

Can Global Food Inflation be blamed for Food Inflation in India?

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Abstract

Of late, global food security concerns have surfaced, primarily because of rising food prices at the international level. Until the early years of this millennium, global food prices displayed a slight downward trend, but this picture changed around the year 2003, when prices began to rise, with sharp spikes in the most recent past. This paper looks into the determinants of global food inflation and food inflation in India and explores whether the former can be considered to have caused the latter. Recent global food inflation can be attributed to structural and cyclical demand- and supply-side factors. Unlike the global picture, food prices in India have shown a continuous upward trend, caused mainly by fundamental long-term factors such as increasing population, growing incomes, improving diets, stagnant agricultural productivity and a persistent neglect of agriculture. The intermittent jumps in prices in recent years have been driven by sudden supply shocks in the case of pulses, lentils and vegetables, caused by weather irregularities. The impact of global food inflation upon Indian food prices can be seen more as a cyclical impact, emerging out of the speculative activity in world agricultural futures markets. The indications are that the present food inflation is not a temporary phenomenon and threatens access to food and therefore food security, in India and all over the developing world. Unless supply-side issues are addressed with an appropriate long-term agricultural strategy, gains in poverty reduction will be lost.

Key Words: food inflation in India, food security, global food inflation, Indian agriculture, speculation

Introduction

In the words of the Food & Agriculture Organization, food security can be said to exist “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life” (FAO). The concept of food security is commonly defined as including both physical and economic access to food that meets people's dietary needs as well as their food preferences. Food security entails food availability, i.e. sufficient quantities of food available on a consistent basis, and food access, i.e. having sufficient resources to obtain appropriate foods for a nutritious diet. Food access is being threatened by the sharp rise in food prices all over the world. The World Bank (2011) has expressed serious concerns over food prices rising to “dangerous levels” globally and said that in the last one year alone, this has pushed 44 million people in Asia and Africa into extreme poverty.

This paper examines the causes of global food inflation and food inflation in India. It also looks into the issue of whether the greater openness of the Indian economy and price developments on the international front have been responsible for food inflation in India.

Objectives

This paper seeks to

- a) identify the causes of the recent rise in global food prices
- b) identify the causes of the recent rise in food prices in India
- c) determine whether global food inflation has been a cause of food inflation in India

Data Sources and Methodology

Data for the study is secondary in nature and has been obtained from FAO and RBI publications. As regards methodology, variables such as the annual food price index and changes in the index have been used as indicators to study the trend and pattern of food prices.

Global Food Inflation

Although the upward movements in global food prices have attracted considerable attention in recent times, the shift from generally flat or even declining prices to an upward trajectory began some years ago. As can be seen from Table 1 and Figure 1, until about 2003, real food prices showed a downward trend. Between 1990 and 2003, the index *fell* at the average rate of 1.90 per cent per annum. The trend reversed in 2003 and in these eight years, the food price index has *risen* at an annual average rate of 10.75 per cent, with sharp upward spikes in 2007, 2008, 2010 and now in 2011. The decade from 1991 to 2003 did see some sharp jumps in these prices; however, the current upward movement seems relentless; in fact prices have accelerated even more in the most recent months. The post-2003 period is thus remarkable in the magnitude of the food price inflation and in the persistence of strong price increase (Johnson, 2008).

Table 1: FAO Annual Real Global Food Price Index (2002-2004=100)

Year	Food Price Index	Annual % Increase in Index	Year	Food Price Index	Annual % Increase in Index
1990	105.5		2003	97.7	1.14
1991	101.6	-3.70	2004	105.1	7.57
1992	102.5	0.86	2005	109.7	4.38
1993	98.1	-4.24	2006	116.5	6.20
1994	100.1	2.04	2007	139.4	19.66
1995	105.3	5.19	2008	164.5	18.01
1996	116.1	10.26	2009	134.9	-17.99
1997	114.5	-1.38	2010	158.1	17.20
1998	107.6	-6.03	2011	205.3	29.85
1999	93.1	-13.48			
2000	92.9	-0.21			
2001	99.0	6.16			
2002	96.6	-2.42			

Source: FAO Food Price Index, www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/ release date 07/07/2011

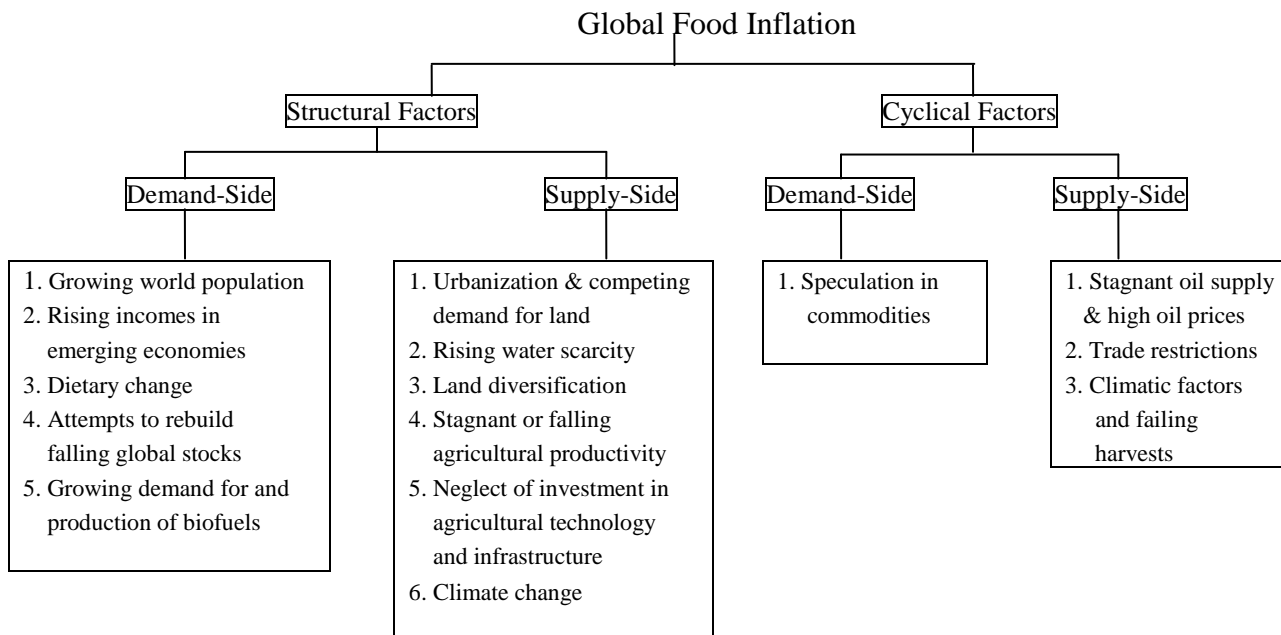
Figure 1: FAO Annual Real Global Food Price Index (2002-2004=100)



Source: FAO Food Price Index, www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/, release date 07/07/2011

The global food inflation that has set in during this decade can be attributed to a variety of factors, which (see Chart 1) can be variously classified as structural and cyclical factors and demand-side and supply-side factors (ADB, 2008).

Chart 1: Causes of Global Food Inflation



Structural factors have been the dominating influence in the rise in food prices in recent years. These long-term factors operate from the demand as well as the supply side to generate an upward pressure on world food prices.

Among the *demand-side* structural factors are growing world population and sustained economic growth in the world's emerging economies. Since income elasticities of demand for food are relatively high in these economies, the higher per capita incomes are translating into rapidly growing demand for food. What is more, demand patterns are shifting from domestically traded coarse cereals to fine cereals such as rice and wheat, which are globally produced, consumed and traded. A second emerging dietary change is the move towards high-protein food such as meat and dairy products (Helbling & Roache, 2011), the production of which requires large amounts of grain for livestock feed. As the protein content of diets in the emerging economies increases, more foodgrains are demanded for the same amount of calories for human consumption. This trend will only strengthen in the coming years as these economies are set on a high growth trajectory. Another contributory factor is the attempt by nations to rebuild their stocks of grains; over the years, world stocks of foodgrains have fallen drastically (as production has lagged behind consumption) and attempts to replenish stocks is adding to world demand, exerting still further upward pressure on world prices. Yet another very significant structural demand factor is the massive investments that are happening in ethanol in the US and to a lesser extent, Europe. Demand for biofuels is rising in the advanced nations, leading to diversion of grain, corn, soybeans, sugar, and vegetable oil from use as food or fodder.

The combined effect of all these sources of growing demands is stunningly huge – there has been a doubling in the annual growth in world grain consumption from an average of 21 million tons per year during 1990-2005 to 41 million tons per year during 2005-2010 (Brown, 2011).

While world demand for grains is rising, several constraints have emerged on the supply side. The land under foodgrain cultivation is falling, first due to changing cropping patterns and second due to the diversion of land away from agriculture towards industrial, commercial and residential use consequent upon the growing urbanization in the emerging economies. Agriculture everywhere is also being hit by aquifer depletion, growing scarcity of fresh water and diversion of irrigation water to cities. Stagnant or falling agricultural productivity is a major contributor to the demand-supply gap in foodgrains. In almost all developing countries, gains from the use of high-yielding seed varieties have reached a plateau and productivity of land is actually falling due to falling soil fertility on account of soil erosion, ground water depletion and excessive use of chemical fertilizers. There has been little or no investment in agricultural technology, critical infrastructure is inadequate, and governments search for immediate rather than long-term solutions to adverse developments in the sector. All these factors have constrained supply and further widened the demand-supply gap.

Speculation in the commodities market and emergence of agro commodities as an asset class for investment are **cyclical factors** contributing to the growing *demand* for globally traded agricultural commodities. During the recent financial crisis, investors and funds shifted out of equities, bonds and money market instruments into the 'safer' commodity market instruments such as agricultural futures (von Braun 2008, Robles et al 2009), driving up prices of agricultural commodities such as cereals, tea, coffee and other internationally traded agricultural products.

On the *supply side*, the stagnation of oil supplies from the OPEC nations due to the global recession has pushed oil prices to new highs. Food prices follow oil prices largely because the rise in costs of production (higher diesel and fertilizer costs) gets reflected in higher prices (ADB 2008). Restrictions on rice exports by countries like India and Vietnam also added to the pressure

on prices (Headey, 2010). Natural climatic disasters have hit the world's leading agriculture-producing countries, mainly Australia, the United States and Russia, further curtailing supplies. But although these natural disasters are one-time events, they herald climate change, which seems destined to take a far greater toll in the future (Brown, 2011). This factor can therefore be included in the long-term or fundamental supply-side factors, rather than cyclical factors,

It appears that the structural factors will dominate the behaviour of food prices, marking food inflation as a regular feature of the world economy for some time to come.

Food Inflation in India

India has also been experiencing rising food prices, which has been the root cause of overall headline inflation in the economy. The issue is whether the food inflation in India can be attributed to global food price developments.

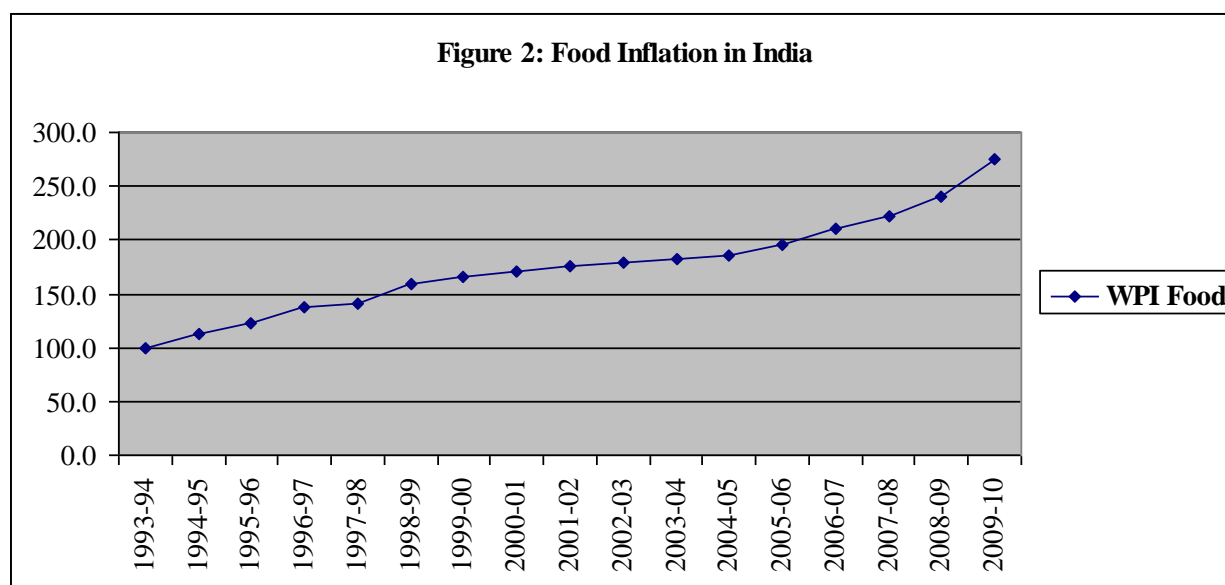
Comparing the food price situation in India (Table 2 & Figure 2) with the global situation (Table 1 & Figure 1), we find that

- Unlike the world situation, food prices in India have shown a continuous upward trend over the entire period
- During the 1990s, food prices rose rapidly at an annual average rate of 9.84 per cent, but prices were very volatile in this period
- Food inflation slowed significantly to 2.63 per cent from 2000-2004, but shot up again subsequently, and in the second half of the decade the rate of food inflation has averaged 7.23 per cent.
- The period after 2004 is the only time when global and Indian food prices have moved together.

Table 2: Food Inflation in India

Year ended March 31	Wholesale Price Index Food	Annual % Increase in Index	Year ended March 31	Wholesale Price Index Food	Annual % Increase in Index	Year ended March 31	Wholesale Price Index Food	Annual % Increase in Index
1994	100.0		2000	165.5	3.83	2005	186.3	2.64
1995	112.8	12.80	2001	170.5	3.02	2006	195.3	4.83
1996	122.2	8.33	2002	176.1	3.28	2007	210.3	7.68
1997	137.3	12.36	2003	179.2	1.76	2008	222.1	5.61
1998	141.4	2.99	2004	181.5	1.28	2009	239.8	7.97
1999	159.4	12.73				2010	274.9	14.64

Source: RBI, Handbook of Statistics on Indian Economy, 2009-10, Table 39



Source: Handbook of Statistics on Indian Economy, 2009-10, Table 39

The annual figures for food inflation in India do not reveal the volatility in prices during the course of the year; furthermore, retail prices have risen even faster than wholesale prices. Inflation has moved across food items, with wheat, pulses, sugar, edible oils and vegetables experiencing price spikes at different times, but always within very high average food inflation (Ghosh 2011).

The behaviour of food prices in India needs to be studied in the context of agricultural production and domestic food consumption.

Demand for Food

Demand levels for food in India are rising continuously, a fact that can be attributed largely to the increasing population and growing incomes. The sustained growth of the Indian economy and government employment generation schemes such as the Mahatma Gandhi National Rural Employment Guarantee Scheme, have put larger purchasing power in the hands of the population. The contribution of the MGNREGS to price rise in rural areas is not only because of the employment and income generated under the scheme, but also because it has changed the compensation pattern of unskilled rural labour - which was traditionally paid partly in cash and partly in food - into a fully cash-based monetary system.

As the Indian middle class has swelled, the pattern of food consumption has changed noticeably, with high-protein items such as pulses, milk and milk products, fish and meat experiencing burgeoning demand. Demand for vegetables and fruits, which are high value agricultural items, has also risen, again on account of higher incomes and changing dietary habits.

While the rise in demand is a major factor behind food price rise, it is a 'good', reflecting a welcome improvement in the standard of living of the population.

Food Production

The growth in demand for food did not happen overnight: it has been building up gradually, and should have been anticipated given the growth the economy is experiencing. The question is what has been happening to supply.

In the decade preceding the Eleventh Plan, there was a sharp deceleration in agricultural activity, with the growth rate of agriculture GDP slipping from 3.62% during the period 1985 to 1995 to less than 2% in the period from 1995 to 2005. A particular area of concern is foodgrains, whose production during the Tenth Plan was actually *less than* during the Ninth Plan. Per capita annual production of cereals declined from 192 kg in 1991 to only 174 kg in 2007 and of pulses from 15 kg to 12 kg. This means that per capita foodgrain production had reached 1970s levels. There was an even sharper slowdown in horticulture, with growth of fruits & vegetables production dropping from 5.5% per annum during the 1990s to only 1.2% per annum at the start of the Eleventh Plan (Planning Commission, 2006).

The spike in food price inflation in recent years has largely been on account of the upsurge in prices of pulses, dairy products and vegetables (Mohanty 2010). Unlike in the case of cereals, there are no stockpiles of these items to help moderate the price rise. In addition, there is huge wastage, particularly in the case of fruits and vegetables, where almost 35% of produce is lost before reaching the markets.

The Planning Commission attributed the virtual stagnation of this vital sector to a combination of factors, viz.

1. Yield gaps between potential and actual production of all crops
2. Technology fatigue, resulting in diminishing returns to high-yielding seed varieties, chemical fertilizers, etc.
3. Over-exploitation of ground water and degradation of soil and natural resources – almost two-thirds of India's farmlands are degraded, boding ill for the future of the sector

4. Escalation of budgetary subsidies to the sector from 3% of agriculture GDP to approximately 7% at the start of the Eleventh Plan. What makes matters worse is that most of the subsidies are on fertilizer, power and irrigation water and have actually contributed to the degradation of natural resources mentioned earlier.
5. Falling public investment in the sector, particularly in infrastructure and support services such as storage, warehousing, transport, marketing facilities, processing, etc.

The Planning Commission suggested a slew of measures to correct some of these lacunae and projected a growth rate of 4 per cent per annum. However, as the Eleventh Plan draws to a close, the sector has so far been able to manage an annual growth rate of just 3 per cent.

Clearly the rise in domestic food prices has been the result of supply continuously lagging demand. It is the conditions of supply - reflecting the continuing policy neglect of agriculture as well as the nature of distribution and the pressures on the market from speculative activity - that have driven food prices up.

The Link between Global Food Inflation and Food Inflation in India

Are food prices in India driven by international price movements?

Food prices in India certainly increased when global prices rose. But even when global food prices were falling, in the second half of 2008, there was continued food inflation in India.

Some spillovers of global prices to Indian markets are inevitable in the globalized world that we now live in, but this impact is very limited. In the first place, India hardly imports any wheat or corn, which have experienced the maximum rise in prices since 2003. The international price of rice has risen much less than the other cereals, and India is a net exporter of rice. For both rice and wheat, India has adequate buffer stocks. The most significant food import in the Indian case

is edible oil, which admittedly has become increasingly expensive. In an interview, the Chairman of the Agricultural Costs and Prices Commission, Mr. I. S. Gulati, stressed the need for India to now aim for self-sufficiency in edible oil by incentivizing traditional oilseed production and also encouraging the development of palmolein plantations (Business Standard, 2011). As mentioned in the previous section, the main culprits behind the price surges have been pulses, vegetables and milk.

One avenue through which the global price rise could percolate through to Indian food prices would be through the agricultural futures markets. Greater openness has indeed played a role in exposing Indian food markets to the global price volatility that has been exacerbated by speculative financial activity in commodity futures. And the domestic speculative and anti-social activities such as cartelization, hoarding, etc. which have followed and strengthened the price spikes, can be attributed to both, global as well as domestic, inflation.

Conclusion

Agricultural prices are rising the world over and India is no exception. The opening up of the economy has made India more vulnerable to price shocks emerging from outside our borders, but in the case of the food price inflation India has been experiencing in recent years, the reasons are more domestic than global. On the one hand, demand is continuously growing, due to a growing population with more purchasing power. What is more, patterns of demand have changed and the Indian food management policy was not prepared for this change. On the other hand, agriculture and agricultural productivity have stagnated, there is little public investment in this sector, diminishing returns to technology have set in, land and soil degradation have reached alarming levels... the list is endless, but points to one source – a complete neglect of agriculture. The

problem is a supply-side one and solutions must be found there. The irony is that policymakers are aware of the problems and also of the solutions, but policy prescriptions do not get translated into action. Herein lies the tragedy of Indian agriculture and the Indian masses, whose newly acquired food security threatens to be shortlived.

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