

Food Inflation and Inflation Dynamics in Bangladesh

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The paper examines the role of food price increase in overall inflation in Bangladesh using econometric analysis of time series data. While the direct impact of food price is quite obvious because of its high share in overall price indices, the paper focuses on the second round impacts of food inflation on non-food and overall inflation. As opposed to usual perception that food price shock is transient in nature, the paper finds that shocks in food inflation has been at least as persistent as that of non-food inflation. More importantly, food inflation might transmit to non-food inflation. Granger causality test suggests that food inflation causes non-food inflation. Food inflation may create a pressure on wage inflation as well. These indirect effects of food inflation may propagate the overall inflation further. Monetary authority should be cautious in formulating monetary policy based on core inflation as it understates the underlying inflationary pressure in the economy; rather current practice of considering moving average of headline inflation may perform better in formulation of monetary policy in Bangladesh.

JEL Code: E3, E5

1. Introduction

Inflation has been a major concern for the economy of Bangladesh, although it has slightly moderated very recently. Cross country growth regression shows a negative relation between inflation and economic growth. High inflation distorts investors' preference and makes long term investment planning difficult that hurts economic growth. It also distorts consumer behavior and sometimes it hurt peoples' welfare particularly of the poorest section. However, there is an alternative view that suggests an inflation growth trade-off implying a positive relation between inflation and growth up to certain threshold; negative relation between them appears only after this threshold level of inflation. Since the early 1990s when Bangladesh started to implement economic policy reform, inflation in Bangladesh was quite moderate except some year with natural calamities. However, inflation started to pick up at the middle of the last decade and accelerated further during the global commodity price hike. With a temporary slowdown during the fiscal year 2008-09, which coincide with global commodity price bust, inflation soared again and reached a record high by the end of 2011. Although inflation has slightly moderated very recently basically due to good harvest of local food-grain production and easing global commodity prices, its future is still uncertain. While some moderate inflation may be warranted by the flexibility of resource mobilization for growth, inflation in recent past has been perceived to be higher than such level.

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As inflation is a major challenge for the economy of Bangladesh, there have been some studies to explain the causes of upsurge in inflation and there are also few policy debates. While some emphasize on money growth for high inflation, other studies focus on currency devaluation, energy price hike, supply shock etc as the reason for surge in inflation. Because of the high share of food items in the basket of consumer price index (CPI), the role of food inflation is obvious in determining overall inflation. However, food inflation has its importance not only for its high share in overall inflation, but it may have indirect effect on non-food and overall inflation as well. Food inflation may trigger further inflation by its impact on wages. It may also affect inflationary expectation triggering second round impact on inflation. Recently, there have been several cross country studies and a few country studies that explain how upsurge in food and energy prices transmitted into overall inflation both directly and indirectly (Gregorio 2012, Walsh 2011, Pedersen 2011, Durevall et al. 2010). Although a number of studies have been conducted about inflation in Bangladesh, none of them examined the possible second round impact of food inflation in stimulating overall inflation. This paper makes an attempt to fill up this research gap. In particular, it examines the role of food inflation in propagating non-food and overall inflation in Bangladesh. The issue is also important for policy formulation.

The main findings of the paper are as follows. First, while it is commonly perceived that food inflation is less persistent, food inflation in Bangladesh has been found to be at least as persistent as non-food and overall inflation. Secondly, there is some evidence of transmission of food inflation to nonfood inflation. Furthermore, food inflation Granger causes non-food inflation but not the other way around. The findings are quite important in formulation of policies for price stability that suggest further importance on control of food inflation.

The structure of the paper is as follows: Section 2 explains the facts about food, non-food and overall inflation in Bangladesh in the recent past. Section 3 briefly discusses the issues related to food inflation, core inflation and monetary policy in the context of recent literature along with relevant studies on inflation in Bangladesh. Section 4 discusses the method, model and data used for the research. Section 5 presents the results and explains them. Section 6 concludes the paper.

2. Food and Non-food Inflation in Bangladesh

Figure (1) shows monthly food and non-food inflation along with overall inflation since January 1996. It is evident from the figure that there was a pick in food inflation and overall inflation during the flood year 1998-99. After that inflation moderated. However, inflation accelerated since the middle of last century except some temporary respite during the time of commodity price bubble burst with the global economic meltdown. The figure also shows that there are some big shocks in food inflation. Moreover, in general, during the period of high inflation, food inflation is above the non-food and overall inflation. Similarly, food inflation is lower than non-food and overall inflation during the times of low inflation. Thus, food inflation plays the dominant role in shaping overall inflation in Bangladesh. Other noticeable facts are summarized in table 1.

Figure 1: Inflation in Bangladesh

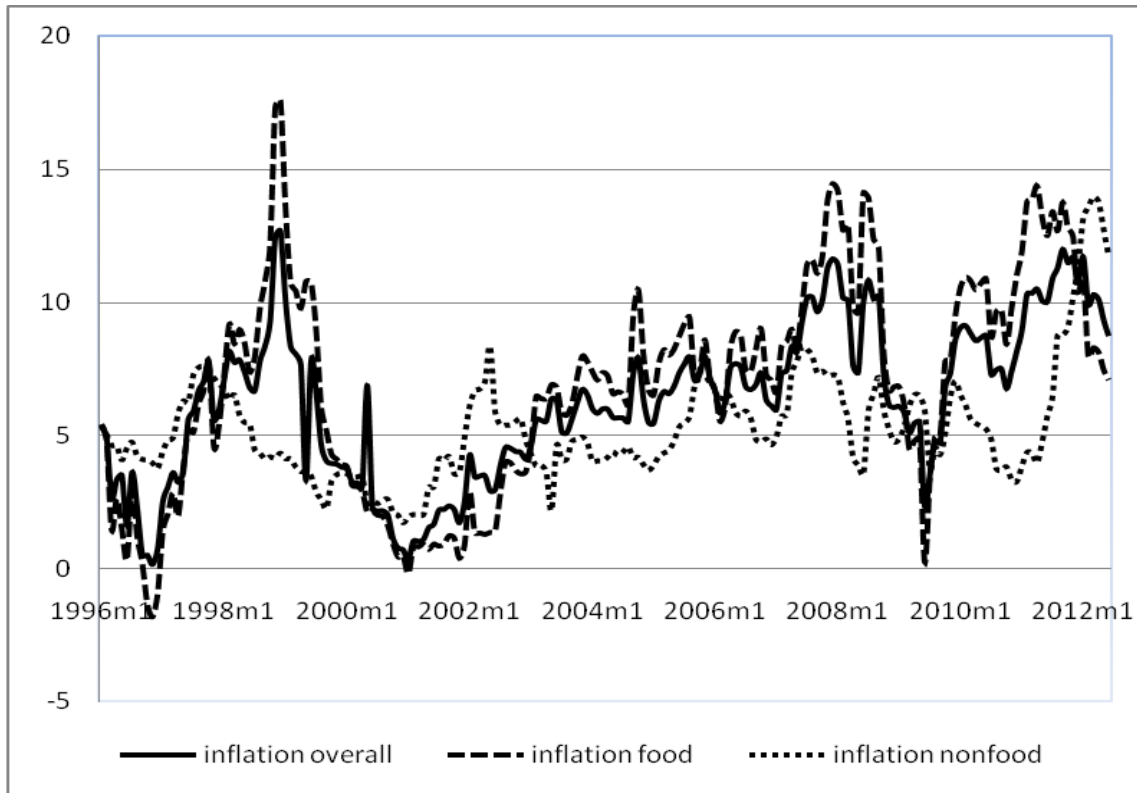


Table 1: Summary Statistics on Inflation

	Food Inflation	Non-food Inflation	Overall Inflation
1996-2012			
Mean	6.9	5.3	6.2
CV (%)	58.8	40.6	46.8
1999 -2005			
Mean	4.3	4.0	4.2
CV (%)	66.1	32.8	46.5
2006 -2012			
Mean	9.4	6.5	8.3
CV (%)	31.0	37.4	24.9

First, average food inflation has been considerably higher than that of nonfood inflation. Secondly, Coefficient of variation (CV) of food inflation is also higher for food inflation compared to that of non-food inflation and overall inflation. Thus, food price has been more volatile, having negative welfare implication particularly for hardcore poor. However, if we consider these statistics over the period of moderate inflation (FY1999-2005) and the period of relatively

high inflation (FY2006-FY2012), we get some interesting features. During the period of moderate inflation, food inflation is not much different from non-food and overall inflation, but during the period of high inflation average food inflation is much higher than the average non-food inflation. Because of the high share of food items, it is then quite obvious that food inflation played a leading role in recent inflation in Bangladesh. Another important observation is that variability in food inflation is much lower during the period of high inflation implying that relatively steady food inflation helped continuing overall inflationary pressure.

3. Core Inflation, Food inflation and Monetary Policy: A brief Literature Review

Since the 1990s, central banks of the many of the developed countries have been relying on the “core” inflation for conducting monetary policy. Core inflation may be defined as the long run or persistent component of the measured price changes that is tied to money growth in some way (Bryan and Cecchetti 1993). Underlying logic behind this is that headline inflation constitutes some components of inflation which results from shocks other than monetary factors and which are transitory in nature. As the monetary policy has little to do with the transitory parts of inflation, it is better for the central Bank to target some measure of “core” or “underlying” inflation in setting up its monetary policy. Measures of core inflation, however, differ significantly across countries and they are tailored to the reality of particular cases.

One of the most widely used methods of estimating core inflation is exclusion method where some of the goods that may have highly volatile prices are excluded from the CPI basket. These goods may be affected by seasonal pattern or sudden and short lived shock. In the developed countries, frequently food and energy prices are excluded. This may sound alright because share of food and energy, particularly the share of food, in the consumption basket of developed countries is relatively small (Pedersen 2006, Hogan et al. 2001). For example, in US share of food and energy in CPI are 8.2% and 9.4%. In Canada these shares are 11.2% and 9.0% respectively (MEI-OECD). Nevertheless many economists have shown how excluding food and energy prices, even in the most developed economies, mis-specify inflation and causes a downward bias in inflation forecasts (Cutler 2001; Cecchetti et. al. 2007, Rich and Steindel 2007, Cecchetti and Moessner 2008). If the long run mean of food and non-food inflation are unequal, focusing only on the core ignoring the food inflation will result in an underestimation which will be lethal from policy perspective. The situation would be even worse in case of a developing country as the share of food and energy prices is quite large in these countries. In particular, share of food in consumption basket is very high in Bangladesh (58.8%). Food price shock is important not just for its high share in CPI; it may have further importance as it may transmit to other prices.

Cutler (2001) developed alternative measure of core inflation based on persistence of shocks. In the developed countries, lower or no weight has been assigned for food price because food inflation is perceived to be less persistent. However, as Walsh (2011) points out that food price shock has been found to be persistent for most of the developing countries. In such cases food price shocks may have an impact on the economy for longer period and it may feed into inflationary expectations. In addition to direct impact of food inflation on overall inflation, there may be second round impact of the former on the latter. Gregorio (2012) mentions several

channels through which food inflation may have second round impact on overall inflation. These are discussed in some later section

Because of direct and indirect impact of food inflation in overall inflation and the fact that food inflation is relatively persistent in many developing countries, due consideration of food inflation is important in formulation of relevant policies. CPI based headline inflation may be a better consideration than the core inflation in framing monetary policy. The continuing food inflation preceding the global financial crisis also sprawled a number of studies developing theoretical models that establish superiority of targeting headline inflation over core inflation in formulation of monetary policy (Anand and Prasad 2010, Chato and Chang 2010).

In Bangladesh number of studies has been conducted to examine different aspects of inflation. Here, we mention only a few that are somehow related to our research. Shahiduzzaman (2009) estimates core inflation for Bangladesh and finds that there is a moderate correlation between money growth and core inflation. One measure of core inflation was based on exclusion of less persistent items that excluded few food items among others. Mortoza and Rahman (2008) analyzes the relationship between import and domestic prices in Bangladesh during 2000-2008 and finds that commodities with higher share of import face a higher pass through elasticity of import prices on domestic prices. Some basic food items have large import share and accordingly they have large pass through effect on domestic price. Khatun and Ahmed (2012) examine the causes of recent inflation in Bangladesh using ARDL bound testing approach. The paper finds that domestic rice production has a negative effect on inflation in the short run while domestic petroleum price and broad money supply has weak but positive impact on inflationary trend. The paper also reports that global prices of fuel and food followed an increasing trend after 2008 and later that got transmitted into domestic high inflation in Bangladesh. Thus, although some of the previous studies included the issue of food price in explaining inflation, none of them made any attempt to address the second round impact of food inflation. On this backdrop, this paper examines persistence of food inflation and probable transmission of food inflation to nonfood inflation and thus further propagation of overall inflation. In particular, the paper postulates following two hypotheses:

Hypothesis 1: Food inflation is not transitory in Bangladesh

Hypothesis 2: Food inflation transmits to non-food inflation in Bangladesh.

4. The Methods, Model and Data

The first step toward examining transmission of food inflation to other inflation requires examination of persistence of food inflation. As Cutler (2001) shows that longer lived shocks lead to elevated inflation for a longer time after a shock hits and thus creates a broader window for the transmission to other price. Pivetta and Reis (2007) discuss three methods for estimating inflation persistence Because of conceptual simplicity; we use two alternative measures of persistence that are based on AR model: SARC coefficient and half-life in examining the persistence of food, non-food and overall inflation.

Sum of Autoregressive Coefficients (SARC): The basis for this measure of persistence lies in the AR (Autoregressive) model of the following form:

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$$y_t = d + \sum_{j=1}^m \alpha_j y_{t-j} + \varepsilon_t \dots \dots \dots (1)$$

Where, j is lag length.

$$SARC = \sum_{j=1}^m \alpha_j$$

SARC coefficient is the sum of all the autoregressive coefficients. It shows the cumulative effects on shocks up to the chosen period. Value of SARC coefficient depends on lag length of the AR model. As we are using monthly data we first picked lag length of 12 for the AR model to estimate the SARC coefficient. We also estimated SARC coefficient from the AR model where lag lengths were chosen using the Akaike Information Criterion (AIC).

Half Life: This alternative method is also contingent on the AR model we have estimated with specific lags. From the AR models, we can create an Impulse response function (IRF) of one unit shock on food and nonfood inflation. The impact of shock is likely to wane out with time. Half life is the number of periods required to reduce the IRF below 0.5 units from an initial unit shock. Estimated half life can provide an integral measure of persistence.

After assessing persistence of food and non-food inflation we will examine transmission possibility between them. Following Walsh (2011), we estimate a VAR (Vector Autoregressive model) of the following form and generate the corresponding impulse response function to assess possible transmission between food and non-food inflation:

$$\text{inf}_f = \alpha_F + \beta^{FF} \text{inf}_f + \beta^{NF} \text{inf}_{nf} + \varepsilon_t^F \quad (2)$$

$$\text{inf}_{nf} = \alpha_N + \beta^{FN} \text{inf}_f + \beta^{NN} \text{inf}_{nf} + \varepsilon_t^N \quad (3)$$

The impulse response function of the estimated VAR will indicate the direction of transmission, if any. The possibility of transmission of food to non-food inflation warrants further analysis in terms of some causality test. We use Granger causality test in this regard. Although such a test can not establish economic causality, statistically it identifies which variable is the cause (or independent variable) and which variable is the effect (or the dependent variable). In reality, as food and non-food inflation are mostly correlated, Granger causality test would help identify which follows what, and thus give an impression of direction of transmission in “causal” sense.

The study used monthly inflation data for 198 months from January 1996 to July 2012. From the CPI data provided by BBS we have calculated food, non-food and overall inflation on point to point basis. Wage inflation is calculated from the nominal wage index provided by BBS. Labor productivity is proxied by the real GDP per worker. While Real GDP is GDP at constant price provided by BBS, number of employed workers is estimated from the relevant series of the Penn World Table 7.1.

5. Analysis of Results

In this section we first present our results on persistence of food and non-food inflation and their possible transmission. The findings of the paper then corroborated with economic explanation

5.1 Persistence of Food and Non-Food Inflation

To examine persistence, we first report the estimated SARC coefficients in table 2. Estimated SARC coefficients are quite large for all three measures of inflation. While the estimates of SARC coefficients vary slightly with AIC criterion for food, non-food and overall inflation, they are virtually identical while it is estimated from AR model with 12 lags. It is evident that SARC for food inflation is quite high and comparable to that of non-food inflation and overall inflation. Cumulative effect of shock is positive and persistence is quite strong. However, there is one demerit to this method; sometimes positive and negative coefficients cancel each other out and thus it may hide the actual picture of inflation persistence. Nevertheless, the positive SARC coefficient estimated here indicates that food inflation actually increases the overall inflation; hence its role cannot be ignored.

Table 2: Estimated SARC Coefficients

	SARC using AR model with lag selected by AIC criterion	SARC using AR model with 12 lags
Overall inflation	0.935345	0.9053675
Food Inflation	0.9449263	0.907107
Non-Food inflation	0.9758901	0.908504

Impulse response functions for food and nonfood inflation based on estimated AR models in equation (1) are shown in the appendix. Half life of those impulse response functions are reported table 3. The Half life estimates are considerably larger for food inflation compared to that of non-food and overall inflation. While 50% of a food inflation shock persists up to 13 to 15 months, the same for non-food inflation persists up to 10 to 11 months. For overall inflation the persistence is 8 to 10 months only.

Table 3: Estimated Half life

	Half Life from AR model with lag selected by AIC criterion	Half Life from AR model with 12 lags
Overall inflation	10 months	8 months
Food Inflation	13 months	15 months
Non-Food inflation	10 months	11 months

To sum up, persistence of food inflation is virtually comparable to that of non-food and overall inflation as per SARC coefficient dictates. However, food inflation seems to be little more persistent than non-food and overall inflation according to the estimated half life of the impulse response function. Thus, our results do not conform to the usual perception that shock in food inflation is less persistent so as to treat it with less importance in calculating core inflation. Rather food inflation is persistent, and hence it may transmit to other inflation. Hence, our

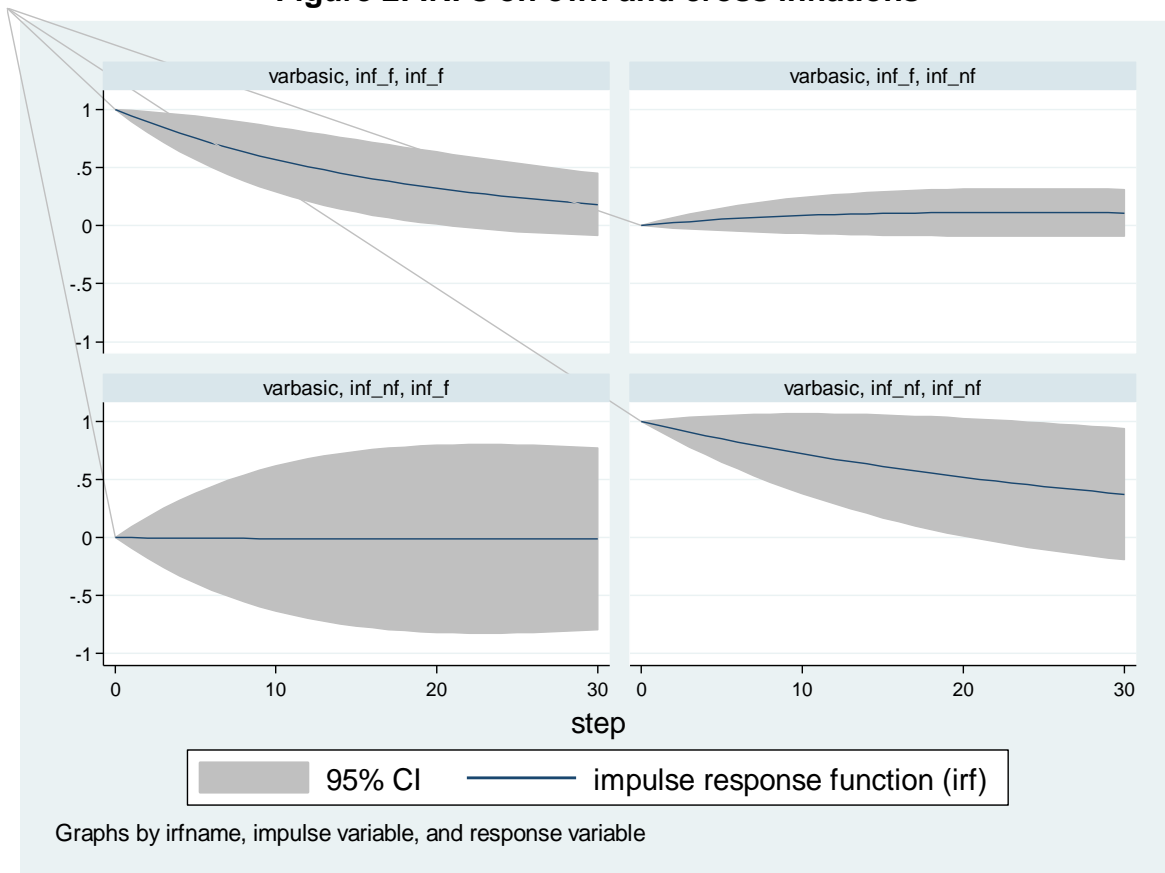
hypothesis 1 that food inflation is not transitory in Bangladesh is supported by empirical evidence.

5.2 Transmission and Causality

Since the persistence of food inflation is quite high, it is obvious that food inflation is not transitory as it is perceived to be and hence it may propagate into non-food prices. Similarly non-food inflation may also transmit to food inflation. To assess such transmission possibility, the impulse response function of the estimated VAR (equations (2) and (3)) are shown in the four panels of figure 2.

This is quite clear from panel 2 and panel 3 of figure 2 that a unit change in food inflation has a small persistent positive impact on non-food inflation, whereas food inflation is unresponsive to a similar change in non-food inflation. The result is corroborative of the findings of Cecchetti and Moessner (2008). According to their study, commodity prices since 2003 has fed into the overall inflation, implying an independent increase in food prices around the world is fuelling the non-food prices.

Figure 2: IRFs on own and cross inflations



The possibility of transmission of food to non-food inflation warrants further analysis in terms of Granger causality test. We have seen that the estimated VAR and IRF with one period lag showed a small degree of transmission of food inflation to non-food inflation. However,

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transmission may require longer time than just a month. To explore the inter-linkage between food and non-food inflation we conducted Granger causality test with lag length up to 12, so as to address the required time lag for transmission.

Granger causality test is valid when the relevant time series are stationary. We used ADF test to check for stationarity of the food and non-food inflation data. ADF test is sensitive to lag length. An LM test is used to choose the right lag length that eliminates the autocorrelation among residuals. ADF tests find that both food inflation and non-food inflation are stationary.

Given two stationary series, we would use VAR of various lags to examine causality using the following equation:

$$Inf_f_t = \alpha_1 + \sum_{i=1}^m \beta_i inf_f_{t-i} + \sum_{j=1}^m \gamma_j inf_nf_{t-j} + \varepsilon_{t1} \dots \dots \dots (5)$$

$$Inf_nf_t = \lambda_1 + \sum_{i=1}^m \delta_i inf_f_{t-i} + \sum_{j=1}^m \phi_j inf_nf_{t-j} + \varepsilon_{t2} \dots \dots \dots (6)$$

If we are able to reject the null of no causality for an independent variable of a given lag length, it would indicate causality of the independent on the dependent variable. The results of the Granger causality test are summarized in the table below.

The table shows no causality in either direction when lag length 1 is used. However all the lags from 2nd to 12th, we find that there is a unidirectional causality from food inflation to non-food inflation. Thus, we can infer from the data that past months' accumulated food inflation Granger causes non-food inflation except for the very month preceding the current one¹.

To sum up, impulse response of food-inflation to non-food inflation shows a moderate transmission of former to the later. Granger causality test strongly reveals that food-inflation Granger causes non-food inflation. Thus, our second hypothesis that food inflation is transmitted to non-food inflation is also supported empirically.

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Table 4: Results on Granger Causality test between food and non-food inflation

VAR lag	Dependent	Independent	Chi-square	P value	Direction of Causality
1	Food inflation	Non-Ffood inflation	0.00092	0.976	No causality
	Non-food inflation	Food inflation	1.1622	0.281	
2	Food inflation	Non-food inflation	0.13722	0.934	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	7.6404	0.022	
3	Food inflation	Non-food inflation	0.3146	0.957	Food inflation causes non-food inflation
	Non-food inflation	Food inflation	8.5992	0.035	
4	Food inflation	Non-food inflation	6.3382	0.175	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	11.175	0.025	
5	Food inflation	Non-food inflation	7.5757	0.181	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	11.433	0.043	
6	Food inflation	Non-food inflation	8.492	0.204	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	14.638	0.023	
7	Food inflation	Non-food inflation	8.0212	0.331	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	14.851	0.038	
8	Food inflation	Non-food inflation	9.5759	0.296	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	19.105	0.014	
9	Food inflation	Non-food inflation	10.207	0.334	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	21.835	0.009	
10	Food inflation	Non-food inflation	11.867	0.294	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	21.986	0.015	
11	Food inflation	Non-food inflation	17.088	0.105	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	22.785	0.019	
12	Food inflation	Non-food inflation	21.732	0.041	Food inflation causes non-food inflation.
	Non-food inflation	Food inflation	21.988	0.038	

5.3 An Explanation of Transmission of Food Inflation to Non-Food Inflation

As food price counts some 58% weight in CPI, it directly affects overall inflation. However, the main focus of the paper is how food inflation transmits in to non-food inflation and thus indirectly contributes to fueling inflation further. As Gregorio (2012) points out that many food items are intermediate input; hence higher food price may translate into price of other final good. Secondly, as food prices are very important in the consumer basket of many emerging markets, so they may have significant effect on wage pressure. The later in turn may have impact on non-food and overall inflation. In Bangladesh, food items are inputs mostly to other processed food item only, these are not used much as input to other non-food item. Hence, the role of food as an intermediate good may not be that important fueling non-food inflation. However, the role of food price affecting wages may be quite important in Bangladesh because of its large share in consumption basket. Share of food is even higher in the consumption basket of the poor. Hence, food price hike may create a pressure on wage that contributes in raising cost of production². This in turn may create further price hike of both food and non-food items.

Simple statistical analysis corroborates the relationship between food inflation and wage increase in Bangladesh. Pair-wise correlation of wage inflation with productivity growth, food inflation, non-food inflation and overall inflation is shown in Table 5. It is evident that wage inflation has statistically significant correlation only with food inflation. We also regress wage inflation on labor productivity growth, food inflation and non-food inflation. Regression results are shown in the table 6. It is evident that both food inflation and productivity growth positively affect wage inflation. However, only food inflation becomes statistically significant in predicting wage inflation. Coefficient of non-food inflation is negative and statistically insignificant. Thus, historical data supports the importance of food inflation for wage increase.

Table 5: Simple correlation of Wage Inflation with Productivity Growth and Inflation

	Wage Inflation
Productivity Growth	.315 (.153)
Non-food Inflation	-0.186 (.408)
Food Inflation	.398 (.066)*
Inflation	.324 (.142)

P-values are in parenthesis, * implies significant at 10% level

Table 6: Regression Results of wage inflation on Productivity growth and inflation

Dependent Variable: Wage Inflation

	Coefficient
Constant	8.15 (3.02)
Productivity Growth	0.343 (1.19)
Non-food Inflation	-0.738 (-1.54)
Food Inflation	0.362 (1.83)*
Durbin-Watson = 1.73.	R-Square = 0.289

t-ratios are in parenthesis, * implies significant at 10% level

Food inflation may have impact on other inflation through inflationary expectations as well. Studies on inflationary expectation show that observed prices of items that are either more important in terms of budget share and/ or the items which needs to be purchased more frequently have strongest impact in formulation of inflation expectation for near future. In the context of US, food has been found to be quite important in formulation of inflationary expectation. If the situation is such for a developed country, we can realize that the case will be even stronger for a country like Bangladesh where share of food price is quite high in overall inflation. In the recent years, reserve Bank of India has been assessing state of inflation expectations through several means. Household survey based measures find that inflationary expectation in India is dominated by food inflation³. We may expect that food inflation would also play a similar role in formulation of expected inflation in Bangladesh⁴. Thus, food inflation may be important in creating further pressure in non-food and overall inflation to the extent inflationary expectation is important for actual inflation.

6. Conclusion

The paper examined the direct and indirect impact of food inflation in overall inflation focusing mostly on the later. As it is well known that share of food is very high in overall price index and hence its direct role in promoting inflation is quite obvious. However, what is important for this paper is that food inflation plays important role in exacerbating inflation through its second sound impact. Firstly, shocks in food inflation are at least as persistent as non-food inflation. Secondly, food inflation may transmit to non-food inflation. Granger causality test suggests that food inflation causes non-food inflation Food inflation may create a pressure on wage inflation as well. It may also enhance inflationary expectation. Thus, food inflation plays important role in propelling inflation further and creating some spiraling situation. All these findings are quite new as the previous studies did not address the issue of transmission of food inflation to non-food inflation.

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The findings have important implications for policy makers. Core inflation has been used in many developed countries and also in a few underdeveloped countries to understand medium term inflationary pressure so as to formulate policies. Even in Bangladesh, it is found that money growth has reasonable correlation with some exclusion based measure of core inflation (Shahiduzzaman 2009). Nevertheless, findings of this paper bring in some caution about formulating monetary policy in Bangladesh based on core inflation. Any measure of core inflation excluding all or some of the food prices may understate the underlying inflationary pressure in the economy. Current practice of Bangladesh Bank of monitoring some moving average of overall inflation may be quite good assessing underlying inflation for policy purposes.

The evidence of transmission of food inflation to nonfood inflation and the fact that food inflation Granger causes non-food inflation implies that the authority should pay due attention to food inflation. If a particular food price shock seems to persist a while, monetary authority should take policy action in due time to tighten the cycle. But if the shock seems to be quite transitory like temporary supply shock, the authority should not overreact by tightening policy. Food price inflation may emanate either from domestic supply shock or from international commodity price hike, both of them are quite exogenous in nature. Given the added importance of food inflation in propagating further inflation, the policy maker must take it more seriously.

The paper has some limitations as it did not control for impact of monetary policy or energy price hike examining the second round impact of food inflation. The study can be extended further to include these and analyze the inflation dynamics with a more elaborate VAR model. Further studies may also be conducted to examine the propagation of inflation at disaggregated group of food items on food and non-food inflation.

Endnotes

¹ The result is consistent with the lag length selection by AIC or SBC criteria for our VAR models that suggest minimum lag length of 2.

² There are few studies in Bangladesh focusing the role of rice price on rural wages in Bangladesh. For example Palmer-Jones and Parikh 1998 finds that, in the long run nominal wages in agriculture respond sufficiently to rice prices although the later have partial impact on wages in the short run.

³ For a brief assessment of inflationary expectation in India, see Mohanty (2012)

⁴ Further researches on inflationary expectation in Bangladesh is needed to have concrete statement on this

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