JM FINANCIAL

RURAL SAFARI X

Doubling farm income gets tougher

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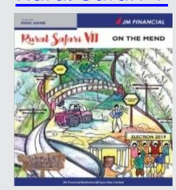

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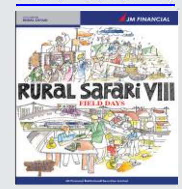

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Doubling farm income gets tougher

- In our 10th Rural Safari conducted over 13 states, we gather the following - We see a very mixed outlook on agriculture. South and west are doing well, while east and central India are soft. While prices of vegetables have risen, the prices of larger crops haven't seen any significant pricing momentum even as crops are being brought to the markets. So, we can say that the initial optimism is waning a bit and can hold up only if MSP based procurement picks up significantly and if that doesn't, the optimism due to expectations of a strong Rabi crop also might fall.
- The weakness indicated in the "informal sector" in our last survey further accentuated, which constricted demand and consumption across categories. While weather (floods) played its part, formalisation / regulatory changes continued to be a headwind for smaller business. Deterioration in credit growth post Sep'18 has elevated payment delays and reduced collection efficiency, from past quarter. A weak start to government spending (centre + states) does not ease the situation any further. Real estate activity has weakened substantially even in parts that were holding up. For eg., in Andhra Pradesh, the prices have fallen meaningfully along with the change in government.
- We note high caution in consumption sentiment, down-trading by consumers, high deferment in automobiles and deterioration in collection efficiency for financials. A broad-base recovery of consumption in FY20 therefore remains back-ended.

1) Pricing support for a better agri-income

The food price deflation (rural) in FY19 (CPI-Food-Rural < 0 for 6 months) and an absence of a material pick-up in YTDFY20 has adversely impacted agri income growth. Kharif sowing finally caught up with an above normal rainfall in 2019 (+10% from LPA), but excess rains in many regions (north Karnataka, west Maharashtra, west MP, east UP, Bihar etc.) played their part in adversely impacting crop quality and yield; as our survey indicated. Though prospects for the upcoming Rabi season are better, a sustained pick-up in agri cash flow is predicted on the pricing support – through (a) expansion of MSP based procurement & (b) sustenance of high vegetable prices; initial indications for both are not very supportive.

2) The informal sector worsens

The recent JM dealer survey highlighted a decline in revenues in 2QFY20 across sectors (Exhibit 74-76), with deterioration in business sentiment from the previous six-month period. Slowdown in credit disbursement (post Sep'18) has not eased in an environment of regulatory reset (GST, less cash), formalisation and competition from organised retail / online impacting small businesses. The traditional supply chain and business models are under a reset (Exhibit 88) for small businesses and would likely keep their discretionary spending under check. A weak real estate environment and a tepid start to government spending (centre + states) reflects in weak rural wage growth trajectory.

3) Income growth to pick up albeit gradually, consumption recovery not soon

An expansion of broadband across rural India (27% penetration in rural India, Mar'19) is encouraging and driving expansion of tech-based agri companies (Exhibit 70-73). However, these are still early days and would take a while to make an impact on 150mn cultivators in the country. While, we expect rural income in FY20 to be ahead of FY19, growth is likely to be tempered and modest, at best. The income transfer scheme (PM-Kisan) also needs to expand its coverage from c.54% / 35% (1st/2nd instalments) of target at present. A broad-based recovery in consumption sentiment is unlikely in the near term.

4) Feedback across sectors

(I) Consumer – (a) High caution, down-trading and increase in credit-based sales **(II) Financials** – (a) Focus on collections vs. disbursements, (b) Deterioration in collections, **(c)** Increased effort on co-origination, **(d)** steady growth in MFI with high competitive intensity. **(III) Automobiles** – **(a)** High deferment of demand (2W, PV) in anticipation of major discounts, **(b)** CV operators are not very hopeful of strong pre-buy for BS-6, **(c)** E-commerce based sales c.15% of LCV sales in tier-2 towns, **(IV) Agri-inputs:** **(a)** Domestic agro-chemical growth to be in mid-single digit for 2QFY20, **(b)** increased optimism for Rabi.

Focus Charts…

Exhibit 1. Farm income trend across our visits – Improvement in western & southern India, while north & east India deteriorated – Net-net on an improving trend

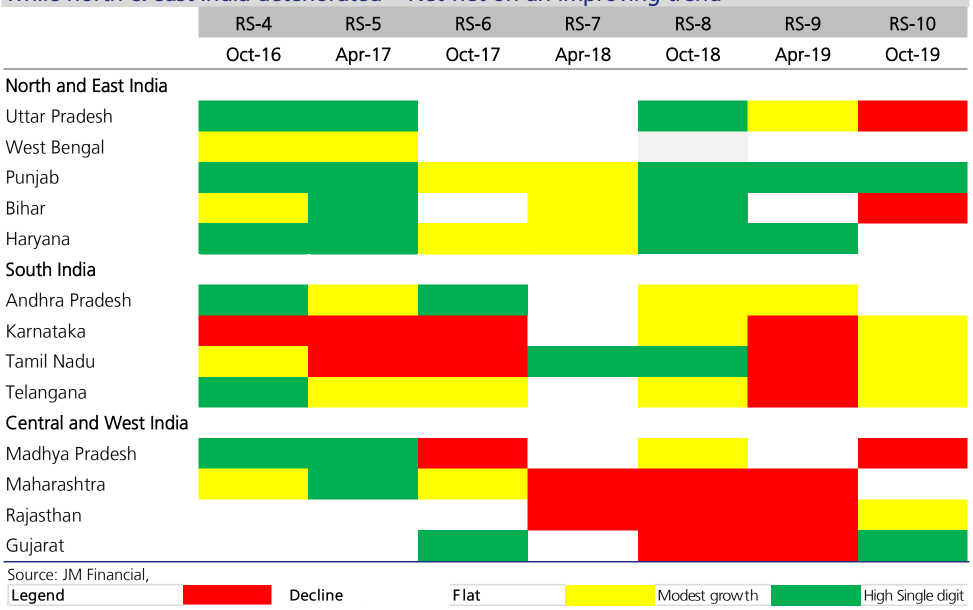
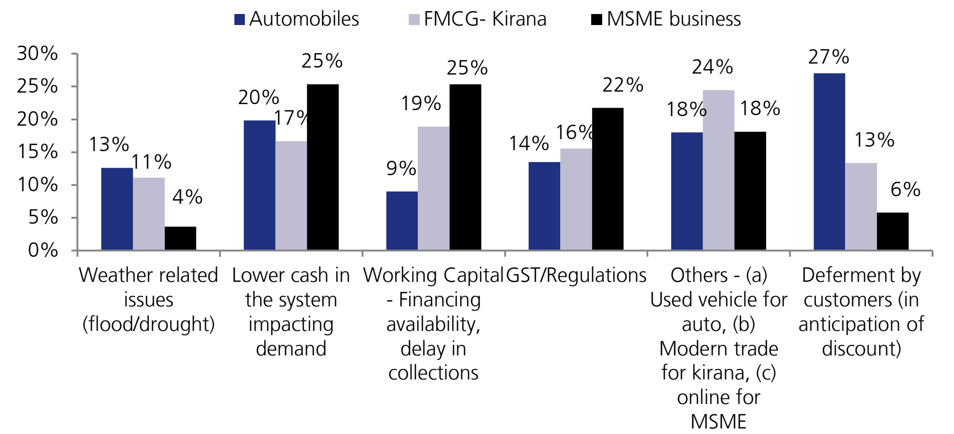


Exhibit 2.Rural Safari visit feedback state-wise, and near term farm income trend – Overall better as compared to last survey

State	Kharif Sowing-YoY (%)	Rainfall deficit (%) - 30Sep'19	Irrigation Cover %	State agri-GSVA as % of national	Farm Income - YoY (%)	Comments - Farm productivity/income
UP	1.2%	-12%	84%	12.5%	Decline	Mixed performance across state with overall yield to be lower than last year, given losses across crops including maize, vegetables (i.e. ex paddy) due to late & excess rains (particularly eastern UP).
MP	2.6%	41%	61%	12.2%	Decline	Wide divergence in agri-output - Western MP would suffer yield declines across soyabean, cotton, pulses due to late excess rains. Paddy crop output to be stable YoY in eastern MP.
Maharashtra	-1.9%	19%	20%	10.5%	Flat	West Maharashtra has seen some crop damage due to excess rains, but has overall increased optimism for Rabi. Sustenance of Increase in prices of vegetables (onions) would be a key income driver.
West Bengal	-5.6%	-20%	56%	7.8%	Flat	Suffered from delayed onset of rainfall, high deficit in the Gangetic plain leading to marginal yield decline across paddy. Weak pricing environment for rice (& potatoes) restrict income growth
Gujarat	2.3%	42%	43%	7.2%	Strong	Benefits from high rains in 2019 after suffering rain deficit of 27% in 2018.Improvement in crop yield (oilseeds) and increase in cropping intensity to drive income growth.
AP	-4.1%	10%	47%	6.1%	Flat	Shift towards chillies & cotton; Chilli prices remain high YoY and should support income growth. Paddy sowing has been soft (-5% YoY) due to weak rains at the beginning of monsoon.
Rajasthan	0.0%	42%	43%	5.7%	Modest	Rain has been ahead of normal in the state, aiding coarse cereals output, which would aid income increase.
Karnataka	4.5%	23%	35%	5.2%	Modest	Southern Karnataka has seen uneven rains and overall a stable yield. North Karnataka has seen floods in many regions impacting current crop output, but optimistic on the upcoming rabi crop & increasing cultivation of vegetables & fruits.
Punjab	1.0%	-5%	99%	4.3%	Strong	Rain coverage was reasonable in a well-irrigated states and paddy yield (sowing down 4% YoY) to be stable YoY. Yield of cotton to increase YoY (sowing up by 42% YoY) and with MSP based expected procurement, should result in higher income
Tamil Nadu	15.7%	18%	57%	3.7%	Modest	After a weak beginning, monsoon came in strongly for the state, leading to a catch-up in Kharif sowing afterwards. North East monsoon (provides 50% of state's water need) is expected to be normal benefiting the state.
Bihar	-11.7%	3%	57%	3.8%	Decline	In the initial months of monsoon, north Bihar faced floods and southern Bihar had near drought scenario leading to 12% YoY decline in Kharif sowing. In September, however, there were floods in south Bihar as well, which adversely impacted kharif crops other than paddy (vegetables, pulses, maize etc.)
Haryana	2.7%	-42%	84%	3.5%	Flat	Rainfall has been deficient and could result in a marginal yield decline in the rain fed regions of Haryana. But being a well-irrigated state, the impact would be largely contained.
Telangana	5.6%	6%	47%	2.8%	Modest	Healthy paddy sowing (+22% YoY) and cotton (+14% YoY), should ensure a better agri-related income compared to last year. State benefit scheme (Rythu Bandhu) aids in higher usage of agri-input and therefore benefitting crop yields.
All India	0.0%	10.0%	47%		Modest	**South and west India to benefit going ahead, while north and east to be subdued**

Source: JM Financial, Legend Strong Modest ⇔: Flat Decline

Exhibit 3. JM dealer survey on key reasons for demand slowdown by sectors – low optimism on near-term recovery



Source: JM Financial, Note: Survey across India with a total of 113 dealers in 13 states

Exhibit 4. Feedback from consumer and financials segment

Consumer

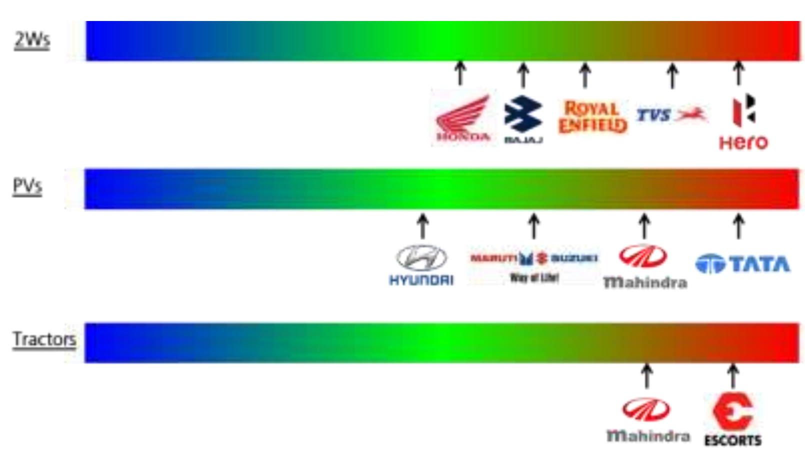
- Decline in through-put in Kirana stores (sequentially), increase in down-trading, pressure on consumption from wage labour segment
- Weak outlook across consumption segments including in paints
- East and central India exhibit more weakness in consumer spending
- High gold prices deter spending, sales pattern turns un-predictable
- Increase in credit out-standing at retailer level
- Among durables, inverter AC as a category continues to do well

Financials (NBFC)

- Focus on collections vs. disbursements this quarter
- Increased competition in used vehicle financing, MMFS and Chola gain market share
- Weak CV profitability, weather related challenges increase collection effort, slippage to NPA limited
- Deterioration in collection efficiency (vehicle financing) in most regions barring north India
- MFI disbursements remain strong, increasing competitive intensity, partly collection deterioration due to weather-related challenges
- Increased efforts on co-origination

Source: JM Financial

Exhibit 5. Automobiles - OEM-wise impact (on a relative scale)

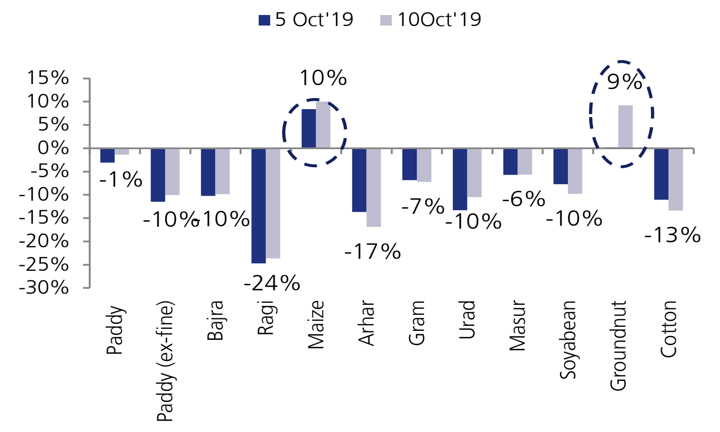


Comments:

- **Honda 2Ws**: Inventory under control, best prepared for BS6. First to launch BS6 variant (of Activa) while simultaneously increasing price of BS4 Activa to ease the transition to BS6 variants.
- **Bajaj:** Strong consumer traction due to Pulsar 125cc and aggressive promotion / marketing programme.
- **Royal Enfield:** Some regions talked about continued threat from Jawa. As per one dealer monthly sales of JAWA stands at c.9,000 pm. Newly launched 350X is priced c.INR 10,000 lower than Bullet 350. Existing customers are buying new 'X' variant and it is not leading to expansion of customer base.
- **TVS:** High level of competitiveness in the industry - TVS likely to liquidate inventory through higher discounts.
- **Hero:** Highest inventory level amongst 2W OEMs
- **Hyundai:** Increase in sales on back of newly launched Venue.
- **Maruti:** Despite sluggish sales, customer walk-ins have increased during Navratri. Retail sales are broadly in line with wholesales. No customer confusion regarding BS4 and BS6 variants now.
- **Mahindra & Tata:** Sales remain subdued, M&M slightly better with new models. Dealers pinning hope on Diwali sales.
- **Escorts:** Pre-harvest channel filling done in the tractor industry. As per some dealers, the advances for Escorts stands highest in the industry

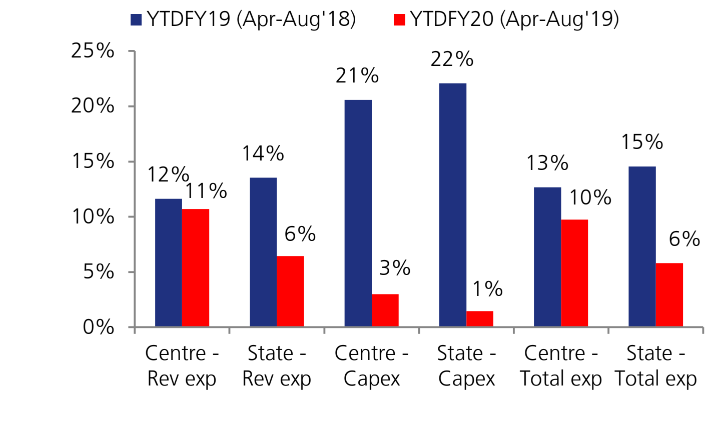
Source: JM Financial

Exhibit 6. Initial trend of agri-pricing not very encouraging – Mandi prices premium/discount (%) to FY20 MSP



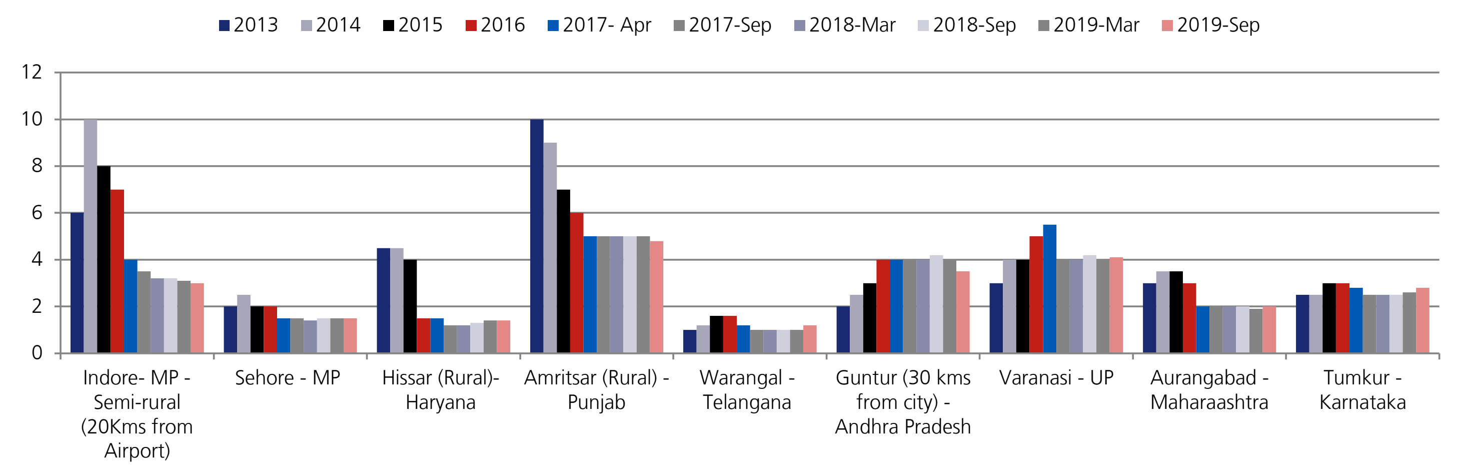
Source: Agmarknet, JM Financial

Exhibit 7. Government spending has started on a tepid note in FY20 – both state and cenre slowed down in YTDFY20



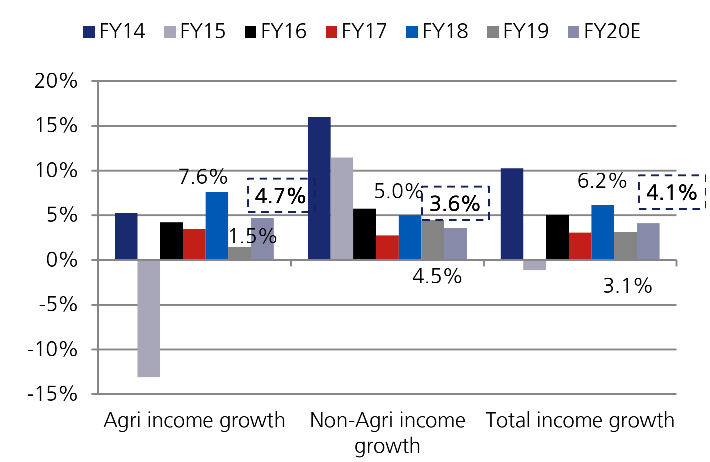
Source: CAG, JM Financial

Exhibit 8. Rural land prices (INR mn / acre) yet to show an uptick – Weak wealth effect limits large discretionary spending



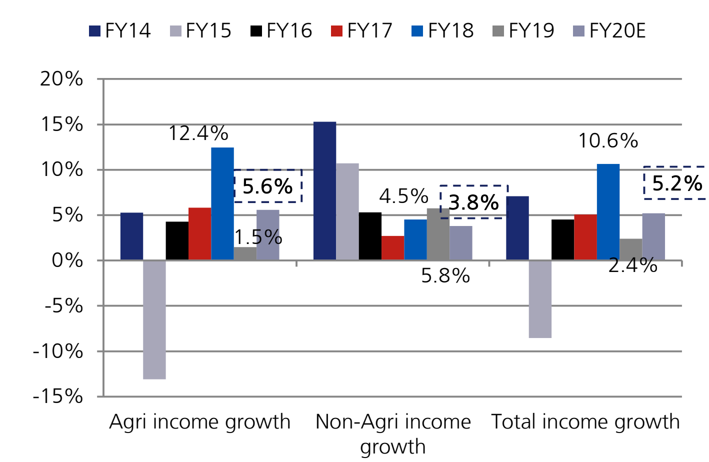
Source: JM Financial

Exhibit 9. Income trend for a small farmer (2.7 acre) – Pick-up in agri-income growth while non-agri decelerates; only a gradual pick-up in consumption



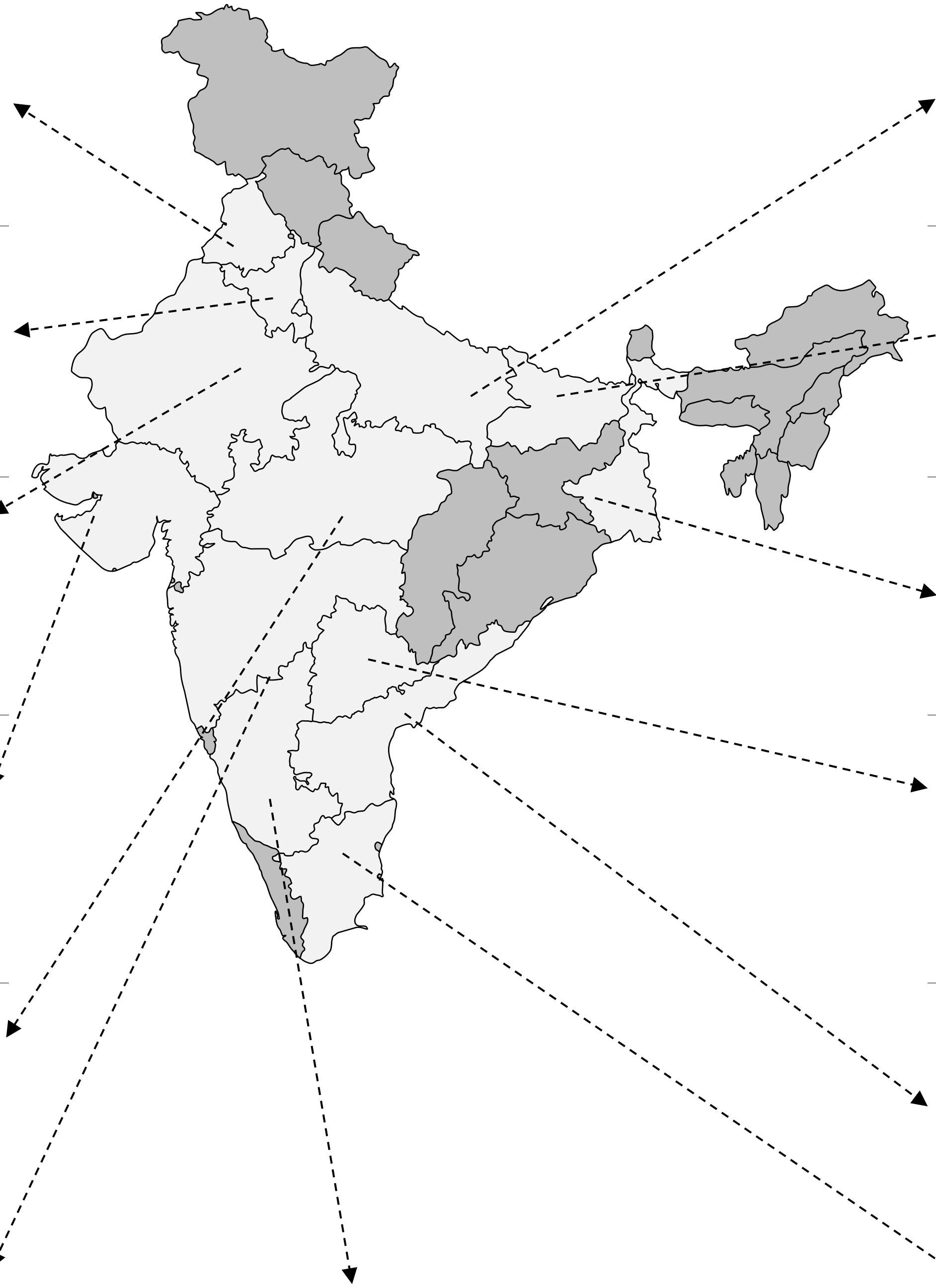
Source: NSSO, JM Financial

Exhibit 10. Income trend for a large farmer (15 acre) – Income growth to remain in the mid-single digit range; continued caution in spending; investments in agri-related activities



Source: NSSO, JM Financial

Exhibit 11.Rural Safari: 13 states, 15 districts, 3,500+ km — we travelled to rural areas around the following cities / towns



Bhatinda
Bhatinda is the fifth-largest city in southern Punjab, in the Malwa belt. The district has thermal power plants, cement plants and also a large oil refinery. Key crops: Cotton, Paddy, wheat and vegetables.

Hissar
Hissar, the 2nd most populous district of Haryana is the divisional headquarters of the Indian army. While agriculture is prominent in the region, Jindal steel factory is also located here. Key crops grown in the region are paddy, wheat, cotton, maize and oilseeds

Jaipur
Jaipur is the capital city of Rajasthan and famous for tourism. Key crops in the region are wheat, maize, bajra, vegetables, pulses and oilseeds. The rain-fed regions of the district have 1 crop a year, migration is therefore high from rural regions

Jamnagar
Jamnagar is the fifth-largest city of Gujarat and is famous for Reliance's oil refinery. It is part of the Saurashtra region of Gujarat. Rainfall has been high this year post deficit in 2018, leading to benefit in crop yield. Key crops: cotton, groundnut, paddy and wheat.

Raisen & Sehore & Indore
Raisen is a rural district about 50km from the capital city of MP, Bhopal (78% rural population). It has many tourist attractions including Buddhist Sanchi Stupa. Wheat, soyabean, rice, gram, lentil, maize, vegetables are the key crops. Key crops at Sehore district, adjacent to Bhopal are wheat, gram, lentil, peas and linseed

Aurangabad / Ahmednagar
Located near the Godavari Basin, agriculture in Aurangabad is well diversified with a wide range of crops such as jowar, pearl millet, wheat, gram, soya bean and cotton. Ahmednagar is a rural district of Maharashtra (80% rural population). Key crops: Jowar, sugarcane, wheat, gram and cotton.

Tumkur / Belgaum
Tumkur is known for the production of ragi, maize, rice, groundnut, fruits and vegetables; these are key crops in the region. Tumkur also has one of the 9 operational Mega Food Park stores, run by Future Consumer.
Belgaum, in North Karnataka is the second largest district by size and has production of sugarcane (27 factories), maize, rice, vegetables.

Varanasi/Jaunpur/B
Varanasi is the largest trading hub for agri-commodities in eastern UP and a famous religious tourist destination. Key crops: Wheat, paddy, bajra, arhar, sugarcane and potato.

Madhubani
Madhubani, a district in northern Bihar is famous for its art – Madhubani paintings. Paddy, wheat, arhar, gram, bajra, barley, vegetables are grown here. Migration outside the district remains high on account of low economic activity.

Asansol
Asansol, in the Burdhaman district has major crops of paddy, oilseeds, jute and potato. Bardhman district is located 200kms from capital city and is known for agricultural and industrial activities.

. **Suryapet**
Suryapet district is carved out of erstwhile Nalgonda district. The district having a vast expanse of river Krishna basin, witnessed widespread agriculture while Nagarjuna Sagar canal is its chief source of irrigation. Key crops grown in the region are paddy, jowar, vegetables and groundnut

Guntur & Vijayawada
Guntur is the largest producer of chiliies in India. Vijayawada, a city on the banks of the Krishna River, is also known as "The Business Capital of Andhra Pradesh". Key crops: Paddy, cotton, chillies and maize.

. **Tiruvallur**
Tiruvallur is located on the banks of the Cooum River about 42 km (26 mi) northwest of Chennai, the capital city of Tamil Nadu. It is well known because of the Veera Raghavar temple, which is one of the 108 sacred shrines of Vaishnavites. Key crops: paddy, jowar, maize, gram, sugarcane, chillies and coconut

Source: JM Financial

Exhibit 12. Snapshot from currently visited areas; comparison with the previous season

	Gujarat	Punjab	Haryana	UP	Bihar	MP	Rajasthan	Maharashtra	West Bengal	Karnataka	AP/Telangana		Tamil Nadu
	Jamnagar	Bhatinda	Hissar	Varanasi/ Mirzapur/ Jaunpur	Madhubani	Sehore	Jaipur	Aurangabad	Burdwan	Tumkur	Vijayawada/ Guntur	Suryapet	Tiruvallur
Main crops*	Cotton, Gram, Wheat, Ground-nut	Wheat, Paddy, Cotton, Potato	Paddy, Cotton, Wheat Maize, Oil-seeds	Paddy, Wheat, Bajra, Arhar, Sugarcane	Paddy, Wheat, Gram,	Soyabean, Wheat, Gram ,	Paddy, Maize, Coarse cereals,	Jowar, Paddy, Soya bean, Gram	Paddy, Potato, Vegetables	Maize, Arcanut, Paddy, Fruits and Vegetables	Paddy, Cotton, Maize, Banana, Chilli	Paddy, Green Gram, Castor, Red Gram, Orange	Paddy, Jowar, Maize, Gram, Sugarcane, Chillies, Coconut
Move towards cash crops	Strong	Strong	Strong	Strong	Flat	Strong	Strong	Strong	Flat	Strong	Strong	Strong	Strong
Yield over last year	Strong	Modest	Decline	Decline	Decline	Decline	Modest	Flat	Flat	Flat	Flat	Modest	Flat
Price (non-MSP cash crops) over last year	Flat	Strong	Strong	Flat	Flat	Decline	Flat	Strong	Flat	Modest	Modest	Strong	Modest
Overall farm income	Strong	Strong	Flat	Decline	Decline	Decline	Modest	Flat	Flat	Modest	Flat	Modest	Modest
Agriculture financing awareness and usage	Strong	Strong	Strong	Flat	Flat	Strong	Modest	Strong	Flat	Strong	Strong	Strong	Strong
Non-agri Income													
Dairy	Flat	Flat	Strong	Flat	Flat	Decline	Flat	Modest	Modest	Flat	Flat	Flat	Strong
Tractor/Pick-ups	Decline	Strong	Flat	Decline	Decline	Flat	Flat	Strong	Flat	Flat	Strong	Flat	Flat
Remittances	Modest	Flat	Flat	Flat	Flat	Flat	Modest	Modest	Flat	Modest	Strong	Flat	Flat
Local jobs	Decline	Modest	Flat	Flat	Decline	Decline	Decline	Modest	Decline	Flat	Flat	Decline	Decline
Wealth effect of land													
Urbanisation	Strong	Strong	Strong	Strong	Modest	Strong	Strong	Strong	Flat	Strong	Strong	Strong	Strong
Road connectivity	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Flat	Strong	Strong	Strong	Flat	Strong
Price trend	Decline	Decline	Flat	Modest	Modest	Decline	Decline	Decline	Decline	Decline	Decline	Modest	Decline

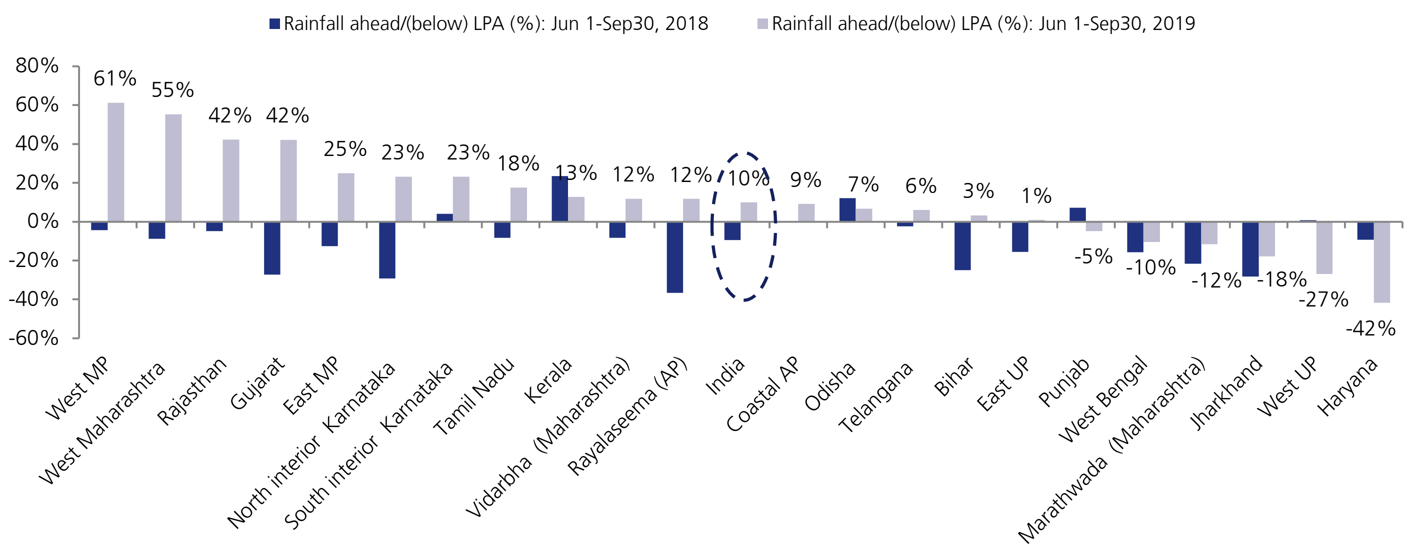
Source: JM Financial: Legend Strong Modest : Flat Decline, Note: *Fruits and Pulses grown at all the locations. The comparisons are over similar period last year

FY20 Farm income: Modest uptick aided by above normal monsoon and reversal of price deflation

Monsoon 2019 - Delayed start but "over-extended" and above "normal"

Monsoon (Jun-Sep'19) started on an extremely weak note (26% below normal in Jun'19) and with a delay of almost two weeks, but an abating El-Nino impact and heavy rains in the following months months (Aug'19-Sep19), turned around the scenario. At an aggregate level, the monsoon ended 10% ahead of normal (highest since 1994) with many regions (particularly western and central India) receiving 40% more than normal rains while eastern and northern India recorded a deficit monsoon for a large part of the period.

Exhibit 13. Rainfall progress in 2019 – Western and southern India on an average received "excess" rainfall in 2019, North India has recorded a relatively deficit rainfall



Source: IMD JM Financial

Kharif sowing followed the rainfall pattern with an initial deficit that was bridged towards the end

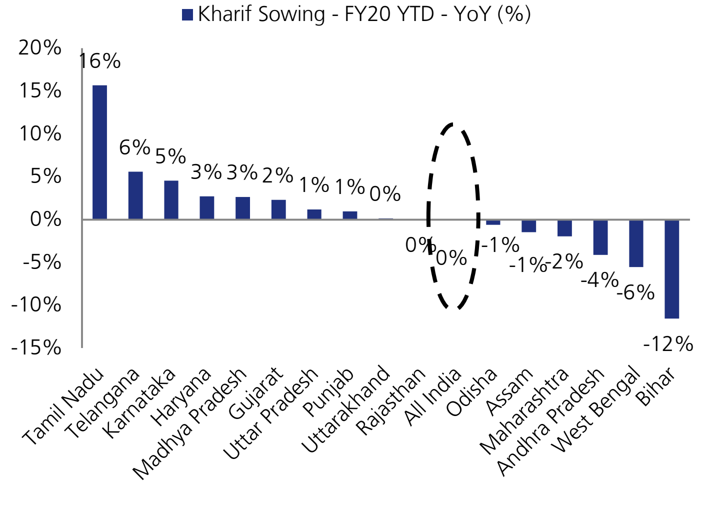
Rain deficit in the initial monsoon period led to a slack sowing in the beginning of the kharif season, which improved materially in August / September. **On account of later-than-usual sowing, crop harvests could also be delayed by 2-3 weeks in Oct-Nov'19 this year.**

Kharif sowing ended at flat YoY and +0.6% YoY excluding paddy

Kharif sowing and consequently farm sentiment recovered on one end, while heavy rains towards the end of the monsoon (late September) had a detrimental impact on current crops, particularly, ones that need lower rainfall such as **coarse cereals, vegetables and fruits.** Among states, eastern Indian states recorded a decline in kharif sowing area, while western and southern states reported a healthy growth in kharif sowing. In terms of crops, ex of paddy, the kharif sown area was ahead by 0.6% YoY.

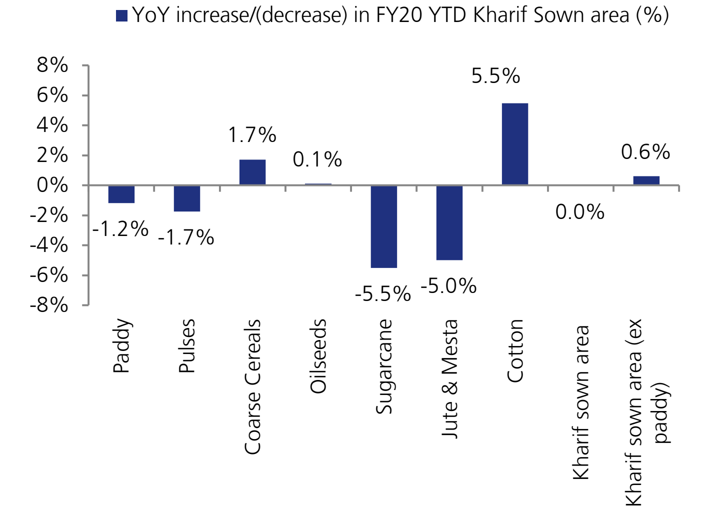
The sowing pattern of cotton (5.5% YoY) during this Kharif season was typical (high prices in one year, excess sowing next year leading to lower prices). As we look in detail later, cotton prices have started on a weak note in initial October'19 (c.15-20% down YoY) and the eventual price trend going ahead would be driven by final output and increase in MSP based procurement by the government.

Exhibit 14. Kharif sowing (% YoY) by states – Overall flat by the end of season; Eastern Indian states have lower sowing



Source: Ministry of agriculture, JM Financial, Note: Sowing data as of 27Sep'19

Exhibit 15. Kharif sowing by crops – ex of paddy, kharif sown area is up 0.6%



Source: Ministry of agriculture, JM Financial, Note: Sowing data as of 27Sep'19

Exhibit 16. Kharif sowing pattern (YoY %) for various crops in the major states – Eastern India has seen on an average weak sowing

State	Paddy	Coarse Cereals	Pulses	Oilseeds	Sugarcane	Cotton	Total Kharif Sowing
Maharashtra	-4.6%	7.3%	-9.4%	-1.1%	-23.6%	3.6%	-1.9%
Madhya Pradesh	13.6%	4.1%	-2.0%	1.5%	20.4%	-12.6%	2.6%
Uttar Pradesh	0.5%	1.9%	3.4%	19.8%	-2.2%	NA	1.2%
Rajasthan	58.3%	-2.0%	0.5%	-5.7%	NA	29.9%	0.0%
Gujarat	5.2%	-3.7%	-8.4%	12.0%	-25.7%	-1.7%	2.3%
Karnataka	-15.1%	10.1%	2.0%	-4.6%	16.8%	36.4%	4.5%
West Bengal	-5.6%	-23.7%	-3.6%	113.3%	-5.3%	NA	-5.6%
Odisha	1.0%	-0.5%	-6.6%	-12.6%	-16.7%	7.4%	-0.6%
Telangana	21.3%	-12.2%	1.6%	0.0%	-17.5%	3.5%	5.6%
Bihar	-14.9%	-0.7%	-26.2%	4.8%	10.4%	NA	-11.6%
Andhra Pradesh	-4.5%	7.0%	1.9%	-19.0%	-8.0%	11.2%	-4.1%
Punjab	-4.0%	29.0%	NA	33.3%	0.0%	41.5%	1.0%
Tamil Nadu	20.6%	45.1%	26.8%	11.7%	-28.2%	160.4%	15.7%
Haryana	2.1%	-1.3%	7.7%	0.0%	18.7%	5.4%	2.7%
Assam	-0.3%	-31.0%	20.0%	-8.3%	NA	NA	-1.5%
Uttarakhand	0.4%	-1.5%	0.0%	7.7%	1.1%	NA	0.2%
All India	**-1.2%**	**1.7%**	**-1.7%**	**0.1%**	**-5.5%**	**5.5%**	**0.0%**

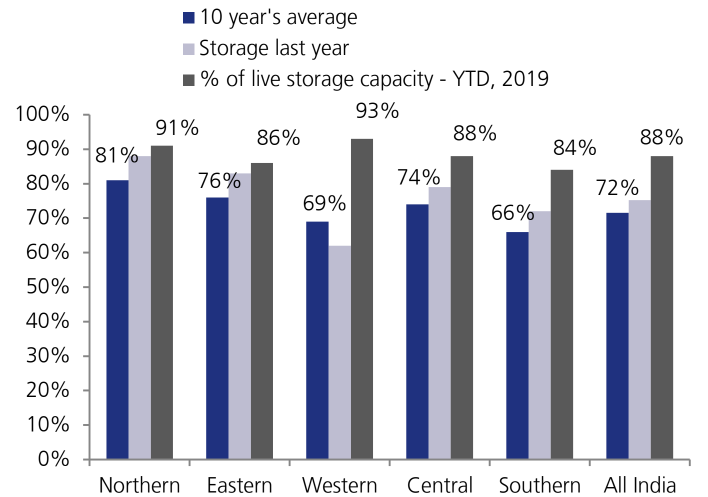
Source: Ministry of agriculture, JM Financial, Note: Arranged in decreasing order of total kharif sown area

Erratic rainfall pattern (delay, heavy rains in between and end) has led to varying pattern of kharif sowing across states and crops

Healthy reservoir levels sets a good backdrop for the "Rabi" crop season

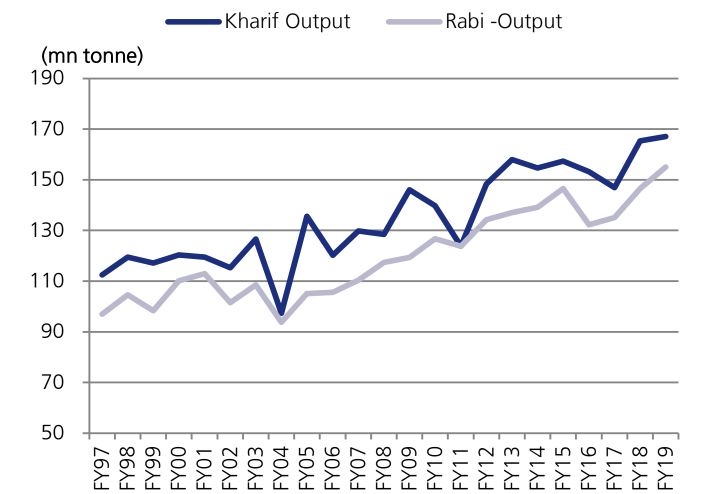
Higher monsoon rainfall (10% ahead of normal) has increased the water levels in the reservoirs to more than last year / last ten year levels (88% vs. 72%/75%); clearly improving the sowing prospects and crop output in the upcoming rabi (Nov-Apr) season.

Exhibit 17. Reservoir water levels indicate healthy moisture levels for upcoming Rabi season



Source: CMIE, JM Financial, Note: Reservoir levels as of 4Oct'19

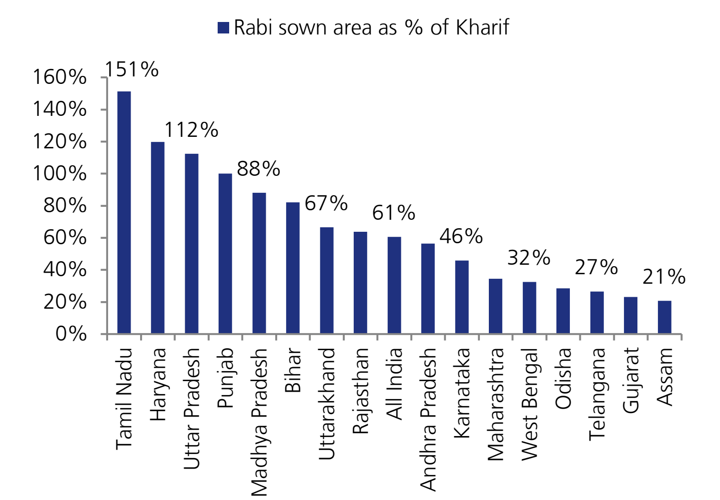
Exhibit 18. Rabi output is on an average more resilient than Kharif, barring years of unseasonal rains



Source: CMIE,JM Financial, Note: Excluding sugarcane

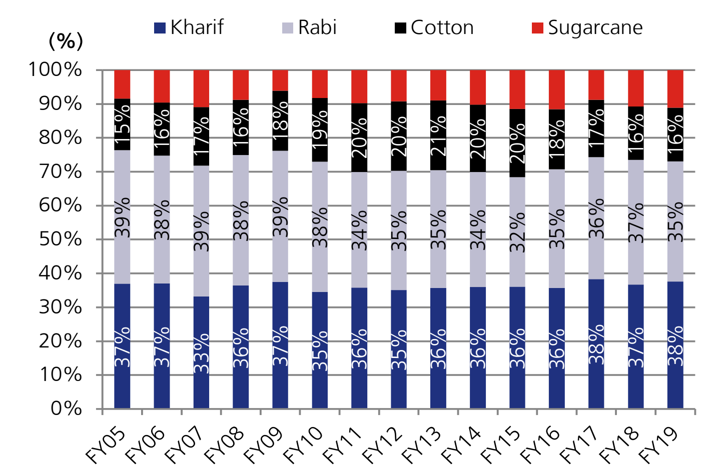
Historically, Rabi crop output has been more resilient than Kharif (barring unseasonal rains or extreme rain deficit), **and so there is an increased optimism among farmers for the next crop, as we gathered in our visits.**

Exhibit 19. Rabi cropping intensity set to increase – States in southern & western India could have higher rabi sowing YoY



Source: Ministry of agriculture, JM Financial

Exhibit 20. Share in gross realisation (in INR bn) from major crops by season – Rabi would account for c.35% of yearly food crop related realisation



Source: Ministry of agriculture, CMIE, JM Financial, Note: Based on MSP prices across crops

The cropping intensity (Rabi sown area / Kharif sown area) has been historically c.60% and should likely improve in the coming year, particularly in the western and southern Indian states. However, northern and eastern states which have still recorded a rain deficit could record marginal shrinkage in the Rabi sown area. Analysing past data also indicates that a majority of agri-related cash flows are obtained (c.65%) from the Kharif season itself (including sugarcane and cotton), thereby indicating a relatively limited benefit from Rabi crop season.

Cropping intensity of Rabi (c.60%) likely to improve this year, given above normal rainfall

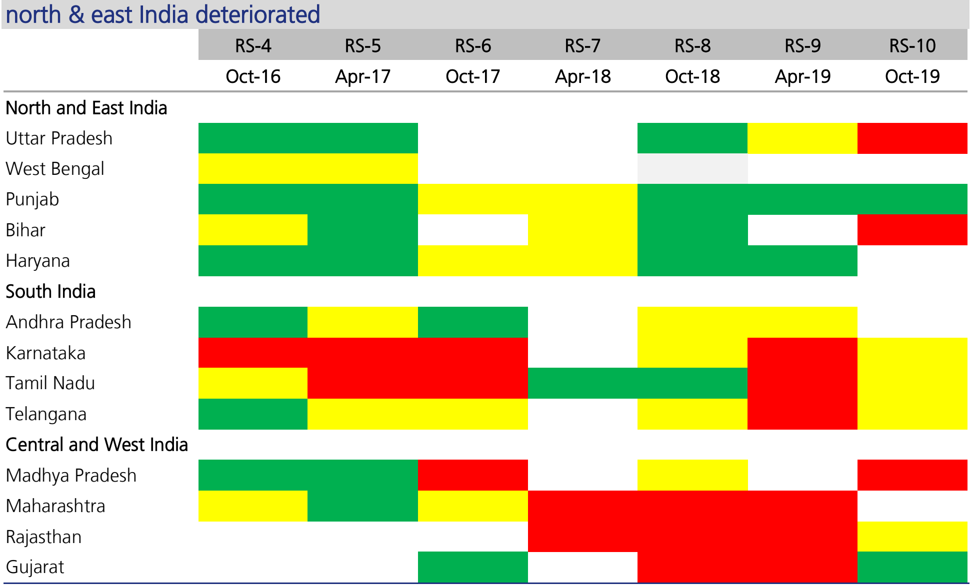
JM visits across states – Western and southern regions have better prospects, weakness in north & east India

Exhibit 21. JM Rural Safari visit feedback state-wise, and near term farm income trend

State	Kharif Sowing-YoY (%)	Rainfall deficit (%) – mid-Aug'19	Rainfall deficit (%) - 30Sep'19	Irrigation Cover %	State agri-GSVA as %	Farm Income - YoY (%)	Comments - Farm productivity/income
UP	1.2%	-20%	-12%	84%	12.5%	Decline	Mixed performance across state with overall yield to be YoY lower, given losses across crops including maize, vegetables (i.e. ex paddy) due to late & excess rains (particularly east). In paddy, short yield variety could see YoY decline, while long yield variety would still benefit
MP	2.6%	16%	41%	61%	12.2%	Decline	Wide divergence in agri-output - Western MP would suffer yield declines across soyabean, cotton, pulses due to late excess rains. Paddy crop output to be stable YoY in Eastern MP.
Maharashtra	-1.9%	18%	19%	20%	10.5%	Flat	West Maharashtra has seen some crop damage due to excess rains, but has overall increased optimism for Rabi. Sustenance of Increase in prices of vegetables (onions) would be a key driver for income in the state.
West Bengal	-5.6%	-36%	-20%	56%	7.8%	Flat	Suffered from delayed onset of rainfall, high deficit in the Gangetic plain leading to marginal yield decline across paddy. Weak pricing environment for rice (& potatoes) restrict income growth for the state.
Gujarat	2.3%	22%	42%	43%	7.2%	Strong	Benefits from high rains in 2019 after suffering rain deficit of 27% in 2018. Improvement in crop yield (oilseeds) and increase in cropping intensity to drive income growth.
AP	-4.1%	-15%	10%	47%	6.1%	Flat	Shift towards chillies & cotton; Chilli prices remain high YoY (last crop impacted by Gemini virus) and should support income growth going ahead. Paddy sowing has been soft (-5% YoY) due to weak rains at the beginning of monsoon.
Rajasthan	0.0%	22%	42%	43%	5.7%	Modest	Rain has been ahead of normal in the state, aiding coarse cereals output, which would aid income increase.
Karnataka	4.5%	16%	23%	35%	5.2%	Modest	Southern Karnataka has seen uneven rains and overall a stable yield. North Karnataka has seen floods in many regions impacting current crop output, but optimistic on the upcoming rabi crop & increasing cultivation of vegetables & fruits.
Punjab	1.0%	-16%	-5%	99%	4.3%	Strong	Rain coverage was reasonable in a well-irrigated states and paddy yield (sowing down 4% YoY) to be stable YoY. Yield of cotton to increase YoY (sowing up by 42% YoY) and with MSP based expected procurement, should result in higher income
Tamil Nadu	15.7%	-14%	18%	57%	3.7%	Modest	After a weak beginning, monsoon came in strongly for the state, leading to a catch-up in Kharif sowing afterwards. North East monsoon (provides 50% of state's water need) is expected to be normal benefiting the state.
Bihar	-11.7%	-9%	3%	57%	3.8%	Decline	In the initial months of monsoon, north Bihar faced floods and southern Bihar had near drought scenario leading to 12% YoY decline in Kharif sowing. In September, however, there were floods in south Bihar as well, which adversely impacted kharif crops other than paddy (vegetables, pulses, maize etc.)
Haryana	2.7%	-32%	-42%	84%	3.5%	Flat	Rainfall has been deficient and could result in a marginal yield decline in the rain fed regions of Haryana. But being a well-irrigated state, the impact would be largely contained.
Telangana	5.6%	-2%	6%	47%	2.8%	Modest	Healthy paddy sowing (+22% YoY) and cotton (+14% YoY), should ensure a better agri-related income compared to last year. State benefit scheme (Rythu Bandhu) aids in higher usage of agri-input and therefore benefitting crop yields.
All India	0.0%	1.4%	10.0%	47%		Modest	South and west India to benefit going ahead, while north and eto be subdued

Source: JM Financial, Legend Strong Modest : Flat Decline

Exhibit 22.Farm income trend across states – Improvement in south & western India, while north & east India deteriorated



Source: JM Financial,

Legend Decline Flat Modest growth High Single digit

Bihar, Madhya Pradesh, UP could see weakness; Southern and Western Indian states to benefit

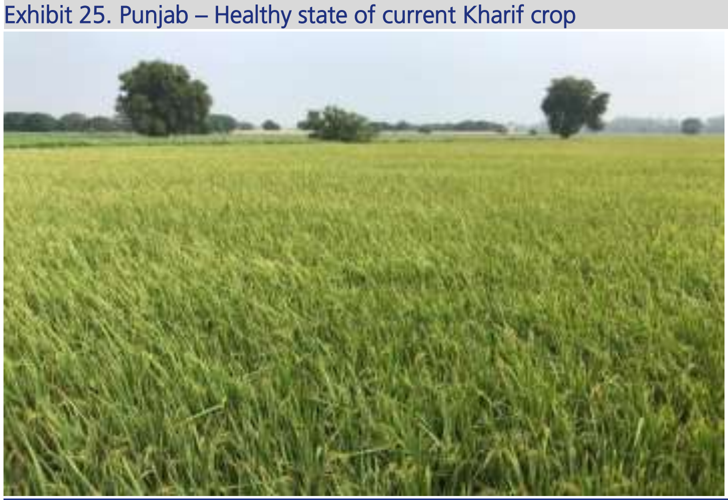
Exhibit 23. Gujarat – Saurashtra region (rainfall 66% ahead of norma) after rain deficit last year

Source: JM Financial

Exhibit 24. Maharashtra – Stored waters in the Marathwada region as well; not a frequent sight

Source: JM Financial

Exhibit 25. Punjab – Healthy state of current Kharif crop



Source: JM Financial

Exhibit 26. Gujarat –Overall improved crop yield in the state

Source: JM Financial

Exhibit 27. Haryana – Cotton output better YoY, but rain deficit regions

Source: JM Financial

Exhibit 28. Telangana – Late rains have led to good outlook for the crops

Source: JM Financial

Exhibit 29. Madhya Pradesh – Excess rains in September lead to significant damage for major Kharif produce, soyabean

Source: JM Financial

Exhibit 30. Karnataka – High rains to benfit overall income, but crop damages noted in north Karnataka for current season

Source: JM Financial

Exhibit 31.Karnataka – Plantation crop yield to be stable YoY

Source: JM Financial

Exhibit 32. West Bengal – Selective decline in paddy yield due to rain deficit in the state

Source: JM Financial

Exhibit 33. UP – Paddy yield to still remain stable, but could see decline in yield for maize and other crops (such as vegetables)

Source: JM Financial

Exhibit 34. Rajasthan – High rainfall has led to better optimism and improved yield for coarse cereals

Source: JM Financial

No improvement in MSP-based procurement infrastructure – Will prices improve in FY20?

In India, although c.35% of the agriculture and livestock output (by value) has a defined minimum support price (MSP) (exhibit below), its effectiveness is limited to paddy, wheat and sugarcane, which account for 18% by value.

c.35% of agri & livestock output in India (by value) has defined MSP, effectiveness limited to 18% of output by value

Exhibit 35. Value of output from crops and livestock – c.35% of output under MSP

Category	Value of output (INR tn)	Share of output (%)	Under MSP
Paddy+Wheat	4.2	15.2%	Yes
Pulses	1.6	5.8%	Yes
Oilseeds	1.5	5.4%	Yes
Sugar*	0.9	3.3%	Yes
Fibre (Cotton)	0.9	3.3%	Yes
Coarse Cereals	0.7	2.7%	Yes
Fruits & Vegetables	5.1	18.4%	No
Condiment, Spices & Drugs	1.7	6.0%	No
Other crops	2.0	7.4%	No
Total Crops	18.6	67.3%	
Milk	6.1	22.2%	No
Meat	1.8	6.5%	No
Other Animal related output	1.1	3.9%	No
Total Value	27.7	100.0%	

Source: CMIE, JM Financial, Note: Gross Output for FY17 at current prices, *Fair and Remunerative price (FRP) for Sugarcane

No improvement in procurement of crops under MSP

Our visits to various agri-mandis across states in Sep'19 indicated no material change in the infrastructure or the processes for procurement. This means the procurement for crops other than paddy (done under food subsidy by FCI) could remain ad-hoc and sporadic in the upcoming Kharif season.

Exhibit 36. Agri-mandi , Indore (MP)– Limited progress of pre-registration for crop procurement in Kharif 2019

Source: JM Financial

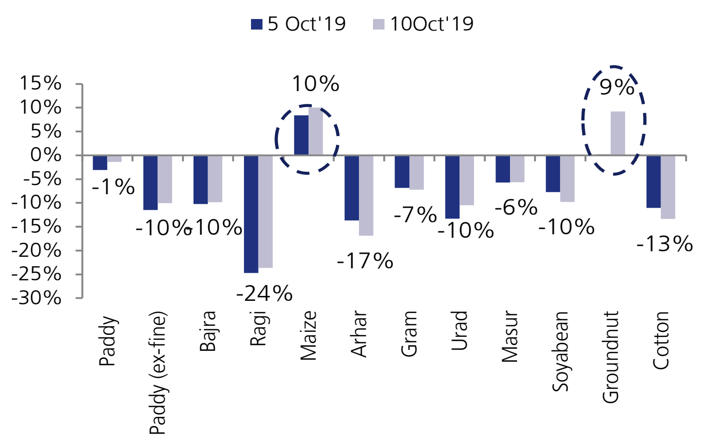
Exhibit 37. Aurangabad, Maharashtra (mandi) – Price (MSP) information continues to be displayed, enforcement limited

Source: JM Financial

From a farmer-realisation perspective, the agri-mandi prices prevailing in October-November are most relevant as most of the farmers (particularly small and marginal) sell their produce in the initial period due to lack of storage facilities and requirement of money.

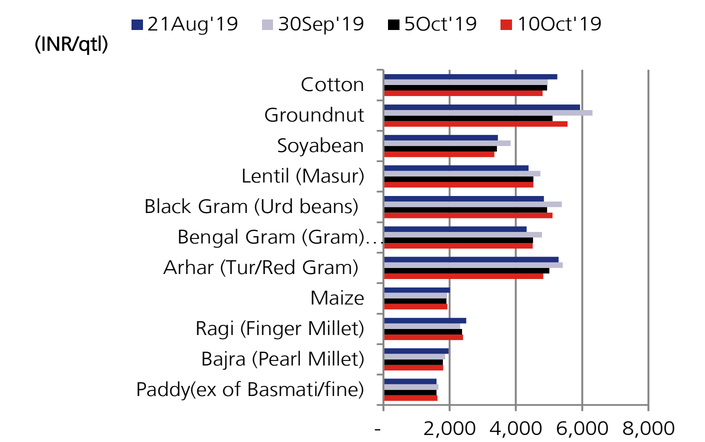
Initial trend in agri-prices (1st week of Oct'19) indicate the usual pattern of agri-mandi prices below MSP in a normal production year, as was also witnessed last year. Among major crops, only maize prices are ahead of FY20 MSP at present. **Though there could be some price increase in selected crops in a few regions, a broad-based simultaneous increase in prices across most of the crops is not expected in the near-to-medium term.**

Exhibit 38. Agri-Mandi average prices of commodities at premium / (discount) to FY20 MSP (%)



Source: Agmarknet, CMIE, JM Financial

Exhibit 39. Price discovery (INR / qtl) post crop arrival and procurement trends



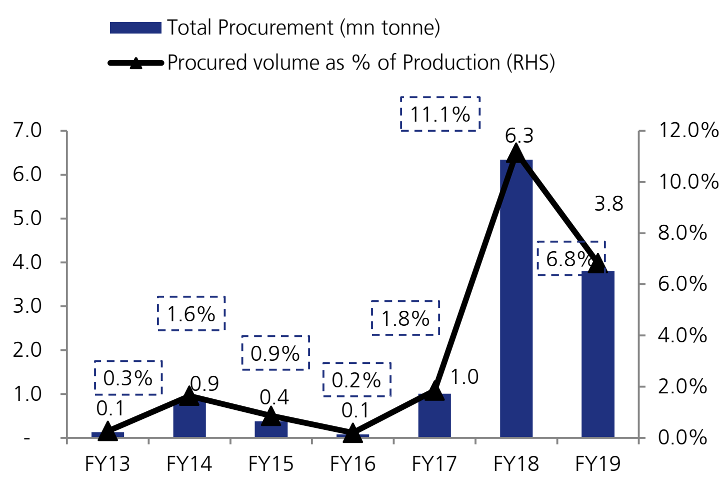
Source: Agmarknet, JM Financial

FY19 ended with limited crop procurement under MSP

In terms of MSP-based procurement, c.7% of the annual production of pulses + oilseeds was procured in FY19, against 11% in FY18 and an expectation of procurement ahead of 20%+ of the produce. The low procurement support along with earlier high storage (of pulses in particular) led to depressed prices, particularly during the harvest period in FY19.

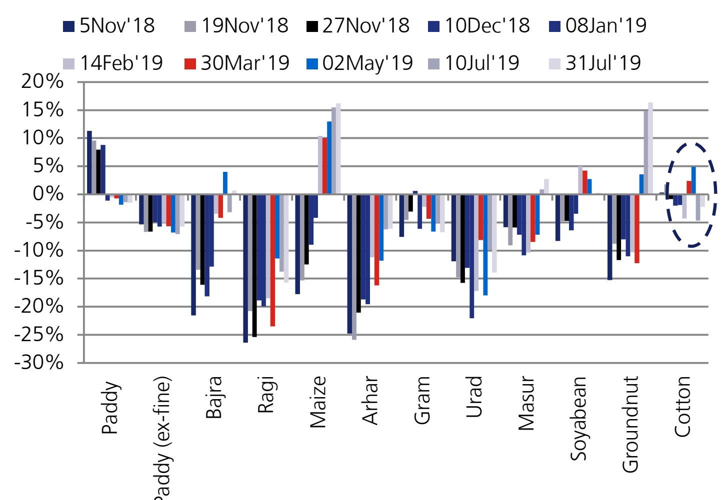
c.7% of production of pulses+ oilseeds procured at MSP in FY19

Exhibit 40. Procurement of pulses + oilseeds remained limited in FY19, don't expect trend change in FY20



Source: NAFED, media, JM Financial

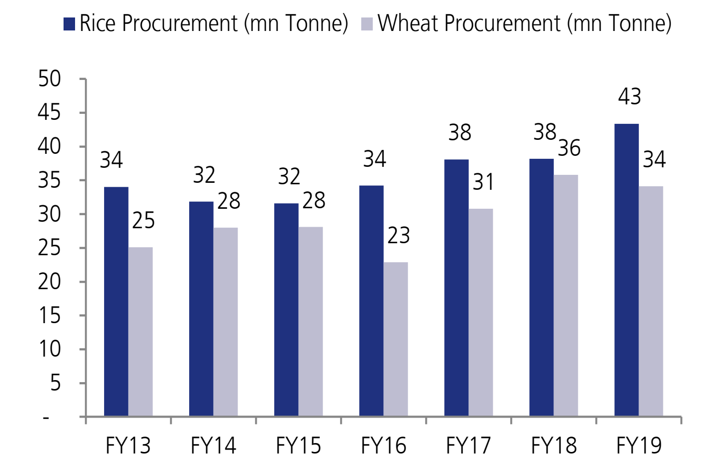
Exhibit 41. Agri-mandi price below (as % discount to FY19 MSP) indicates weakness across crop prices druing kharif harvest season



Source: CMIE,JM Financial

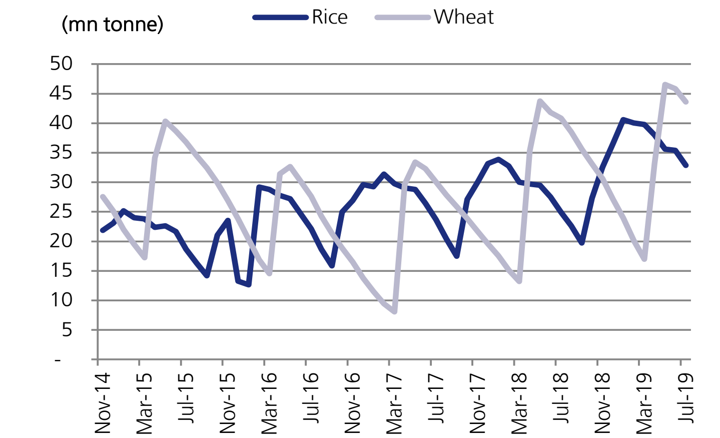
On the other hand, MSP-based procurement for the cereal crops (wheat, paddy / rice) remained steady in FY19.The stock levels for paddy (rice) and wheat continue to be ahead YoY basis, and therefore would limit any significant price increase going ahead.

Exhibit 42. Wheat & rice procurement remains steady -



Source: CMIE, JM Financial

Exhibit 43. Steady procurement reflects in the YoY higher stock levels for Rice,Wheat at FCI – will restrict price growth in open markets

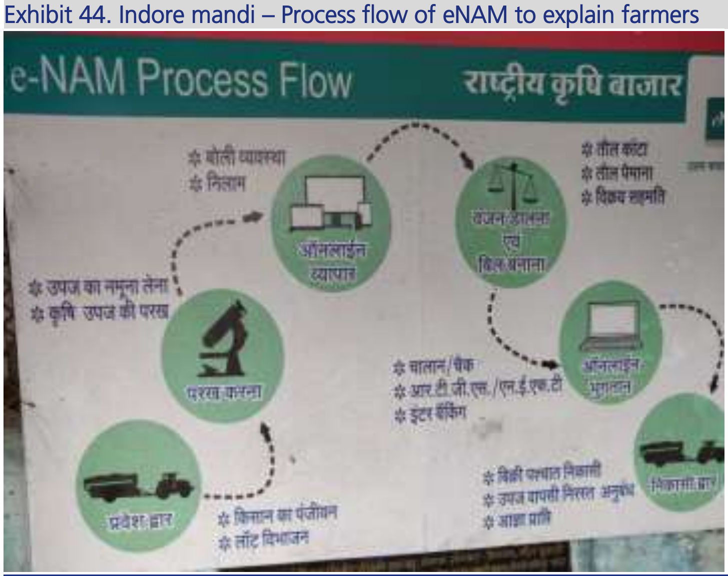


Source: CMIE, JM Financial

eNAM remains a medium-term initiative

eNAM or electronic National Agricultural Market remains a medium-term initiative to transform agri-marketing, as we encountered during our visits. We could also note increasing efforts made by the government to increase knowledge dissemination to all stake-holders (farmers, traders, commission agents) and to improve transparency of the process through increase in use of technology.

Exhibit 44. Indore mandi – Process flow of eNAM to explain farmers



Source: JM Financial

Exhibit 45. Suryapet, Telangana mandi – Detailed output for a better traceability -

Source: JM Financial

Overall, 585 leading agri-mandis in the country (14 states) are already connected on the eNAM platform and at present the adoption is quite gradual, as we noted in our visits. Some of the challenges / resistance from existing players to adopt eNAM implementation are - **(a)** a shift away from earlier cash-based transactions to a formal channel, **(b)** lack of infrastructure on grading / quality, **(c)** change in the traditional relationship of informal credit between the farmer, commission agent and the buyer. Our previous editions of the Rural Safari contain detailed discussions on the above points which continue to hamper the wider adoption of the scheme.

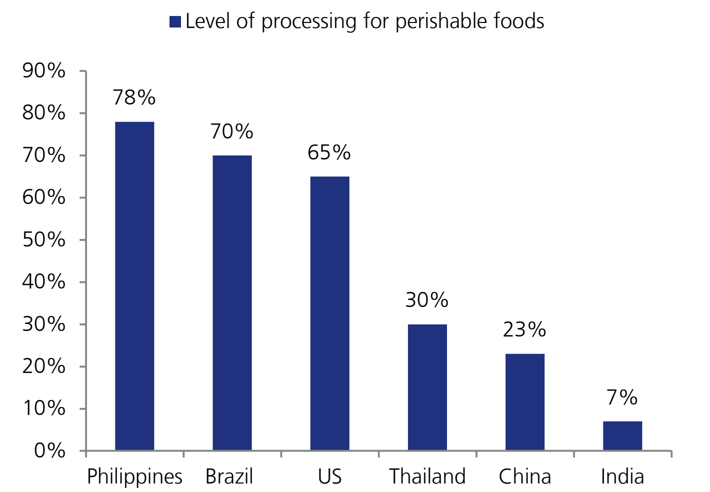
In addition to eNAM, the government (including state governments) should also work in a fast pace to improve / upgrade the infrastructure of the 22,000 rural haats, also termed as GrAM (Gramin Agriculture Markets), as was announced in the 2018 union budget.

Modest increase in agri-commodity prices to support farm income in FY20

FY20 Farm income - Vegetable price surge – will it be contained?

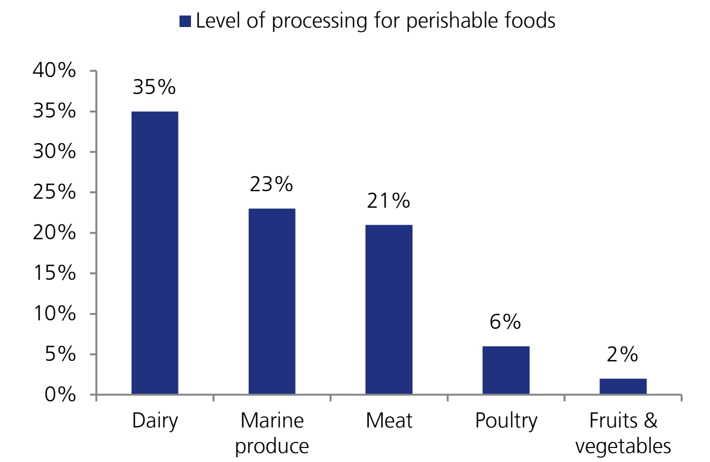
The prices of vegetables (& fruits) remain volatile as they are driven by local supply and demand factors as well as low storage capacity (c.10% of cold storage as % of production) increases the perishability of the crops. The extremely low percentage of processing for fruits and vegetables at c.2% levels indicate lower institutional purchases and price support mechanisms for the farmers.

Exhibit 46. Level of food processing in India remains low



Source: Industry, JM Financial

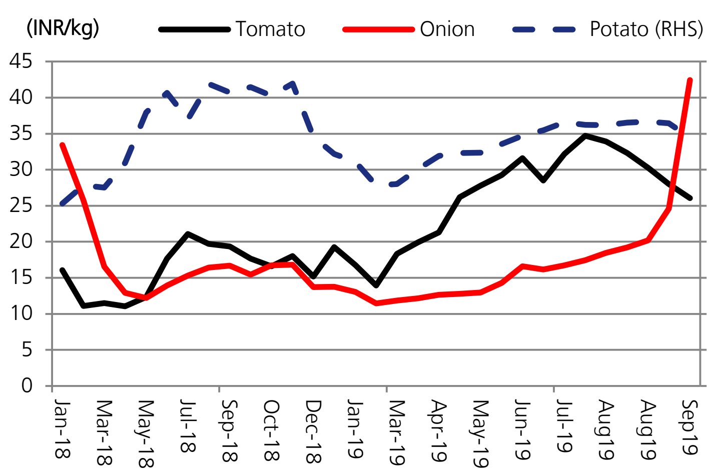
Exhibit 47. Among perishable foods, only c.2% of fruits and vegetables in India get processed



Source: Industry, JM Financial

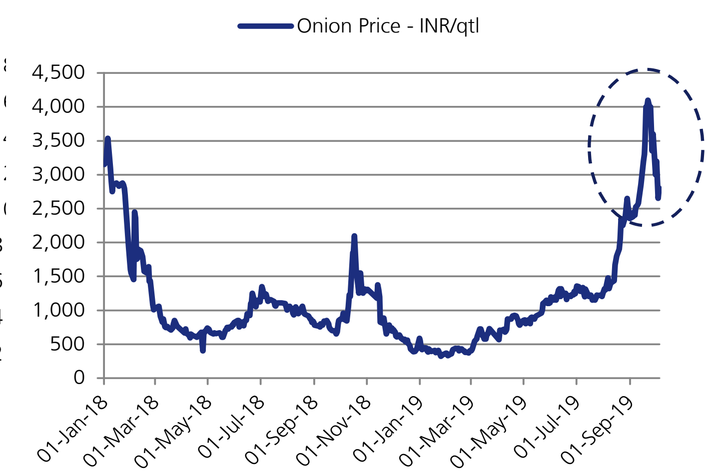
The prices of vegetables had seen a deflation in 2018 to the first half of 2019 and this has been a major factor dragging down agri-income growth in FY19. The vegetable prices have been contained in 1HFY20, but have recently (Sep'19 onwards) seen a sharp jump, particularly in onions. **Given the heavy rains in key onion producing regions of Maharashtra, Karnataka, Madhya Pradesh, there is a likelihood of a production decline in FY20.**

Exhibit 48. Vegetables prices, particularly onion has seen uptick recently



Source: Ministry of Consumer Affairs, JM Financial

Exhibit 49. Agri-mandi prices of onion at Nashik– Government's efforts on stock-holding, imports to check price increase



Source: Agmarknet, JM Financial, Note: Lasalgaon mandi Nashik is the largest mandi for Onions in the country

The production and exports data indicates c.10% of onion produce is exported and the overall export revenue from onions contributes to c.60% of the total export revenues from fresh vegetables in the country.

The government has announced a control order restricting stock-limits for both the wholesaler (500 qtls) & retailer (100 qtls) along with export ban (29 September 2019) in order to arrest the price increase.

Export restrictions and imports of onions to restrict price increase and therefore farm income

The prices in agri-mandis have reacted accordingly and have corrected from the peaks late September to the first week of October.

Exhibit 50. Onion production and exports – Onion (c.10% of its production is exported) - accounts for c.60% of total fresh vegetable exports from the country

	FY15	FY16	FY17	FY18	FY19
Production (mn tn)	18.9	21.0	22.4	23.3	23.5
Export (mn tn)	1.2	1.2	2.4	1.6	2.2
Net Availability	17.7	19.8	20.0	21.7	21.3
Export revenues - INR bn (onions)	23	27	31	31	35
Export revenues- Other Fresh Vegetables	22	20	26	18	20
Total export revenues from fresh vegetables	45	48	57	49	54

Source: APEDA, JM Financial

The government ban on onion exports and subsequently allowing imports is likely to contain the onion price rise in the months going ahead, thereby containing any sharp rise to food inflation and also in agri-income growth.

FY20 Farm income - Will cotton prices aid in FY20 income growth?

Cotton accounts for c.10%+ of total crop realisations (Kharif, Rabi, sugarcane) and is a major driver for spending on agro-chemicals. During FY20, cotton sowing has been healthy and is up 5.5% YoY. The trading price of cotton remained ahead of MSP in FY19, however, an increase in expected production in FY20 along with weak global prices **could likely dent the farmer realisation going ahead.**

A key factor supporting cotton prices would be the MSP-based procurement in FY20 by the Cotton Corporation of India (CCI). **Historically, the procurement at MSP had been done selectively and material procurement (c.30-35% of production) had been undertaken in only two of the last fifteen years.**

As per our initial checks and media reports, CCI has stated that it is prepared to procure up to c.1/3rd of the production (10mn bales). We will closely monitor the updates on cotton procurement, **as any decline (YoY) in cotton prices would clearly impact the agri-income negatively and hamper the rural consumption sentiment in western & southern states.**

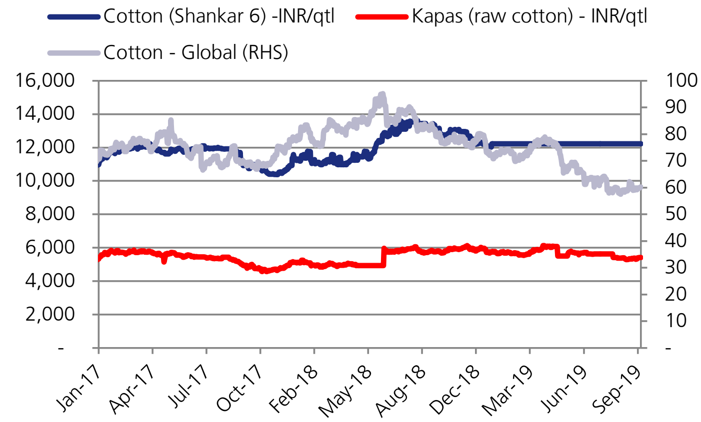
Cotton had aided farm income in FY19, pricing likely to be weak in FY20

Exhibit 51. Cotton sowing up by 5.5% YoY in FY20

State	Share in sown area	YoY (%)
Maharashtra	34.3%	3.6%
Gujarat	21.5%	-1.7%
Telangana	14.1%	3.5%
Andhra Pradesh	5.4%	11.2%
Karnataka	5.3%	36.4%
Haryana	5.0%	5.4%
Madhya Pradesh	4.7%	-12.6%
Rajasthan	3.8%	29.9%
Punjab	3.3%	41.5%
Odisha	1.1%	7.4%
All India	100.0%	5.5%

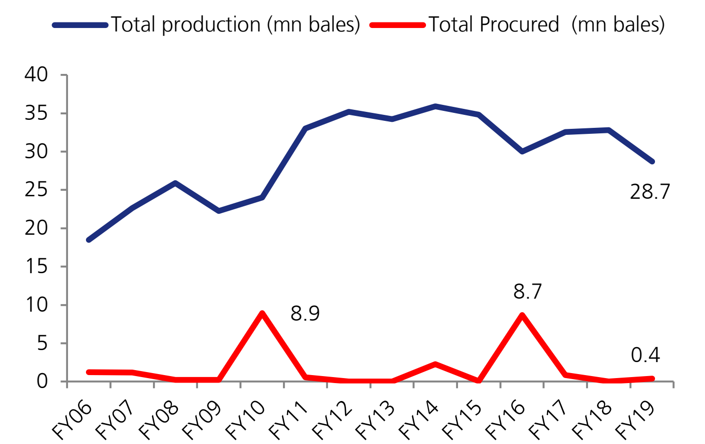
Source: Ministry of agriculture, JM Financial

Exhibit 52. Cotton price trend – Global prices have corrected, will domestic prices hold?



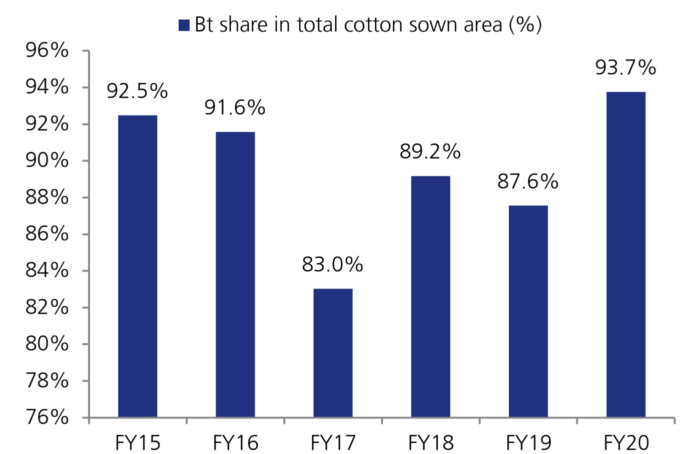
Source: Bloomberg, Note: Cotton (Long staple) MSP at INR5,550/quintal relevant for Kapas

Exhibit 53. Production and MSP-based procurement trend of cotton – High procurement need to support prices at MSP in FY20



Source: CCI, Ministry of agriculture, JM Financial

Exhibit 54. Cotton sowing trend - Share of BT cotton has increased in FY20 kharif sowing, and could likely aid in production



Source: Ministry of agriculture, JM Financial

FY20 Farm income - Global agri-prices remain lacklustre

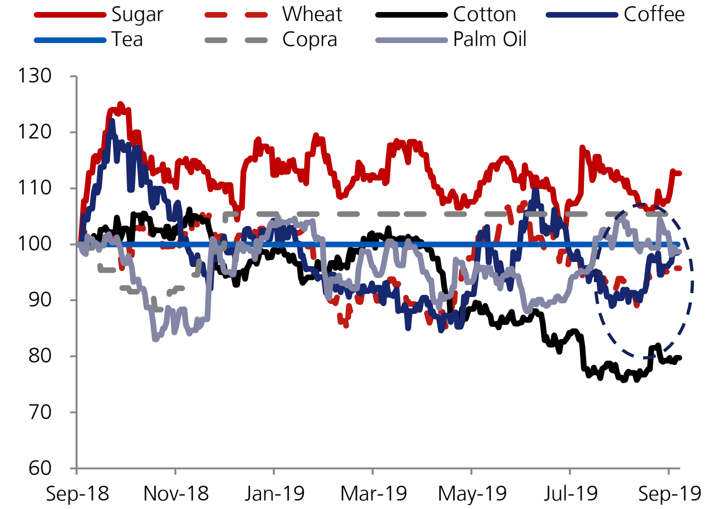
Given a healthy crop output forecast across most of the crops, a sharp increase in global agri-commodity prices is not expected in the near term.

Exhibit 55. Global crop production and ending stocks forecast

	Production		Ending Stocks	
	2018/19	2019/20	2018/19	2019/20
Wheat	-4.1%	4.7%	-1.6%	3.3%
Rice	0.8%	-0.9%	5.9%	0.5%
Coarse Cereals	2.7%	0.1%	-3.5%	-5.6%
Corn	4.1%	-1.5%	-2.9%	-7.1%
Oilseeds	3.4%	-3.5%	12.3%	-12.4%
Oil-meals	0.9%	2.0%	-7.3%	-0.1%
Vegetable Oils	2.5%	2.1%	-1.9%	-4.5%
Cotton	-3.8%	4.9%	-0.2%	3.7%
Soyabean	1.0%	2.2%	-4.5%	1.1%

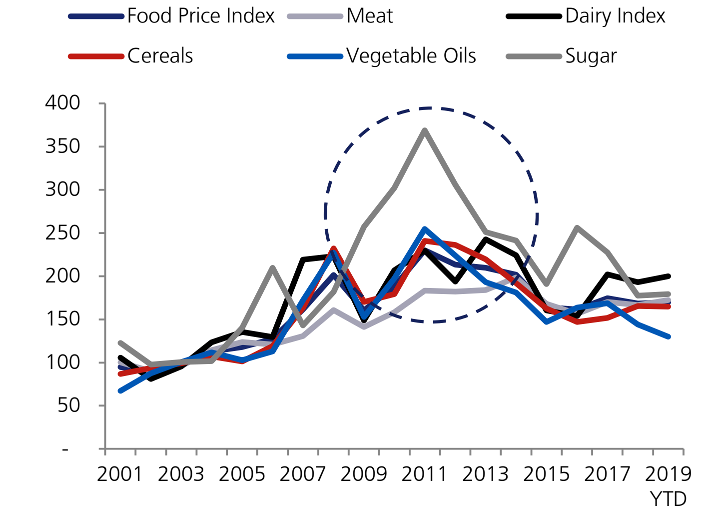
Source: USDA, JM Financial

Exhibit 56. Global agri-commodity prices remain unsupportive



Source: Bloomberg ,JM Financial

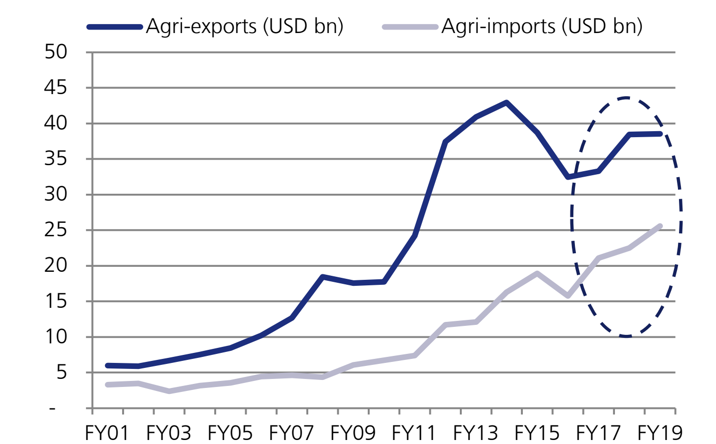
Exhibit 57. Global Food Price Index remains weak



Source: FAO, JM Financial

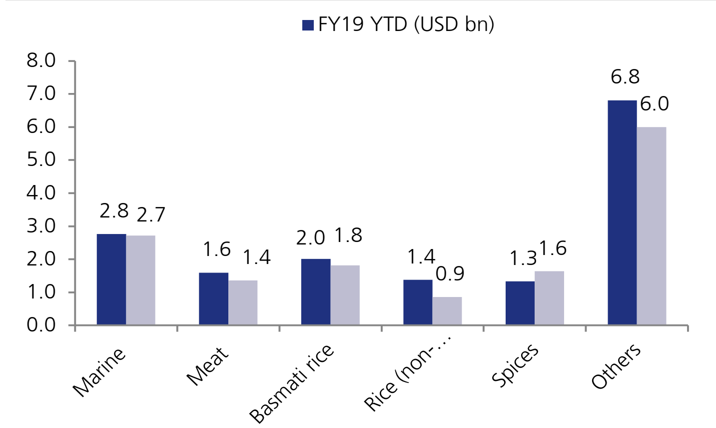
FY20 Farm income – Agri-exports have not been supportive so far

Exhibit 58. Agri exports stagnated in FY19 after recording growth in FY18



Source: JM Financial

Exhibit 59. FY20 YTD agri-exports have declined 9% YoY (Apr-Aug'19)



Source: JM Financial

In terms of agri-exports, FY19 had turned out to be a lacklustre year with flattish YoY exports (USD). While agri-imports decreased on account of lower import of pulses and vegetable oils, **the exports of marine, meat and non-basmati rice have also been lower. The trend on agri-exports continue to be weak in FY20, and YTDFY20, agri-exports have decreased by 9% YoY.**

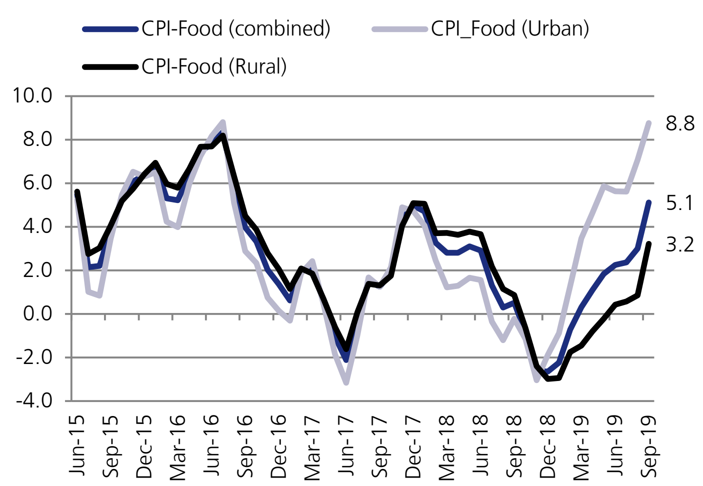
Food inflation to see an uptick from its still benign trajectory over next few months

Food inflation likely to step up in near term, to consolidate over medium term

Food inflation had been benign in FY19, when it went below 2% from Jul'18 and remained in the negative territory from Oct'18-Feb'19 and only gradually increased after that. **The decline in food prices particularly fruits, vegetables and cereals had impacted the cash flow of farmers in FY19 and weakened farm income. In terms of regions, rural** food inflation rural (CPI-Rural) remained further below the urban during most of FY19 and the trend continues..

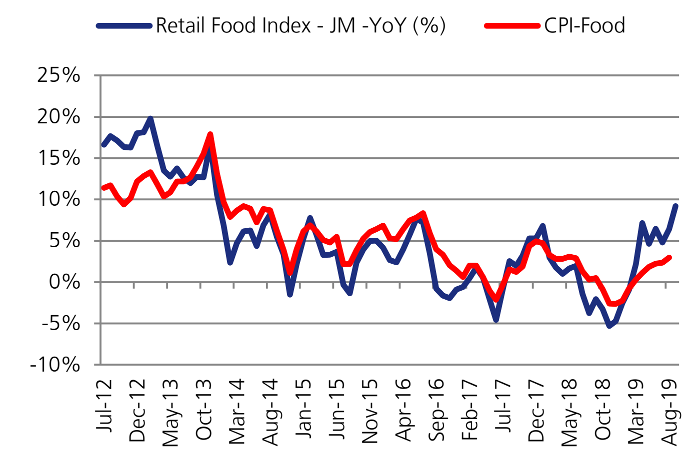
While, we are likely to witness a step-up in food inflation in the near term driven by the increase in vegetable prices, a healthy crop produce in Kharif 2019 would likely limit any meaningful upside to food prices.

Exhibit 60. Food inflation has been unusually low over the past one year, to reduces as kharif harvest comes in market



Source: CMIE, JM Financial

Exhibit 61. Recent increase in retail food prices (vegetables, milk) to drive uptick in food inflation – A good crop produce would likely limit the increase in the medium term



Source: Ministry of Consumer Affairs, JM Financial

Food inflation (rural) still remains weak (0.8% at Aug'19)

The summary table below highlights our outlook across the sub-segments of food inflation over the next few months.

Exhibit 62. Food inflation trend and expectation

Category	Weight	YTDFY19 (Apr-Sep'18)	YTDFY20 (Apr-Sep'19)	Sep'19	Near term (1-3 months)
Cereals & Products	9.7	2.8	1.3	1.7	Stable
Milk	6.6	2.9	1.0	1.8	Marginal uptick
Vegetables	6.0	0.9	6.4	15.4	Down
Egg, fish and meat	4.0	3.2	8.1	9.6	Stable/Down
Oils & Fat	3.6	2.8	0.8	1.2	Stable
Fruits	2.9	7.3	-2.6	0.8	Uptick
Spices	2.5	2.3	1.9	3.3	Stable
Pulses and Products	2.4	-10.1	4.9	8.4	Stable
Sugar & Condiments	1.4	-6.2	-1.5	-0.4	Stable
CPI - Food inflation	**39.1**	**1.8**	**2.6**	**5.1**	**Down (~4%)**
CPI	100	4.3	3.3	4.0	

Source: CMIE, JM Financial

Additional agriculture-based themes

(A) Crop Insurance gross premiums continue to increase

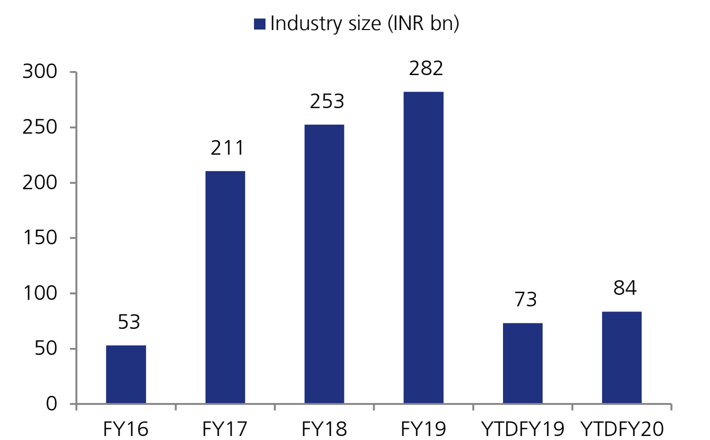
Exhibit 63. Crop insurance (PMFBY) – Gross premium up by 15% YoY in YTDFY20

	Industry premium (INR bn)						Share (%)					
Company	FY16	FY17	FY18	FY19	YTDFY19	YTDFY20	FY16	FY17	FY18	FY19	YTDFY19	YTDFY20
AIC	35	71	78	72	23	34	66%	34%	31%	25%	32%	40%
Specialised	35	71	78	72	23	34	66%	34%	31%	25%	32%	40%
Oriental	-	9	8	19	5	8	0%	4%	3%	7%	7%	10%
New India	-	10	17	12	1	2	0%	5%	7%	4%	1%	2%
United India	0	13	15	11	(0)	0	0%	6%	6%	4%	0%	0%
National	-	8	15	9	1	0	0%	4%	6%	3%	1%	0%
Public Sector Players	0	41	56	51	7	10	0%	19%	22%	18%	9%	12%
ICICI-Lombard	6	22	24	25	14	1	11%	10%	9%	9%	19%	1%
HDFC ERGO	2	20	22	21	3	3	3%	10%	9%	7%	4%	3%
IFFCO-Tokio	-	13	11	19	8	7	0%	6%	4%	7%	11%	9%
Universal Sompo	2	5	12	17	3	3	4%	2%	5%	6%	4%	3%
Reliance	1	11	12	15	3	4	2%	5%	5%	5%	4%	5%
SBI	1	3	7	15	4	7	2%	1%	3%	5%	6%	8%
Bajaj Allianz	4	14	18	15	4	8	7%	7%	7%	5%	5%	9%
Tata-AIG	1	4	4	12	0	4	1%	2%	2%	4%	0%	5%
Bharti AXA	-	-	4	5	2	3	0%	0%	2%	2%	2%	3%
Future Generali	0	2	(0)	5	1	1	1%	1%	0%	2%	1%	2%
Cholamandalam	1	3	5	4	2	0	3%	1%	2%	2%	3%	0%
Royal Sundaram	-	-	0	4	0	0	0%	0%	0%	1%	0%	0%
Go Digit Insurance	-	-	-	2	-	-	0%	0%	0%	1%	0%	0%
Shriram	-	2	(0)	-	-	-	0%	1%	0%	0%	0%	0%
Private Sector Players	18	99	119	160	43	40	34%	47%	47%	57%	59%	47%
Total Industry	53	211	253	282	73	84	100%	100%	100%	100%	100%	100%

Source: IRDAI, JM Financial, Note: Premium data up to Aug'19 for YTDFY20

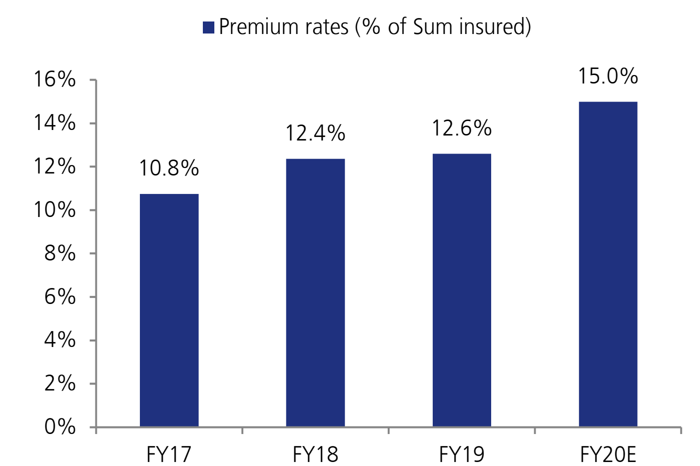
The total premium in the crop insurance industry continues to increase from FY17 (when the scheme PMFBY was launched) and increased to INR 282bn in FY19. In the current year, YTDFY20, it is up 15% YoY. **Though, the total coverage continues to remain stable (c.30-32% of gross cropped area), growth in gross premium is aided by the increase in premium rates.**

Exhibit 64. Industry gross premium – Up 11.5% YoY in FY19, so far ahead by 15% in FY20



Source: IRDAI, JM Financial, Note: FY20 data till Aug'19

Exhibit 65. Premium rates under PMFBY expected to increase further



Source: Industry, Media, JM Financial

Exhibit 66. Telangana – PMFBY scheme information to farmers

Source: Industry, Media, JM Financial

Exhibit 67. Rajasthan– Heavy rains have impacted crop output in many states, could result in higher claims YoY in FY20

Source: JM Financial

The premium rates under the scheme continue to increase due to various reasons. According to industry sources:

(a) Change in guidelines has increased the cost for insurance companies – Guidelines such as opening of block-level offices for the empanelled insurance company.

(b) Revision of threshold yield formula effective Rabi 2018-19: Earlier, it was an average of 7 years excluding up to 2 years of calamity years, while now insurance companies need to take the moving average of the best five years out of seven, leading to increase in threshold yield across states. As the threshold yield goes up, the claims will also increase.

(c) Challenges and disputes between insurance companies and states on the crop cutting experiments data.

Cost structure of insurance companies set to increase and reflects in increase in premium rates

While some of the steps taken by the government may increase the cost for insurers, **we believe these would be beneficial over the longer term to make crop insurance more effective and useful for farmers.**

Our on-ground feedback continues to exhibit scepticism from farmers on the claims' settlement process. There is also the need for better infrastructure creation across regions to measure crop yields and weather related parameters. The PMFBY scheme is a tender-based one and insurance companies take up projects from 6 months to 1 or 2 years in different regions. Owing to the short timeframe, private companies may also be reluctant to create / improve infrastructure for data collection. This issue needs to be addressed in order to expand the crop insurance plan. The feedback at the state level regarding Rythu Bhima (insurance) in Telangana seems to be positive.

(B) Farmer Producer Company / Organisation formation should be boosted

The concept of Farmer Producer Organisations (FPO) consists of a collective of producers – especially small and marginal farmers – to form an effective alliance to collectively address the many challenges of agriculture and demanding rights such as improved access to investment, technology, inputs and markets. It is aimed at engaging the farmer companies to procure agricultural products and sell them. As per various media report, there are 5,000+ FPOs registered over the years in India with major FPOs supported by National Bank for Agriculture and Rural Development (NABARD (2,082 with 0.8mn farmers as of Aug'19) and Small Farmers' Agri-Business Consortium (SFAC). During our visits we have noted the improvement in crop yield and realisation to farmers as part of an FPO, and its expansion should be actively encouraged across states.

Exhibit 68. Rural market (Tekabigha, Bihar) – After FPO formation, improved marketing access

Source: JM Financial

Exhibit 69. Office of Bakhtiarpur Kisan producer company, Bihar – Need for providing training across functions to FPOs

Source: JM Financial

(C) Contract farming adoption remains limited

We also investigated contract farming over our various rural surveys, an area that has the potential to improve average farm incomes as well as reduce the price and volume off-take concerns for an average farmer.

Under contract farming, bipartite agreements are made between the farmer and the company; the latter contributes directly to the management of the farm through input supply as well as technical guidance and markets the produce. Our interactions indicated that guidelines and regulations need to be strengthened for increased adoption of contract farming in India and that there is a need for wider information dissemination of the new model contract law.

We also saw initiatives undertaken by a few companies that have formed long-term relationships with the farming community around their area of operations and are enabling farmers to generate higher incomes.

(D) Technology based innovations

Farmers and agri-tech start-ups have evolved over the past few years in India aided by the increae in digital penetration and availability of funding. The major areas where start-ups have come up are in

- Crop inputs,
- Precision farming,
- Supply chain solutions,
- ecommerce areas.

Solutions focused around developing a strong supply chain remain the most active area in agri-technology area. An improvement in mobile broadband penetration is aiding the formation and usage of agri-tech based startups by farmers in India.

As per NASSCOM report (Jul'19), there are 450 start-ups in the agri-tech space in India and growing at 25% YoY. In terms of funding, in the first half of 2019, they have raised a total of USD248mn, 3x more than total funding raised in 2018, indicating improved investor interest. Some of the major recent start-ups and their details are provided in the exhibit below.

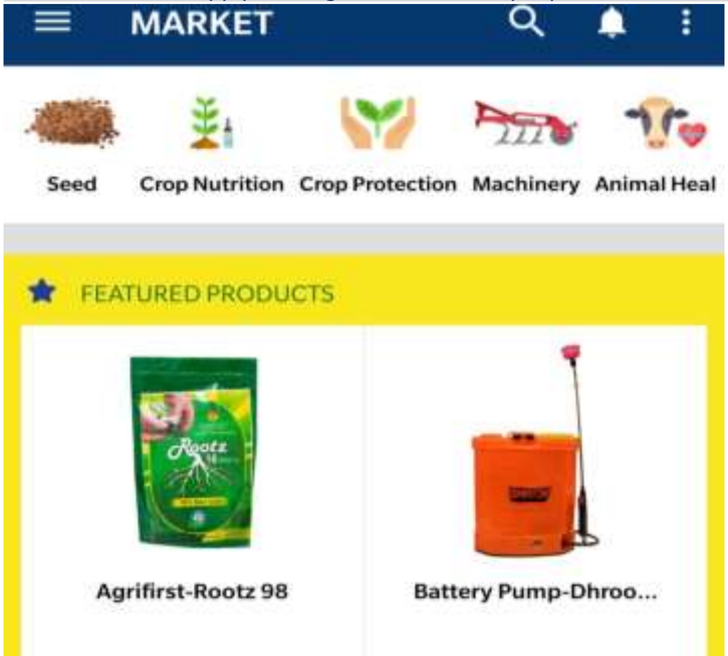
Agri-tech start-ups raised c.USD250mn in 1HCY19, 3x+ of fund raised in previous year

Exhibit 70. Start-ups in crop inputs and precision farming – Aiding in productivity improvement for Indian agriculture

S. No.	Company Name	Segment	Funding (USD MN)	Founded	Location	Company stage	Description
1	Agro star	Crop inputs	43.7	2010	Pune	Series B	m-commerce for agro-inputs
2	EM3 Agra Service		14.3	2013	Noida	Series C	Provides farm equipment with skilled labour to operate the same on the farm on a pay per use basis
3	Skymet Weather		11.8	2003	Noida	Series C	Crop insurance and weather forecasting data services
4	Sea6 Energy		9.0	2010	Bangalore	Series A	Grows and converts sealants into bio-fuels and soil nutrients
5	Gramophone		8.1	2016	Indore	Series A	Mobile app providing farm input products and information to the farmers
6	KHETHINEXT		5.0	2017	Hyderabad	Series A	Mobile app that enables procurement of farm inputs and provides information
7	A revolution		4.5	2012	Patna	Seed	Online mobile platform & offline centres for connecting farmers with farm inputs manufacturer and produce buyers
8	Barrix Agro Sciences		3.6	2011	Bangalore	Series A	Pest control product developer
1	Stellapps Techno	Precision farming	19.0	2011	Bangalore	Series B	Farm optimization and monitoring support solution provider
2	Cropin		15.6	2010	Bangalore	Series B	Farm management solutions
3	Eruvaka		6.8	2012	Vijayawada	Series B	Technology solution offering on-farm diagnostic equipment
4	Agnext		4.2	2015	Mohali	Seed	Farm data collection using satellite drones and field sensors and analytics on the same
5	Aibono		3.1	2013	Bangalore	Seed	Services for farm data collection & analytics and mobile application for farm management
6	Intello Labs		2.6	2016	Bangalore	Seed	Image recognition based solutions for multiple industries
7	GoldFarm		2.6	2013	Bangalore	Seed	Digital platform for harvest equipment management and utilization
8	Zentron labs		2.4	2012	Bangalore	Series A	Automation systems for visual checking processes
9	TartanSense		2.1	2012	Bangalore	Seed	Analyzing health of plants using drones
10	Aqua connect		1.1	2017	Chennai	Seed	Develops and offers aquaculture management system

Source: tracxn, JM Financial

Exhibit 71. Mobile app providing information, crop inputs etc.



Source: Gramophone, JM Financial

Exhibit 72. Mobile app providing crop information, disease diagnostics, fertiliser calculator etc.

Source: Plantix, JM Financial

Exhibit 73. Start-ups in the supply chain and e-commerce space – Aiding in "market access" for Indian farmers

S. No.	Company Name	Segment	Funding (USD MN)	Founded	Location	Company stage	Description
1	Ninjacart	Supply chain	148.0	2015	Bangalore	Series C	Online B2B platform for fruits and vegetables
2	Fresh to home		33.7	2015	Bangalore	Series B	Manages supply chain of meat and seafood from farm/fishermen to home
3	Jumbotail		23.4	2015	Bangalore	Series B	Online B2B platform for packaged food, fruits and vegetables
4	Farmtaaza		10.7	2015	Bangalore	Series A	Manages supply chain of fruits and vegetables from farm to business
5	FarmLink		3.1	2014	Mumbai	Series A	B2B supply of fruits and vegetables
6	Crofarm		3.0	2016	Delhi	Seed	Digital supply chain of fruits and vegetables from farm to business
7	Farmguide		1.6	2014	Gurgaon	Seed	Digitising agri supply chain and services
8	Jai Kisan		1.5	2017	Pune	Seed	Provides an integrated input and produce supply chain solution
9	Ergos Business Solutions		1.3	2010	Bangalore	Seed	Provider of tech enabled warehousing and supply chain solutions for farmers
10	FrontalRain Tech		1.0	2010	Bangalore	Seed	Cloud-based food supply management for agribusinesses
1	Licious	Ecom	63.8	2015	Bangalore	Series C	Online platform for delivery of meat and seafood
2	WayCool Foods		24.7	2015	Chennai	Series A	e-distributor of agricultural commodities
3	ZappFresh		6.6	2015	Delhi	Series A	Online fresh meat delivery service
4	Vahdam Teas		4.6	2014	Delhi	Series A	Internet first brand of tea
5	Fresh VnF		2.0	2018	Mumbai	Seed	Online platform to purchase fruits and vegetables
6	Bombay Hemp CO		1.4	2013	Mumbai	Seed	Producer and distributor of cannabis products
7	Mera Kisan		1.0	2014	Pune	Seed	Online market place that connected consumers with local farmers

Source: tracxn, JM Financial

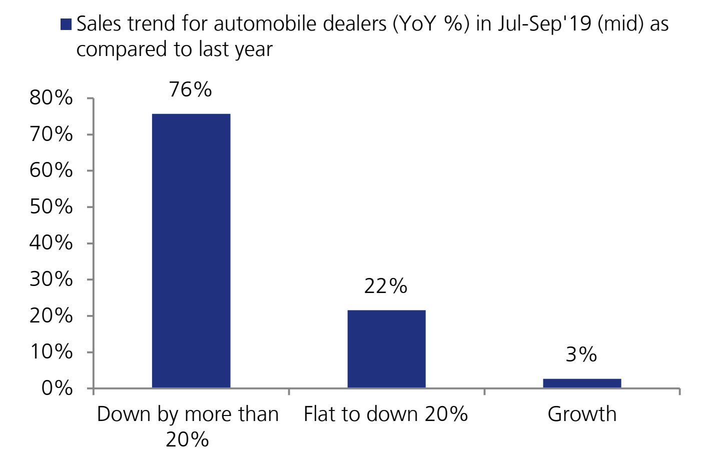
JM Financial dealer survey – economic activity remained extremely weak in 2QFY20

Apart from detailed qualitative discussions with multiple dealers (113 dealers across categories) during Rural Safari, we also conducted a quantitative survey with automobile (2W, PV, CV, Tractors), FMCG Kirana stores and MSME/small businesses (less than INR1bn of annual turnover) across the country.

Overall, economic activity continued to be sluggish in 2QFY20 and only a strong performance in the festival season (Oct'19) can potentially change the trajectory, which appears to be remote at present, in our view.

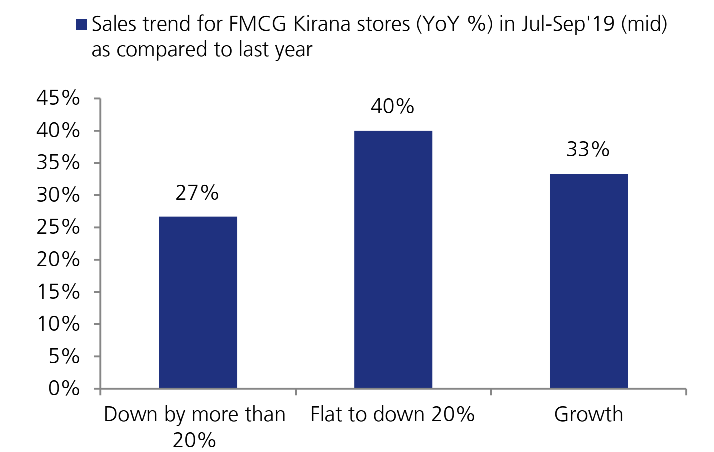
Sales trend has been weak in the Jul-Sep'19 quarter across categories

Exhibit 74. Automobiles – 2QFY20 has been an extremely weak quarter across the board



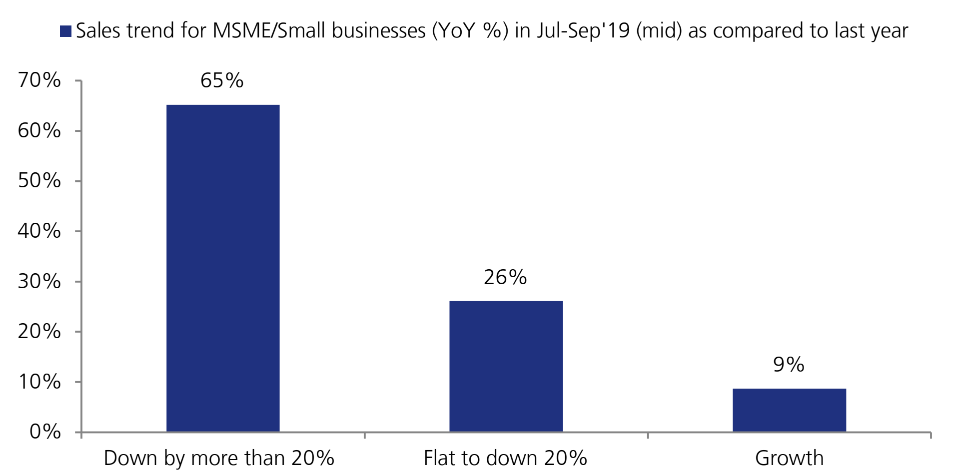
Source: JM Financial, Note: YoY growth reported from a Hero Electric dealer

Exhibit 75. Kirana stores – Sales in regions impacted by weather (floods) show high declines, rest have modest performance



Source: JM Financial

Exhibit 76. MSME / Small business survey – Decline very broad base across small businesses (particularly traditional apparel stores)



Source: JM Financial

2QFY20 has been an extremely weak quarter for automobiles & SMEs, even Kirana stores have not fared well

Key challenges as highlighted by the players

While we will discuss in detail some of the aspects around the challenges mentioned above, the feedback across businesses was weaker than same time last year. The monsoon of 2019 (Jun-Sep'19) has overall recorded rainfall ahead of normal by 10%, with many regions (west

Maharashtra, Saurashtra, west MP, north Karnataka etc.) recording 25%+ higher rains leading to floods and therefore temporary disruption in normal business activities.
In terms of the key challenges across businesses,

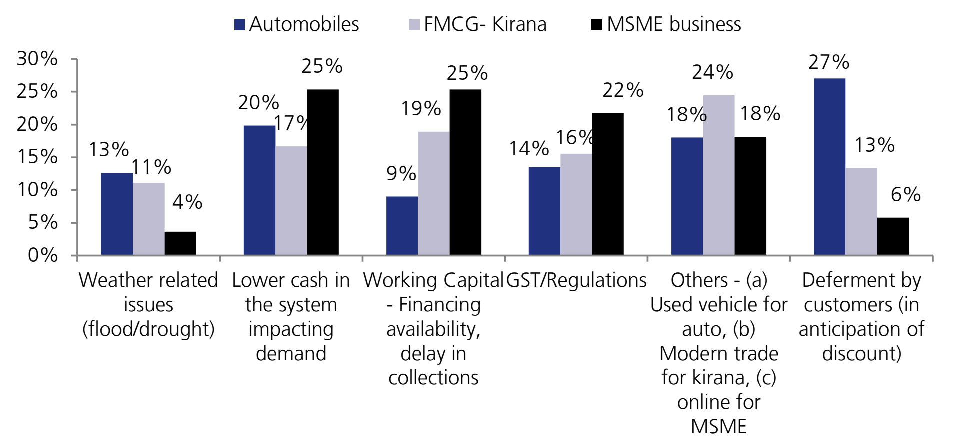
(a) Overall lower cash availability in the system from past continues to be cited as a major reason for slower business traction.

(b) The structural reforms such as GST / regulatory reasons continue be another key reason highlighted by small businesses.

Automobiles segment sales also suffers from high degree of deferment

(c) Availability of financing (delay in collections) clearly has come out as key issues across non-automobile businesses in our survey. A slowdown in credit disbursement, particularly from the NBFCs post the IL&FS crisis (Sep'18) continues to adversely impact the businesses and its effect increased by Sep'19 as compared to our survey in Mar'19. **In addition, there has been increasing concern around delays in collection across businesses indicating risk aversion in both the formal and informal channels (such as loans from temple trusts etc.).**

Exhibit 77. Key reasons impacting sales in the present quarter (among below 6) as highlighted in our surveys



Source: JM Financial, Note: Survey across India with a total of 113 dealers in 13 states

Exhibit 78. Additional feedback from our survey across channels

Automobile dealers	FMCG Kirana stores	MSME / small business
• Postponement of demand in anticipation of high discounts for the BS-IV to BS-VI transition • Higher sales decline as compared to walk-ins (10%+ YoY) across large majority of dealers, indicates high deferment of demand • No loss in sales because of any lack of financing at customer level	•Shift to modern trade is a key structural challenge faced by the traditional kirana stores in tier-3&4 towns of the country. • Credit delays have increased in past 5-6 months	•Electronics & apparel segments are particularly impacted by the shift to organised trade and also from online businesses. • Payment delays particularly in the past 6-7 months

Source: JM Financial

Non-farm income continues on a weak trajectory

Non-farm income continues to remain weak and has further deteriorated from our Mar'19 survey

Rural income is increasingly diversifying away from agriculture to non-farm income, which currently accounts for c.40% of the total agri-household income. Major sources of non-farm income are: **(a)** dairy and poultry, **(b)** wage-based occupation, **(c)** sand mining, **(d)** tractor rental income and **(e)** small businesses. **An increase in infrastructure activity creates jobs and aids rural income**. As the agri-economy improves, it is likely to create additional demand in the non-farm sector, including processing, transportation and packaging through backward and forward production linkages. However, this may only have a marginal-to-moderate impact on non-farm income. **Broader growth, to a large extent, depends on the degree of institutional investment as well as on other local conditions, which is in turn shaped by government policy.**

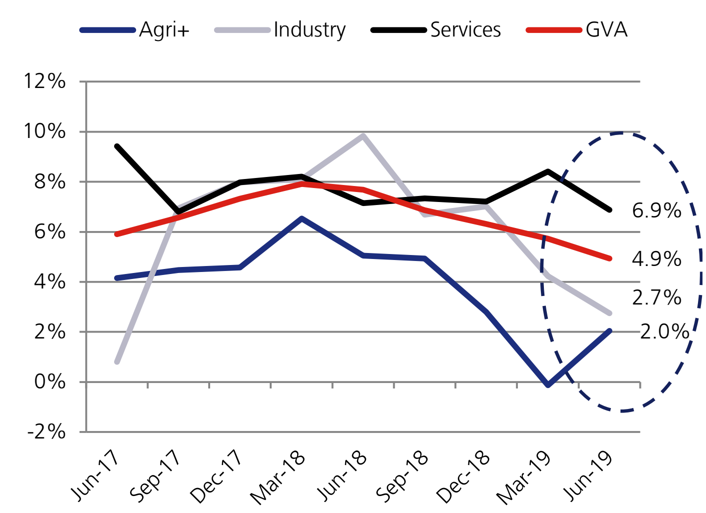
Non-farm income has been supportive earlier but we could clearly observe a weakening of economic activity across regions in Mar'19 (noted in the previous survey) and which has further deteriorated as we travelled across states in Sep'19.

While in Mar'19, there were impacts from lower farm prices in some regions (negative food inflation from 2nd half of 2018), impending general elections; we do believe a host of structural and cyclical reasons continue to be head-wind for the non-farm income growth even at present.

Key reasons which can be ascribed for the softness in non-farm income at present are -

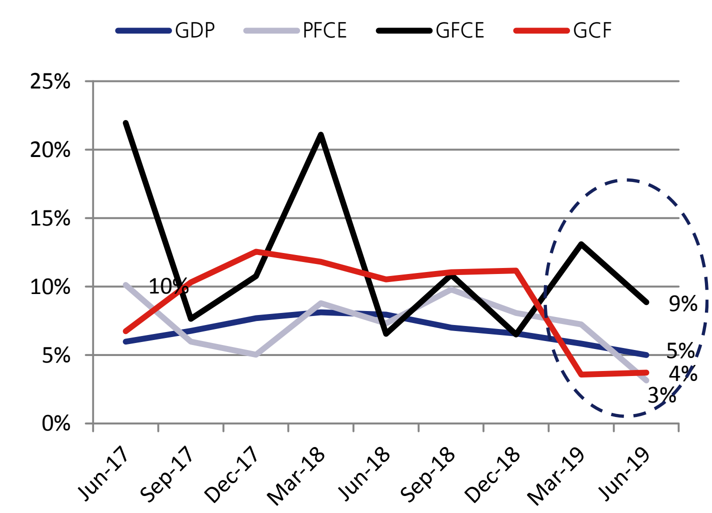
- A weak start to the government spending (centre+ states) in FY20
- Formalisation of the economy impacting the small business / MSME segment, and challenges in cash flow post lower disbursement by select NBFCs after Sep'18
- Regulatory / environmental driven restrictions on activities such as sand mining and brick kilns
- Weak real estate / construction demand, increased mechanisation impacting labour demand and therefore depressing rural wages

Exhibit 79. GVA growth (real) across non-agri economic activity has been on a weakening trend, adversely impacting non-farm income



Source: CMIE,JM Financial

Exhibit 80. GDP growth (real) by expenditure / demand – Declining trend in consumption/investment continued in 2QFY20



Source: CMIE, JM Financial, Note: PFCE: Private Final Consumption expenditure, GFCE: Govt. final consumption expenditure, GCF: Gross Capital Formation

The economic data points (exhibit above) and our later dealer survey, and farmer interactions highlights absence of any material recovery in economic activity levels in 2QFY20. We take a detailed look at the key factors impeding / aiding non-farm income growth.

(A) Weak non-farm income – Tepid start of government spending in FY20

Tepid Government spending in the first half of FY20

The government (central, cumulative) spending has been tepid in the calendar year 2019, with overall spending up by only 8% YoY up till Mar'19. In the back drop of general elections (Apr-May'19), government spending remained weak (declining capex expenditure till Jul'19) and was up by only 6% till Jul'19 and 10% by Aug'19, with capex growth of 3% YoY. The weak growth in government spending is reflected in the feedback from various stake-holders involved in the supply chain. **An acceleration in government spending is needed for a pick-up in non-farm economic activity levels and will be closely monitored.**

Exhibit 81. Central government spending started on a weak note in FY20

	FY19 spending (cumulative)			FY20 (cumulative)				
(INR bn)	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19
Capital expenditure	2,297	2,735	3,030	306	477	630	1,076	1,362
Revenue expenditure	17,718	19,153	20,085	2,241	4,653	6,587	8,397	10,391
Total	**20,016**	**21,888**	**23,114**	**2,547**	**5,130**	**7,217**	**9,473**	**11,753**
YoY (%)								
Capital expenditure	-13%	-8%	15%	-35%	-25%	-28%	-3%	3%
Revenue expenditure	12%	13%	7%	27%	14%	6%	8%	11%
Total	9%	9%	8%	14%	8%	2%	6%	10%

Source: CGA, JM Financial

Limited disbursement from PM-Kisan till Sep'19

In the union budget (Jul'19), overall, spending / outlay on key rural schemes + food subsidy was up by 20.3% YoY and slightly ahead of the earlier budgeted 19.7% YoY in the interim budget. The growth in FY20 is driven by the allocation of INR750bn for PM Kisan (FY19RE: INR200bn). **Excluding the PM-Kisan contribution, the growth in major rural schemes is at 7.6%YoY in FY20BE.** ey focus was on expanding the existing programs of providing LPG connections, infrastructure creation through roads and housing and on drinking water, among others.

The scheme was launched initially to benefit the marginal+ small farmers (agricultural land holding of less than 5 acres), and was extended to all farmer house-hold (on 31May'19). Our interactions with farmers indicated mixed feedback on the disbursements which is also reflected in the available data. Ist instalment (1st quarter 2019) was disbursed to 73.6mn farmers (c.54% of eligible house-holds), **but then the disbursements have been falling off in the next two quarters to 35%/12% for the 2nd and 3rd instalments.**

Need of Aadhar seeding of farmers is also a reason for slower disbursement of the instalments

The agriculture ministry is working towards improving the registration and verification process for farmers, but it could still take 2-3 quarters when coverage is extended to all the beneficiaries. **So, the income boost from the PM Kisan could be at best, limited in FY20.**

Exhibit 82. PM Kisan disbursements remain limited

States	Number of Farmers (mn)			PM-Kisan			PM-Kisan beneficiary as % of total		
	Marginal+ Small farmers	All Farmers	Beneficiaries by states	Ist instalment (Dec'18-Mar'19)	IInd instalment (Apr'19-July'19)	IIIrd instalment (Aug'19-)	Ist instalment	Iind instalment	IIIrd instalment
Uttar Pradesh	22.1	23.8	17.3	16.2	14.1	4.5	73%	59%	19%
Bihar	15.9	16.4	3.9	3.4	2.7	0.6	22%	17%	4%
Maharashtra	11.9	14.7	7.1	6.1	3.2	0.7	52%	22%	5%
Madhya Pradesh	7.6	10.0	4.1	3.4	1.2	0.0	45%	12%	0%
Andhra Pradesh	7.5	8.5	4.3	4.3	4.1	3.0	56%	48%	35%
Kerala	7.5	7.6	2.2	2.1	1.7	0.4	28%	23%	6%
Tamil Nadu	7.3	7.9	3.2	3.1	2.5	0.3	42%	31%	3%
Karnataka	7.0	8.7	3.6	3.5	3.3	0.3	50%	38%	4%
West Bengal	7.0	7.2	-	-	-	-	-	-	-
Telangana	5.2	5.9	3.4	3.3	3.0	2.0	63%	50%	33%
Rajasthan	4.7	7.7	5.1	4.0	3.4	1.2	84%	45%	15%
Odisha	4.5	4.9	3.1	3.0	0.9	-	67%	19%	0%
Gujarat	3.6	5.3	4.5	4.4	3.5	1.4	122%	66%	26%
Chhattisgarh	3.3	4.0	1.5	1.4	0.4	0.0	42%	10%	1%
Assam	2.4	2.7	3.0	2.7	2.3	1.0	113%	84%	35%
Jharkhand	2.3	2.7	1.5	1.1	0.6	0.2	49%	23%	7%
Jammu & Kashmir	1.3	1.4	0.8	0.8	0.7	0.5	59%	46%	36%
Haryana	1.1	1.6	1.4	1.3	1.2	0.7	118%	73%	43%
Himachal Pradesh	0.9	1.0	0.8	0.8	0.5	0.4	89%	55%	39%
Uttarakhand	0.8	0.9	0.6	0.6	0.4	0.2	75%	46%	28%
Others	1.58	2.67	2.06	1.99	1.67	0.18	126%	63%	7%
Total	**125.6**	**145.7**	**73.6**	**67.6**	**51.4**	**17.4**	**54%**	**35%**	**12%**

Source: PMKSY, JM Financial, Note: As of Oct3, 2019

State spending has slowed down in the initial months of FY20

Rural spending growth budgeted at 5% YoY in FY20BE, moderating vs.FY19RE: Overall, the states' total spending has moderated from 22% in FY19RE to 10% in FY20BE. Rural spending (c.30% of total expenditure) has also been budgeted at 5% YoY in FY20BE vs. 30% YoY growth in FY19RE and 20% over FY16-19RE. Among states, Telangana and UP have budgeted for a sizeable reduction, while AP, MP, Odisha, Kerala, Bihar have provisioned a healthy growth.

States have budgeted a 5% YoY growth in total spending in FY20 BE against average of 20% YoY over past three years

Exhibit 83. Rural spending has moderated in FY20BE for a majority of states

	Rural Spending (INR bn)					YoY (%)			
Total Rural Expenditure	FY16	FY17	FY18	FY19RE	FY20BE	FY17	FY18	FY19RE	FY20BE
Andhra Pradesh	228	285	254	304	439	25%	-11%	20%	44%
Madhya Pradesh	234	333	301	430	489	43%	-10%	43%	14%
Odisha	198	227	240	297	349	14%	6%	23%	18%
Kerala	95	101	94	113	160	6%	-6%	20%	42%
Bihar	200	215	254	342	384	8%	18%	35%	12%
Karnataka	262	297	372	508	545	13%	25%	37%	7%
Jharkhand	90	139	129	181	203	54%	-7%	41%	12%
West Bengal	244	217	291	356	368	-11%	34%	22%	3%
Haryana	69	86	97	123	134	26%	12%	27%	9%
Rajasthan	206	216	265	284	294	5%	22%	7%	3%
Tamil Nadu	200	209	200	263	269	4%	-4%	31%	2%
Punjab	92	101	102	189	193	9%	1%	85%	2%
Chhattisgarh	97	141	155	289	284	45%	10%	87%	-2%
Maharashtra	309	370	510	600	590	20%	38%	18%	-2%
Gujarat	191	192	233	285	264	1%	21%	22%	-7%
Uttar Pradesh	316	378	618	683	629	20%	64%	10%	-8%
Telangana	227	292	248	436	358	29%	-15%	76%	-18%
Rural spending	**3,259**	**3,799**	**4,362**	**5,683**	**5,953**	**17%**	**15%**	**30%**	**5%**

Source: State budgets, JM Financial, Note: States arranged in order of increase in absolute amount of YoY spending

State income benefit schemes to aid income growth

Over the past year, a few states have also announced income transfer schemes, with the most notable being the Rythu Bandhu scheme from Telangana As per our feedback and also various media reports indicate a very effective implementation of the scheme in the state of Telangana, **while there are various issues such as beneficiary identification, access to digital land records etc. in other states and would likely lead to a delayed benefit from the schemes. In addition to the income support schemes, there are farm loan waivers which will be implemented in some states, partly aiding consumption expenses.**

Telangana, UP, Gujarat, Maharashtra, Chhattisgarh have budgeted YoY decline in spending in FY20BE; AP, Kerala, Odisha, MP, have budgeted good growth

Exhibit 84.Farm loan waiver over the past few years

INR bn	FY15	FY16	FY17	FY18	FY19RE	FY20BE
Uttar Pradesh	-	-	-	211	55	5
Maharashtra	-	-	-	150	68	4
Karnataka	-	-	-		65	65
Chhattisgarh					30	15
Punjab	-	-	-	3	55	30
Rajasthan	-	-	-		30	32
Andhra Pradesh	50	7	35			
Telangana	42	40	40			
Madhya Pradesh (announced INR500bn)					NA	NA
TOTAL	92	47	75	364	303	151

Source: State budgets, JM Financial, Note: The allocation for Maharashtra is interim and MP is unavailable

Exhibit 85. Direct income transfer and farm loan waiver schemes have been announced by 13 states so far

States	Scheme	Assembly elections	Announced	FY20BE allocation (INR bn)	Comments (media/ budget speech)
Telangana	Rythu Bandhu (Direct Income transfer)	December 2018	10-05-2018	120	Providing investment support, i.e. providing INR 4,000/- per acre each season to all farmers for purchase of inputs like (1) seeds, (2) fertilisers, 3) pesticides & (4) other investments in the field operations, of farmers' choice, for the crop season. In the Budget of 2019-20, income support under Rythu Bandhu scheme was raised by INR 1,000 (to INR 5,000) per acre per season
Jharkhand	Direct income transfer: Mukhaymantri Krushi Ashirwaad Yojna	2HCY19	21-12-2018	20	Announced an INR 22.5 billion scheme to the state government. Will give INR 5,000 per acre to 22.76 lakh medium and marginal farmers of the state to double their income by 2022.
Odisha	KALIA: Krushak Assistance for Livelihood and Income Augmentation	Apr-May 2019	22-12-2018	45	Assistance from i) cultivation: INR 25,000 per farm family over 5 seasons, the assistance has been aligned to two agricultural seasons of Kharif and Rabi and shall be provided on Akshaya Tritiya and Nua Khai days, every year ii) livelihood (INR 12,500 each landless agri. households) - esp benefit SC/ST, iii) Vulnerable agri-households: cultivators / landless agricultural labourers will get financial assistance of INR 10,000/- per family per year to enable them to take care of their sustenance. The vulnerable cultivators / landless agricultural labourers who are aged, having disability / disease and are vulnerable for any other reason. The scheme also includes i) Life insurance cover of INR 0.2 million at a very nominal premium of INR 330/- will be provided to all savings bank account holders aged between 18-50 years, and iii) interest-free crop loan for vulnerable landless labourers, cultivators, share croppers and agricultural families identified by gram panchayats.
West Bengal	Krishak Bandhu: Direct Income transfer	2021	31-12-2018	32	7.2 million farmers and Bhagchasis (Share cropper of the state owning agri land will be given every year an assured grant of INR 5,000 up to 1 acre of land, in two instalments. Those with land less than 1 acre, will be given grant on proportionate basis depending on the size of the land with minimum guarantee of INR 2,000 every year, in two equal instalments. Additionally, one time grant of INR 0.2 million will be given to the family of under Krishak Bondhu on the event of death.
Andhra Pradesh	Direct Income Transfer: Annadatha Sukhibhava	Apr-May 2019	05-02-2019	50	After announcement of the scheme in the budget, the state declared in early Feb'19 that total financial assistance stood at INR 10,000 per year (of which, Centre would pay INR 6,000 as per PM-KISAN), while the state contributes INR 4,000 per year for the 5.5 million farmer families in the state. In Oct'19, the new state Govt of Jagan Mohan Reddy announced a new scheme, Rythu Bharosa which entails payment of INR12,500/farmer (including to lesse farmers)
TOTAL				267	

Source: Budget documents, JM Financial; $ Budget docs awaited; #: Relevant documents unavailable; @ Not given in budget documents, but if we assume that indeed INR90bn is spent by the state, the farm loan waiver costs would surge to INR 630bn, 30bps of the GDP

Actual spending by states (total) has been trending on a slow pace in FY20

We also tracked total expenditure by the states (for 16 large states) and in FYTD'20 (Apr-Aug'19), it had increased by only 5.8% YoY against 14.5% growth last year. Capital expenditure has seen a lower pick-up in FY20 and recorded growth of only 1.5% against 22% YoY growth in last year. **A pick-up in spending by states would be a key requisite for acceleration in non-farm growth.**

Total state spending grew 5.8% YoY in YTDFY20 against 14.6% increase last year

Exhibit 86. State spending has been subdued in the first part of FY20 (Total expenditure)

	Total expenditure (INR bn)			FYTD19 – YoY (%)	FYTD20 – YoY (%)
State	FYTD18	FYTD19	FYTD20		
Maharashtra	864	902	1,147	4.4%	27.1%
Haryana	293	308	433	5.3%	40.3%
UP	922	1,153	1,256	25.1%	8.9%
Karnataka	649	647	722	-0.3%	11.6%
Chhattisgarh	231	274	329	18.7%	20.1%
Gujarat	491	548	600	11.5%	9.6%
Tamil Nadu	694	816	858	17.5%	5.2%
Jharkhand	223	214	240	-3.9%	12.2%
Odisha	337	378	390	11.9%	3.3%
MP	537	655	662	21.9%	1.1%
Punjab	216	260	261	20.0%	0.7%
Rajasthan	477	700	693	46.8%	-0.9%
WB	560	589	578	5.0%	-1.8%
Kerala	488	513	496	5.0%	-3.4%
Telangana	470	518	499	10.4%	-3.8%
AP	539	680	523	26.3%	-23.1%
Aggregate	**7,990**	**9,153**	**9,686**	**14.6%**	**5.8%**

Source: CAG, JM Financial, Data as of Apr-Aug'19

Capex by states was muted at 1.5% YoY in YTDFY20 against 22% YoY growth in YTDFY19

Exhibit 87. Capital expenditure by states in initial FY20 has been lacklustre

	Capital expenditure (INR bn)			FYTD19 – YoY (%)	FYTD20 – YoY (%)
State	FYTD18	FYTD19	FYTD20		
Haryana	38	56	116	45.6%	107.3%
Tamil Nadu	65	57	105	-11.9%	82.6%
Karnataka	56	54	93	-3.9%	72.1%
Maharashtra	97	60	80	-37.7%	33.0%
MP	80	95	113	18.3%	19.2%
WB	35	36	46	3.0%	29.3%
Kerala	30	33	40	11.6%	20.6%
UP	51	158	163	211.9%	3.2%
Gujarat	65	87	92	32.7%	5.8%
Jharkhand	48	45	47	-5.7%	3.5%
Punjab	6	11	11	70.7%	4.4%
Chhattisgarh	28	32	29	16.5%	-10.8%
Telangana	112	120	93	6.8%	-22.6%
Odisha	81	86	56	6.6%	-34.6%
Rajasthan	57	93	58	64.6%	-38.0%
AP	100	135	34	34.7%	-75.1%
Aggregate	**948**	**1,158**	**1,175**	**22.1%**	**1.5%**

Source: CAG, JM Financial, Note: Data as of Apr-Aug'19

(B) Weak non-farm income – Challenge from formalisation, GST transition

Over our travels and interactions with SMEs across the country, we continue to get feedback around operational challenges for the unorganised sector / small stores. The new taxation regime (GST, implemented from Jul'17) and the usage of e-way bills for transportation of goods which are aiding the formalisation of the economy have also been impacting the traditional supply chains, business models. We also found a number of small businesses contemplating a change in their businesses or ways to increase compliance. **In the short-term, this would entail a lower discretionary consumption from these traditional small businesses.**

Exhibit 88. A change in traditional supply chain / formalisation is driving small businesses to restrict discretionary spending

Traditional grains broker, Jaipur mandi, Rajasthan

- The broker acts as an intermediary between the mandi dealers and semi-retailers/retailers for different varieties of rice. Has been in this trade for 20 years..
- Over the last few years, volumes have reduced 60-75% for his business. Big stores have opened which have eliminated intermediaries.
- This broker is contemplating changes in his business model going forward.

Apparel retailer, Jaunpur, UP

- A small town such as Jaunpur has seen opening of 10-12 value retail stores (Vmart, V2 retail, CV mart) etc. along with stores such as Reliance Trends.
- The turnover of traditional apparel stores has come down to 40-50% levels in the past three years, as the organised stores have increased.
- Out of 10 apparel store in a major street, 4 have closed, 2 have changed their business itself (moved in food products) and rest four are contemplating changes for future.

Building materials distributor, Indore, MP

- There have been changes in distribution model in a few product categories, at least in building materials.
- Earlier, the manufacturing and distribution were entirely separate and entire sales was managed by the distributor.
- Given the weak sales in last 2-3 years, some manufacturers have also started contracting directly with B2B customers (builders for example) and directly selling them at a lower price than that of the distributor.

Tour operator, Rohtak, Haryana

- The tour operator used to book international clients for visits in India.
- He would book the hotels based on client itinerary and get it paid through the client.
- All the bookings in India were in cash and in the end, he would take his commission in cash.
- As per the operator, the complexity of filing his taxation returns is leading him to take up less business.

Source: JM Financial

There has been steady expansion of value retail across many states of India, and even if we consider a sub-section of companies such as (V-Mart, V2-Retail, Reliance Trends, Vishal Megamart etc.), their strength has expanded from c.460 in FY15 to c.1,330 by Jun'19. Even in states such as UP and Bihar, there has been steady expansion of organised stores leading to increased competition for the smaller businesses. **In addition to these players, there are many more organised retailers such as CV Mart, V-Bazar, One India Bazar, bazar Kolkata etc. adding to the organised retail channel.**

Exhibit 89. Increase in organised retail across tier-2 / 3 / 4 towns adversely impacting cash flows for traditional

Apparel organised stores	FY15	FY16	FY17	FY18	FY19	Jun'19
V-Mart	108	123	141	171	214	227
V2-Retail	NA	22	37	49	77	77
Reliance Trends	200	271	344	458	676	707
Vishal Megamart	150	172	189	204	322	322
Sub-total	**458**	**588**	**711**	**882**	**1,289**	**1,333**
Pantaloons	133	171	209	275	308	323
Total	**591**	**759**	**920**	**1,157**	**1,597**	**1,656**
Apparel organised stores (V-Mart, V2-Retail, Vishal Megamart, Pantaloons)						
UP	130	157	206	255	309	349
Bihar	48	62	100	116	140	145

Source: Company, Media reports, JM Financial

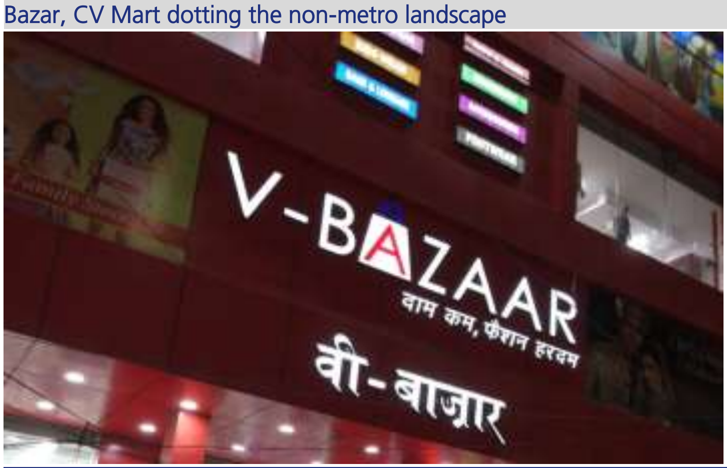
Exhibit 90. A Vmart store in Jaunpur

Source: JM Financial

Exhibit 91. Increase in value retail presence –V2 retail

Source: JM Financial

Exhibit 92.Value retail store – V-Bazaar and many others such as m-Bazar, CV Mart dotting the non-metro landscape



Source: JM Financial

Exhibit 93. Value retail store – Bazar India

Source: JM Financial

Exhibit 94.Increased visibility of overall organised stores across categories

Source: JM Financial

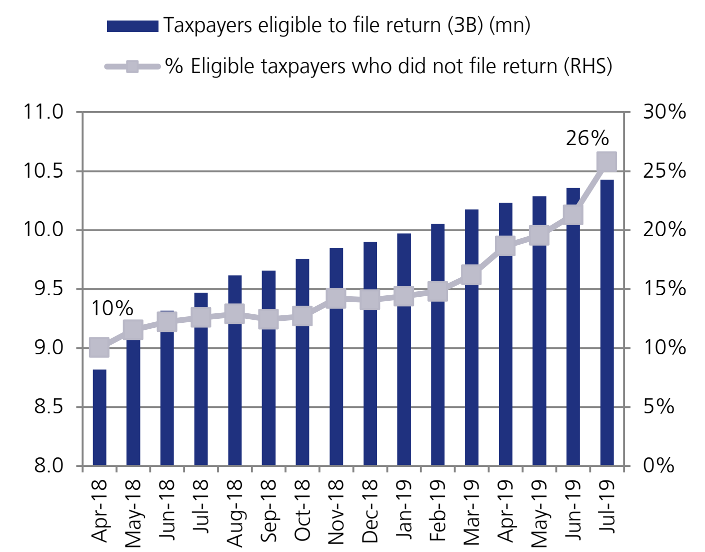
Exhibit 95. Increased acceptance and usage of online based products / services across non-metro India

Source: JM Financial

High non-compliance of GST indicates filing challenges not yet over

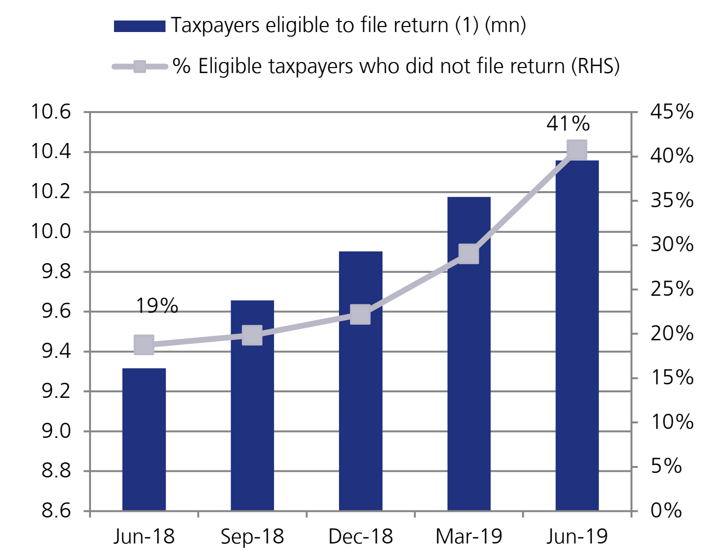
Over the past two years, we continue to get feedback on the complexity of tax filings under GST from the SME and small businesses. Available data at an aggregate level also indicates non-compliance of tax filing remains high (25 %+), and therefore government needs to explore ways to inform/assist small businesses to improve compliance going ahead.

Exhibit 96. Share of non-compliance on GST filing continues to increase – 26% by end Jul'19 vs. 10% at Apr'18



Source: GSTN, JM Financial, Note: Status as of 8th Sep 2019

Exhibit 97. GST filing (composition dealers) – Non-compliance continues to increase higher for quarterly filing



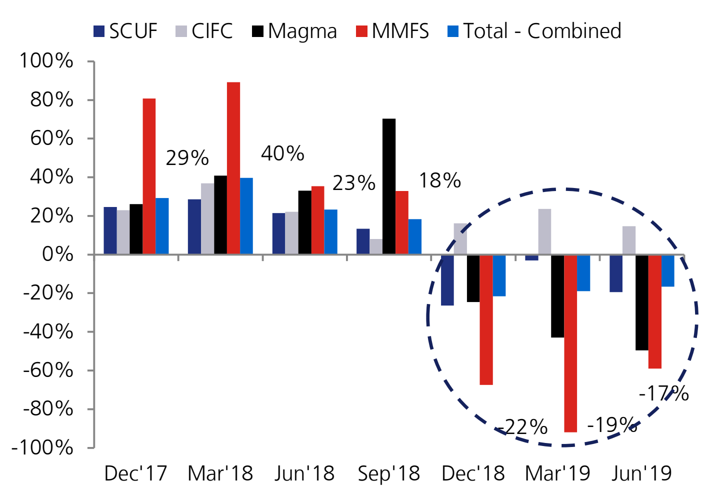
Source: GSTN, JM Financial, Note: Status as of 8th Sep 2019

Credit challenges post Sep'18 further exacerbates challenges for the small businesses

A large segment of the informal / rural / SME segment has benefited from the credit availability from NBFC's over the past few years. However, post the liquidity challenge after IL&FS crisis (Dec'18 quarter), disbursements across NBFC's had slowed down, impacting cash flows and delaying payments across the supply chain, as we consistently found during our interactions.

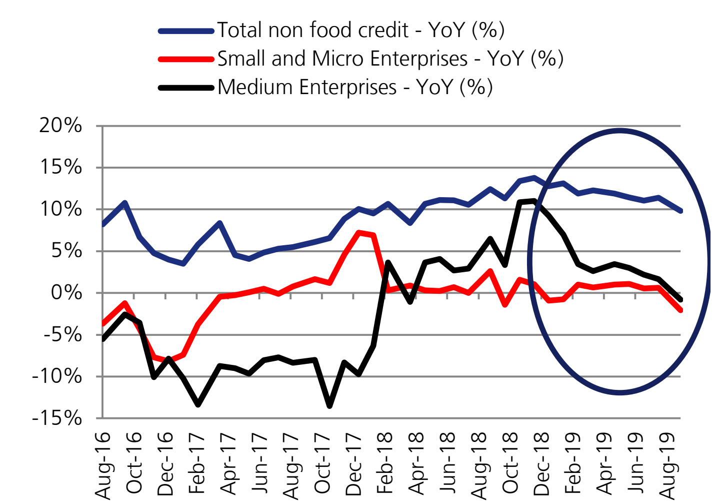
Credit growth in business loans has been decreasing YoY by select NBFCs

Exhibit 98.Disbursement trend (YoY %) across business (SME) loans from select NBFC's has turned negative in past few quarters



Source: Company, JM Financial

Exhibit 99. Banking credit growth (YoY %) on slowing trend, credit growth to SME (manufacturing) further languishes

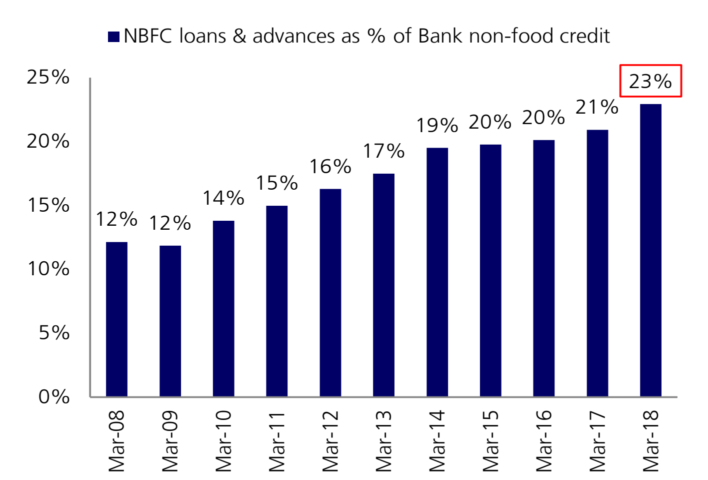


Source: RBI, JM Financial

Overall, the credit growth has been decelerating and a reversal is essential for a pick-up in economic activity and non-farm income. A large part of our house-hold consumption has been driven by increase in debt as reflected by increase in the house-hold debt/GDP share inching up over the past few years.

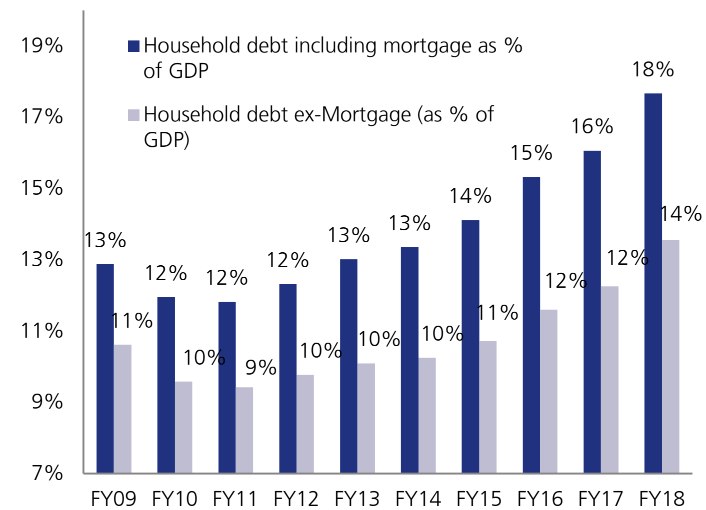
As credit growth slows down / decelerates, a significant amount of consumption linked with available financing also gets impacted.

Exhibit 100. Over the years, NBFCs have increased their share in overall credit – Weakness in credit disbursement from NBFC's for the past year has impacted economic activity



Source: Company, JM Financial

Exhibit 101. Consumption aided by increase in leverage – Debt / GDP has been increasing over the past few years



Source: RBI, JM Financial

Exhibit 102. Financing offers have aided in consumption across consumer categories

Source: JM Financial

Exhibit 103. Consumer durable financing reaching smaller towns

Source: JM Financial

(C) Weak non-farm income – Restriction on sand mining, regulations on brick kiln activity

Sand mining is among the activities which have seen a marked shift in rural India driven by regulatory / political changes. According to the Ministry of mines, India consumed around 700 million tonnes of sand in FY17 for construction related activities. On an average the ratio of sand / cement usage is 2.5x and overall sand demand has been increasing at a 7% pa run rate.

In India, the main source of sand is from river beds, in-stream mining, coastal areas and agricultural fields. Among all the sources, river beds are the most common and prevalent source of sand in the country. Sand is mined / removed from these areas either manually or through mechanical extractors. Historically, in the absence of strong regulations and regulatory frameworks, and widening supply and demand gap, unregulated and illegal sand mining from rivers was fostered in rural India. Over the years, a significant proportion of the rural populace gained from these activities as it not only provided alternative employment opportunities but also offered higher wages.

Moreover, in the last 2-3 years, some states have explored alternative options to river sand such as M-sand and imported sand, with a few others considering the use of sand from the overburden of coal mines. A combination of these factors has narrowed the supply-demand gap and led to a correction in river sand prices. This in turn has led to a significant decline in river sand mining activities in most parts of the country, directly affecting rural employment and wages.

Exhibit 104.Sand mining continues to see disruption in many states

Source: JM Financial

Exhibit 105. Brick kiln operations under increasing scrutiny

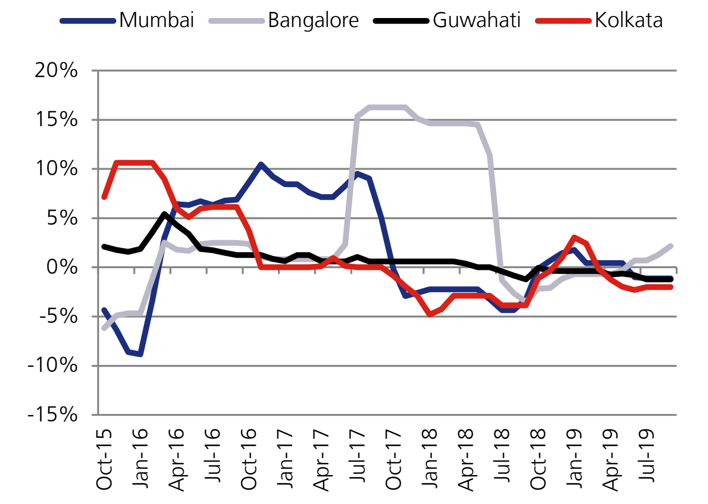
Source: JM Financial

India has estimated c.2,00,000 brick kilns in the country

India's brick kiln industry is the second largest in the world behind China. There are an estimated 200,000 brick kilns spread across the country, of which a significant proportion is located in the Delhi NCR region, producing more than 200 billion bricks per annum (13% of global production) and providing employment opportunities to around 10 million people (mostly rural populace). On the flip side, around 60% of the brick kilns in the country are either unregistered or illegal (less than 0.1% brick production in India is industrialised, compared to 40% and 80% in the UK and US, respectively), and are primarily dependent on the traditional and highly polluting fixed-chimney bull's trench kiln technology. **There have been various regulatory changes over the past few years necessitating changes in technology, and better pollution control leading to closure of many units, therefore impacting jobs and overall wages in rural India.**

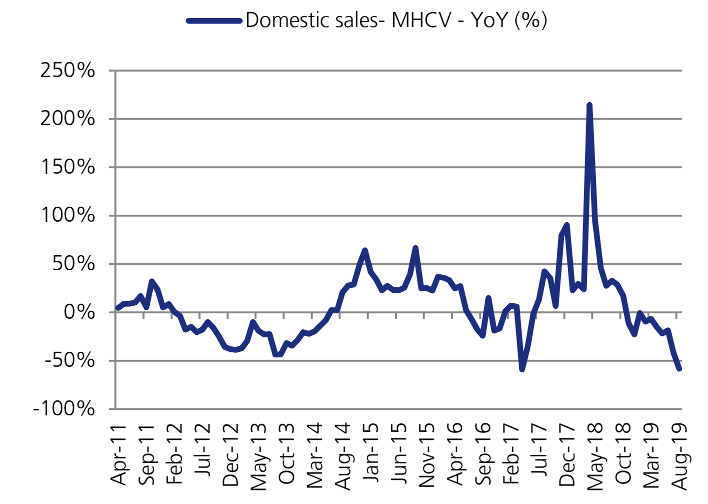
Weak CV profitability

Exhibit 106. CV Freight rates (Delhi to various cities, YoY %) have not seen uptick in recent periods



Source: CMIE, JM Financial

Exhibit 107. MHCV sales trend has been extremely weak, recovery could be gradual



Source: SIAM, JM Financial

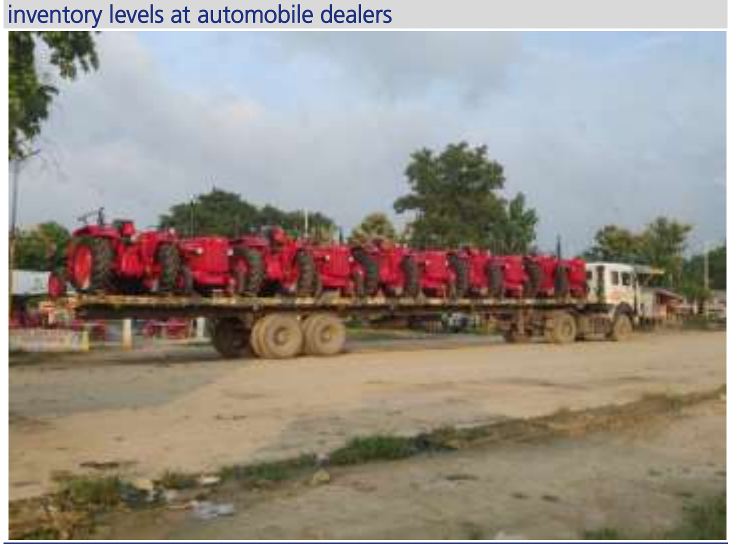
During our interactions across states, one clear feature was the overall decline in commercial vehicle profitability in the past few months. The freight rates have been soft on a declining trend over the past almost 2-2.5 years, accentuating the profitability for CV industry. The restrictions on sand-mining / brick kiln activities mentioned earlier has also led to lowering of demand. Additionally, weather related disruptions (floods) in many states during July-September period has led to lowering of business for many operators and therefore impacted their cash flow and therefore the repayments.

CV profitability has come under high pressure on account of weak freight rates, lower utilisation because of adverse weather in 2QFY20

Exhibit 108.. CV profitability under pressure

Source: JM Financial

Exhibit 109. Many CV operators had to delay shipments given high inventory levels at automobile dealers



Source: JM Financial

Box 1: CV profitability under pressure, normalisation to be gradual

Truck operator, Belgaum, Karnataka

- The companies which hire trucks have been re-negotiating with the truck operators and preference is shifting towards larger operators who have better accounting infrastructure and can offer lower rates.
- This is leading to delays in payments from the owner cum driver operator models
- In addition, because of the rains, trucks have done 2 trips/month (Aug-September) as compared to 4-5 trips/month, leading to lower cash flow

Operator between Varanasi and Delhi

- Freight rates are down, Earlier for the same route they used to get INR37,000. Now they are getting INR 30,000
- He blames it on the overcapacity in the system and weak demand. He does not expect improvement in the near term.

Operator based out of Burdwan, Bengal

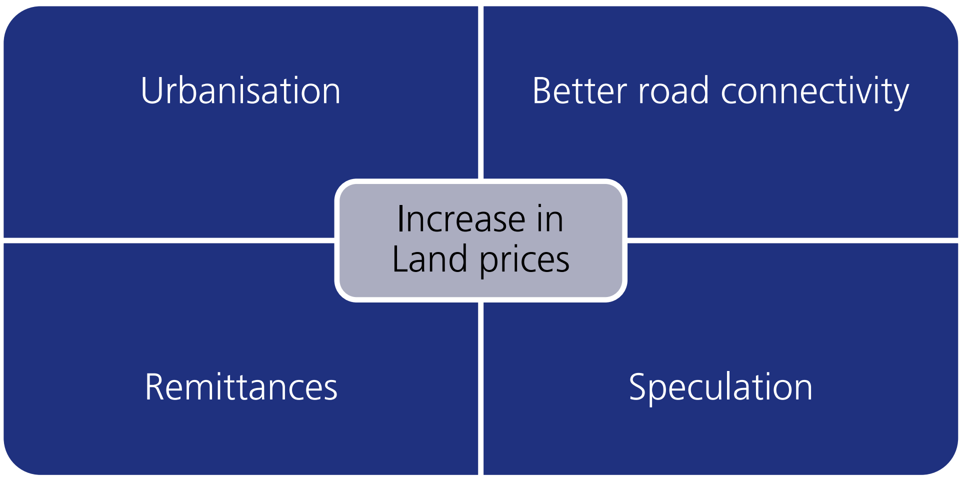
- Ban on overloading is hurting WB operators severely. For example Bengal based trucks can load 20tns while other states (Bihar, Jharkhand, others) go with 25tns.
- The average profitability per trip has been INR10,000-15,000 per trip leading to income of INR40,000-60,000 per month per truck. The state based truck operators in particular are missing on the income leading to stress on their cash flows.
- Demand for freight is slow even though Durga puja is starting.

(D) Weak non-farm income: Wealth effect remains weak, impacting large-ticket consumption

As highlighted in our earlier reports, rural land prices that had skyrocketed by 5x-10x over the past decade on improved road connectivity, urbanisation, remittances and speculation, have been soft for the past few quarters. We are yet to encounter a sustained increase in rural land prices and barring regions adjacent to urban areas or where large infrastructure projects are coming up, we do not see much evidence of land transactions taking place as yet.

Land prices have softened after Demonetization with a sharp decline in transaction volumes

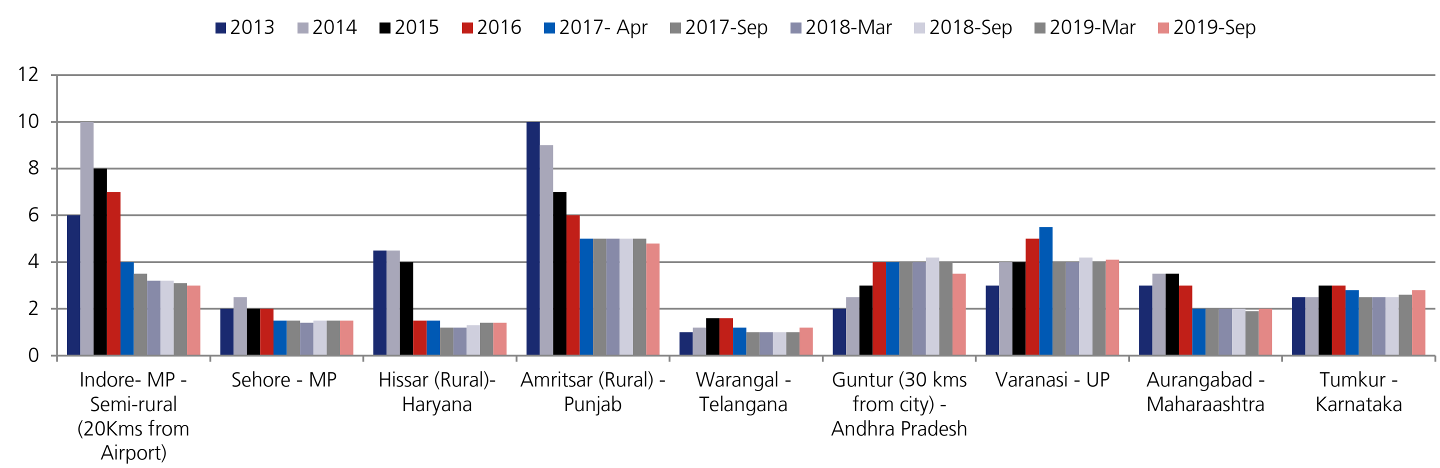
Exhibit 110. Key factors for increase in land-prices over the past decade



Source: JM Financial

Land prices, on average, were weak after 2015, and after Demonetization (Nov'16), transaction volumes significantly eased. Measures to reduce the flow of black money, leading to restrictions on cash-based transactions, disruptions through GST implementation and lack of speculation continue to affect real estate prices across regions

Exhibit 111. Rural land prices (INR mn / acre) yet to show an uptick



Source: JM Financial

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During our current visit, we continued to witness overall pressure on land prices. We could see limited positive momentum in states such as Bihar, eastern UP benefiting from the urbanisation efforts. We also encountered a positive trend in Telangana which is benefiting from the land record conversion in digital format under Rythu bandhu scheme, and therefore increased transparency is leading to improvement in land transactions. In the neighbouring

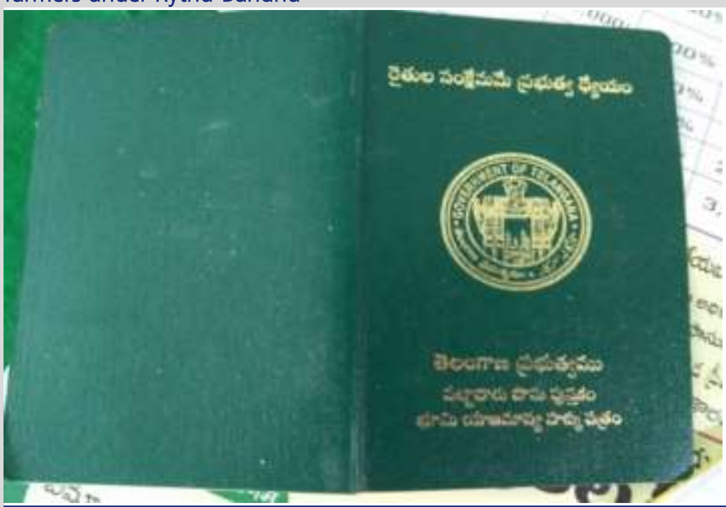
Andhra Pradesh, we found a subdued trend, particularly after the change in the capital city to Amaravati, which had driven land prices near the region.

Box 2: Improvement in land record management aiding in land transactions (Telangana)

The government of Telangana had issued Pattadar passbooks (land-owners) with unique IDs for farmers (similar to bank passbooks) wherein land records, tenant details, disbursements from state govt. etc. are recorded.

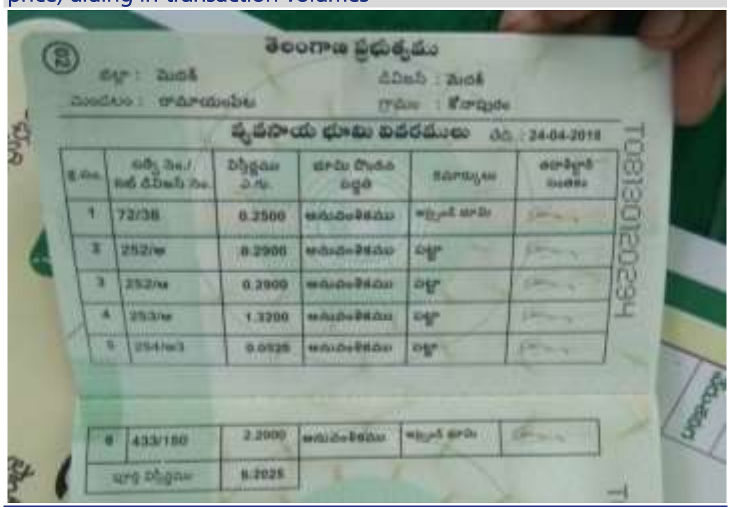
With the IDs, the agriculture is able to track the disbursement / payment status of schemes like Rythu bandu to help farmers on information/queries. With land record digitisation done for Rythu-Bandu and with the passbook etc, there has been increase in confidence on land records and anecdotally it is resulting in an increase in land transactions as well as supporting the prices.

Exhibit 112. Pattadar Pass books (Telangana) – Issued to land-owning farmers under Rythu-Bandhu



Source: JM Financial

Exhibit 113. Increase in transparency of land record (transaction, price) aiding in transaction volumes



Source: JM Financial

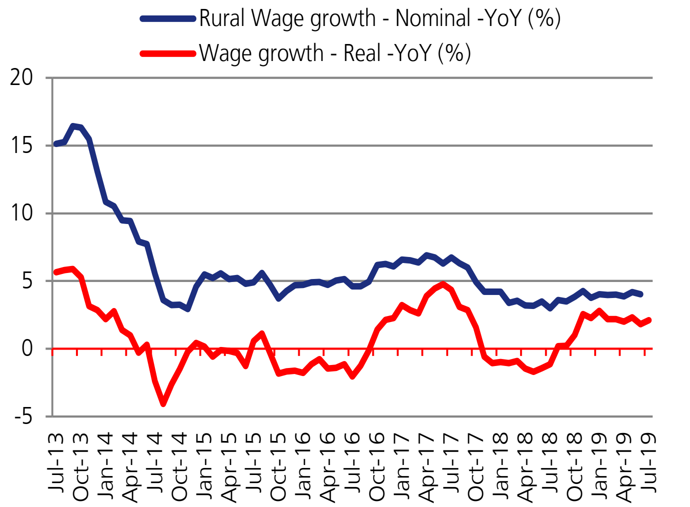
Box 3: Income growth for agri-lands near urban regions

- The expansion of economic activity in urban areas also benefits its adjacent rural regions by increasing the scope of economic activity. Higher economic activity/business investments translate into demand for land for processing/packaging units to ware-houses etc. These provide the erstwhile rural population an alternative, which is manifold as compared to the realisations from pure agriculture.
- As an example, rural regions adjacent to Bangalore (Neelamangala, Hoskote) benefit from demand from warehouses from various companies. At the prevailing rate of INR1.5/square foot, this translates to an income of INR 65K / acre or almost INR0.8mn / acre on annual basis. The return of INR 0.8mn/acre from land rental translates to 10-15x returns from cereals or pulses cultivation and at least 5x+ from commercial crops.

Wage growth rate languishes; MGNREGA work demand increases

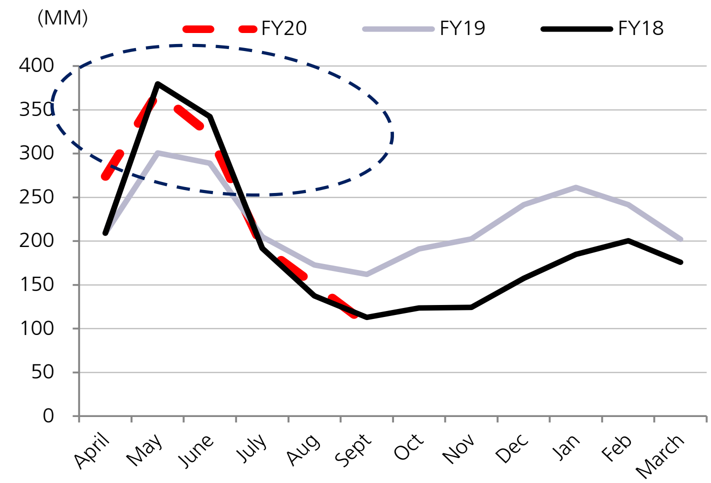
Rural wage growth remains lacklustre and has been growing at sub-5% YoY. The demand for work under Mahatma Gandhi National Rural Employment Guarantee act (MGNREGA) was flat during FY17 and FY18, but had seen a jump of 14% YoY in FY19, indicating reducing work opportunities in other areas. Even in 1HFY20, overall work demand has increased by 6% YoY from the previous period, indicating weakness in job availability.

Exhibit 114. Rural wage growth continues to remain lacklustre



Source: CMIE, JM Financial

Exhibit 115. MGNREGA work demand (person days, millions) increased in 1HFY20 (6% over 1HFY19), indicating weakness in labour market



Source: nrega, JM Financial

Exhibit 116.AP – Higher visibility of labour in the Vijaywada / Guntur region post stoppage of work at Amaravati

Source: JM Financial

Exhibit 117. Weak construction activity leading to pressure on wages

Source: JM Financial

What has been traditionally supporting non-farm income - Steady infrastructure spending

(A) Rural housing completion varies significantly across states - Bihar improves performance

Rural housing under PMAY-G is one of the government's flagship schemes and has been a key driver of demand for rural wages, cement, building material and electrical appliances in construction areas. The total sanctions under the scheme (FY17 onwards) is now 12.7mn (as of Oct'19), and 8.4mn houses have been completed indicating 67% completion.

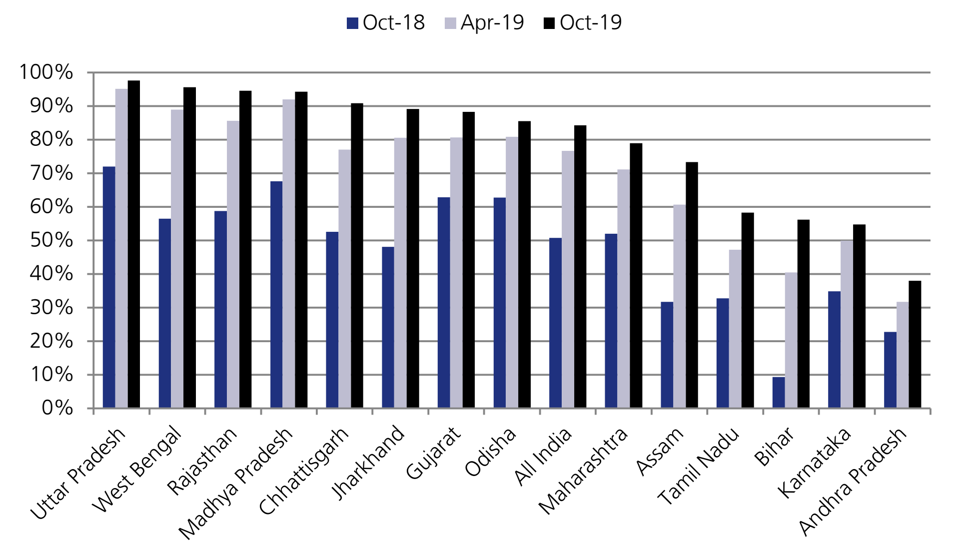
Exhibit 118. Progress of rural housing

State	Sanctions (mn)	Share of Sanctions (%)	Progress by instalments paid (mn) 1st	3rd	Completed	Progress As % of sanctioned 1st instalment paid	3rd instalment paid	Completed
West Bengal	1.8	14%	1.4	1.4	1.3	79%	75%	74%
Madhya Pradesh	1.8	14%	1.7	1.4	1.3	98%	79%	75%
Bihar	1.5	12%	1.2	0.6	0.7	83%	44%	45%
Uttar Pradesh	1.4	11%	1.4	1.3	1.3	99%	89%	89%
Odisha	1.4	11%	1.3	0.9	0.8	91%	65%	60%
Rajasthan	1.0	8%	0.9	0.7	0.7	92%	66%	66%
Chhattisgarh	0.9	7%	0.9	0.7	0.7	96%	78%	76%
Jharkhand	0.8	6%	0.8	0.5	0.5	98%	60%	59%
Maharashtra	0.7	5%	0.6	0.4	0.4	88%	57%	54%
Assam	0.4	3%	0.4	0.2	0.2	94%	52%	50%
Tamil Nadu	0.4	3%	0.3	0.2	0.2	88%	57%	54%
Gujarat	0.3	2%	0.2	0.2	0.2	97%	63%	71%
Karnataka	0.1	1%	0.1	0.1	0.1	75%	60%	57%
Andhra Pradesh	0.1	1%	0.1	0.0	0.0	77%	55%	56%
Others	0.2	2%	0.2	0.1	0.1	88%	65%	62%
Total	**12.7**	**100%**	**11.5**	**8.6**	**8.4**	**91%**	**68%**	**67%**

Source: iay, JM Financial, Note: Progress as of Oct'19

Among states with major targets, Bihar had historically lagged in completion, but has seen a step-up in recent months and as of Oct'19, **has paid the 1st instalment for 83% of sanctioned house-hold, only marginally lower than 91% for national average. Even in percentage terms, Bihar has seen an improvement in completion the past six months.**

Exhibit 119. Completion of PMAY houses as % of initial target – Among states with large allocations, Bihar continues to drag down overall performance



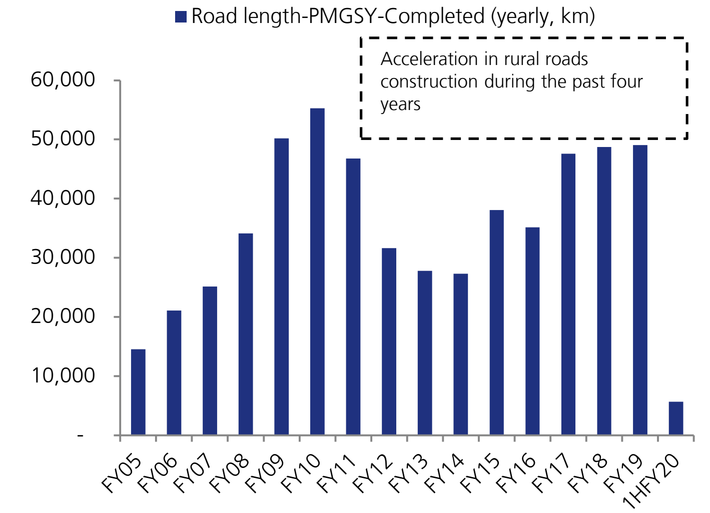
Source: iay, JM Financial

Bihar has been a laggard for many years; turn-around is a positive for the scheme

(B) Road construction had been strong over the past few years, start has been tepid in FY20

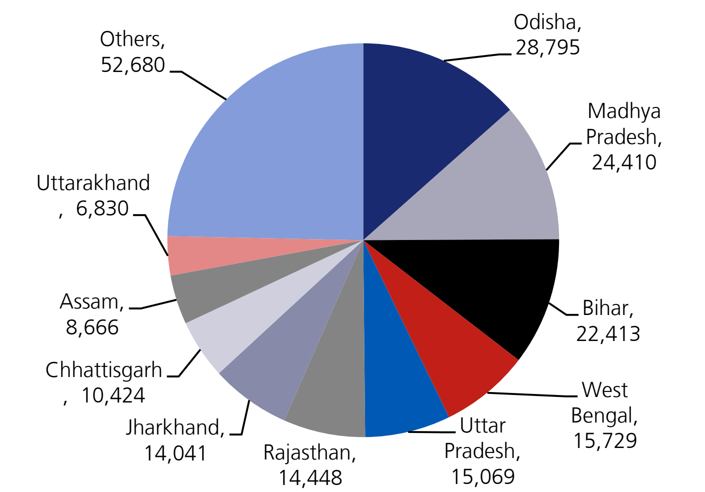
The construction of road infrastructure (rural roads) has seen a healthy jump to c.45-50,000 kms / year from 30,000 kms/year a few years ago. Among states, Odisha, Madhya Pradesh, Bihar, West Bengal, UP account for c.50% of the roads constructed over the past four years. **Improved road infrastructure is reflected in increased demand for automobiles and driving initial signs of a shift from motorcycles to scooters in rural hinterlands.**

Exhibit 120. Road construction has been healthy in the past few years



Source: PMGSY, JM Financial

Exhibit 121. State-wise construction of PMGSY roads in India – Top 5 states led by Odisha account for 50% of roads made (FY15-19)



Source: PMGSY, JM Financial

The other major areas of investments is likely to be in the expansion of piped drinking water program ([India Strategy | Nal Se Jal –Piped water for all](#)). In addition the recent floods would also increase work towards house / road construction repairs across many states.

Exhibit 122. Piped water – Expansion of piped water in a Belgaum (village), Karnataka

Source: JM Financial

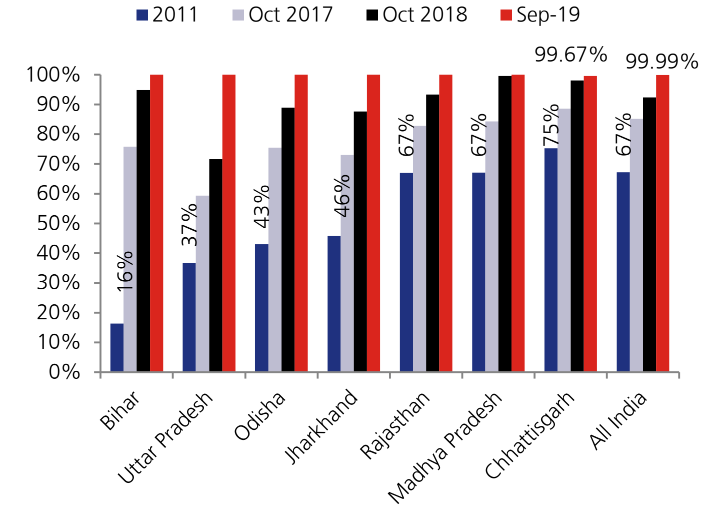
Exhibit 123. Flood related home improvements investments could see an uptick in many states

Source: JM Financial

(C) Increased electricity access benefiting north and east India

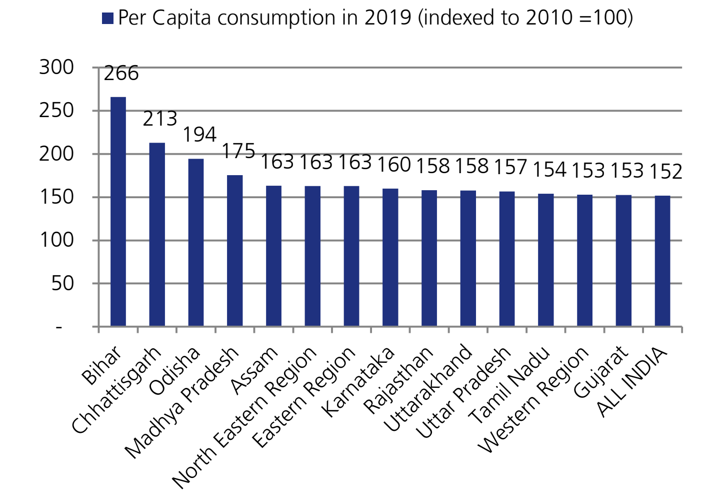
At an all-India level, 67% of households had been electrified until 2011, which improved to 85% by Oct'17 and 92% by Oct'18. The most dramatic changes have been witnessed in the state of Bihar (from 16% in 2011 to 96% in Oct'18) followed by Uttar Pradesh (UP) (37% in 2011 to 72% in Oct'18). Over the past six months, the rate of electrification further improved and overall household electrification has jumped to 99.99% across the country by Sep'19.

Exhibit 124. House-hold electricity penetration reaches 99.99%



Source: Saubhagya, JM Financial

Exhibit 125. Electricity consumption growth had been strong in the eastern states



Source: CERC , JM Financial

As the electricity availability increases to 17-18 hours / day as against 7-8 hours / day earlier, people would are driven to use electrical and electronic devices and have more time to operate businesses, which aids income growth. The growth was more prominent in the states of UP and Bihar. **The per capita power consumption data also clearly highlights the high growth in power consumption in Eastern India, aiding the penetration of consumer electrical devices.**

Increased take-up of jobs / activities around online / e-commerce even in non-metro regions

The rural / non-metro regions also provide new employment opportunities or income opportunities.

Exhibit 126. UP Expansion of broad-band also provides new job opporttunities

Source: JM Financial

Exhibit 127. Andhra – Usage of solar power

Source: JM Financial

Exhibit 128. Increased mechanisation of farming

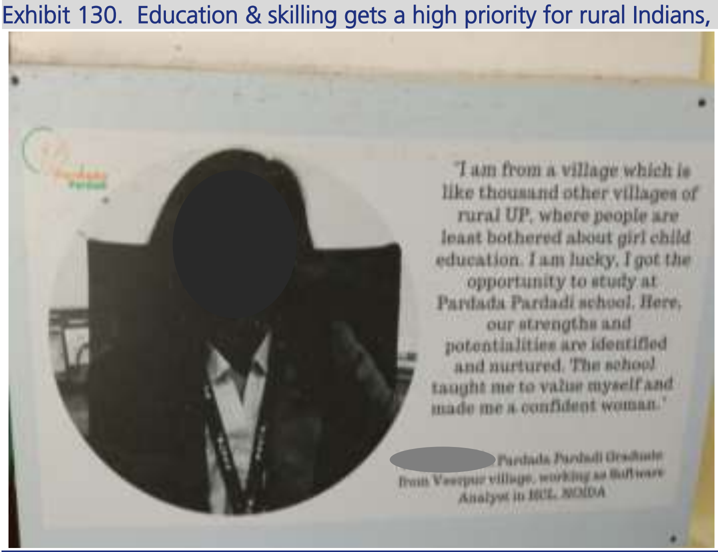
Source: JM Financial

Exhibit 129. Increased penetration of e-rickshaws across states

Source: JM Financial

Some of the recent income additions have been in online businesses, expansion of the financial services, agriculture automation, e–vehicles etc, among others. The farmer house-hold near any urbanising area benefits much more and are steadily moving away from agriculture to other alternative ways to supplement income, including leasing of land and earning rental income.

Exhibit 130. Education & skilling gets a high priority for rural Indians,



Source: JM Financial

Exhibit 131. Skill centre at Sehore, MP

Source: JM Financial

During our visits, we were also pleasantly surprised by initiatives in rural India around education (including girl child education at Anupshahr, Bulandshahr district UP, exhibit above) and skilling and there is a strong optimism in the youth of these areas to take up new opportunities and aid in improving their house-hold income levels.

FY20 Rural income: Modest growth aided by above normal monsoon

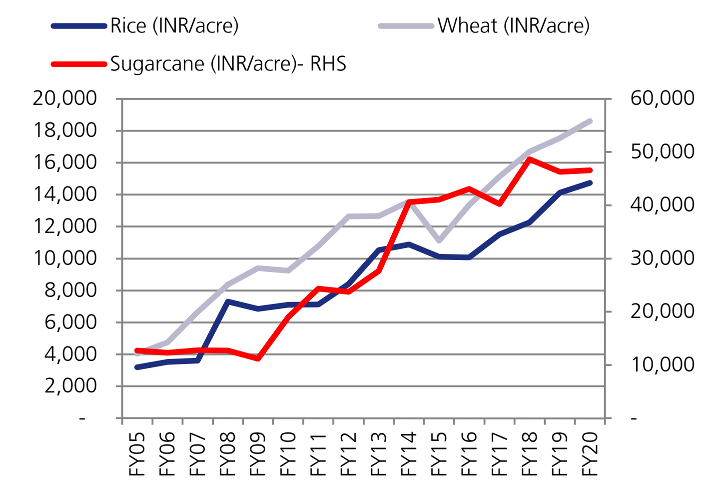
After a weak FY19, modest growth is seen in FY20 driven by YoY better crop prices aided by government income transfer

FY19 farm income suffered from food price deflation

Rural income growth in FY19 had been adversely impacted by the weak agri-pricing while overall crop production had not been disappointing. **From the income perspective, a clear disappointment has been the steady decline in prices for most food crops, notably the continued downtick in fruits and vegetables prices, particularly in 2HFY19 and initial months of FY20.**

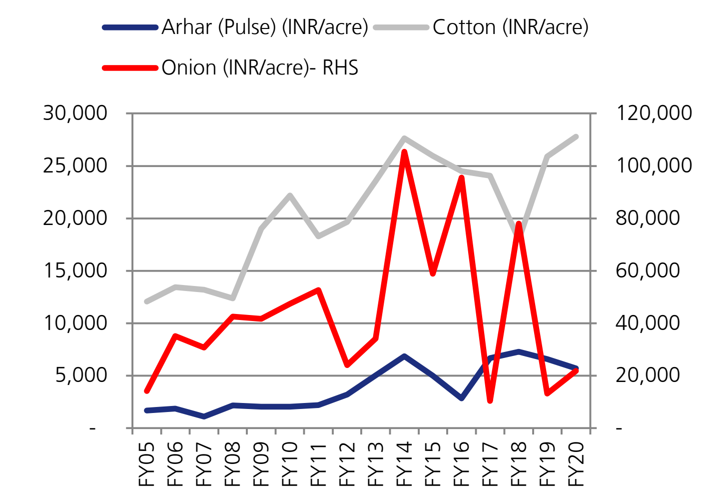
Our current survey indicates a mixed trend in output across states given excess rainfall in western India, parts of South India (monsoon). There has been some losses in the Kharif crop output on account of higher than normal rains, and there is an expectation of a better Rabi crop season going ahead which could aid farm income going ahead.

Exhibit 132. Crop profitability (INR / acre) for safer crops – Overall steady growth trend and low volatility



Source: CACP, JM Financial

Exhibit 133. Crop profitability (INR / acre) – Highly volatile for fruits & vegetables, Pulses and commercial crop such as Cotton



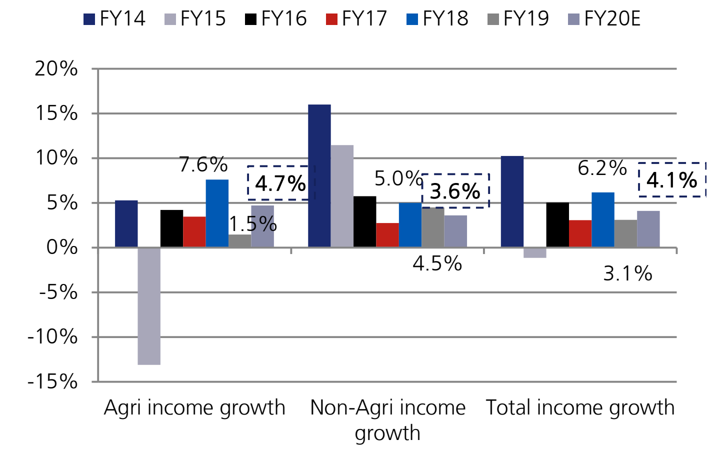
Source: CACP, JM Financial

In addition, the difference in output and hence in income from irrigated and non-irrigated farms continues to rise given the patchy and erratic rainfall pattern (9.4% below normal in 2018). **The productivity levels in the irrigated farms continue to see enhancement with the usage of agro-chemicals and expansion of modern farming practises, and thereby total crop output remains stable even if smaller / un-irrigated farmers may have seen a decline in production**.

The prices of associated products such as milk had also been weak in FY19. However going into FY20 there have been partial recovery in prices (post May'19), but its sustenance has to be watched.

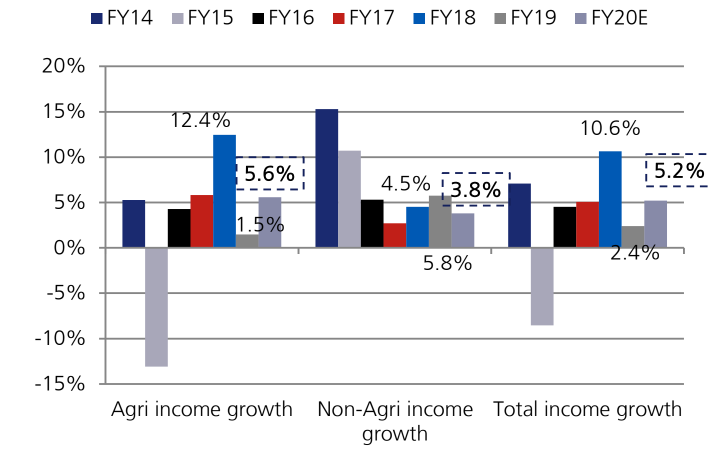
From the income perspective therefore, agri-income suffered in FY19 from last year and decline was higher for small farmers, while large farmers were still able to get better prices because of their ability to store and also have better market access.

Exhibit 134. Income trend for a small farmer (2.7 acre) – Pick-up in agri-income growth while non-agri decelerates; cautious and only a gradual pick up in consumption



Source: NSSO, JM Financial

Exhibit 135. Income trend for a large farmer (15 acre) – Income growth to remain in mid-single digit range; continued caution in spending; investments in agri-related activities



Source: NSSO, JM Financial

For the year ahead (FY20), we expect recovery in prices of select crops (onions for example) as the produce has been impacted by weak rainfall in Maharashtra and Gujarat. Given the comfortable crop production levels, we don't forecast a sharp surge in pricing as yet, unless there is a global rally. **We expect that some of the crops such as pulses, oilseeds could see a price revival during FY20 leading to mid-single-digit growth in agri-income.**

Income transfer schemes to partly aid overall income growth in FY20

In terms of non-agri income, as discussed in the earlier sections, the whole effort to formalise the economy with measures like Demonetization / GST has put pressure on the SME cash flow which has been accentuated by the NBFC disbursement slowdown from 2HFY19 onwards. **We do believe that disbursements from NBFCs have started reviving (particularly retail credit), though it is yet to reach the pre-crisis levels of Aug'18. Rural wage growth continues to languish and unless there is a sharp pick-up in construction / real estate activities, we don't foresee a change in trajectory.**

Income transfer schemes from the centre (PM KISAN, INR 6,000 / farmer household) and select states (Telangana, AP, Odisha, West Bengal) will complement rural income growth in FY20, but their implementation has remained patchy so far.

Income transfer schemes implementation has been mixed

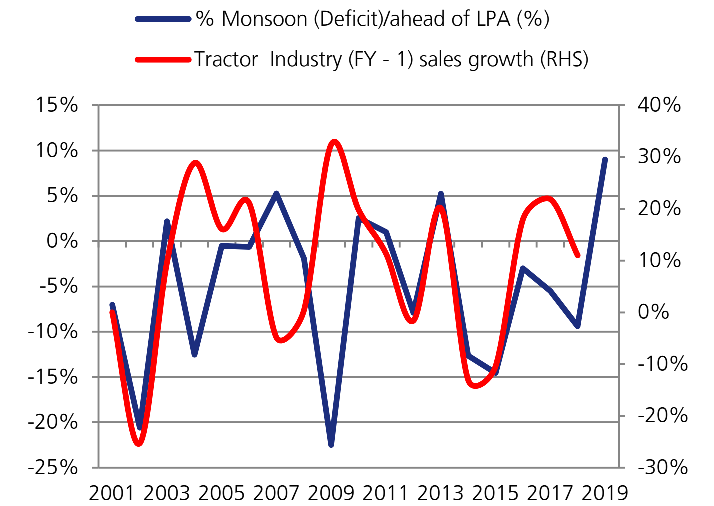
Expect consumer spending to remain subdued in near term

We expect moderation in consumer demand to persist in the near-term and revive post sustained improvement in crop realisations and a pick-up in economic activity levels. A key monitorable would be the normalisation of credit availability / growth, particularly to the SME segment.

We continue to view the structural themes of increased traction in organised apparel and consumer durables, health care services, particularly in north and east India. In addition, the change in preferences of people with urbanisation would drive likely healthy growth for the consumer durables segment.

From agri-household, a clear focus of investments would be for the inputs for next crop season of Rabi (intermediate crop) along with farm mechanisation tools.

Exhibit 136. Tractor sales to recover post good monsoon



Source: JM Financial

Exhibit 137. Tractor and farm mechanisation equipments to benefit

Source: JM Financial

Better access to finance continues to aid consumption

Recurring themes in semi-urban / rural India include increased access to finance (aided by expansion of Jan Dhan accounts - over 300 million), acceptance of credit in hitherto underpenetrated areas (east India) and better financing aided by the non-banking finance companies (NBFCs). Despite the current regulatory changes, we believe underlying demand remains robust and NBFCs / banks with streamlined processes would be able to increase their market share going forward.

Our interactions with dealers and data from companies across regions indicate an increase in the share of financing across consumer categories. **We also learnt that the constraint on making purchases above INR 0.2 million in cash is aiding access to finance, particularly in the case of automobiles (CV, tractors, etc).** The use of biometric information, mobile technology and efficient processes has made credit appraisal quick and efficient and allowed companies to achieve scale. For example, micro-finance companies have seen the timelines of group formation and disbursement drop to 3-4 days from 10-12 days 2-3 years ago.

Sector Comments

Consumer Goods

Our recent travel to the countryside suggests that rural distress has still not abated and consumer sentiment continues to be weak. This further validates the feedback received from consumer companies which suggests that the bygone quarter (Sep'19) has seen a further deceleration in overall demand sequentially. Dabur's CEO, in his recent media interview, mentioned that demand has stagnated sequentially across all categories where it operates and in certain categories the growth rates have more than halved. We believe that improvement in the consumption demand will be more gradual despite expectations of higher farm income (on higher yields and improved realisation) would be negated by stress on non-farm income (wage rates, have seen a decline in some of the states). The benefits from the recent tax booster (slashing of corporate tax rate to 22%) such as price cuts / higher promotions to end consumers will take some time to crystallise and is not expected to bring any immediate relief. We are also witnessing relatively better performance from discretionary segment (paint companies and ABFRL largely sustaining healthy growth trends) which further corroborates stress on rural consumption. Interestingly, current valuations remain very expensive and do not seem to factor in the moderation in demand– sector excl ITC trading at 48x NTM earnings. The sector could see a correction if macro issues persist for longer than expected.

- Good monsoon to aid farm income; non-farm income remains subdued: Rural economy, which previously grew at c.1.3x the urban economy, is now growing at par (or possibly lower) with urban impacted by crop failures and poor non-farm income. However, with monsoon this year ending 10% above long-term average levels, farm income is expected to see some improvement. Non-farm income still remains a point of concern which has been adversely impacted by ban on sand mining, closure of brick kilns, disruption in NBFCs, formalization of sectors etc. Incrementally though, as farm incomes improve, there could be some positive impact on non-farm income as well. While near-term could still remain a little subdued, hopes lie on the festive season which could possibly see some benefits flowing from recovery in farm incomes.

- Staples consumption to improve gradually: Stress on farm and non-farm income has adversely impacted people's ability to spend on daily consumption items which is evident from the decline in throughput of kirana stores. Most kirana stores that we interacted with have witnessed lower / flattish sales over the past few months. Signs of recovery in demand are not visible as yet. The key takeaways from our interaction with kirana stores was 1) General trade has seen some decline in throughputs which was largely a result of competition from modern trade in the FMCG space; non-FMCG has still seen some growth (in non-FMCG case, there is no like-to-like comparison and so the price competition in this space is much lower). This means that the problems are more channel specific (GT specific) and not merely with demand in urban areas, 2) Recent price cut by HUL in the popular soaps segment has not led to any significant change in demand, Godrej no 1. continues to do well, 3) There has been no price inflation witnessed over the past 5 years and the entire growth has been driven by volumes, and 4) Some stores have stopped giving credit facility to their customers which was a common practice earlier.

- Dealers have pointed out weakness in paint demand across most regions; past trends though suggest that paint companies have managed to deliver healthy growth even during such phases: Our conversations with paint dealers indicates that demand is showing some signs of weakness. Dealers are witnessing sluggishness in demand due to the on-going liquidity stress and are finding difficult to realise money from contractors. Interestingly, 1QFY20 numbers did not reflect slowing demand with paint companies clocking volume growth in high teens; 2QFY20 numbers will give key indications. Reduction in GST rate from 28% to 18% has not led to any dramatic change in demand per se. In some regions, the ancillary products have taken off well with neatly 90% of customers now preferring to purchase putty from dealers (vs 50% earlier) and 10% of customers also opting for water proofing (negligible earlier).

- **High gold prices to impact jewellery demand**: Jewellery spending is generally higher during wedding season and festive seasons such as Diwali. Jewellery remains a key component in marriage budgets. However as per Titan's 2QFY20 pre-quarter update, recent spike in gold prices (+20% YTD) has led to a postponement in purchases by consumers having a negative impact on Titan's revenue trajectory. Retail sales grew mere 7% during the quarter vs double digit seen earlier. Titan reported a 13% growth in jewellery division in 1QFY20 vs its ambition of 20%+ growth in FY20.

- **Valuations still expensive; some correction possible:** We estimate our HPC and foods group to grow revenues in Sep-Q by under 5% after quite a long time – this is a sharp deceleration vs. 6-7% seen over the past two quarters and double-digit growth clocked in 3 quarters prior to that. However valuations still remain quite rich - FMCG universe excl. ITC is currently trading at 48x NTM earnings – 11% premium to 5-yr average. Expectations of weak revenue trajectory in the ensuing quarters could lead to a correction, in our view.

Exhibit 138. Retailer – Bhatinda Punjab – Sluggish sales for the past 5-6 months

Source: JM Financial

Exhibit 139. Andhra retail sales - Softening trend all across

Source: JM Financial

Exhibit 140. Mirzapur, Uttar pradesh – Smaller brands also visible in stores in small town India

Source: JM Financial

Exhibit 141. Jaunpur, Uttar Pradesh – Regional brands continue to have presence

Source: JM Financial

Exhibit 142. Karnataka – Fabric conditioner brand usage

Source: JM Financial

Exhibit 143. Punjab – Paint retailer

Source: JM Financial

Exhibit 144. Paints sold with regional advertisement

Source: JM Financial

Exhibit 145. Consumer durable benefiting from lower penetration

Source: JM Financial

Automobiles

High inventory levels and low confidence in dealers across North, Eastern India for a recovery in 2HFY20

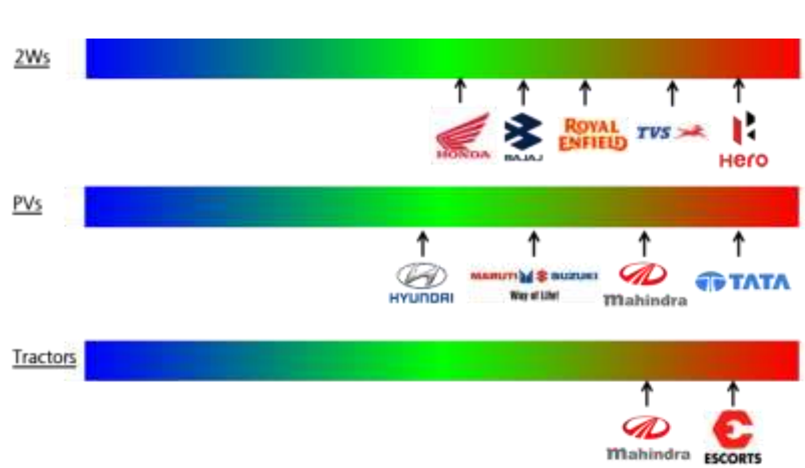
Our latest trip across India's rural hinterlands over the past few weeks highlighted that customer withheld purchases due to lower rainfall during initial days of monsoon. While dealers remain hopeful of a discount and festive driven sales spurt, subdued non-farm activities continue to impact the proclivity of rural consumers to spend. Despite the challenging situation, dealers are looking forward to the upcoming festive period. Dealers in the western and central states expect a gradual recovery during 2HFY20. Better farm realisation, highest ever discounts and normal monsoon in these regions are aiding rural purchases. However, dealers in north, south and east of India are not expecting recovery during 2HFY20. Non-farm income in these regions is severely impacted by continued formalisation, regulatory enforcements such as ban on sand mining/lower brick kilns etc. Feedback on tractors was weak across states. Given the current situation, companies with new model launches, better inventory management and aggressive sales and marketing promotions are faring better than others. Both, Bajaj Auto and Hyundai have gained market share during the year (Apr-Aug'19) driven by increasing traction for Bajaj Pulsar 125cc and Hyundai Venue, respectively. With better inventory management, Honda (2Ws) dealers too are relatively better placed. Out of the major OEMs, we found both Hero and Tata Motors struggling with high inventory in the market. In case of commercial vehicles, freight rates have corrected significantly and operators are delaying new purchases due to limited demand. While, auto sales during festive season are likely to demonstrate sequential improvement, it will be too early to call for a demand recovery. Volume growth outlook for the rest of the year depends on customer sentiment post festive season and BS6 pre-buy.

Exhibit 146.State share in total sales*

State		2Ws (covered under channel checks)	PVs	Tractors
Uttar Pradesh (incl. Uttaranchal)		14.8%	10.2%	17.4%
Haryana	North	2.9%	5.3%	5.2%
Punjab		3.5%	3.2%	2.6%
Rajasthan		5.8%	5.0%	8.3%
Gujarat	West	6.5%	8.5%	7.1%
Maharashtra		9.1%	10.7%	8.1%
Madhya Pradesh	Central	6.3%	4.0%	10.9%
Karnataka		6.1%	6.7%	5.3%
AP, Telangana	South	8.8%	7.1%	10.3%
West Bengal	East	4.8%	3.2%	3.4%
Total		69%	64%	79%

Source: JM Financial, SIAM, CRISIL, * till 3QFY19 for 2Ws and PVs, Apr'18-Feb'19 for Tractors

Exhibit 147. OEM-wise impact (on a relative scale)



Comments:

- Honda 2Ws: Inventory under control, best prepared for BS6. First to launch BS6 variant (of Activa) while simultaneously increasing price of BS4 Activa to ease the transition to BS6 variants.
- Bajaj: Strong consumer traction due to Pulsar 125cc and aggressive promotion / marketing programme.
- Royal Enfield: Some regions talked about continued threat from Jawa. As per one dealer monthly sales of JAWA stands at c.9,000 pm. Newly launched 350X is priced c.INR 10,000 lower than Bullet 350. Existing customers are buying new 'X' variant and it is not leading to expansion of customer base.
- TVS: High level of competitiveness in the industry - TVS likely to liquidate inventory through higher discounts.
- Hero: Highest inventory level amongst 2W OEMs
- Hyundai: Increase in sales on back of newly launched Venue.
- Maruti: Despite sluggish sales, customer walk-ins have increased during Navratri. Retail sales are broadly in line with wholesales. No customer confusion regarding BS4 and BS6 variants now.
- Mahindra & Tata: Sales remain subdued, M&M slightly better with new models. Dealers pinning hope on Diwali sales.
- Escorts: Pre-harvest channel filling done in the tractor industry. As per some dealers, the advances for Escorts stands highest in the industry

Source: JM Financial

Two-wheelers

Honda fares the best in terms of managing inventory on ground

Weak non-farm income and high dealer inventory forcing OEMs to offer all-time high discounts during festive season: During our checks, most dealerships we visited highlighted increase in walk-ins due to upcoming festive season. **However, conversion from walk-in to sales remains weak, as customers are increasingly focused on bargain purchases**. Given this back drop Bajaj Pulsar 125cc (starting at ex-showroom c.INR 64,000) is drawing consumer's response as a bargain-buy. While other OEMs are still struggling to manage inventory, **Honda (2W) with its comfortable inventory level is able to increase wholesales in-line with retail. TVS Apache continues to face stiff competition from Bajaj Pulsar, forcing the company to offer all time high discounts** (Exhibit below). Industry leader Hero dealers were struggling with high inventory. In case of players like RE, newly launched 350X which is priced c.INR 10,000 lower than Bullet 350 is drawing existing customers to the 'X' variant. Dealers mainly attribute weak non-farm income and customers attitude of getting bargain prices (similar to that observed during BS3 to BS4 transition) as one of the reason for postponement of sales. Interestingly, the timeline for sales recovery, as highlighted by dealers, is different for different regions. **Western and central states, which have witnessed normal monsoon, are anticipating a demand recovery starting Dec'19 (or 4QFY20). However, other regions are not anticipating a recovery in 2HFY20.**

Exhibit 148.Aggressive promotion done by TVS in UP

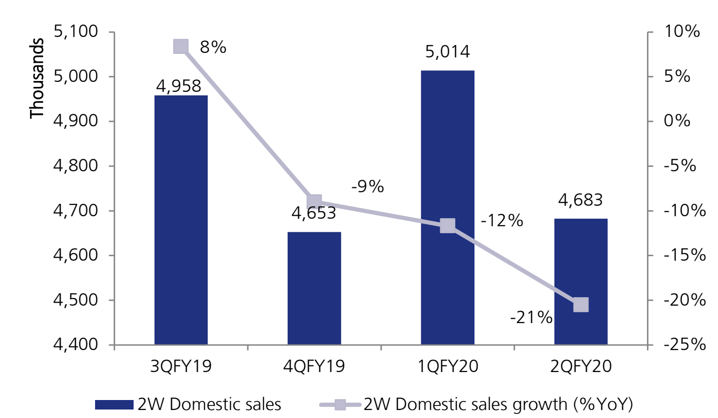
Source: JM Financial

Exhibit 149. Savings offer by BJAUT in Varanasi

Source: JM Financial

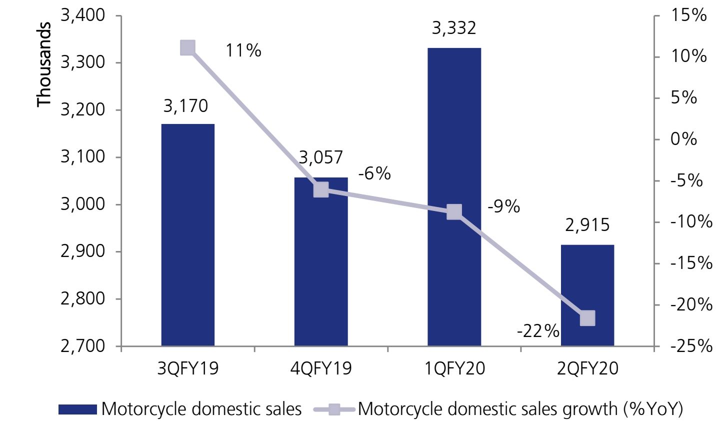
BS6 readiness: As per dealers, c.20% of customers are unaware about the transition from BS4 to BS6. And these customers are attracted to buy during festive season given all time high discounts. While Honda was the first **to launch BS6 Activa,** Bajaj is likely to introduce its BS6 products from end Oct'19 / starting Nov'19. Honda has efficiently planned its BS6 transition, it has been simultaneously increasing price of BS4 Activa to ease the transition to BS6 variants. **TVS is likely to be the last to launch BS6 product (starting Jan'19).** Across our checks, we realised that Indian customers (esp. rural) are averse to technology changes. These customers question the fuel efficiency of upcoming changes like FI (fuel injection) or serviceability, etc. and prefer to buy older BS variants at a discount. This gives us confidence that we can see a sharp sales pick-up of BS4 variants during Feb-Mar'20, irrespective of a situation similar to BS4 transition.

Exhibit 150. Declining 2W sales trend (YoY %)



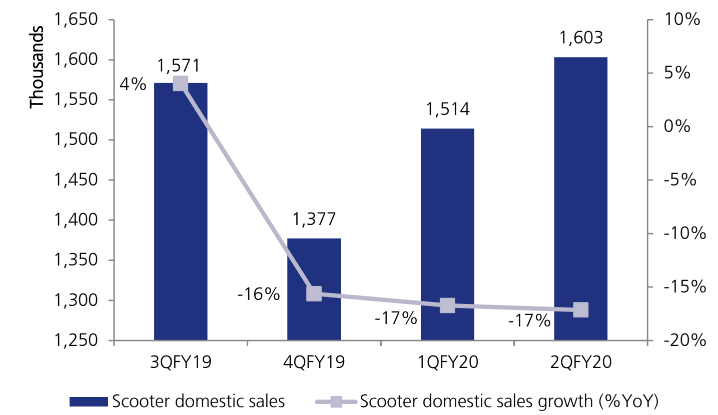
Source: SIAM, JM Financial

Exhibit 151. Decline in motorcycle sales during 2QFY20



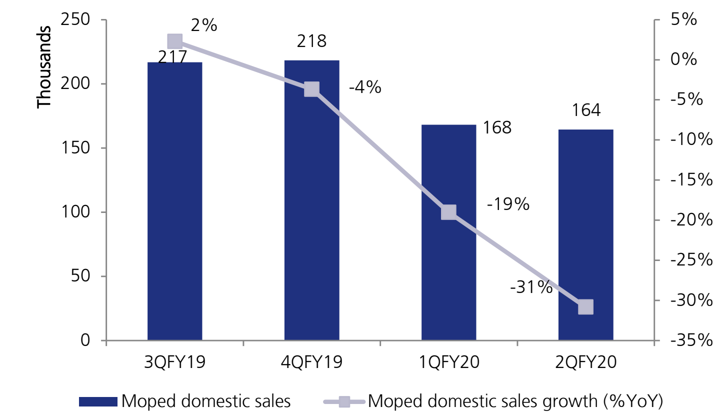
Source: SIAM, JM Financial

Exhibit 152. Scooter sales recover on a QoQ basis



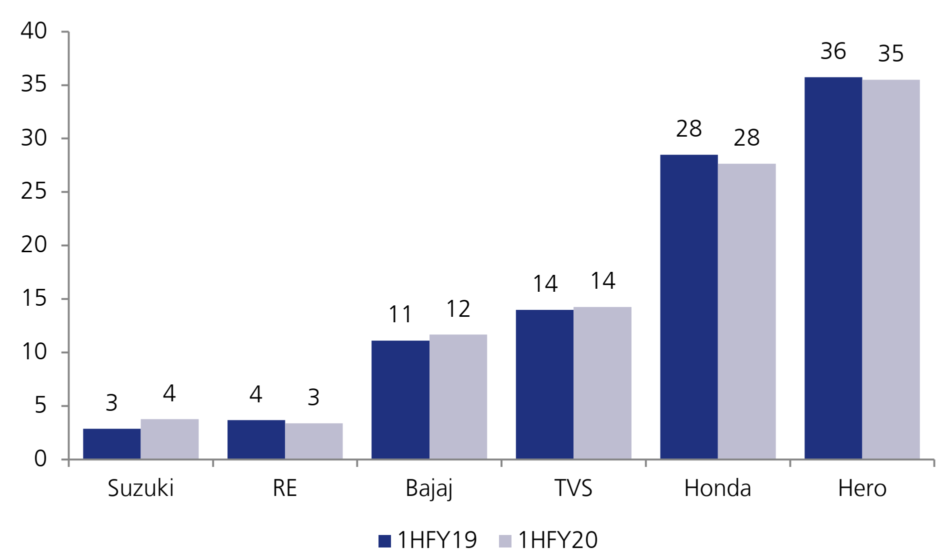
Source: SIAM, JM Financial

Exhibit 153. Moped sales continue to decline



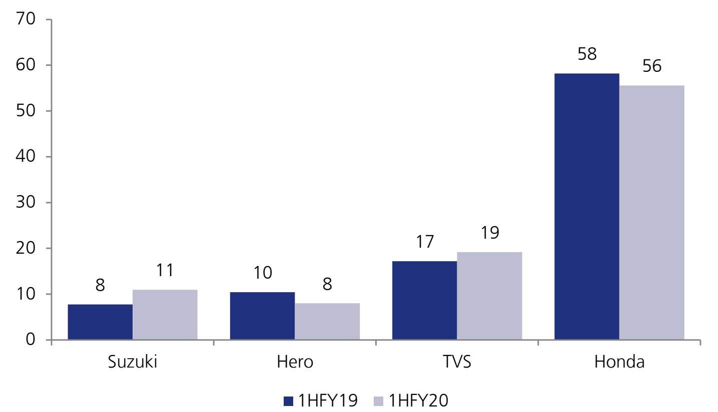
Source: SIAM, JM Financial

Exhibit 154. 2W market share



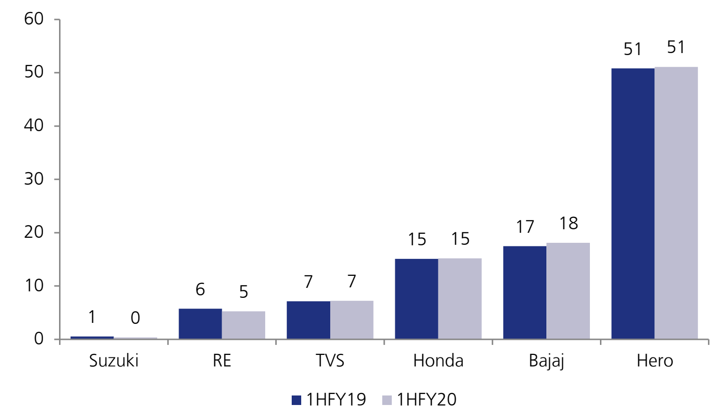
Source: JM Financial, SIAM

Exhibit 155. Scooter market share – TVS and Suzuki gain share, while Hero and Honda lost



Source: SIAM, JM Financial

Exhibit 156. Motorcycle market share – Bajaj gained market share, while RE lost share in 1HFY20



Source: SIAM, JM Financial

Exhibit 157.RE studio store c.20km away from Varanasi city

Source: JM Financial

Exhibit 158. Bajaj Pulsar 125 drawing consumer's interest

Source: JM Financial

Passenger vehicles

Demand remains sluggish, dealers remain optimistic on the back of all-time high discounts and the on-going festive season: While PVs are better placed than 2Ws **(multiple new launches, lower inventory levels, etc.),** demand continues to remain sluggish. Excess rains in some parts of the country were impacting sales during early Sep'19. With on-set of festive season, walk-ins have improved. However, large part of walk-ins is to enquire about possibility of higher discounts going ahead. **With improving agri-realisation and no costumer aversion towards BS6 (petrol), most dealers are hopeful of partial recovery during 2HFY20.** West and central regions are most optimistic in terms of demand recovery with dealers highlighting that recovery has already started and may continue in 2HFY20. Northern, southern and eastern states are not as optimistic and at best forecast flat sales for the remaining part of the fiscal.

OEMs with new model launches like Hyundai Venue, Kia Seltos, and MG Hector are relatively better placed than others**. So far, there is no impact on Brezza sales from Kia Seltos and MG Hector.** However, Hyundai Venue with its attractive features and pricing is drawing some customers away from Brezza. During FY20, PV wholesales are expected to remain weak, declining c.10-13%YoY. **MSIL is the only major OEM with eight BS6 compliant products with total sales crossing 200,000 units till date. In case of M&M, it continues to upgrade its sales network to a more premium look and feel.**

E-rickshaw economics: We interviewed e-rickshaw operators in the northern belt to analyse its economics. Our interactions suggest that these operators usually make c.INR600-1,000 per day depending upon the region and time of the year. In rural areas during non-festive period an operator usually earn c.INR700 per day. The vehicle needs to be charged overnight (c.7hrs) which costs c.INR80 per day. Post charging the vehicle can travel 60-80km (depending on road condition and ambient temperature) and carry 5 persons. Net of all expenses an operator usually makes c.INR600 per day (INR 15,000 – 18,000 per month).

Impact from e-rickshaw: Our interactions suggest that **increasing availability of a sharing e-rickshaw has impacted sales of 2Ws and to an extent of bicycles.**

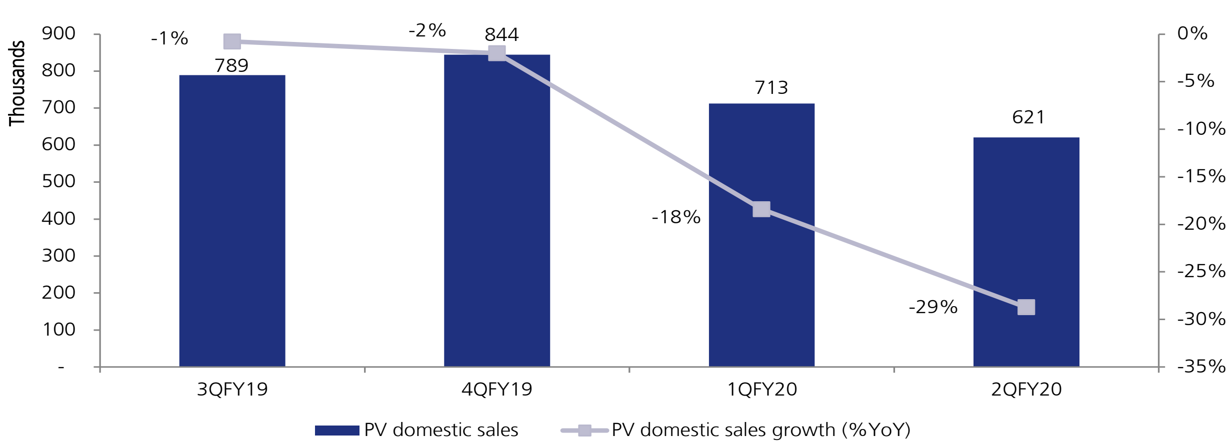
Exhibit 159.Maruti dealership, Aurangabad– Highest discount ever

Source: JM Financial

Exhibit 160. Maruti dealership, Gujarat – Offering discounts up to INR 1lacs

Source: JM Financial

Exhibit 161. Subdued quaterly PV sales performance

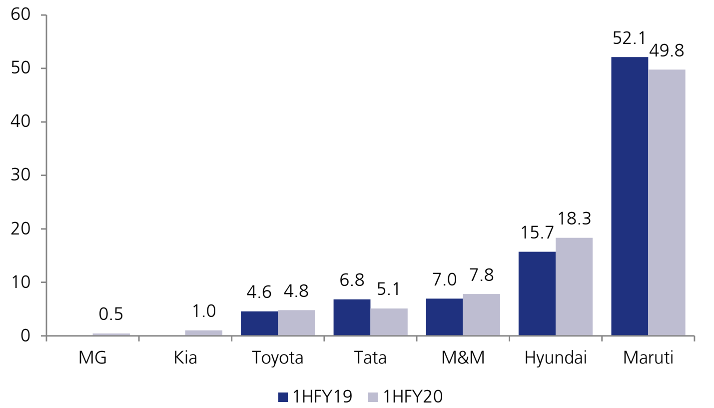


Source: JM Financial, SIAM

Exhibit 162.MSIL has already sold c.200,000 units of BS6 compliant vehicles

Source: JM Financial, Company

Exhibit 163. Hyundai gains market share driven by traction from "Venue". New entrants like MG and Kia gain share.



Source: JM Financial, SIAM

Exhibit 164. E-rickshaw at Jaunpur, Uttar Pradesh

Source: JM Financial

Commercial vehicles

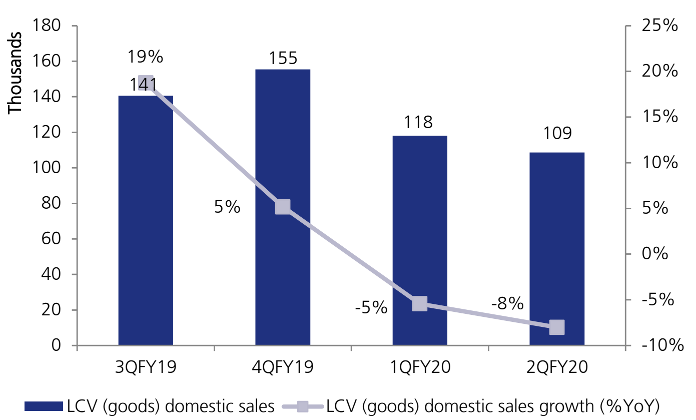
Macro slowdown, poor freight rates and inventory correction continues to impact MHCV sales: The commercial vehicle segment continues to witness sharp slowdown. As per our dealer checks, increase in available tonnage and weak economic activity is impacting fleet utilization and limiting fresh purchases. During our rural survey, we interviewed some CV operators. Feedback from these operators highlighted that due to c.19% decline in freight rates, low demand and high diesel price, it is becoming difficult for small operators to manage EMI payment. **During the interview CV operators highlighted that BS6 pre-buy is unlikely to be very strong. However, the pool of old MHCVs (pre-2005) remains high and a scrappage policy could led to immediate pick-up in sales.**

CV operators not hopeful of a a very strong pre-buy for BS6

In case of LCV, OEMs are trying to increase retails through attractive offers. **As per dealers, share of e-commerce purchases have increased north of 15% of total LCV sales. LCV dealers are anticipating recovery during 2HFY20 driven by festive sales and BS6 pre-buy.**

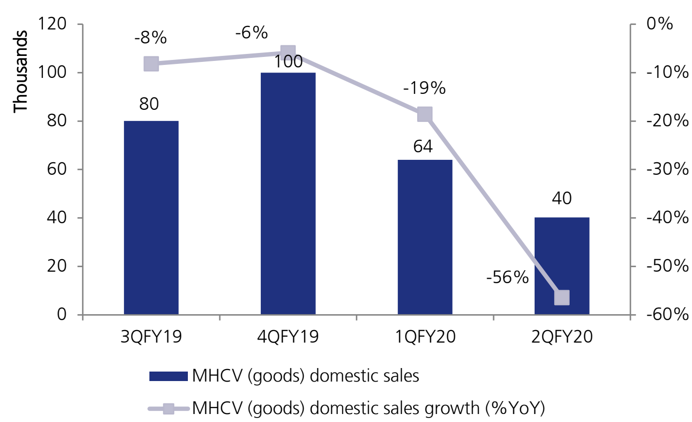
Share of ecommerce purchases is c.15% of total LCV sales

Exhibit 165. Declining sales for LCV (goods)



Source: SIAM, JM Financial

Exhibit 166. Poor freight rates and inventory correction continues to impact MHCV (goods) sale



Source: SIAM, JM Financial

Exhibit 167. Interview with a CV operator travelling from Chandigarh to Varanasi – Highlighting c.19% decline in freight rates

Source: JM Financial,

Exhibit 168. Attractive offers on M&M SCV purchase – Color TV from Aisen

Source: JM Financial

Tractors

Weakness in commercial demand leading to slowdown, full-year outlook remains negative: While state-specific factors such as subsidies continue to influence tractor demand, **at a macro level, monsoon, agricultural and commercial activity remain key determinants.** In most states, while agriculture demand has remained subdued, commercial segment **(constituting c.50% of tractor demand in some rural areas)** has led to a growth slowdown following stricter enforcement of ban on sand mining, floods in few regions and liquidity constraint impacting construction activities. The dealerships face no liquidity constraint. **However, due to stricter enforcement of ban on sand mining farmers in some regions do not have extra money to make down payment.**

Exhibit 169. Attractive schemes on Eicher tractors when coupled with purchase of a tiller

Source: SIAM, JM Financial

Exhibit 170. Tractor sales to benefit from above normal monsoon

Source: JM Financial

Exhibit 171. Inventory build-up seen in Eastern UP

Source: JM Financial

Companies are coming up with differentiated strategies to gain market share. M&M for instance, has introduced new models with superior technology like GPS tracking, productivity tracking etc., while Escorts has benefitted through in-house financing. **While, Navratri like to like sales across regions vary from modest decline to flat, dealers are anticipating recovery (modest) in 2HFY20 driven by normal monsoon towards the end. However, industry is anticipated to decline high single digit during FY20.**

Overall industry is expected to do better in 2HFY20 and end FY20 with a high single digit decline

Conclusion

While, auto sales during festive season are likely to demonstrate sequential improvement, it will be too early to call for a demand recovery given weak non-farm income and customer psyche to postpone purchase seeking higher discounts (possibly model year change discounts and BS6 transition discounts in Feb-Mar'20). While central and western regions are likely to show modest demand recovery starting Oct'19, other regions are unlikely to show improvement during Oct'19-Feb'20 period.

Exhibit 172. State-wise feedback : Recovery timeline

Region	2Ws	PVs	Tractors
North	Unlikely in 2HFY20	Unlikely in 2HFY20	Unlikely in 2HFY20
South	Unlikely in 2HFY20	Unlikely in 2HFY20	NA
East	Unlikely in 2HFY20	Unlikely in 2HFY20	Unlikely in 2HFY20
West	Starting Dec'19	May be during 2HFY20	Starting 2HFY20
Central	May be during 4QFY20	Recovery started this festival season	NA

Source: JM Financial

Building Materials

India's building material companies continue to face challenging times with weak demand (real estate), raw material and fuel cost inflation, and relentless competition from unorganised players. However, the recent drop in Brent crude and USD-INR has aided margin expansion in the recent two quarters. Our discussions with industry participants indicate a modest number of shutdowns and a slowdown in the pace of capacity additions by unorganised players in the tiles and plywood segments given the weak demand, cost inflation and increased compliance costs. We believe there will be a gradual shift towards organised players in the coming years on the back of stricter GST / e-way bill implementation, higher vigilance on tax evaders and a stable government in the centre. We visited various urban, semi-urban and rural areas across the country in September'19 in order to gauge the industry demand and sentiments across various sectors, and the takeaways relating to building materials are as follows:

Weak demand leading to 10% YoY decline in GVT tile prices

- Tiles demand extremely weak; revival expected after the harvest season: Our interactions with various tile dealers have suggested that tile demand has been weak over the past year, but has declined by c.30-50% YoY from May'19 onwards due to a) seasonal slowdown due to rains b) severe stress among the small and medium real estate players c) slowdown in overall real estate sector d) NBFC liquidity crisis e) huge dip in black money flow. Weak demand has led to pricing pressure leading the Glazed Vitrified Tiles (GVT) tile prices to decline c.10% over the last year. Tile industry growth was in low single-digits in FY19 which is expected to continue into FY20 given the extended slowdown in the real estate sector and overall sluggish demand, albeit the exports have shown good momentum (c.15-20% growth YoY). For FY20, the managements of Kajaria and Somany have guided for double-digit volume growth on the back of a market share gain from Morbi players following the NGT order, higher spend on branding and impending improvement in the real estate scenario.

- Stress in Morbi, can the organised players gain from it?: Dealers have highlighted that the Morbi players are facing severe issues due to a) shift from coal to gas leading to a rise in cost by c.10% b) payment of gas bills by banking channels with a monthly cycle c) security deposit to be kept with gas supplying company d) lower capacity utilisations due to weak demand e) low volumes causing negative operating leverage. Morbi players have reduced their credit period to c.30days from 90days earlier to safeguard their working capital cycle. Channel also suggested that various end consumers increasingly prefer branded products over unbranded ones. These issues have led to a reduction in the pricing difference between organised and unorganised players, which should help organised players gain market share once the demand revives.

- Ply / laminate demand facing headwinds, MDF demand relatively better: Dealers have highlighted that ply / laminate demand has been extremely weak (down c.20-40%YoY) mainly due to a weak real estate scenario across the country. MDF demand has been healthy on the back of robust commercial property development in the urban areas. We believe that the plywood industry growth will be subdued due to MDF and particleboard eating up into its share as seen in developed economies. The overall laminate industry has also been facing weak volume growth as the industry has seen several capacity additions from unorganised players, which has led to an oversupply. As wood panel demand arises once the real estate inventory has been sold, the mounting real estate inventory across the country has been a major overhang on the growth of the wood panel sector.

- Fuel costs remain volatile: Brent crude had seen a significant spike during 1HFY19 leading to margin contraction, however, subsequently dropped from USD85 per barrel to USD60 per barrel with the exchange rate aided margin improvement in 2HFY19. However, this has partly reversed in 1QFY20. Tile company managements have guided for margin improvement in FY20 on the back of relatively lower fuel cost (YoY), operating leverage and expected price hikes in FY20.

- **Implementation of GST and e-way bill tightening:** Initially, the GST and e-way bill roll-outs have only had a limited impact on unorganised players with an increase in invoicing **(estimated at 50-60% now vs. 20-25% earlier),** though in the recent months there have been multiple raids at unorganised manufacturers and dealers across the country which has set out a wave of tightening the implementation, which has led various tax evaders to join the organised path. We believe the shift will play out gradually over the next 2-3 years given stricter implementation of GST / e-way bill mechanism, higher vigilance on tax evaders and a stable government at the centre.

Unorganised players' invoicing estimated to be 50-60% of turnover against 20-25% pre-GST

Exhibit 173. Demand for building materials remains slow

Source: JM Financial

Exhibit 174.Amravati, AP –A shift in construction to adversely impact building material companies in the region

Source: JM Financial

Financials: NBFCs – Selective bright spots

In Sep'19, we visited NBFCs catering to various segments like vehicle finance, microfinance, gold loans, housing finance etc, covering all geographical regions. Mahindra Finance, Cholamandalam, HDB Financial, Satin Creditcare, unlisted MFIs among others were the part of our channel checks. Few common themes which we have been able to gauge across the length and breadth of the country are: 1) Growth has been patchy and has adversely impacted by the weather related disruptions (floods). 2) New players especially in microfinance have emerged in specific regions and overall ticket sizes have also increased. 3) Rural asset quality has largely been stable but collection delays have also increased, this could revert going ahead, as good monsoon and agri-price reversion could lead to better cash flow. Given the liquidity crisis, strong promoter-backed entities have gained market share at the expense of other players, who are facing funding challenges. These are mainly active in used vehicle financing, microfinance, consumer durables lending and affordable housing. We continue to believe strong promoter-backed, diversified and high rated NBFCs will extend their outperformance. Among diversified NBFCs we like BAF and among rural focussed niche NBFCs we prefer MMFS, SHTF and CIFC.

- Stable disbursement growth in selected segments: Overall, credit off-take has been modest – for 1QFY20 AUM growth for coverage came in at c. 5% YoY. **MFI lending has been robust, supported by increase in ticket sizes and more players that have helped expand overall market and outreach. Within vehicle finance, CV segment financiers have been cautious in giving loans for new vehicle purchases while used-vehicle financing has done well**. Passenger vehicle and two-wheeler sales have been subdued owing to dampened consumer sentiments and delayed purchases in anticipation of discounts during transition from BS-IV to BS-VI. Within diversified financials players like BAF is focussing on cross sell franchise of 21.85 m. Within housing finance, bigger players like HDFC, LICHF etc. are curtailing their corporate disbursement and focussing on retail / affordable housing – for HDFC in 1QFY20, 35% of home loan approvals in volume terms and 17% value terms has been to the EWS & LIG segments. RBI has recently increased MFI exposure to single borrower to INR 125,000 (vs. INR 100,000 earlier).

Exhibit 175.Takeaways – Segment wise

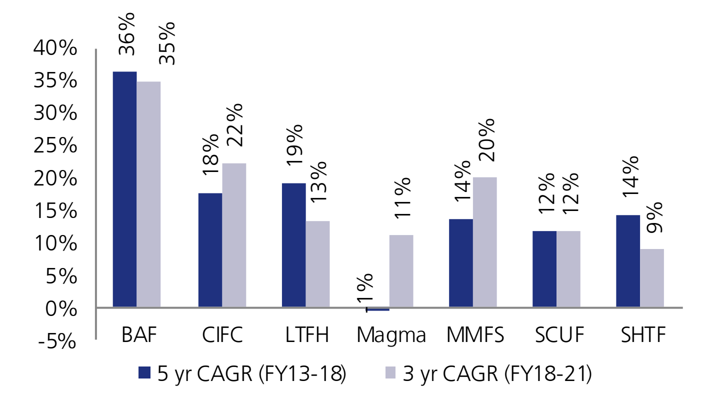
Segment	Takeaways
Housing	— Demand for affordable housing continues to be strong, mainly in towns and rural areas. These qualify under PMAY. Average ticket size: INR 500,000 - INR 700,000.
LAP	— Both LTVs and ticket sizes have seen downward revision with competitive intensity easing off a bit following the liquidity crisis. — Banks continue to dominate large ticket size LAP space
CV	— Lending is soft across players for new CV; MMFS & Chola gained market share — CV operators impacted through flood & lower profitability and so delay in payments; shift in dpd buckets, limited conversion to NPA — Increased conversation around co-origination
2W loans	— Lending for 2W has been subdued as purchases have been delayed and negative consumer sentiments — Continued expansion of lenders to 2W space - Muthoot Finance, L&T Finance expanding their presence. IDFC First bank gaining traction on account of extremely low down payment (INR 1,100) in many cases. — Market leader, SCUF has been aggressive in credit disbursement and does not have a mandatory CIBIL check for all loans
Tractors	— Focus on collections than on disbursements — Overall, the monsoon has been better than the long-term average which should augur well for tractor purchases — Cholamandalam and MMFS have generally done well amongst tractor financiers — Collection delays could be there for some cases given floods in many regions, ban on sand mining in few states – have shifted the
MFI	— Disbursements remain steady for larger pan-India MFIs, regional players impacted on account of funding issues — High competitive intensity may lead to drop in underwriting practices (incl increase in ticket sizes) thus put pressure on asset Quality — Collection efficiency could see marginal slippage due to weak consumer sentiment, flood related issues — States like Haryana, Maharashtra are facing uncertainty from state-elections; Odisha faced issues post the cyclone Fani.

Source: Company, JM Financial

- **Collection delays, overall asset quality impact still limited:** There has been some deterioration in collection efficiency, particularly for the vehicle financiers. The financiers have also been investing to improve lending standards using tools such as implementation of psychometric tests, outsourced KYC operations to remain unbiased, reduction in digital products financing and curtailing SME lending etc. However, in our interactions following pockets of risk have been highlighted: **1)** Floods in few states like Bihar, Karnataka, MP and Maharashtra **2)** High competitive intensity in few segments like microfinance and automobile financing may lead to drop in lending standards.

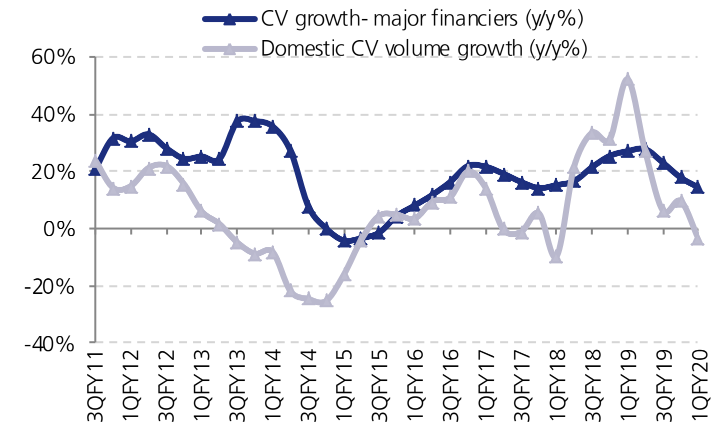
- **Expect AUM growth to remain modest over FY19-21E led by pickup in rural market: We believe rural and vehicle financiers such as Chola, MMFS and SHTF should see modest AUM growth led by recovery in rural income and likely pick-up in infrastructure.** For NBFCs under coverage we expect 9–35% growth in AUM over FY18-21E, as shown below:

Exhibit 176.AUM growth trends in NBFCs under coverage



Source: CMIE , Company, JM Financial

Exhibit 177.CV growth and disbursement trend



Source: CMIE, Company, JM Financial

- **Prefer CIFC, MMFS as top picks among rural NBFCs:** We believe CIFC, MMFS are well placed to benefit from rural recovery and pick up in government spending; we prefer CIFC and Mahindra Finance as top picks in the rural space.

Exhibit 178.Peer valuations

	ROA (%)				ROE (%)				P/B				P/E			
NBFC	FY18	FY19	FY20E	FY21E	FY18	FY19	FY20E	FY21E	FY18	FY19	FY20E	FY21E	FY18	FY19	FY20E	FY21E
CIFC	2.6%	2.3%	2.4%	2.5%	20.7%	21.0%	21.9%	22.5%	4.38	3.75	3.09	2.53	22.9	19.5	15.4	12.4
MMFS	1.8%	2.6%	2.3%	2.3%	11.2%	15.2%	14.5%	14.9%	2.40	1.62	1.46	1.31	25.3	11.3	10.6	9.3
SHTF	1.9%	2.5%	2.5%	2.5%	12.7%	17.5%	15.8%	15.2%	2.10	1.61	1.40	1.23	18.8	9.9	9.5	8.6
SCUF	2.3%	2.6%	2.7%	2.9%	11.8%	14.0%	15.3%	17.2%	2.12	1.42	1.26	1.09	16.9	10.7	8.7	6.8
IndoStar	3.7%	2.5%	2.3%	2.3%	11.7%	9.6%	9.2%	9.3%	1.36	0.66	0.60	0.55	12.2	8.2	6.8	6.2

Source: Company, JM Financial, Bloomberg

Used vehicle financing – Rajasthan (Feedback from a vehicle financing DSA)

- **Average monthly disbursements for the DSA in Sujangarh in Q1FY19 was c. INR 12mn, now down to c. INR 5.5 m in Q1FY20 and remains weak in Q2FY20. Business activities are mainly from used PV segment.**
- Focus is on used assets by most players
- In consumer finance, Bajaj Finance is not stressed as their underwriting is good. IRRs on consumer durables is high at 32-36%
- Delinquencies are at moderate levels. Usually labourers are more prompt with payments. Salaried employees and government officials delay in many instances but pay eventually

Affordable housing segment remains attractive; SME segment has slowed down – Gujarat

- There are 150+ NBFCs, which are aggressive in local markets. Banks have also ventured into affordable housing lending
- Disbursements are expected to be good in the October - November (festive season) but then may come down – likely to remain soft until Mar'20
- **SME segment has slowed. In this, disbursements have declined from INR 10 mn per month to INR 4mn per month. Ban on Plastic has been hurting, as all production units have closed.**
- Days past due (DPD) trends have shown same trend - no change. There is no bubble in the 90+ DPD bucket, however 2.4-2.5% of the zero bucket have moved to the 30-60 bucket – these are unlikely to become NPA.

Lenders become cautious; asset quality stable – Karnataka – Feedback from a small finance bank with diversified operations

- Deterioration in overall business sentiment from Mar'19. Deposits and loan growth impacted particularly in SME segment. In North Karnataka, few foundries in Belgaum region have been closing, adding to the challenge in employment. In vehicle financing, competition has been intensified. Home loans (to individual homes) segment remains good.
- **Private caste / religion-based trusts (some trust have even INR 2 bn+ corpus) also used to give loans to farmers however now they are avoiding new loans as repayment is not coming back**
- Payments delay has increased (say 2 irregular payment out of 10 to 5 out of 10 now), however not yet turning into NPA. CV operators have been impacted from flood and so delay in payments.

Huge opportunity exists amidst negative sentiments and political disruptions – West Bengal, Feedback from a mid-sized MFI

- **There is still scope for leverage in the MFI segment. Market size – Overall 300 m household in India, 150 m would be target household, now the reach is 50 m house-hold, so major opportunity to expand further**
- For a mid-size MFI player, situation is stressed in the state because of negative sentiment - consumption down - NBFC disrupted liquidity crunch a key factor
- MFI turned bank gets benefits from low cost of funding at c. 6% and lends at 18%; MFI's cost of funding at 10-12%. Also, MFI can't lend more than INR 30,000 in JLJ model
- Collections have been challenging due to political disruptions

One of the leading MFI players in the country – Branch visit summary

We visited MFI branches in Haryana, Punjab, Madhya Pradesh across players and met the borrowers and local branch personnel. Our takeaways are summarised below:

Rohtak,Haryana

- Overall 30-32 MFIs in Haryana due to which competition is intense. This has led to drop in due diligence (DD) and asset quality standards by some aggressive players. Recently new MFIs have emerged in Haryana viz. Paisalo (from Kanpur) and Kamal Fin Cap (from Kota)
- The MFI is disbursing 2-3 loans per customer vs. 1 loan per customer earlier. However, disbursements have declined due to strict lending practices. They have outsourced KYC process to be fair and unbiased in due diligence (vs. in-house earlier). Many cases (30-40%) are getting rejected due to overleveraging. Their focus is now on cashless disbursements.
- Apart from income-generating MFI loans, they are also giving loans for:
  - Cycle financing, mainly Hero
  - Samsung Mobile phones (two models)
- Majority of the PAR accounts are because of demonetization

Bhatinda, Punjab

- To compete, the leading MFI we visited has now started giving top-up loans of INR 15,000. Also, they are planning to give loans of INR 50,000-100,000 to 5 year+ customers. Borrowers given a loan of INR 15,000 in first cycle, now has gone up to INR 40,000 by 3rd cycle; interest: 22.25%
- 95-98% of the disbursements are cashless. The balance is in form of cash due to non-availability of partner banks. They have collaborated with Fino Paytech for collection. Collection points will be made in villages wherein borrowers can deposit cash. This will help in mitigating the risk of transporting money. They are now in process to start cashless collections and have started informing borrowers about the same. The idea was at least received well by ladies in the groups we visited. Though the implementation remains to be seen.
- To improve lending standards they have implemented compulsory psychometric test (detailed questionnaire) to assess the borrower's intention to pay back the loan. Loan getting rejected due to this test.

Other feedback

- Madhya Pradesh - Overall industry growth in state is good. Collection is seeing delays because of adverse weather and therefore slippages would increase this quarter. Due to change in KYC process for the company, disbursement have come down, which will pick up and will recover in 2HFY20.

Exhibit 179. Meeting with microfinance borrowers in Punjab –Satin Credit care

Source: JM Financial

Exhibit 180. Interaction with vehicle financiers

Source: JM Financial

Exhibit 181. Visits across NBFCs

Source: JM Financial

Exhibit 182. Feedback from small finance banks

Source: JM Financial

Agri-inputs

In our travels, we continue to observe a wide disparity in brand awareness and the decision-making criteria with regard to pesticide purchases among farmers in various states. For example, while brand awareness was as high as 80% in AP and Telangana, it was as low as 10-15% in UP and Bihar and 50-60% in Maharashtra and Gujarat. The use of spurious pesticides (based on dealers' recommendations) is still high in many states and this has impacted the quality of agricultural produce to a large extent. While companies have taken up several farmer engagement initiatives in the organised space (eg. Coromandel, Rallis, Dhanuka, etc.), these are yet to make an impact in many remote villages, where farmers rely entirely on dealers' recommendations to make purchases. We believe there is significant potential lying ahead in the sector, driven by the rising number of farmers realising the need to use high-quality agri-inputs. So, over the medium-term increase in regional penetration by organised players, the Indian agrochemicals sector is capable of accelerating annual growth to double digits.

Exhibit 183. Agri-input dealer – Settanapalli, Andhra Pradesh

Source: JM Financial

Exhibit 184. ZBNF stores are more visible in South India

Source: JM Financial

- **2QFY20 to be a modest quarter for domestic agrochemical sales** – The weak monsoon has led to lower usage in the first two months of 2QFY20 and while sowing picked up in late-Aug / Sep'19, agro-chemical sales are likely to be modest overall. We expect domestic agro-chemical growth to remain in single digits in 2QFY20. We also noted high competitive intensity and sales aided by discounts. The lack of large scale pest infestations has also limited the growth for the agro-chemical sales in the quarter.
- **Increased optimism for Rabi crop sales:** There is an increased optimism for the upcoming Rabi harvest season and also on intermediate crops, which should positively boost sales in the next two quarters. The sustenance of high vegetable and agri-commodity prices would be critical for improvement in the growth trajectory going ahead. However, it can be noted that a large majority (c.2/3rd) of agro-chemical sales are concentrated in the Kharif season.
- **DBT 2.0 in fertilisers:** Our earlier visits indicated the universal usage of point of sale (POS) machines for sale of fertilisers (0.22mn retail points) undertaken under DBT 1.0 (launched Nov'17 to Mar'19) and now the government is taking initiatives towards DBT2.0 (from Jul'19 onwards). There are multiple aims of DBT 2.0 which include:
  - Improved transparency of the system with launch of dashboards with details of fertiliser supply, availability and requirement at national, state and district level
  - Upgradation of the POS software and also launch of desktop versions

- Exploring the feasibility of providing fertiliser subsidy directly to the farmers' accounts post retail sale against the current mode of payment to companies post sale at retail level.
- Linking of farmers' Aadhar card with Soil Health card and provide fertilisers based on the recommendations from SHC.

- While, the aim of DBT2.0 is beneficial in the long run, the government should also take initiative to improve the quality and timeliness and feedback from soil health cards across states, where our feedback remains mixed.

Exhibit 185. Agrochemcial usage – Local brands continue to hold sway across regions

Source: JM Financial

Exhibit 186. Agrochemicals – Increase in local vegetable prices aids in agrochemical usage, Belgaum, Karnataka

Source: JM Financial

Appendix 1: Rainfall spread across states

Exhibit 187.How has the rainfall panned out across states

Region/State	July, 2019	Aug, 2019	Sep,2019
West MP	16%	37%	61%
West Maharashtra	30%	53%	55%
Rajasthan	9%	34%	42%
Gujarat	-26%	16%	42%
East MP	-18%	2%	25%
North interior Karnataka	4%	27%	23%
South interior Karnataka	-25%	17%	23%
Tamil Nadu	-29%	1%	18%
Kerala	-32%	5%	13%
Vidarbha (Maharashtra)	-10%	-4%	12%
Rayalaseema (AP)	-28%	-16%	12%
India	-9%	0%	10%
Coastal AP	-10%	-3%	9%
Odisha	-21%	-4%	7%
Telangana	-17%	-5%	6%
Bihar	0%	-18%	3%
East UP	1%	-14%	1%
Punjab	-3%	-5%	-5%
West Bengal	-14%	-17%	-10%
Marathwada (Maharashtra)	-25%	-26%	-12%
Jharkhand	-36%	-28%	-18%
West UP	-24%	-27%	-27%
Haryana	-26%	-35%	-42%
All India	-9%	0%	10.0%

Source: JM Financial, Note: Regions highlighted with shades

Appendix 2: Crop economics

Exhibit 188. Crop economcis of paddy (rice) (INR/acre)

Paddy Common		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yield Quintal/Acre	Quintal/Acre	13.5	14.5	14.9	14.6	14.4	14.5	15.1	15.6	15.9	15.9
Realization/Quintal	INR/Quintal	1,000	1,080	1,250	1,310	1,360	1,410	1,470	1,550	1,750	1,873
By-product	INR/Acre	1,231	1,463	1,610	1,764	2,046	1,979	2,013	2,073	2,163	2,163
Total Realization	INR/Acre	14,756	17,074	20,193	20,883	21,690	22,420	24,153	26,189	30,044	31,996
% YoY	% YoY	5.6	15.7	18.3	3.4	3.9	3.4	7.7	8.4	14.7	6.5
Human Labour	INR/Acre	3,081	3,296	3,629	3,718	4,262	4,452	4,804	5,093	5,398	5,722
Machine Labour	INR/Acre	1,256	1,364	1,509	1,623	1,910	2,144	2,402	2,642	2,906	3,197
Animal Labour	INR/Acre	649	840	833	972	885	875	888	906	943	980
Seeds	INR/Acre	649	697	744	823	933	990	1,007	997	1,146	1,261
Fertilizers & manure	INR/Acre	1,112	1,419	1,757	1,727	1,939	2,031	1,986	2,002	2,403	2,691
Pesticides & Insecticides	INR/Acre	246	296	324	335	383	469	527	596	746	857
Water & Electricity	INR/Acre	397	480	567	531	895	979	1,076	1,238	1,485	1,708
Working Capital	INR/Acre	231	262	293	304	351	374	381	377	452	503
Miscellaneous	INR/Acre	7	6	5	5	27	41	41	41	40	40
Total Cost	INR/Acre	7,629	8,660	9,661	10,037	11,584	12,356	13,114	13,892	15,520	16,961
% YoY	% YoY	11.0	13.5	11.6	3.9	15.4	6.7	6.1	5.9	11.7	9.3
Total Profit	INR/Acre	7,128	8,414	10,532	10,846	10,106	10,065	11,039	12,296	14,524	15,035

Source: CMIE, CACP, JM Financial

Exhibit 189.Crop economics of wheat (INR/acre)

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yield Quintal/Acre	Quintal/Acre	12.1	12.9	12.6	12.7	11.1	12.3	12.9	13.6	14.0	14.4
Realization/Quintal	INR/Quintal	1,170	1,285	1,350	1,400	1,450	1,525	1,625	1,735	1,840	1,925
By-product	INR/Acre	2,958	3,341	3,683	4,321	3,947	4,239	4,312	4,440	4,633	4,633
Total Realization	INR/Acre	17,108	19,863	20,709	22,142	20,083	22,963	25,355	28,089	30,416	32,411
% YoY	% YoY	13.3	16.1	4.3	6.9	(9.3)	14.3	10.4	10.8	8.3	6.6
Human Labour	INR/Acre	986	1,155	1,242	1,384	1,419	1,482	1,578	1,676	1,758	1,855
Machine Labour	INR/Acre	1,894	2,081	2,346	2,571	2,641	2,790	3,004	3,197	3,376	3,590
Animal Labour	INR/Acre	234	167	195	204	220	233	253	270	290	310
Seeds	INR/Acre	853	871	992	1,117	1,178	1,229	1,341	1,446	1,543	1,651
Fertilizers & manure	INR/Acre	1,012	1,360	1,634	1,634	1,709	1,723	1,833	1,887	2,038	2,140
Pesticides & Insecticides	INR/Acre	107	110	135	141	126	149	149	153	162	172
Water & Electricity	INR/Acre	1,040	1,261	1,252	1,248	1,394	1,703	1,703	1,846	2,041	2,250
Working Capital	INR/Acre	192	219	244	259	272	291	313	333	355	379
Miscellaneous	INR/Acre	7	5	3	2	5	17	29	57	132	314
Total Cost	INR/Acre	6,325	7,229	8,043	8,563	8,964	9,617	10,202	10,866	11,695	12,661
% YoY	% YoY	7.8	14.3	11.3	6.5	4.7	7.3	6.1	6.5	7.6	8.3
Total Profit	INR/Acre	10,783	12,634	12,666	13,579	11,120	13,346	15,153	17,223	18,721	19,749

Source: CMIE, CACP, JM Financial

Exhibit 190. Crop economcis of arhar (pulse) (INR/acre)

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yield Quintal/Acre	Quintal/Acre	2.7	2.7	3.1	3.3	2.9	2.6	3.7	3.9	3.4	3.6
Realization/Quintal	INR/Quintal	3,000	3,200	3,850	4,300	4,350	4,625	5,050	5,450	5,675	5,959
By-product	INR/Acre	624	922	937	1,226	900	1,133	1,153	1,187	1,238	1,315
Total Realization	**INR/Acre**	**8,579**	**9,499**	**13,027**	**15,374**	**13,724**	**13,228**	**19,811**	**22,503**	**20,771**	**22,850**
% YoY	% YoY	16.8	10.7	37.1	18.0	(10.7)	(3.6)	49.8	13.6	(7.7)	10.0
Human Labour	INR/Acre	2,360	2,224	2,665	2,669	2,548	2,831	3,055	3,238	3,433	3,639
Machine Labour	INR/Acre	832	881	1,212	1,629	1,704	1,832	2,052	2,258	2,483	2,732
Animal Labour	INR/Acre	1,084	1,184	1,303	1,323	1,365	1,811	1,838	1,875	1,950	2,028
Seeds	INR/Acre	427	422	494	524	477	794	867	952	1,095	1,205
Fertilizers & manure	INR/Acre	871	688	1,131	1,136	1,174	1,301	1,428	1,518	1,822	2,040
Pesticides & Insecticides	INR/Acre	549	563	810	907	976	1,019	1,146	1,296	1,620	1,864
Water & Electricity	INR/Acre	75	130	134	62	181	471	518	596	715	822
Working Capital	INR/Acre	194	191	242	258	264	315	345	375	450	501
Miscellaneous	INR/Acre	3	7	5	3	37	28	61	157	468	1,086
Total Cost	**Rs/Acre**	**6,394**	**6,290**	**7,996**	**8,510**	**8,727**	**10,402**	**11,311**	**12,266**	**14,037**	**15,917**
% YoY	% YoY	20.5	(1.6)	27.1	6.4	2.5	19.2	8.7	8.4	14.4	13.4
Total Profit	**Rs/Acre**	**2,185**	**3,209**	**5,031**	**6,863**	**4,997**	**2,826**	**8,500**	**10,237**	**6,734**	**6,933**

Source: CMIE, CACP, JM Financial

Exhibit 191.Crop economics of cotton (INR/acre)

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yield Quintal/Acre	Quintal/Acre	9.4	9.7	9.7	10.7	10.3	9.9	10.8	10.2	9.0	9.5
Realization/Quintal	INR/Quintal	3,000	3,300	3,900	4,000	4,050	4,100	4,160	4,320	5,450	5,668
By-product	INR/Acre	454	508	585	712	788	609	620	638	666	707
Total Realization	**INR/Acre**	**28,730**	**32,407**	**38,409**	**43,427**	**42,569**	**41,372**	**45,393**	**44,650**	**49,749**	**54,306**
% YoY	% YoY	**(6.2)**	**12.8**	**18.5**	**13.1**	**(2.0)**	**(2.8)**	**9.7**	**(1.6)**	**11.4**	**9.2**
Human Labour	INR/Acre	3,873	4,593	5,250	5,674	5,636	5,789	6,143	6,392	6,587	6,849
Machine Labour	INR/Acre	788	1,100	1,288	1,461	1,832	1,817	2,068	2,336	2,636	2,891
Animal Labour	INR/Acre	1,392	1,296	1,601	1,728	1,695	1,773	1,925	2,017	2,099	2,214
Seeds	INR/Acre	1,070	1,456	1,557	1,400	1,547	1,571	1,605	1,766	2,031	2,234
Fertilizers & manure	INR/Acre	1,727	2,281	3,028	3,341	3,249	3,054	3,317	3,648	4,196	4,615
Pesticides & Insecticides	INR/Acre	793	974	986	1,018	1,130	1,235	1,297	1,392	1,601	1,718
Water & Electricity	INR/Acre	476	661	686	668	960	994	1,044	1,096	1,206	1,266
Working Capital	INR/Acre	313	387	450	478	504	511	520	515	503	507
Miscellaneous	INR/Acre	7	11	11	11	69	129	131	130	127	128
Total Cost	**INR/Acre**	**10,440**	**12,759**	**14,857**	**15,778**	**16,621**	**16,875**	**18,051**	**19,292**	**20,984**	**22,422**
% YoY	% YoY	23.6	22.2	16.4	6.2	5.3	1.5	7.0	6.9	8.8	6.9
Total Profit	**INR/Acre**	**18,291**	**19,648**	**23,552**	**27,649**	**25,947**	**24,496**	**27,342**	**25,358**	**28,765**	**31,883**

Source: CMIE, CACP, JM Financial

Exhibit 192. Crop economics of Soyabean (INR/acre) – Yield to decline significantly impacting returns

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yield Quintal/Acre	Quintal/Acre	5.4	4.9	5.5	4.1	3.8	3.0	4.8	4.3	5.1	4.4
Realization/Quintal	INR/Quintal	1,420	1,670	2,220	2,530	2,530	2,600	2,775	3,050	3,399	3,535
By-product	INR/Acre	534	541	679	504	577	432	440	453	472	472
Total Realization	**INR/Acre**	**8,158**	**8,707**	**12,833**	**10,869**	**10,312**	**8,203**	**13,653**	**13,518**	**17,915**	**15,892**
% YoY	% YoY	31.9%	6.7%	47.4%	-15.3%	-5.1%	-20.5%	66.5%	-1.0%	32.5%	-11.3%
Human Labour	INR/Acre	1,124	1,147	1,587	1,669	1,824	1,717	2,002	2,226	2,509	2,849
Machine Labour	INR/Acre	1,199	1,363	1,776	1,836	2,064	1,983	2,285	2,548	2,892	3,292
Animal Labour	INR/Acre	734	642	607	593	760	703	742	805	893	954
Seeds	INR/Acre	955	1,029	1,497	1,586	1,964	2,007	2,489	2,953	3,597	3,957
Fertilizers & manure	INR/Acre	582	629	1,025	1,047	1,054	1,087	1,316	1,456	1,674	1,842
Pesticides & Insecticides	INR/Acre	333	448	583	605	1,255	1,335	1,401	1,471	1,692	1,861
Water & Electricity	INR/Acre	2	33	25	30	31	31	31	33	34	35
Working Capital	INR/Acre	154	166	222	235	291	298	358	419	502	596
Total Cost	**INR/Acre**	**5,089**	**5,464**	**7,325**	**7,608**	**9,248**	**9,166**	**10,631**	**11,917**	**13,799**	**15,390**
% YoY	% YoY	1.5	7.4	34.1	3.9	21.6	(0.9)	16.0	12.1	15.8	11.5
Total Profit	**INR/Acre**	**3,069**	**3,243**	**5,509**	**3,262**	**1,063**	**(963)**	**3,022**	**1,601**	**4,116**	**501**

Source: CMIE, CACP, JM Financial

Exhibit 193. Crop economics of Sugarcane (INR/acre) – Steady growth

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yield Quintal/Acre	Quintal/Acre	283	284	290	276	285	289	286	279	325	328	335
Realization/Quintal	INR/Quintal	108	139	145	170	210	220	230	230	255	255	265
By-product	INR/Acre	2,464	2,958	3,341	3,683	4,321	3,947	4,239	4,312	4,440	4,633	4,919
Total Realization	**INR/Acre**	**33,010**	**42,413**	**45,395**	**50,639**	**64,252**	**67,615**	**70,063**	**68,537**	**87,200**	**88,304**	**93,677**
% YoY	% YoY	**41.2**	**28.5**	**7.0**	**11.6**	**26.9**	**5.2**	**3.6**	**(2.2)**	**27.2**	**1.3**	**6.1**
Human Labour	INR/Acre	5,668	7,156	8,925	9,502	9,752	10,235	10,543	11,168	11,816	12,595	13,477
Machine Labour	INR/Acre	893	1,554	2,219	2,115	2,621	2,610	2,984	3,239	3,624	3,944	4,384
Animal Labour	INR/Acre	650	939	961	1,113	859	1,062	767	807	829	905	955
Seeds	INR/Acre	1,737	3,000	2,478	2,651	2,450	2,719	3,056	3,119	3,149	3,246	3,282
Fertilizers & manure	INR/Acre	2,299	2,374	2,922	3,622	3,986	4,486	4,481	4,566	5,205	5,985	6,918
Pesticides & Insecticides	INR/Acre	71	87	189	244	192	190	224	224	224	258	297
Water & Electricity	INR/Acre	1,886	1,899	2,649	2,386	2,419	3,695	3,311	3,146	3,460	3,806	4,187
Working Capital	INR/Acre	825	1,063	1,272	1,352	1,392	1,562	1,585	1,618	1,753	1,923	2,098
Total Cost	**INR/Acre**	**14,031**	**18,074**	**21,617**	**22,987**	**23,672**	**26,558**	**26,953**	**27,889**	**30,061**	**32,662**	**35,596**
% YoY	% YoY	15.0	28.8	19.6	6.3	3.0	12.2	1.5	3.5	7.8	8.7	9.0
Total Profit	**INR/Acre**	**18,979**	**24,340**	**23,779**	**27,652**	**40,580**	**41,056**	**43,110**	**40,648**	**57,140**	**55,642**	**58,080**

Source: CMIE, CACP, JM Financial

Exhibit 194. Crop economics of onion (INR/acre) – Highly volatile, expect a jump in profitability in 2020

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Yield	Quintal/Acre	57.5	65.2	64.7	65.2	65.3	64.2	69.5	72.3	68.7	65.2
Realization	Rs/Quintal	1,195	643	801	2,016	1,399	1,987	688	1,686	782	1,564
By-product	Rs/Acre	447	490	470	688	435	771	784	808	843	843
Total Realization	**Rs/Acre**	**69,174**	**42,413**	**52,273**	**132,223**	**91,737**	**128,304**	**48,563**	**122,642**	**54,546**	**102,879**
% YoY	% YoY	18.2	(38.7)	23.2	152.9	(30.6)	39.9	(62.1)	152.5	(55.5)	88.6
Human Labour	Rs/Acre	4,669	7,461	7,809	10,421	10,595	11,743	12,826	13,595	14,411	15,276
Machine Labour	Rs/Acre	1,177	1,721	1,496	1,856	2,270	2,901	3,088	3,397	3,737	4,111
Animal Labour	Rs/Acre	513	457	334	654	610	637	649	662	689	716
Seeds	Rs/Acre	5,365	3,530	2,554	6,204	10,652	8,161	8,130	8,301	8,731	8,841
Fertilizers & manure	Rs/Acre	2,601	2,698	3,390	4,108	4,154	4,322	4,546	4,604	4,676	6,349
Pesticides & Insecticides	Rs/Acre	362	618	641	1,100	949	1,046	1,421	758	833	833
Water & Electricity	Rs/Acre	1,301	1,323	1,325	1,676	2,639	2,919	2,981	3,135	3,175	3,225
Working Capital	Rs/Acre	500	557	550	813	996	992	988	1,009	1,061	1,074
Miscellaneous	Rs/Acre	-	12	36	2	20	7	7	7	8	8
Total Cost	**Rs/Acre**	**16,487**	**18,378**	**18,134**	**26,834**	**32,885**	**32,729**	**34,635**	**35,468**	**37,320**	**40,433**
% YoY	% YoY	49.2	11.5	(1.3)	48.0	22.5	(0.5)	5.8	2.4	5.2	8.3
Total Profit	**Rs/Acre**	**52,687**	**24,036**	**34,139**	**105,389**	**58,852**	**95,575**	**13,928**	**87,174**	**17,226**	**62,446**

Source: CMIE, CACP, JM Financial

Notes

Notes

Notes

APPENDIX I

JM Financial Institutional Securities Limited

(formerly known as JM Financial Securities Limited)

Corporate Identity Number: U67100MH2017PLC296081
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Rating	Meaning
Buy	Total expected returns of more than 15%. Total expected return includes dividend yields.
Hold	Price expected to move in the range of 10% downside to 15% upside from the current market price.
Sell	Price expected to move downwards by more than 10%

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