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TRANSMISSION FROM INTERNATIONAL FOOD PRICES TO DOMESTIC FOOD PRICES - THE INDIAN EVIDENCE

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TRANSMISSION FROM INTERNATIONAL FOOD PRICES TO DOMESTIC FOOD PRICES - THE INDIAN EVIDENCE

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This paper presents an analytical review of trends in international and domestic food prices and attempts to explore the nature of transmission from international food prices to domestic food prices in India. The paper examines various factors such as domestic demand and supply conditions, exchange rates and imports and exports of concerned commodities. The paper takes into account the domestic policy interventions which help in influencing the domestic supply and prices and thus, prevent complete pass-through from international to domestic prices which may generally be expected in an open trade regime. The paper finds that while domestic and international food prices have moved in the same direction, particularly in the current decade, the food prices in India have remained lower than international prices in terms of absolute levels, percentage variations as well as volatility. The paper, thus, provides evidence towards limited pass-through from international food prices to domestic food prices in India. The paper points out that the reason for limited pass-through lies in the fact that food prices in India are predominantly driven by the domestic factors.

I. Introduction

Over the last couple of years, prices of food articles have remained very volatile both in India and the world over. After remaining subdued for quite sometime, international food prices surged since 2006 reflecting the significant demand supply imbalances persisting in the global market. The rise in prices is also attributed to the increased biofuels demand, rise in oil prices which led

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to the increase in the prices of agricultural inputs, the short-term supply shocks due to adverse weather conditions and speculative transactions in markets for commodity derivatives. The rise as well as the fall in international prices tends to get transmitted from the international market to the domestic markets in an open trade environment. To illustrate, when food prices rise internationally, at the domestic front, countries that are net food exporters could benefit from improved terms-of-trade, although some of them may miss out on this opportunity with banning of exports to protect domestic consumers. Net food importers, however, could face the challenge of meeting consumption demand and maintaining price stability. Assuming that some countries are net importers of say cereals, they will be hard hit by rising prices of cereals. At the household level, surging and volatile food prices adversely affect those the most who can afford it the least–the poor and food insecure. At the household level, the poor spend about 50 to 60 per cent of their overall budget on food. The nutrition levels of the poor are also at risk when they are not shielded from the price rises. Higher food prices lead poor people to limit their food consumption and shift to even less-balanced diets, with harmful effects on health and thus overall development (Braun, 2008).

The rise in international food prices has been transmitted in varying degrees from international to local markets (IFPRI, 2008). For example, while in Tanzania, 81 per cent of the change in international maize prices between 2003 and 2008 has been captured by local price changes, in Ghana and the Philippines, local rice prices have adjusted by around 50 per cent of the world price change. Some of the factors that contribute to this varied transmission of price changes from international to domestic/local markets of different countries include import dependence, exchange rate behavior, domestic policies and discretionary market segmentation, transportation cost and natural market segmentation and imperfect transmission related to market structure and the existence of monopolistic/monopsonistic power. Depending upon the weightage of food prices in the price index, the impact on the overall inflation has also

varied across countries[2]. The issue of pass-through to domestic prices has also been examined on a cross country basis. For example, inflation rates and exchange rates of China and India have been found to be significant in explaining imported food inflation in Colombia (Gomez, 2008).

In India, wholesale price indices (WPI) of food articles have seen a rise of more than 20 per cent during 2005-2008. After exhibiting a surge, prices of both food and non-food articles have eased since the second half of 2008. While the decline in prices of food articles partly reflected the improved *rabi* crops during 2008-09 as well as seasonal pattern, the decline in prices of non-food primary articles was largely driven by decline in international prices of cotton and oilseeds. With the gradual opening up of the economy, international prices have started to play a key role in impacting domestic inflation. The extent to which the international price movements are reflected in domestic prices has long been a question of interest in international economics. This aspect for India has generally been assessed for the overall inflation level (overall WPI/CPI level) using an inflation model rather than only for food prices inflation. Empirical evidence suggest that pass-through from exchange rates to overall inflation is generally higher than that of the pass-through from import prices (RBI, 2004). Furthermore, there is also asymmetry in pass-through between appreciation and depreciation and between sizes of exchange rate changes (Khundrakpam, 2007).

Against the above backdrop, this study attempts to explore the nature and extent of impact of international prices on the domestic food prices in India, considering that the pass-through from the world food prices reflects only part of the rise in domestic food prices and much in India depends on the overall domestic demand-supply position and the various domestic policy interventions of the Government. The remainder of the study is organised as follows. Section II provides a brief analysis of the trends in international and

[2] In Latin America, where the share of food in the consumer price index ranges from 23 to 50 percent, inflation reached double digits. Food price inflation also picked up in China during the period 2007/2008, where it contributes about 90 percent of overall inflation.

domestic prices. Section III attempts a comparative analysis of the international prices *vis-à-vis* domestic prices to explore evidence on the nature of pass-through. Section IV enumerates the reasons for less than complete pass-through from international to domestic food prices in the context of India. Section V provides the global food and oilseeds outlook along with the implications for India. Section VI sets out the concluding observations.

II. Trends in Food Prices

International Food Prices

World food prices have seen a significant rise during the current decade. The rise in prices was particularly sharp during 2007 through mid-2008 reflecting higher demand and low stocks. Prices of all major food items like rice, wheat, maize and edible oils increased more than doubled during the period 2005 to 2008. Prices have, however, eased significantly since July 2008 on the back of improved supply prospects, particularly for oilseeds and grains in major producing countries (Table 1). Although the international prices decelerated since second half of 2008, they still continue to remain higher than the levels that prevailed during 2000-03 (Chart 1). The domestic food prices in several

Table 1: International Food Prices

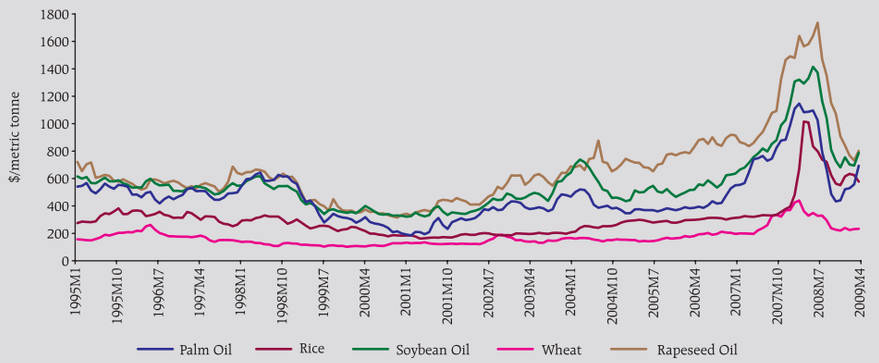
Commodity	Unit	2004 market price	2004=100				
			2005	2006	2007	2008	2009 (Jan-Apr)
1	2	3	4	5	6	7	8
Rice	$/mt	245.8	117.1	123.5	135.2	284.9	249.4
Wheat	$/mt	156.9	97.2	122.2	162.7	207.8	148.0
Maize	$/mt	111.8	88.0	108.8	146.1	199.7	149.8
Sugar	c/pd	7.5	133.5	196.0	132.0	165.0	172.1
Palm oil	$/mt	434.7	84.6	95.9	165.4	198.5	132.4
Soybean Oil	$/mt	590.5	84.0	93.4	135.4	192.0	124.4
Soybeans	$/mt	276.7	80.6	78.6	114.7	163.8	127.8

$: US dollar. mt : metric tonnes c : cent pd : pound

Note: The year 2004 has been taken as base to better exhibit price trends over the relevant period.

Source: Based on IMF's commodity price data.

Chart 1: World Food Prices: 1995-2009



developing countries remain high, thereby, affecting access to food among low-income population groups, particularly in Southern Africa and Central America. Prices of rice and wheat also have remained high in several poor countries in Asia, including Afghanistan, Pakistan and Sri Lanka.

According to a recently released Food and Agriculture Organization (FAO) Report, 2009, the survey data of 58 developing countries show that latest prices are higher than a year earlier in 78 per cent of the cases, and are higher than 3 months earlier in 43 per cent of the cases. The level of high prices is prevailing mostly in sub-Saharan African countries. As far as prices of specific commodities are concerned, in case of cereals, the most important staple food in developing countries, the situation is quite similar with latest nominal domestic price quotations considerably higher than 12 months earlier in about 80 per cent of the countries and higher than 3 months earlier in 35 to 65 per cent of the countries, depending on the type of cereal. In 10 to 30 per cent of the countries, latest food prices by late March 2009 were the highest on record. With the exception of millet, latest prices of other cereals were much higher than prevailed during the crises in 2008 in about a third of the countries, mostly in Eastern and Southern Africa. Food prices also remain at high levels

in some other regions, particularly in Asia for rice and in Central and South America for maize and wheat.

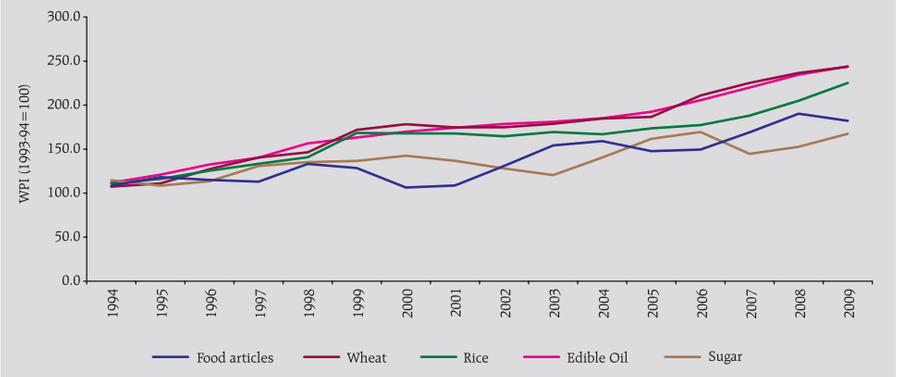
Domestic Food Prices

In tandem with the rise in global prices, domestic prices of essential commodities of mass consumption such as wheat, rice, sugar and edible oils also spurted in India during 2007 and 2008 (Chart 2). The wholesale price indices of food articles that had grown at an average rate of around 2.5 per cent during the first half of the current decade (2001-2005) increased by around 7 per cent during 2006 and 2007. While the percentage growth showed deceleration during 2008, it still remains high at around 6.6 per cent. Food articles with a total weight of 15.4 per cent in overall WPI and edible oil with a weight of 5.5 per cent emerged as important drivers of inflation with their weighted contribution averaging more than 30 per cent in total inflation during this period.

III. Domestic and International Food Prices – A Comparative Analysis

With the gradual opening up of the economy, trade in food articles has enhanced. Consequently, movements in international and domestic food articles

Chart 2: WPI of Select Commodities



have become strongly unidirectional, especially during the period 2003-07. A comparative analysis of the different aspects of the international and domestic food prices behaviour is set out below:

III.1. Movement in Prices: Percentage variation

International prices of almost all food commodities have risen in the recent period due to tight supply and increase in demand. The international food price indices increased by around 15 per cent during 2007 and further by 23 per cent in 2008 (Table 2). It is observed that food prices in India have generally been moving in tandem with the international prices, but at a significantly lower pace when compared with international food prices, thus, reflecting at less than complete pass-through. In India, food prices increased, on an annual average basis, by about 6-7 per cent during the period 2006-2008 (11-23 per cent at the world level). Interestingly, while world food price index has shown a sharp fall in 2009, domestic food articles price index has risen, *albeit*, slowly as compared to the previous years reflecting the role of domestic factors in influencing prices. The international prices of edible oils also revealed a hardening trend, particularly since 2006. In India, the prices of edible oil, which increased by 1.2 per cent in 2006, further

Table 2: Growth Rates of Food and Edibles Prices- Domestic and International

(per cent)

Period	Food		Edible Oil	
	World	India	World	India
1	2	3	4	5
1996-2000	-4.4	7.1	-5.0	-1.4
2001-2005	4.2	2.5	4.3	7.3
2006	10.5	6.8	10.3	1.2
2007	15.2	7.0	15.1	13.1
2008	23.4	6.6	23.3	12.5
2009 (Jan-Apr)	-19.1	4.5	-18.0	-5.7

Source: Computed on the basis of data from IMF and GoI.

sharply increased by over 13 per cent during 2007 and 12.5 per cent during 2008. The growth rates remained lower when compared with the international edible oil prices. The decline in the edible oil prices during 2009 so far has also remained relatively less in India as compared with international prices.

Commodity-wise, while international prices in the case of rice went up by 9.5 per cent in 2007 and further sharply by 110.7 per cent during 2008, price increase in India was of lower order of 6.0 per cent and 9.0 per cent, respectively, during the same period (Table 3). In respect of wheat, there was an upsurge in the international prices which recorded an increase of 33 per cent during 2007. In India, wheat prices showed a much lower increase of 6.8 per cent during 2007. For other commodities such as groundnut and rapeseed oil, while the increase during the period 2007 and 2008 has not been as sharp as international prices, the fall in prices during 2009 so far has also been relatively smaller than the level of world prices.

III.2. Absolute Prices (Retail prices)

A comparative analysis of absolute prices of select commodities in the domestic and international markets in the recent past reveals that

Table 3: Growth Rates of Prices of Select Commodities - Domestic and International

(per cent)

Period	Rice		Wheat		Groundnut		Rapeseed oil	
	World	India	World	India	World	India	World	India
1	2	3	4	5	6	7	8	9
1996-2000	-8.2	7.9	-7.3	10.1	-0.6	0.7	-10.1	1.1
2001-2005	8.0	0.7	6.3	0.9	0.9	5.0	16.1	8.2
2006	5.5	2.1	25.7	13.0	7.8	-1.6	18.1	-1.3
2007	9.5	6.0	33.1	6.8	42.1	34.9	18.9	14.5
2008	110.7	9.0	27.7	5.0	33.1	7.0	40.7	24.6
2009*	-12.5	12.0	-28.8	3.7	-37.2	-4.4	-44.8	-1.5

*: Data for 2009 pertain to Jan-Apr.

Source: IMF and Office of Economic Adviser, Ministry of Commerce and Industry, GoI.

domestic prices of rice and groundnut have remained lower than the international prices since 2005. Domestic wheat price had remained higher than the international price till 2007. Subsequently, wheat price has risen but the rise has been higher in case of international prices as compared with domestic prices. During 2008 and 2009 so far, domestic wheat prices have been lower than that of international prices. Price of rapeseed oil, however, has remained higher than the international prices during last four years (Table 4). This essentially reflects the domestic demand-supply conditions. While in case of rice and groundnuts, domestic production is able to meet the domestic demand, the production of rapeseed and palm oil in India has not kept pace with the strong domestic consumption demand and India has been resorting to large imports (Details on this in section IV).

A comparison of the domestic and world prices on a monthly basis during 2008 reveals that while domestic prices of rice and groundnut, in general, remained lower than world prices, prices of wheat and rapeseed showed a mixed trend. During January to April 2009, while prices of rice and groundnut

Table 4: Absolute Domestic and International Prices (Rs. per quintal)

Year/Commodities		Rice	Wheat	Groundnuts	Rapeseed Oil
1	2	3	4	5	6
2005	World	1,270	670	3,391	3,180
	India	1,000	878	2,699	4,222
2006	World	1,378	870	3,758	3,858
	India	1,094	1,019	3,021	4,900
2007	World	1,371	1,053	4,860	4,179
	India	1,284	1,148	3,882	5,091
2008	World	3,040	1,416	6,809	6,184
	India	1,494	1,170	4,021	6,501
2009 (Jan.-April)	World	3,055	1,157	4,907	4,894
	India	1,575	1,140	3,194	6,156

Notes: 1. World prices are average US Dollar Prices converted into Indian Rupees at the monthly average rate.

2. Indian Prices are monthly average pertaining to Mumbai/Hapur market.

Source: IMF for world prices and Mumbai/Hapur market for India.

in India remained below world price levels, domestic rapeseed prices were higher than that of world prices. Prices of wheat in India that had been rising since October 2008, started declining from March 2009. Unlike wheat, domestic prices of other commodities *viz.*, rice, groundnut and rapeseed have shown a rise since March 2009 (Table 5).

III. 3. Correlation between Domestic and International Prices

To examine further the extent of relationship between international and domestic prices, the correlation coefficient was worked out. The correlation coefficient between domestic and international prices reveals that during the period 1995-2008, domestic edible oil prices had the strongest positive correlation with the international prices reflecting the import dependency as

Table 5: Month-wise Level: Domestic and World Prices of Select Commodities

(Rs per quintal)

Year/Commodities		Rice	Wheat	Groundnuts	Rapeseed Oil
1	2	3	4	5	6
Jan 2008	World	1,549	1,455	6,694	5,873
	India	1,400	1,085	3,763	5,988
Jul 2008	World	3,423	1,406	6,938	7,439
	India	1,605	1,053	4,238	7,138
Dec 2008	World	2,679	1,071	5,921	4,416
	India	1,153	1,136	3,874	6,575
Jan 2009	World	3,004	1,169	5,636	4,106
	India	1,550	1,165	3,915	6,240
Feb 2009	World	3,123	1,107	4,847	3,782
	India	1,575	1,180	2,738	4,178
Mar 2009	World	3,203	1,183	4,611	3,748
	India	1,563	1,150	2,350	4,150
Apr 2009	World	2,890	1,167	4,506	4,015
	India	1,613	1,054	3,775	5,008

Notes: 1. World prices are average US Dollar Prices converted into Indian Rupees at the monthly average rate.

2. Indian Prices are monthly average pertaining to Mumbai/Hapur market.

Source: IMF for world prices and Mumbai/Hapur market for India.

large part of India's consumption needs are met through imports (over 30 per cent). Among food articles, wheat prices show the maximum positive correlation with international prices (Table 6). Stagnation in production coupled with rises in incomes and consumption has necessitated imports of wheat in the year 2006-07 (about 5.5 million tonnes). It may be noted that domestic prices of both food articles and edible oils have started moving in tandem with international prices, particularly during the later half *i.e.*, period 2002-2008 as trade in agricultural commodities has enhanced.

III.4. Volatility in Food Prices

The volatility in prices of food articles (as reflected by the coefficient of variation) has in general declined during the first half of the current decade as compared with the 1990s (Table 7). The volatility in the prices of certain commodities has, however, risen during last two years consequent upon the food crisis.

It needs to be noted that domestic prices of food articles appear to exhibit lower volatility than that of the international prices during the same period. This could mainly be attributed to several Government policies intervention in the form of export bans, revision in duty structures, increase in the Minimum Support price (MSP) of essential commodities, etc.

To sum up, the analytical review of trends, direction and extent of relationship of prices reveals that while domestic and international food prices

Table 6: Correlation coefficient between Domestic and International Prices

Period	Edible Oils	Food Articles	Rice	Wheat	Sugar
1	2	3	4	5	6
1995-2008	0.65	0.40	0.26	0.42	0.19
1995-2001	0.03	-0.86	-0.83	-0.76	-0.74
2002-2008	0.87	0.80	0.79	0.80	0.79

Source: Computed using data from IMF and WPI for India.

Table 7: Coefficient of Variation of Prices of Select Commodities

Period / Commodities	Rice		Wheat		Edible Oil		Sugar		Overall Food	
	India	World	India	World	India	World	India	World	India	World
1	2	3	4	5	6	7	8	9	10	11
1995-2000	14.7	18.6	17.1	26.2	9.3	13.2	10.1	27.2	12.5	13.2
2001-2006	3.0	21.7	7.4	15.5	12.9	12.3	12.7	35.8	6.3	12.2
2007-2009	6.2	40.8	3.4	25.9	6.6	14.9	5.4	13.4	4.5	15.3
1995-2009	**15.1**	**46.7**	**20.0**	**36.8**	**18.2**	**21.1**	**12.4**	**29.6**	**18.1**	**21.3**

Note: Data for 2009 is upto April 2009.
Source: Computed using data from IMF and WPI for India.

have moved in the same direction, particularly in the current decade, the Indian food prices have remained lower than international prices, in terms of levels, growth rate as well as volatility. This indicates that the rise in international prices have had limited pass through to domestic food prices in India. This aspect needs to be analysed against the backdrop of demand-supply balance, trade shares, impact of exchange rate and the policies pursued by the Government.

IV. Underlying Factors for less than complete pass-through

IV.1. Impact of Trade Channel

Trade balance

While examining the supply and demand through the trade channel of agricultural commodities as a whole, it may be observed that the trend in trade balance (export-import) has generally remained positive, thus, indicating that bulk of our domestic demand is met through domestic supply, with the balance being exported. In fact, the excess of exports over imports for agricultural commodities at the aggregate level increased from Rs. 13,472 crore in 2001-02 to around Rs. 47,993 crore in 2007-08 (Table 8). In simple terms, this implies that there could be no major issue of pass-through from international to domestic prices, if the data at aggregate level (in value terms) is taken[3]. However, the export-import balance of specific commodities needs to be examined.

[3] This assumes that import prices are given for the domestic economy though it has certain control on the export prices.

Table 8: India's Exports and Imports of Agricultural Commodities

Year	Exports	Imports	Net	Exports	Imports	Net
	Amount in Rs. crore			Percentage Variation		
1	2	3	4	5	6	7
2001-02	29,729	16,257	13,472	3.7	34.5	-18.7
2002-03	34,654	17,608	17,046	16.6	8.3	26.5
2003-04	37,267	21,973	15,294	7.5	24.8	-10.3
2004-05	41,603	22,812	18,791	11.6	3.8	22.9
2005-06	49,217	21,499	27,718	18.3	-5.8	47.5
2006-07	62,411	29,638	32,773	26.8	37.9	18.2
2007-08	77,770	29,777	47,993	24.6	0.5	46.4

Source: Agricultural Statistics at a Glance, 2008, Minister of Agriculture.

Magnitude of Trade

As alluded earlier, though the total agricultural exports are higher than imports, the magnitude of trade from the view point of transmission of international commodities prices to domestic prices in an open economy also plays an important role. An analysis of India's agricultural exports and imports reveals that percentage share of India's agricultural trade (exports and imports) is over 2 per cent of India's GDP (Table 9). It is noteworthy that the percentage share of agricultural trade in India's total trade remained almost stagnant, particularly since mid-1990s. In fact, the

Table 9: Percentage Share of India's Agricultural Trade in Gross Domestic Product

Period	Agri. Exports/GDP	Agri. Imports/GDP	Total
1	2	3	4 (2+3)
1990-95	1.2	0.3	1.6
1995-00	1.6	0.6	2.2
2000-05	1.4	0.7	2.1
2005-06	1.4	0.6	2.0
2006-07	1.5	0.7	2.2
2007-08	1.7	0.6	2.3

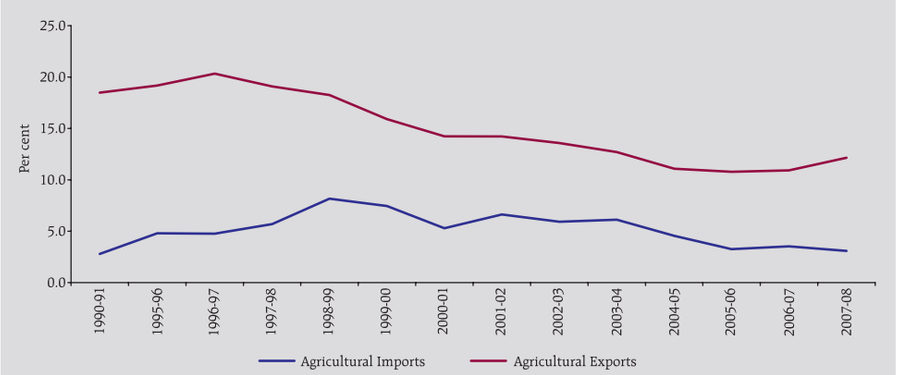
share of agricultural exports in GDP in certain years showed a decline (2005 and 2006).

As expected, in an emerging economy the percentage share of agricultural trade in national trade starts declining while the share of other sectors rises in the development process. In context of India, the percentage share of agricultural trade in India's total trade also showed decline over the years (Chart 3). Thus, keeping in view the limited size of agricultural trade, particularly imports, in India's GDP as also its declining share in India's total trade and considering the fact that India is a net exporter of agri commodities, the impact of international agricultural prices on the domestic prices seems to be marginal.

IV.2. Impact of Domestic Demand and Supply Conditions

In addition to exports and imports of agricultural commodities, domestic supply and demand conditions also assume importance for transmission of international to domestic prices. The analysis with regard to how much of domestic consumption is met through domestic sources and how much through net imports for major commodities reveals that for rice and sugar,

Chart 3: Percentage Share of India's Agricultural Exports/Import in Total Exports/ Imports



bulk of domestic demand is met through domestic sources and the surplus is exported. India has been a net exporter in these two commodities (Table 10). In case of edible oils, the demand has far outstripped the domestic supply and the deficit is met through imports, the share of imports being as high as over 40 per cent of the total consumption in the initial period of current decade (Table 11). Pulses production has also lagged behind the demand resulting in dependence on imports to the extent of more than 10 per cent. Hence, the chances of importing inflation are higher for these commodities. In case of wheat, while India has been an exporter since the beginning of the current decade, it resorted to wheat imports during 2006-07 and 2007-08 in view of maintaining supply and stability in prices. In the subsequent period, however, given the large wheat stocks, there may not be the need to resort to imports.

Table 10: Composition of Aggregate Supply of Select Commodities (million tonnes)

Sources	Crop	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
1	2	3	4	5	6	7	8	9
1. Domestic*	Wheat	74.5	58.0	68.1	68.9	69.7	75.3	79.1
	Rice	97.9	61.4	79.8	80.3	89.7	96.0	97.5
	Pulses	13.4	11.1	14.9	13.1	13.4	14.2	15.1
	Sugar	297.2	287.4	233.9	237.1	281.2	355.5	340.6
	Edible Oils	6.1	4.7	7.1	7.2	8.3	7.4	8.4
2. Net Imports	Wheat	-2.6	-3.7	-4.1	-2.0	-0.7	6.0	1.8
	Rice	-2.2	-5.0	-3.4	-4.8	-4.1	-4.7	-6.5
	Pulses	2.1	1.8	1.6	1.1	1.2	2.0	2.6
	Sugar	-1.4	-1.6	-1.1	0.8	0.2	-1.6	-4.6
	Edible oils	4.4	4.3	5.3	4.6	4.3	3.9	3.8
3. Total (1+2)	Wheat	71.8	54.3	64.0	66.9	68.9	81.3	80.9
	Rice	95.7	56.5	76.4	75.5	85.6	91.3	91.0
	Pulses	15.4	13.0	16.5	14.2	14.6	16.2	17.7
	Edible Oils	10.5	9.0	12.5	11.8	12.6	11.3	12.2
	Sugar	295.8	285.8	232.7	237.9	281.4	353.9	335.9

* : Derived by taking into account the domestic crop production in the year and the variations in stocks over the previous year.

Source: Ministry of Agriculture, Government of India.

Table 11: India's Dependency on Imports for Consumption Requirements

	Percentage Share of imports in total consumption			
Period	Wheat	Pulses	Sugar	Edible Oils
1	2	3	4	5
2001-02	-3.7	13.3	-0.5	41.7
2002-03	-6.8	14.2	-0.6	47.9
2003-04	-6.4	9.5	-0.5	42.9
2004-05	-3.0	7.5	0.3	38.9
2005-06	-1.1	8.5	0.1	34.1
2006-07	7.4	12.5	-0.5	33.5
2007-08	2.2	14.8	-1.4	31.1

Source: Computed using data from Ministry of Agriculture, GoI

Based on the demand-supply analysis, it is inferred that edible oil and pulses prices could be influenced by the rise or fall in international prices. It may be noted that the correlation between domestic and international price indices was also highest for edible oils. However, the lower order of increase in domestic edible oil prices *vis-à-vis* international prices indicates that the pass through is limited. This could be attributed to the several intervention policies of the Government aimed at protecting the consumers from high inflation.

A comparative analysis of international and India's domestic prices of select edible oils, on an annual average basis, reveals that domestic prices of palm oil and rapeseed oil have generally remained higher than the international prices (Table 12). After accounting for the difference in freight and transportation charges, free imports of these edible oils should theoretically try to bridge the gap between prices in the domestic and international market. With domestic prices being high in India due to supply bottlenecks, imports should actually lower domestic prices by meeting the supply deficit. Thus, developing economies like India could have actually benefitted from lower import prices of edible oils. Furthermore, by allowing for duty free imports of edible oils (crude), Government has also tried to keep the imported inflation component to the minimum for edible oils.

Table 12: Absolute Domestic and World Prices of Select Commodities

(Rs. per quintal)

Commodities	2007		2008		2009 (Jan.-Mar)	
	World	India	World	India	World	India
1	2	3	4	5	6	7
Palm Oil	3,221	4,618	4,074	4,891	2,872	3,377
Rapeseed Oil	4,179	5,091	6,184	6,501	3,879	4,856
Groundnut oil	5,583	6,710	9,148	6,751	6,406	5,462

Source: IMF for world prices and Mumbai market for India.

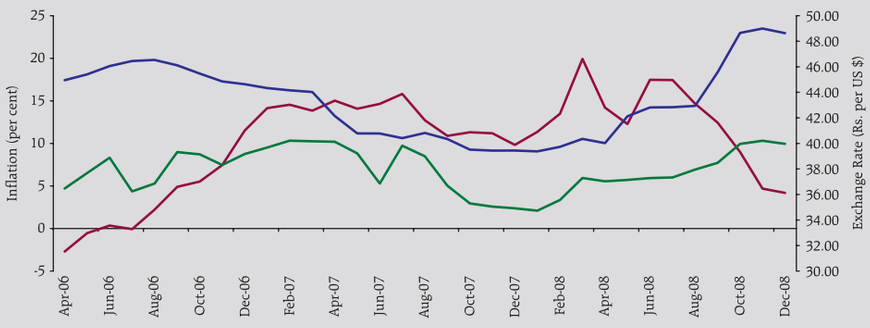
IV.3. Impact of Exchange Rate

While analysing the impact of international price rises on domestic food prices, it is also important to examine the behavior of exchange rates. Import prices in local currency terms include not only the effect of international prices but also exchange rate movements. For example, any depreciation of the local currency would increase the import prices in local currency and that might in turn add to the rise in domestic prices. On similar lines, any appreciation of the domestic currency would contribute towards limiting the pass through to domestic prices.

During the period 2003-2007, US dollar had depreciated against many currencies. Even in India, from 2006-07 till the first half of 2008 when food prices in India shot up, it was observed that rupee had appreciated against the dollar. Thus, this would have neutralised some of the impact of increased international prices in US dollar terms[4] (Chart 4). Infact for rice, studies have shown that exchange rate appreciation in several Asian countries has muted the effect of rising world rice prices (in terms of US dollar) on domestic prices (Dawe, 2008). At the aggregate level, the exchange rate pass-through to overall domestic inflation has been estimated between 8-17 basis points (RBI, 2004).

[4] Assuming that majority of imports are invoiced in dollars, the rupee dollar exchange rate has been used for analysis.

Chart 4: Exchange Rate and Food /Edible Oil Inflation



The extent of pass-through has, however, generally been observed to be higher for depreciation than for appreciation of domestic currency (Khundrakpam, 2007).

IV.4. Impact of Policy Measures

By initiating various policy initiatives, Governments across the countries have tried to minimise the effects of higher international prices on domestic prices and to mitigate impacts on particular groups. In India, the contribution of food price inflation to overall inflation has been less than 20 per cent during 2007-08, though it has risen significantly in recent period. India has used its pricing policies, trade and tariff policies to absorb much of the shock in global food prices to augment domestic availability of essential commodities. The details of some of the policy measures are set out below:

Restrictions on exports

Prices of rice has generally remained high in the international market as compared with domestic prices. Free trade would have resulted in equalisation of prices across borders. This would imply that high rice prices would have been exported to India. However, Government has imposed ban on exports of

non-basmati rice since April 2008. The objective is to meet the local demand of the country before exporting the essential food item. This measure though distortionary from trade angle has enabled the Government to contain the pass-through of international prices to domestic rice prices. The Govt. in July 2009 imposed a ban on wheat imports on concerns of lower food production due to delficient monsoons.

With regard to sugar, it is well known that India's sugar industry is the second largest in the world and India, by and large, is a net exporter of sugar. India's net sugar exports have risen from 1.4 million tonnes in 2001-02 to 4.6 million tonnes in 2007-08. However, on occasions of abnormal rise in prices of sugar such as in 2004-05 and 2005-06, the Government had also resorted to temporary bans on export of sugar and had permitted imports of sugar subject to conditions (Table 13). The duties on import of raw sugar and levies/ quantitative restrictions on exports were revised from time to time as per the domestic production and price trends.

Duty structure on imports

Given a continuous excess demand for edible oils, import of edible oils is a regular feature over last two decades. The Government's tariff policy

Table 13: Exports and Imports of Sugar

(Quantity in '000 tonnes and value in Rs crore)

Period	Imports		Exports		Net Exports	
	Quantity	Value	Quantity	Value	Quantity	Value
1	2	3	4	5	6	7
2001-02	25.6	32.6	1465.4	1728.3	1439.8	1695.7
2005-06	558.8	651.6	321.2	569.1	-237.6	-82.5
2006-07	1.1	3.5	1643.4	3127.5	1642.3	3124.0
2007-08	0.5	2.3	4641.1	5404.9	4640.6	5402.6
2008-09 (Apr-Dec)*		128.9		4442.9		4314.0

*: Provisional

Source: Agricultural Statistics at a Glance, 2008.

impacts demand and supply condition in the economy through trade channel. As and when, there are signs of shortage of supply of certain commodities (due to lower domestic production or rise in demand), generally the import duties on such commodities are revised in order to maintain supply and prices at domestic level. In context of India, import tariffs have also been simplified and reduced since the early 1990s. In agriculture, import access has improved due to the removal of quantitative restrictions in 2001 and some reductions in applied tariffs, but bound agricultural tariffs remain high relative to other sectors of the Indian economy, and relative to most other countries. Many agricultural tariffs are now set well below World Trade Organization bound rates. Setting applied tariffs well below bound rates has led to India's emergence as a major importer of pulses and vegetable oils, commodities in which India faces shortages since the 1990s. More recently, India has reduced its applied tariffs for wheat and corn to zero and sharply lowered its tariffs on palm oil products to help augment domestic supplies and stabilise prices. In order to harmonise the interests of farmers, processors as well as consumers, and at the same time regulate large imports of edible oils, the customs duty on crude/refined palmolean, sunflower and soyabean oil has been periodically revised. The current rate of customs duty applicable is 'zero' for crude edible oils (excluding soyabean which has a 20 per cent duty) and 7.5 per cent on refined edible oils.

Reduced tariff protection presents both challenges and opportunities for investors in agriculture and agribusiness. On the challenge side, lower tariffs imply more competitive pressure to reduce costs and improve quality through increased scale, improved technology, and vertical integration. Reduced agricultural tariffs may discourage some new investment aimed at serving rising domestic demand. However, competitive pressure could foster gains in efficiency and quality that allow agriculture and agribusinesses to expand in both domestic and global markets. Some agri businesses may benefit from free trade in raw materials and intermediate products. For

example, greater access to imported oilseeds could benefit producers and consumers by allowing greater oilseed processing efficiency (Persaud and Landes, 2006).

Initiatives to enhance Production

Domestic production of edible oils is low in view of (i) low productivity levels (Table 14), (ii) extreme sensitivity to adverse weather (frost/hailstorm) particularly for mustard, and (iii) lack of adequate processing facilities essentially for oil palm. Recognising the dependence of India on edible oil imports, the government has been periodically taking policy measures since the 1980s addressing issue of productivity. The Technology Mission on Oilseeds was launched by the Central Government in 1986 to increase the production of oilseeds so as to reduce import and achieve self-sufficiency in edible oils. Subsequently, pulses were also brought within the purview of the Mission. The efforts of the Technology Mission are also supplemented by the National Oilseeds and Vegetable Oils Development (NOVOD) Board via opening of newer areas for non-traditional oilseeds.

Table 14: Productivity of Oilseeds: India *vis-à-vis* World

(Tonnes per hectare)

Region/ Country	Total oilseeds	*Of which*		
		Rapeseed	Soyabean	Sunflower
1	2	3	4	5
World	1.91	1.75	2.43	1.23
United states	2.62	1.36	2.89	1.27
Argentina	2.52	–	2.68	1.74
Brazil	2.63	–	2.67	–
China	2.05	1.74	1.74	1.73
France	2.76	3.02	–	2.25
India	**0.92**	**1.09**	**1.06**	**0.60**

Note: Data in the Table pertain to 2006-07.
Source: Ministry of Agriculture, GoI.

The Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize, a Centrally Sponsored Integrated Scheme was launched during the 10th Five Year Plan after the merger of 4 different schemes, *viz.*, Oilseeds Production Programme, Oil Palm Development Programme, National Pulses Development Project and Accelerated Maize Development Programme of the 9th Five Year Plan. The objective has been to provide flexibility to the States in implementing the programme based on regionally differentiated approach, to promote crop diversification and to provide focused approach to the programmes. This has been implemented with effect from 11th April, 2004 by 14 major growing States for oilseeds and 10 States for oil palm. Consequent upon this programme, area under oil seeds has shown a significant rise.

To promote research in the field, the Directorate of Vanaspati, Vegetable Oils & Fats (DVVO&F) has been set up under the aegis of the Ministry of Consumer Affairs, Food & Public Distribution, both at the Centre and State level. The broad objectives of the R&D Schemes are to coordinate and concentrate research efforts for development of technology for increased production of oils from oil bearing materials as also optimum utilisation of these materials. The approved outlay for the planned scheme of the DVVO&F during the 11th Five Year Plan period (2007-2012) is Rs. 1 crore with annual allocation of Rs. 20 lakhs.

Administered Price Policy and Food Management Policy of the Government

The literature reveals that India has liberalised its trade policies significantly, both as part of her international commitments as well as part of the overall economic reforms that country has embarked upon. Underlying these reforms is recognition of the role and importance of market forces and the private sector, and the need to reduce and re-orient government's role in order to achieve a higher, sustainable, and more-inclusive growth rate. In India, while trade policies became liberal, administered price policy on major 24 crops and the domestic foodgrains management continues to be dominated by

public intervention. This recognises the fact that the international prices of food commodities can reflect significant volatility depending upon prevailing demand and supply situations and also speculation and future expectations. Hence, the transmission to domestic food prices may be contained through administered price policy (such as MSP in India) and food management policy (attempts for adequate stock).

Keeping in view the interests of the farmers as also the need for self reliance, the Government has been announcing Minimum Support Prices (MSP) for major crops. The major features of the MSP includes: (i) the MSP are announced by the Government with a view to ensuring remunerative prices to the farmers for their produce on the basis of the recommendations of Commission for Agricultural Costs and Prices (CACP), (ii) the MSP are perceived by the farmers as a guarantee price for their produce from the Government. The farmers have the option to either sell their produce to the Government agencies at the offered MSP or in the open market, whichever is more advantageous to them, (iii) support prices are announced before the sowing and hence they indirectly affect farmers' decisions regarding land allocation to crops, (iv) the Government has been offering MSP for all major crops including paddy, wheat, jowar, bajra, maize, ragi, pulses, oilseeds, copra, cotton, jute, sugarcane and tobacco, (v) the MSP provides a benchmark for the market prices of foodgrains and (vi) the Government has periodically hiked the MSP in response to India's rising need of food security as also to meet the rising cost of cultivation on account of increasing input costs.

The recent developments point out that the Government has raised the MSP for Rabi Crops of 2008-09 season with a view to incentivise crop production and to ensure remunerative prices to the farmers. According to the Press Release dated January 29, 2009, the MSP of Wheat has been fixed at Rs.1,080 per quintal - an increase of Rs.80 per quintal over the last year's MSP. The MSP of Barley has been raised by Rs.35 per quintal to Rs.680 per quintal. The MSP of Gram at Rs.1,730 per quintal showed an increase of Rs.130 per quintal over the previous

year. The MSP of Masur (Lentil) at Rs.1,870 per quintal showed an increase of Rs.170 per quintal over the last year's MSP. The MSP of Safflower remains unchanged at Rs.1,650 per quintal but the MSP of Rapeseed/Mustard has been raised by Rs.30 per quintal and fixed at Rs.1,830 per quintal. The details of MSP of two major crops over the years are set out in Table 15.

In order to ensure food security and price stability, Government has an elaborate buffer stock policy comprising of procurement and offtake of foodgrains. During the first half of the decade, the food stocks, both rice and wheat, remained above their buffer norms on account of good procurement and relatively lower offtake. During 2006-07 and 2007-08, however, these stocks had fallen below the buffer norms. One of the reasons of the susceptibility of the domestic prices to the international developments during this period could be attributed to the depletion of buffer stocks of foodgrains as compared to the previous period when the stocks were quite comfortable. During 2008-09, however, the stocks of foodgrains have been much higher than the quarterly buffer stock norms set by the Government of

Table 15: Minimum Support Price of Wheat and Paddy

Crop Year	Wheat		Paddy Common@	
	MSP	% change	MSP	% change
1	2	3	4	5
1990-91	225	4.7	205	10.8
1995-96	380	5.6	360	5.9
2000-01	610	5.2	510	4.1
2004-05	640	1.6	560	1.8
2005-06	650 *	1.6	570	1.8
2006-07	750 #	15.4	580 **	1.8
2007-08	1,000	33.3	645 #	11.2
2008-09	1,080	8.0	850	31.8

@ : From 1997-98, Minimum Support Price (MSP) is announced for two varieties of paddy - common and Grade 'A', as against the earlier three categories of common, fine and super fine.

* : Including a Central bonus of Rs.50 per quintal payable over the MSP.

\# : An additional incentive bonus of Rs.100 per quintal is payable over the MSP.

** : An additional incentive bonus of Rs. 40 per quintal on procurement between Oct. 1, 2006 to March 31, 2007.

Source: Ministry of Agriculture, Government of India.

India (16.2 MT as on 1st of April)[5] thus, providing a source of support to prices in 2009-10. As on April 1, 2009, total stocks of foodgrains with the Food Corporation of India (FCI) and other Government agencies stood at around 35.6 million tonnes as compared with 19.8 million tonnes a year ago. Component-wise, stocks of rice and wheat stood at 21.6 million tonnes and 13.4 million tonnes, respectively as compared with 13.8 million tonnes and 5.8 million tonnes respectively a year ago (Table 16 & Chart 5). The food stocks have further risen to 51.8 million tonnes as on May 1, 2009.

Concerns have been expressed that the food management and MSP policy of the Government has significant monetary and fiscal implications in terms of growing food subsidies. Besides, it is now felt that while on the one hand, the MSP via incentivising production, enhances supply of foodgrains, on the other hand, the periodic hikes in MSP has contributed towards high food inflation for commodities like rise and wheat in recent period. Nevertheless, the Government buffer stock policy has been an important tool for price stabilisation. The Government continues to offer price support at a level that guarantees high

Table 16: Procurement, Off-take and Change in Stocks of Foodgrains (Million Tonnes)

	2006-07			2007-08*			2008-09*		
	Rice	Wheat	Total@$	Rice	Wheat	Total@$	Rice	Wheat	Total@$
1	2	3	4	5	6	7	8	9	10
Opening Stock	13.68	2.01	16.62	13.17	4.70	17.93	13.84	5.80	19.75
Procurement	26.66	9.23	35.89	26.37	11.13	37.50	32.75	22.69	55.44
Off-take	25.06	11.71	36.77	25.22	12.20	37.43	24.62	14.88	39.50
Closing Stock	13.17	4.70	17.93	13.84	5.80	19.75	21.60	13.43	35.58
Change in Stocks	**-0.50**	**2.69**	**1.31**	**0.66**	**1.10**	**1.82**	**7.77**	**7.63**	**15.83**

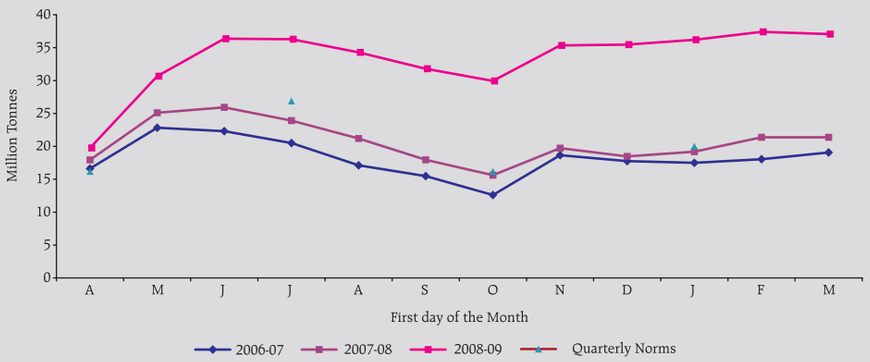
@ : Inclusive of coarsegrains (for stocks only). * : Provisional $: Totals may not tally due to rounding off

Note : Closing stock numbers may differ from those arrived at by adding the opening stock and procurements, and deducting there from the off-take

Source : Ministry of Food, Consumer Affairs and Public Distribution.

[5] Total minimum stocks to be maintained as on 1st January under the New Buffer Stocking policy with effect from March 29, 2005 amounts to 20 million tonnes (11.8 million tonnes of rice and 8.2 million tonnes of wheat).

Chart 5: Total Foodgrains Stocks



returns for major crops over the years. The variety of factors that are considered while setting the MSP include cost of production, changes in input prices, input-output price parity, trends in market prices, demand and supply conditions, inter-crop price parity, effect on industrial cost structure, effect on cost of living, effect on general price level, international price situation, parity between prices paid and prices received by the farmers, effect on issue prices and implications for subsidy. Besides, the policy intervention to support agriculture is considered to be less in India than many other OECD countries. On the whole, the food stock policy of the Government has ensured an environment of relatively less volatility in domestic as compared to the international prices.

Role of Commodity Futures Trading in impacting prices in India

Futures trading in a wide range of agricultural commodities encompassing 54 items were permitted by the Government of India in 2003. The total volume of trade in the commodity futures market rose from Rs.5.72 lakh crore in 2004-05 to Rs. 52.5 lakh crore in 2008-09. In the wake of consistent rise of rate of inflation during the first quarter of calendar year 2007, concerns were raised that excessive speculation in the commodity

futures market could be a contributory factor behind the increase in the prices of many agricultural commodities. In response, besides imposing a temporary ban on futures trading in four commodities such as wheat, rice, urad and tur in 2007, the Government appointed a Committee (Chairman: Prof. Abhijit Sen) to study the impact, if any, of futures trading on agricultural commodity prices. The Report of the Committee revealed that there was no clear evidence of futures trading having either reduced or increased volatility of spot prices. Furthermore, the Committee gave wide ranging recommendations such as enabling wider participation of farmers in the futures market; expediting reforms in agricultural marketing; and designing appropriate contracts to serve the objective of risk management.

It may be noted that for many commodities the acceleration of domestic prices post introduction of commodity futures has been from a depressed base and hence, cannot be attributed directly or solely to futures trading. The post futures trading prices of agricultural commodities in India need to be seen in tandem with a range of factors that affect such prices, *viz.*, domestic production, buffer stock levels, Government intervention in food markets through procurement policies and minimum support prices, agricultural commodities exports, international food prices scenario and domestic supply and demand dynamics. Besides, the regulator, Forward Markets Commission, has also been monitoring the futures prices of sensitive commodities. In order to curb volatility and speculation in prices in the futures market, margin requirements were imposed on sensitive commodities, as in the case of sugar, potato and soyabean during early 2009. Sugar futures were banned during May 2009 keeping in view the demand-supply position.

V. Global Food Prices Outlook and Implications for India

Global Foodgrains Outlook

The advance reports forecasting foodgrains production point out some moderation in 2009 from the record levels of 2008. World cereal production in

2009 is expected to decline by 3.4 per cent from the record levels of 2,286 million tonnes in 2008 (FAO, 2009). Global wheat harvest in 2009 is expected to decline in the range of 4.2 per cent (as per FAO) to 6.3 per cent (Rabobank). Wheat production is expected to decline in Europe and the United States as planted area in these countries has declined. However, in Asia, larger winter wheat plantings are estimated in countries where government support measures have been introduced to boost production such as in China, India and Pakistan. Besides, prospects for winter wheat crop has improved following the arrival of rains in many of the drought stricken areas of China. Preliminary estimates indicate an increase of 0.2 per cent in world paddy production in 2009 as compared with 2008 levels.

The reduction in world cereal production in 2009 is expected to put pressure on the international cereal prices. The impact on supply and prices, however, is expected to be somewhat offset by the satisfactory level of global cereal stocks in 2009, particularly for rice and wheat (Table 17). In addition to food and feed, the industrial usage of cereals is also increasing. In recent years, the rapidly growing bio-fuel sector is emerging as a leading source of demand[6]. Increasing trend in the use of cereals for production of bio-fuel has an impact on the prices and supply of the foodgrains. As per the estimates given in the FAO Report, in 2008, around 104 million tonnes of cereals (of which maize accounts for over 90 million tonnes) are used for production of bio-fuels, representing 4.6 per cent of world cereal production. If there is significant rise in oil prices and economic activities, usage of cereals for bio-fuel could adversely affect the foodgrains supply and prices in coming years. Food prices in 2009 is also expected to remain under pressure on account of higher demand for world cereals because of possible switching over to foodgrains consumption

[6] Concerns over oil prices, energy security and climate change have prompted Governments to take a more proactive stance towards encouraging production and use of bio-fuels. Several countries have set standards or targets for use of bio-fuels. For example, the E.U. has set a goal of 5.75 percent of motor fuel use from bio-fuels by 2010 and the U.S. has mandated the use of 28.4 billion liters of bio-fuels for transportation by 2012.

Table 17 : World Cereal Production, Stock and Supply

(Million Tonnes)

Items	2007	2008 (Estimates)	2009 (Forecast)	% Change 2009 over 2008
1	2	3	4	5
PRODUCTION	**2134.5**	**2285.5**	**2208.5**	**-3.4**
Wheat	610.9	683.8	655.2	-4.2
Rice (milled)	441	459.1	460.2	0.2
Coarse Grains	1082.5	1142.7	1093.1	-4.3
STOCK	**445**	**523.8**	**517.2**	**-1.3**
Wheat	151.8	186.8	191.9	2.7
Rice	109.2	119.2	124.3	4.3
Coarse grains	184	217.9	201	-7.7
SUPPLY#	**2579.5**	**2809.3**	**2725.7**	**-3**
Wheat	762.7	870.6	847.1	-2.7
Rice (milled)	550.2	578.3	584.5	1.1
Coarse Grains	1266.5	1360.6	1294.1	-4.9

#: Derived. Supply= Production *plus* opening stocks.

Source: FAO, July 2009.

from other expensive animal products as the global financial crisis and the consequent recession affects the household's purchasing power.

According to the Rabobank Report (2008), demand for the '4 Fs' - food, fuel, feed and fiber-is set to continue to increase worldwide. The Rabobank Report has also observed that despite expected decline in wheat output in 2009, higher carry-over stocks will contain the impact on prices. The Report forecasts that wheat prices in 2009 may remain stable if there is no major set back in any major wheat producing region. A report drafted for the Ministers of the G8 nations has also expressed concerns over the steep rise in global food prices. The report observes that although prices have fallen since the spike seen last year by as much as 40-50 per cent, yet prices of agricultural commodities are back just to their mid-2007 levels. Prices are well above their 10-year average, with some commodities trading at very high levels. Hence, the issue of price volatility remains a crucial element for world's food security.

Although the high prices observed in 2007 and 2008 have gradually come down, over the medium term (2009-2018), food prices are expected to remain at higher average levels than that of the decade prior to 2007-08 (OECD-FAO Agricultural Outlook for 2009-2018). Crop prices, on an average, are projected to be higher by 10-20 per cent during 2009-2018 as against 1997-2006. In case of vegetable oils, prices are expected to be more than 30 per cent higher. The Report observes that the recent period of economic prosperity and relative income inelastic demand for food will keep agriculture better off despite significant impact of the global financial crisis and economic downturn on all sectors of the economy. Further, the report states that reduction in agricultural prices, production and consumption, associated with lower incomes is likely to be moderate, as long as economic recovery begins within 2-3 years. On the impact on food prices of emerging economies like India and China that are widely believed to recover the fastest from the economic downturn, the report said that once recovery begins most of the growth in farm production and consumption will continue to come from developing countries. Both consumption and production are growing faster in developing countries for all products except wheat. In future, these countries are expected to dominate production and consumption of most commodities, with the exception of coarse grains, cheese, and skim-milk powder. The report also said that if crude oil prices increased to US $ 90 to US $ 100+ per barrel level, agricultural prices would be significantly higher; with the largest impact on crops, driven mainly by reduced crop production with higher input costs, but also increased feedstock demand for bio-fuels.

Global Oilseeds Outlook

Global oilseed output in 2008-09 season (October-September) is estimated at 406 million tonnes (FAO, 2009). Although this is higher than the level of 2007-08, it is about 13 million tonnes below the record crop in 2006-07. The drop in output in 2008-09 is essentially due to downward revisions for crops in South America (Argentina and Paraguay) on account of strong adverse

weather conditions affecting soyabean crops. The reduction in output in the southern hemisphere is expected to be compensated by increased production in the northern hemisphere, *viz.*, Canada, European Union, Russia and Ukraine. Oilseeds prices, after witnessing an unprecedented surge during 2007-08 declined during oilseed season 2008-09. The price decline was triggered by the prospects of improved crop output, lower energy prices combined with weak demand for oilseed products. Since April 2009, prices in the oilseed market showed signs of firming up in view of concerns about the progressive tightening of global supplies, particularly for soybean because of deteriorating crop conditions in South America.

World oilseeds production in 2009-10 is generally expected to be higher than that of 2008-09. Increasing market tightness and the recent improvements in world prices for oil crops should encourage farmers to maintain and possibly raise the area sown under oil crops in 2009-10. While soybean production is tentatively forecast to grow by 13 percent, slightly exceeding record production in 2006-07, it could be partly offset by declines in other oilseeds like rapeseed, sunflower and possibly groundnuts. In 2009-10 despite projected increase in total oil crop production, growth in supplies of oilseeds and products is going to be constrained by the low level of carryover stocks in 2008-09. Consequently, world prices for oilseeds and products are expected to remain high and volatile, depending on weather developments and other sources of uncertainty, *viz*., further course of the financial and economic crisis, the development of energy prices and changes in national trade, production and bio-fuel policies (FAO, 2009).

As per the United States Department of Agriculture (USDA), for 2009-10 global production of soybeans and palm oil is estimated to be higher over the previous year (Table 18). A majority of the increase in soybean production is likely to be occuring outside the United States, with production rebounding in Brazil and Argentina. Output of cotton seed oil and sunflower may at best remain at same levels. In contrast to FAO's estimates, USDA observes that

prices for all oils (which are far more affordable than they were a year ago) may be less volatile in 2009-10 than in 2008-09. The production gains for vegetable oils are projected to exceed the growth in demand, allowing a potential increase in 2009-10 stocks.

Implications for India

World cereals production and prices have implications for India. However, the domestic demand and supply conditions along with government policies are also crucial. India accounts for about 12 per cent of the world cereal production. In India, foodgrains production in 2008-09 has been higher than the levels of 2007-08. The stocks of foodgrains with FCI and other Government agencies nearly doubled over the previous year to about 51.8 million tonnes as on May 1, 2009. The stocks of both rice and wheat are now higher than their buffer stock norms. This would help in maintaining the supply and prices even if there is any reduction in the foodgrains output on account of delayed and deficient south west monsoon in 2009. Thus, given the comfortable foodgrains stocks, the overall outlook for cereal prices remains satisfactory. Besides, the increase in world rice imports in 2009 (as projected by FAO) provides incentives to produce rice domestically in rice exporting countries including India[7]. The prices of sugar and pulses may, however, come under pressure as witnessed in

Table 18: World Oilseeds Production in 2009-10: Forecast

(Million tonnes)

Crop	2008-09	2009-10 Forecast	Percentage change: 2009-10 over 2008-09 (3 over 2)
1	2	3	4
Soybean	212.0	241.7	14.0
Rapeseed	57.7	56.0	-3.0
Sunflower	32.4	31.9	-1.5
Cottonseeds	41.6	41.2	-1.0
Palm oil	42.9	45.0	5.0

Source: US Department of Agriculture, 2009.

[7] Rice exports account for about 2 per cent in India's total exports.

the recent months. The surge in sugar prices has been essentially due to fall in estimated output by 44 per cent to 14.8 million tonnes in 2008-09 (Oct.-Sept). But here again, the price increase has been lower compared to the global surge. Regarding usage of cereal for bio-fuel production, India is in a better position from the point of view of availability of foodgrains as there is no diversion of food crops for bio-fuel purposes. However, the price trend in the whole year of 2009-10 depends much on the performance of monsoon and the outcome of Kharif crops.

As stated earlier, with India being largely dependent on imports of edible oils, movement in international edible oil prices have large implications for domestic prices. The higher projected global production of oilseeds in 2009-10 and the consequent lower international prices could have a soothing impact on domestic edible oil prices. This is particularly true for palm oil that constitutes the majority of our imports. On the domestic production side, there are apprehensions that the delayed monsoon is likely to impact the sowing and production of crops. While paddy sowing has been aftected, sowing of oilseed, pulses and coarse cereals have been close to last year's level till mid of July 2009. The Rabi production of oilseeds is also important. In 2009-10 the actual production of soyabean in India is projected to be higher than that of 2008-09 (USDA, 2009). Despite the enhanced production in recent years, supply of edible oils from indigenous sources has not been able to keep pace with the rising demand on account of (i) growth in population and (ii) increase in the consumption of oil intensive food items. Hence, prices of edible oils remain vulnerable to external conditions. The performance of oil crops among others would largely depend on the timely as well as adequate monsoon.

VI. Concluding Observations

While domestic and international food prices have moved in the same direction, particularly in the current decade, the Indian food prices have

remained lower than international prices, when examined in terms of absolute level of prices, growth rate of prices as well as volatility. This indicates that the rise in international prices have had limited pass through to domestic food prices in India. The main reason is that prices in India are generally determined by domestic supply conditions in relation to demand with dependence on imports only at the margin for most of the food articles. In case of edible oils, however, imports are more relevant, but imports have helped to contain the price pressures domestically. The surge in world food prices has been accompanied by depreciation of US dollar *vis-à-vis* rupee that has neutralised certain portion of the increase in food prices in domestic currency terms. Domestic commodity specific policies have also contributed towards stabilising domestic prices relative to change in world prices.

Nevertheless domestic price situation is increasingly becoming susceptible to global developments with the gradual opening up of the economy. The global outlook for foodgrains and edible oils production remains mixed. While close monitoring of domestic and international prices followed by trade and fiscal measures along with import and food management can help in the short-run, there is a need for a comprehensive agricultural revamp programme in the long-run as demand-supply mismatches in the case of major agricultural commodities such as wheat, pulses and edible oils pose challenges and large imports of these commodities may not be an effective strategy to contain their domestic prices in the medium to long-run. There has not been any varietal breakthrough in many of the crops for a considerable span of time. If this scenario continues, it will have adverse impact on domestic prices. Although, the series of measures taken by the Government, in the recent times, have led to moderation in the prices of some commodities, the need for reviving and augmenting the production and productivity of these commodities continues to merit policy attention.

While the study provides evidence on the nature of pass-through of international to domestic food prices in India, further research in the area could

focus on developing an empirical model to examine the extent of pass-through for food prices. However, despite the relatively limited shares of imported commodities and the predominant role of domestic supply conditions in influencing food prices in India, policy should focus on enhancing investment in agriculture so as to facilitate stable supplies and prices that could offer long term incentives for production and help protect the poor.

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