JM FINANCIAL

India Strategy

What killed India's food inflation?

JM Financial Institutional Securities Limited

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India's double digit food inflation (FY08-14) was tamed to mid-single digits over the last four years (FY14-18), aided by (a) low hike in MSP, (b) steady yield improvements, and (c) easing agri-imports in a declining global agri-commodity price environment, However, in the last three months, food inflation has turned negative (sub-2% over the past six months) and our study indicates a build-up of excess supply in several food categories (pulses, fruits & vegetables ,sugar, milk etc.) exerting price pressure. Over and above that, a weaker than expected MSP-based procurement (Paddy c.70% of expected procurement volume, <6% of output of pulses & oilseeds procured by 10Jan'19) has accentuated price deflation. Rural wage growth remains low (sub-5% YoY) and the recent food price deflation has tempered rural consumption sentiment reflecting in weak automobile sales. Liquidity challenges have also adversely impacted economic activity, as per our channel checks. Going forward, we expect food inflation to inch up but remain in the sub-2% range over the next 3 months, subsequently moving towards 4-5% by Jun'19 (Exhibit 6, 31). A weak Rabi harvest in Apr/May'19 (sowing already down 4.8% YoY with a significant decline in Maharashtra & Gujarat) could exert upward price pressure in select commodities (onions, fruits), while continued government intervention through price support/soft loans/export incentives in milk, sugar is likely to arrest price weakness and deflation.

- **Low inflation trajectory to lead to rate action by RBI:** We expect headline CPI inflation over next three months to inch up from the current levels (2.2%: Dec'18), but remain in the range of 2HFY19 RBI forecast (2.7%-3.2%); underpinned by food inflation at sub-2%. Hence, there is a high likelihood of a change in RBI stance from "calibrated tightening" to "neutral" with a possible rate cut in the next MPC meeting (Feb'19). Fiscal slippage however, continues to be a risk for rate cut.

- **Food price deflation impacting rural consumption:** Rural income growth in FY19 has been adversely impacted by **(a)** weak crop procurement reflecting in price discount to MSP prices for many crops (Exhibit 3) **(b)** deflation in horticulture and allied product prices (dairy etc.) and **(c)** a subdued rural wage growth (sub-5% YoY) (ref Rural Safari – VIII: Field Days).The weakness in NBFC lending (in the past few months) has further impacted overall economic activity. While any announcement by the government on rural income support/input waiver would definitely improve consumer sentiment, a nationwide scheme would take time to implement. Therefore a **"sustained increase"** in crop prices is imperative for broad-based acceleration in rural consumption growth.

- **Feedback across sectors:** Our channel checks indicate **(a)** A weak Rabi sowing in Maharashtra & Gujarat (lower by more than 25% YoY) along with down-trading to adversely impact domestic agrochemical sales in the Dec'18 quarter. Therefore, companies with a high share of exports (UPL Ltd, PI Industries) are likely to outperform.**(b)** The price deflation in the last quarter would benefit gross margins of consumer companies, albeit with a lag, as the CPI-Food and gross margins are inversely related (Exhibit 32). While structural themes such as expansion of organised retail and demand for consumer electricals would sustain, reversion of liquidity would be imperative for normalisation of rural income growth and to drive large-ticket consumption in the near-term. **(c)** Despite overall lower lending activity in last quarter, strong promoter-backed NBFCs such as Mahindra Finance, Cholamandalam Finance, Bajaj Finance continue to gain market share. **(d)** Among home textile players, Trident is a fully-integrated player, while Indo Count is partially integrated and is more vulnerable to any price changes in cotton. A 1% increase in cotton prices on an average reduces EPS by 2.5% for home textile players, and at present we expect cotton prices to remain at the current levels.

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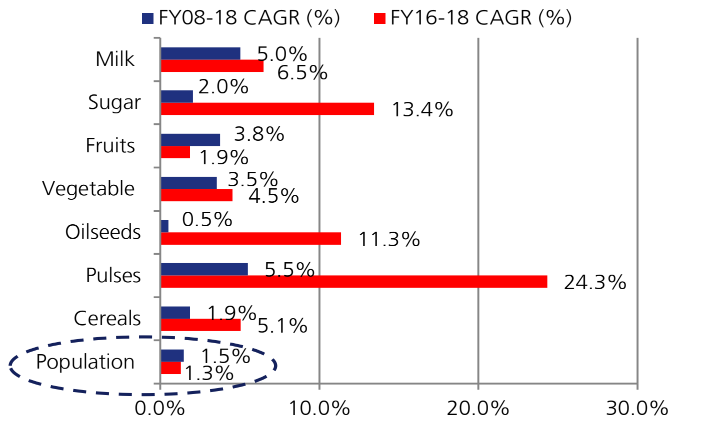
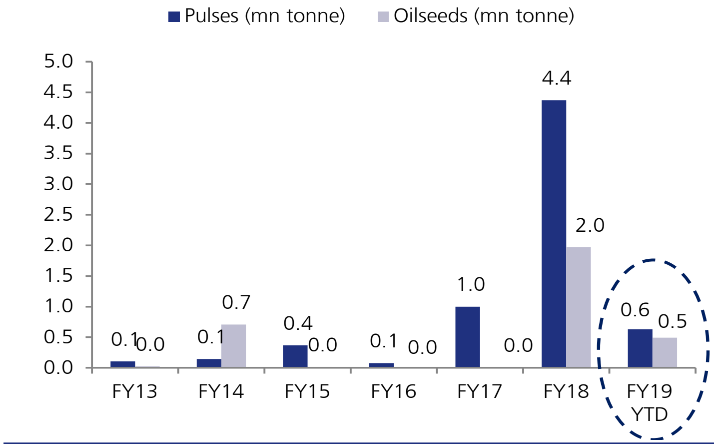
Focus Charts…

Exhibit 1. Agri (& allied products) output growth, particularly in (FY16-18); far exceeds population growth, leading towards "glut"



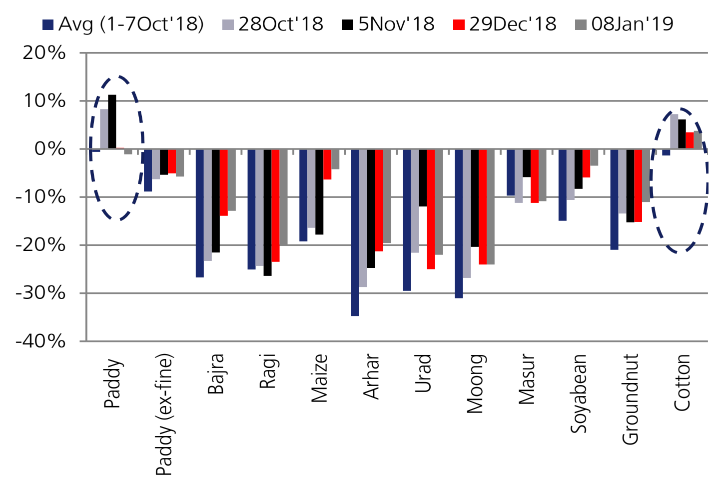
Source: CMIE, NDDB, JM Financial

Exhibit 2. MSP based procurement during FY19 has so far been below expectations (c.6% of Kharif pulses procured uptill 10Jan'19)



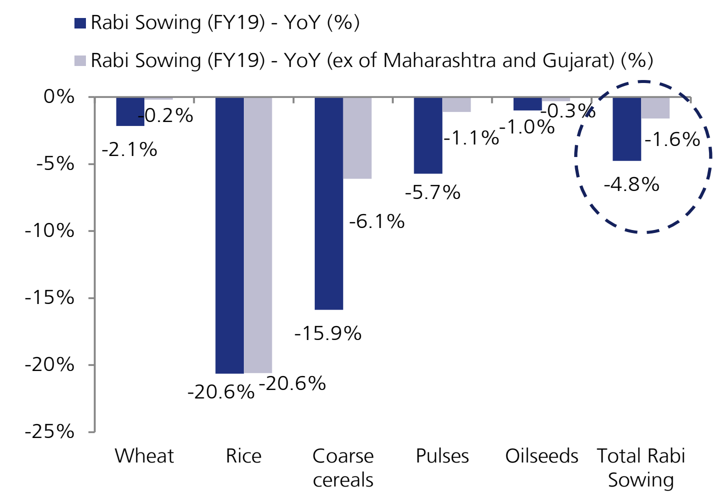
Source: NAFED, JM Financial, Note: As of 10Jan'19, Excluding Soyabean procurement in MP

Exhibit 3. ..Weak procurement reflects in signficant price discount to FY19 MSP for many crops (Market price vs. FY19 MSP)



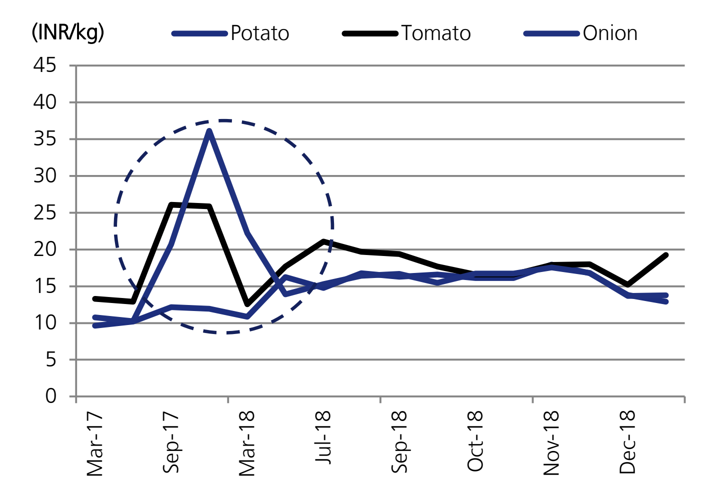
Source: Agmarknet, JM Financial

Exhibit 4. Rabi sowing down by 4.8% YoY; ex of Maharashtra and Gujarat, lower by 1.6% YoY



Source: Ministry of Agriculture, JM Financial, Note: Sowing data as of 11Jan'19

Exhibit 5. Vegetable price deflation can abate from Feb/Mar'19 led by unfavorable base and weaker rabi output for select crops



Source: Department of Consumer Affairs, JM Financial, Note: Whole sale prices

Exhibit 6. Expect Food inflation to normalise over the next six months, but below mid-single digits

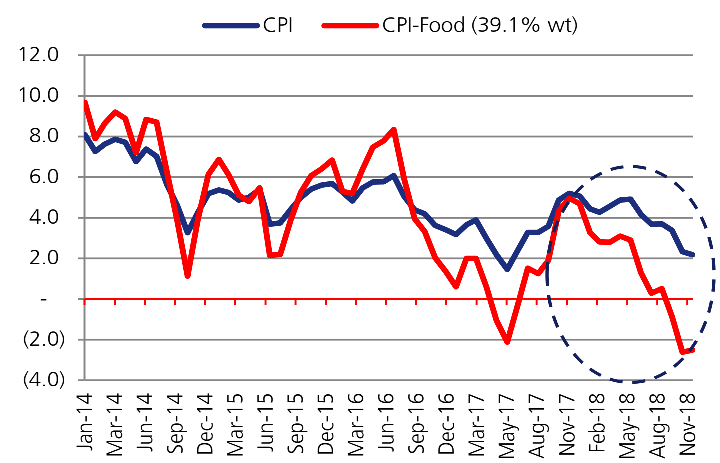
Category	Weight in CPI	Dec'18 CPI	Outlook 1-3	Outlook 3
Cereals & Products	9.7	1.3	Marginal uptick	Marginal uptick
Pulses and Products	2.4	(7.1)	Stable	Marginal uptick
Vegetables	6.0	(16.1)	Stable	Uptick
Fruits	2.9	(1.4)	Stable	Uptick
Sugar & Condiments	1.4	(9.2)	Marginal uptick	Marginal uptick
Spices	2.5	2.8	Stable	Stable
Oils & Fat	3.6	1.4	Stable	Stable
Egg, fish and meat	4.0	4.0	Marginal uptick	Marginal uptick
Milk	6.6	0.9	Stable	Marginal uptick
CPI - Food inflation	39.1	(2.5)	Marginal uptick (< 2)	Uptick (< 5)
CPI	100	2.2		

Source: CMIE, JM Financial

Food inflation – Decline from double digits (FY08-14) to negative at present

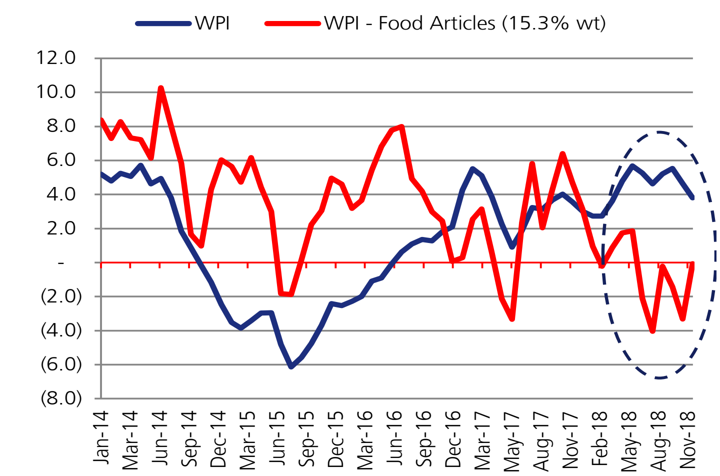
India's inflation trajectory has been on a declining trend since FY15, and this is in a large part on account of the softening food inflation (c.40% weight in CPI). Low food inflation does have calming impact on the overall inflation, but a sustained low inflation regime can also lead to adverse impact on rural income and can be a cause of social unrest. Just to recall, post demonetisation (Nov'16), food inflation had turned negative for the next few months and eventually there were farmer led protests (Jun'17) which resulted in the announcement of farm loan waivers across states.

Exhibit 7.CPI inflation has been dragged down by unusually weak food inflation



Source: CMIE, JM Financial

Exhibit 8. WPI trend – Food inflation turns negative, while overall WPI on an increasing trend



Source: CMIE, JM Financial

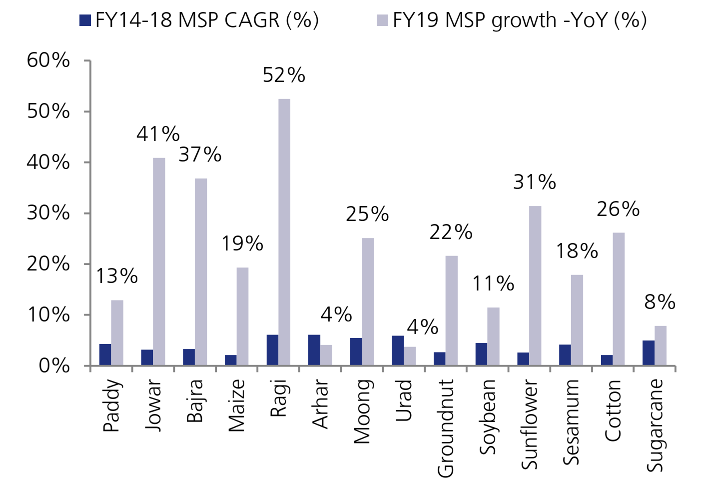
Exhibit 9. Detailed break up of CPI- Food inflation by segments

Category	Weight	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18
Cereals & Products	9.7	2.4	2.1	2.2	2.6	2.8	2.7	2.9	3.0	2.9	2.6	1.3	1.3
Pulses and Products	2.4	(20.2)	(17.4)	(13.4)	(12.4)	(11.6)	(10.9)	(8.9)	(7.8)	(8.7)	(10.4)	(9.2)	(7.1)
Vegetables	6.0	27.0	17.6	11.7	7.5	8.0	7.8	(2.3)	(7.1)	(4.2)	(8.1)	(15.6)	(16.1)
Fruits	2.9	6.2	5.6	5.7	9.7	12.1	10.1	6.9	3.5	1.7	0.5	0.2	(1.4)
Sugar & Condiments	1.4	2.8	(0.2)	(1.6)	(4.1)	(8.2)	(7.1)	(5.8)	(5.4)	(6.4)	(7.6)	(9.0)	(9.2)
Spices	2.5	(1.5)	(1.0)	(0.1)	1.3	1.5	2.3	2.7	2.8	2.9	2.7	3.1	2.8
Oils & Fat	3.6	1.3	1.0	1.6	2.2	2.5	2.6	2.8	3.5	3.1	2.1	1.6	1.4
Egg, fish and meat	4.0	4.8	3.9	3.7	3.8	3.8	2.6	2.8	3.6	2.5	3.1	4.0	4.0
Milk	6.6	4.2	3.8	3.6	3.2	3.2	3.0	2.9	2.6	2.4	0.9	0.8	0.9
CPI - Food inflation	**39.1**	**4.7**	**3.3**	**2.8**	**2.8**	**3.1**	**2.9**	**1.3**	**0.3**	**0.5**	**(0.9)**	**(2.6)**	**(2.5)**
CPI	100.0	5.07	4.44	4.28	4.58	4.87	4.92	4.17	3.69	3.7	3.38	2.33	2.2

Source: CMIE, JM Financial

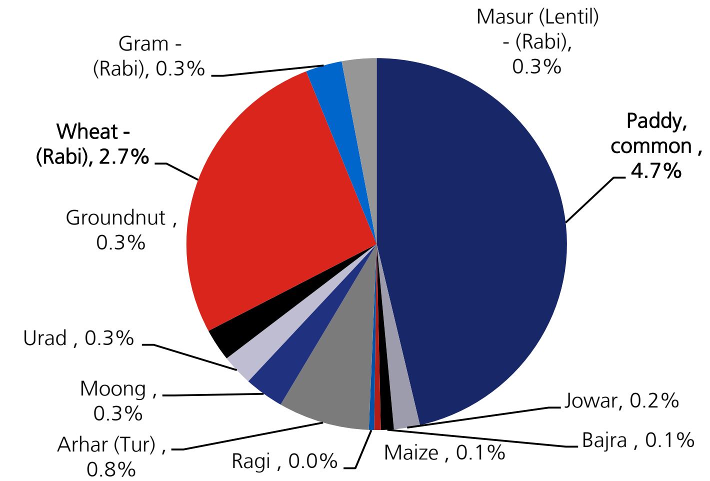
Going into FY19, the government had significantly raised kharif MSP, in double digits against mid-single digit growth over the past few years (exhibit ahead). Even then, a weak inflation trajectory does indicate the non-transmission of MSP prices to the market prices.

Exhibit 10. MSP growth rate in FY19 (for Kharif) has been higher than past few years



Source: CMIE, JM Financial

Exhibit 11. Weigtage of crops under MSP in the CPI basket – c.7% weight for Kharif crops (10.2% including Rabi crops)



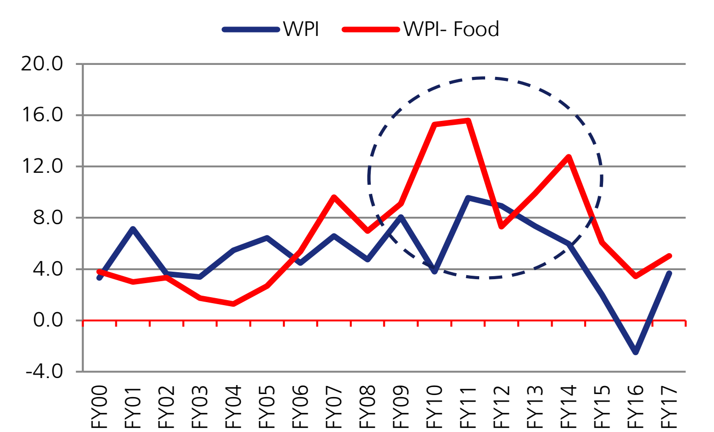
Source: PIB, JM Financial

In the sections ahead, we take a look at the various sub-segments of Food Inflation basket and our view on the likely trajectory. We also discuss the causes for high food inflation during the FY08-14 period.

India suffered double digit food inflation during FY08-14 period

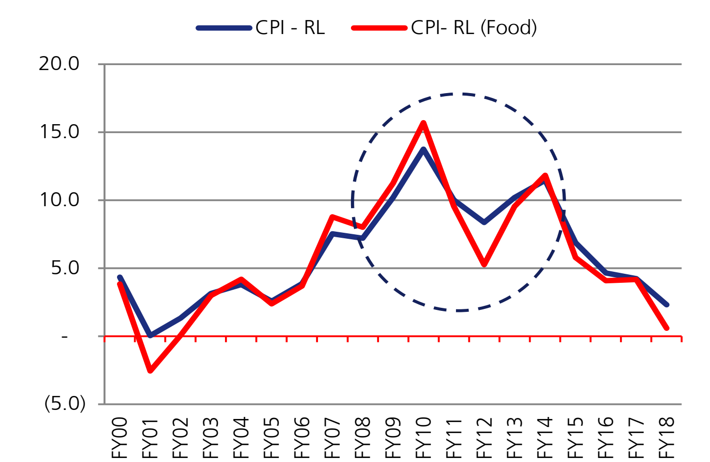
India recorded overall high inflation in the periods of 2008-14, underpinned by increase in food inflation.

Exhibit 12.Food inflation has been in double digits for a large period during FY08-15, driving overall inflation



Source: CMIE,JM Financial

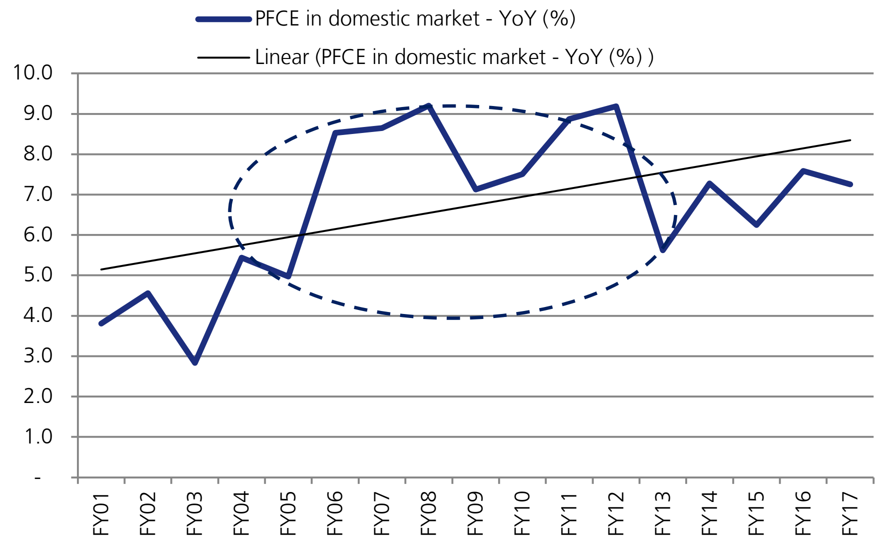
Exhibit 13. Barring FY12, Food inflation remained in double digits during FY08-15 (CPI)



Source: CMIE,JM Financial, Note: CPR-RL: CPI: Rural Labour

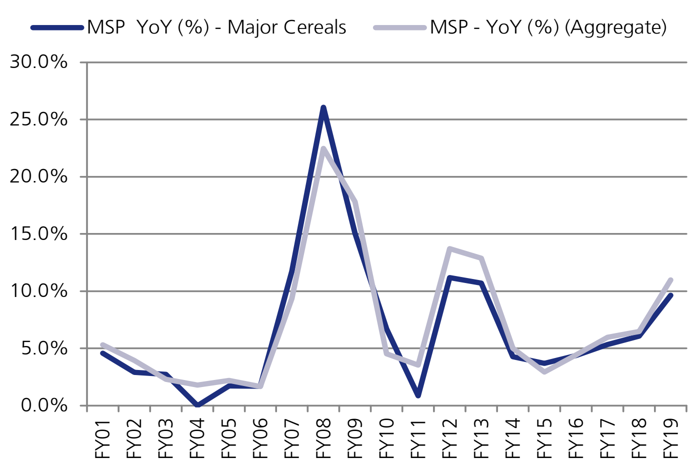
The key reasons for the sharp increase in food inflation during FY08-14 can be attributed to – **(a)** Significant acceleration in the MSP rates for crops, **(b)** Global food price rally (along with rally in crude prices) driving prices of domestic agri-commodities linked with global markets and **(c)** steep rise in the rural wage growth trajectory post implementation of MGNREGA (2008) driving up input cost as well as aggregate demand. During FY08-13 period, domestic consumption growth as measured by PFCE (Personal Final Consumption Expenditure) grew above the longer period trend and potentially causing shortages in various food baskets driving up the prices and hence food inflation.

Exhibit 14. Overall domestic consumption growth saw uptick during FY06-13 period



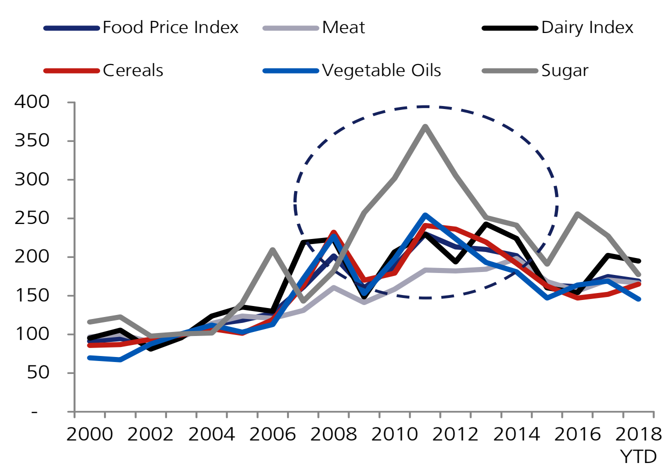
Source: CMIE,JM Financial, Note: PFCE at Constant Prices

Exhibit 15.Historically, food inflation had inched-up with the significant increase in MSP growth rates (FY09, FY13)



Source: CMIE, JM Financial

Exhibit 16. The period 2006-14 also witnessed strong global food price rally



Source: FAO, JM Financial

Modest MSP increases, weak global agri-commodity prices, a subdued rural wage growth contained and drove down food inflation (FY15 onwards)

We looked at various factors and their relationship with food inflation, and among various factors, rural wage growth has the highest co-relation with food inflation historically. (FY00-FY18).

To bring down food inflation, there has been multiple policy actions undertaken by the government post FY15 which include-

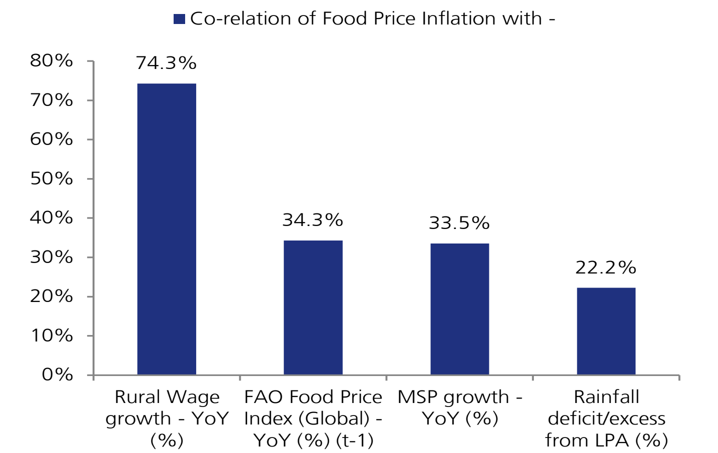
(a) Modest increase in MSP rates (mid-single digit growth),

(b) Easing of import of agri-commodities and restriction on exports,

(c) Continued focus on expanding production aided by the coverage of irrigation, branded agri-inputs, crop-insurance, agri-marketing through initiatives such as eNAM (electronic National Agriculture Marketing).

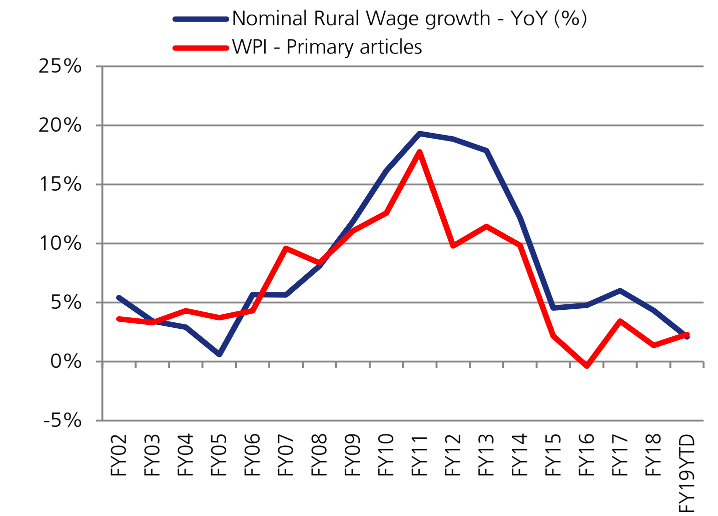
The decline in global agri-commodity prices from 2014 onwards also added to price deflation in India. **A subdued rural wage growth in the last three years also limited growth in agri-product demand.**

Exhibit 17. Co-relation of Food price inflation with various factors – Rural wage growth has the highest co-relation among major factors



Source: CMIE, JM Financial

Exhibit 18. The deceleration in rural wage growth has co-incided with the decline in Food inflation (major portion in Primary articles)



Source: CMIE, FAO,IMD, JM Financial, Note: For the period of FY01-18

Anecdotally, it has also been observed during our visits to rural India that there has been a lower tendency of traders now to buy and stock agri-produces as compared to past. This reluctance is likely to be on account of higher compliance, a shift from cash to formal banking channels and as a result, the liquidity at local levels has reduced which is also adding to price deflation across categories, particularly in perishables (fruits & vegetables).

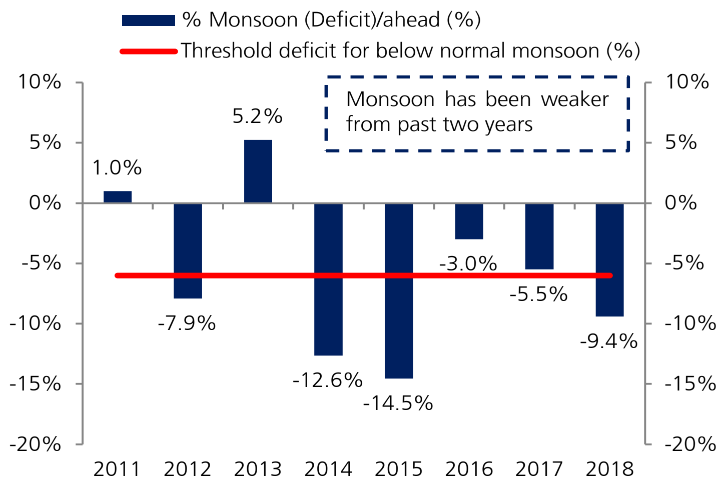
Lack of liquidity is also cited as a reason for low trading volumes at various agri-mandis

Food inflation – Policy responses to change from era of "deficit" to an era of "surplus"

High crop output during past two years

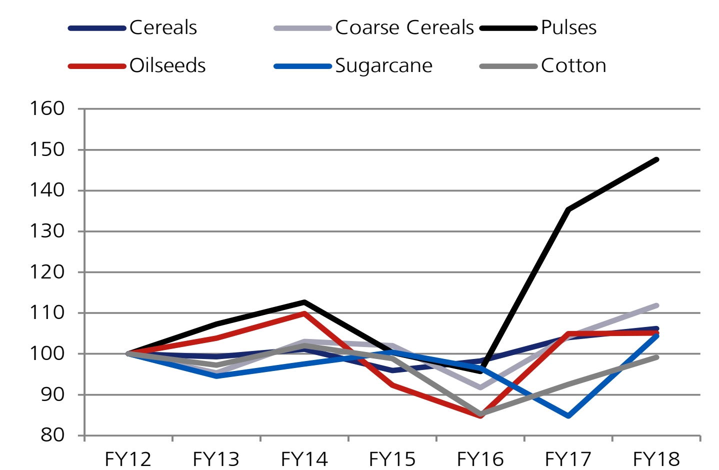
India suffered from deficient monsoon in 2014 & 2015 (12% & 14% below Long Period average) impacting food-grain production, and post normal rainfall from 2016, crop output has reverted to strong growth.

Exhibit 19. Monsoon trend – The normal monsoons of last three years have led to surge in output growth



Source: IMD, JM Financial

Exhibit 20. Production increase across the past two years, can likely sustain in FY19 as well (FY12 production = 100)

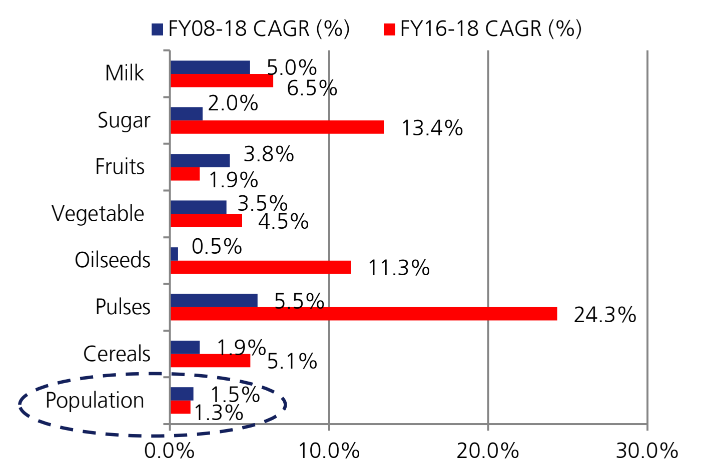


Source: Ministry of Agriculture, JM Financial

The increase in crop production trend continued in FY18 as well and the growth in multiple food categories (Pulses, Oilseeds, Sugar, Milk) during FY16-18 far outpaced the population growth (exhibit below).

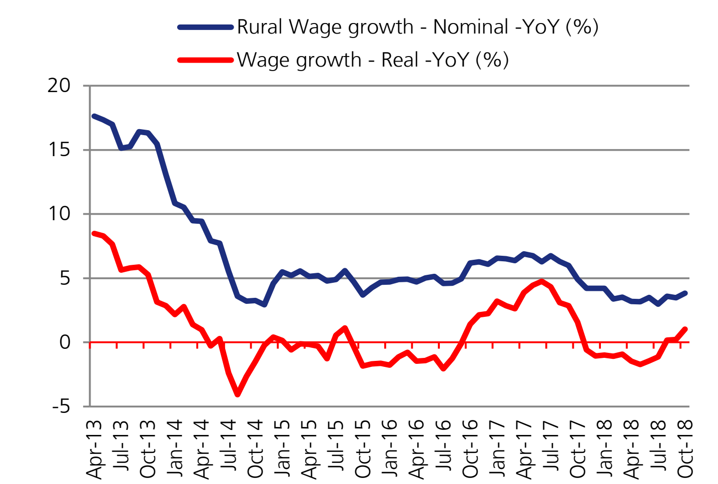
In addition, rural wage growth has been increasing at sub-5% for the past three years, which could also have contributed to softening of "demand" for agri-products in an era of strong production growth, thereby leading to a situation of "glut".

Exhibit 21.Agri (& allied products) output growth far exceeds population growth (FY16-18); leading to "glut"



Source: CMIE, NDDB,JM Financial

Exhibit 22. ..while Rural wage growth has been subdued –impacting food consumption demand

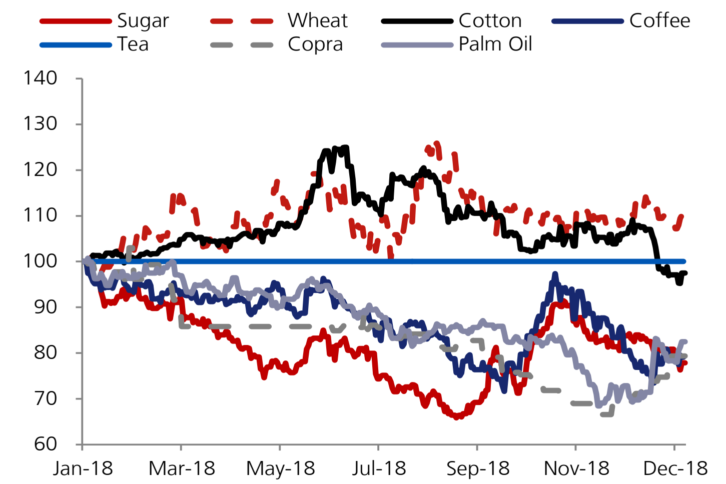


Source: CMIE

Global agri-commodity prices – Select crops could see higher prices in 2019

The global food prices have also not been supportive over the past few years (as seen by the Food and Agriculture Organisation (FAO Food Price Index, Exhibit 16), **However, there are selected commodities which can potentially see a strengthening of prices going ahead, particularly Wheat and Coarse Cereals**.

Exhibit 23.Global prices of key agri-commodities (indexed to Jan-18)



Source: Bloomberg, JM Financial

Exhibit 24. Global production and ending stock for key crops – Ending stock of Wheat, Corn and Cotton expected to decline in 2019, while Rice, Oilseeds & Vegetable Oils to increase

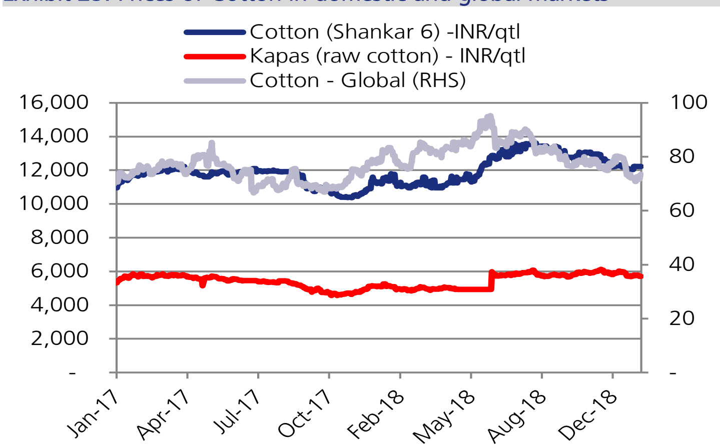
Crops	Production – YoY (%) 2017/18	Production – YoY (%) 2018/19	Ending Stocks – YoY (%) 2017/18	Ending Stocks – YoY (%) 2018/19
Commodities which could see strength in pricing				
Wheat	0.9%	-3.9%	7.2%	-4.2%
Cotton	16.0%	-3.5%	0.1%	-9.7%
Coarse Cereals	-4.0%	1.2%	-3.9%	-9.2%
Commodities which would lack near term pricing power				
Rice	0.9%	-0.8%	8.2%	1.0%
Oilseeds	0.4%	4.4%	5.2%	10.4%
Oil-meals	3.4%	3.3%	-5.4%	-1.2%
Vegetable Oils	5.1%	3.0%	5.5%	2.2%

Source: USDA, JM Financial

Among major crops, despite YoY expected decline in output for Cotton, a slowing global GDP growth and weakening consumption outlook would limit any sharp price increases from present level. A closer look at the Mandi arrivals of Cotton this year does indicate a 13% YoY drop in aggregate arrivals, and because of increases in Madhya Pradesh and Gujarat, the sharp declines (lower than 20%) in the states of Rajasthan, Maharashtra, Telangana have been partly offset. In terms of impact from increase/decrease of cotton prices on the listed home textile players, a 1% increase in cotton prices unfavourably impacts the earnings of home textile players by c.2.5%.

Though production of cotton is expected to decline, a global consumption slowdown can contain any price increase

Exhibit 25. Prices of Cotton in domestic and global markets



Source: Bloomberg, JM Financial

Exhibit 26. Cotton arrivals in Mandis – Down by 13% YoY

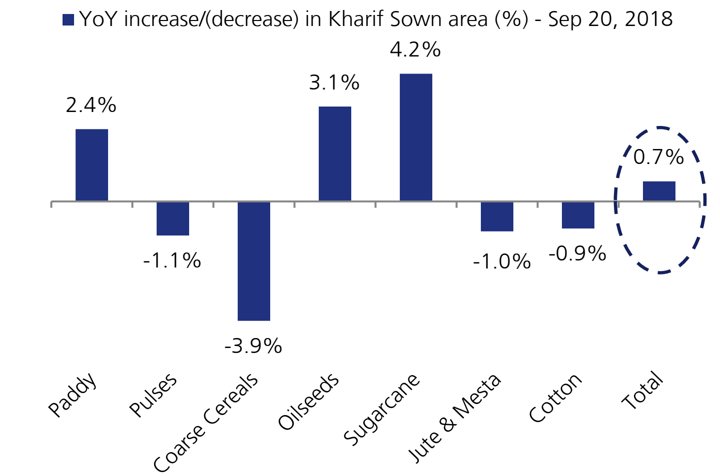
State	Oct17 -Jan18 Arrivals (mn tonne)	Oct18 -Jan19 Arrivals (mn tonne)	YoY (%)
Gujarat	0.4	0.5	25%
Madhya Pradesh	0.3	0.5	66%
Rajasthan	0.6	0.5	-20%
Maharashtra	0.5	0.3	-40%
Haryana	0.3	0.2	-30%
Telangana	0.4	0.2	-64%
Punjab	0.1	0.1	46%
Karnataka	0.1	0.1	5%
Andhra Pradesh	0.1	0.0	-78%
Uttar Pradesh	0.0	0.0	225%
Others	0.0	0.0	-58%
Total	2.9	2.5	-13%

Source: Agmarknet, JM Financial, Note: Arrivals up till Jan'10, For reference FY18 total cotton production was 5.9mn tonnes

Weak Rabi sowing in Maharashtra & Gujarat – will it reduce glut across some crops?

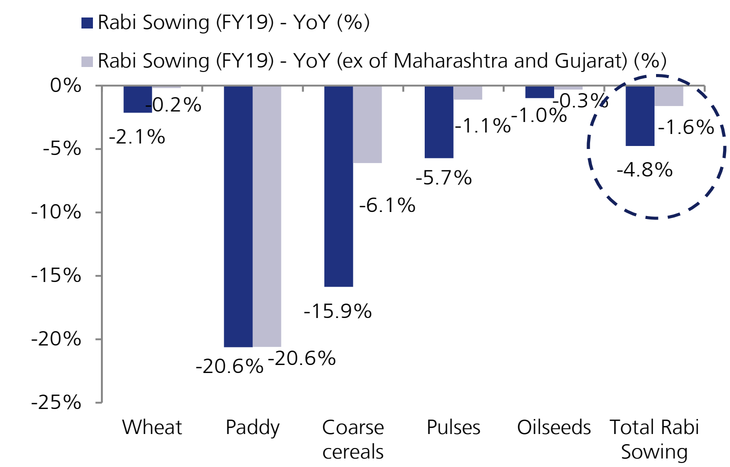
The western region, particularly Maharashtra and Gujarat had reported rain deficit and as these regions have lower irrigation average than the national average, sowing has been adversely impacted. While, the kharif sowing did not record major decline – Maharashtra (-1.7% YoY), Gujarat (-4.3% YoY), the Rabi sowing has seen sharp declines in these two states in particular.

Exhibit 27. The FY 19 Kharif (Jun'18-Nov'18) season reported an aggregate increase of 0.7% YoY in sown area



Source: Ministry of Agriculture, JM Financial

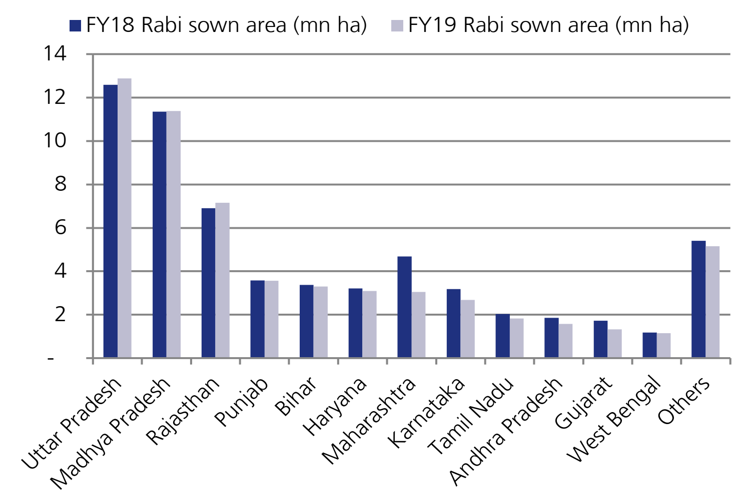
Exhibit 28. ..However the currently undergoing Rabi sowing has seen severe declines in Maharashtra (-35% YoY) and Gujarat (-23% YoY), taking total sown area lower by 4.8% YoY



Source: CMIE, JM Financial

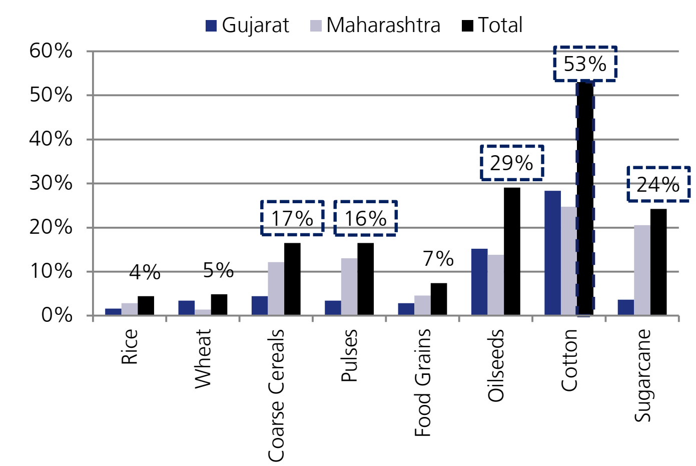
Overall Rabi sowing is down by 4.8% YoY and has been dragged down by Maharashtra and Gujarat, which have seen decline of 35%/23% YoY.

Exhibit 29.Distribution of Rabi sown area by states



Source: Ministry of Agriculture, JM Financial, As on 11Jan'19

Exhibit 30. Share of Maharashtra and Gujarat in major crops



Source: Ministry of Agriculture, JM Financial, As on 11Jan'19

In terms of potential impact, the state of Maharashtra & Gujarat account for 14% of country's population and 22% of overall GDP (15% of agri-GVA). These states account for a large share for select crops such as Sugarcane, Cotton, Oilseeds & Pulses (largely in Kharif season), and Coarse cereals and Pulses from Rabi perspective. **In addition to potentially weak Rabi output from these states, few vegetables (onions in particular, 38% share of country's output), and fruits such as grapes (80%), pomegranate (60%+), can see YoY decline in production and upward pricing pressure.**

Outlook on Food inflation

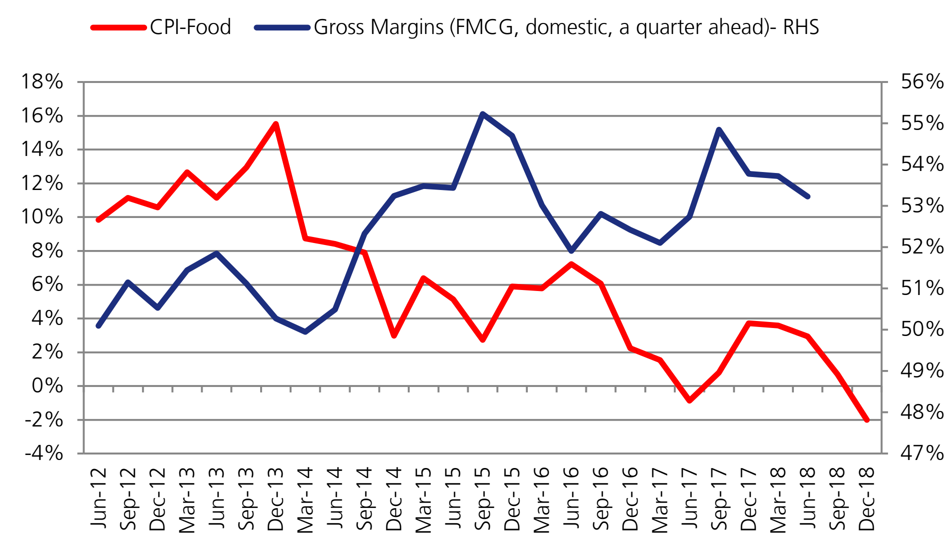
The summary table below highlights our outlook across the sub-segments of food inflation over the next few months.

Exhibit 31. Summary outlook on Food inflation

Category	Weight	CPI-Food Inflation	Outlook 1-3 Months	Outlook 3+ Months	Details
Cereals & Products	9.7	1.3	Marginal uptick	Marginal uptick	The price of wheat is expected to remain firm and is already reflecting in CPI. Rice price is expected to be contained given high global production, declining exports amidst a lacklustre procurement so far (70% of yearly target after three months).
Pulses and Products	2.4	(7.1)	Stable	Marginal uptick	Pulses procurement has been lower than expectation (c.6% of production volume by 10Jan'19 against up to 25% of production), while high existing storage from last year's procured volume would continue to put pressure on prices. The increase in import duties in late 2017 & 2018 has finally reflected in lowering of Pulses import volumes in YTD FY19 and is likely to improve the demand supply scenario over next few months. Still, a meaningful increase in pulse prices would be few months away.
Vegetables	6.0	(16.1)	Stable	Uptick	Fruits & Vegetables suffer from structural weakness of low storage and weak marketing, while production continues to be ahead of population growth (4.5% CAGR (FY08-18) against 1.5% population growth, while food grain production increased at 2.3% CAGR). However, an unfavourable pricing base (from Feb-Mar'19) and weakness in Rabi sowing in few states (Maharashtra, North Karnataka) would likely lead to price increases for few crops (such as onions, fruits) by April-May'19
Fruits	2.9	(1.4)	Stable	Uptick	Similar to Vegetables
Sugar & Condiments	1.4	(9.2)	Stable	Marginal uptick	The jump of 60% YoY in Sugar production in SS18 (Oct'17-Sep'18) to 32.2mn tn against consumption of 25.5-26mn tn had led to extreme price pressure on the industry. Again in SS19, the expected production will be around 30-35mn tn, leading to surplus. Despite exports benefits, because of high opening stock (11mn tn), sugar prices would remain fundamentally weak (INR 30-31/kg). However government efforts around fixing MSP of Sugar, benefits such as soft loans/export incentives etc. are likely to arrest price decline.
Spices	2.5	2.8	Stable	Stable	Prices expected to remain largely in similar range
Oils & Fat	3.6	1.4	Stable	Stable	The government has reduced the import duty on Palm oil (Jan'19) and given weakness in the global palm oil prices, inflation is expected to remain at the current trajectory.
Egg, fish and meat	4.0	4.0	Marginal uptick	Marginal uptick	Fish & Meat have seen steady increase over the past few months and likely to remain in similar range. Prices of eggs could see an uptick
Milk	6.6	0.9	Stable	Marginal uptick	Similar to Sugar, Milk had also seen oversupply and consequent weakness in procurement prices during 2018. Aided by multiple initiatives from the Government (MSP in Maharashtra, exports incentives) and likely weaker production in 1HFY19 (as per Amul), industry prices are expected to increase by Mar'19.
CPI - Food inflation	39.1	(2.5)	Marginal Uptick (Remain < 2%)	Uptick (Remain < 5%)	

Source: JM Financial

Exhibit 32. CPI-Food inversely related with FMCG gross margins – FMCG margins to benefit in near term, with headwinds over mid 2019



Source: Company, JM Financial, Note: Companies included domestic results of HUL, Marico, Bajaj Corp, Britannia, Colgate, Dabur, Nestle, GCPL, GSK Consumer

Food inflation – Key highlights across categories

(A) Cereals – Delayed paddy procurement restricts price increase

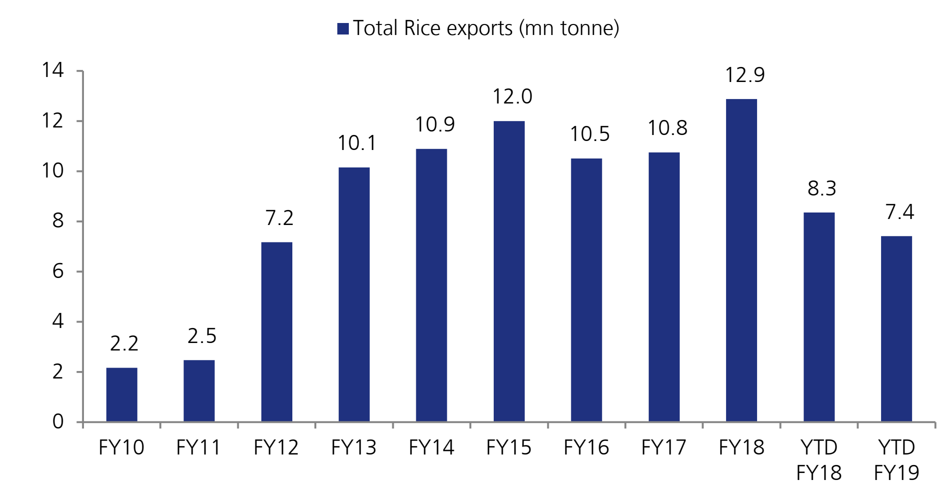
Paddy has seen increase of 13%YoY in MSP, which has not yet reflected in the CPI Cereals till Dec'18. Our visits and interactions in rural India had clearly indicated that the benefit from late procurement is limited mainly to larger farmers (who have storage facilities plus can wait for cash flow). Delay in procurement time lines across states (60% of FY18 levels done till 24Dec'18, 70% by 4 Jan'19) implies significant sale by the smaller and marginal farmers at market prices (harvesting from Oct'18). In addition, the export volumes for rice have been weak in YTDFY19, given high global production, thereby limiting price increase.

Exhibit 33. Rice (Paddy) procurement in the current year also running at slow pace – Changes in regulations for procurement, assembly elections in few states also impacted procurement timelines

(mn tonnes)	FY18	25Nov'18	7Dec'18	24Dec'18	4Jan'19	YTD Procured as % of FY18 procurement
Punjab	11.8	11.2	11.3	11.3	11.3	96%
Andhra Pradesh	4.0	-	0.2	1.0	1.3	33%
Haryana	4.0	3.9	3.9	3.9	3.9	98%
Telangana	3.6	1.2	1.8	2.2	2.4	68%
Odisha	3.3	0.1	0.2	0.6	1.1	32%
Chhattisgarh	3.3	0.4	1.1	2.1	3.2	97%
Uttar Pradesh	2.9	0.1	0.4	1.1	1.7	60%
West Bengal	1.7	-	-	0.0	0.0	2%
Madhya Pradesh	1.1	-	0.0	0.1	0.5	43%
Tamil Nadu	1.0	0.1	0.1	0.1	0.1	15%
Bihar	0.8	-	-	0.0	0.0	2%
Kerala	0.3	0.1	0.1	0.1	0.1	18%
Maharashtra	0.2	0.0	0.1	0.1	0.2	98%
Jharkhand	0.1	-	-	0.0	0.0	8%
Uttarakhand	0.0	0.2	0.3	0.4	0.4	1100%
Others					0.0	
Total - Rice	**38.2**	**17.3**	**19.4**	**23.0**	**26.3**	**69%**

Source: FCI, JM Financial

Exhibit 34. Export volume of Rice – FY19 has seen decline in volumes



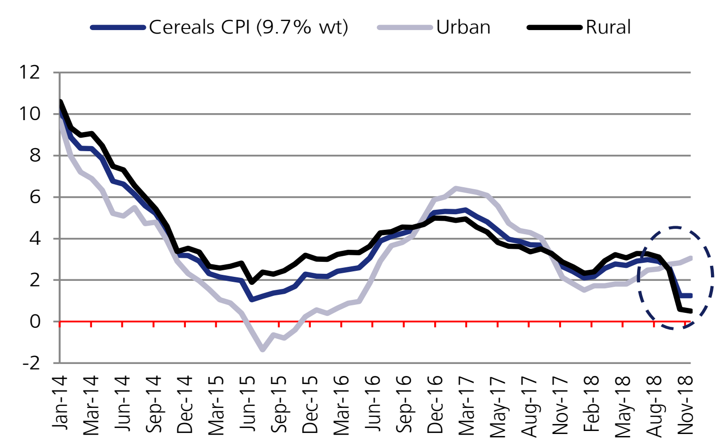
YTD FY19, export volumes of rice has declined due to higher global production

Source: CMIE, JM Financial, Note: Export volume from Apr'19-Nov'19 for YTFFY19

Cereals – divergence between WPI-Cereals and CPI Cereals, upside risk

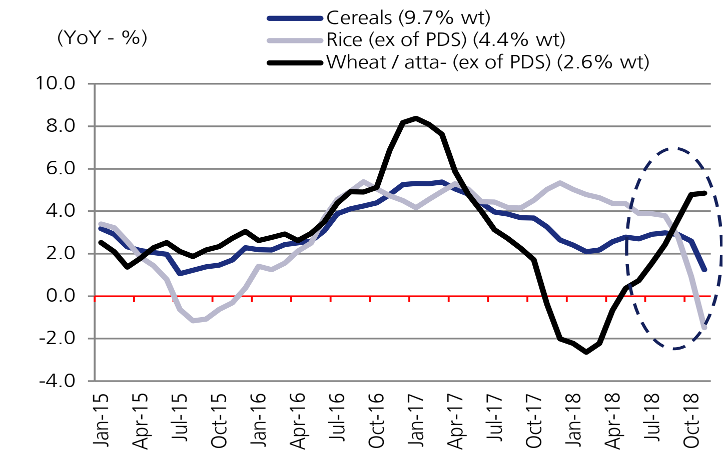
We do note divergence between the Cereals WPI & CPI for the past few months, and as historically they move in-line, we do see upside risk to Cereals CPI in the coming months. Within the WPI Cereals, we note increases across coarse cereals where prices have seen an increase, while Paddy WPI remains subdued and Wheat is already on an increasing course. As the weight of Paddy (Rice) is high in CPI-Cereals and with a weaker global pricing scenario, high production and slow procurement, a slow price rise of Rice would restrict meaningful increase in Cereals inflation.

Exhibit 35. Cereals CPI has seen sharp de-celeration in last three months



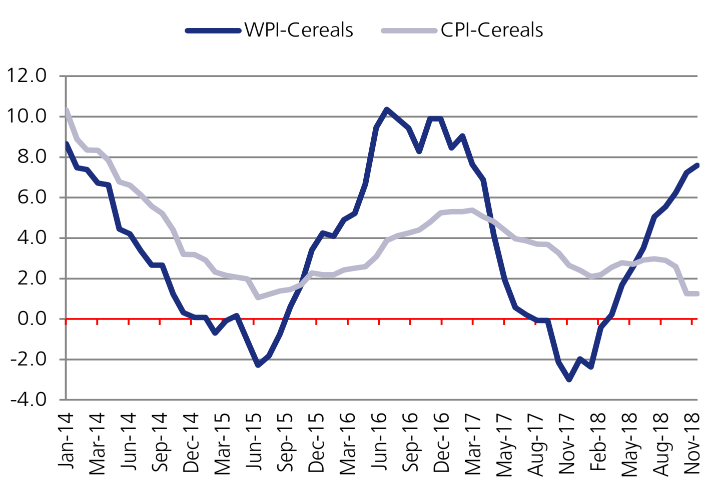
Source: CMIE,JM Financial

Exhibit 36. Within Cereals, Rice has seen weakness in the CPI, and possibly a weaker procurement could be a reason?



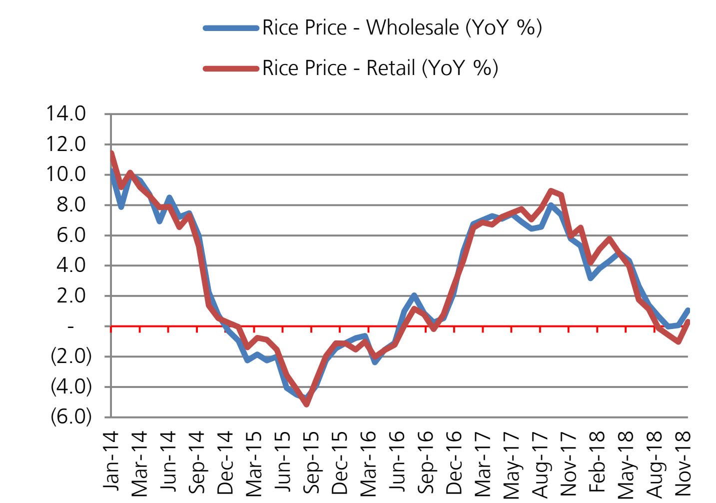
Source: CMIE, JM Financial

Exhibit 37.WPI Cereals has recorded increase in past few months, while CPI Cereals has languished? - CPI likely to reverse the trend over next few months?



Source: CMIE, JM Financial

Exhibit 38. Pricing trends across Wholesale and Domestic markets for Rice

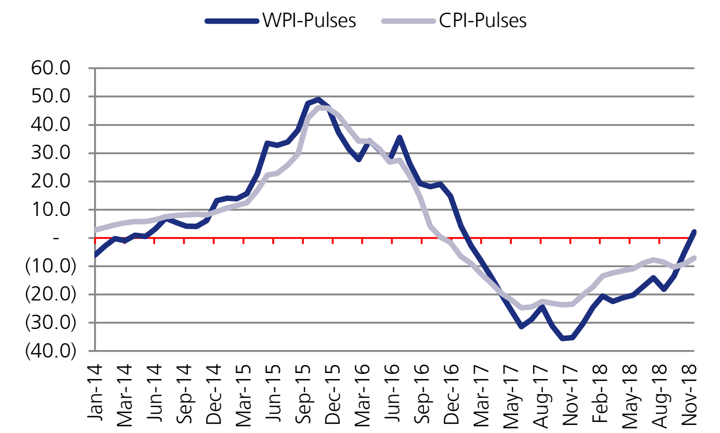


Source: Ministry of Consumer Affairs and PDS, JM Financial

(B) Pulses inflation – Still large stock holding restricts sharp price increase

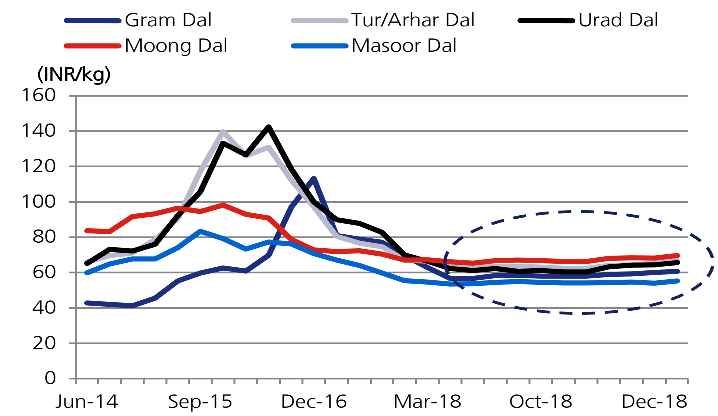
Pulses have been in deflation for almost two years by now and lower prices were due to high production, continued imports and challenges in trade. The annual production of pulses increased from 16-17mn in FY15/16 to 24-25mn in FY17 and FY18. Coupled with continued imports (6.6mn/5.6mn tonne in FY17/FY18), **domestic availability of pulses rose from 23-24mn tonnes to 29-30mn tonnes in FY17/18 while consumption is estimated to be in the range of 24-25mn tonnes. Consequently, the increased availability had put pressure on prices and pulses went in deflation for almost past two years.**

Exhibit 39.Pulse inflation has been negative for almost two years now



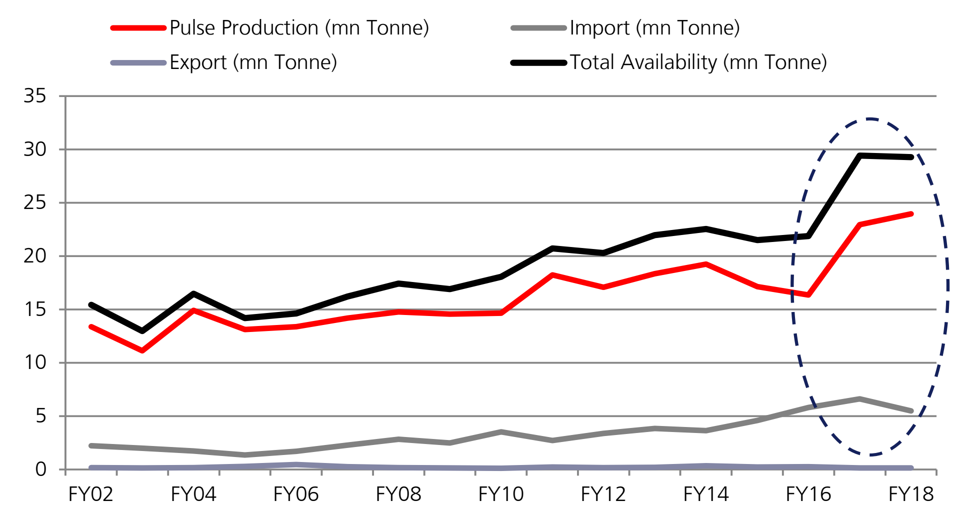
Source: CMIE, JM Financial

Exhibit 40. Price trend of key pulses (INR/kg) – No signs of visible uptick in prices as yet



Source: Ministry of Consumer Affairs and PDS, JM Financial

Exhibit 41.Pulses availability jumped from 21-22mn tonnes in FY16 to 30mn tonnes by FY17 & FY18 (consumption: c.22-24mn tonnes)



Source: CMIE, JM Financial

Surge in Pulses production from FY17 moved India from deficit state to a surplus

Efforts to reduce imports for Pulses bearing fruit in FY19

As the prices of pulses continued to remain down in FY18 amidst another year of high production, the government came out with multiple policy initiatives to increase import duties, largely from Nov'17 and eased stock-holding norms. As a result, during FY19 YTD (Apr-Nov'18), the import of pulses has now declined to **1.5mn tonnes against 4.7mn tonne in FY18.** A lower pulses import volume will be beneficial and help in reducing the imbalance in supply/demand of Pulses, but its impact on near term pulse prices would likely remain marginal.

Exhibit 42. Changes in key agri-commodity export/import rules/duties

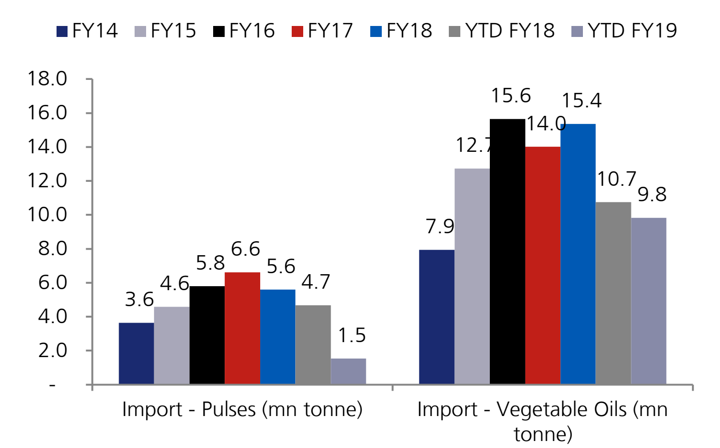
Commodity	Key policy initiative
Pulses	
Export policy	
May-17	Removal of stock-limits of pulses by Department of Food and public distribution
Sep-17	Ban lifted on export of Tur (Pigeon pea), Urad and moong daal. The exporter will have to do prior registration with APEDA
Nov-17	On November 22nd, Centre removed the prohibition on export (without any qualitative ceilings) for all types of pulses
Import policy	
Jun-06	Import duty brought down from 10% to 0%
Jun-17	10% of import duty put on Tur
Nov-17	50% import duty put on peas (Pisum sativum)
Dec-17	30% import duty on chickpea and red lentils
Feb-18	Import duty increased on chickpea to 40%
Mar-18	Import duty increased on chickpea further to 60%. Imposition of 40% duty on Kabuli Chana, another variant of pulses
Oilseeds and refined oil: Duty increased in late 2017 & 2018: partial reduction in Jan'19	
Import policy changes	
Nov-17	Crude soyabean oil raised to 30% from 15%
Nov-17	Refined palm oil increased to 40% from the earlier 25%
Nov-17	Crude soyabean oil raised to 30% from 17.5% earlier
Nov-17	Refined soyabean oil increased to 35% from earlier 20%
Nov-17	Soyabean seed increased to 45% from existing 30%
Mar-18	Import duty on Crude palm oil (CPO) raised to 44% from earlier 30%, Duty on Refined Bleached Deodorised (RBD) palmolein raised from 40% to 54%
Jan-19	Duty on CPO to decline to 40% from existing 44%as part of agreement with Malaysia, Duty on RBD to decline from 54% to 45% as part of agreement with Malaysia

Source: PIB, Media articles, JM Financial

Pulses procurement yet to pick up in in FY19

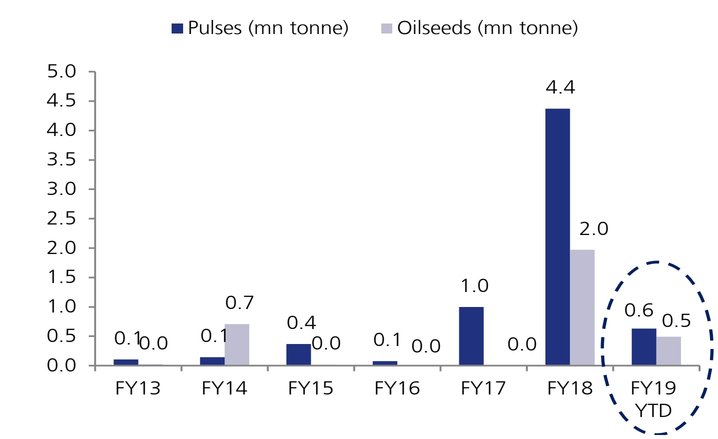
Procurement of pulses and oilseeds was minimal until FY17, when driven by the farmer led protests in Jun'17, the government initiated procurement on a large scale and ended up procuring (4.4mn tn of pulses, 18% of yearly production) and procurement of 2.0mn tonnes of oilseeds (7% of production).

Exhibit 43.Agri (& allied products) output growth far exceeds population growth (FY16-18); leading to "glut"



Source: CMIE, JM Financial

Exhibit 44. MSP based procurement during FY19 has so far been below expectations (c.6% of Kharif pulses procured uptill 10Jan'19)



Source: NAFED, JM Financial, Note: As of 10Jan'19, Excluding Soyabean procurement in MP

Exhibit 45.Kharif procurement of Pulses and Oilseeds (FY19) – 5.8% of Pulses expected production has been procured so far (by Central agencies)

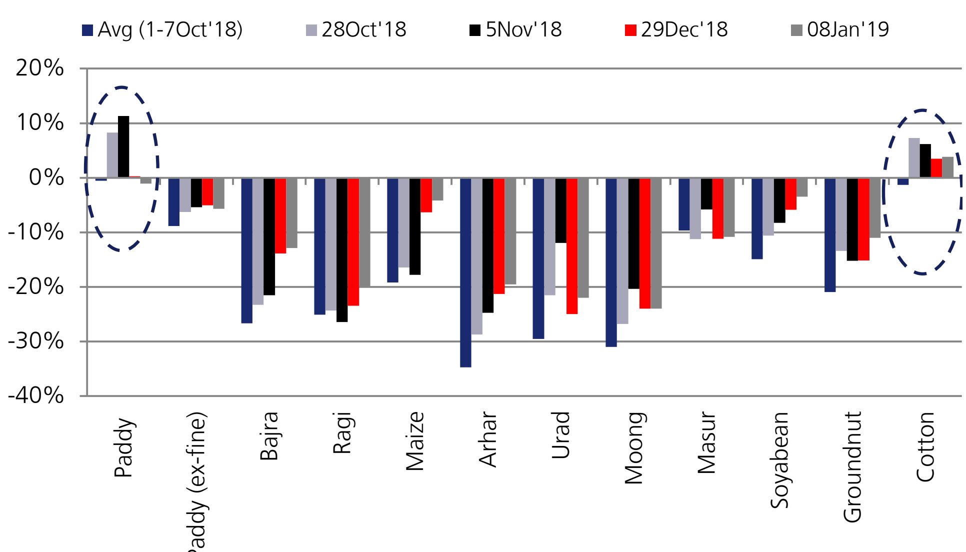
Commodity	FY19 Kharif Production Estimate (mn tonne)	Amount procured by NAFED YTD (mn tonne)	Amount spent on procurement in FY19 (INR bn)
Pulses (40% share in Kharif)			
Urad	2.7	0.31	17.4
Toor/Arhar	4.1	0.02	1.2
Moong	1.6	0.29	20.5
Other Pulses	2.5		
Total Kharif Pulses	**10.8**	**0.63**	**39.1**
Kharif Pulses procured at MSP as % of production		5.8%	
Oilseeds (c.70% in Kharif)			
Soyabean (direct procurement)	13.5	0.02	0.7
Groundnut	6.3	0.47	22.8
Other Oilseeds	2.40		
Total Kharif Oilseed	**22.2**	**0.49**	**23.5**
Kharif Oilseed directly procured by NAFED as % of production		2.2%	
Soyabean (sale at MP) under Bhavantar (Sale+ Bonus by state govt)		3.1	

Source: NAFED, JM Financial, Note: As of 10 jan2019

YTD, the procurement done on Pulses/Oilseeds are much lower than expected

However in FY19, available data indicates a slow progress on kharif pulses procurement, with only c.6% of estimated kharif pulses output procured at MSP (up till 10Jan'19). In terms of oilseeds, direct procurement at MSP accounted for only 2% of estimated production, while if we add the sales of Soyabean in Madhya Pradesh (on Bhavantar scheme, where state government to provide bonus), it could amount to c.15% of total crop output, which is still below the expected procurement of up to 25% of crop output. **As a result, the market prices of pulses continue to trade below the MSP rates, though they have seen some uptick in the past two months (reflected by narrowing discount)..**

Exhibit 46. Weak procurement reflects in signficant price discount to FY19 MSP for many crops – Comparison of market price vs. FY19 MSP (discount/premium) for major crops



Source: Agmarknet, JM Financial

Existing stock of pulses additionally puts pressure on prices in the near term

One of the major challenges faced in procurement of pulses is that unlike cereals which get utilised in the Public distribution system (PDS), there is no defined use for pulses and so far they were procured in harvesting season and sold later with the aim of making profit for the procurement agency, NAFED.

However, as compared to past, the procured volume in FY18 (18% of yearly output) was much higher than earlier years along with high production & imports. Therefore, Government sale in open market put additional price pressure. Apart from sale in open market, the government is also pushing sales of pulses to state governments to be distributed in their **PDS. However, given the still high level of existing stock (2.5mn tonnes of Rabi pulses), overall recovery in pulses pricing is likely to take significant time, possibly in later 2019.**

Exhibit 47. Still high existing stock of Pulses and Ouilseeds - Liquidation of existing stock of procured Pulses and Oilseeds from the Rabi season continues at present

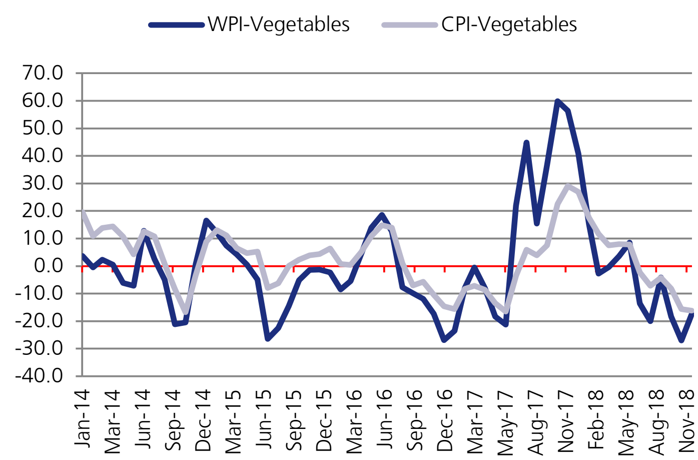
Crops	Production – FY18 (mn tonne)	Amount procured in FY18 (mn tonne)	Existing stock (mn tonne)	Amount Sold YTD (mn tonne)	Price Sold/tonne (INR/tonne)	Price Sold as discount to MSP
Pulses						
Gram	11.2	2.7	2.3	0.4	4,370	-5.4%
Masoor	1.2	0.2	0.2	0.07	3,515	-21.5%
Other Rabi Pulses	3.4					
Total Rabi Pulses	**15.9**	**3.0**	**2.5**	**0.5**		
Oilseeds						
Mustard	8.3	0.9	0.3	0.5	3,184	-24.2%
Groundnut*	1.6	0.8	NA	NA		
Other Oilseeds	0.4					
Total Rabi Oilseeds	**10.3**	**1.7**				

Source: NAFED, JM Financial. Note: Data up till 10Jan'19

(C) Fruits and Vegetables – Prices continues to be volatile, CPI base unfavourable from Feb/Mar'19

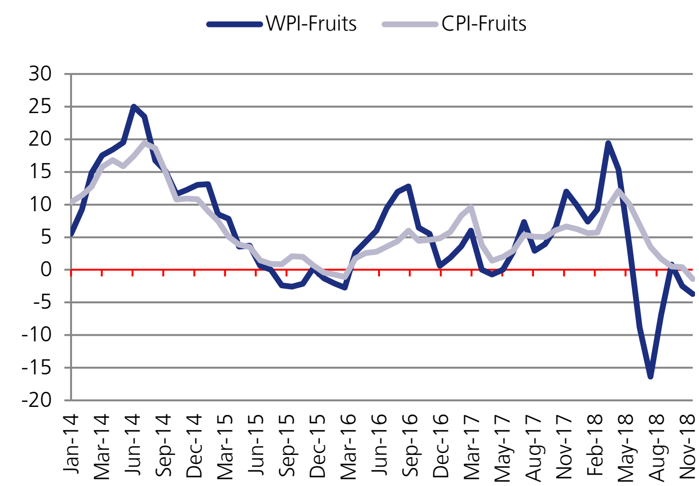
Among the sub-components of food inflation, fruits and vegetables have shown extremely high volatility in prices, given the structural challenges of inadequate storage (c.12% of total production), in-effective marketing through existing APMC structure where the "middle-men" hold a large sway (a farmer gets only c.30-60% of horticulture sales value as per various industry sources). In addition, there have been restrictions imposed on international trade through Minimum Exports price provision for few crops (such as onion) which caps benefit for a farmer from the high global prices.

Exhibit 48.Vegetable inflation has been running negative for the past few months



Source: CMIE, JM Financial

Exhibit 49. Fruits inflation also at a benign pace

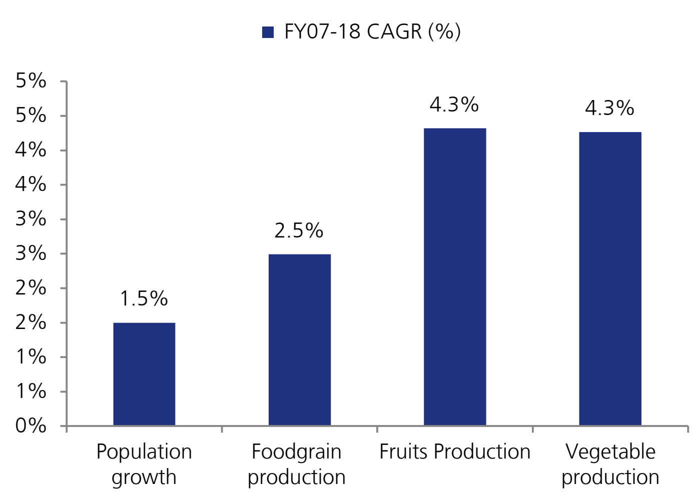


Source: CMIE, JM Financial

Steady production growth and increased availability of horticulture putting pressure on prices

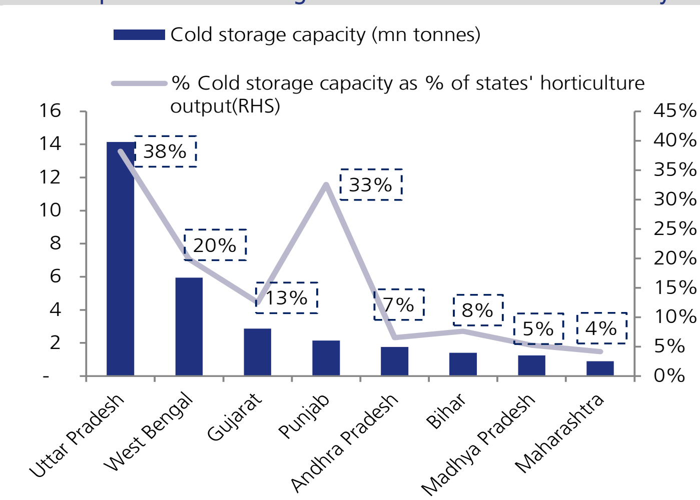
Horticulture production has continued to outpace growth in food grain production for the last few years and in FY18, the total horticulture output was estimated at 308 million tonnes, c.8% higher than food-grain production. The growth in past decade at 4.3% far exceeds the population growth in the same period (1.5%) and in particular, the last three years (FY17 to FY19) have seen steady increases in production, leading to scenarios of excess production in few of them.

Exhibit 50. Horticulture production has outpaced Foodgrain production and overall population growth of the country



Source: CMIE, JM Financial

Exhibit 51. Weak cold storage infrastructure (12% of produce) and also the spread of cold storage is non-uniform across the country



Source: Horticulture statistics, JM Financial, Source: As of FY17

In terms of storage infrastructure, horticulture faces massive shortages, and **at present only c.12% of the total production of horticulture can be stored in cold storages. Even within states, there is a significant variation in cold storage capacity vs. the horticulture production in state** (exhibit above)**.and this lack of storage also forces smaller farmer to sell their produce at even lower than the cost price.**

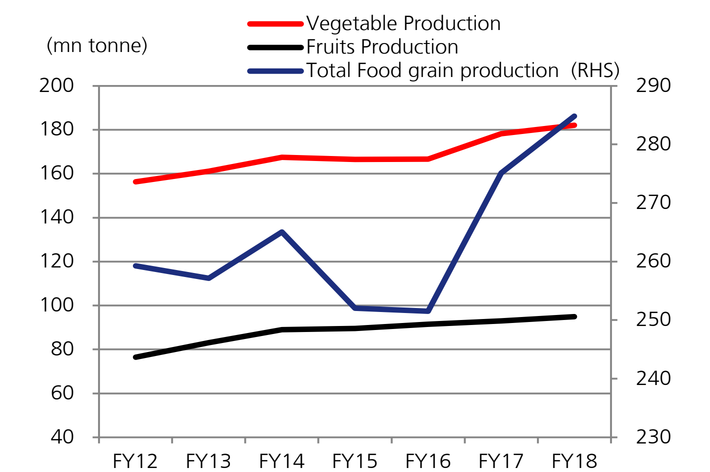
Some of the reasons which are aiding shift of farmers to horticulture are - **(a)** these crops can be grown on smaller farms with faster turn-around than food crops, **(b)** in a normal scenario, returns from horticulture crop exceeds food crops (Cereals) by 2x-3x, and hence its attractiveness. We have discussed in detail the initiatives taken around cold storage, such as mega food parks, etc. (42 across the country) in previous editions of Rural Safari, but most of these efforts are likely to show results only in the medium-to-long term.

Horticulture production has remained steady, did not decline YoY even in FY15/16, unlike food grains

Is there a risk of horticulture production decline in 2019 as some states have seen low rainfall?

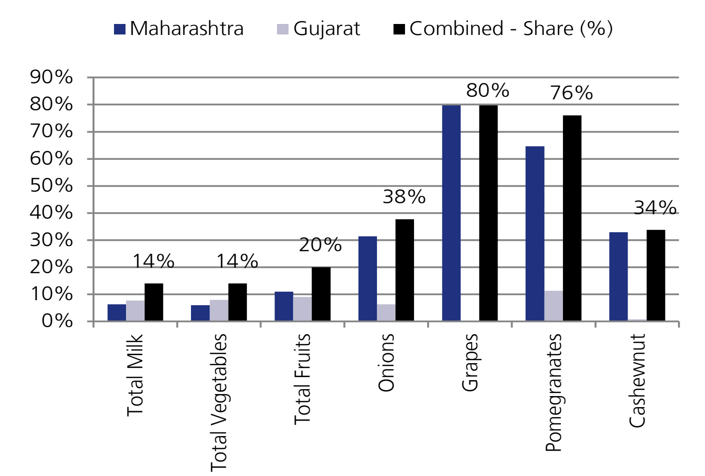
Historically, the production of fruits and vegetables has continued to increase and even in the years of bad monsoon (FY15 & FY16), aggregate production was steady, unlike food-grains, which recorded drop in production. **Going ahead in FY19, there have been high rainfall deficit in few states such as Maharashtra & Gujarat that can impact production of few fruits and vegetables such as grapes, pomegranate, Cashewnut and Onions among major vegetables.**

Exhibit 52. Fruits and Vegetable production has been more resilient as compared to food grains



Source: CMIE, JM Financial

Exhibit 53. State such as Maharashtra has high share in few crops such as onions



Source: Ministry of Agriculture, JM Financial

On account of expected weak production in Maharashtra & Gujarat, is there chance of reversion in fruits & vegetable inflation going ahead?

We looked at the data of arrivals of key vegetable crops from October to January first week for current year and also last year. We can clearly note that the diversification in F&V production across states is ensuring that overall output so far has not been impacted materially.

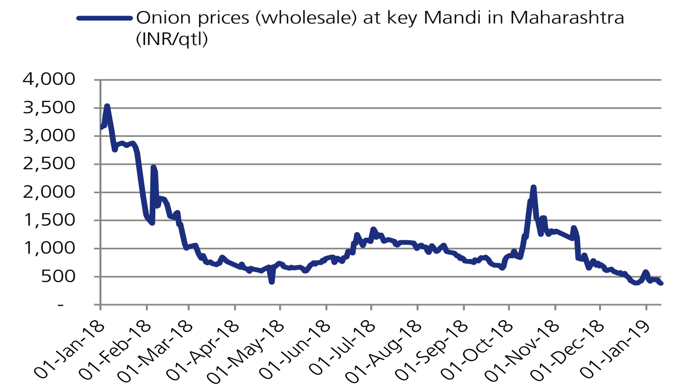
For example, in case of kharif Onion crop, there has been 14% YoY drop from Maharashtra (1Oct'18-10Jan'19), but this drop has been more than compensated by the strong growth from Karnataka (+56% YoY) and Madhya Pradesh (+117% YoY). **Consequently, the prices of onion have remained subdued so far despite rain deficit in its largest producing state.**

Exhibit 54.Onion arrivals data – Overall up by 15% YoY post October'18, reflecting in price weakness

State	Oct17 -Jan18 Arrivals (mn tonne)	Oct18 -Jan19 Arrivals (mn tonne)	YoY (%)
Maharashtra	1.5	1.3	-14%
Karnataka	0.4	0.6	56%
Madhya Pradesh	**0.1**	**0.3**	**117%**
Uttar Pradesh	0.2	0.3	43%
Gujarat	0.2	0.3	19%
Rajasthan	0.1	0.1	44%
Telangana	0.1	0.1	62%
NCT of Delhi	0.1	0.1	22%
Punjab	0.0	0.1	103%
West Bengal	0.1	0.1	3%
Others	0.2	0.2	4%
Total	3.0	3.4	15%

Source: Agmarknet, JM Financial

Exhibit 55. Price trend of Onions at key Mandi in Nashik, Maharashtra –Expected shortage in Maharashtra led to spike in Oct'18, which abated later



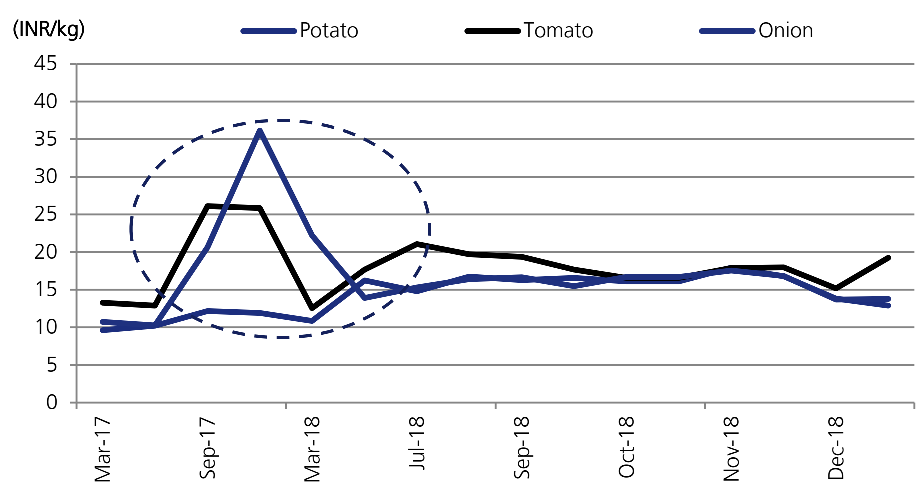
Source: Agmarknet, JM Financial

However, we believe major impact on onion prices is likely to be seen when the major output (60% of yearly production) is harvested in Apr-May'19, and then the potential decline in production would put upward pressure on prices.

Unfavourable base for vegetable prices from Feb'19/Mar'19

Another notable point in reference to vegetable inflation is that the base for Vegetable prices could be adverse from Feb/Mar'19, as during Feb/Mar'18 sharp decline in prices of vegetables was recorded and at present, prices are not likely to go down materially from their present levels. Hence, Vegetable and food inflation are likely to record increases from Feb/Mar'19.

Exhibit 56. Wholesale prices of key vegetables – Sharp decline was noted in Feb/Mar'18, and thereby Vegetable food inflation will have an adverse base from Feb/Mar'19

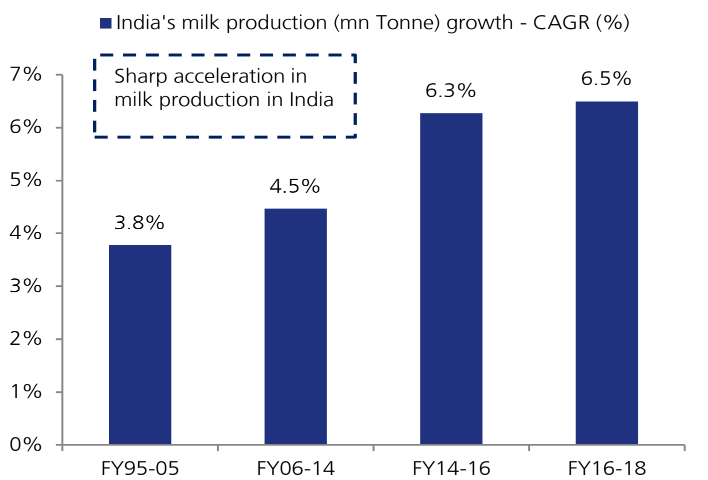


Source: JM Financial, , Note: Whole sale prices across Mandis over the country

(D) Milk prices – Government intervention aids in improving "glut" situation

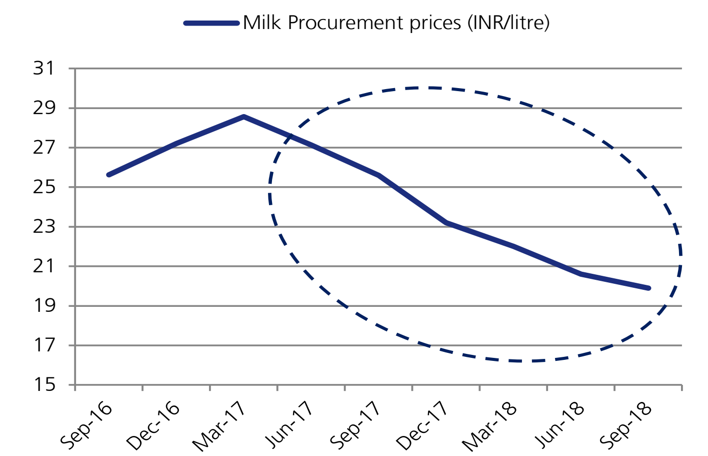
Similar to many agri-categories, milk production in India has showed acceleration in the past few years and in last two years it has further accelerated at 6.5% CAGR driven by the improvement in yield. However, the strong production growth exceeds estimated demand growth (c.4-5% YoY) and consequently the excess procured milk is stored in the form of Skimmed Milk Powder (SMP). These SMP's are used in lean season (summer) and also in exports. Given deterioration in global SMP prices, exports from India was adversely impacted and by Jun'18, the SMP inventory levels had inched to 200K tn, up from a normal 100K tn. Consequently, the private dairies had seen weaker procurement prices and even Government dairies had cut the prices in the mid of 2018. We highlighted the deteriorating economics for milk production in our note (India Strategy | Deteriorating "Milk economics").

Exhibit 57. Milk production growth at 6.5% CAGR over FY16-18



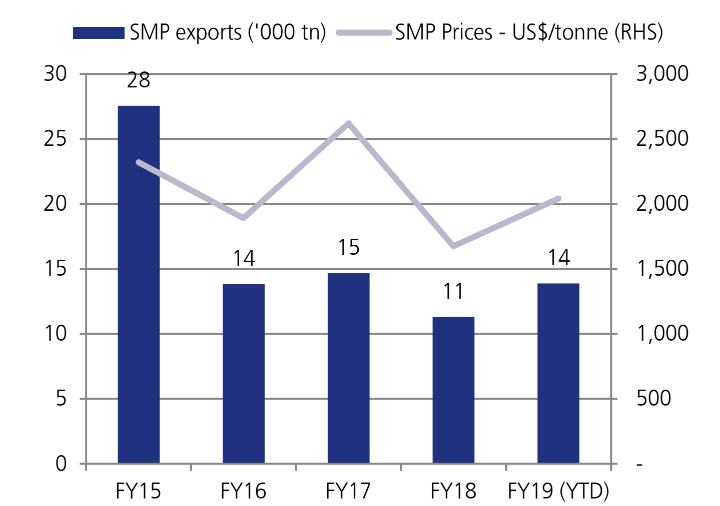
Source: NDDB, JM Financial

Exhibit 58. Private milk procurement prices on deflationary trend since more than a year; likely to be reversed



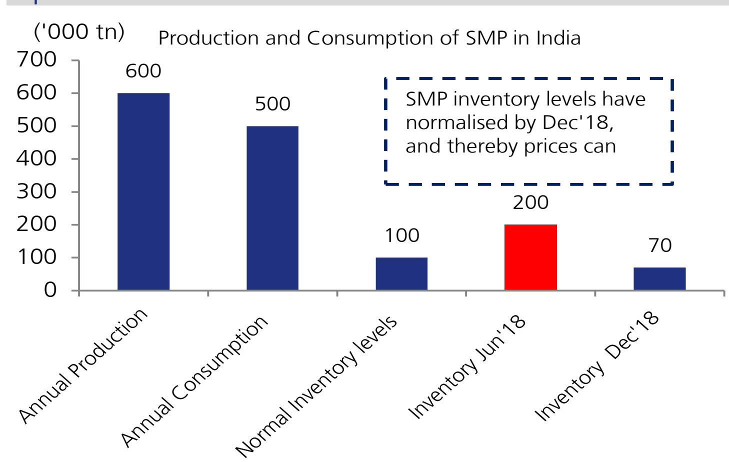
Source: Prabhat dairy, JM Financial

Exhibit 59. Skimmed Milk Powder (SMP) exports on recovering trend in FY19



Source:APEDA, JM Financial

Exhibit 60. A normalisation of SMP inventory levels (70 K tons) on account of slower milk production in past few months and aided by exports



Source: Media articles, JM Financial

Government interventions aid in reducing glut, Milk prices likely to see an uptick

Exhibit 61. Government incentives aided in pricing recovery for the sector

Date	Incentive/benefit
Jun-18	Gujarat Government to provide INR50/Kg assistance for all SMP exports to be done by Amul over next six months (Jul'18-Dec'18)
Jul-18	Maharashtra Government announced payment of INR5/litre for milk procurement and minimum milk procurement rate at INR25/litre. This scheme was initially started for three months and has later been extended till Feb'19
Jul-18	Incentive of 10% for exports of dairy products under MEIS scheme
Sep-18	Incentive of 20% on dairy product exports

Source: Media articles. JM Financial

Expect retail milk prices to increase in 1H19, as overall supply-demand is expected to balance out

The deteriorating milk economics triggered farmer protests in Maharashtra during Jun'18 and consequently Government came out with multiple schemes/benefits for farmers and traders. These benefits included fixing the minimum purchase price for milk (At INR25/litre in Maharashtra), and exports incentives (first 10% which was raised to 20% subsequently). As a result of these steps and also reported slower growth in production in 1H19, SMP inventory has come down below normal levels (70K tn against 100 K tn normal levels). In addition, as per industry sources, there has been lower supply of milk in the present winter months (procurement of Amul up by 2% YoY, against 15% YoY last year). **Consequently, it is likely that milk prices would see increase in the next few months.**

(E) Sugarcane – Government interventions provide support to the sector

Exhibit 62.India and Global demand supply scenario

in Millions tonnes (mnt)	SS08	SS09	SS10	SS11	SS12	SS13	SS14	SS15	SS16	SS17	SS18	SS19E
Opening stock	10.1	9.5	3.4	4.9	5.9	6.6	9.3	7.3	9.5	8.1	4.4	10.6
Production	**26.4**	**14.5**	**18.9**	**24.4**	**26.3**	**25.1**	**24.4**	**28.3**	**25.1**	**20.3**	**32.3**	**31.0**
YoY growth	-7%	-45%	30%	29%	8%	-5%	-3%	16%	-11%	-19%	59%	-4%
Imports	0.0	2.4	4.1	0.0	0.0	0.7	0.1	0.0	0.0	0.5	0.0	0.0
Local consumption	21.9	22.9	21.3	20.8	22.6	22.8	24.2	25.1	24.9	24.5	25.5	26.0
YoY growth	10%	5%	-7%	-2%	9%	1%	6%	4%	-1%	-1%	4%	2%
India population YoY growth	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Exports	5.0	0.2	0.2	2.6	3.0	0.4	2.2	1.1	1.6	0.0	0.5	5.0
Closing stock	**9.5**	**3.4**	**4.9**	**5.9**	**6.6**	**9.3**	**7.3**	**9.5**	**8.1**	**4.4**	**10.6**	**10.6**
Surplus/Deficit	**4.5**	**-8.4**	**-2.4**	**3.6**	**3.7**	**2.3**	**0.2**	**3.2**	**0.2**	**-4.2**	**6.7**	**5.0**
# of months consumption	5.2	1.8	2.7	3.4	3.5	4.9	3.6	4.5	3.9	2.2	5.0	4.9
Global Production	163.5	143.9	153.2	162.2	172.3	177.8	175.9	177.5	164.7	174.0	191.8	188.3
Global Consumption	150.8	153.4	154.1	155.3	159.6	165.3	165.7	167.9	169.2	170.8	174.1	177.6
Global Surplus/(Deficit)	**12.7**	**-9.5**	**-1.0**	**7.0**	**12.8**	**12.6**	**10.2**	**9.6**	**-4.5**	**3.2**	**17.7**	**10.7**
India contribution	211%	60%	47%	61%	19%	-22%	40%	248%	25%	-52%	67%	36%

Source: Company, JM Financial, Note: SS18 refers to the year beginning Oct'17 to Sep'18

Similar to the situation described for Milk, Sugar production saw steep jump in SS18 (Oct'17-Sep'18) (+59% YoY) and in a year of higher global production price of Sugar declined. Whole-sale prices corrected from INR38/kg to INR32/Kg in SS18, leading to negative sugar inflation for the past few months. Consequently, the Government came out with multiple measures during 2018 to eradicate the situation. Some of the steps included higher price and flexibility for a move towards ethanol, introduction of Minimum support price (MSP) for Sugar in Jun'18, soft loans and various packages for supporting the profitability of the Sugar mills etc. **Consequently, the price of Sugar is expected to stabilise in the months going ahead and arrest the decline in Sugar inflation.**

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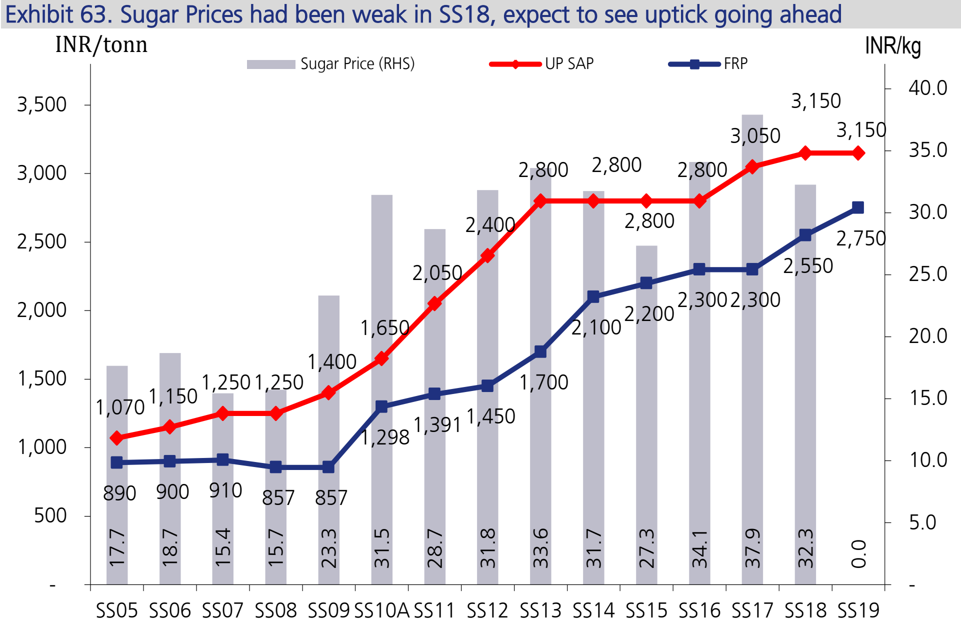
Exhibit 63. Sugar Prices had been weak in SS18, expect to see uptick going ahead



Source: CMIE,JM Financial

APPENDIX I

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Hold	Price expected to move in the range of 10% downside to 15% upside from the current market price.
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