# Key Determinants of Food Inflation in Bangladesh

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***Abstract***

*This paper explores an empirical investigation on the main factors at work for causing food inflation in Bangladesh which takes into account both the demand and supply-side factors that affect food prices in Bangladesh. However, most of the supply-side factors would not be possible to include in quantitative estimation due to either paucity of data or lack of observable proxies.Therefore,while we explain argumentally with economic rationale, we use those quantitatively unobservable supply-side variables.We have done empirical exercise by using monthly secondary data from January 2001 to December 2013 of only four factors like Broad Money (M2), Wage Rate in Agriculture Sector (WRA), Food Stock (FS) and Indian Food Price Index (WPIF).The results of estimated regression analysis indicate that demand-side factors, such as Broad Money (M2)and Wage Rate in Agriculture Sector (WRA) have significant impacts on food prices whereas, supply-side factors such as Food Stock (FS) and Indian Food Price Index (WPIF) play insignificant role. This paper also highlights pattern of food inflation and proper policy recommendations that have helped a lot to arrest the overall inflation at a tolerable level.*

**Key words:** Food Inflation, Demand and Supply-Side Factors- Wage Rate and Money Supply

## I. Introduction

Food inflation is socially as well as politically sensitive issue for the food security of mass people in Bangladesh. All the governments of rich and poor countries adopt various policies and monitoring tools to contain overall inflationary trends under the umbrella of monetary and fiscal policies including interest and credit policies, subsidy on agricultural production and exemption of import tax etc. keeping side by side demand-supply management chain of food production fully market-based. In Bangladesh, Central Bank is

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very much active to supply sufficient agricultural credit and smooth delivery of such loan as a part of its inclusive and growth oriented monetary policy in addition to contribute to country's food production security. On the other hand, along with the monetary policy mechanism, Bangladesh Bank imposes different types of limits in credit facilities for wholesale buyers and sellers in different time period of urgencies to cushion against any stockpiling to protect any uptrend in food prices.

## II) Objective

The objective of this paper is to investigate the main working factors for causing food inflation in Bangladesh which consider both the demand and supply-side factors that influence food prices in Bangladesh. This paper also highlights pattern of food inflation and proper policy recommendations that may help enormously to check the overall inflation at a sustainable level.

The paper proceeds in the following way. After the introduction and objectives, third section shows methodology of the study. The fourth section discusses theoretical and the empirical literature covering the causative factors of food inflation. The fifth section depicts rationalization why food inflation needs separate treatment vis-à-vis overall inflation or non-food inflation and also examines the similarities/dissimilarities of food and non-food inflations. The sixth section discusses briefly recent food situation in Bangladesh. The seventh section explains theoretical factors influencing on food inflation. The eighth section involves the estimation of Multivariate Regression Analysis (Cointegration) and explains the findings of estimated model of factors of food inflation.

The final section offers policy suggestions and conclusion to contain food inflation of Bangladesh.

## III) Methodology

In this analysis, most of the supply-side factors like increasing food production cost, high prices of internally usable food items, oligopolistic market structure, attitude of earning abnormal profit of business syndication, hoarding tendency and political unrest etc.would not be possible to include in quantitative estimation due to either paucity of data or lack of observable proxies. Therefore, while we will explain argumentally with economic rationale, we use those quantitatively unobservable supply-side variables. However, the following four variables were found statistically significant with coefficient values relatively important. 1. Broad Money M2, 2. Wage Rate in Agriculture Sector (WRA), 3. Food Stock (FS) and 4. Indian Food Price Index (WPIF). To estimate the regression model using these variables (156 observations) monthly secondary data have been used from January 2001 to December 2013. All variables have seasonally adjusted which helped to

get positive results in terms of checking stationarity of the data. All variables have passed stationarity criteria using ADF tests except FS variable. However, as almost all variables except one passed stationarity criteria, OLS has suitably been used to estimate the Model.

## IV) Literature Review

Several studies have been carried out on the determinants of food prices, especially after the occurences of several times increase in global food prices. In those studies there are divergence of factors have been found responsible for generating uptrend of food inflation.

Khan and Qasim (1996) suggested that inflation is cointegrated with money supply, value added in agriculture and support price of wheat and there is a stable long-run relationship among these variables. In their study money supply was found to be significantly related to food inflation. Hasan et al. (2005) estimated that supply shocks (production of agricultural goods) have negative impact on food inflation. Money supply or monetary policy showed an insignificant impact on agriculture food prices while they found that impact of money supply on raw material and manufacturing was significant.

A study on global food inflation (Johnson 2008) found that the increase in demand for globally traded food crops is the basic reason of increase in food prices. Furthermore, increasing interest of global investors in hording commodity for future contracts has a contribution to the rise in food prices by limiting the supply in the international market at a instant basis. Khan and Schimmelpfennig (2006) examined the effect of monetary and supply-side factors on inflation in Pakistan. The study applies Vector Error Correction Model using growth as well as log variables and found that money supply and credit to private sector played a significant role to influence food inflation in Bangladesh. Specifically, they found statistically significant strong long-run relationship between consumer price index and private sector credit. Khan and Gill (2007) analyzed the impact of money on food and general price indices by using the OLS technique during the period of 1975–2007. Their results show that CPI food, CPI general , WPI general, GDP deflator and SPI are negatively related with M1 and M2- supply of money, whereas these are positively related with M3- supply of money. It is concluded that M1 supply of money affects the CPI general more than CPI food.

The Asian Development Bank (ADB 2008) considered three sets of factors that are the main cause of high food prices in developing countries of Asia. First is the divergence between supply and demand; second is the divergence relationship between structural and cyclical factors; and third is the divergence between international and domestic markets. The study identifies that structural factors are responsible for falling production growth below consumption growth for several years and thus contribute to food price spiral. Capehart and Richardson (2008) argued that higher commodity and energy cost are the leading factors behind higher food prices in the USA. Moreover, they addressed the

rapidly changing consumption pattern i.e., a higher demand for processed food and meat in countries such as China and India, which in turn requires more food grains and edible oil. At the world level, the stock of corn, wheat, and soyabean are reducing with the world stock for wheat at a 30-year low which in turn raises the food prices by creating lower food supply in international market. They found that some important supply-side determinants such as urbanization and the competitive demand for land for commercial as opposed to agricultural purposes (Ibid) shranked food production and contribute to raises food prices. Moreover, the negligence of investment in agricultural technology, infrastructure, and extension programs are also to blame for the rapid growth deceleration in the supply of rice [International Rice Research Institute (IRRI), 2008]. Naim (2008) argues that the causes for overall inflation are increasing energy prices, non-food hedging policy against the drought years, speculation in food commodity markets, and the US corn ethanol policy which leave lesser amount of marketable food supply in the international market. Trostle (2008) concludes that food prices are affected by the global demand of bio-fuels feed stocks and adverse weather conditions in 2006 and 2007 as well as decline in the value of the US dollar, rising energy prices, increasing agriculture cost of production, growing foreign exchange holdings by major food importing countries. Policies adopted by some exporting and importing countries can be cause of food price inflation. Increase in global food inflation leads to an increase in the prices of products in the home country especially, if the country is a significant importer of a specific food product.

Akhtar Hossain (2009) conducted a study that tried to establish the link between food prices and the import and export of selected food items (fourteen commodities) using time series analysis. The import of crude petroleum and petroleum products has also been considered as the explanatory variable as these prices affect the food inflation in indirect way. The results of the study showed that in case of exports quantity effect was more dominant rather than unit value effect e.g. fish and rice earns much of the foreign exchange but increased quantity of exports of these items in any year will bear the risk of high prices of these items domestically.

**V) Food Inflation as a Key Determinant of Overall Inflation and Similarities/Dissimilarities of Food and Non-Food Inflation**

The overall inflation in Bangladesh is mainly driven by domestic and external food prices. Following Table shows that Bangladesh experienced double digit inflation (P-to-P) due to higher food inflation of 14.10 and 12.51 percent respectively in FY2007-08 and FY2010 11 whereas then non-food inflation was only 3.54 and 5.73 percent respectively. Historical data say that lower nonfood inflation failed to arrest overall inflation. Same way only 0.25 and 2.56 percent food inflation caused lowest inflation of only 2.25 and 5.55 percent respectively in FY 2008-09 and FY2011-12 though non-food was much higher of 5.94 and 10.21 percent respectively. In FY2011-12, non-food inflation reached 11.72 percent due to 4 times upward adjustment of fuel price (administered price) which encouraged overall

inflation not so significantly. Here it is noted that food weight (58.84 percent) of CPI basket is much higher than non-food items (42.16 percent) as per BBS calculation. This means a consumer spends Tk. 58.84 out of Tk. 100 to purchase his daily essential commodities. Core inflation shows lower rate of 6.03 percent as compared to rate of general inflation (6.66 percent) due to excluding mainly food and very insignificant weight of fuel items. Thus food inflation played a dominant role on overall inflation while the role of non-food inflation was not highly significant.

**TABLE: RATE OF INFLATION FOR NATIONAL**
**(BASE: 1995-96 = 100)**

| Period | 12-month Average Basis | | | 12-month Point to Point Basis | | | Core Inflation* |
|---|---|---|---|---|---|---|---|
| | General | Food | Non-food | General | Food | Non-food | (non-food/fuel) |
| Weight | 100.00 | 58.84 | 41.16 | 100.00 | 58.84 | 41.16 | 33.55 |
| 2005-06 | 7.16 | 7.76 | 6.40 | 7.54 | 8.81 | 5.73 | |
| 2006-07 | 7.20 | 8.11 | 5.90 | 9.20 | 9.82 | 8.34 | |
| 2007-08 | 9.94 | 12.28 | 6.32 | 10.04 | 14.10 | 3.54 | |
| 2008-09 | 6.66 | 7.19 | 5.91 | 2.25 | 0.25 | 5.94 | |
| 2009-10 | 7.31 | 8.53 | 5.45 | 8.70 | 10.88 | 5.24 | |
| 2010-11 | 8.80 | 11.34 | 4.15 | 10.17 | 12.51 | 5.73 | |
| 2011-12 | 10.62 | 10.47 | 11.15 | 8.56 | 7.08 | 11.72 | 7.87 |
| 2011-12@ | 8.69 | 7.72 | 10.21 | 5.55 | 2.56 | 10.21 | |
| 2012-13@ | 6.78 | 5.22 | 9.17 | 8.05 | 8.26 | 7.75 | |
| 2013-14@ | 7.35 | 8.57 | 5.54 | 6.97 | 8.00 | 5.45 | |
| 2014-15 | | | | | | | |
| Sep-14 @ | 7.22 | 8.48 | 5.34 | 6.84 | 7.63 | 5.63 | 5.45 |
| Dec-14 @ | 6.99 | 7.91 | 5.60 | 6.11 | 5.86 | 6.48 | 6.30 |
| Mar-15 @ | 6.66 | 7.24 | 5.78 | 6.27 | 6.37 | 6.12 | 6.03 |

Source: Bangladesh Bureau of Statistics @New Base 2005-from BBS data

*Core CPI inflation derived by Research Department, BB Following calculation shows the impact of food prices on standard of living e.g per capita GDP of the two countries-Bangladesh and USA due to variation of budget allocation (CPI weight) for food items.

**Percentage of total household budget devoted to food**

USA 13.9%
Bangladesh 58.84%

**Current CPI 100 = $(W_f)x(P_f) + (W_o)x(P_o)$**

USA 100= (0.139)x(100) + (0.861)x(100)
Bangladesh 100= (0.5884)x(100) + (0.4116)x(100)

**Impact of 100% increase in food price and 5% increase in non-food prices:**

USA 118.2= (0.139)x(200) + (0.861)x(105)
Bangladesh 160.9= (0.5884)x(200) + (0.4116)x(105)

US standard of living would decline by 18.2% while the Bangladesh standard of living would decline by 60.9%

**Decrease of GDP per capita 2013:**

USA (PPP) $53142 price adjusted= $43470

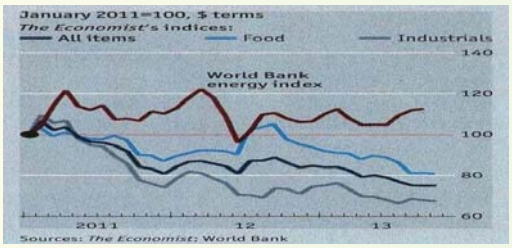
Bangladesh (PPP) $2557 price adjusted= $1068 VI) Recent Food Situation

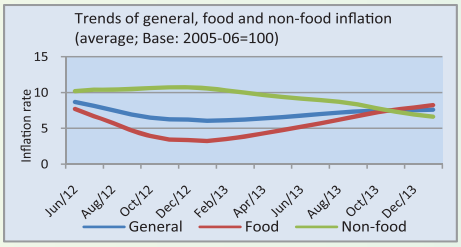
**VI) Recent Food Situation**

Current food inflation in Bangladesh is emanating from domestic demand driven factors and also domestic supply disruption as well as uptrend of international commodity prices such as prices of all sorts of imported dry and processed foods and intermediate and raw materials for food processing industries particularly during FY2007-08 and 2010-12. High production cost due to higher prices of agricultural inputs (e.g., fertilizer, irrigation, seed, wage etc.), hoarding and syndication due to lack of competition at wholesale market, collusive oligopolistic behavior of major wholesale business, disruption as well as absence of adequate storage and warehouse facility of cereals, higher cost of marketing due to infrastructural weakness including transportation bottlenecks, political unrest and natural catastrophes are considered as domestic supply shocks. Conversely, exchange rate, petroleum price, fertilizer price in international market and volatile international food prices are the contributing factors for external shocks. However, in Bangladesh case during recent years (since late 2012) external shocks have been minimal or absent due to the fact that domestic prices of petroleum and fertilizer were fairly adjusted by providing subsidies and the country has maintained crop food (rice) self sufficiency nearly in the last 4-5 years.

Food price index of main food items in the international market depicted downward trend from mid-2012 (Chart-1), but food inflation in Bangladesh showed an upward trend (Chart-2). This upward trend was due to demand pressure and supply shocks in the domestic market. Twelve-month average food inflation (Base: 1995-96) was lower somewhat after 2008 but it started to increase and stood at 11.34 percent at the end of 2010-11 and then started to fall steadily from FY12 and stood at only 5.22 percent at the end of FY13( Chart- 2, Source: BBS). However, food prices again rebound to uptrend and food inflation reached at 7.91 percent at the end of December 2014 and 7.24 percent at end March 2015.

**Chart-1: World commodity price Index Chart-2: Trends of domestic inflation**

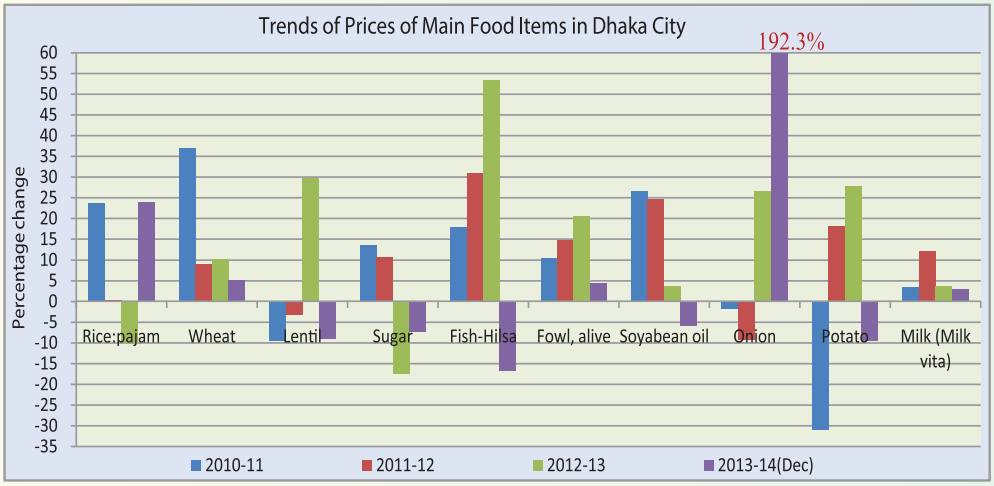



Price changes in main food items (e.g., rice, wheat, soyabean oil and sugar) in the international market show that in 2012 only the price of rice increased (5.2 percent), whereas the prices of other commodities decreased. Prices of all food commodities declined in 2013 in comparison to the preceding year. Though the imported food items influenced the domestic prices of food in the past, but recently impact of global food prices in domestic market prices is insignificant due to stable prices has prevailed in global market; also good domestic agricultural production contributed to reduce the import of those food items.

Analyzing the prices of main food items in Dhaka City, it is observed that price of fine rice was Tk. 41 per kg. at the end of FY2008 while it stood Tk. 50 and Tk.55 respectively at the end of FY2012 and FY2014. The price of soyabean oil was Tk. 92 per liter at the end of FY2008 while it stood Tk.135 and Tk.127 respectively at the end of FY2013 and FY2014. Similarly, price of milk powder (Dano) was Tk. 337 per kg. at the end of FY2008 while it stood Tk. 453 and 552 respectively at the end of FY2012 and FY2014 (Source: BBS).

**VII) Key Determinants of Food Inflation in Bangladesh**



The main supply side pressure of inflation would be increasing production cost of agricultural crops or non-crop food products due to higher wage and other input costs (e.g., fertilizer, seed, insecticide, irrigation etc.). In FY2012 to FY2013, wage rate in agricultural sector significantly increased at 15.2% and 21.4% respectively. After adjustment with inflation the rates were 4.6% and 13.7% respectively. Change in quality of supply is also creating pressure enormously in food price. In earlier period, various types of food items like rice, wheat, oil, spices were sold in unsorted and opened whereas currently these are selling with sorted, cleaned and packed up. That is why additional costs are generally adding to the consumer prices. The large food processing firms e.g. Arang, Pran, Square, Utsab, Sajeb, BD Foods etc. are now playing more influential role in the wholesale market. On the other hand, retail chain-shops e.g. Agora, Meenabazar, PQS, Nandan, Swapno, Almus have also influence on food price at consumers' level.

In the recent period, income level of the small town-based and rural-based people has increased. Infrastructural facilities of food storage have also expanded. Sufficient credit is being disbursed through specialized and commercial banks. By utilizing these infrastructural and monetary facilities, the storage of rice and wheat etc. are used as a means of maximizing profit. In addition, the businessmen are creating demand pressure through supplying insufficient food items from the godown which add on storage cost on food prices, interest of capital and loan of millers and whole-sellers and finally abnormal profit generation by such artificial hoarding or stockpiling on the part of businessmen which is finally fueling artificially on food price hike.

New pressure is generating on food inflation from demand side due to qualitative change in consumption basket of food items. In the recent period, the role of high price and income elasticity of food items e.g. fish, meat, egg, vegetables, fruits and maize has been highly pronounced due to higher per-capita GDP growth for both urban and rural people. Such higher income per-capita in real term while contributed to decline the household budget proportion or share to purchase traditional food items like rice and wheat in the consumption basket of both rural and urban areas; it is observed that non-traditional food items like fruits such as grapes and apples etc. and protein and fats sources like meat, milk, cheese, butter, bread etc. have been included in the new consumption basket of BBS for the rural areas which contributed to allocate higher proportion or share of their budget to purchase those non-traditional food items. But the demand for food grains such as rice, wheat and pulses has not been declined due to continued expansion of population size and significant expansion of urbanization; the increasing demand for animal feed of fish, meat and fowl producing firms have shrunk the availability or supply of such staples' foods which add-on price pressure.

Since late 2000s due to increasingly higher export of primary agricultural food items such as, frozen shrimps, frozen fishes, vegetables, dry foods, fruit juice and spices to abroad at higher price relative to domestic price which in turn generated lower availability of those

goods in domestic market and thus prices of those internally usable food items increased in the domestic markets. For example, export of primary food items has increased significantly to 42.6 percent in July-September quarter of FY14 compare to the same quarter of FY13.

Facing lower price of paddy and higher production cost in the previous years, the farmers are interested to produce pulses and oil seeds with less production costs and higher market prices. As a result, the production of major food crops may be decreased. On the other hand, BBS estimate shows that about 2.2-2.3 million additional population are added to total population every year and in this circumstance, the demand for both domestically produced and imported foods have been increasingly higher level every year and consequently generates pressure on food prices.

In recent years, the cultivation of fine rice has been increasing while the production of coarse rice has been reducing. Though per acreage production of fine rice is lower its production cost is lower and the market price of fine rice is higher (about 50 percent). Because of double advantages the production of traditionally frequently used coarse rice is lowering somewhat during the Boro and Aman season which is reducing the supply of coarse rice and contributed to higher market price.

Now-a-days most of the fine rice varieties are produced through the rubber polisher of modern automated machine. The mill owners apply modern technology to separate black, bleak and broken rice. As a result, the production cost and price of fine rice increases and in line with this, the price of coarse rice also increases.

Oligopolistic market structure created food crisis by the business syndication due to hoarding tendency of food items, is playing role to earn abnormal profit which fuels the food price hike. Sometimes continuous political unrest, like-continuous Hartal-Blockade etc, hampers the domestic supply channel of food seriously and doubles the transportation cost which fuels the commodity prices and food inflation. Similar political doldrums have been rampantly prevalent during recent time especially during December FY14 which broke down country-wide supply chain and contributed to surge food prices.

Relatively large expansion of private sector credit in the money market and remarkable growth in inflow of remittances sent by migrated peoples, have also influenced money supply which has increased aggregate demand or purchasing power of the people and consequently food inflation. Private sector credit growth recorded highly increase by 25.84 percent and 19.72 percent in FY11 and FY12 respectively. At the same time, Broad Money also went up by 21.35 and 17.39 percent respectively. A Study of RAMRU from ILO in 2013 conducted by Dr. Tasnim Siddiquee revealed the fact that migrated people spend 22 percent of their total remittance income to purchase food and daily essential commodities and 20 percent for purchasing land. So link between private sector credit and money supply with food inflation is very significant. Moreover, the income level of poor people is increasing day by day due to upholding of strong stance of Bangladesh Bank for

implementing the financial inclusion policy and credit disbursement for continuous development of MSME which has contributed to upward pressure on overall demand for foods at the mass scale level of population. These influences are very clearly observed considering some related proxy variables in a Multivariate Regression estimate and analysis conducted by the Research Department of BB.

**VIII) Multivariate Regression Analysis**

In the recent time with a view to find out the causes of increasing food inflation in Bangladesh, the influence of following four variables have been found to be statistically significant out of a good number of variables considered in the regression model estimates. In fact, in many econometric model runs, some variables other than the four variables stated below were found either statistically insignificant or with coefficient sign which is against established economic rationale. Many of the factors responsible for food inflation as explained in detail in the above section were either non-quantifiable or not available in data publication. However, impacts of some of the factors could be reflected in some other factors. For example, a portion of impact of higher remittance growth and higher demand during Eid and other festival have reflected in higher growth of broad money. Likewise, supply disruptions due to political turmoil or natural catastrophes or any other reasons such as artificial shortages by syndication could be somehow reflected in foodstock variables.

Also, overall depletion or inadequate level of foodstock of coarse rice due to its lower production relative to more profitable fine rice varieties would be reflected at least partially in foodstock variables. There are some factors which could not be quantifiable directly and in that case dummies are the alternative proxies to represent the effect of those factors in influencing food prices. However, we applied some dummies for political turmoil but the coefficient was found statistically insignificant. Finally the following four variables were found statistically significant with coefficient values relatively important.

1. Broad Money (M2), 2. Wage Rate in Agriculture Sector (WRA),

3. Food Stock (FS) and 4. Indian Food Price Index (WPIF).

To estimate the regression model using these variables monthly secondary data have been used from January 2001 to December 2013; therefore we have 156 observations. All variables have seasonally adjusted which helped to get positive results in terms of checking stationarity of the data. All variables have passed stationarity criteria using ADF tests except FS variable. However, as almost all variables except one passed stationarity criteria, it was possible to estimate the model by using OLS and the results of estimated Regression model is as following:

$$CPIF = \underset{(-5.822)}{-1.350} + \underset{(13.016)}{0.356}M2 + \underset{(0.275)}{0.001}FS + \underset{(0.644)}{0.014}WPIF^{india} + \underset{(4.692)}{0.176}WRA + \underset{(60.304)}{0.948}CPIF(-1)$$

(Note: values in the parenthesis indicate the t-ratios)

From the regression result, it has been observed that the coefficients of money supply and agricultural wage rate are significant and with relatively large coefficient values and the sign of coefficients are compatible to the economic theory. That means, money supply growth and increase in agricultural wage rate would be considered as the underlying medium to long run trend factors of recent food inflation. To explain more categorically these estimated coefficients it can be noted that, one percentage point increase in money supply and agricultural wage increase would contribute the food inflation to rise by 0.36 percent and 0.18 percent respectively. On the other hand, according to the model, the influences of food-stock and Indian food price Index are not significant at all (very low tratios) and also the coefficient sign for food-stock variable is counter-intuitive.

As already mentioned that one of the variables was not stationary (FS); thus we have also applied co-integration technique to estimate the model using all four variables but the results was not better as seen from counter-intuitive signs of two variables, agriculture subsidy (FS) as well as real wage rate in agriculture sector (WRA). As shown from below estimated co-integration equation that also the WRA is statistically insignificant as the value of t-ratio is very low.

$$CPIF = \underset{}{-2.063} + \underset{(8.347)}{0.376}M2 + \underset{(3.158)}{0.040}FS + \underset{(3.469)}{0.229}WPIF^{India} - \underset{(0.714)}{0.058}WRA$$

On the contrary in our OLS exercise we have got very sound estimate regarding WRA as both the sign and t-ratios were highly satisfactory and plausible. Thus, we argue that the OLS estimate gave us better results in terms of econometric fit.

Agricultural subsidy is expected to play positive role to contain inflation as it helps to reduce the cost of food production. Due to paucity of data for two initial years (2001-02) and also complete absence of month-wise data on agricultural subsidy we just have excluded this variable in our regression estimate. However, being interested to see whether there is any correlation between agricultural subsidy and food inflation; we estimated simple correlation and we observed that food inflation has a positive relation with agricultural subsidy. The estimated value of correlation coefficient found between food inflation and the ratio of agricultural subsidy to agricultural GDP is -0.68 as per annual data from FY06 to FY13. But, value of coefficient is found + 0.34 when data for the period FY2003 to FY2013 has been used to estimate the correlation coefficient. Thus it has been observed that government subsidy plays a positive role in reducing food inflation in Bangladesh at least during running decade.

**IX) Policy Recommendations and Conclusion**

Since money supply and agricultural wage rate are significant as underlying medium to long run trend factors of recent food inflation as per regression analysis, these should be addressed carefully. Bangladesh Bank needs to adopt monetary policy stance carefully in terms of programmed growth of credit to private sector so that credit flows should not be

beyond a rational level as excessive credit availability would fuel higher consumer demand for both food and non-food items. Remittance which encourages money supply significantly (correlation 0.98) should be given opportunity to invest in productive sectors or in purchasing Wage Earners' Bond rather than purchasing of land, flat and food. Past experience tell that BB's tight monetary policy helped to bring somewhat positive result with some time lag. In FY14 and FY15 (March), lower growth of money supply of 16.09 and 12.53 percent respectively was somewhat effective and inflation was taming gradually of 7.35 and 6.66 percent respectively which is now very near at the programmed level of 6.5 percent for the first half of 2015.

Agricultural wage cost as an important input of agricultural production is not rationale or possible to enchain it because market forces-demand and supply determine the wage rate. But wage cost may be minimized by using modern agricultural machineries which may be provided to the farmers at subsidized cost at the beginning stage. Domestic agri-machinery industry should be encouraged to make bank credit available which would help to keep the machinery price lower. The only way to meet the growing food demand is to invest in the agricultural sector to increase production by about an additional 1 percentage point per year above the existing rate. To achieve the target, more research by Bangladesh Agricultural Research Institute is needed to find out way to increase land productivity and to deploy more of the fallow and uncultivated land particularly in the saline affected southern area. Government should finance the farmers for cultivation of flood, drought and salt resistant rice varieties invented by BRRI which contribute to contain food inflation by increasing food supply.

The farmers are growing enough food and vegetables, milk and milk products, eggs, meat and fish etc. but due to perishable nature and lack of proper cold storage facilities and refrigerated transport availability, sometimes they incur huge loses creating pressure on food inflation much more than on cereals. They can be leveraged through the public and private sector. It may be useful to form vegetables and fruit etc. growers cooperatives like Milk Vita. By constructing infrastructures to enhance storage facilities and to expand industrial base of food processing units, the government should encourage to develop such cooperatives for the growers. These steps could significantly reduce the wastage of perishable goods which is currently about 25-30 percent.

Bangladesh Krishi Bank (BKB), Rajshahi Krishi Unnayan Bank (RAKAB) and BRAC should be financed more with more re-financing facilities. Government should encourage private banks for more participation in re-financing facilities in the agricultural sector so that both the crop and non-crop food and the agro-food processing units can be expanded to lessen food inflation by increasing food supply.

Government should ensure fair price so that the farmers do not incur losses due to decline in price after bumper production of their crops. Operation of Open Market Sale (OMS) should be made regular and also to be expanded through Trading Corporation of

Bangladesh to enhance outreach level. By introducing crop insurance, initiative should be taken to compensate the farmers for their loss of natural calamity

In conclusion, the higher food inflation in Bangladesh could not be analysed fully depending on some mere economic figures, models and graphs as some non-economic but significant factors like market distortions, low business confidence and political turmoil etc. have also contributed substantially to the food price hike. So, the Government and Bangladesh Bank should consider all the economic and non-economic factors duly to check food inflation at a optiomum level.

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