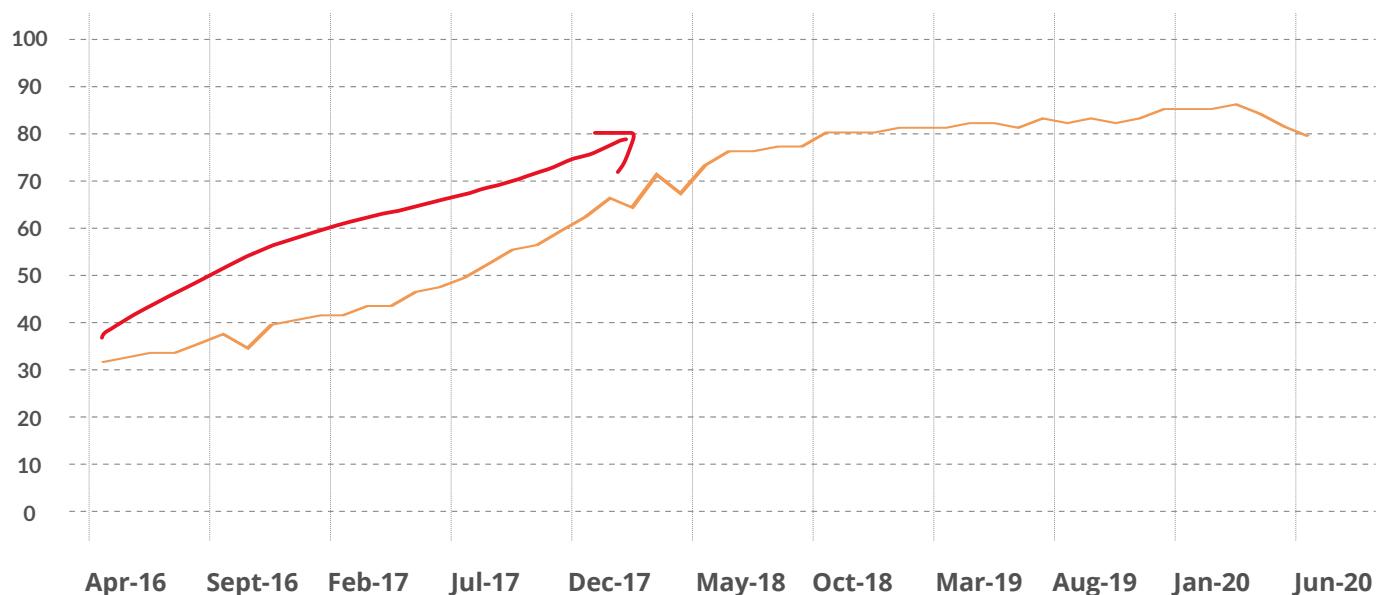
4: Includes Schemes like Retirement Plans and Children's Plans

Source: AMFI, IndiaDataHub, Macquarie Research, August 2020.

Fig 115 Mutual Fund Flows – ... supported by inflows into Systematic Investment Plans

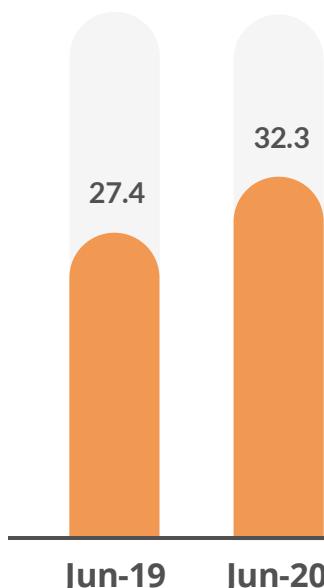
**Inflows under the Systematic Investment Plans have been very robust**

### Monthly SIP Inflows (Rs billion)

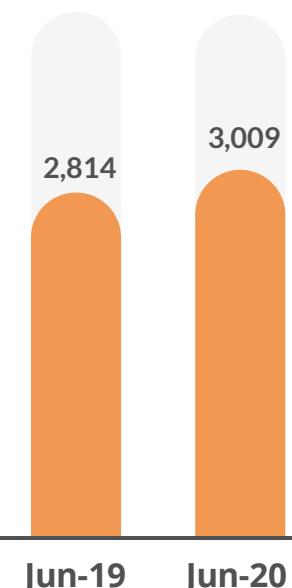


### Details of Systematic Investment Plans (SIP)

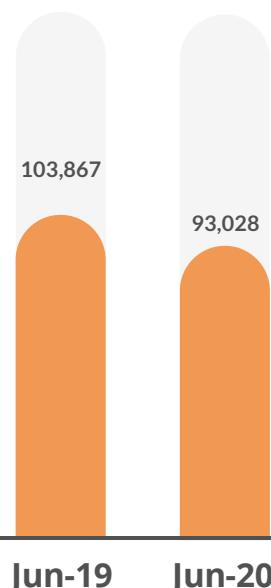
**Number of SIP Accounts (million)**



**SIP AUM (Rs billion)**



**Average balance per SIP Account (Rs)**



Source: AMFI, IndiaDataHub, Macquarie Research, August 2020.

**Fig 116 Mutual Fund AUM Composition** – Individuals account for ~90% of investment in equity schemes and only a third in debt schemes

(as of March)

	2010	2015	2019	2020
<b>Mutual Fund Assets Under Management (AUM) composition by Investor Category (%)<sup>1</sup></b>				
<b>Total AUM</b>				
Individuals	45.2	51.5	58.1	53.8
Corporates	51.0	45.9	40.1	44.4
Banks & Financial Institutions	2.9	1.2	1.3	1.7
Foreign Portfolio Investors	0.8	1.4	0.6	0.2
<b>Equity/Growth Schemes<sup>2</sup></b>				
Individuals	86.6	86.1	87.6	89.0
Corporates	11.5	12.2	11.8	10.4
Banks & Financial Institutions	1.1	0.3	0.1	0.2
Foreign Portfolio Investors	0.7	1.4	0.5	0.4
<b>Balanced/Hybrid Schemes</b>				
Individuals	86.4	85.8	92.1	84.6
Corporates	13.2	13.5	7.4	14.9
Banks & Financial Institutions	0.4	0.5	0.1	0.1
Foreign Portfolio Investors	0.0	0.2	0.4	0.4
<b>Debt Oriented Schemes<sup>3</sup></b>				
Individuals	22.2	33.3	36.0	33.9
Corporates	72.9	64.2	61.5	63.7
Banks & Financial Institutions	4.0	1.3	2.2	2.4
Foreign Portfolio Investors	0.9	1.2	0.3	0.1

**Notes:**

1: SEBI changed Mutual Fund scheme classifications from April-2019 and thus data in 2020 column is not strictly comparable with prior period data

2: Includes Equity or Growth Schemes and ELSS Schemes. Excludes Equity ETFs, Equity Index Funds and Balanced/Hybrid Funds

3: Includes Liquid/Money Market, Gilt and other Debt Schemes

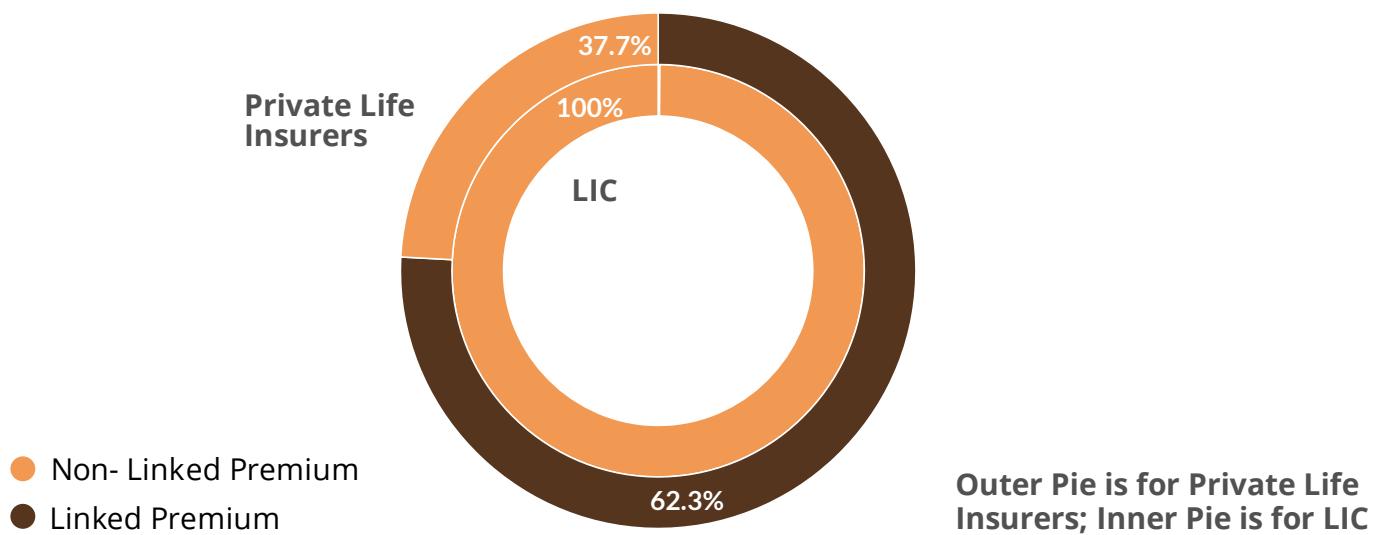
Source: AMFI, IndiaDataHub, Macquarie Research, August 2020.

## Insurance

**Fig 117 Life Insurance Structure** – Government-run LIC wholly focussed on savings products, while the private sector sells a mix of saving, participating (i.e. insurance + investments in equity/debt), and pure protection policies

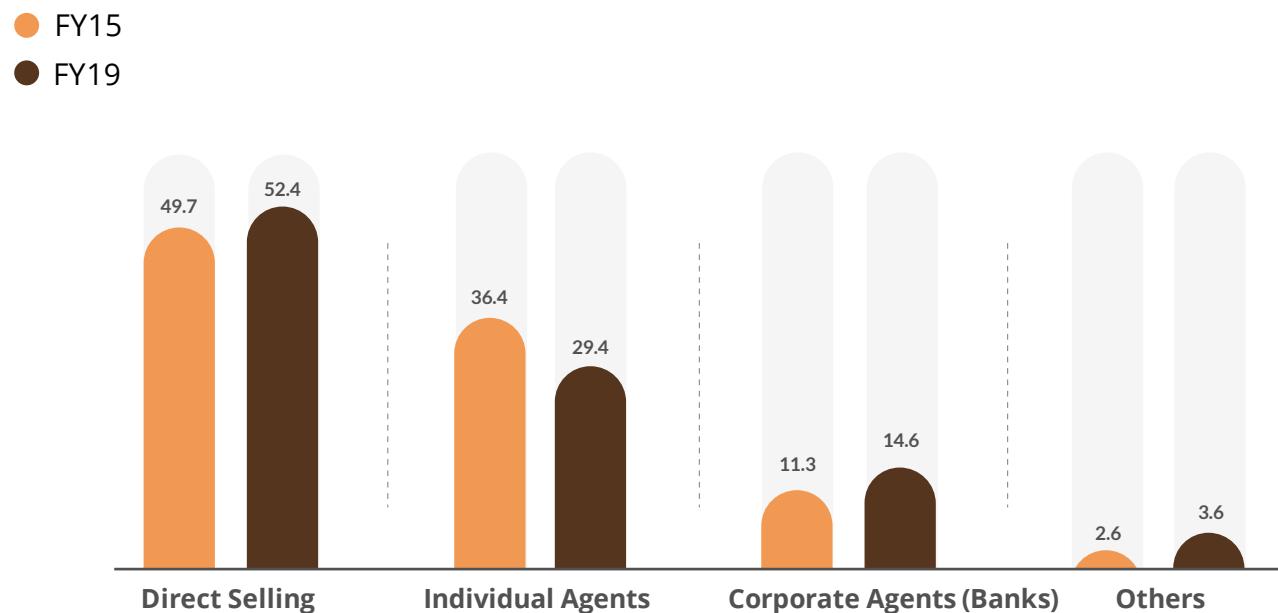
**LIC generates zero premium from Unit Linked policies while Pvt Insurers get almost 40%**

**Composition of New Business Premium (%): LIC vs. Private Insurers (2019)**



**Over Half of New Business Premium is mobilised through Direct Selling**

**Last Insurance New Business Premium share by Channel (%)**



**Notes:**

Others includes Online, Non-Bank Corporate Agents, Brokers, Web Aggregators etc

Source: IRDA, Life Insurance Council, IndiaDataHub, Macquarie Research, August 2020.

Fig 118 Life Insurance – Government controlled LIC still the dominant player with ~75% market share of new policies

(y/e March)

	2005	2010	2015	2019	2020
New Policies Issued (million)	26.2	53.2	25.9	28.7	28.9
<b>Total Premium collected (Rs billion)</b>	<b>829</b>	<b>2,654</b>	<b>3,281</b>	<b>5,081</b>	
New Business Premium <sup>1</sup>	262	1,099	1,133	2,150	2,589
- <i>Linked</i>		599	133	274	
- <i>Non-Linked</i>		500	1,001	1,876	
Renewal Premium	566	1,556	2,148	2,931	
- <i>Linked</i>		556	283	488	
- <i>Non-Linked</i>		1,000	1,864	2,444	
<b>LIC's Market Share</b>					
Number of New Policies	91.5	73.0	77.9	74.7	75.9
New Business Premium <sup>1</sup>	78.8	65.1	69.3	66.2	68.7
<b>Assets under Management (Rs billion)</b>	<b>4,285</b>	<b>12,125</b>	<b>22,475</b>	<b>35,331</b>	
Life Fund	3,662	7,313	14,953	23,475	
Pension/Annuity/Group Fund	547	1,436	3,895	7,743	
ULIP Fund	75	3,375	3,627	4,114	
<b>Total Investments (Rs billion)<sup>2</sup></b>		<b>12,899</b>	<b>23,442</b>	<b>36,657</b>	
Equity		4,469	6,300	9,007	
Fixed Income		8,109	16,828	27,132	
Others		322	312	519	

**Notes:**

1: Includes Premium on Single Premium policies also

2: Equity investments are at market value while Fixed Income investments are at Book value.

Source: IRDA, Life Insurance Council, IndiaDataHub, Macquarie Research, August 2020.

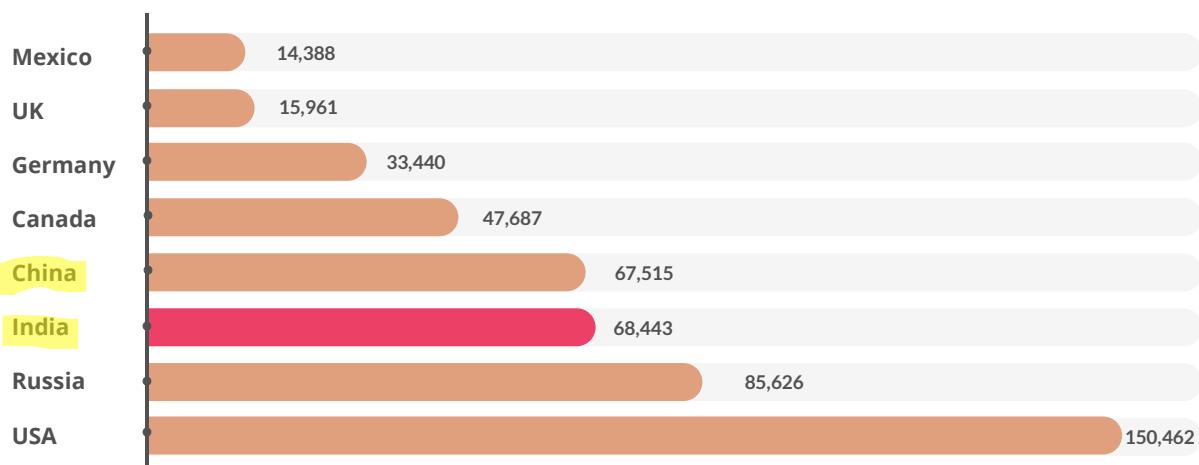
# Infrastructure

- While freight realisation of Indian Railways has kept pace with inflation, passenger fare realisation has lagged significantly.
- Less than a quarter of National Highways are multi-lane, and India has amongst the highest road accident fatalities in the world.
- Aviation passenger traffic had increased by more than 2.5x in the 10 years pre-Covid.
- Indian ports remain materially under-utilized at ~50% capacity utilisation.
- Wireless data consumption has increased by 3x in the last 2 years.

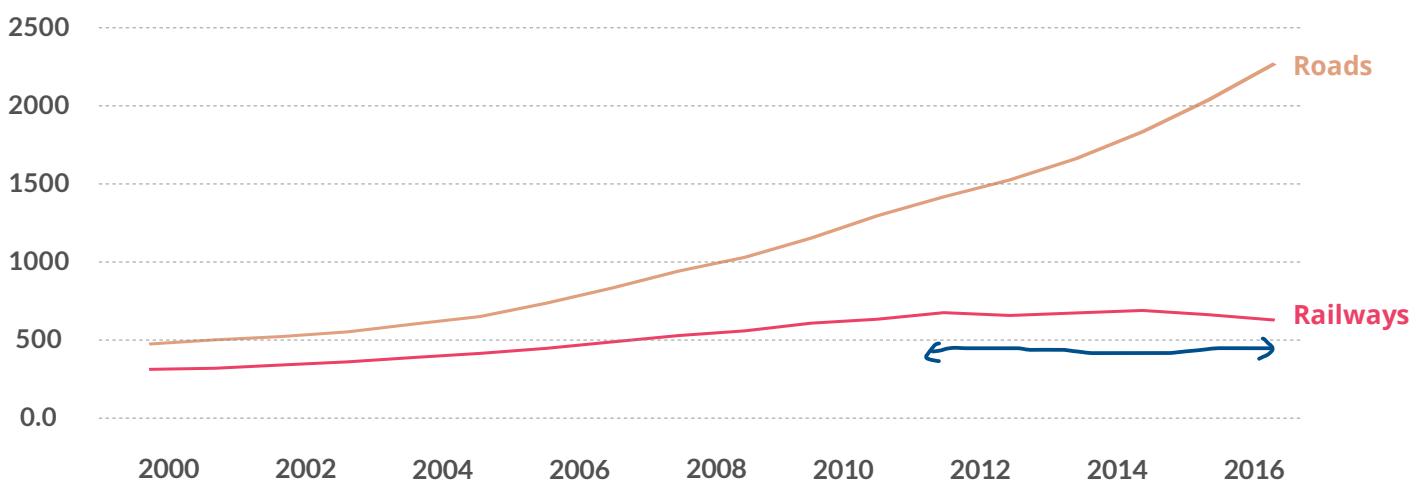
**Fig 119** India's railway network on a route kilometer basis is higher than China... yet railway freight continues to lose share to roads

## India has a bigger Railway network than China

### Railway Network (Route km, 2018)



### Freight carried by Roads vs Railway (Billion Tonnes km)<sup>1</sup>



#### Notes:

1: Roads Freight data is a modelled data based on elasticity of freight traffic estimated by the National Transport Development Policy Committee and released by Ministry of Road Transport & Highways. Railways data is actual net tonne kilometer

Source: Ministry of Railways, Ministry of Road Transport & Highways, World Bank, IndiaDataHub, Macquarie Research, August 2020

Fig 120 Railways – Passenger Traffic

(y/e March)

	2000	2010	2015	2018	2019
<b>Passengers Carried (millions)</b>	<b>4,585</b>	<b>7,246</b>	<b>8,224</b>	<b>8,286</b>	<b>8,439</b>
Suburban	2,771	3,876	4,505	4,665	4,784
Non-Suburban	1,814	3,370	3,719	3,620	3,655
- <i>Second Class</i>	1,776	3,284	3,581	3,462	3,476
- <i>Upper Classes</i> <sup>1</sup>	38	86	138	159	179
<b>Average Distance Travelled (km per Passenger)</b>	<b>94</b>	<b>125</b>	<b>140</b>	<b>142</b>	<b>137</b>
Suburban	31	34	34	32	31
Non-Suburban	191	229	268	284	277
<b>Average Passenger Fare (Paise per Passenger per km)</b>	<b>22</b>	<b>26</b>	<b>37</b>	<b>41</b>	<b>44</b>
Suburban	12	13	16	19	19
Non-Suburban	25	28	40	45	48
<b>Passenger Trains run Daily</b>	<b>8,354</b>	<b>11,262</b>	<b>13,098</b>	<b>13,452</b>	<b>13,523</b>
Suburban <sup>2</sup>	3,570	4,520	5,009	5,507	5,881
Non-Suburban	4,784	6,742	8,089	7,945	7,642

**Notes:**

1: Upper Classes includes AC 1st Class, AC Sleeper, AC 2-tier, AC 3-tier, First Class, AC Chair Car and Executive Class

2: Only Electric Multiple Unit (EMU) trains included

Source: Ministry of Railways, IndiaDataHub, Macquarie Research, August 2020

**Fig 121 Railway Freight** – Over 2015-19, total freight carried by Railways has grown just 11% or barely 2.6% CAGR predominantly because of rail network congestion. Such congestion impacts delivery timelines and service quality for clients and thus the railway share in India's freight transport has remained low between 25-30%. This scenario is set to change in the next 2 years with commissioning of Dedicated Freight Corridors which will eliminate congestion for rail freight. Key beneficiary in the listed space will be Concor due to expected modal shift of cargo from road to rail on the North-West route

	2000	2010	2015	2018	2019
<b>Freight Carried (million tonnes)<sup>1,2</sup></b>	<b>456</b>	<b>888</b>	<b>1,095</b>	<b>1,160</b>	<b>1,221</b>
Coal	210	396	546	555	606
Iron Ore <sup>3</sup>	na	133	113	140	137
Cement	44	93	110	113	117
Container Traffic <sup>4</sup>	na	35	48	54	60
Iron & Steel <sup>3,5</sup>	na	32	43	54	54
Fertilisers	31	44	47	49	52
Petroleum	34	39	41	43	43
Foodgrains	31	39	55	44	39
Others	na	78	92	108	113
Average Distance Covered (km per tonne)	669	676	622	598	605
Average Freight Realisation (Paise per Tonne per km)	71	95	151	164	166
Freight Trains run Daily	5,395	7,558	9,202	9,141	9,146
Average Speed of Goods Trains (km/hr) <sup>6</sup>	24.0	25.9	23.8	23.3	23.2

**Notes:**

1: Only includes Revenue Generating Traffic. Excludes non-Revenue Generating Traffic such as Railway's internal movement of Goods

2: Excludes Freight carried by the Konkan Railway (not a very material number).

3: Commodity Classification was changed from the year 2007-08 onwards and thus prior data is not comparable with current classification. Hence data for 2000 is not mentioned.

4: Container traffic data is not separately available for the year 2000

5: Includes Pig Iron and Finished Steel

6: Only for Broad Gauge

Source: Ministry of Railways, IndiaDataHub, Macquarie Research, August 2020

**Fig 122 Railway Infrastructure** – Out of 67,000 route-km (RKM) of Indian Railways, only 34,000 RKM were electrified as of 2019. Government has targeted to electrify all the routes in the coming few years and has made budget provision for electrification of 5000-6000 RKM every year for the last three announced budgets (FY19, FY20 and FY21). At this rate, railway electrification is likely to get completed in another 4 years. During this period, key beneficiaries will be KEC (for all project sizes), L&T (accepts large projects only) on the EPC side as well as ABB, BHEL and Siemens for supply of T&D equipment (transformers and substations). For KEC, railways is a fast-growing business and provides diversification from mainstay Utility scale T&D

(y/e March)

	2000	2010	2015	2018	2019
<b>Total Railways Route Length (000 km)</b>	<b>62.8</b>	<b>64.0</b>	<b>66.0</b>	<b>66.9</b>	<b>67.4</b>
Broad Gauge	44.4	54.3	58.8	62.0	62.9
Meter Gauge	15.0	7.2	4.9	3.2	2.8
Narrow Gauge	3.4	2.5	2.3	1.7	1.7
<b>Electrified Route Length (000 km)</b>	<b>14.3</b>	<b>18.9</b>	<b>22.2</b>	<b>29.2</b>	<b>34.3</b>
Broad Gauge	14.1	18.9	22.2	29.2	34.3
Meter Gauge	0.2	0.0	0.0	0.0	0.0
<b>Electrification Rate (%)</b>	22.7	29.6	33.7	43.7	50.9
<b>Number of Locomotives</b>	<b>7,517</b>	<b>8,889</b>	<b>10,773</b>	<b>11,764</b>	<b>12,147</b>
Electric	2,810	3,825	5,016	5,639	6,059
Diesel	4,651	5,022	5,714	6,086	6,049
Steam	56	42	43	39	39
Number of Coaching Stock	41,290	57,527	68,558	71,864	74,003
Number of Wagons	234,397	220,549	254,018	279,311	289,185
Number of Railway Stations	6,867	7,083	7,137	7,318	7,321
Number of Employees (000s)	1,577	1,362	1,326	1,270	1,227
<b>Train Accidents<sup>1,2</sup></b>	<b>464</b>	<b>165</b>	<b>131</b>	<b>72</b>	<b>59</b>
Derailment	344	80	60	53	46
Level Crossing Accidents	83	70	56	13	6
Collisions	20	9	5	3	0
Others	17	6	10	3	7
<b>Accident Casualties<sup>1,2</sup></b>	<b>336</b>	<b>320</b>	<b>442</b>	<b>210</b>	<b>106</b>
Injured	281	253	324	182	90
Killed	55	67	118	28	16

**Notes:**

1: Data for 2000 pertains to the year ended March-2001

2: Excluding Metro train systems and Konkan Railway. Casualties refer to Passengers only.

Source: Ministry of Railways, IndiaDataHub, Macquarie Research, August 2020

**Fig 123 Railway Operating Metrics** – Operating ratio of goods operations is just 59% whereas that of passenger operations is 192%... it is quite evident that freight operations are cross-subsidizing passenger trains at Indian Railways. This has kept freight rates high and India's logistics chains uncompetitive compared to global standards. With DFC commissioning, government is likely to utilize the freed-up capacity on conventional rail to run a greater number of premium trains such as Rajdhani and Vande Bharat. Recent decision to allow private passenger train operations is also a good move. These efforts will bring down the quantum of cross-subsidy and help rationalize freight rates as well as improve railway finances to enable modernization capex. Any rationalization in rail freight tariffs will benefit Concor

(y/e March)

(Rs billion)	2000	2010	2015	2018	2019
<b>Gross Earnings</b>	<b>331</b>	<b>871</b>	<b>1,567</b>	<b>1,787</b>	<b>1,899</b>
Passenger Revenues	96	235	422	486	511
- <i>Suburban</i>	10	17	25	28	28
- <i>Non-Suburban</i>	85	217	397	458	483
Goods Revenues	221	585	1,058	1,171	1,274
Others	15	51	87	130	115
<b>Total Expenses</b>	<b>308</b>	<b>829</b>	<b>1,430</b>	<b>1,758</b>	<b>1,848</b>
Ordinary Working Expenses	256	658	1,060	1,285	1,402
Depreciation Reserve	17	22	78	15	3
Pension Fund	35	149	292	458	443
Miscellaneous Receipts (net)	6.4	15	31	-12	-14
Net Revenue Receipts	27	55	168	17	38
Dividend to General Revenues	19	55	92	0.0	0.0
<b>Net Surplus</b>	<b>8.5</b>	<b>0.0</b>	<b>77</b>	<b>17</b>	<b>38</b>
<b>Operating Ratio</b>	<b>93.3</b>	<b>95.3</b>	<b>91.3</b>	<b>98.4</b>	<b>97.3</b>
Goods Operations				58.8	58.7
Coaching (Passenger) Operations				181.2	192.5
Cumulative Investment <sup>1</sup>	584	2,033	3,688	5,173	5,736
Incremental Annual Investment <sup>2</sup>	47	266	441	455	563
Incremental Investment to Gross Earnings Ratio (%)	14	31	28	25	30

**Notes:**

1: This includes both Fixed Assets, Inventory and Investments in other undertakings

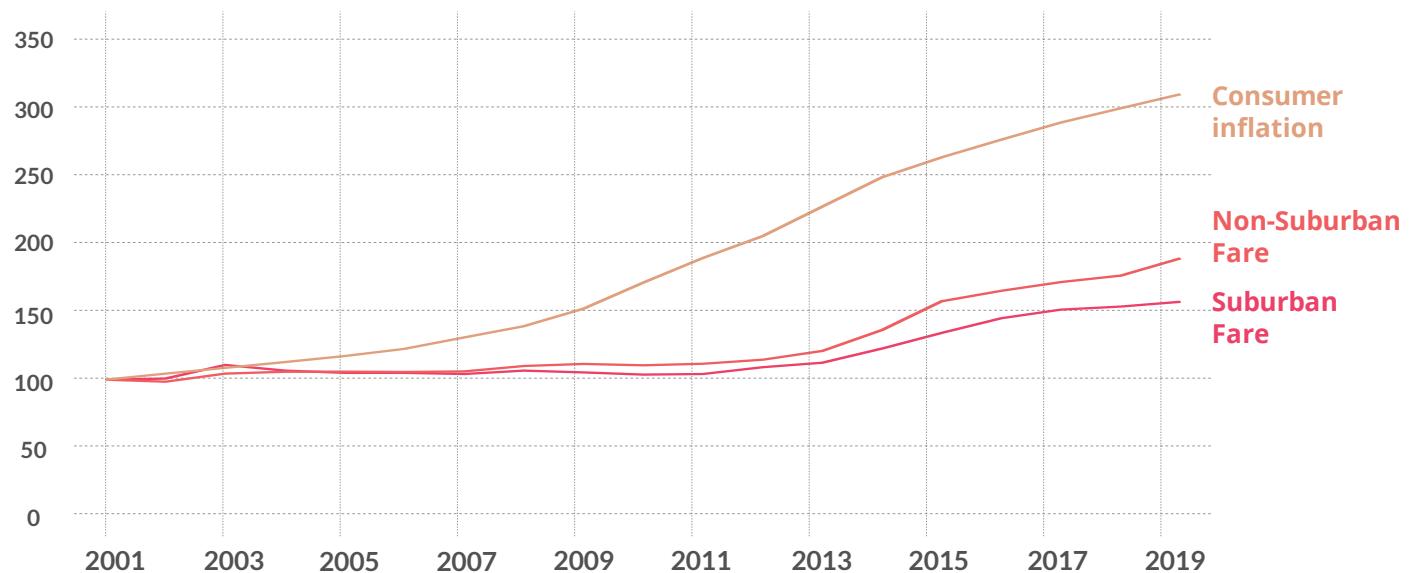
2: Calculated as the change in the stock of Investment (Cumulative Investment) during the year

Source: Ministry of Railways, IndiaDataHub, Macquarie Research, August 2020

**Fig 124 Railway Passenger Fares** – Passenger fares have significantly lagged inflation, while freight realizations have kept pace

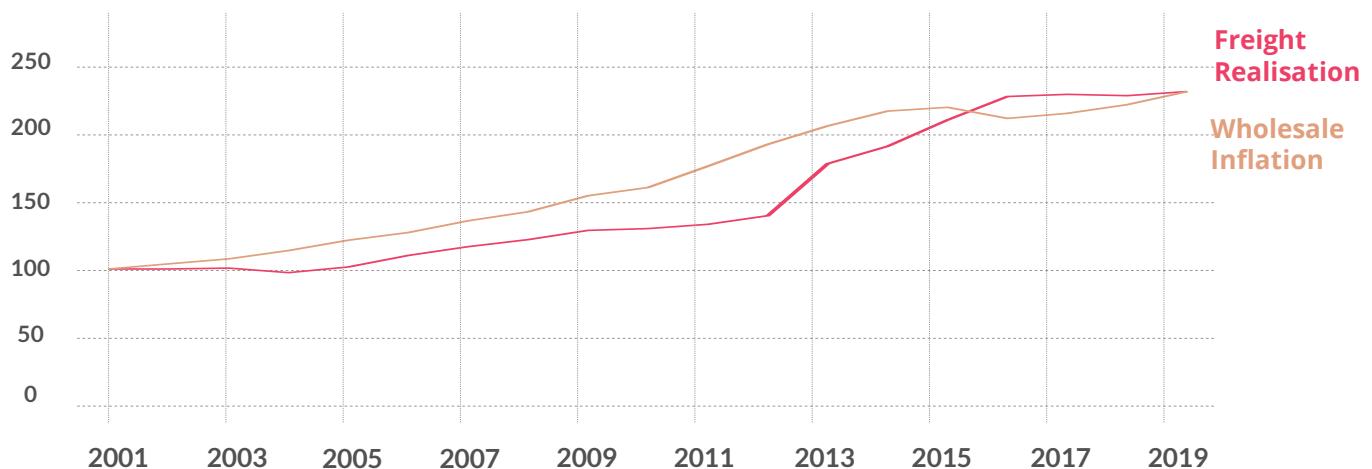
### Passenger Fares have significantly lagged Inflation

Railway Passenger Fare Realisation vs Inflation (2001=100)<sup>1,2</sup>



### Freight realisation has kept pace with Inflation

Railway Freight Business Realisation vs Inflation (2001=100)<sup>1,3</sup>



#### Notes:

1: Data for 12-months ending March of respective years.

2: Passenger Fare refers to Average realisation per passenger per Km. Consumer Inflation is the new CPI Inflation with 2012 as base year and CPI Industrial Workers prior to that.

3: Freight Realisation refers to Average realisation per net-tonne Km. Wholesale Inflation refers to WPI Inflation with base year 2011-12 and Older series of WPI prior to 2012.

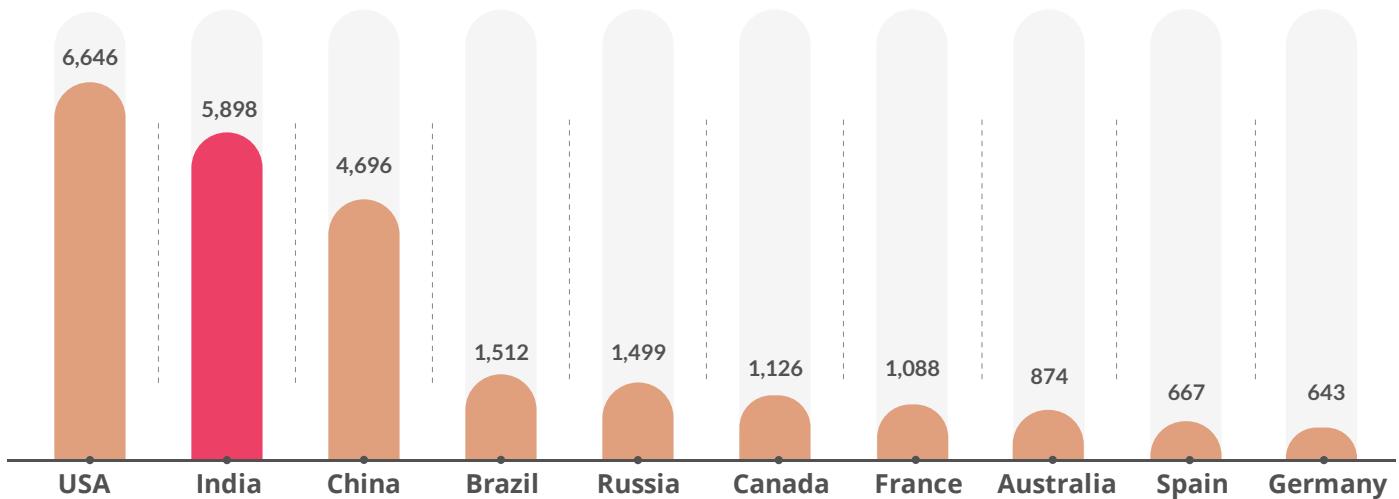
Source: Ministry of Railways, CSO, Office of Economic Advisor, IndiaDataHub, Macquarie Research, August 2020

## Roads

Fig 125 **India's road network is second longest in the world... but relative to the nation's large population there is more to be done**

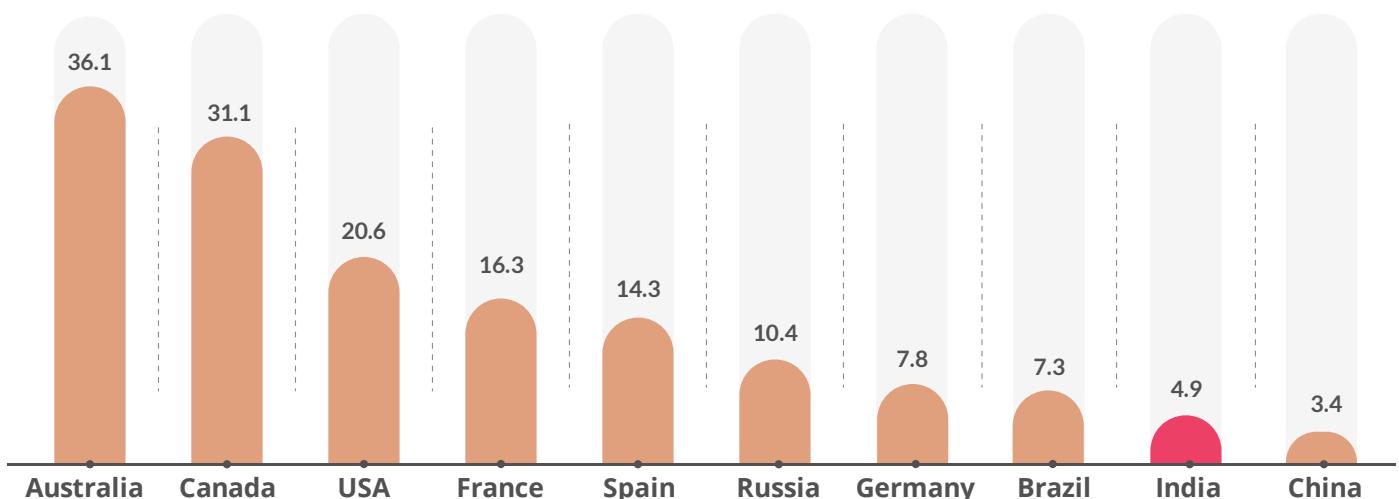
**India has the second longest Road network in the world**

**Total Road Length (000 Kms) - 2017**



**Relative to Population, India's Road Network is not very large**

**Road Length (KMs) per 1000 people - 2017**

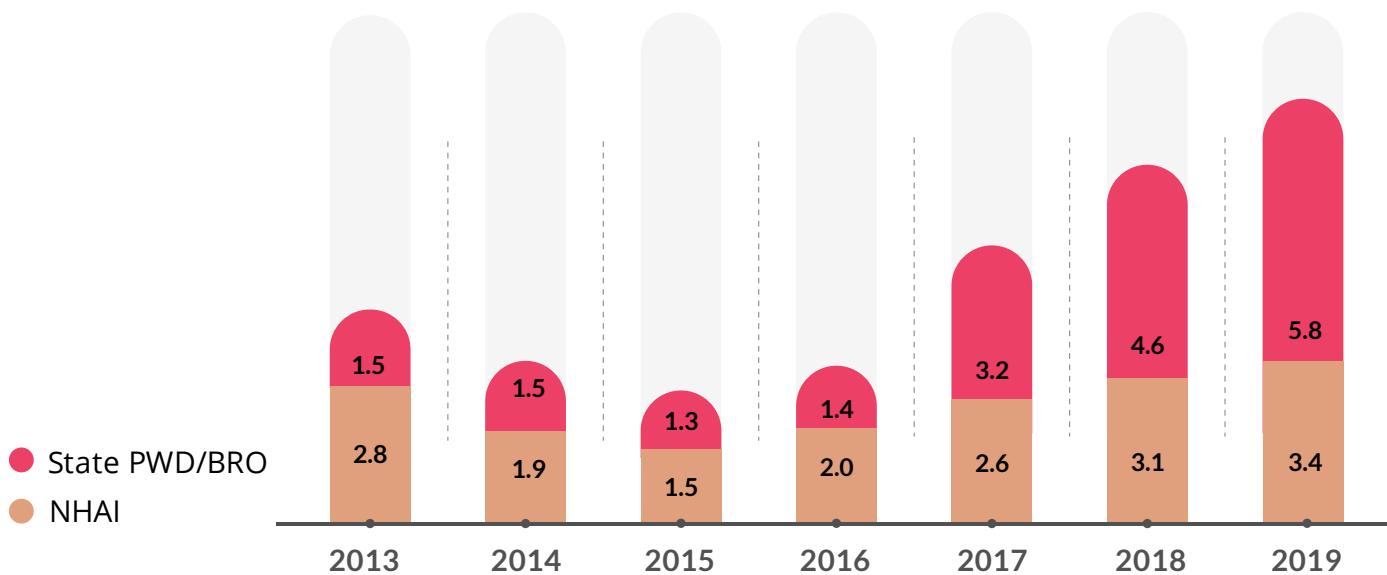


Source: Ministry of Road Transport and Highways, IndiaDataHub, Macquarie Research, August 2020

**Fig 126 India's Road Network – While NHAI ordering has gone up significantly in the last 5 years, peaking at project awards of Rs1.2trn for 7,400 km of national highways in FY19, the key issue is faced on the construction side. Stressed bank balance sheets and risk aversion has dried up funding for private road operators. Faster land acquisition, faster clearances, and progress on asset monetization plan through TOT (MacQ won first package for Rs95bn) and NHAI InvIT can help unlock NHAI's capital and improve awarding under EPC mode. We highlight that road construction is among the most labour-intensive infrastructure works and likely to be a focus area of any fiscal stimulus in post-Covid situation**

(000 KMs)	1991	2001	2011	2015	2017
<b>Total Road Network<sup>1</sup></b>	2,327	3,374	4,677	5,472	5,898
National Highways	34	58	71	98	114
State Highways	127	132	164	167	175
District Roads	509	736	999	1,101	586
Rural Roads <sup>1</sup>	1,260	1,972	2,750	3,337	4,167
Urban Roads	187	252	412	467	526
Project Roads <sup>2</sup>	210	224	282	302	329
<b>Composition of National Highways by Width (%)</b>					
Single Lane	38.9	24.1	31.7	25.3	
Double Lane	58.9	51.7	46.6	51.6	
Multi Lane	2.2	24.2	21.6	23.1	
<b>Composition of State Highways by Width (%)</b>					
Single Lane	74.2	60.1	51.5		
Double Lane	24.5	35.9	42.3		
Multi Lane	1.3	4.1	6.2		

### Roads Constructed / Upgraded during the year (000 Kms)<sup>3</sup>



#### Notes:

1: Includes around 9 Lakh Kilometers of Roads constructed under the Jawahar Rozgar Yojana

2: Project roads largely include roads under the purview of Central or State Government Departments such as Forest Department, Irrigation Department, Border Roads Organisation, Sugarcane Departments, Coal Mines etc

3: Data is for 12-months ended March of respective years

Source: Ministry of Road Transport and Highways, IndiaDataHub, Macquarie Research, August 2020

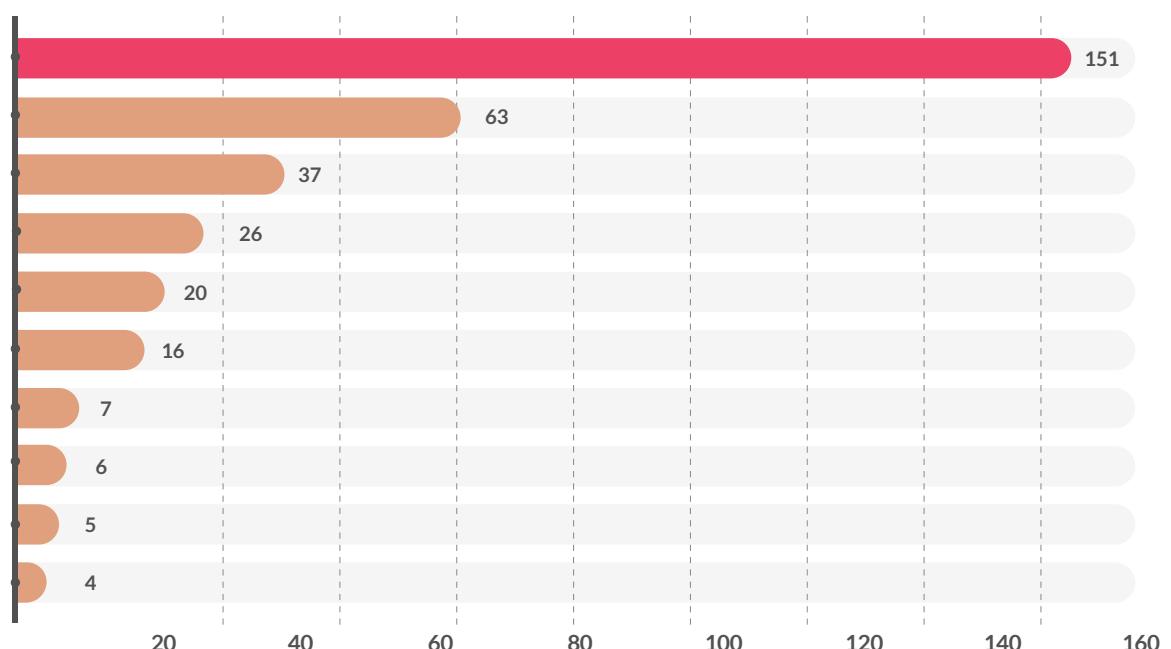
Fig 127 Alarmingly, India has the highest road accident deaths in the world

(y/e March)

	2001	2005	2010	2015	2017
<b>Registered Vehicles (million)</b>	55	82	128	210	253
Two Wheelers	38.6	58.8	91.6	154.4	186.9
Passenger Vehicles (Cars, UVs)	7.0	10.4	17.2	28.6	33.6
Buses	0.7	0.9	1.5	2.1	1.9
Goods Vehicles	3.0	4.0	6.4	9.2	12.2
Others	5.8	7.4	11.0	15.8	18.4
	2005	2010	2015	2019	2020
<b>Domestic Auto Sales (000s)<sup>1</sup></b>					
Two Wheelers	6,210	9,371	15,976	21,181	17,418
Three Wheelers	308	440	533	701	637
Passenger Vehicles	1,062	1,951	2,601	3,377	2,775
Commercial Vehicles	318	533	615	1,007	718
- Goods	273	455	533	916	632
- Passengers	46	77	82	92	86

### India has the highest Road Accident Deaths in the World

#### Road Accident Deaths (000s, 2018)



#### Notes:

1: Wholesale sales (Dispatches from Manufacturers to Dealers/Distributors) and not Retail sales.

Source: Ministry of Road Transport and Highways, IndiaDataHub, Macquarie Research, August 2020

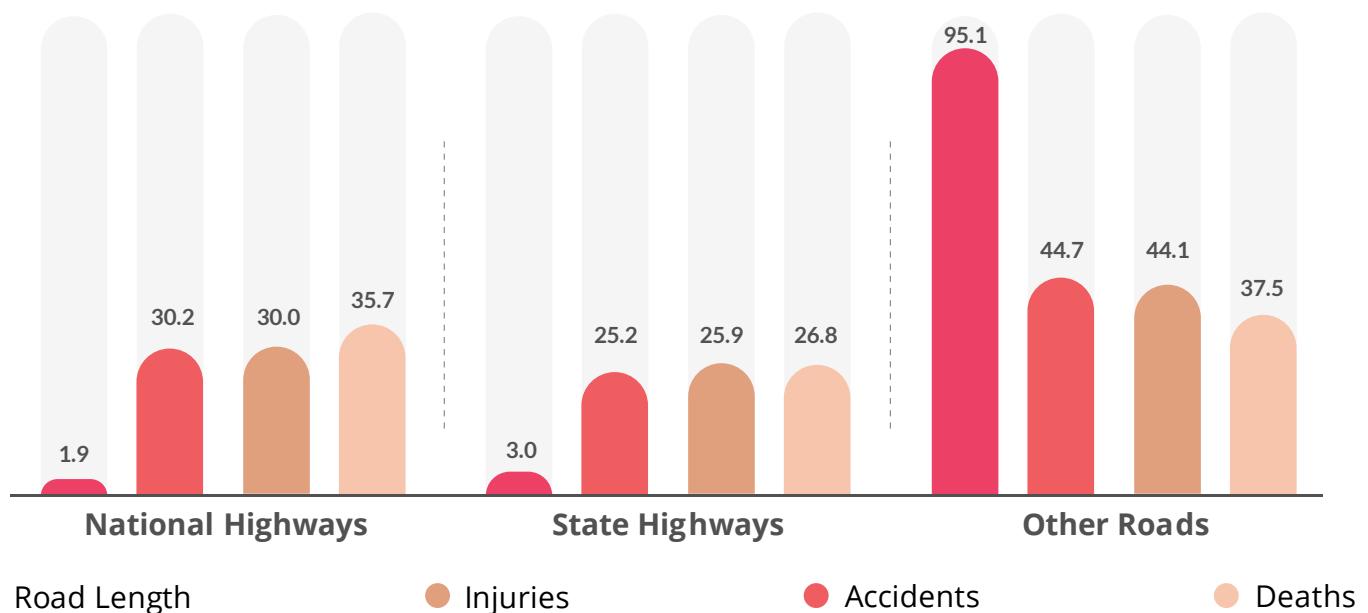
Fig 128 Road Accidents

(y/e March)

	2005	2010	2015	2018
<b>Road Accidents (000s)</b>	439	500	501	467
- Accidents with Fatalities	83	120	132	138
<b>Accident Casualties (000s)</b>				
Injuries	465	528	500	469
Deaths	95	135	146	151
<b>Accidents/Casualties per 100,000 people</b>				
Total Road Accidents	40.1	42.5	40.0	36.0
Injuries	42.5	44.8	39.9	36.2
Deaths	8.7	11.4	11.7	11.7
<b>Accidents/Casualties per 10,000 km of Roads<sup>1</sup></b>				
Total Road Accidents	1,153	1,090	916	788
Injuries	1,222	1,151	914	799
Deaths	249	294	267	251

With just 2% of road length, National Highways account for a third of fatalities

Percentage Share in Road/Accidents/Casualties by Road type (2018)



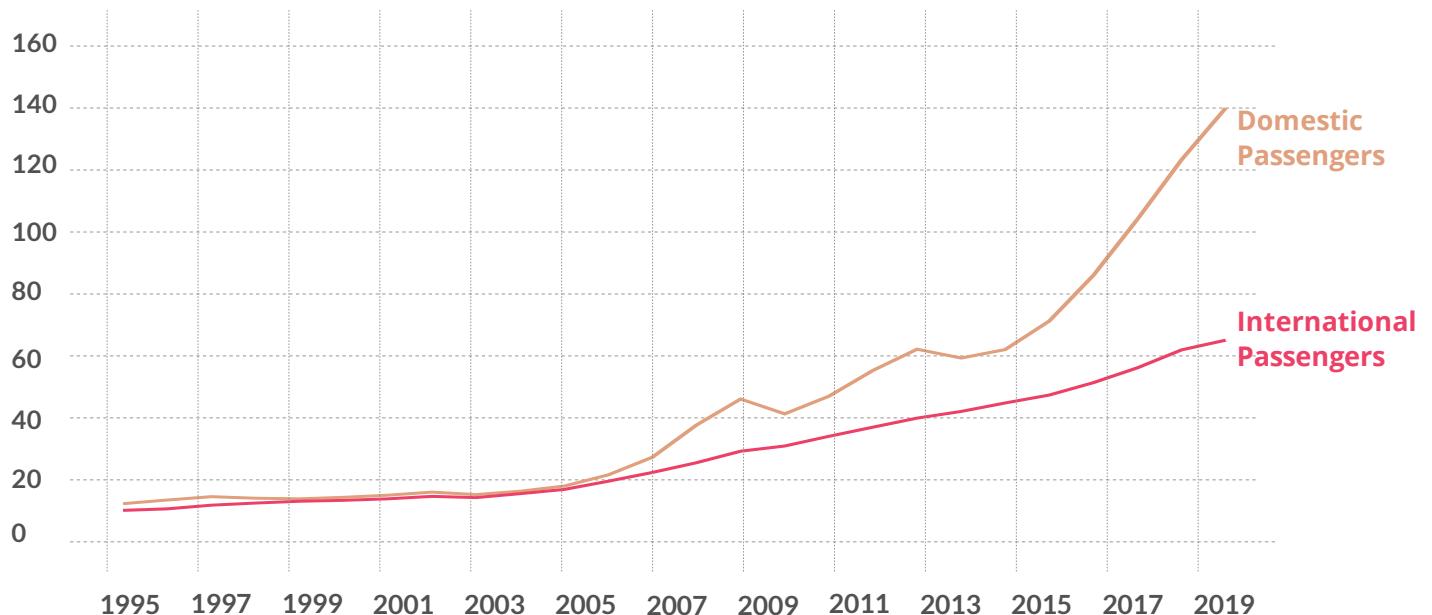
Source: Ministry of Road Transport and Highways, IndiaDataHub, Macquarie Research, August 2020

## Aviation

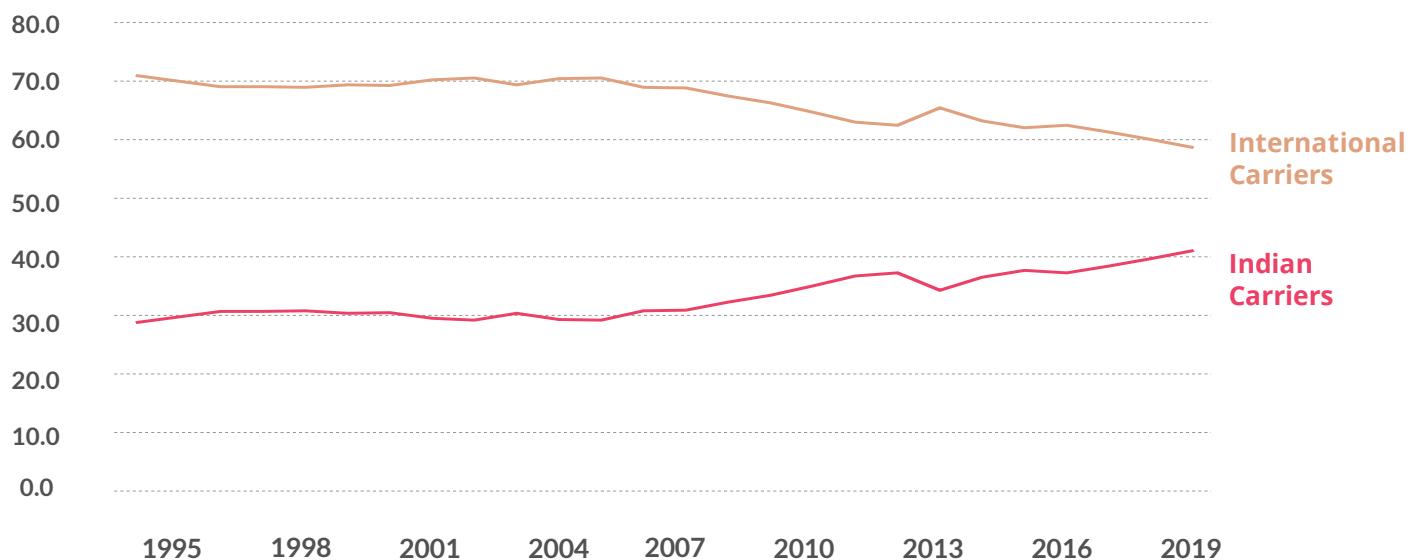
**Fig 129** India's aviation market was on a fast rising trajectory (pre-COVID)

**Domestic passenger traffic is now more than 2x of International traffic**

**Indian Civil Aviation market : Passengers Carried (million)<sup>1</sup>**



**Indian Carriers have gradually increased their share in International Traffic**



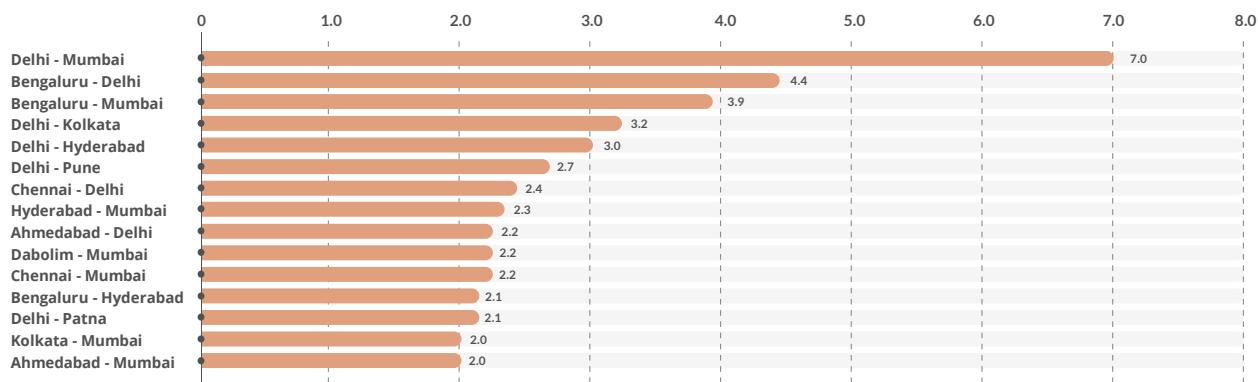
**Fig 130 Aviation – India has seen strong growth in air passenger traffic in the last few years driven by a combination of rising incomes, increased airport connectivity and falling air fares due to low-cost air carriers. India's number of domestic passengers is up nearly three-fold to 145 million in 2019 from only ~50 million in 2010**

(y/e December)

	2005	2010	2015	2018	2019
<b>Scheduled Domestic Operations</b>					
Number of Scheduled Operators <sup>1,2</sup>	6	11	14	15	17
Fleet Size <sup>2,3</sup>	184	383	409	584	691
Domestic Flights (000s)	294	521	669	1,040	1,059
Domestic Flight KMs (million KMs)	235	427	600	942	977
Average Flight Distance (KMs)	800	820	897	906	922
Domestic Passengers (million)	23	51	81	139	144
Passenger Load Factor (%) <sup>4</sup>	67.1	76.5	82.6	86.6	87.2
Share of Private Airlines in Passenger traffic (%) <sup>3</sup>	60	83	83	87	88
Domestic Cargo carried (000 tonnes)	254	383	615	752	746
<b>Non-Scheduled Operations<sup>3,5</sup></b>					
Number of Operators	44	127	126	109	98
Fleet Size	156	370	393	349	317
Number of Passengers carried (000s) <sup>3</sup>	352	889	1,215	1,550	1,667
- Domestic	300	804	1,211	1,540	1,659
- International	52	85	4.5	10	7.5

### Delhi - Mumbai is the busiest domestic route, accounting for 7% of passenger traffic

#### Busiest Domestic Routes by passengers handled (million, 2019)



#### Notes:

1: Data for 2005 is as of March 2005, for subsequent years it is the number of operators at any time during the year  
2: Data is for all Scheduled Indian Airlines

3: Data is for year ending March of respective years

4: Calculated as Domestic Passenger Kilometers Performed divided by Available Domestic Passenger Kilometers

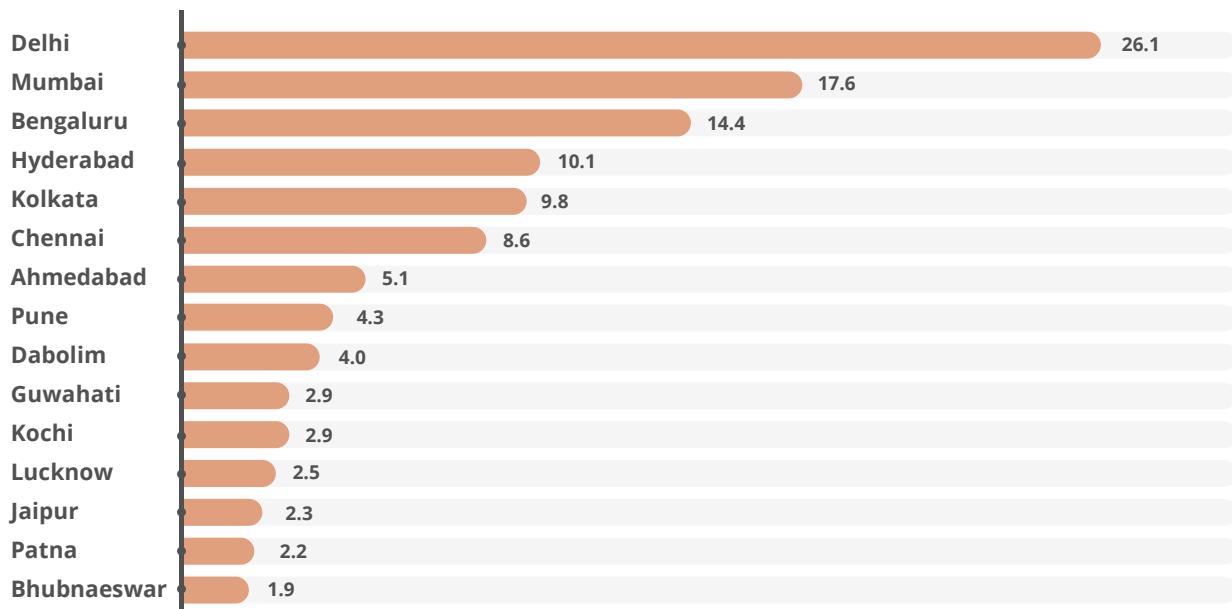
5: Excludes Helicopters and Passengers carried on Helicopters

Source: DGCA, IndiaDataHub, Macquarie Research, August 2020

Fig 131 Indian Airports – Strong growth from Tier-2/3, and pre-COVID India's plans were to add a further 100 airports and 1000 new routes to smaller towns by 2024

### Busiest Domestic Airports in 2019

#### Domestic Passengers handled (million, 2019)



### Fastest Growing Domestic Airports

#### Domestic Passenger Growth (2016 - 2019 Cagr, %)<sup>1</sup>

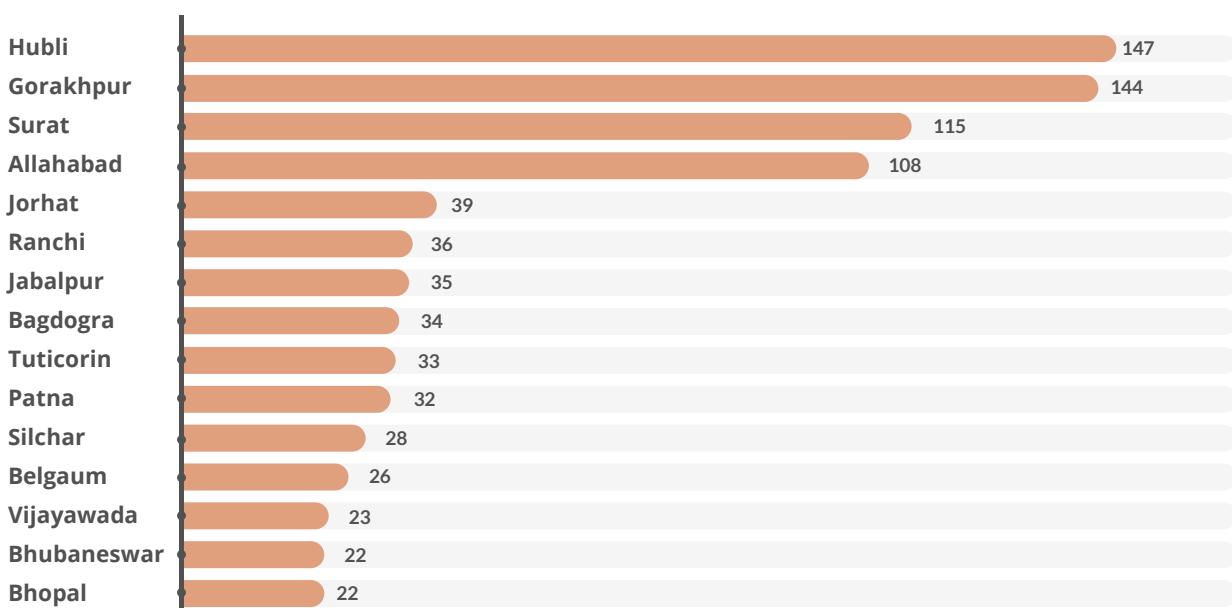


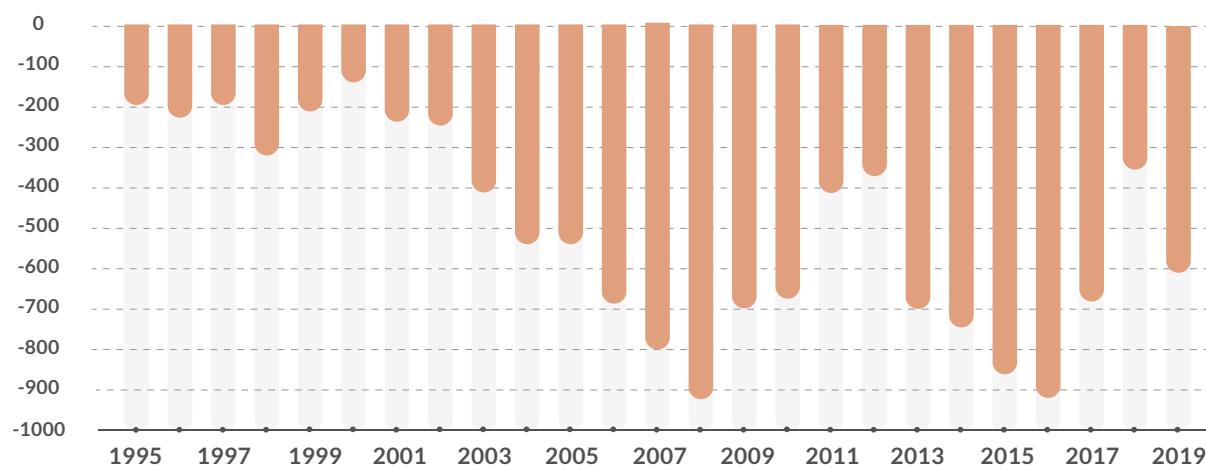
Fig 132 International Traffic from/to India – 10% CAGR since 2005

(y/e March)

	2005	2010	2015	2018	2019
<b>International Traffic from/to India</b>					
Passengers carried (million)	17	32	46	61	64
- Indian Airlines <sup>1</sup>	5.0	11	17	24	26
- Foreign Airlines	12	21	29	37	38
Cargo Carried (000 tonnes) <sup>1</sup>	739	1,139	1,368	1,734	1,797
- Arriving into India (Imports)	283	474	523	689	718
- Transported from India (Exports)	457	665	844	1,045	1,080
<b>International Operations of Indian Carriers</b>					
Total Departures (000s)	43	96	118	151	163
Average Flight Distance (KMs)	2,772	3,150	3,135	3,585	3,599
Passengers Carried (millions) <sup>2</sup>	5.3	12	17	24	26
Passenger Load Factor (%) <sup>3</sup>	71.6	71.1	78.6	81.0	81.0
Share of Private Airlines in Passenger traffic (%)	4.2	38.6	54.2	57.3	57.7

India has seen emigration of 700,000 people annually in the last few years

#### Net Arrivals of Passengers in India<sup>4</sup>



#### Notes:

1: Excludes Passengers/Cargo carried by Indian carriers outside India (place of boarding/loading AND exit are outside India)

2: Includes Passengers carried by Indian carriers outside India (place of boarding AND exit are outside India)

3: Calculated as Total Passenger Kilometers Performed divided by Passenger Kilometers Available

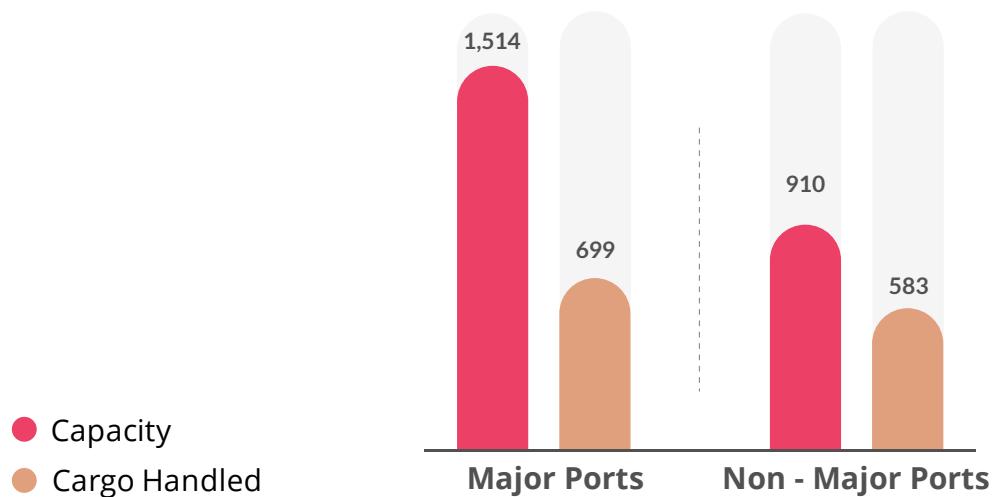
4: Calculated as number of international passengers arriving in India minus number of passengers leaving India. Data is for 12-months ending March of respective years

Source: DGCA, IndiaDataHub, Macquarie Research, August 2020

## Ports

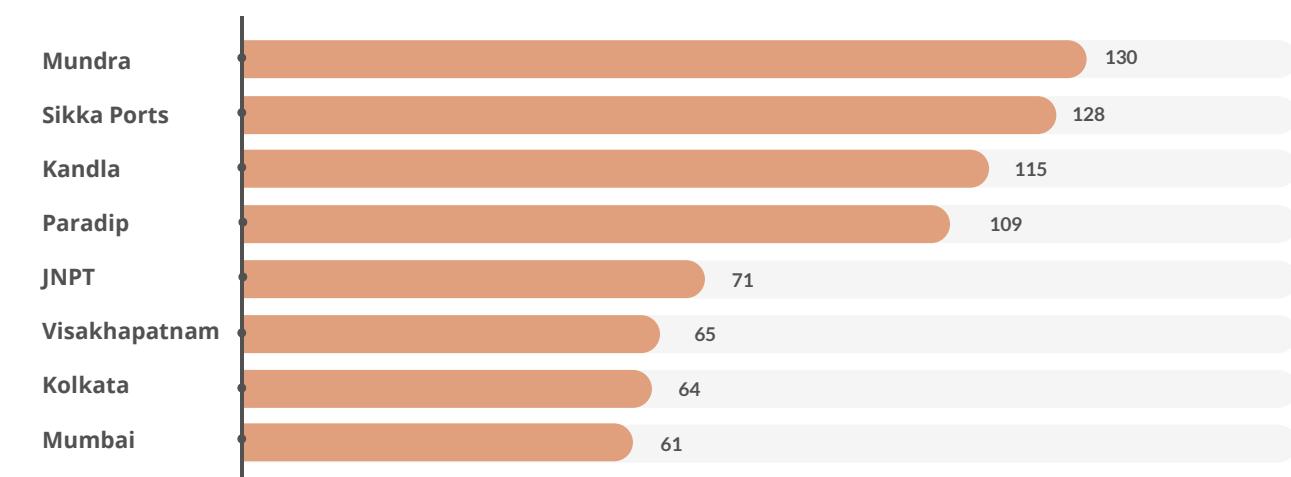
**Fig 133 Non-major ports have grown faster than major ports due to evacuation challenges at major ports due to insufficient capacity of road-rail connectivity...**

**Capacity vs. Cargo Handled in Ports (million tonnes) - 2019<sup>1</sup>**



### India's Largest Ports

**India's Largest Ports by cargo Handled in 2018-19 (million tonnes)<sup>1</sup>**



**Notes:**

1: Data is for year ended March. Sikka Ports & Terminals Ltd operates the Port at Jamnagar that carries crude, petroleum and petrochemical cargoes for Reliance Industries. Kolkata Port includes the Haldia Docks.

Source: Ministry of Shipping, IndiaDataHub, Macquarie Research, August 2020

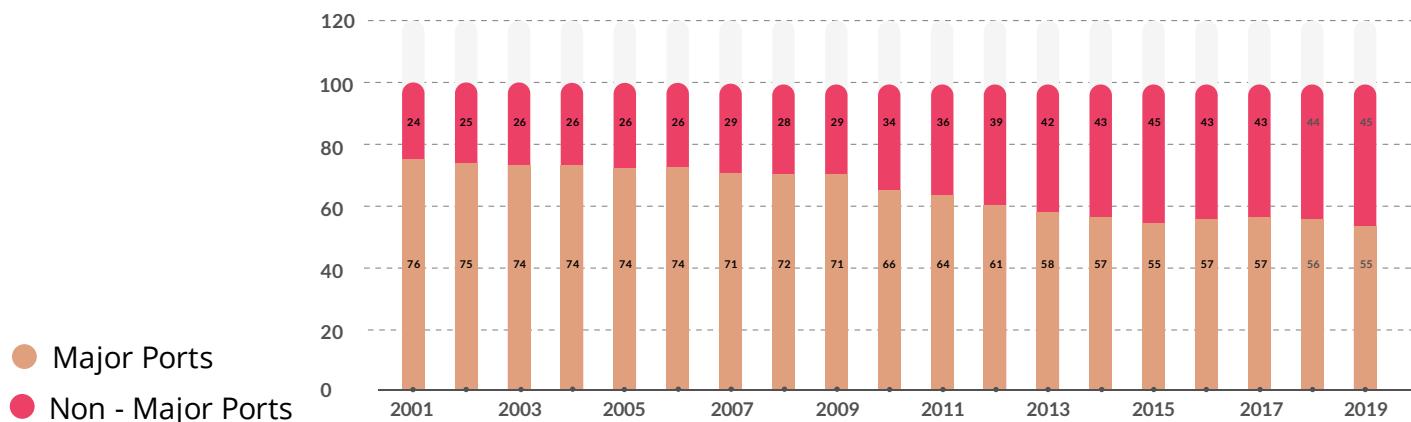
**Fig 134 Non-major ports have seen significantly faster growth in cargo traffic – Large private players like Adani Ports have benefited from this by starting ports in the vicinity of existing ones to wean away the cargo – such as Mundra capturing North-bound cargo from JNPT, Kattupalli capturing cargo from Chennai and Dhamra competing with Paradip. Proposed corporatisation of Major Port Trusts and focus on Sagarmala-related projects such as Paradip-Salegaon Heavy-Haul corridor may relieve such congestion 4-5 years down the line. Until then, Adani Ports will continue to gain market share**

(y/e March)

(million tonnes)	2005	2010	2015	2018	2019
<b>Total Cargo Handled by Ports</b>	523	834	1,052	1,209	1,282
<b>Cargo Handled by Port Category</b>					
Major Ports <sup>1</sup>	384	545	581	679	699
Non-Major Ports <sup>2</sup>	139	289	471	529	583
<b>Cargo Handled by Commodity</b>					
Petroleum	194	313	348	407	413
Coal	74	113	276	273	309
Iron Ore	98	150	45	78	84
Others	157	259	383	451	477
<b>Cargo Handled by Route<sup>3</sup></b>					
Coastal Cargo	120	153	173	233	263
International Cargo	401	698	880	976	1,019
<b>Cargo Handled by Trade Direction<sup>3</sup></b>					
Cargo Unloaded (Imports)	297	530	778	864	924
Cargo Loaded (Exports)	223	320	274	345	358
Container Cargo (Major Ports only)	55	101	119	134	145

### Non - Major Ports have seen significantly faster growth in cargo traffic than Major Ports

#### Composition of cargo carried at Ports (%)<sup>4</sup>



#### Notes:

1: Major Ports are the 12 ports administered by Central Government through the Port Trusts.

2: Non-Major ports are other ports including those administered by State governments and Private ports

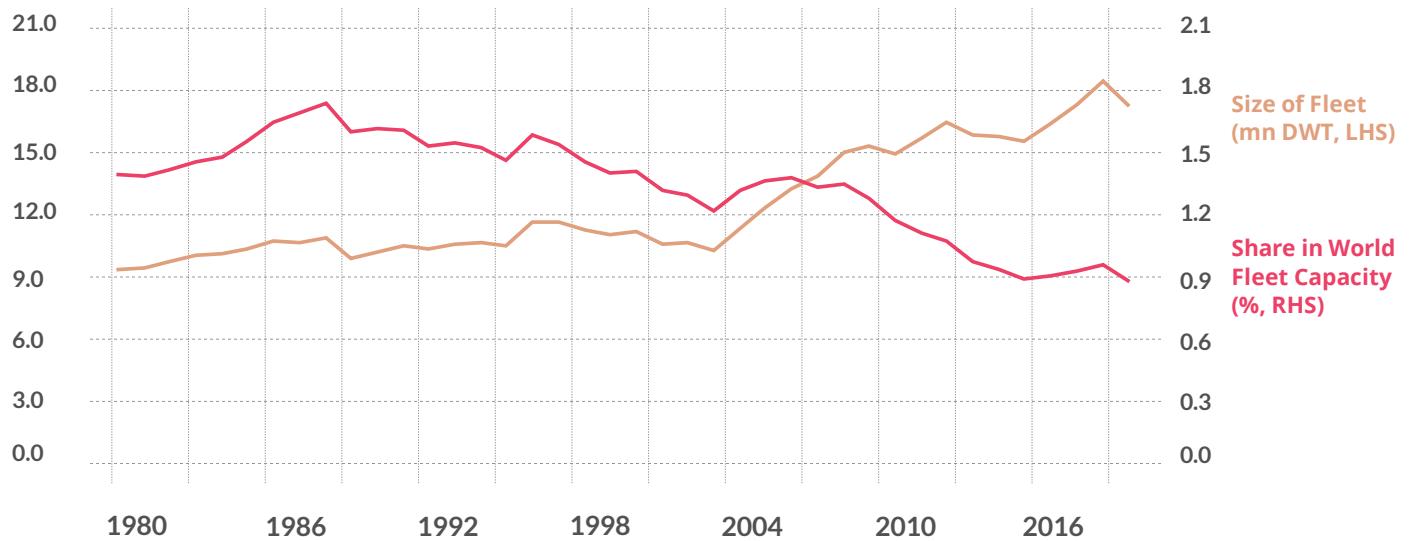
3: Sum of individual components may not add up to total due to rounding off and statistical discrepancies

4: Data is for year ending March of each year

Source: Ministry of Shipping, IndiaDataHub, Macquarie Research, August 2020

**Fig 135 Shipping Fleet – India has doubled its fleet in the last four decades but share of the global fleet remains low and falling**

**India's Shipping fleet has doubled in the last 4 decades but share in Global Fleet has fallen by ~40%**



**The 15th largest global port handles more than 2x the Cargo of the largest Indian port**

#### Top 15 Global Ports by Cargo handled (2017)

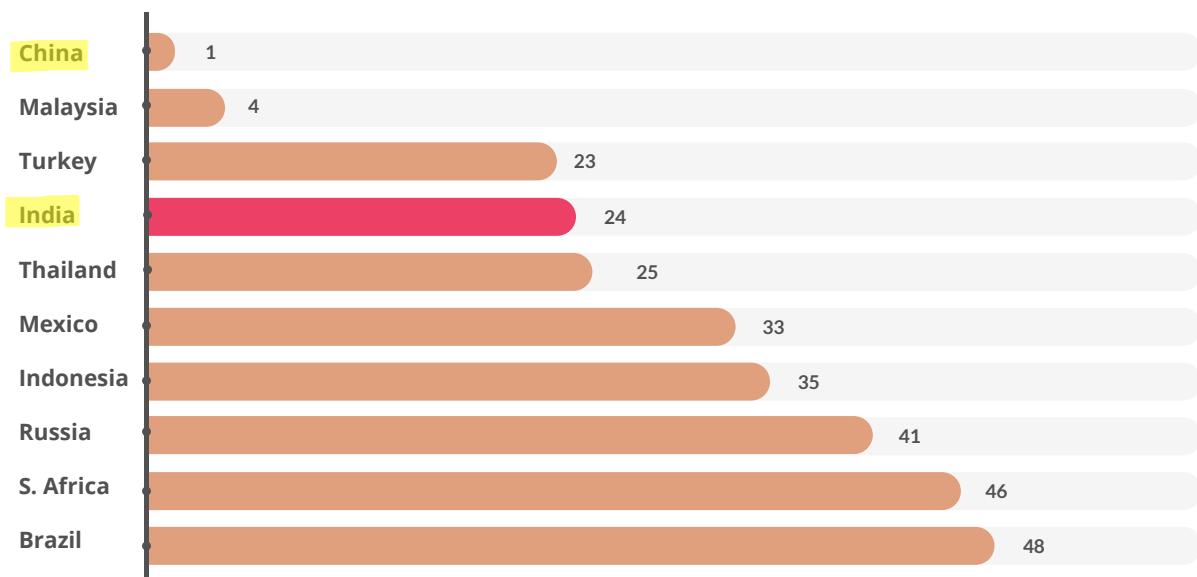
Rank	Port name	Country	Cargo Handled (million tonnes)
1	Ningbo-Zhoushan	China	1007
2	Shanghai	China	706
3	Singapore	Singapore	626
4	Suzhou	China	608
5	Guangzhou	China	566
6	Tangshan	China	565
7	Qingdao	China	508
8	Port Hedland	Australia	505
9	Tianjin	China	503
10	Rotterdam	Netherlands	467
11	Dalian	China	451
12	Busan	Korea	401
13	Yingkou	China	363
14	Rizhao	China	360
15	South Louisiana	USA	308

Source: UNCTAD Review of Maritime Transport, Ministry of Shipping, IndiaDataHub, Macquarie Research, August 2020

Fig 136 **Global Shipping Connectivity – India compares favorably to many EMs, but is well below China and Malaysia**

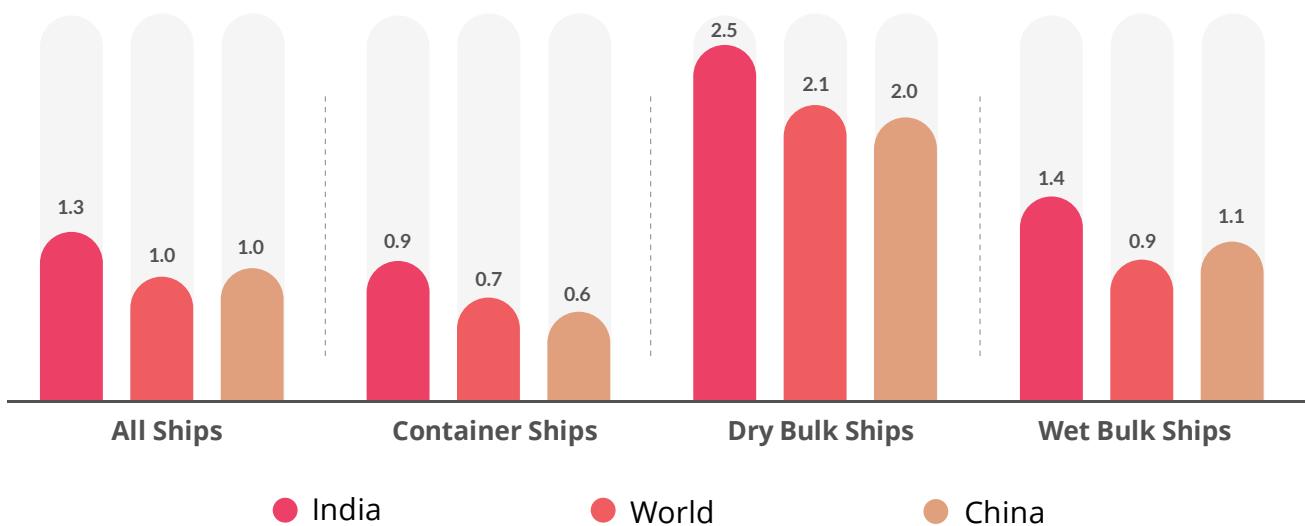
### India compares favorably to many Emerging Economies in Global Shipping Connectivity

#### Rank in Global Liner Shipping Connectivity Index - 2019<sup>1</sup>



### Ships spend a third of a day more in Indian Ports, on average, than in Chinese Ports

#### Median Time Spent in Ports (days) - 2018



#### Notes:

1: The liner shipping connectivity index indicates a country's integration level into global liner shipping networks. The index is set at 100 for the maximum value of country connectivity in 2006, which was represented by China. The Index is calculated by UNCTAD

Source: UNCTAD, IndiaDataHub, Macquarie Research, August 2020

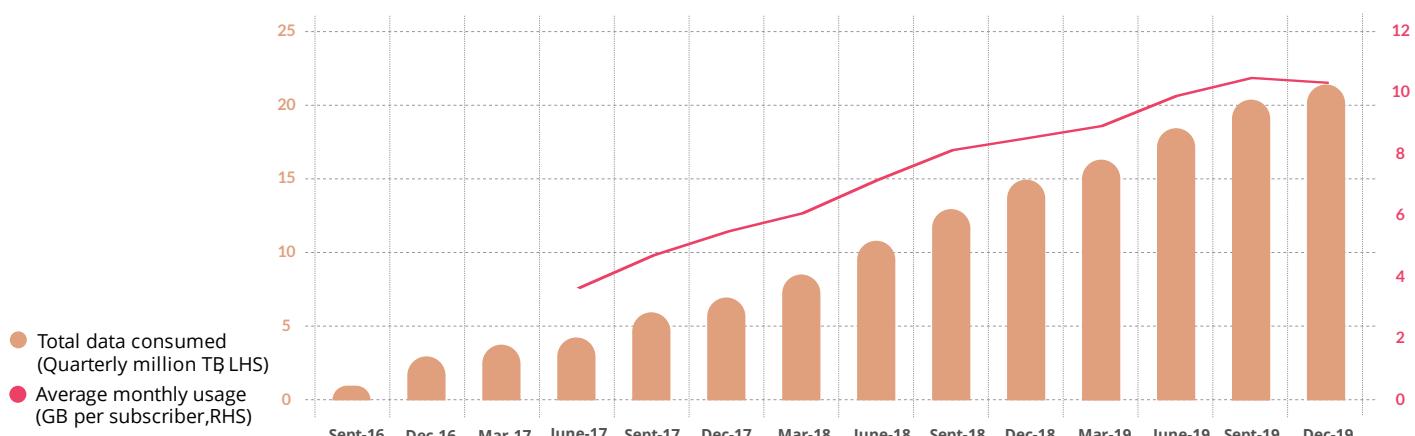
## Internet

**Fig 137 Internet Subscribers** – India's internet user base has increased over 2x to 720 million in the past five years, while data consumption per user is up 3x in '18-19 alone driven by aggressive pricing; despite the disruption caused by the implementation of a new tariff order in '19, a surprisingly high 38 new TV channels, including 2 pay TV channels, were launched in the year

(y/e December)

(per subscriber, per month)	2010	2015	2017	2018	2019
<b>Minutes of Usage (Voice)<sup>1</sup></b>	385	380	441	622	699
Prepaid	360	355	424	616	702
Postpaid	990	919	813	747	629
<b>Outgoing SMSes<sup>1</sup></b>	42	23	16	18	17
Prepaid	41	21	14	16	17
Postpaid	85	58	60	57	36
<b>Average Revenue per User (Rs)<sup>1</sup></b>	117	123	82	71	75
Prepaid	100	106	68	60	67
Postpaid	526	487	378	316	256
Prepaid Subscriber share (%) <sup>1</sup>	96.3	95.5	95.5	95.7	95.3
<b>Internet Subscribers (million)</b>	351	332	446	604	719
Wired	19	20	21	21	22
Wireless	332	312	425	583	696
<b>Television Channels (number)<sup>3</sup></b>	604	847	877	880	918
Pay TV Channels	155	262	304	330	332
FM Radio Stations (number) <sup>3</sup>	245	243	326	355	368

**India's total wireless data consumption has increased 3x in the last 2 years<sup>2</sup>**



Source: TRAI, IndiaDataHub, Macquarie Research, August 2020

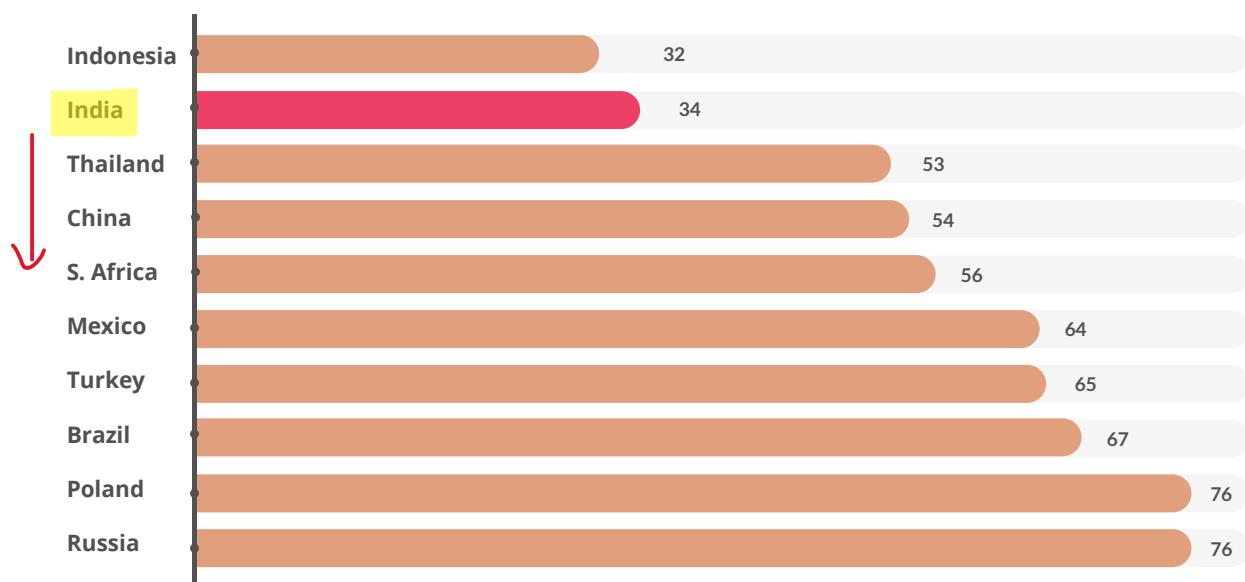
Fig 138 Internet Penetration – Still low at ~50% (2019)... a large addressable opportunity for Bharti Airtel, Reliance JIO

(y/e December)

(numbers in millions)	2010	2015	2018	2019
<b>Wireless Subscriber Additions (net)</b>	227	67	9	-25
Urban areas	29	-21	-4	
Rural areas	38	29	-21	
Total Wireless Subscribers	752	1,011	1,176	1,151
<b>Wireless Tele-density (%)</b>	63	80	90	87
Urban areas	141	147	155	152
Rural areas	30	49	59	56
<b>Fixed-line Subscriber Additions (net)</b>	-2.0	-1.5	-1.4	-0.9
Urban areas		-0.7	-1.1	-0.3
Rural areas		-0.8	-0.3	-0.6
Total Fixed-line subscribers	35	26	22	21
Mobile Number Portability Applications		51	74	58

### Internet usage is still relatively low in India

#### Individuals using the Internet (% of Population, 2017)



# Energy

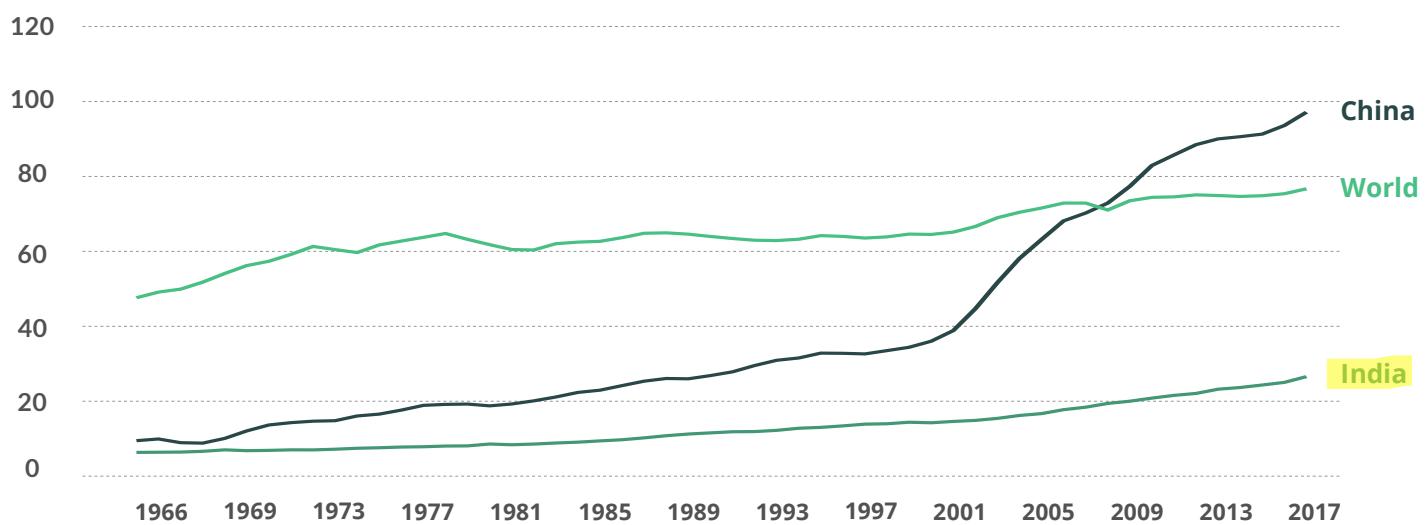
- India's per capita energy consumption is just a third of world average.
- India has the 4<sup>th</sup> largest refining capacity in the World; India's Coal imports have increased ~3x in the last decade.
- Private sector electricity generation is now more than the State sector; share of renewable energy in power generation has doubled this decade to 11% currently.

Fig 139 Primary Energy Demand – India's per capita primary energy consumption is only one-third the world average

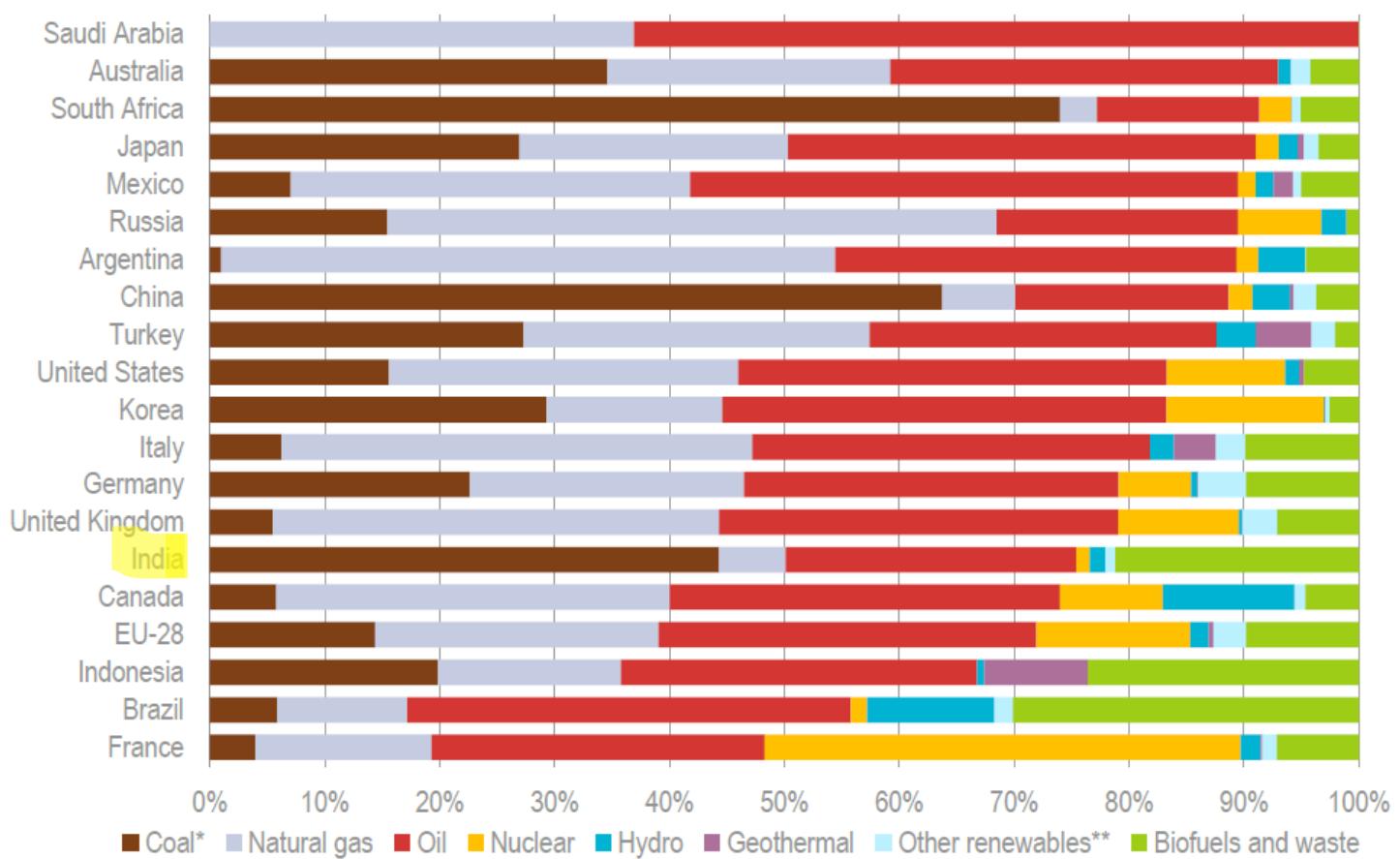
	2000	2005	2010	2015	2019
<b>Primary Energy Consumption - Share in World (%)</b>					
<b>Total Energy Consumed</b>	3.4	3.6	4.5	5.3	5.8
Oil	3.0	3.1	3.9	4.6	5.3
Coal	7.0	6.8	8.0	10.5	11.8
Natural Gas	1.1	1.2	1.9	1.4	1.5
Hydro Electricity	2.9	3.3	3.2	3.4	3.8
Renewable Electricity	1.3	2.3	3.3	3.3	4.2
Nuclear Energy	0.6	0.6	0.8	1.5	1.6
Per Capita Primary Energy Consumption (Gigajoule)	12.6	14.4	18.3	22.0	24.9

Per Capita Energy Consumption in India is just a third of World average

Per Capital Primary Energy Consumption (Gigajoules)



**Fig 140 Primary Energy by Fuel** – Coal and Oil still make up a lion's share of India's energy mix; albeit per IEA analysis, India has a lower share of fossil fuels total primary energy supplied (TPES) than most G20 countries, but that is mostly from traditional use of biomass



\*Coal also includes shares of peat and oil shale.

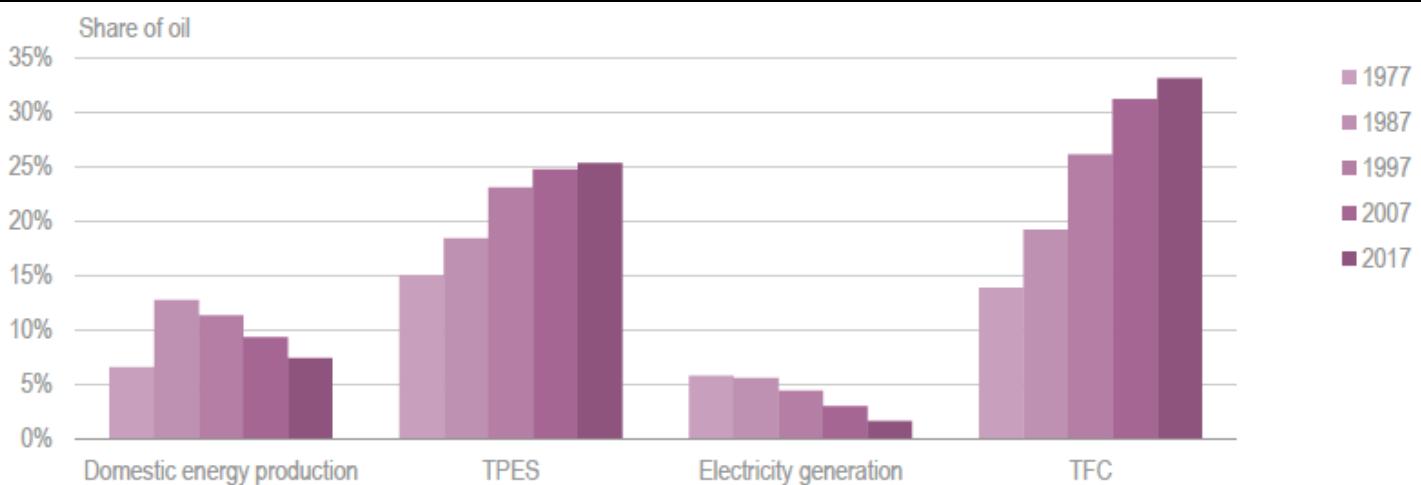
\*\*Other renewables include hydro, solar and wind.

**Notes:** Does not include electricity imports and exports. Bioenergy data for India are estimated by the IEA. For India, the year run from 1 April 2017 to 31 March 2018.

Source: IEA (2019a), *World Energy Balances 2019*, [www.iea.org/statistics/](http://www.iea.org/statistics/), Macquarie Research, August 2020

## Oil, Gas, Coal

**Fig 141 Role of Oil in India's Energy Mix** – The role of oil in India's total primary energy supply has steadily increased for decades, but has shown signs of stabilising in recent years; within this mature domestic oil production has declined since '15, while refined products production has steadily grown along with capacity expansions



(million tonnes)	2000	2010	2015	2019	2020
<b>Crude Oil Production<sup>1</sup></b>	<b>32</b>	<b>34</b>	<b>37</b>	<b>34</b>	<b>32</b>
ONGC	25	25	22	21	21
OIL	3.3	3.6	3.4	3.3	3.1
Private/JV Companies	4.0	5.3	11.8	9.9	8.5
<b>Crude Oil Imports</b>	<b>58</b>	<b>159</b>	<b>189</b>	<b>226</b>	<b>227</b>
<b>Crude Processed by Refineries</b>	<b>86</b>	<b>187</b>	<b>223</b>	<b>257</b>	<b>254</b>
Import Dependency (%) <sup>2</sup>	67	85	85	88	89
<b>Petroleum Product Imports</b>	<b>16.6</b>	<b>14.7</b>	<b>21.3</b>	<b>33.3</b>	<b>43.3</b>
LPG	1.6	2.7	8.3	13.2	14.8
Petrol	0.0	0.4	0.4	0.7	2.1
Diesel <sup>4</sup>	5.0	2.5	0.1	0.6	2.8
Naphtha	1.9	1.7	1.0	2.1	1.8
LOBS/Lube Oils	0.4	1.4	2.1	2.5	2.5
Fuel Oil	1.4	0.9	0.9	1.4	4.4
Pet Coke <sup>3</sup>				7.1	10.6
Others <sup>3</sup>	6.3	5.0	8.4	5.8	4.3
<b>Petroleum Product Exports</b>	<b>0.7</b>	<b>51.2</b>	<b>63.9</b>	<b>61.1</b>	<b>65.7</b>
Diesel <sup>4</sup>	0.0	18.5	25.6	27.8	31.6
Petrol	0.1	9.8	16.0	12.9	12.7
Aviation Turbine Fuel (ATF)	0.0	4.6	5.5	7.4	6.9
Naphtha	0.6	10.0	7.0	7.0	8.9
Fuel Oil	0.0	5.2	4.8	2.2	1.4
Others	0.0	3.1	5.0	3.8	4.1

**Notes:**

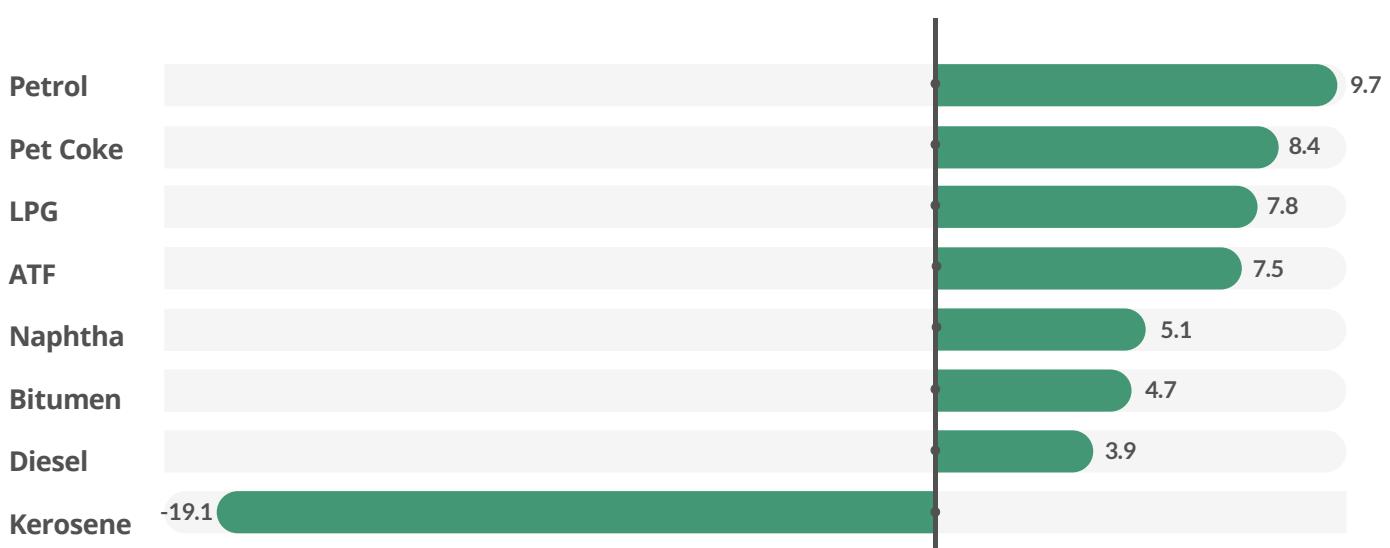
1: Includes Condensates; 2: Calculated as the ratio of Crude oil imports to Crude processed by Indian refineries; 3: Pet Coke is included in the residual category 'others' prior to 2019; 4: Includes only High Speed Diesel which is used in transportation.

Source: IEA (2019a), World Energy Balances 2019, [www.iea.org/statistics/](http://www.iea.org/statistics/), PPAC, Ministry of Petroleum & Natural Gas, IndiaDataHub, Macquarie Research, August 2020

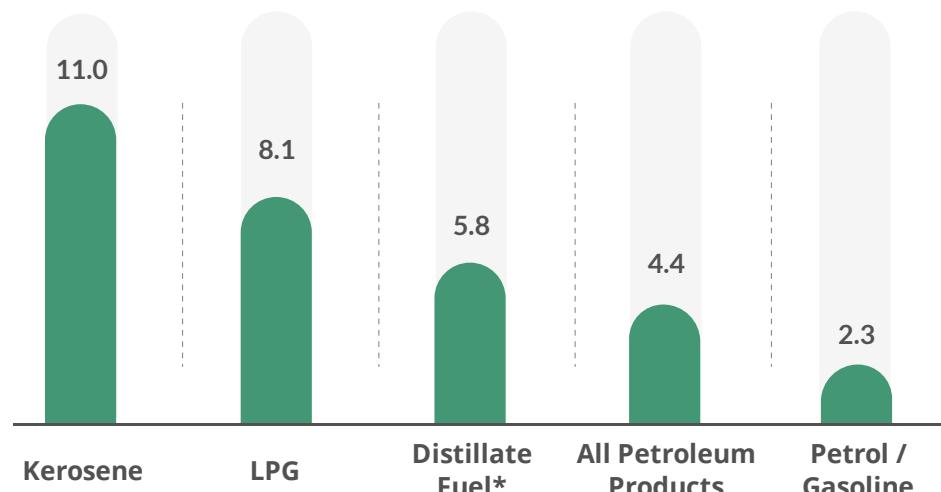
**Fig 142 India's Consumption of Petroleum Products – India's oil demand has grown by over 50% in the last decade led by petrol (gasoline) and diesel for transport, and LPG for cooking**

(million tonnes)	2000	2010	2015	2019	2020
<b>Consumption of Petroleum Products</b>	<b>97</b>	<b>138</b>	<b>166</b>	<b>213</b>	<b>214</b>
Diesel <sup>1</sup>	39	56	69	84	83
Petrol	5.9	13	19	28	30
LPG	6.4	13	18	25	26
Pet Coke	0.3	6.6	15	21	22
Naphtha	11	10	11	14	14
ATF	2.2	4.6	5.7	8.3	8.0
Bitumen	2.9	4.9	5.1	6.7	6.4
Fuel Oil/LSHS	12	12	6.0	6.6	6.1
Kerosene	12	9.3	7.1	3.5	2.4
Others	4.8	8.4	9.6	16.0	15.8

### Consumption of Key Petroleum Products (2015 - 2020 Cagr)<sup>2</sup>

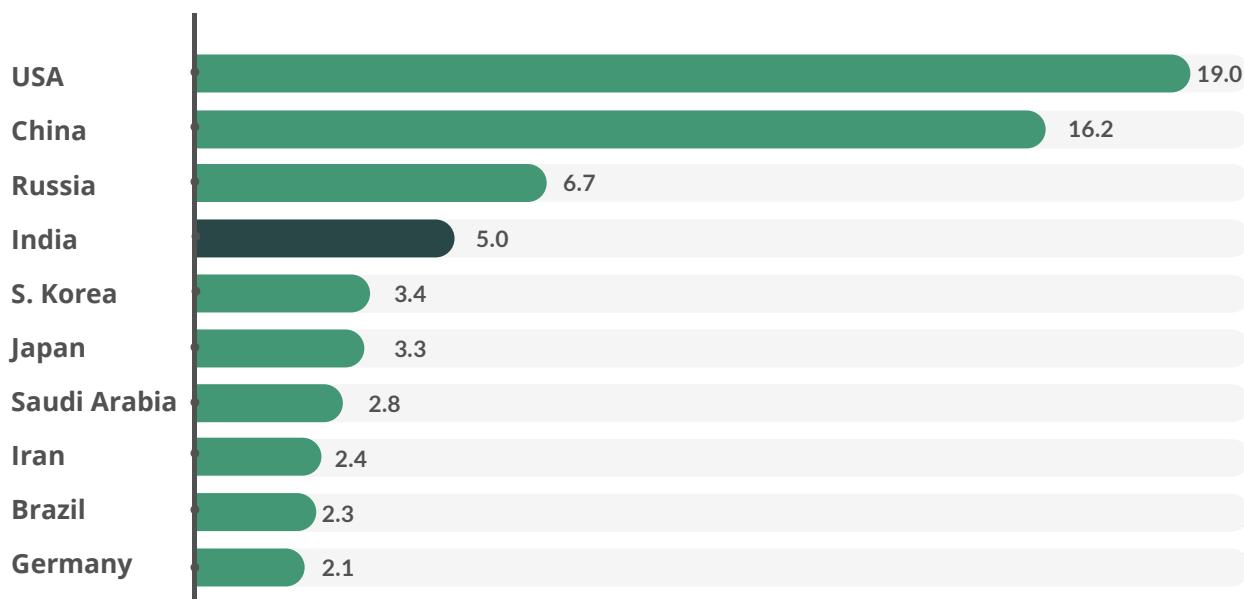


### India's Share in World Consumption (2017)

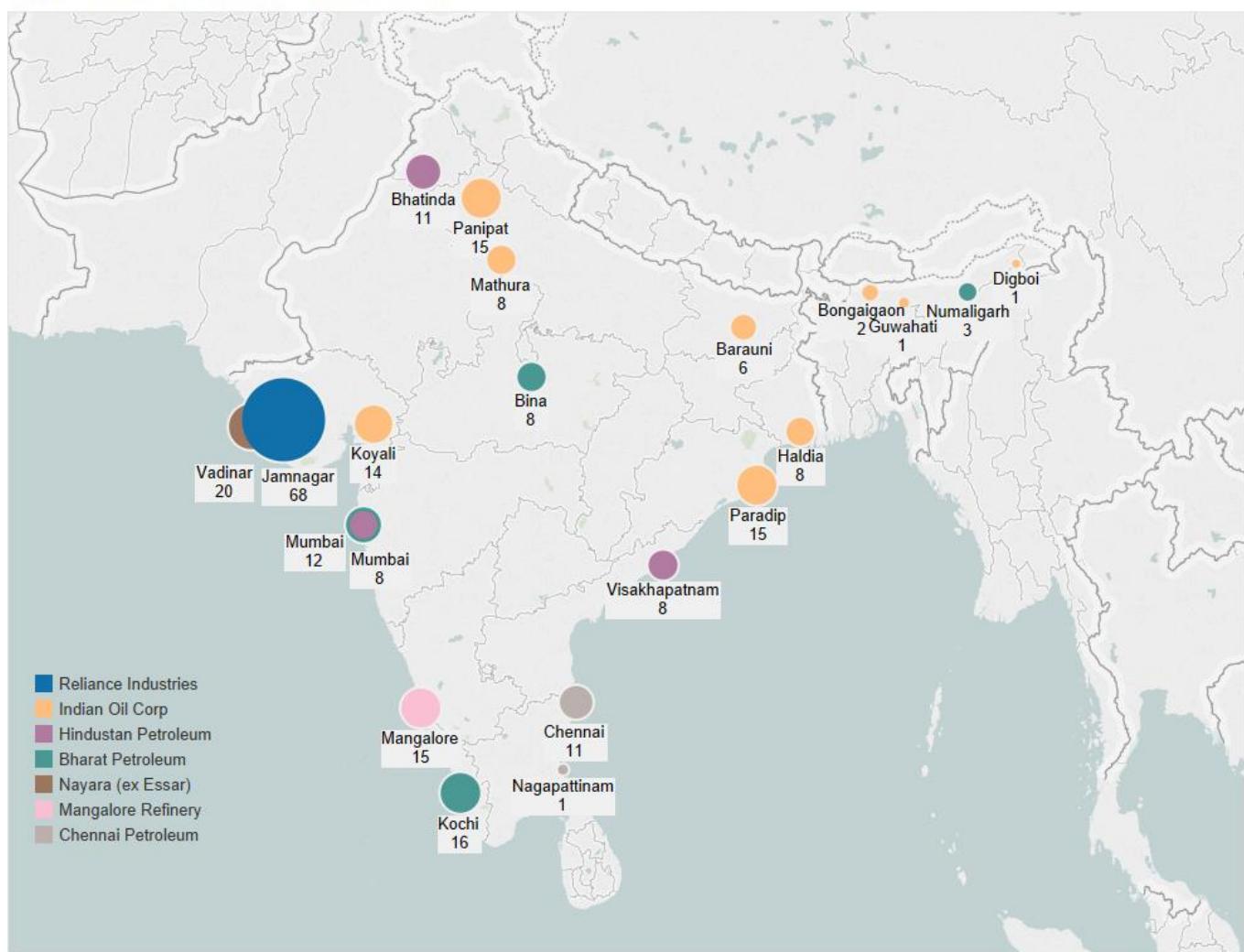


**Fig 143 Refining Capacity – India operates 5 million barrels per day (mbpd) of refining capacity the 4th largest globally; a key feature for the Indian refining system is that about 70% of capacity is located at the coast, allowing for lower-cost and flexible crude sourcing**

### Countries with largest Crude Oil Refining Capacity (million barrels per day) - 2019



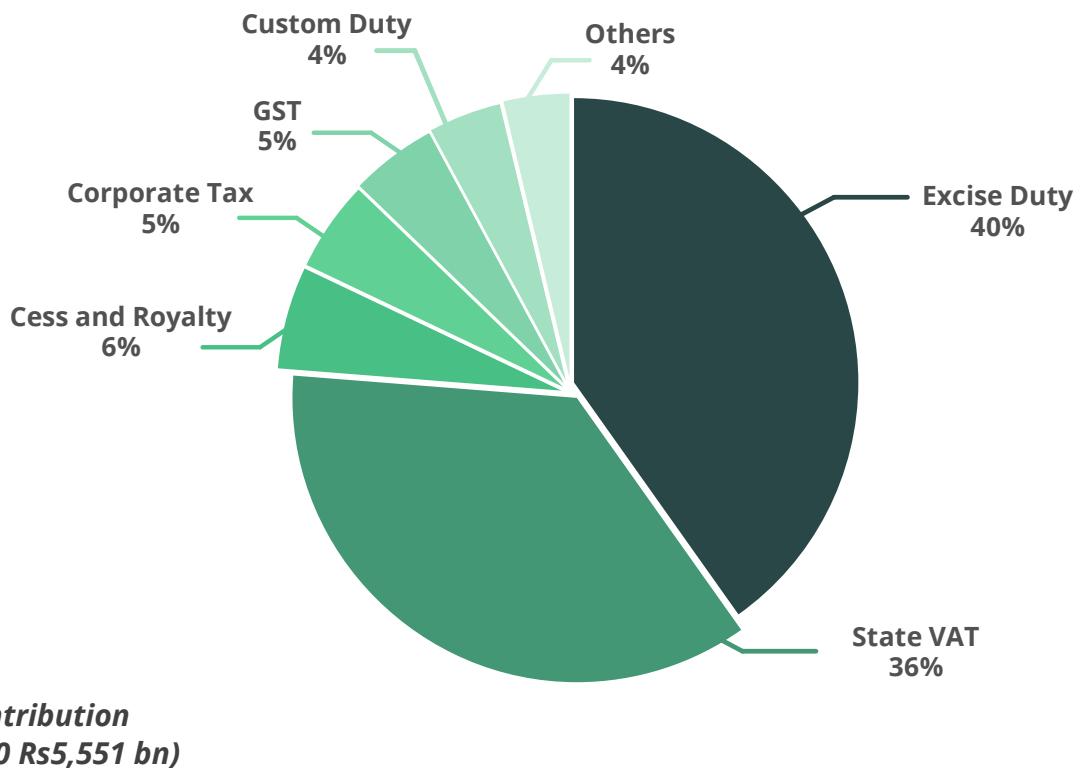
India Refining Capacity (million tons per annum)



Source: BP Statistical Review of World Energy - 2019, EIA, Company data, IndiaDataHub, Macquarie Research, August 2020

Fig 144 Contribution to GDP – Fuel at the pump is heavily taxed and the contribution to GDP is ~3%

### Contribution of Petroleum Sector to Central/State Government Revenues - 2020<sup>1</sup>



### Representative Price Build-Up of Petrol and Diesel – Heavy Tax collections at Centre and State

Gasoline Price Buildup for Delhi			Diesel Price Buildup for Delhi		
		Aug-20			Aug-20
Brent Crude Price	US\$/bbl	42.5	Brent Crude Price	US\$/bbl	42.5
Dubai Crude Price	US\$/bbl	42.0	Dubai Crude Price	US\$/bbl	42.0
<b>92 RON Gasoline Crack</b>	US\$/bbl	<b>4.8</b>	<b>Diesel Crack</b>	US\$/bbl	<b>7.3</b>
92 RON Gasoline Price	US\$/bbl	46.8	Diesel Price	US\$/bbl	49.3
Ocean Freight & Quality Premium	US\$/bbl	1.5	Ocean Freight & Quality Premium	US\$/bbl	1.5
<b>C&amp;F Gasoline Price</b>	US\$/bbl	<b>48.3</b>	<b>C&amp;F Diesel Price</b>	US\$/bbl	<b>50.8</b>
Exchange Rate	INR/US\$	75.0	Exchange Rate	INR/US\$	75.0
<b>C&amp;F Gasoline Price</b>	INR/ltr	<b>22.8</b>	<b>C&amp;F Diesel Price</b>	INR/ltr	<b>24.0</b>
Add : Import Charges	INR/ltr	0.2	Add : Import Charges	INR/ltr	0.2
Add : Customs Duty	INR/ltr	0.6	Add : Customs Duty	INR/ltr	0.6
<b>Trade Parity Price (80% of IPP + 20% EPP) - RTP</b>	INR/ltr	<b>23.3</b>	<b>Trade Parity Price (80% of IPP + 20% EPP) - RTP</b>	INR/ltr	<b>24.5</b>
<b>Add : Gross Marketing Margin</b>	INR/ltr	<b>2.0</b>	<b>Add : Gross Marketing Margin</b>	INR/ltr	<b>3.6</b>
<b>Price Charged to Dealers (ex Excise Duty and VAT)</b>	INR/ltr	<b>25.2</b>	<b>Price Charged to Dealers (ex Excise Duty and VAT)</b>	INR/ltr	<b>28.1</b>
Add : Excise Duty	INR/ltr	33.0	Add : Excise Duty	INR/ltr	31.8
Add : Dealer Commission (Average)	INR/ltr	3.7	Add : Dealer Commission (Average)	INR/ltr	2.6
Add : VAT (including VAT on Dealer Commission)	INR/ltr	18.6	Add : VAT (including VAT on Dealer Commission)	INR/ltr	10.5
<b>Retail Selling Price at Delhi</b>	INR/ltr	<b>80.5</b>	<b>Retail Selling Price at Delhi</b>	INR/ltr	<b>73.0</b>
<b>Taxes as % of Retail Price</b>		<b>65%</b>			<b>59%</b>

#### Notes:

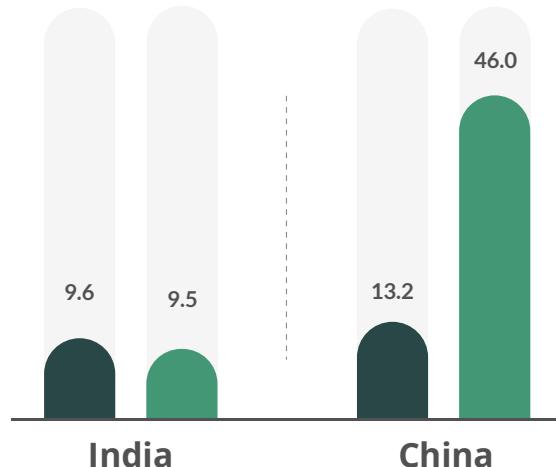
1: Data is for the 12-months ended March-2020. Dividend Distribution Tax is included in Corporate Tax. Others includes Profit Petroleum, Dividends. Source: PPAC, Ministry of Petroleum and Natural Gas, IndiaDataHub, Macquarie Research, August 2020

**Fig 145 Coal Share – India is the second-largest coal producer globally behind China; the share of coal in India's primary energy mix has risen since the 70s and today accounts for ~45% of primary energy demand and ~75% of electricity supply; Indian coal is typically of an inferior quality with a lower calorific content and higher ash content**

(y/e March)

(Million Tonnes)	2005	2010	2015	2018	2019
<b>Domestic Coal Production</b>	383	532	609	675	729
Coking Coal	30	44	57	40	41
Non-Coking Coal	352	488	552	635	688
<b>Coal Production by Sector</b>					
Coal India	324	431	494	567	607
Singareni Collieries	35	50	53	62	64
Other Public Sector	1.9	2.4	20	12	24
Private Sector	22	48	42	34	34
<b>Coal Imports</b>	29	73	212	208	235
Coking Coal	17	25	44	47	52
Non-Coking Coal	12	49	174	161	183
<b>Consumption of Coal</b>					
Power	391	498	588	822	899
Steel	43	56	13.2	58	70
Sponge Iron	23	18	23	8.5	12
Cement	15	11	15	7.7	8.8
Others <sup>1</sup>	116	239	116	238	240

### Coal: Share in Global Proven Reserves vs. Production (2018)



#### Notes:

1: A large part of Others is Non-Coking Coal imports which is used primarily for power generation (both in Utilities and Captive),

Source: CSO, Coal Controller of India, Ministry of Coal, BP Statistical Review of World Energy – 2019, IndiaDataHub, Macquarie Research, August 2020

**Fig 146 Natural Gas – 2.1x increase in piped natural gas connections over the past five years; we forecast India's gas consumption to rise from 64bcm to ~100bcm by 2025, but this is still only 7% of the energy mix versus the government's aspiration of 15%; LNG the main incremental supply source**

(y/e March)

	2010	2015	2018	2019	2020
<b>Natural Gas (Billion Cubic Metres)</b>					
Production <sup>1</sup>	47	33	32	32	30
Imports (LNG)	12	19	27	29	34
Consumption	59	51	59	61	64
<b>Compressed/Piped Natural Gas</b>					
Number of CNG Stations		1,009	1,424	1,730	2,207
Number of CNG Vehicles (millions)		2.5	3.1	3.3	3.4
CNG Sales (000 MT) <sup>2</sup>		2,037	2,638	3,076	3,419
<b>PNG Connections (000s)</b>					
Domestic		2,898	4,314	5,080	6,109
Commercial		2,869	4,280	5,043	6,068
Industrial		22	26	28	31
		5.9	7.6	8.8	10

**Notes:**

1: Production is on Net basis. Adjusted for gas flared and loss from production but not for internal consumption

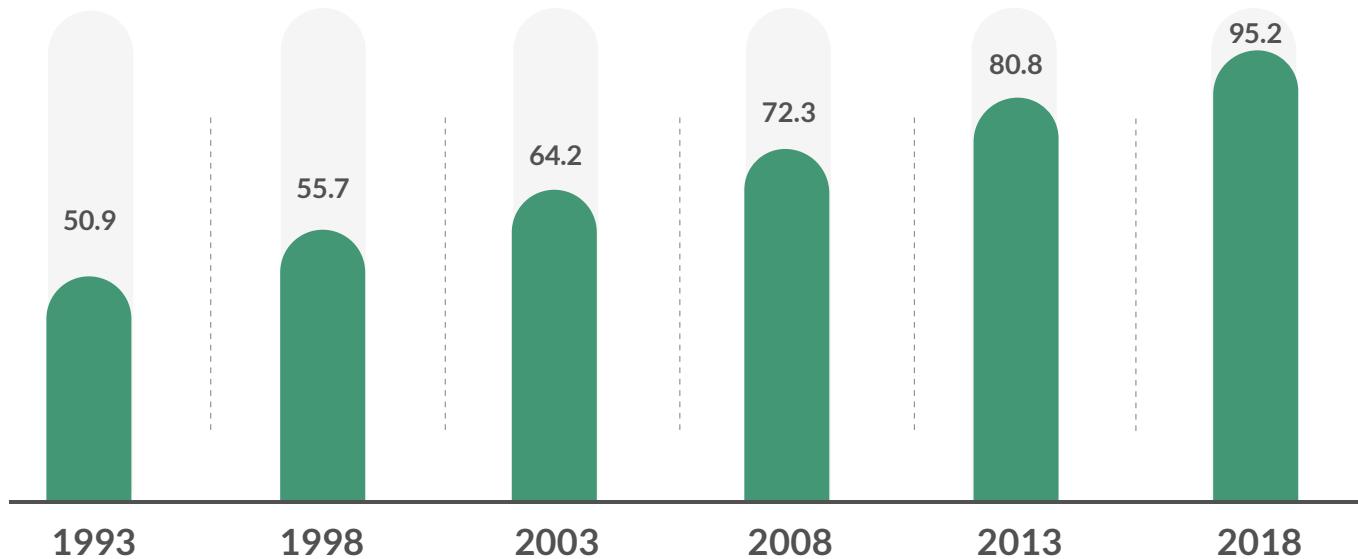
2: CNG Sales for 2020 annualised based on YoY growth during April-September 2019

Source: Ministry of Petroleum & Natural Gas, PPAC, IndiaDataHub, Macquarie Research, August 2020

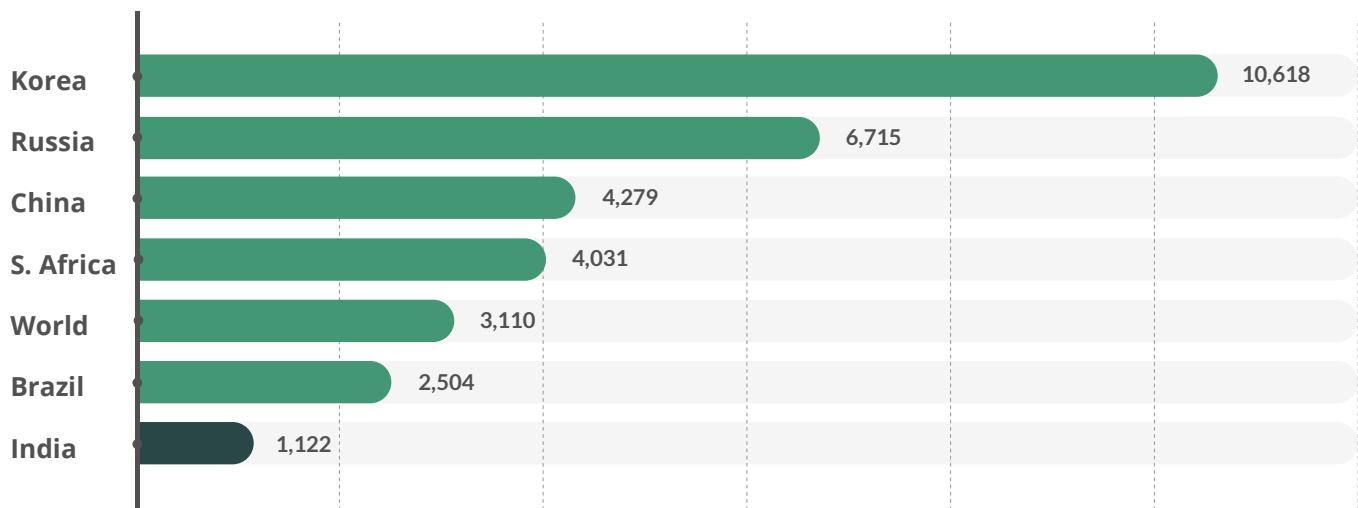
## Electricity

**Fig 147 Electrification – India has made significant strides to ensure full access to electricity... over the past 20 years about 750 million people have for the first time been able to switch on light at home**

### Access to Electricity (% of Population)



### Per Capita Power Consumption (KWh) - 2016<sup>1</sup>



**Notes:**

1: Data for India is from CEA while data for other countries is sourced from IEA by CEA

Source: World Bank, CEA, IEA (via CEA), IndiaDataHub, Macquarie Research, August 2020

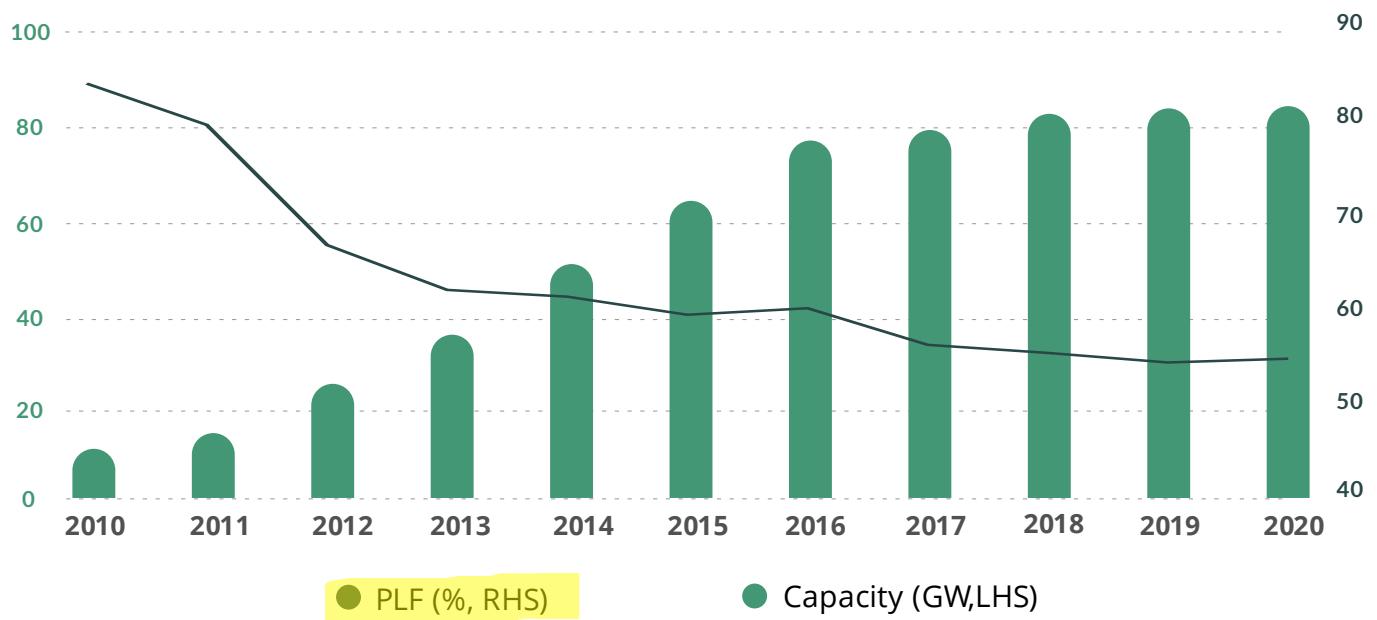
**Fig 148 Electricity Capacity & Utilization – Powerplant capacity has increased 2.4x over the past 15 years, led by the private sector which now accounts for slightly over 30% of India's generation capacity**

(y/e March)

(GW)	2006	2010	2015	2019	2020
<b>Conventional Electricity</b>					
<b>Generation Capacity<sup>1</sup></b>	<b>118</b>	<b>144</b>	<b>236</b>	<b>279</b>	<b>284</b>
Thermal	82	102	189	227	231
- Coal/Lignite <sup>2</sup>	68	84	165	201	206
- Gas	13	17	23	25	25
- Diesel	1.1	1.1	1.0	0.6	0.5
Nuclear	3.3	4.3	5.8	6.8	6.8
Hydro	32	38	41	45	46
Central Sector <sup>3</sup>	43	54	75	88	92
State Sector <sup>3</sup>	64	74	90	100	102
<b>Private Sector</b>	<b>11</b>	<b>16</b>	<b>70</b>	<b>91</b>	<b>90</b>
- <i>Private Utilities</i>	3.9	4.4	4.3	3.9	3.4
- <i>Independent Power Plants (IPPs)</i>	6.7	12	66	87	87

### Generation capacity of IPPs has increased but utilisation has plummeted

#### Capacity (GW) vs. PLF (%)<sup>4</sup>



#### Notes:

1: Data pertains to Power Utilities only. Excludes Captive Power Plants

2: Includes Mixed Fuel Capacity also

3: Hydro Capacity of 2,920 MW of Bhakra Beas Management Board is considered under Central Sector.

4: Generation Capacity data is as of March of each year while PLF data is average for the 12-months ending March of each year

Source: CEA, IndiaDataHub, Macquarie Research, August 2020

Fig 149 Electricity Generation – ... but load factors (utilization) has collapsed and is still languishing in the mid-50s

(000 GWh)	2006	2010	2015	2019	2020
<b>Conventional Electricity Generation (000 GWh)<sup>1</sup></b>					
Thermal	497	641	878	1,072	1,043
- Coal/Lignite <sup>2</sup>	435	540	836	1,022	994
- Gas	60	97	41	50	48
- Diesel	2.0	4.0	1.4	0.1	0.1
Nuclear	17	19	36	38	46
Hydro	101	104	129	135	156
Imports from Bhutan	1.8	5.4	5.0	4.4	5.8
Central Sector	258	324	395	461	460
State Sector	303	346	367	401	388
Private Sector	54	93	282	383	397
- Private Utilities	27	28	23	21	19
- Independent Power Plants	27	65	259	362	378
<b>Plant Utilisation Factor (PLF) - (%)<sup>1</sup></b>					
Thermal	74	78	64	60	56
- Central Sector	83	86	74	72	64
- State Sector	67	71	60	57	50
- Private Utilities	85	82	65	61	62
- Independent Power Plants	na	86	59	54	54
Nuclear	63	51	81	64	78
<b>Installed Captive Power Generation Capacity (GW)<sup>1,2</sup></b>					
Thermal	31	43	53	56	56
- Steam	17	26	33	35	35
- Gas	4.4	5.2	7.2	7.8	7.8
- Diesel	9.5	12	13	13	13
Renewables	0.5	1.3	1.7	1.9	1.9
Hydro	0.1	0.1	0.1	0.0	0.0
Captive Power Generation Capacity relative to Utility Capacity (%) <sup>1</sup>	21.8	18.9	20.0	20.8	20.8
<b>Captive Power Generation (000 GWh)<sup>1,2</sup></b>					
Thermal	105	159	177	173	173
- Steam	77	128	144	141	141
- Gas	20	21	25	24	24
- Diesel	8.2	9.7	8.1	7.7	7.7
Renewables	0.6	2.7	2.3	2.3	2.3
Hydro	0.2	0.1	0.1	0.1	0.1

**Notes:**

1: Data pertains to Power Utilities only. Excludes Captive Power Plants; 2: Includes Mixed Fuel Generation also

Source: CEA, IndiaDataHub, Macquarie Research, August 2020

**Fig 150 Renewable Power Capacity** – Capacity is up over 5x off a low base over the last decade... against slightly under 90 GW renewable capacity today, India's (renewed) aspiration is to scale this to 227GW and 275GW by 2022-27 respectively... towards this end, India has introduced national competitive auctions for wind and solar, that complements other policy measures such as Renewable Purchase Obligations and support for rooftop solar installations

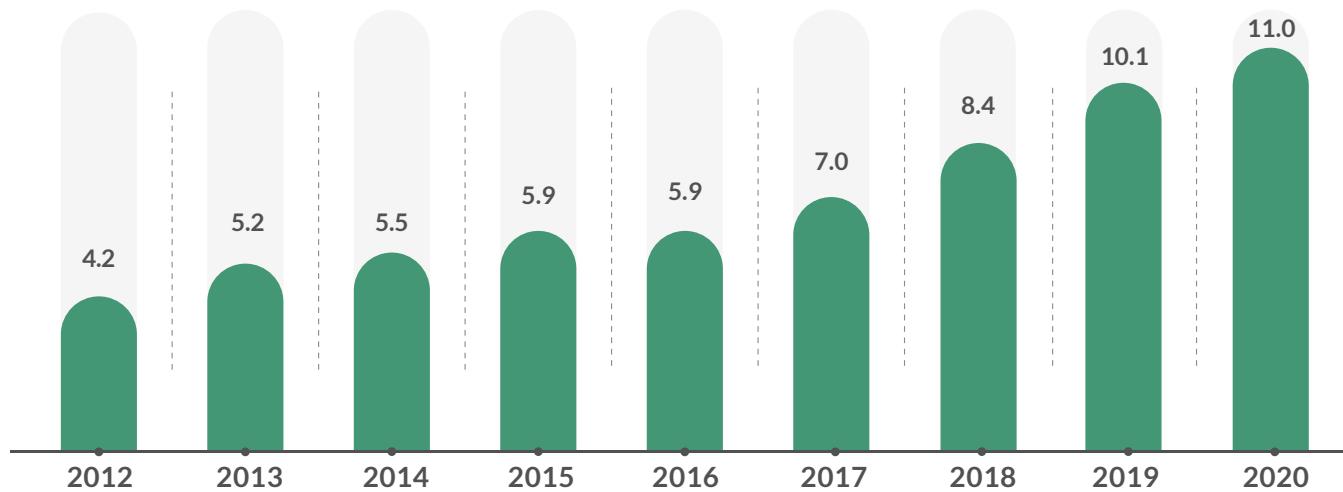
(y/e March)

	2010	2015	2019	2020
<b>Renewable Power Capacity (GW)<sup>1</sup></b>	17	39	78	87
Wind	12	23	36	38
Solar	0.0	3.7	28	35
Bio Energy <sup>2</sup>	2.3	7.7	9.1	9.9
Small Hydro <sup>3</sup>	2.7	4.1	4.6	4.7

	2012	2015	2019	2020
<b>Renewable Power Generation (000 GWh)</b>	37	62	127	138
Wind	23	34	62	65
Solar		4.6	39	50
Bio Energy <sup>2</sup>		15	16	14
Small Hydro <sup>3</sup>		8.1	8.7	9.4

#### Renewable Power Generation relative to Conventional Power Generation (%)<sup>4</sup>



#### Notes:

1: Only includes Grid connected Renewable Power Capacity. Off-Grid capacity such as rooftop solar is excluded

2: Includes Biomass and Waste to Energy

3: Includes small hydro projects with capacity less than 25 MW

4: Conventional Power Generation is from Utilities only and includes imports from Bhutan

Source: CEA, CSO, Rajya Sabha Q&A, IndiaDataHub, Macquarie Research, August 2020

**Fig 151 India Power Supply – Demand** – After years of scarcity, India's electricity system is now balanced due to aforementioned investments in thermal and renewable capacity

(y/e March)

	2006	2010	2015	2019	2020
<b>All India Power Supply - Demand Balance (GWh)<sup>1</sup></b>					
Energy Requirement	632	831	1,069	1,275	1,291
Energy Supplied	579	747	1,031	1,268	1,284
Energy Deficit	53	84	38	7.1	6.6
Energy Deficit (%) <sup>2</sup>	8.4	10.1	3.6	0.6	0.6
<b>All India Peak Energy Supply-Demand (MW net)<sup>1</sup></b>					
Peak Power Demand	93	119	148	177	184
Peak Demand Met	82	104	141	176	183
Peak Power Deficit	11	15	7.0	1.5	1.3
Peak Power Deficit (%) <sup>2</sup>	12.3	12.7	4.7	0.8	0.7
	2002	2007	2012	2018	2019
<b>Sectoral Distribution of Power Consumption (000 GWh)<sup>3</sup></b>					
<b>Total Electricity Consumed</b>	<b>375</b>	<b>526</b>	<b>785</b>	<b>1,123</b>	<b>1,158</b>
Industrial	160	241	352	469	485
Domestic	80	111	171	274	280
Agriculture	82	99	141	199	208
Commercial	24	40	65	94	97
Traction	8.1	11	14	17	17
Others	22	23	41	71	71
Per Capita Electricity Consumption (KWh)	559	672	884	1,149	1,181
Transmission & Distribution Losses (%)	34.0	28.7	23.7	21.0	20.7

**Notes:**

1: Data pertains to Power Generation Utilities only

2: Deficit as percentage of Requirement

3: Includes power generated by Utilities as well as non-Utilities (captives)

Source: CEA, MOSPI, IndiaDataHub, Macquarie Research, August 2020

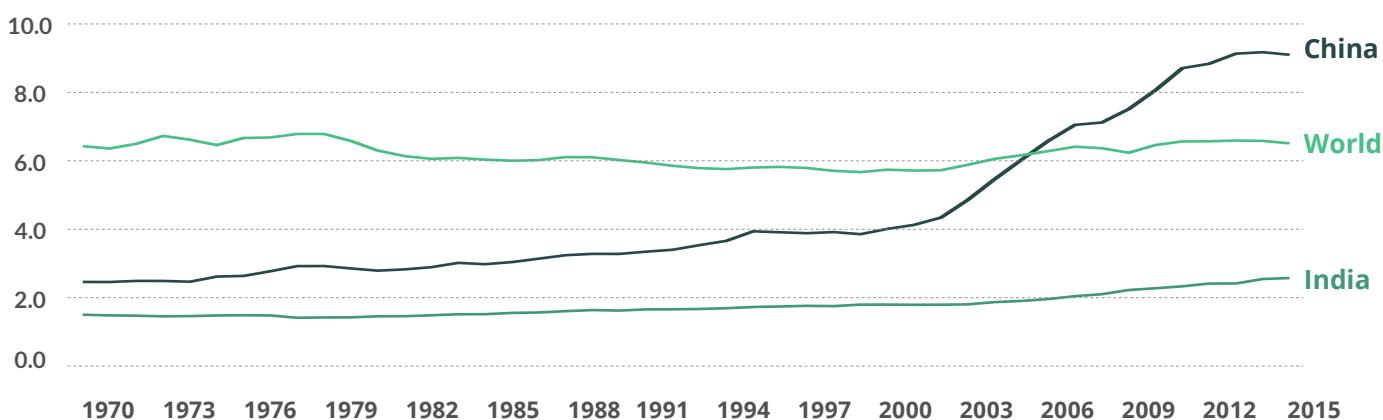
**Fig 152 Greenhouse Gas (GHG) Emissions – Per Capita GHG emissions in India are less than half the global average, while its share of global total CO2 emissions is just shy of 7%**

(y/e December)

	1990	2000	2005	2010	2015
<b>Greenhouse Gas Emissions (Megatonnes CO2 equivalent)</b>	1,364	1,841	2,128	2,765	3,347
<i>Share in World (%)</i>	4.2	5.1	5.2	6.0	6.8
<i>Global Rank</i>	4	4	3	3	3
<b>Sectoral Contribution to Greenhouse Gas Emissions (Megatonnes CO2 equivalent)</b>					
Power Industry	217	462	565	796	1,075
Buildings	129	164	185	224	233
Transport	66	97	117	194	259
Other Industrial Combustion	168	224	275	452	579
Other Sectors	785	895	987	1,098	1,201
<b>Per Capita Greenhouse Gas Emissions (CO2 tonnes equivalent)</b>	1.6	1.7	1.9	2.2	2.6
<i>Per Capita Emissions relative to World Average (%)</i>	25	30	30	34	38
<i>Global Rank</i>	157	154	153	144	137
<b>Greenhouse Gas Intensity of Economy (CO2 tonnes per kUSD PPP GDP)</b>	0.82	0.64	0.54	0.50	0.44
<i>Greenhouse Gas Intensity relative to World Average (%)</i>	119	114	101	100	99
<i>Global Rank</i>	71	80	91	87	87

### Per Capita Greenhouse Gas Emissions in India are less than half the Global average

#### Per Capita Greenhouse Gas Emissions (CO2 tonnes equivalent)



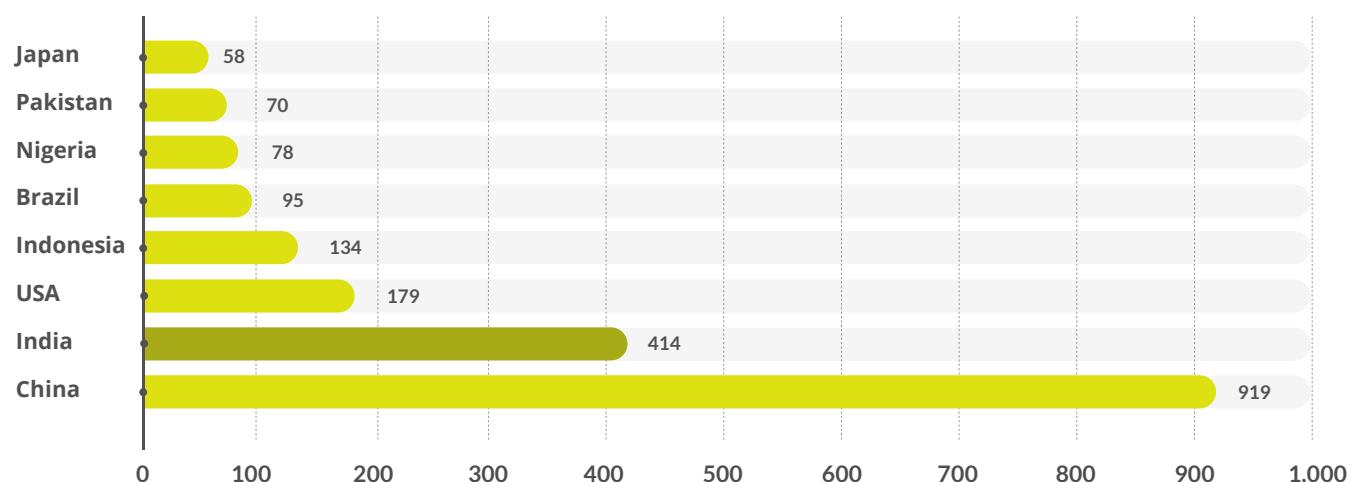
Source: Crippa, M., Oreggioni, G., Guizzardi, D., Muntean, M., Schaaf, E., Lo Vullo, E., Solazzo, E., Monforti-Ferrario, F., Olivier, J.G.J., Vignati, E., Fossil CO2 and GHG emissions of all world countries - 2019 Report, EUR 29849 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-11100-9, doi:10.2760/687800, JRC117610., IndiaDataHub, Macquarie Research, August 2020

# Agriculture

- India has the second-largest agriculture sector globally and the sector remains central to the Indian economy, contributing ~15% to India's GDP and 44% of country's workforce.
- Productivity per hectare remains poor due to small size of land holdings, under-penetrated irrigation (~50%), lack of modernization.
- Just over a quarter of total acreage is covered under the various crop insurance schemes.

**Fig 153 Agriculture Share of GDP – Agriculture accounts for over 40% of jobs, while the share of GDP has fallen to 15%**

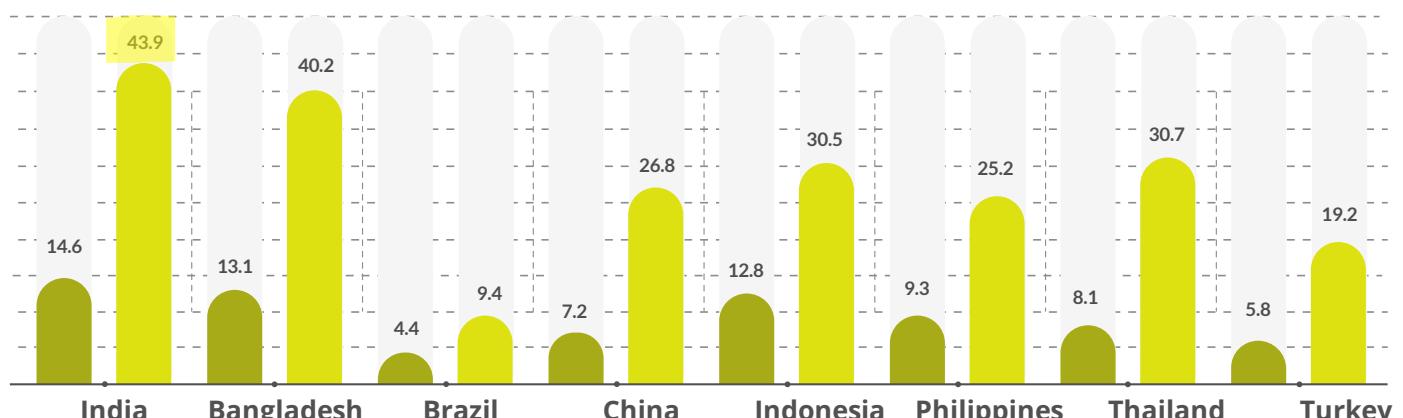
## Agriculture & Allied Activities (Value Added, US\$ billion) - 2017



**India has amongst the highest dependency on Agriculture for output and employment**

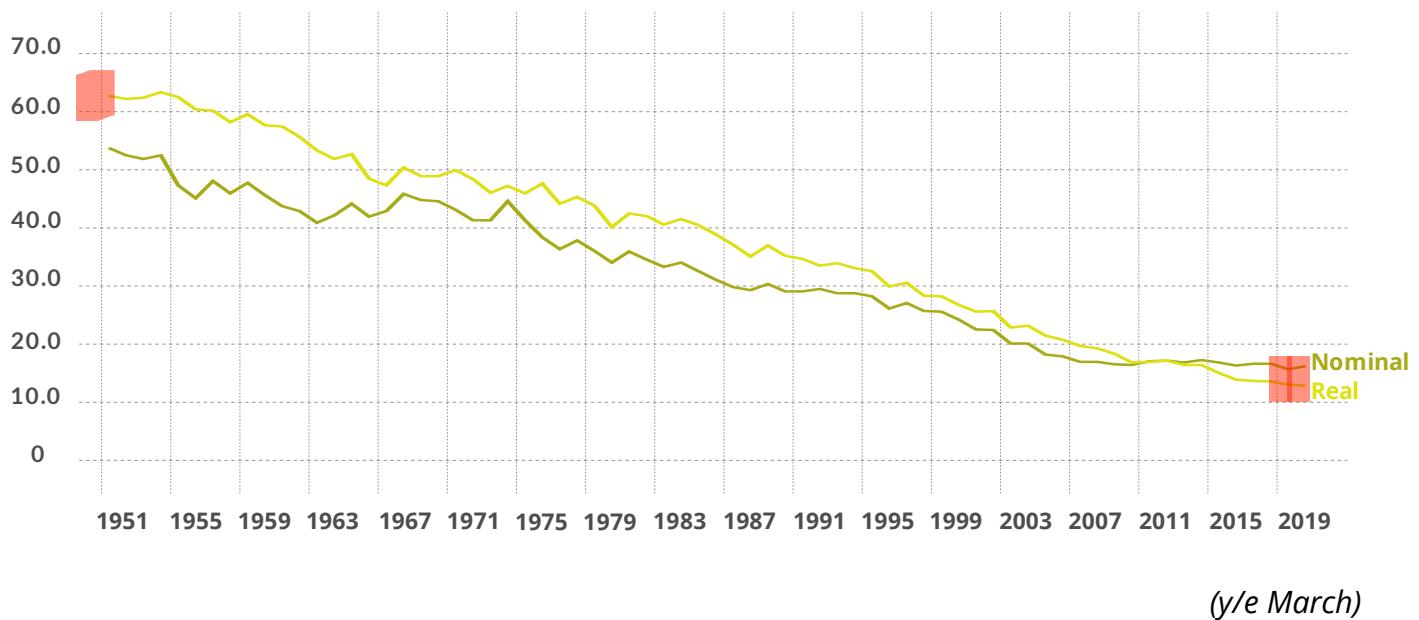
## Share of Agriculture & Allied Activities in GDP and Employment (2018)

- GDP
- Employment



**Fig 154 Agriculture Share of GDP** – While agriculture is still a big employer in India... since independence, the sector's contribution to India's GDP has fallen from ~60% to ~15%

### Share of Agriculture and Allied Activities in Gross Value Added



	2005	2010	2015	2018	2019
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### Gross Value Added (Nominal, Rs billion)

Agriculture & Allied Activities	2005	2010	2015	2018	2019
Crops	3,647	7,060	12,929	16,061	16,149
Livestock	1,040	2,040	5,104	7,852	8,719
Forestry & Logging	718	1,056	1,738	2,191	2,231
Fishing & Aquaculture	271	504	1,166	1,866	2,129

### Gross Value Added (Nominal, % of GDP)

Agriculture & Allied Activities	2005	2010	2015	2018	2019
Crops	19.5	17.8	18.2	18.0	17.1
Livestock	12.6	11.8	11.2	10.4	9.4
Forestry & Logging	3.6	3.4	4.4	5.1	5.1
Fishing & Aquaculture	2.5	1.8	1.5	1.4	1.3
	0.9	0.8	1.0	1.2	1.2

## Acreage, Cropping Patterns

Fig 155 Agricultural Acreage – Over 85% of land is with marginal and small-scale farmers and the average size of land holdings continues to fall – a key headwind for efficiency

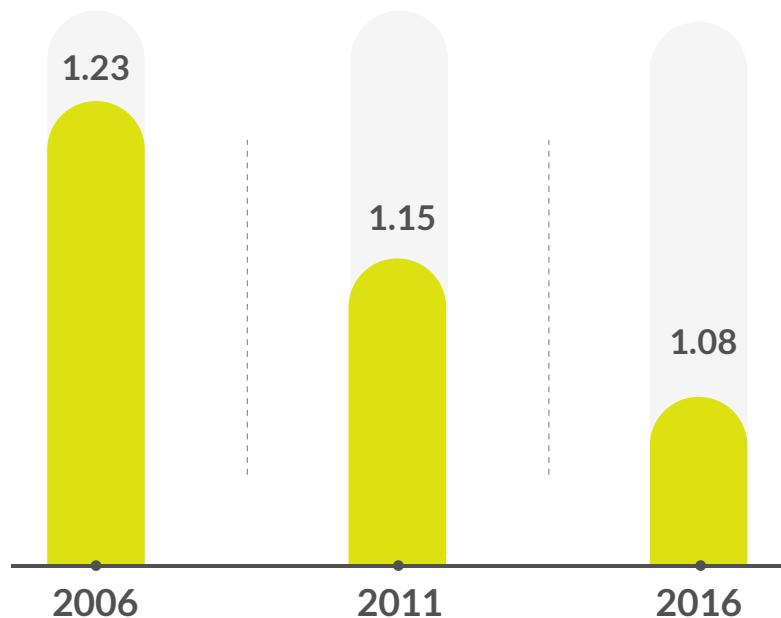
(y/e March)

(millions)	2006	2011	2016
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### Distribution of Land Holdings

Number of Land Holdings	2006	2011	2016
- Marginal (< 1 Hectare)	84	93	100
- Small (1 - 2 Hectares)	24	25	26
- Semi-Medium ( 2 - 4 Hectares)	14	14	14
- Medium (4 - 10 Hectares)	6.4	5.9	5.6
- Large (> 10 Hectares)	1.1	1.0	0.8

### Average size of Land Holdings (hectares)



**Fig 156 What is sown in India? Food grains (rice, wheat, cereals, pulses) still dominate India's agricultural acreage; no meaningful change in cropped area since 2006**

(y/e March)

	2006	2011	2014	2016
<b>Agricultural Acreage (million hectares)</b>				
Net Sown Area	141	142	141	140
Area Sown more than Once	52	56	60	58
<b>Gross Cropped Area</b>	<b>193</b>	<b>198</b>	<b>201</b>	<b>197</b>
Cropping Intensity (%) <sup>1</sup>	137	140	142	141
<b>Composition of Agricultural Acreage (% of Gross Cropped Area)</b>				
<b>Foodgrains</b>	63.3	64.2	62.3	61.6
- Rice	22.7	21.9	22.1	22.0
- Wheat	13.8	15.1	15.6	15.7
- Coarse Cereals	15.2	14.3	12.7	12.2
- Pulses	11.6	12.8	11.8	11.6
Oilseeds <sup>2</sup>	16.0	14.7	15.0	14.4
- Soybean	4.0	4.9	5.8	5.9
- Rapeseed & Mustard	3.8	2.8	3.0	2.8
- Groundnut	3.6	2.9	2.7	2.3
Fibers <sup>2</sup>	5.0	6.0	6.4	6.6
- Cotton	4.5	5.5	5.9	6.1
- Jute & Mesta	0.5	0.4	0.4	0.4
Fruits	2.0	2.0	2.1	2.4
Vegetables	2.8	2.8	2.8	3.5
Spices & Condiments	1.5	1.7	1.6	2.0
Sugarcane	2.4	2.7	2.8	2.7
Other Crops	7.0	6.1	7.1	7.1

**Notes:**

1: Calculated as Gross Cropped Area divided by Net Sown Area

2: Only Key components shown

Source: Ministry of Agriculture, IndiaDataHub, Macquarie Research, August 2020

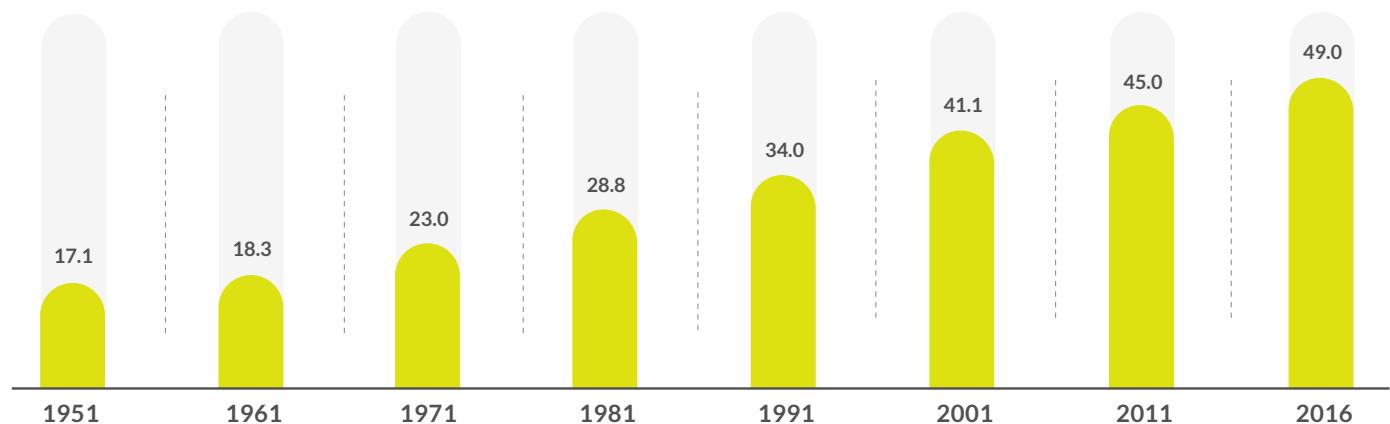
**Fig 157 Irrigation Coverage – While improving, irrigated land in India is still under 50% and as such the sector's dependence on a good monsoon season remains high**

(y/e March)

	2006	2011	2014	2016
<b>Irrigated Land (million hectares)</b>				
Net Irrigated Area	61	64	68	67
Gross Irrigated Area	84	89	96	97
<b>Coverage of Irrigation (%)<sup>1</sup></b>				
<b>All Crops</b>	<b>43.7</b>	<b>45.0</b>	<b>47.7</b>	<b>49.0</b>
Foodgrains	45.7	48.1	51.9	52.6
- Rice	56.8	58.8	59.6	60.1
- Wheat	90.6	92.2	93.6	94.2
- Jowar	8.5	8.7	9.6	10.3
- Bajra	9.1	8.0	9.1	10.5
- Gram	31.4	29.7	35.2	38.7
- Arhar/Tur	4.0	4.0	4.3	3.8
Oilseeds	28.4	24.9	27.3	28.4
- Groundnut	18.4	21.8	25.8	28.9
- Rapeseed & Mustard	73.6	69.8	76.6	79.9
- Soybean	1.7	0.6	0.6	0.9
Cotton	37.3	33.8	32.5	32.6
Sugarcane	93.3	92.7	95.3	95.8

### Irrigation Coverage has almost tripled since Independence

Share of Irrigated Land (%)<sup>2</sup>



**Notes:**

1: Calculated as ratio of Gross Irrigated Area to Gross Sown Area. Only Key Crops (and Key Components of Oilseeds) displayed.

2: Calculated as the ratio of Gross Irrigated Land to Gross Cropped Area in the country.

Source: Ministry of Agriculture, IndiaDataHub, Macquarie Research, August 2020

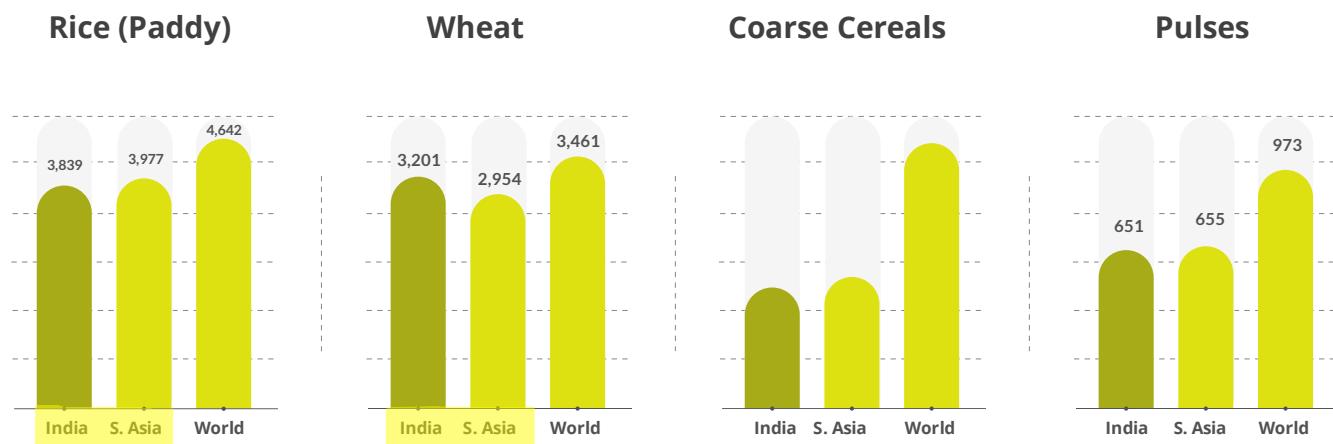
## Crop Yield, Protection

**Fig 158 Food grain Yield – An improving trend and India is now largely in-line with Southeast Asia, but still well below the World**

(y/e June)

(kg per hectare)	2003 - 2005	2008 - 2010	2013 - 2015	2017 - 2019
<b>Foodgrain Yield<sup>1</sup></b>	<b>1,638</b>	<b>1,856</b>	<b>2,092</b>	<b>2,221</b>
Rice	1,936	2,168	2,423	2,576
Wheat	2,642	2,849	3,004	3,358
Coarse Cereals	1,113	1,367	1,679	1,879
- Maize	1,876	2,258	2,625	2,906
- Bajra	870	929	1,212	1,260
- Jowar	756	948	897	916
Pulses	585	638	760	815
- Gram	781	857	962	1,042
- Arhar/Tur	663	736	773	877

### Yield comparison between India, South Asia and World (kg/ha, 2016-2018 average)<sup>2</sup>



**Notes:**

1: Data is average for three-year period

2: Yield data for the charts is from FAO, which is based on calendar year. The yield data in the charts is thus not comparable with that in the table above due to the reference period as well as the source being different. Further, in the case of Rice, the FAO data is for Paddy, which is Unmilled Rice, whereas the data in the table above is for Milled Rice. The FAO data will thus be higher, since Unmilled Rice has higher volume than Milled Rice.

Source: Ministry of Agriculture, FAO, IndiaDataHub, Macquarie Research, August 2020

**Fig 159 Foodgrain Yield** – The improvement in food grain yield can be explained by adoption of more modern agricultural methods – increased use of fertilizers, pesticides, tractors etc... although India still has a long way to catch-up to China → long growth runway for India's agrochemical companies Rallis, Bayer Crop Science, Sumitomo Chemicals, PI Industries, UPL, for details see *India Agrochemicals – Bold reforms, unshackled growth*

(y/e March)

	2006	2011	2015	2018	2019
<b>Consumption of Fertilisers (million tonnes)</b>					
Total (N + P + K)	20.3	28.1	25.6	26.6	27.4
- Nitrogenous (N)	12.7	16.6	16.9	17.0	17.6
- Phosphatic (P)	5.2	8.0	6.1	6.9	7.0
- Potassic (K)	2.4	3.5	2.5	2.8	2.8
<b>Consumption of Fertilisers (kg/Hectare)</b>					
Total (N + P + K)	106	143	127	128	133
- Nitrogenous (N)	66	84	84	82	86
- Phosphatic (P)	27	41	30	33	34
- Potassic (K)	13	18	13	13	14
Pesticide Consumption (000 tonnes) <sup>1,2</sup>	40	56	56	62	53
<b>Sale of Agricultural Implements (000s)</b>					
Tractors	296	545	681	797	890
Power Tillers	22	55	46	52	52
Electricity Consumed for Agricultural purposes (000 GWh)	90	123	169	199	208
<b>Fertilizer Consumption (kg per hectare of arable land) - 2016<sup>3</sup></b>					
Mexico	114				
Pakistan	144				
Philippines	157				
Thailand	162				
India	166				
Brazil	186				
Indonesia	231				
Bangladesh	289				
China	503				

#### Notes:

1: Data for 2019 is provisional

2: Data is in terms of Technical Grade Material or Active Ingredient and not the total volume of the formulation

3: Data is from World Bank and is not comparable with that in the table above due to methodological difference in calculating fertiliser consumption. The primary difference being that area sowed twice is counted only once in World Bank calculations while it is calculated twice by Ministry of Agriculture in reporting Fertiliser consumption.

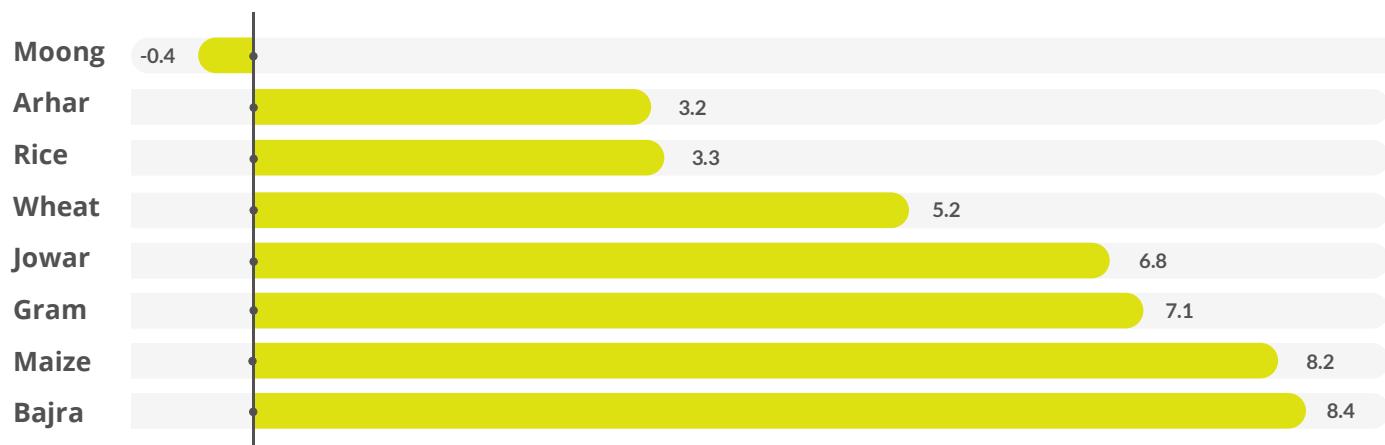
Source: Ministry of Agriculture, World Bank, IndiaDataHub, Macquarie Research, August 2020

**Fig 160 Foodgrain Production and Pricing – Growth in grain production and price increases have helped improve farm incomes and in-turn made the case for increased use of agrochemicals**

(y/e June)

(million tonnes)	2005	2010	2015	2019	2020
<b>Foodgrain Production<sup>1</sup></b>	198	218	252	285	296
Rice	83	89	105	116	118
Wheat	69	81	87	104	107
Coarse Cereals <sup>2</sup>	33	34	43	43	48
- <i>Maize</i>	14	17	24	28	29
- <i>Bajra</i>	7.9	6.5	9.2	8.7	10.3
- <i>Jowar</i>	7.2	6.7	5.5	3.5	4.6
- <i>Ragi</i>	2.4	1.9	2.1	1.2	1.7
Pulses <sup>2</sup>	13	15	17	22	23
- <i>Gram</i>	5.5	7.5	7.3	9.9	11
- <i>Arhar/Tur</i>	2.4	2.5	2.8	3.3	3.7
- <i>Moong</i>	1.1	0.7	1.5	2.5	2.3
- <i>Urad</i>	1.3	1.2	2.0	3.1	2.3
- <i>Lentil/Masur</i>	1.0	1.0	1.0	1.2	1.4
Kharif Production	103	104	128	142	144
Rabi Production	95	114	124	144	152

### Average Annual Price Increase (Cagr) - 2015 to 2020<sup>3</sup>



#### Notes:

1: Data for 2020 is as per 3rd Advance Estimate from the Ministry of Agriculture

2: Only Key components shown

3: Price change calculated basis the WPI Index for the respective commodity

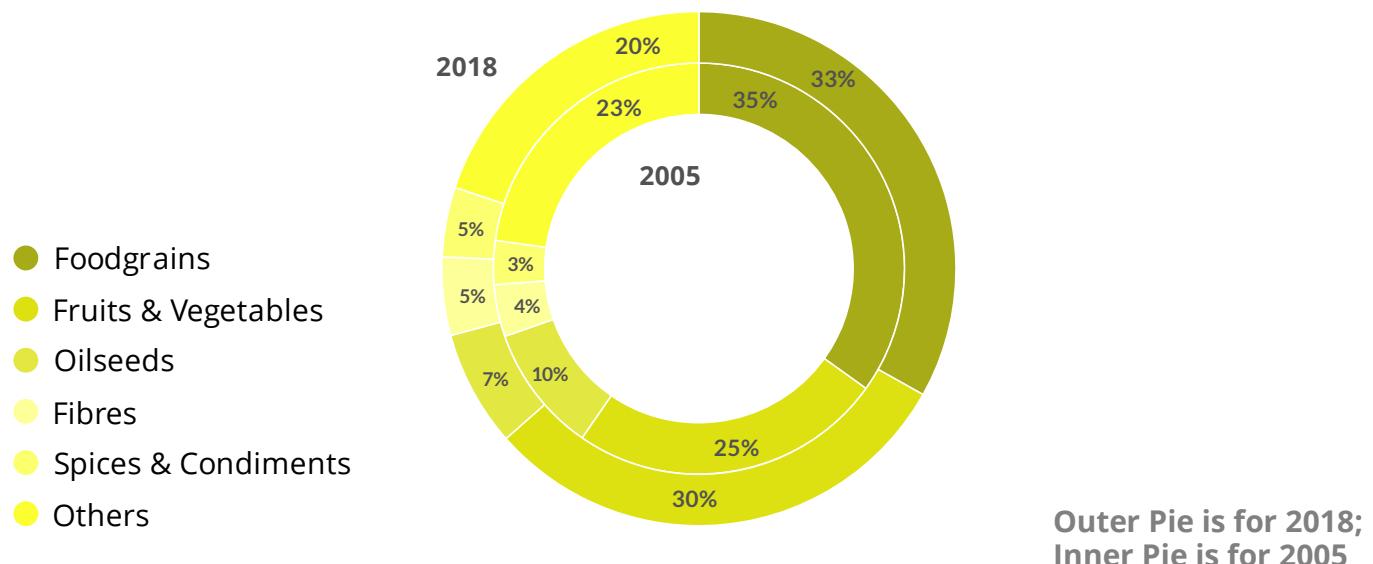
Source: Ministry of Agriculture, IndiaDataHub, Macquarie Research, August 2020

## Horticulture

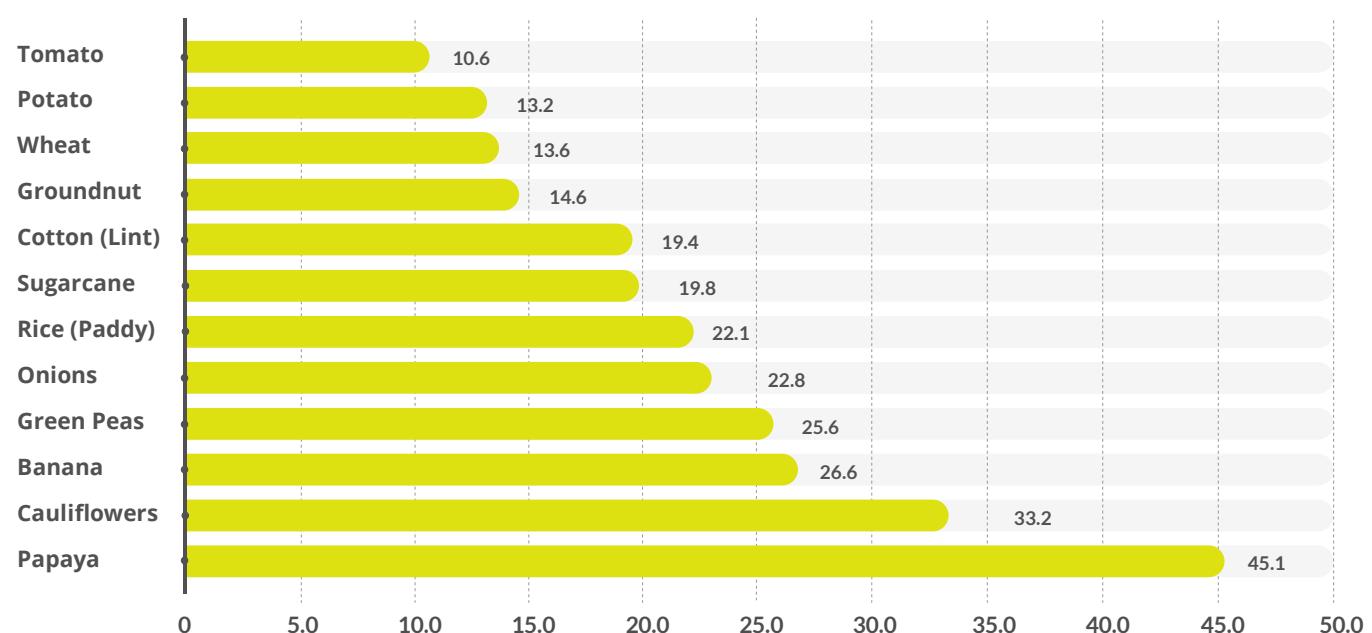
Fig 161 India's share of world food production – Growing market share in fruits, vegetables, spices

**Share of non-subsistence crops like Fruits & Vegetables and Spices has increased**

**Composition of Value of Output from Crops: 2018 vs 2005**



**India's share in World Production (volume terms) - 2018<sup>1</sup>**



Source: CSO, FAO, IndiaDataHub, Macquarie Research, August 2020

**Fig 162 Horticulture Production** – In volume terms this has not been a high growth market thus far, it's taken India 15 years to double horticulture production... although relative to food grains this segment has seen better growth

(million tonnes)	2005	2010	2015	2019	(y/e June) 2020
<b>Horticulture production<sup>1</sup></b>	<b>167</b>	<b>223</b>	<b>281</b>	<b>311</b>	<b>320</b>
<b>Vegetables</b>	<b>101</b>	<b>134</b>	<b>169</b>	<b>183</b>	<b>192</b>
Potato	28.8	36.6	48.0	50.2	51.3
Onion	6.4	12.2	18.9	22.8	26.7
Tomato	8.8	12.4	16.4	19.0	20.6
Brinjal	8.6	10.6	12.6	12.7	12.8
Cauliflower	4.5	6.6	7.9	9.1	8.8
Cabbage	6.1	7.3	8.6	9.1	9.2
Okra/Ladyfinger	3.5	4.8	5.7	6.2	6.4
Peas	1.9	3.0	4.7	5.6	5.7
Tapioca	5.9	8.1	4.4	5.0	5.0
<b>Fruits</b>	<b>51</b>	<b>72</b>	<b>87</b>	<b>98</b>	<b>99</b>
Banana	16.7	26.5	29.2	30.5	31.5
Mango	11.8	15.0	18.5	21.4	20.4
Mandarin (Orange)	1.2	2.1	3.7	6.2	6.4
Papaya	2.5	3.9	4.9	6.1	6.0
Guava	1.7	2.6	4.0	4.3	4.3
Lime/Lemon	1.0	2.6	3.0	3.5	3.7
Sweet Orange (Mosambi)	2.1	3.9	4.2	3.3	3.5
Grapes	1.6	0.9	2.8	3.0	3.1
Apple	1.7	1.8	2.1	2.3	2.7
<b>Spices</b>	<b>4.0</b>	<b>4.0</b>	<b>6.1</b>	<b>9.4</b>	<b>9.4</b>
Garlic	0.6	0.8	1.4	2.9	2.9
Ginger <sup>2</sup>	0.4	0.4	0.8	1.8	1.8
Chillies (Dried)	1.2	1.2	1.6	1.7	1.7
Turmeric <sup>3</sup>	0.7	0.8	0.8	1.0	0.9
Coriander	0.2	0.2	0.5	0.6	0.8
<b>Plantation Crops</b>	<b>9.8</b>	<b>11.9</b>	<b>15.6</b>	<b>16.3</b>	<b>16.2</b>
Coconut	8.8	15.7	14.1	14.7	14.7
Arecanut	0.5	0.5	0.7	0.9	0.8
Cashewnut	0.5	0.6	0.7	0.7	0.7
<b>Flowers &amp; Aromatics<sup>4</sup></b>	<b>1.0</b>	<b>1.9</b>	<b>3.2</b>	<b>3.8</b>	<b>4.0</b>

**Notes:**

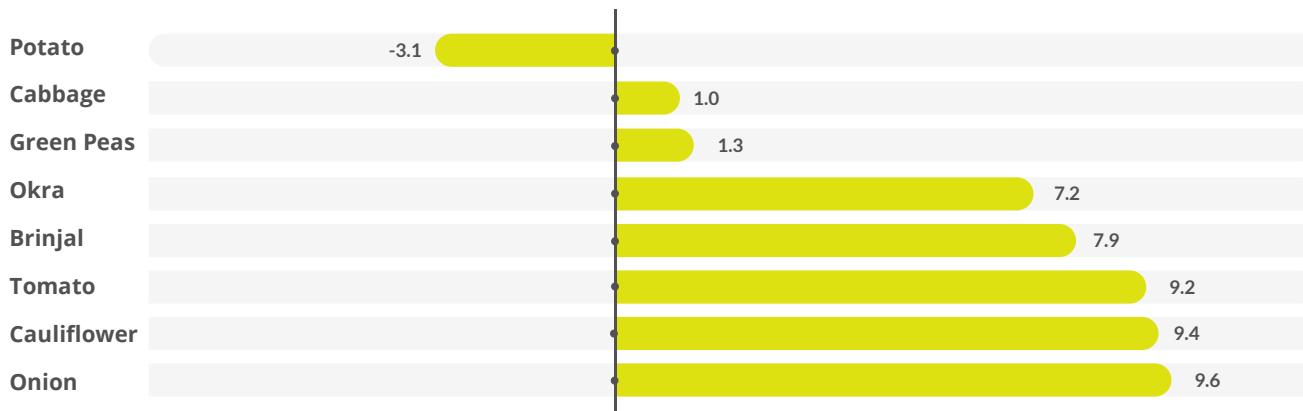
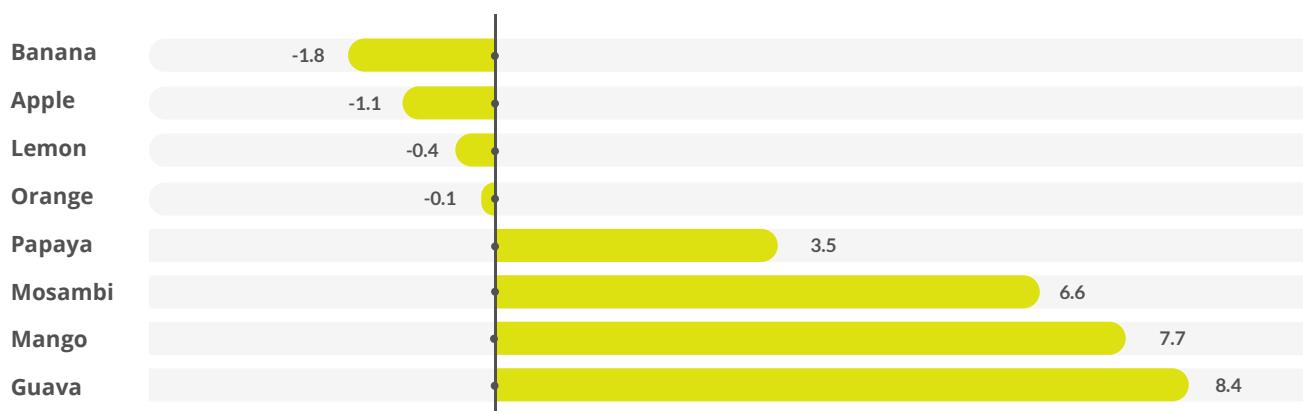
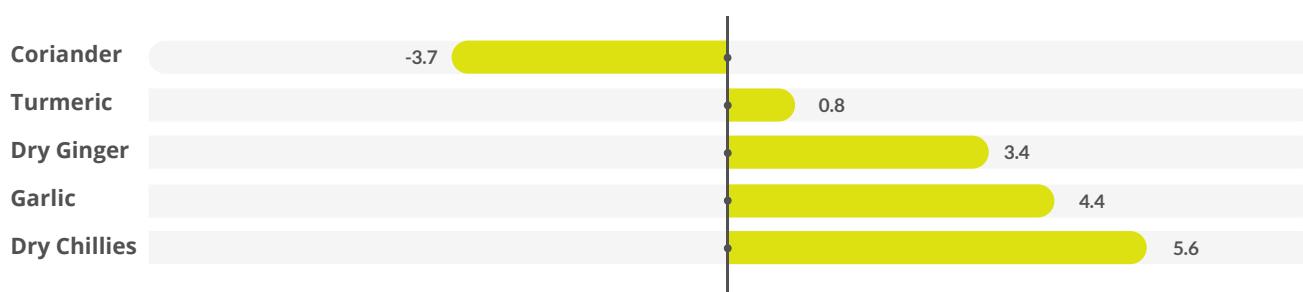
1: Data for 2020 is as per the 2nd Advance Estimate from the Ministry of Agriculture

2: Data for 2019 and 2020 is for fresh ginger whereas prior data is for dry ginger. The data is thus not comparable across years

3: Data for 2019 and 2020 is for dry turmeric whereas prior data is for fresh turmeric. The data is thus not comparable across years

4: Includes residual items like Honey, Mushrooms etc also

Source: Ministry of Agriculture and Farmers Welfare, IndiaDataHub, Macquarie Research, August 2020

Fig 163 Price Inflation – Vegetables, Fruits, Spice trailing 5Y CAGR**Average Annual Price Increase (Cagr) - 2015 to 2020<sup>1</sup>****Average Annual Price Increase (Cagr) - 2015 to 2020<sup>1</sup>****Average Annual Price Increase (Cagr) - 2015 to 2020<sup>1</sup>****Notes:**

1: Price change basis the WPI Index for the respective commodity. Based on average value for the year ending March of each year.

Source: Office of Economic Advisor, IndiaDataHub, Macquarie Research, August 2020

**Fig 164 Size of India's Foodgrain, Fruit, Vegetable, Oilseed, Fiber, Spice Market – While in volume terms the growth has been far from exciting, in value terms, the market has expanded over 4x in the past 15 years to now a ~\$250 billion size**

(y/e March)

(Rs billion)	2005	2010	2015	2017	2018
<b>Value of Output of All Crops<sup>1</sup></b>	4,588	8,601	15,955	18,087	18,890
<b>Foodgrains</b>	<b>1,601</b>	<b>3,031</b>	<b>4,870</b>	<b>6,220</b>	<b>6,261</b>
Rice	732	1,368	2,266	2,507	2,722
Wheat	478	921	1,290	1,655	1,740
Coarse Cereals	188	316	584	686	693
Pulses	203	426	730	1,372	1,105
<b>Fruits &amp; Vegetables<sup>2</sup></b>	<b>1,135</b>	<b>2,114</b>	<b>4,784</b>	<b>5,082</b>	<b>5,736</b>
Mango	142	239	538	626	648
Banana	85	199	454	551	614
Tomato	61	118	261	324	512
Onion	36	80	208	171	305
Potato	88	172	633	449	301
<b>Oilseeds<sup>2</sup></b>	<b>461</b>	<b>702</b>	<b>1,268</b>	<b>1,375</b>	<b>1,380</b>
Groundnut	112	141	296	362	384
Soybean	96	210	365	406	299
Coconut	72	108	214	171	272
Rapeseed/Mustard	120	157	217	284	261
<b>Fibres<sup>2</sup></b>	<b>188</b>	<b>382</b>	<b>763</b>	<b>891</b>	<b>931</b>
Cotton	171	341	707	809	872
Jute	15	38	53	78	55
<b>Spices &amp; Condiments<sup>2</sup></b>	<b>158</b>	<b>315</b>	<b>733</b>	<b>906</b>	<b>827</b>
Chillies	45	79	192	221	199
Arecanut	26	40	146	153	158
Turmeric	20	70	72	85	88
<b>Others<sup>2</sup></b>	<b>1,045</b>	<b>2,057</b>	<b>3,537</b>	<b>3,613</b>	<b>3,756</b>
Sugarcane	174	414	784	725	1,016
By products	303	535	916	964	937
Fodder & Grass	234	374	670	762	691

**Notes:**

1: The data in the table is the value of output of crops and not the value added from each crop. Value Added is calculated as Value of Output minus Inputs consumed in production. Data is in nominal terms.

2: Only key components shown

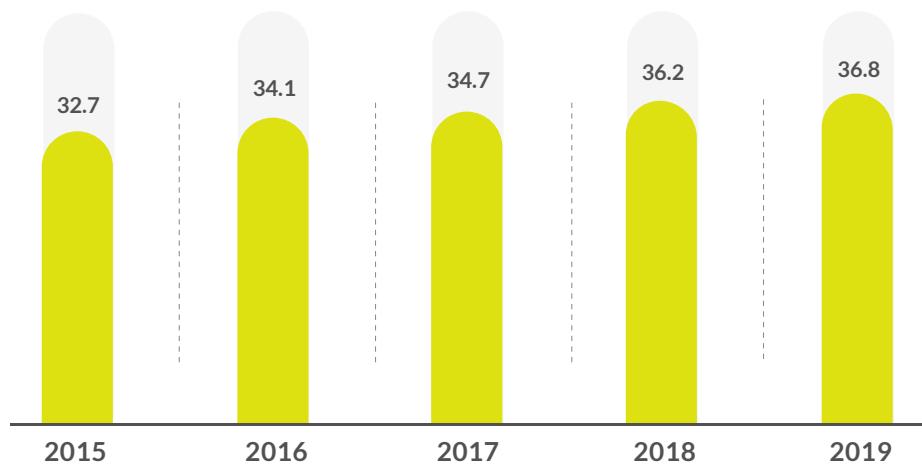
Source: CSO, IndiaDataHub, Macquarie Research, August 2020

**Fig 165 Agriculture Bottlenecks: Storage – Only a gradual increase in cold storage capacity; however reform measures announced in May-20, specifically dilution of Essential Commodities Act, should support higher investments in the agriculture supply chain**

(million tonnes)	2005	2010	2015	2019	2020
<b>Oilseeds production<sup>1</sup></b>	24.4	24.9	27.5	31.5	33.5
Soybean	6.9	10.0	10.4	13.3	12.5
Rapeseed & Mustard	7.6	6.6	6.3	9.3	8.7
Groundnut	6.8	5.4	7.4	6.7	9.3
Castorseed	0.8	1.0	1.9	1.2	2.1
Sesamum	0.7	0.6	0.8	0.7	0.7
<b>Commercial crops</b>					
Sugarcane	237	292	362	405	354
Cotton (lint) <sup>2</sup>	16	24	35	28	35
Jute/Mesta <sup>3</sup>	10	12	11	10	10
Tea	0.9	1.0	1.2	1.4	1.4
Coffee	0.3	0.3	0.3	0.3	0.3
Tobacco <sup>4</sup>	0.6	0.7	0.9	1.0	

### Cold Storage capacity is gradually increasing every year

**Cold Storage Capacity (million tonnes)<sup>5</sup>**



#### Notes:

1: Only Key components shown

2: Data in terms of Million Bales of 170 Kg each

3: Data in terms of Million Bales of 180 Kg each

4: Data for 2019 pertains to the year 2018

5: Data as of March-end of each year

Source: Ministry of Agriculture and Farmer's Welfare, Tea Board of India, Coffee Board of India, IndiaDataHub, Macquarie Research, August 2020

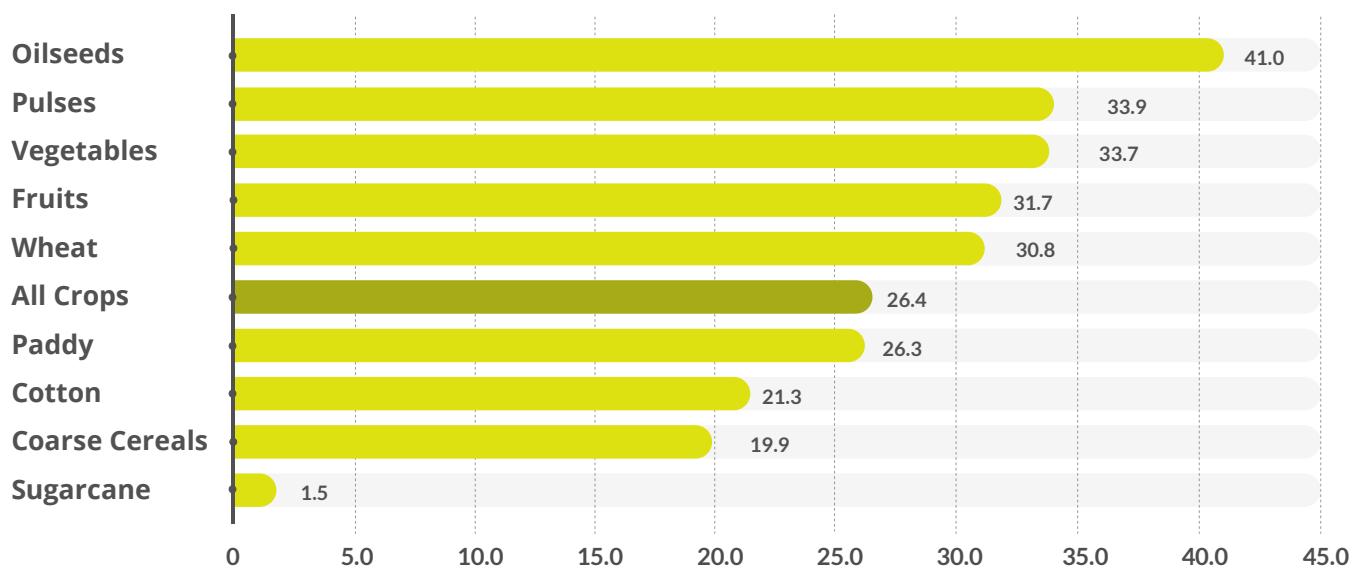
**Fig 166 Bottlenecks: Insurance – Yet another under-penetration opportunity, coverage of Crop Insurance Schemes is still low**

(y/e June)

(Rs/Quintal)	2014	2017	2020
<b>Estimated Cost of Production<sup>1</sup></b>			
Paddy	961	1,045	1,208
Jowar	1,269	1,501	1,698
Bajra	768	925	1,083
Arhar (Tur)	3,090	3,241	3,636
Moong	3,775	4,065	4,699
Cotton	2,485	2,889	3,501
Groundnut	2,720	3,371	3,394
Soybean	3,000	3,479	2,473
Wheat	687	785	866
Gram	1,926	2,124	2,637
Rapeseed/Mustard	1,260	1,702	2,212

### Coverage of Crop Insurance Schemes is still low

#### Crop-wise Area Insured under all Insurance Schemes (%), 2018-19 Crop year<sup>2</sup>



#### Notes:

1: Cost of Production is as estimated by the Commission for Agricultural Costs and Prices (CACP) on A2 + FL basis. A2 + FL cost basis includes all costs actually incurred for cultivation plus imputed cost of family labour. It excludes notional rent on own land and interest on owned capital assets.

2: Calculated using same Crop wise and total acreage as for the year 2015-16 and estimated insured area for the crop year 2018-19.

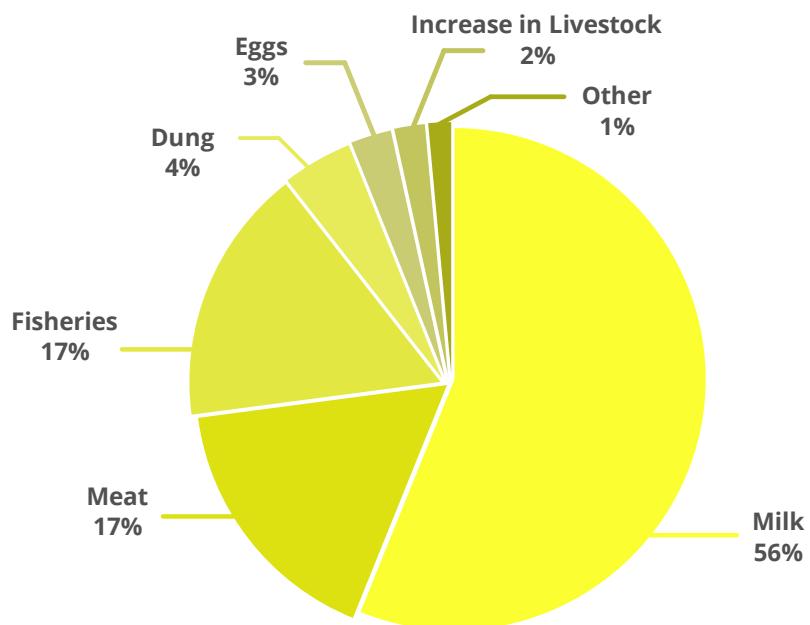
Source: Ministry of Agriculture and Farmer's Welfare, IndiaDataHub, Macquarie Research, August 2020

## Livestock

Fig 167 India Share of Global Output – India accounts for slightly over 1/5<sup>th</sup> world milk output, but has a relatively low market share in other categories

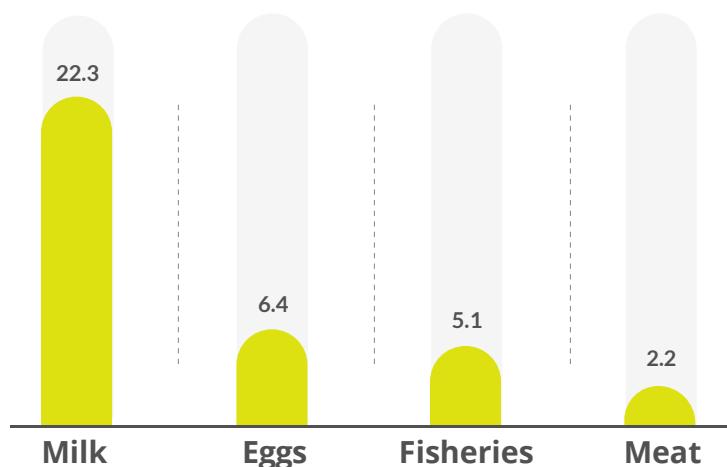
**Milk is the biggest contributor to Livestock output, followed by Meat and Fisheries**

**Composition of Value of Output from Livestock & Fisheries (2018, nominal terms)**



**India's share in Global Livestock and Fisheries Output is small except in Milk**

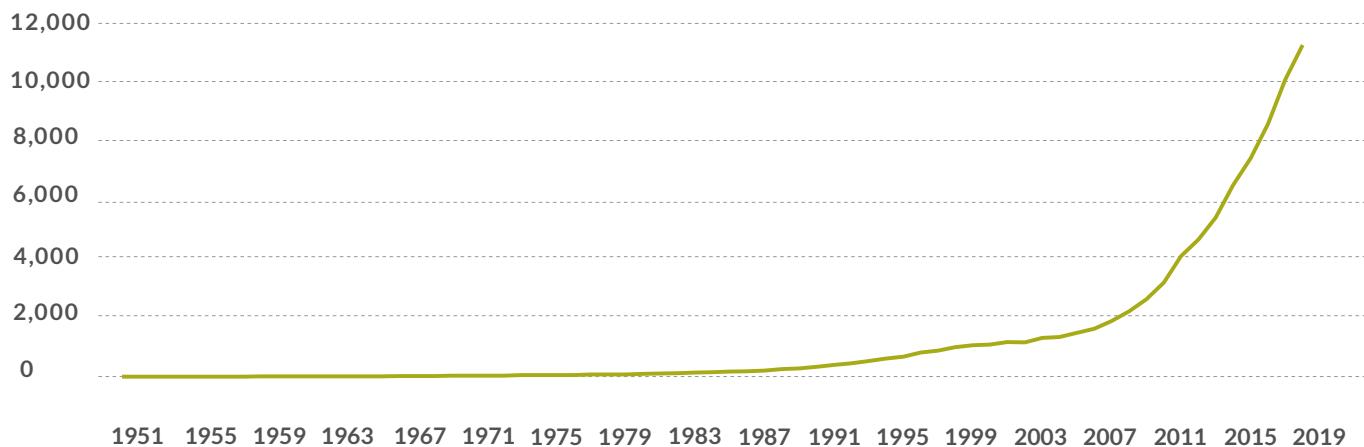
**India's share in World Output (%)<sup>1</sup>**



**Fig 168 Livestock Share of Gross Value Add – While the share of Agriculture in India's economy is falling, that of Livestock and Fisheries has been increasing over the past ten years**

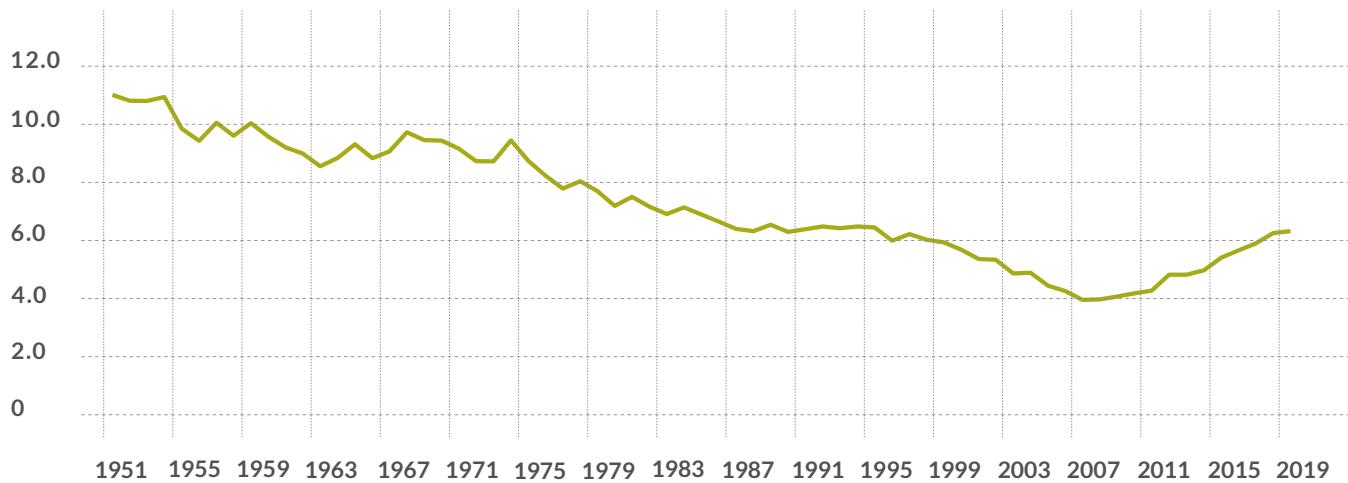
**Value added from Livestock and Fisheries has increased 1000x since 1951**

**Gross Value Added from Livestock and Fisheries (Rs bn, nominal terms)<sup>1</sup>**



**While share of Agriculture in the economy is falling, that of Livestock and Fisheries is increasing**

**Share of Livestock and Fisheries in total Gross Value Added (nominal terms, %)<sup>1</sup>**



Source: CSO, IndiaDataHub, Macquarie Research, August 2020

Fig 169 Livestock Population and Output

(y/e March)

(millions)	1997	2003	2007	2012	2019
<b>Total Livestock Population</b>	<b>485</b>	<b>485</b>	<b>530</b>	<b>512</b>	<b>536</b>
Cattle	199	185	199	191	193
Buffalo	90	98	105	109	110
Goats	123	124	141	135	149
Sheep	57	61	72	65	74
Pigs	13	14	11	10	9
Horses	0.8	0.8	0.6	0.6	0.3
Camels	0.9	0.6	0.5	0.4	0.3
Mules	0.2	0.2	0.1	0.2	0.1
Donkeys	0.9	0.7	0.4	0.3	0.1
Yaks	0.1	0.1	0.1	0.1	0.1
<b>Poultry population</b>	<b>348</b>	<b>489</b>	<b>649</b>	<b>729</b>	<b>852</b>
(y/e March)					
	2005	2010	2015	2018	2019
<b>Livestock Output</b>					
<b>Milk (million tonnes)</b>	<b>92</b>	<b>116</b>	<b>146</b>	<b>176</b>	<b>188</b>
Buffalos	50	60	75	86	92
Cows	37	52	66	84	90
- Exotic/Crossbred cows		28	37	47	51
- Indigenous cows		24	29	36	39
Goats	3.5	4.5	5.2	6.2	6.1
<b>Eggs (billion number)</b>	<b>45</b>	<b>60</b>	<b>78</b>	<b>95</b>	<b>103</b>
<b>Wool (million kg)</b>	<b>45</b>	<b>43</b>	<b>48</b>	<b>42</b>	<b>40</b>
<b>Meat (million tonnes)</b>	<b>2.2</b>	<b>4.5</b>	<b>6.7</b>	<b>7.7</b>	<b>8.1</b>
Poultry		2.1	3.0	3.8	4.1
Buffalo		0.7	1.4	1.4	1.5
Goat		0.8	0.9	1.0	1.1
Sheep		0.3	0.5	0.6	0.7
Pig		0.4	0.5	0.4	0.4
Cattle		0.2	0.3	0.4	0.3
<b>Fish Catch (million tonnes)<sup>1</sup></b>	<b>6.3</b>	<b>8.0</b>	<b>10.3</b>	<b>10.3</b>	
Inland Fish	3.5	4.9	6.7	6.7	
Marine Fish <sup>1</sup>	2.8	3.1	3.6	3.6	

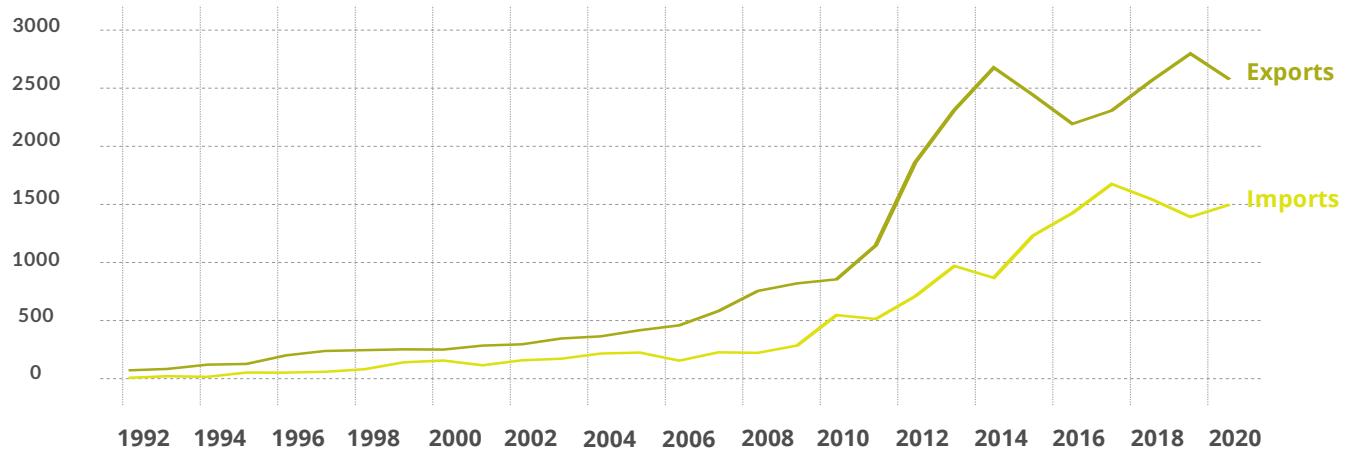
Source: Livestock Census, Department of Animal Husbandry, Dairying &amp; Fisheries, IndiaDataHub, Macquarie Research, August 2020

## Agriculture Trade

**Fig 170 Agriculture Trade – India's trade surplus has stagnated in recent years**

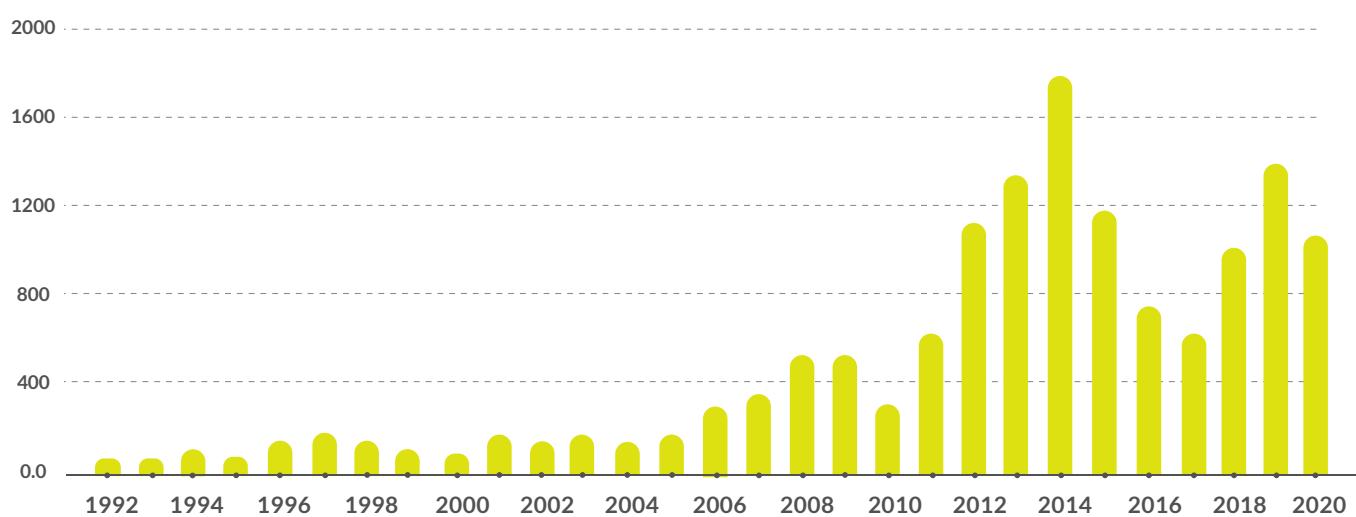
**In the last 2 decades, Agriculture Imports have grown 9x while Exports have grown 10x**

**Foreign Trade in Agriculture Commodities (Rs billion)<sup>1</sup>**



**India's trade surplus in Agriculture has stagnated in recent years**

**Trade Surplus in Agricultural Commodities (Rs billion)<sup>1</sup>**



**Notes:**

1: The classification of Agricultural Exports/Imports differs between Ministry of Agriculture and the Principal Commodity Classification by DGCIS. Ministry of Agriculture also includes Plantation, Marine Products, Jute and Raw Cotton under Agricultural Trade.

Source: Ministry of Agriculture and Farmer's Welfare, Ministry of Commerce, CSO, IndiaDataHub, Macquarie Research, August 2020

Fig 171 Agricultural Trade Data

(y/e March)

(Rs billion)	2005	2010	2015	2019	2020
<b>Agricultural Imports<sup>1</sup></b>	<b>228</b>	<b>531</b>	<b>1,213</b>	<b>1,370</b>	<b>1,474</b>
Vegetable oils	111	223	649	690	686
Fresh Fruits	11	28	96	139	141
Pulses	18	106	171	80	102
Spices	5.9	15	44	79	102
Cotton Raw (incl Waste)	11	12	31	44	94
Cashew	18	30	66	112	90
Alcoholic Beverages		12	25	47	46
<b>Agricultural Exports<sup>1</sup></b>	<b>416</b>	<b>862</b>	<b>2,397</b>	<b>2,746</b>	<b>2,528</b>
Marine Products	65	99	337	477	476
Basmati Rice	28	109	276	328	310
Spices	19	59	148	232	257
Buffalo Meat	18	55	293	251	227
Non-Basmati Rice	39	3.7	204	212	144
Sugar	1.5	1.1	53	95	140
Oil Meals	32	78	81	70	106
Cotton Raw (incl Waste)	4.2	95	116	146	75
Castor Oil	11	22	47	62	63

## Notes:

1: The classification of Agricultural Exports/Imports differs between Ministry of Agriculture and the Principal Commodity Classification by DGCIS. Ministry of Agriculture also includes Plantation, Marine Products, Jute and Raw Cotton under Agricultural Trade.

Source: Ministry of Agriculture and Farmer's Welfare, Ministry of Commerce, CSO, IndiaDataHub, Macquarie Research, August 2020

## Business Conditions

- India has almost 60 million establishments but 60% of them operate without any hired labour.
- More than a third of the workers in Indian factories are employed on contract basis

**Fig 172 Economic Census of India – India has nearly 60 million businesses and about 60% of them operate without hired labour**

(numbers in millions)	1998	2005	2013
<b>Number of Establishments in India <sup>1,2</sup></b>	<b>30.3</b>	<b>41.8</b>	<b>58.5</b>
<b>Geographic Distribution</b>			
Rural	17.7	25.5	34.8
Urban	12.6	16.3	23.7
<b>Employment Status Distribution</b>			
With hired labour	9.0	14.9	16.5
Without hired labour	21.4	26.9	42.0
<b>Sectoral Distribution <sup>3</sup></b>			
Agricultural Establishments	3.5	6.1	13.1
- <i>Livestock</i>			11.4
Non-Agricultural Establishments	26.9	35.7	45.4
- <i>Wholesale &amp; Retail Trade</i>	11.4	16.5	18.0
- <i>Manufacturing</i>	5.5	8.3	10.3
- <i>Transport &amp; Storage</i>	1.0	1.5	3.0
- <i>Hotels &amp; Restaurants</i>	1.2	1.5	2.4
- <i>Education</i>	na	1.4	2.0
- <i>Health, Social Services</i>	na	0.8	1.0
- <i>Construction</i>	0.3	0.3	1.0
- <i>Financial Services</i>	na	0.3	0.8
- <i>Others</i>	7.5	5.1	6.8

### Notes:

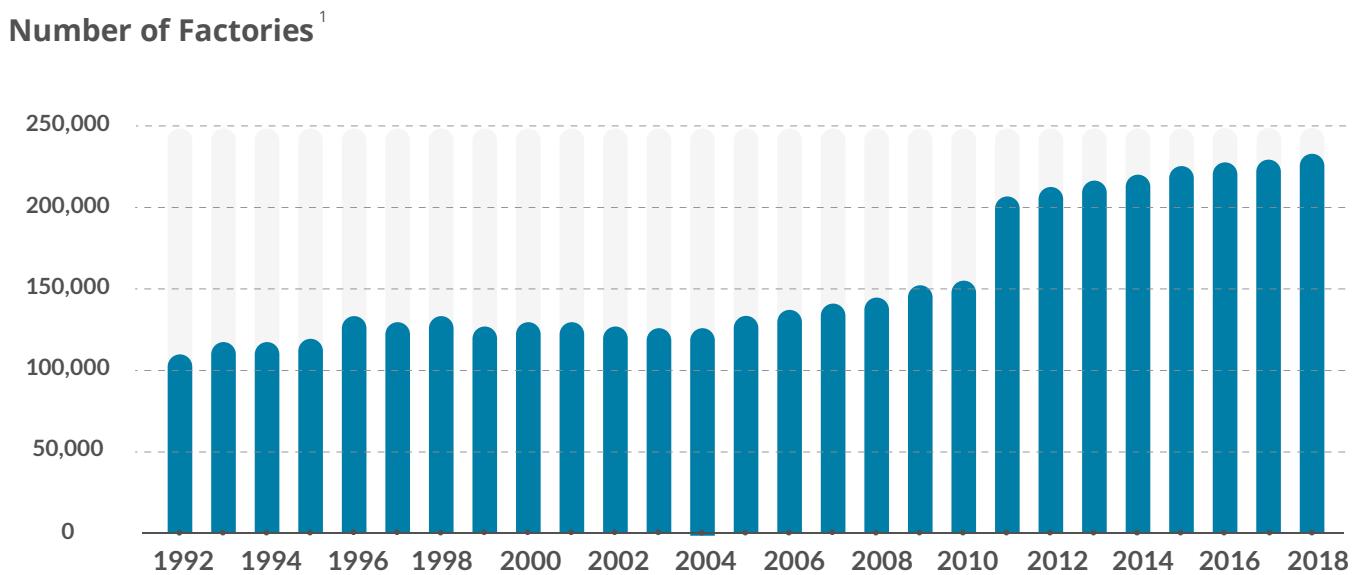
1: Data is as per respective Economic Census. Economic Census covers all Establishments in the country except those engaged in Crop Production & Plantation. Additionally, activities of Shelterless & Nomadic people, Domestic Servants, Casual Workers, etc, are excluded. The 2013 Economic Census did not include Establishments pertaining to Public Administration, Defence and Social Security which the 1998 and 2005 Censuses included. The total number of such establishments is not large, but the data is thus not strictly comparable across time periods.

2: For the purposes of the Economic Census, an Establishment is an independent unit of a business/enterprise. Thus, if a large company has 10 factories across the country, these will be counted as 10 establishments.

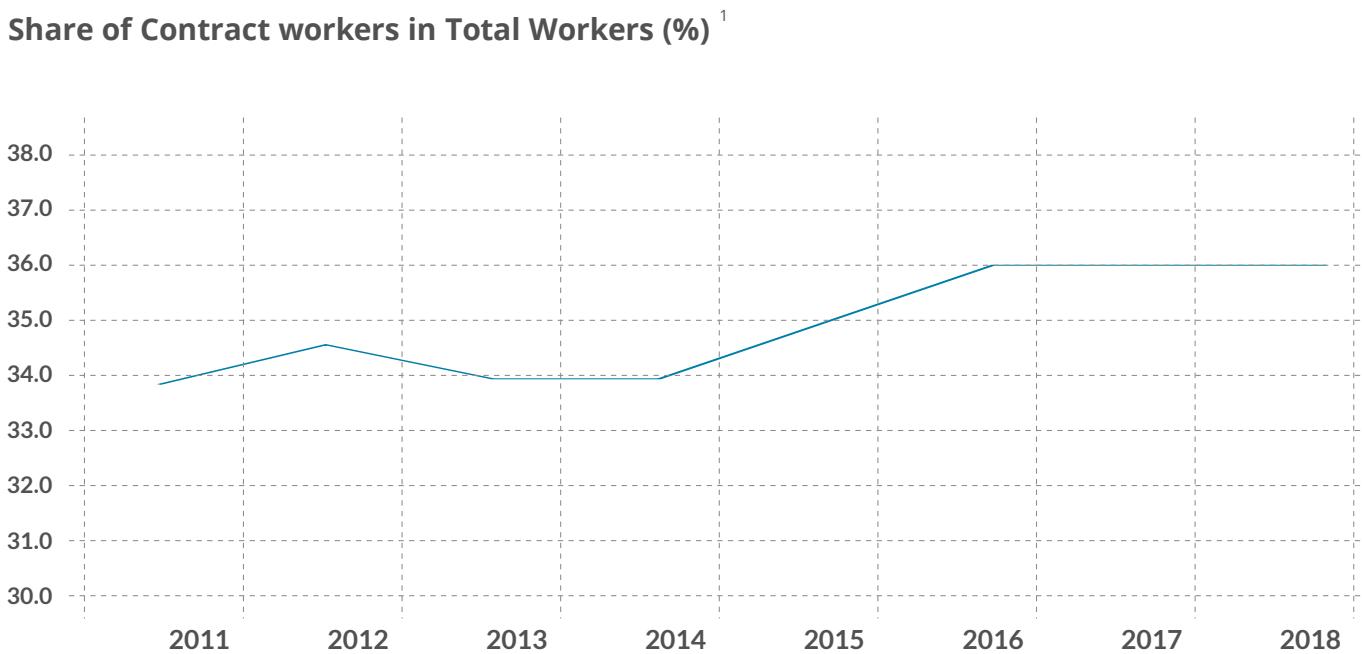
3: Sectoral Distribution data is not consistent across the years due to different classification codes followed. The data has been adjusted to make it comparable as far as possible. But the data is not strictly comparable across time.

Source: Economic Census of India, IndiaDataHub, Macquarie Research, August 2020.

**Fig 173 Factory Profile – Factory count only modestly rising; more than a third of the workers in Indian factories are employed on contract basis**



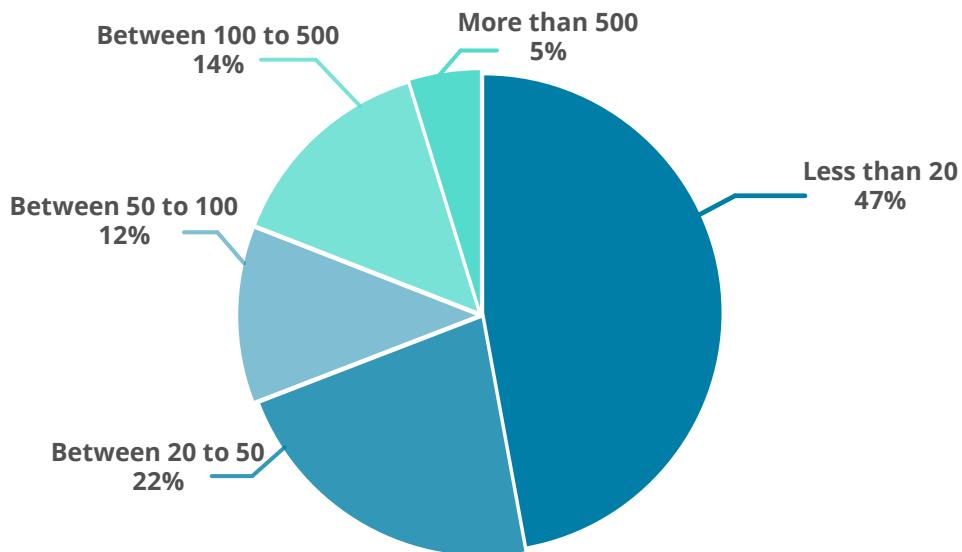
**More than a third of the workers employed in factories are on contract basis**



**Fig 174 Factory Profile** – Only 5% of factories in India employ more than 500 people; <10% of factories with an annual output > \$15 million

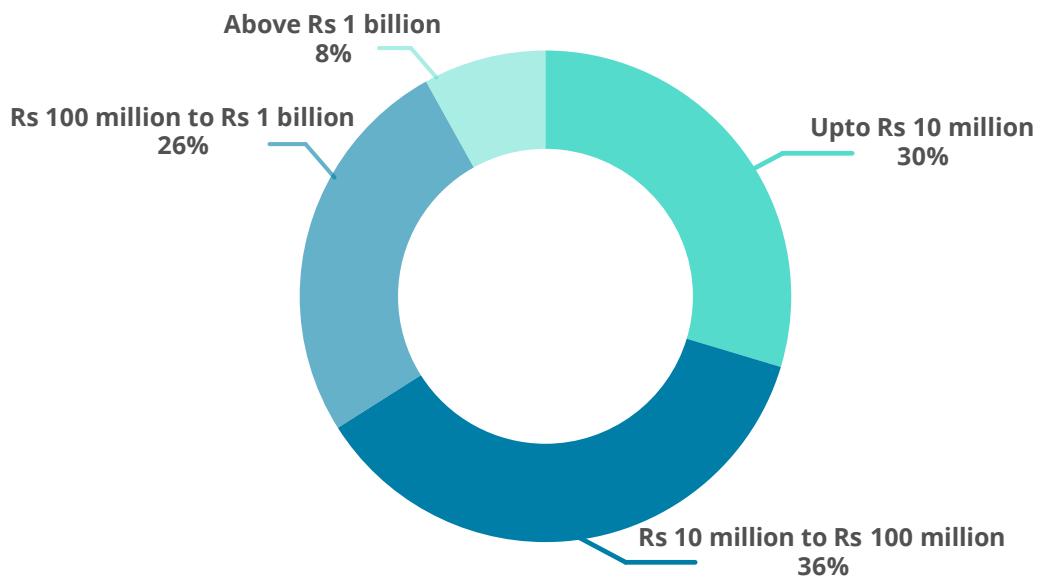
### Only 5% of Factories in India engage more than 500 persons

#### Distribution of factories by Size of Employment (2018)<sup>1</sup>



### Less than 10% of Factories in India have output above Rs1 billion

#### Distribution of Factories by Value of Output (2018)<sup>1</sup>



#### Notes:

1: Includes only operating factories. Factories with no production during the survey year are excluded. Data for the 12-month period ending March-2018.  
Source: Annual Survey of Industries, IndiaDataHub, Macquarie Research, August 2020.

Fig 175 Factory Profile – Annual wage inflation of 8-9% CAGR

(y/e March)

(Values in Rs billion, Numbers in 000s)	2001	2005	2010	2015	2018
Value of Output	9,269	16,726	37,330	68,838	80,722
Inputs Consumed	7,486	13,629	30,359	57,191	66,052
Gross Value Added	1,784	3,096	6,972	11,647	14,670
- as % of Aggregate GVA <sup>1</sup>	9.1	10.7	11.7	10.1	9.5
Capital Expenditure	469	753	2,683	3,236	3,127
- as % of Aggregate GFCF <sup>2</sup>	8.4	7.7	12.4	8.6	6.5
Profits	357	1,446	3,329	4,603	5,762
- as % of Output	3.9	8.6	8.9	6.7	7.1
Total Persons Engaged	7,988	8,454	11,792	13,881	15,615
- Number of Workers	6,135	6,599	9,158	10,755	12,224
Average Salary per Employee (Rs/month) <sup>4</sup>	5,291	6,349	10,389	18,455	22,327
Average Wage per Worker (Rs/month) <sup>5</sup>	3,758	4,247	6,273	10,885	13,143

**Sectoral Composition of Factory Output (% , 2018) - Total Output Rs80,722bn****Notes:**

1: Aggregate GVA is Gross Value Added in the entire economy as calculated by CSO in the National Accounts Statistics

2: Aggregate GFCF is Gross Fixed Capital Formation in the entire economy as calculated by CSO in the National Accounts Statistics

3: Calculated as total persons engaged divided by population in the age group 15-64 as estimated in the 2019 edition of from United Nations' World Population Prospects

4: Calculated as Total emoluments paid during the year divided by total persons engaged during the year

5: Calculated as Total wages paid during the year divided by total workers engaged during the year

Source: Annual Survey of Industries, CSO, IndiaDataHub, Macquarie Research, August 2020.

Fig 176 Factory Distribution

(y/e March)

(Numbers in 000s)	2001	2005	2010	2015	2018
<b>Number of Factories in India<sup>1</sup></b>	131	136	159	230	238
<b>Geographic Distribution</b>					
Rural	47	53	59	91	98
Urban	84	83	99	140	140
<b>Ownership wise Distribution</b>					
Individual Proprietor Firms <sup>2</sup>	35	39	47	59	60
Partnership Firms	47	47	48	58	62
Corporate Sector	46	48	59	74	78
Others <sup>3</sup>	3	3	4	40	38
<b>Sectoral Distribution<sup>4</sup></b>					
Food & Beverages	24	25	27	39	40
Non-Metallic Mineral Products	12	13	17	27	29
Textiles	14	14	13	19	18
Fabricated Metal Products	8	8	11	17	17
Rubber & Plastic Products	7	7	8	14	14
Machinery & Equipment	9	9	9	12	13
Chemicals & Chemical Products	11	11	8	12	13
Basic Metals	7	7	9	12	12
Wearing Apparel	3	3	6	10	10
Electrical Equipment	4	4	5	8	8
Paper & Paper Products	3	4	5	7	7
Motor Vehicles, Trailers	3	3	4	6	6
Others	27	28	35	50	51

**Notes:**

1: Annual Survey of Industries covers all Factories registered under the Factories Act which employ 10 or more people and operating with power or those employing 20 or more people and operating without power. Factories below this threshold are not included.

2: Includes Factories owned by Joint Family/HUFs

3: Includes Khadi & Village Industries, Handloom Industries, Cooperative Societies

4: Data for 2001 is as per National Industrial Classification (NIC) 1998, that for 2005 is as per NIC 2004 and for subsequent years is as per NIC 2008. They are thus not strictly comparable.

Source: Annual Survey of Industries, IndiaDataHub, Macquarie Research, August 2020.

Fig 177 Organised Businesses

(y/e March)

(Number in 000s, Amount in Rs Billion)	2014	2016	2018	2019	2020
<b>Registered Companies</b>					
New Companies Registered <sup>1</sup>					
New Companies Registered <sup>1</sup>	98.4	84.5	108.1	123.9	122.7
Authorised Capital of New Companies <sup>1</sup>	389	431	391	841	2,249
<b>New Companies by Ownership<sup>1</sup></b>					
Government	0.06	0.09	0.10	0.10	0.05
Non-Government	98.4	84.4	108.0	123.8	122.7
<b>New Companies by Sector<sup>1</sup></b>					
Agriculture	2.9	3.4	3.0	4.7	5.2
Industry	27.9	17.9	19.2	24.9	32.9
Services	67.7	63.2	85.8	94.3	84.6
<b>Number of Active Companies</b>					
Active Companies Limited by Shares <sup>2</sup>	952	1,089	1,168	1,156	1,200
- Government		1,082	1,160	1,149	1,192
- Non-Government		1.5	1.9	2.0	2.1
		1,081	1,158	1,147	1,190
Authorised Capital of Active Companies	39,875	49,625	60,924	66,610	77,745
<b>Limited Liability Partnerships (LLPs)</b>					
New LLPs registered	8.0	21.9	32.9	23.7	36.2
Aggregate Capital of New LLPs <sup>3</sup>	20	89	55	142	58
<b>New LLPs by Sector</b>					
Agriculture	0.1	0.4	0.6	0.5	0.7
Industry	1.9	4.9	6.7	5.0	7.9
Services	6.0	16.6	25.6	18.2	27.6
Number of Active LLPs	21.6	57.5	117.4	131.3	162.8
Aggregate Capital of Active LLPs <sup>3</sup>	98	447	590	795	948
<b>Number of New Organised Businesses during the year<sup>4</sup></b>					
	<b>106.4</b>	<b>106.4</b>	<b>141.0</b>	<b>147.7</b>	<b>158.9</b>

**Notes:**

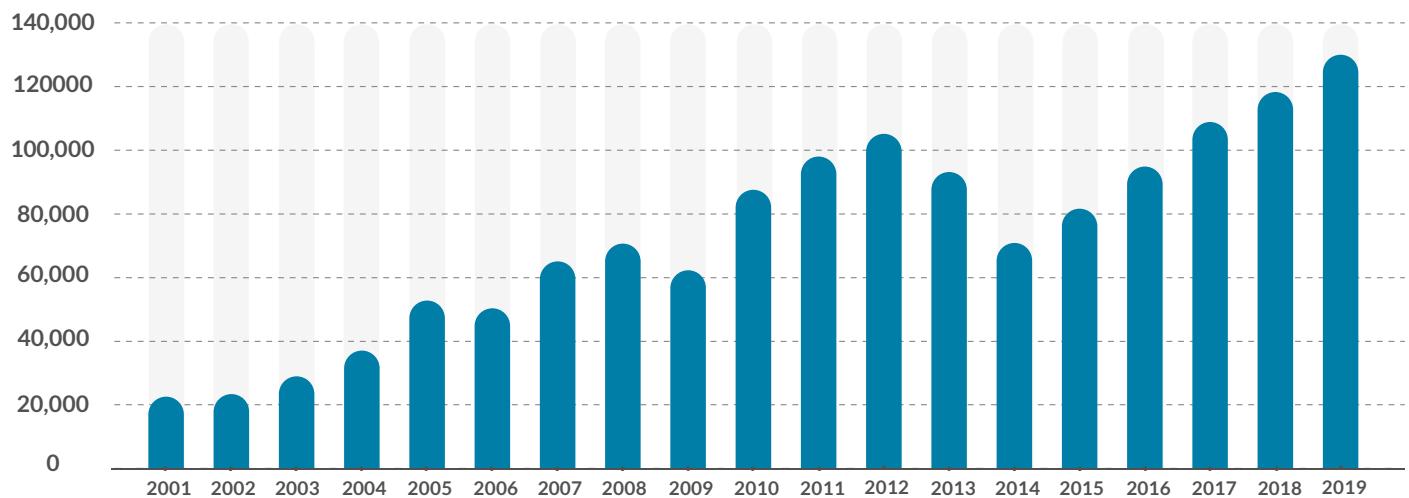
1: Includes Companies Limited by Shares, Companies Limited by Guarantee and Unlimited Companies

2: Excludes Companies Limited by Guarantee and Unlimited Companies

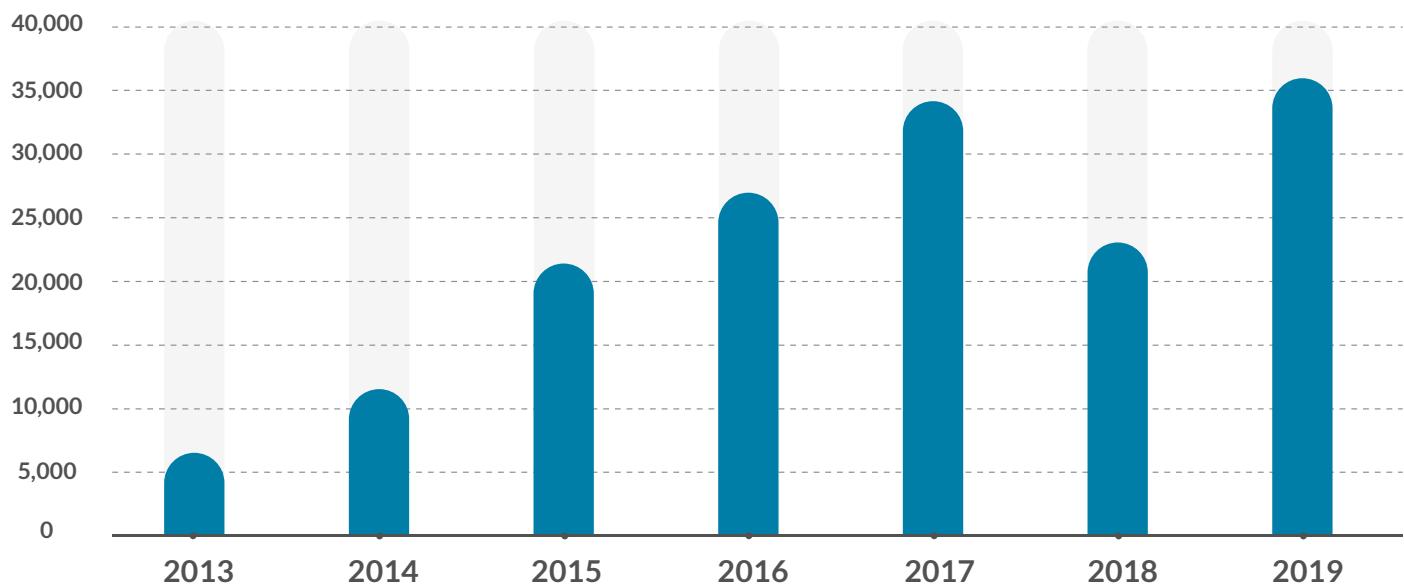
3: Capital of LLPs is technically referred to as Obligation Contribution. This is the amount of contribution, the partners have committed to make, in the Partnership Agreement

4: Calculated as sum of new Companies registered during the year and new LLPs registered during the year

Source: Ministry of Company Affairs, IndiaDataHub, Macquarie Research, August 2020.

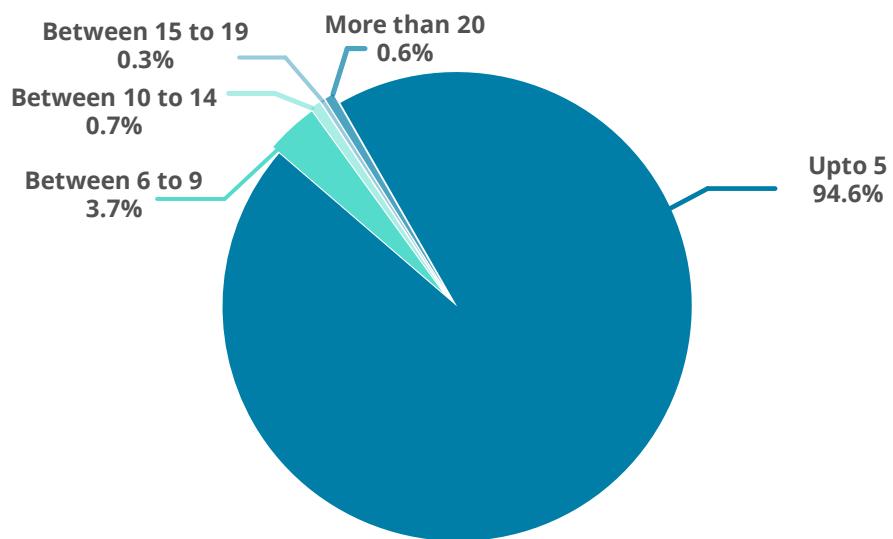
**Fig 178 Company Registrations – Annual registrations have doubled over the past five years****New Companies Registered<sup>1</sup>**

**LLPs have grown in size and are now almost a third of new company registrations**

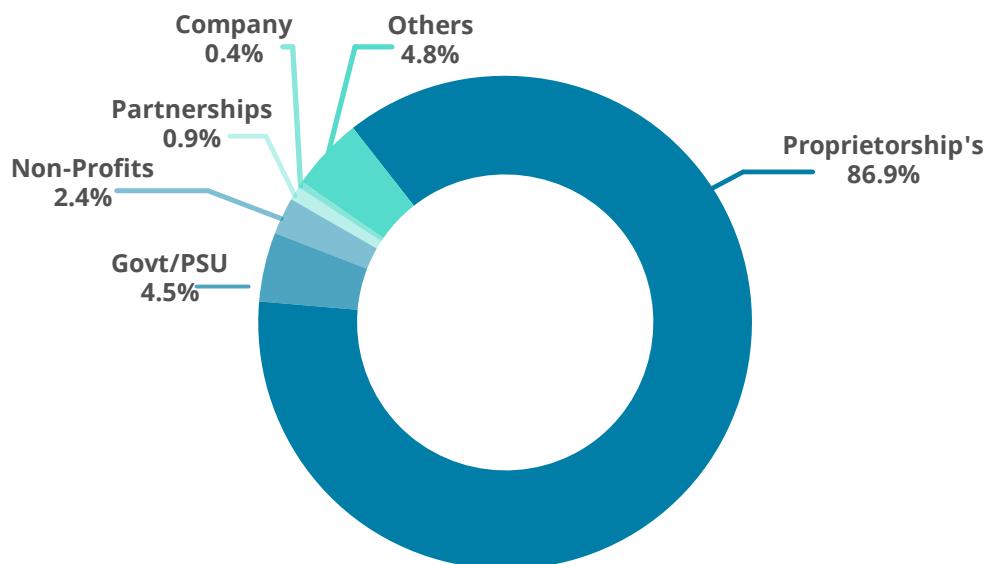
**New LLPs Registered<sup>1</sup>****Notes:**

1: Data in the charts is on Calendar Year basis 2: LLPs Registered declined sharply in 2018 due to a technical issue with the online incorporation not having been available for several months during the year

Source: Ministry of Company Affairs, IndiaDataHub, Macquarie Research, August 2020.

**Fig 179 Employment Survey – Less than 1% of companies in India employ more than 20 people****Distribution of Non-Agriculture Establishments by Size of Employment (2013)<sup>1,2</sup>**

**Government is the second largest owner of Establishments in the country**

**Non-Agricultural Establishments by Ownership (2013)<sup>1,2,3</sup>****Notes:**

1: Data is as per 2013 Economic Census. Economic Census covers all Establishments in the country EXCEPT those engaged in Crop Production & Plantation. Activities of Shelterless & Nomadic people, Domestic Servants, Casual Workers etc are excluded.

2: For the purposes of the Economic Census, an Establishment is an Independent unit of a business/enterprise. If a large company has 10 factories spread out through the country, these will be counted as 10 establishments.

3: Non-Profits includes Co-Operatives and other Non-Profit Establishments such as Trusts but excludes Self-Help Groups

Source: Economic Census of India, IndiaDataHub, Macquarie Research, August 2020.

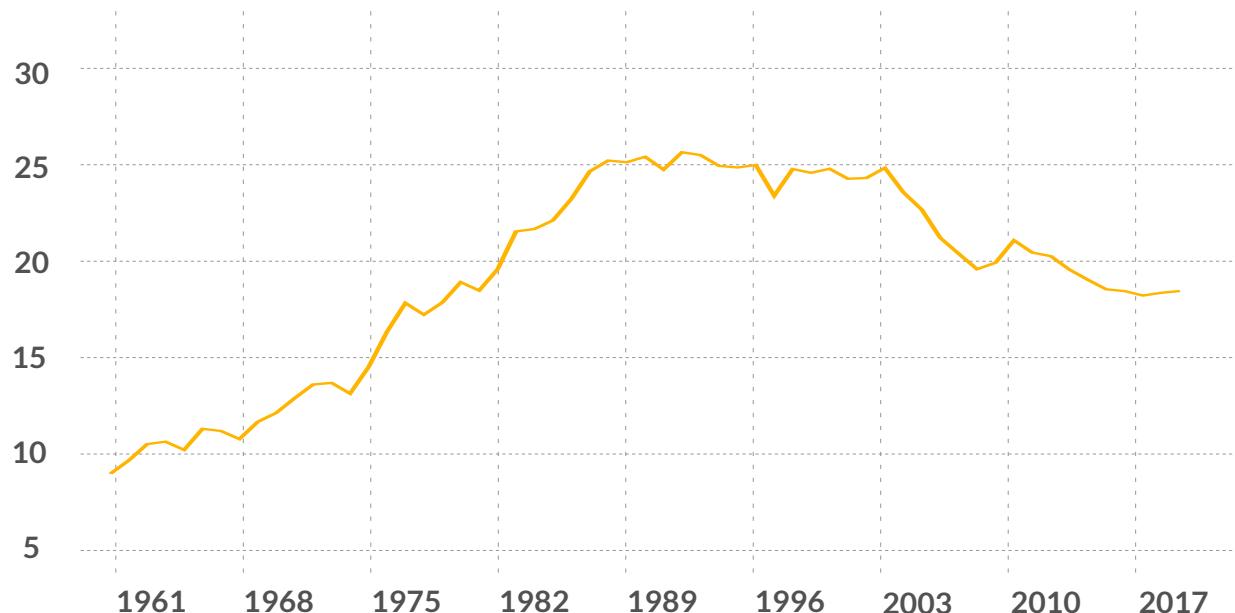
## State-Owned Enterprises

- Public sector contributes under 20% of India's GDP.
- Energy, Power and Financials are the key sectors for public sector enterprises.

**Fig 180 State Owned Enterprises Share of the Indian Economy** – While still meaningful, contribution has declined to now sub 20% of India's GDP... Versus China, government consumption is a much smaller part of India's economy

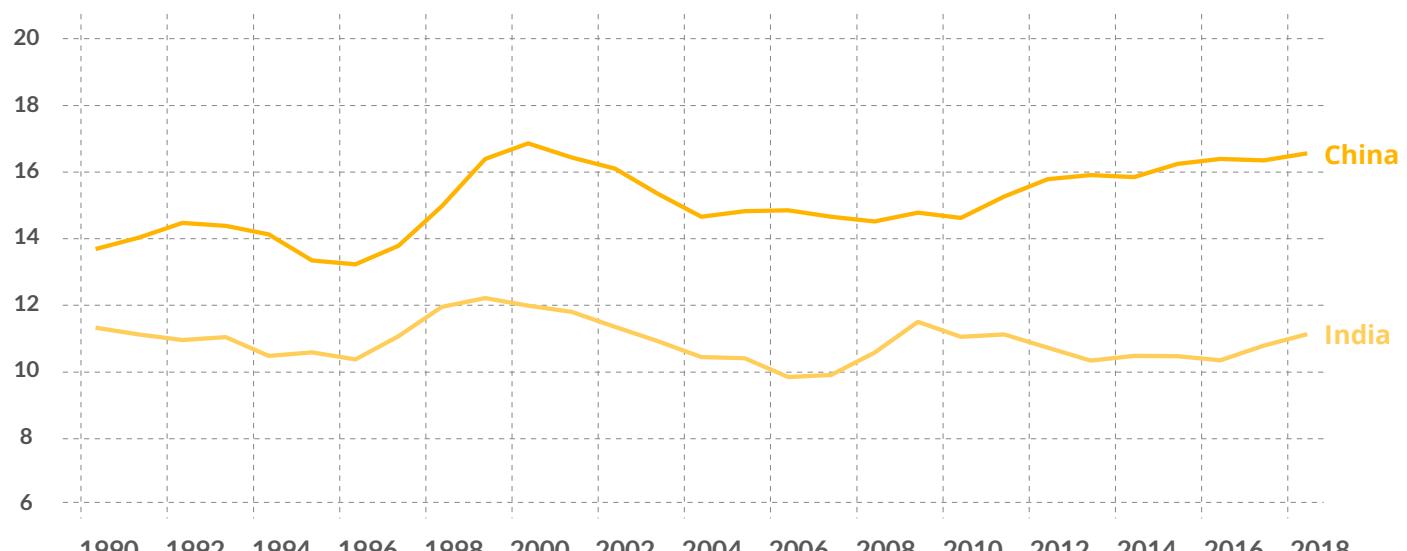
**Public sector's share in output is higher than it was in the 1960s and 1970s**

**Public Sector's share of Gross Value Added (nominal terms, % of total)<sup>1</sup>**



**Government Consumption is a much smaller part of Economy in India than it is in China**

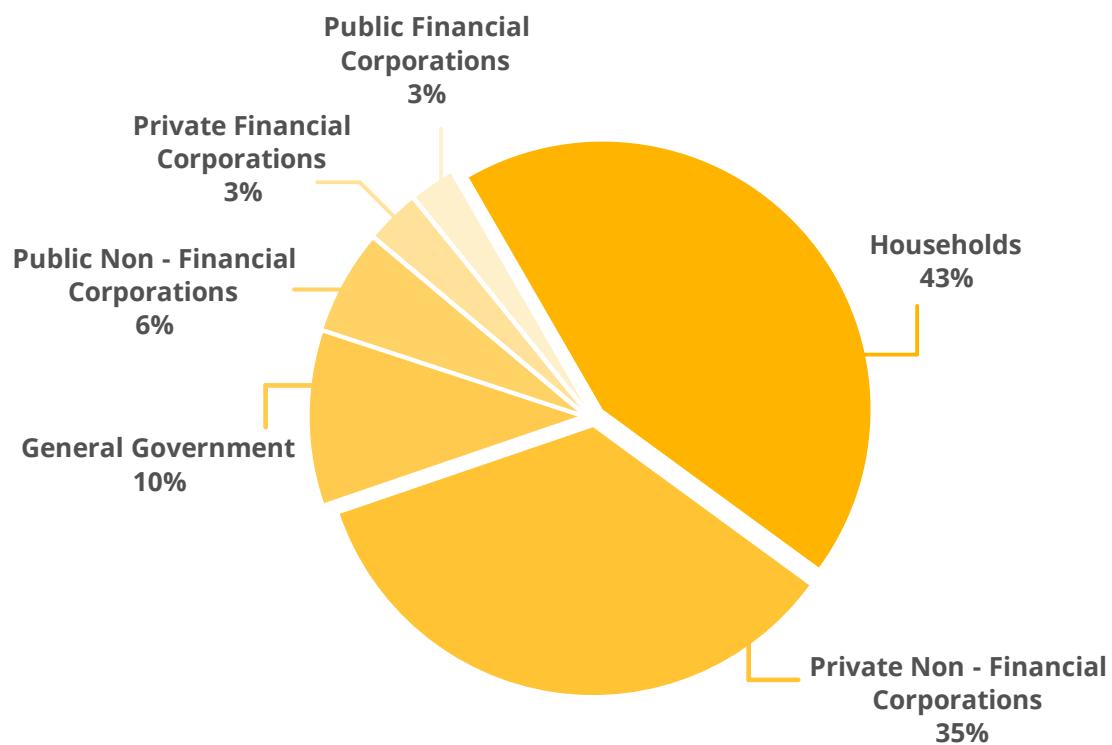
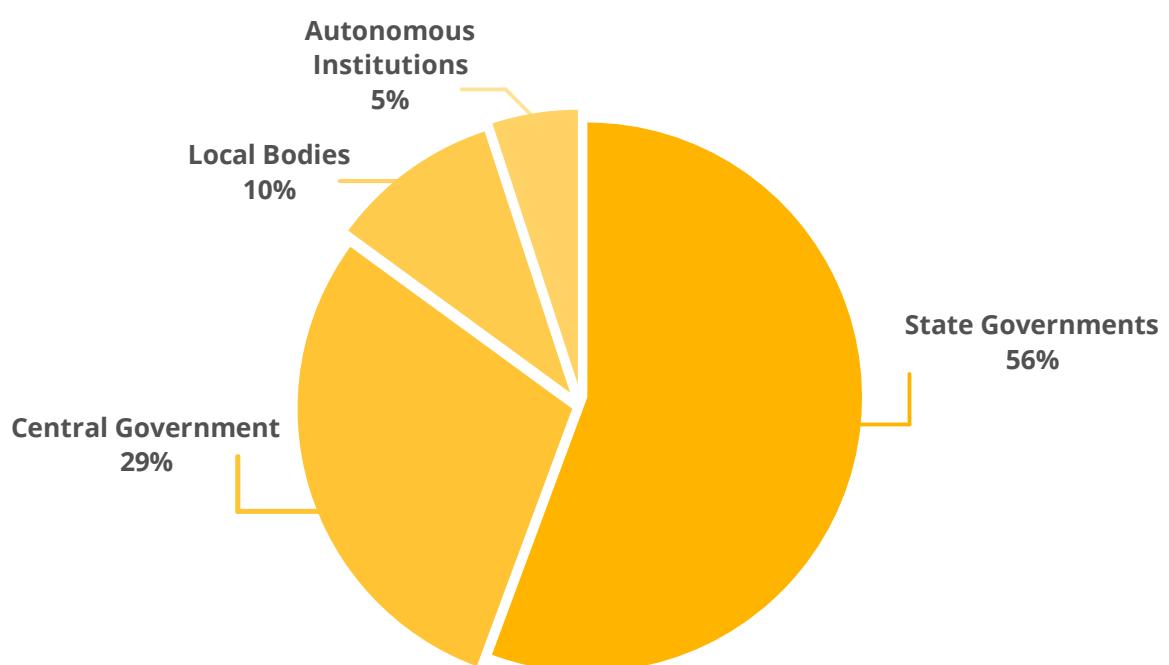
**General Government Final Consumption Expenditure (% of GDP)**



**Notes:** 1. Data prior to 2012 is based on the National Accounts statistics with 2004-05 as the base year while data from 2012 is based on National Accounts statistics with 2011-12 as the base year. Also, data prior to 2012 is Gross Value-added at Factor cost while data from 2012 is Gross Value-added at Basic prices.

Source: Ministry of Statistics and Programme Implementation, World Bank, IndiaDataHub, Macquarie Research, August 2020.

Fig 181 State-Owned Enterprises' Share of the Indian Economy

**Composition of Output by Institution (Nominal Gross Value Added, 2018-19)****Composition of Output of General Government (Nominal Net Value Added, 2017-18)**

Source: Ministry of Statistics and Programme Implementation, IndiaDataHub, Macquarie Research, August 2020.

**Fig 182 Largest Public Sector Companies (2005) – Energy, Power, Banks****Largest Public Sector Companies in 2005<sup>1</sup>****By Revenues**

(Rs billion)

Company	Revenue	Company	Revenue
Indian Oil Corp. Ltd.	1,513	Steel Authority Of India Ltd.	319
Bharat Petroleum Corp. Ltd.	716	Coal India Ltd.	317
Hindustan Petroleum Corp. Ltd.	688	NTPC Ltd.	239
Oil & Natural Gas Corp. Ltd.	638	Mangalore Refinery & Petrochemicals Ltd.	208
Bharat Sanchar Nigam Ltd.	344	Chennai Petroleum Corp. Ltd	163

**By Profits**

Company	Profit	Company	Profit
Oil & Natural Gas Corp. Ltd.	145	State Bank of India	56
Bharat Sanchar Nigam Ltd.	102	Coal India Ltd.	25
Steel Authority Of India	68	Bharat Petroleum Corp. Ltd.	21
Indian Oil Corp. Ltd.	59	GAIL (India) Ltd.	20
NTPC Ltd.	58	Rashtriya Ispat Nigam Ltd.	20

**By Loss**

Company	Loss	Company	Loss
Punjab State Electricity Board	39	Maharashtra State Electricity Board	7.7
Fertilizer Corp. Of India Ltd.	12	Eastern Coal Fields Ltd.	6.8
Bharat Coking Coal Ltd.	9.6	National Jute Manufacturers Corp. Ltd	6.0
Delhi Transco Ltd.	9.5	Dakshinanchal Vidyut Vitr an Nigam Ltd	5.9
Hindustan Fertiliser Corp. Ltd	8.8	Hindustan Photo Films	5.0

**Notes:**

1: Data for the year ended March 2005 or the closest year ending if the company does not follow financial April-March accounting year. Data is based on consolidated financials where available. Financial companies are excluded in rankings by Revenue.

Source: Company data, IndiaDataHub, Macquarie Research, August 2020

**Fig 183 Largest Public Sector Companies (2005) – Energy, Power, Banks****Largest Public Sector Companies in 2019<sup>1</sup>****By Revenues**

(Rs billion)

Company	Revenue	Company	Revenue
Indian Oil Corp. Ltd.	6,149	NTPC Ltd.	881
Oil & Natural Gas Corp. Ltd.	4,561	GAIL (India) Ltd.	762
Bharat Petroleum Corp. Ltd.	3,409	Mangalore Refinery &	
Hindustan Petroleum Corp. Ltd.	2,998	Petrochemicals Ltd	735
Coal India Ltd.	1,415	Maharashtra State Electricity	
		Distribution Co. Ltd	730
		Steel Authority Of India Ltd.	666

**By Profits**

Company	Profit	Company	Profit
Oil & Natural Gas Corp. Ltd.	339	Power Grid Corp. Of India Ltd.	100
Coal India Ltd.	175	Bharat Petroleum Corp. Ltd.	85
Indian Oil Corp. Ltd.	173	Hindustan Petroleum Corp. Ltd.	67
Power Finance Corp. Ltd.	126	GAIL (India) Ltd.	66
NTPC Ltd.	126	Mahanadi Coalfields Ltd.	60

**By Losses**

Company	Loss	Company	Loss
Bharat Sanchar Nigam Ltd.	149	Central Bank	56
Air India Ltd.	88	Bank of Maharashtra	48
Allahabad Bank	83	UCO Bank	43
Southern Power Distribution Co.		Eastern Power Distribution Co.	
Of Andhra Pradesh Ltd	77	Of Andhra Pradesh Ltd	43
Corporation Bank	63	Indian Overseas Bank	37

**Notes:**

1: Data for the year ended March 2019 or the closest year ending if the company does not follow financial April-March accounting year. Data is based on consolidated financials where available. Financial companies are excluded in rankings by Revenue.

Source: Company data, IndiaDataHub, Macquarie Research, August 2020

### Stocks Mentioned

HDFC Bank (HDFCB IN, Rs1,056.45, Outperform, TP: Rs1,219.00)  
ICICI Bank (ICICIBC IN, Rs369.40, Outperform, TP: Rs453.00)  
LIC Housing Finance (LICHF IN, Rs268.15, Outperform, TP: Rs375.00)  
Chola Finance (CIFC IN, Rs231.75, Outperform, TP: Rs235.00)  
Reliance Industries (RIL IN, Rs2,118.75, Underperform, TP: Rs1,320.00)  
Bharti Airtel (BHARTI IN, Rs526.80, Outperform, TP: Rs700.00)  
Info Edge India (INFOE IN, Rs3,276.75, Neutral, TP: Rs2,560.00)  
SBI Cards & Payment Services (SBICARD IN, Rs820.90, Outperform, TP: Rs900.00)  
Infosys Technologies (INFO IN, Rs967.15, Outperform, TP: Rs910.00)  
Tata Consultancy Services (TCS IN, Rs2,269.40, Neutral, TP: Rs1,900.00)  
HCL Technologies (HCLT IN, Rs714.45, Outperform, TP: Rs735.00)  
Hindustan Petroleum (HPCL IN, Rs209.80, Outperform, TP: Rs400.00)  
Bharat Petroleum (BPCL IN, Rs402.20, Outperform, TP: Rs510.00)  
GAIL India (GAIL IN, Rs97.00, Outperform, TP: Rs200.00)  
Petronet LNG (PLNG IN, Rs257.95, Outperform, TP: Rs325.00)  
Gujarat State Petronet (GUJS IN, Rs211.15, Outperform, TP: Rs250.00)  
Gujarat Gas (GUJGA IN, Rs305.70, Outperform, TP: Rs330.00)  
Mahanagar Gas (MAHGL IN, Rs970.45, Outperform, TP: Rs1,220.00)  
Indraprastha Gas (IGL IN, Rs393.50, Neutral, TP: Rs485.00)  
Larsen & Toubro (LT IN, Rs1,004.10, Outperform, TP: Rs1,420.00)  
KEC International (KECI IN, Rs312.55, Neutral, TP: Rs295.00)  
Tata Power (TPWR IN, Rs55.60, Outperform, TP: Rs56.00)  
JSW Energy (JSW IN, Rs55.80, Outperform, TP: Rs55.00)  
NTPC (NTPC IN, Rs95.10, Outperform, TP: Rs107.00)  
Container Corp. of India (CCRI IN, Rs392.10, Neutral, TP: Rs415.00)  
ABB India (ABB IN, Rs933.65, Underperform, TP: Rs740.00)  
Siemens India (SIEM IN, Rs1,242.90, Outperform, TP: Rs1,240.00)  
Bharat Heavy Electricals (BHEL IN, Rs37.45, Underperform, TP: Rs20.00)  
UPL (UPLL IN, Rs500.00, Outperform, TP: Rs600.00)  
Bayer CropScience (BYRCS IN, Rs6,013.15, Underperform, TP: Rs4,800.00)  
Sumitomo Chemical India (SUMICHEM IN, Rs274.70, Neutral, TP: Rs250.00)  
Rallis India (RALI IN, Rs295.95, Outperform, TP: Rs350.00)  
PI Industries (PI IN, Rs1,961.45, Neutral, TP: Rs1,800.00)

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<b>Recommendation definitions</b>	<b>Volatility index definition*</b>	<b>Financial definitions</b>
<b>Macquarie – Asia and USA</b> Outperform – expected return >10% Neutral – expected return from -10% to +10% Underperform – expected return <-10%	This is calculated from the volatility of historical price movements.	All "Adjusted" data items have had the following adjustments made: Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests
<b>Macquarie – Australia/New Zealand</b> Outperform – expected return >10% Neutral – expected return from 0% to 10% Underperform – expected return <0%	<b>Very high-highest risk</b> – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.  <b>High</b> – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.  <b>Medium</b> – stock should be expected to move up or down at least 30–40% in a year.  <b>Low-medium</b> – stock should be expected to move up or down at least 25–30% in a year.  <b>Low</b> – stock should be expected to move up or down at least 15–25% in a year. * Applicable to select stocks in Asia/Australia/NZ	<b>EPS</b> = adjusted net profit / efpowa* <b>ROA</b> = adjusted ebit / average total assets <b>ROA Banks/Insurance</b> = adjusted net profit /average total assets <b>ROE</b> = adjusted net profit / average shareholders funds <b>Gross cashflow</b> = adjusted net profit + depreciation *equivalent fully paid ordinary weighted average number of shares
Note: expected return is reflective of a Medium Volatility stock and should be assumed to adjust proportionately with volatility risk	<b>Recommendations</b> – 12 months <b>Note:</b> Quant recommendations may differ from Fundamental Analyst recommendations	All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

**Recommendation proportions – For quarter ending 30 June 2020**

	AU/NZ	Asia	USA	
Outperform	49.82%	60.45%	66.29%	(for global coverage by Macquarie, 4.18% of stocks followed are investment banking clients)
Neutral	35.09%	23.46%	33.71%	(for global coverage by Macquarie, 4.41% of stocks followed are investment banking clients)
Underperform	15.09%	16.09%	0.00%	(for global coverage by Macquarie, 3.21% of stocks followed are investment banking clients)

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