

Managing Food Inflation in India: Reforms and Policy Options

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Introduction

Food inflation is considered as one of the most regressive forms of taxation; it affects the common man, and hurts poor consumers more than those in higher income groups. It is a cause of great concern, especially for developing countries where a larger section of population is net buyer of food. Of late, high inflationary pressure particularly double digit food inflation since October 2008, is turning out to be a spoilsport in an otherwise robustly growing economy; 8.9% in the first half of 2010-11. If continued unabated, this will aggravate the already conspicuous food and nutritional insecurity in the country. The fact that people in the lowest income quartile, accounting for more than a quarter of the population, spend nearly 65% of their total expenditure on food commodities (GoI, 2006), adds gravity to the situation.

Food prices in India started spiralling-up since mid-2008 onwards, reaching a peak in February 2010. The spill-over effects were visible in other sectors also and 2010 witnessed overall inflation rate crossing the psychological threshold of 10% for five months in a row. Inflation based on year-on-year wholesale price index (WPI) of primary food articles, on which the people spend the most, still rules high at double digits (in January 2011). Even though, the government took several measures in a bid to reign in food inflation, the problem persists indicating that it may be treating only the symptoms, and not getting to the root causes behind high food inflation. Several factors like drought-induced shortages in food supply, rising international prices, fragmented value chains resulting in a large price spread of high-value commodities, greater government spending leading to increased money supply, structural changes in demand patterns, etc. are being cited as the main reasons behind this high food inflation, although the jury is still out with regard to the exact influence of each of these probable factors.

This note attempts to analyze the nature of the problem, provide some diagnostics of the underlying causal factors, and suggest both short-term and long-term policy options that may help bringing the situation back to normal.

Nature and structure of food inflation

India did not face double-digit inflation in food during the past several years despite severe droughts and decline in food output in some years (Chand and Shinoj, 2010). In the initial seven years of the decade starting 2000, both food and non-food inflation was moderate, in the average range of 6-8%. However, after this relatively long gap, the country experienced two episodes of high inflation in general price index, the first during May to November, 2008 and subsequently from January 2010 till date with some temporary relief. Even though non-food prices decreased sharply after the first episode bringing down the overall inflation, the food prices remained high during all this period. As evident from Figure 1, the rate of food inflation crossed 20% in December 2009 and again in February 2010. Despite a downward movement in the rate of increase of food prices since this peak, the problem seems far from over.

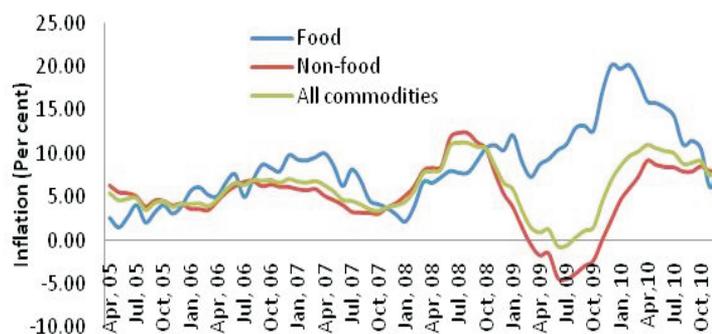


Figure 1. WPI inflation in food and non-food commodities
Source: GoI (2011)

It is easier to understand the nature of food inflation by disaggregating total food into primary food articles and manufactured food products with a weight of 59% and 41%, respectively. Primary food articles include cereals, pulses, fruits and vegetables, milk, meat and fish, spices, etc., whereas the major components of manufactured food products are sugar, dairy products, vegetable oils, prepared food stuff and other processed items. As observed from Figure 2, till January 2010 the rates of price rise in food articles and food products were more or less aligned with one another, but later, they followed disparate trends. While the prices of food products declined sharply afterwards, food article inflation remained in double digits and even shooting up again in the late-2010, prompting us to infer that the high prices of food articles are currently preventing the overall food inflation to wither away.

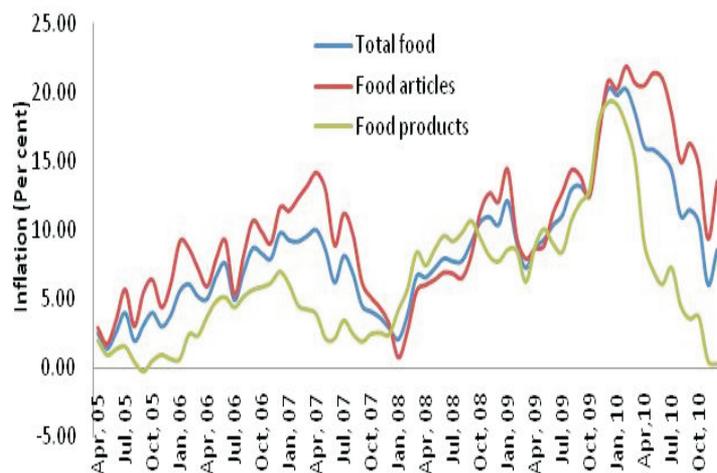


Figure 2. WPI inflation in food: Disaggregated
Source: Same as in Figure 1

It is interesting to note that no single commodity or commodity group consistently contributed to higher food inflation. In 2008, high prices of food grains and manufactured food products contributed more towards inflation than any other commodity group, gradually receding thereafter. Between the first quarter of 2009 and last quarter of 2010, share of food grains in overall food inflation declined from 25% to 0.3%, while that of food products eased out from 32.3% to 6.8% (Figure 3). Commodities like fruits and vegetables, milk and meat group dominated overall food inflation in the fourth quarter of 2010. The overriding role of fruits and vegetables group in this quarter can be specifically attributed to the sudden spurt in prices of onion due to production deficit in key producing areas. Also, the role of structural demand-supply mismatch cannot be ruled out and it will take sometime when supply responds to higher demand. The consistently increasing contribution of milk and meat group to food inflation is particularly visible during the past two years.

The receding effect of food grains and manufactured food products and sustained influence of fruits, vegetables, milk and meat group is clearer from their rates of inflation during 2010 and is presented in Table 1. The food grains inflation weakened substantially from 19.5% in January 2010 to (-) 2.59% in December 2010. Similar was the case with manufactured food products, while the inflation rates of fruits and vegetables, milk and meat remained in double digits. In the case of onion, inflation was moderate in January 2010, remained negative from April to June 2010 before the sudden and sharp jump to 45.8% in December 2010.

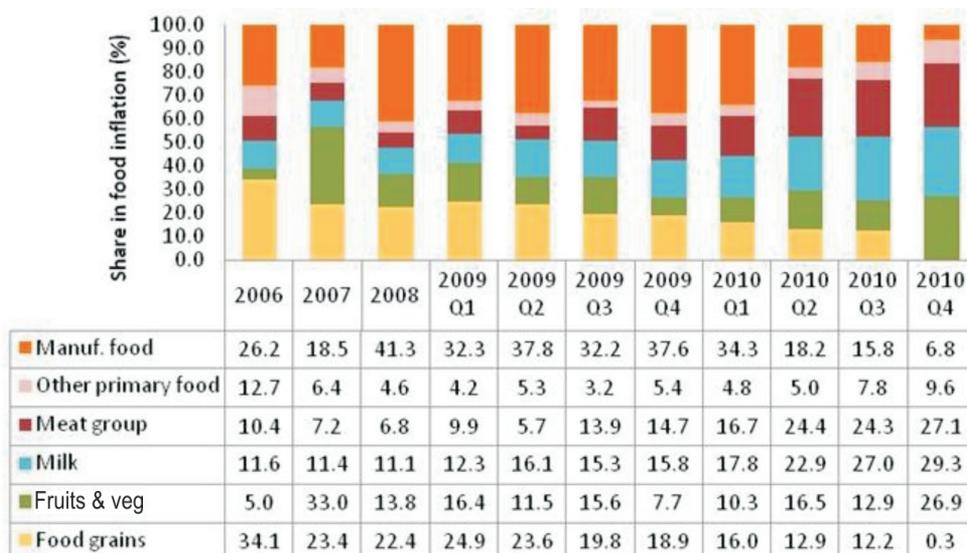


Figure 3. Contribution of various commodities to food inflation

Table 1. Recent trends in inflation in major food commodities: 2010

Month	Food grains	Fruits & veg.	Onion	Milk	Meat group	Manf. food
January	19.49	7.89	7.0	26.59	31.60	19.16
April	11.05	14.32	-10.0	27.91	38.61	9.09
July	9.63	13.22	-7.5	26.06	31.42	7.34
October	3.89	12.39	22.3	21.04	27.37	3.75
December	-2.59	22.77	45.8	18.21	19.23	0.35

Source: Same as in Figure 1

Post-liberalization, the integration of Indian economy and agriculture has increased considerably with the global markets. This leads to increasing transmission of global prices to domestic markets. Therefore, the situation of domestic inflation cannot be viewed in isolation and it is important to look at the global picture as well.

As observed from the FAO monthly food price indices, a composite index of five major food groups (2002-04=100), global food inflation was at a much higher level during January to September 2008, compared to that in 2006 and 2007 (Figure 4). Current food inflation has been surging and has crossed the peak of June 2008 (at 213.5) in December 2010 (at 214.7). Unlike in the past, global food inflation at present is being driven more by non-cereal commodities such as sugar, oil & fats, dairy, etc. The price spikes in rice, wheat and maize are not as precarious as they were in 2008 but are also following an upward trend (Figure 5). There are advance alarms that global food prices are increasing towards new peaks with anticipated implications on the domestic food prices in India too.

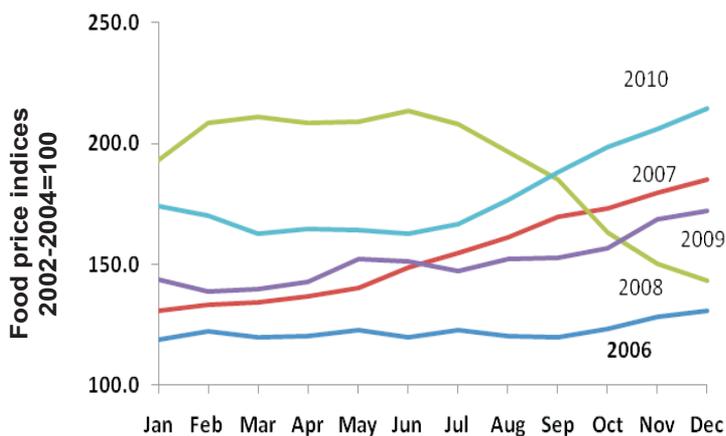


Figure 4. FAO monthly food price indices (2002-2004=100): 2006 to 2010
Source: FAO (2011)

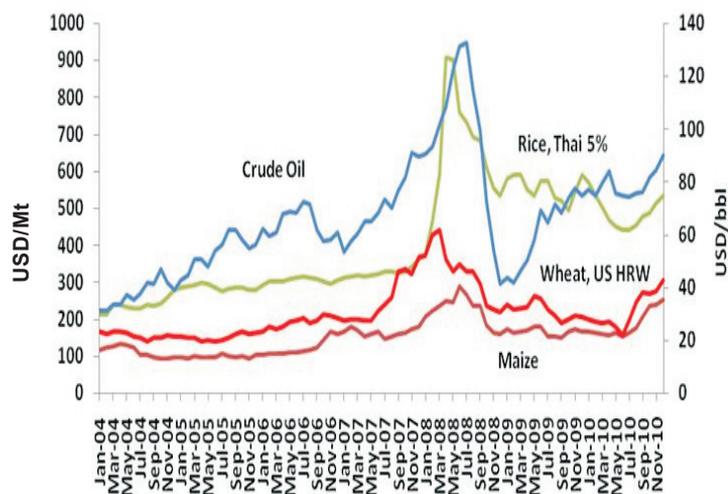


Figure 5: Global price movements (in nominal USD, 2000=100) of selected agricultural commodities and crude petroleum
Source: World Bank (2011)

Although global prices impact domestic price movement along a similar trend, it has not been the case in 2007-2008 when international prices were skyrocketing and India was successful in warding off the transmission effect (Chand *et al.*, 2010). However when global prices were somewhat cooling off, domestic inflation gathered steam which indicates that the ongoing crisis in India is being driven by a combination of interrelated factors and has roots within the country. In this context, it is topical to look at the diagnostics of rising food price inflation and alternative policy options to tame it.

Some diagnostics of food inflation

Supply shortfall

The most important and widely discussed causal factor for the ongoing crisis is the demand–supply imbalance in food commodities. Production of staples and other essential commodities is constrained by stagnating area under cultivation and plateauing of crop yields and hence not matching up with increasing demand. Though a sunrise sector, the fast growing demand of high-value livestock products like meat, egg, milk, etc. is outpacing their supply growth. In spite of the fact that capital investment in agriculture and allied sector has nearly doubled in real terms over the past seven years or so, commensurate productivity gains are not perceptible. This is perhaps because of low capacity utilization and insufficient delivery of services to make use of the new infrastructure created under various projects. The drought in 2009 caused by deficient south-west monsoon was an immediate reason for supply shortfalls and consequent inflation during later half of year 2009, extended to 2010 (Chand, 2010). The country received around 25% less precipitation in

the 2009 *kharif* season in relation to long-term average. As a result, production of major food commodities was affected leading to overall shortfall in production of food grain and other major crops like oilseeds and sugarcane. Rice production was down by around 12% compared to the previous year. Wheat production was less than targeted, but not lower than that of previous year. Production of pulses, oilseeds and sugarcane also suffered a perceptible reduction. Though the country received sufficient monsoon in the year 2010, and overall growth in agriculture is slated to pick up momentum, crop losses were reported in several parts of the country due to unseasonal rainfall during the harvesting season. For instance, weather aberrations in November 2010 affected the output of onions in Maharashtra and Gujarat leading to conspicuously low market arrivals in December. The untimely heavy showers in southern India also affected the onion crop in Karnataka and Tamil Nadu, with an estimated overall damage of 30%-35% of the crop. This has resulted in unprecedented rise in onion prices in most parts of the country, reversing the downward movement of food inflation in December 2010. Huge crop losses were also reported from Orissa due to heavy rainfall in December. In a similar line, the rains are also reported to have affected the flowering of mango crop in Maharashtra due to which supply shortage of mango in the coming season is anticipated.

Deficiencies in distribution chain

While there are genuine concerns about supply trailing behind increasing demand, better food grain management and prudent trade decisions can be effective strategies to counter inflation in the short-run. On one hand, the government is grappling with high food inflation, and on the other hand, it faces the problem of managing large volume of stocks, much above stipulated buffer stock norms. As of 1st January, 2011 the stock of food grains in the central pool was pegged at 47.1 million tonnes whereas the prescribed stock limit in January is only 20 million tonnes, leading to unnecessary high storage cost on one hand and constraining supplies of grains in the market on the other. However, inflation in recent months is being driven by commodities like fruits and vegetables, milk and meat for which no public stocks are held and therefore, remedy largely involves augmenting the supplies and improving efficiency in distribution. In the case of high-value commodities, fragmented markets and lack of integration result in higher price volatility. The problem lies not as much with production as with post-harvest losses

and wastage due to lack of advanced supply chains infrastructure to ensure smooth delivery from farms to markets and finally to consumers. The price spread in some commodities like fruits and vegetables is quite large on account of fragmented supply chains and high commission cornered by middlemen. In addition to this, black marketing and hoarding also add to flaring up of margins, as perhaps was the case in onions.

Demand side factors

While various supply constraints are central to the rising food prices, role of demand side factors is also crucial and needs to be looked at from the broader spectrum of monetary and fiscal policies. It is observed that money supply (M3) has been growing at the rate of 20% and above during 2006-07 and 2008-09 and nearly 20% in 2009-10. Gross market borrowings by central and state governments have increased manifold, from Rs 1817.5 billion in 2005-06 to Rs 6236.2 billion in 2009-10. These together with reduction in repo rate and cash reserve ratio in response to the economic slowdown have resulted in pumping in of excess liquidity in the system, now hitting back with a lag in terms of uncontrollable food price inflation (Table 2).

Table 2: Trends in inflations and selected indicators of monetary policies

Year	Per cent year-on-year change				Repo rate (%)	Cash reserve ratio (CRR)
	WPI-all	WPI-food	M3	Market borrowings (in Rs billion)		
2005-06	4.35	3.67	15.4	1817.5 (24.8)	7.25 (Oct 2006)	5.25 (Dec 2006)
2006-07	6.51	7.88	20.5	2001.9 (10.2)	7.75 (Mar 2007)	6.00 (Mar 2007)
2007-08	4.82	5.63	22.1	2559.8 (27.9)	9.00 (Jul 2008)	8.75 (Jul 2008)
2008-09	8.03	8.94	20.5	4366.8 (70.6)	5.50 (Jan 2009)	5.00 (Jan 2009)
2009-10	3.57	14.60	19.2	6236.2 (42.8)	5.75 (Jul 2010)	6.00 (April 2010)

Sources: OEA (2011), GoI (2011), RBI (2010)

Note: Market borrowings refer to gross centre and state borrowings.

With the introduction of recommendations of the sixth pay commission, expansion of rural employment scheme (MGNREGS) and Kisan Credit Cards, popular loan

waivers and fertilizer subsidies, disposable income with the people has increased in both urban and rural areas, thereby giving rise to increase in demand for food as also non-food items. It is interesting to note that the demand is increasing much faster in case of high-value commodities like fruits and vegetables, milk and milk products, meat, fish, etc. than that of cereals simply because high-value products have higher expenditure elasticity.

Policy options to tame food inflation

The policy options to tame the current food price inflation can be classified into short- and long-term options. Some of the important ones are discussed below:

Augmenting supply: The supply side constraints and structural deficiencies in India are accentuating and the corrective measures involve concerted efforts over an extended period of time. As a short-term measure, supply shortages can be overcome by drawing upon stocks (for the commodities applicable) and also allowing imports by lowering duties or reducing them to zero, if necessary, particularly in the case of fruits and vegetables. However, export or import decisions should be preceded by some planning based on clear commercial intelligence on supply-demand situation.

Deflating the stimulus package: It is time to gradually mop up the excess liquidity in the system that was created as a result of the fiscal stimulus given over the past two years to ensure recovery of growth. Therefore, there is need for a calibrated winding down of this stimulus package by tightening the monetary and fiscal policies. According to the Third Quarter Review of Monetary Policy for 2010-11, RBI has increased the repo rate to 6.5% and the reverse repo rate to 5.5% (RBI, 2011).

Setting up a commercial intelligence agency: Often the inability to pre-assess the market conditions due to lack of accurate information and timely dissemination at various levels aggravates inflationary pressures. The incongruity between various national level databases often poses a problem in assessing the real situation with respect to agricultural production, as observed in the case of onions, cotton, sugar, etc. Efforts need to be put to ensure convergence of these databases that can help take stock of the supply situation and hence address the issue of availability and its impact on prices realistically. There is a need to establish a commercial intelligence agency that maintains records of production, stocks, and trade and also tracks prices, and can generate advance signals to help tame abnormal flaring up of prices. It will be important to identify triggers which set off automatically to control

the situation, whenever market prices cross the targeted price band. The role of futures market in carrying price signals needs to be revisited and claims of such markets adding to inflation woes need to be empirically tested. Clearly, there is a need for greater synergy between various agencies and departments dealing with production, stocking, and trade that will have a cumulative impact on availability and prices.

Reform the mandi system: Implementing the Model Act at the state level has been on the policy agenda for quite some time without any major breakthrough. The recent food price inflation is seen to be driven by high-value commodities, with vegetables playing a major role. While prices are extremely volatile, it may be noted that the spread between wholesale and retail prices is quite large in the case of vegetables. The broader reason being fragmented supply chains and the predominance of commission agents. As a step forward in reforming the mandi system, it is suggested that fruits and vegetables be exempted (or de-listed) from the APMC. The states need to be incentivized to encourage direct marketing between farmers and buyers without having to pay any mandi fee or commission fee to the agents. This can be linked to the incentives under various programs, noteworthy, the National Horticulture Mission. Also, taxation on primary agricultural goods needs to be replaced by value-added taxation. Existing impediments in moving agricultural commodities need to be removed to allow free flow of goods across the country (Gulati and Ganguly, 2011). Private mandis and terminal markets could be alternatives to the traditional market structures. The private sector can be incentivized to upgrade marketing infrastructure through public private partnership model and create competition to cut down the transaction costs.

Encourage farm-firm linkages: Direct farm-firm linkage is an alternative to the mandi system and there are success stories in the agricultural sector (for example, Safal (Mother Dairy), Mahagrapes (marketing wing of grape growers' cooperative in Maharashtra, and the like) that can be further experimented and scaled up. There can be scope for various models, be it cooperatives, producer companies, etc., whereby farmers cluster together to do business with the public or private players. Investments in backward linkages in terms of supply of agri-inputs, extension and agri-advisory and risk mitigation can help strengthen the firm-farm linkages. Institutions related to land (lease markets) and credit markets need to be reformed to induce greater linkages that at present are not very congenial to modern

agribusiness practices. It is an opportune time to remove all obstacles to private investments in agri-marketing so as to improve competition and provide the right impetus in developing value chains that include storage and warehousing facilities and critical backend services for the farmers.

Enhancing investments: While investments in agriculture have increased sharply in recent years and account for nearly 20% of agricultural GDP, it is surprising why these have not translated into higher agricultural growth. It is necessary to look at the nature of these investments and account for the period of gestation lag in order to assess the impact on growth. It is also observed that investments in the form of infrastructure may not be sufficient and it is time to measure progress of infrastructural development from the point of view of service delivery. There is scope for greater investments from the private sector, particularly in the high-value chains and the public sector can catalyze these investments by providing the right policy environment and also investing in infrastructure such as roads, markets, etc. that are public goods in nature.

Indian agriculture is still awaiting a serious package of reforms to deliver high performance. It is evident that piecemeal and patchy reform approach in a business-as-usual scenario will not work any longer. Agricultural reforms should not be confined to farming alone but extend to other activities along the agri-system such as input supplies, logistics, processing, and marketing. This will require reforming the existing incentive patterns, removing institutional rigidities to boost investments critical for innovations. It is these innovations that can take agriculture on a higher growth trajectory, augment incomes of millions that are engaged in agriculture, and also giving a good deal to consumers, making it a win-win solution to the problems at hand.

References

- Chand, Ramesh (2010). Understanding the nature and causes of food inflation. *Economic and Political Weekly*, **XLV** (9): 10-13.
- Chand, Ramesh, Raju, S.S. and Pandey, L.M. (2010). Effect of global recession on Indian agriculture. *Indian Journal of Agricultural Economics*, **65** (3): 487-496.
- Chand, Ramesh and Shinoj, P. (2010). Food inflation in India: Causes and remedies. *Yojana*, **54**: 14-18.
- FAO (2011). Global Food Price Monitor. January 2011. Available at <http://www.fao.org/giews/english/gfpm/index.htm>. Access date: 19th January, 2011.
- GoI (2006). Level and pattern of consumer expenditure 2004-05, Report No. 508 (61/1.0/1), National Sample Survey Organization, Ministry of Statistics and Program Implementation, Government of India, New Delhi.
- Gulati, Ashok and Ganguly, Kavery (2011). Agri- reform to tame food inflation. *The Economic Times*, 13th January, 2011. New Delhi.
- OEA (2011). Website of Office of the Economic Advisor to the Government of India, Ministry of Commerce and Industry Available at <http://eaindstry.nic.in>, accessed in January, 2011.
- RBI (2010). *Data from Handbook of Statistics on Indian Economy*. Reserve Bank of India.
- RBI (2011). Third Quarter Review of Monetary Policy 2010-11. Available at <http://www.rbi.org.in/scripts/NotificationUser.aspx?Id=6234&Mode=0>. Access date: 26th January, 2011.
- World Bank (2011). *International Commodity Price Data. World Bank Pink sheets*. The World Bank. Washington D.C.

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