

# Price Volatility and Its Impact on Developing Economy: Bangladesh Perspective

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## Abstract

Exchanging of stuffs to meet the need of human being has been started from the origin of human history, so the fixation of price of daily needs has been playing a significant role. Setting, considering and adjudging price has been a very difficult task for both buyers and sellers. Thus fixing of right price under different circumstances is an important issue. Price fluctuation in goods and services are taking place due to some natural and artificial reasons. Bangladesh being a developing country has been facing recently difficult situations, as both the entrepreneurs and the consumers of industrial and consumer products failed to cope with such frequent and sudden fluctuations in price. This article is an attempt to focus on the reasons of such frequent price fluctuations occurring in both industrial and agricultural products and also to point out ways and means to solve the problem, leading to a better economic situation for sustainable development in trade and consumptions serving the interest of both seller and buyers.

**Keywords:** Price, Commodity, Agriculture, Natural calamity, Fluctuation, Price volatility.

## 1. Introduction

Price volatility has become the significant problem not only for the lower income earner groups but also most for the middle class people who are suffering from it. The price volatility of essential food commodities has a major impact on food security, particularly on the marginalized section of the society in Bangladesh. Current rise in domestic cost of production of food, together with high price in international market may boost up further inflation, leaving adverse effects on the poor. Most of the low income earner spends more than half of their income on food. Price volatility on regular goods may change their consumption pattern in term of quantity or quality or both. The results gained from the past studies clearly suggesting the affected group and their living standard, for a sustainable growth government should more carefully monitor such variables like price instability for an quotable economic development.

### 1.1 Background of the study

Price is a vital factor for both manufacturers and consumers. Recently its been observed a significant instability in price that cause hamper in economic development. For a developing economy like Bangladesh it is a major issue to monitor and take effective steps to overcome such instability. This research will focus on that perspective.

### 1.2 Objective of the study

This research is aimed to find out the major reasons of price instability in Bangladesh and ways to resolve or minimize this instable situation. Analyzing the 203 respondents, following finding were found:

- i) To show price instability in different products.
- ii) To identify the causes of price instability.
- iii) To find out the impacts of price vulnerability in developing country.
- iv) To bring out the possible remedies of price instability.

## 2. Methodology

An opinion poll was conducted through series of questions to find out the primary issues and then a final open and close ended questionnaire was formed to analyze the discussed issue.

### 2.1 Data source

This study is based on primary data mostly but with frequently assisted by secondary sources. Both consumer and seller had engaged to make the study comprehensive.

### 2.2 Research method

It is a quantitative study with survey technique being applied. The survey was conducted on Likert scale, which is close ended and there were also some open ended questions to justify more in-depth perceptions towards those issues.

### 2.3 Sample criteria

Age 18 years and above

Regardless of sex

Regardless of social class and earning

Regularly involve in buying and/or selling activities

#### 2.3.1 Sample size

Total 203 respondents are randomly selected. Among them 139 were buyer and 64 were seller. The survey was mostly conducted inside Dhaka city and its different parts.

#### 2.3.2 Data analysis procedure

Microsoft Excel tribulation mathematical software were used to calculate and for graphical output and representation.

## 3. Overview of Price volatility

According to the expert of marketing, price has been defined as the amount of money charged for a product or a service (kotler. P., 2012), to express it in wider view, Oxford dictionary defines 'Price as The amount of money expected, required, or given in payment for something'. So price is the quantity of payment or compensation given by one party to another in return for goods or services. Generally price coordinate the decisions of producer and consumer and play the role of market mechanism in determining production and consumption quantity (Samuelson, P. A., 2012).

### 3.1 Price volatility

By price volatility we generally indicate any change in price (high or low) of any goods or services occurring from unusual reason(s). Actually unusual reason(s) indicates the reason which is not expected but occurs because of natural or artificial intervention in setting price. It is the degree of variation of a trading price series over time. Historic volatility is derived from time series of past market prices. An implied volatility is derived from the market price of a market traded derivative (in particular an option). The symbol  $\sigma$  is used for volatility, and corresponds to standard deviation. Price volatility is any state or in any period happens and it is the readily no matter the factors are responsible or who becomes the sufferer for such frequent change.

### 3.2 Price volatility in Bangladesh

Bangladesh is comparatively in the early development period. Bangladesh like other developing nations needs to go through a smooth path in developing its economy. Price volatility in Bangladesh, indeed, played a significant role in our production as well as in consumption pattern. Middle class consumers, the largest consumer group, are severely affected by these frequent price volatilities. And that actually affected the whole economy. Price volatilities in case of different types of product have been observed in unusual ways. Price volatility of agricultural products, industrial products, consumer products or other sectors including investment and stock market in recent years is stated.

### 3.3 Price volatility in Agricultural products

Bangladesh is still an agro based country. Most of its people, directly or indirectly depend on agriculture. In recent years, it has been observed that agricultural sector has become the most affected sector due to unexpected price volatilities. This brings a huge number of black shadows in rural economy and reflects in our growth in GDP as well as per capita income, savings and investment. It is being also observed that the agricultural land is transformed to non-agricultural (80,000 hectares per year) uses that impediment the gross agricultural production. Hence, per capita agricultural land (12.5 decimals) is gradually reducing over the years in Bangladesh (Quasem, 2011). Livestock is an important sub-sector of Bangladesh's agriculture, where as Poultry production and poultry related industries contribute 20.65 per cent of the total livestock contribution (Khan and Roy, 2006). And in recent years this industry also severely affected by abnormal price movement (Omar, Sabur, Moniruzzaman and Hoq, 2013)

The recent data of price volatility in agricultural products can be found in the following table:

Table 1: Price volatility in agricultural goods in Bangladesh (Note 1)

### 3.4 Price volatility in Industrial products Macroeconomic variables

Price volatility is not only the problem of farmers, but also it hits in industrial markets as well. As agricultural goods are the primary source of raw materials for industries, it is obvious that if we fail to control price volatilities in agricultural sector, the change in industrial pricing will soon face its impacts. But that is not the only cause; the industrial market is now facing dynamic problems to set their prices.

From capital goods to raw material, or production to distribution, every sector now-a-days has been facing the same problem. Again, Bangladesh largely depends on importing capital machineries which is influenced by the

dollar rates. Recent volatilities of exchange rates with US dollar are given below:

Table 2: Volatilities of exchange rates (Bangladeshi Taka with US Dollar)

Price volatility has not only reduced the import of capital items for our industry but also has reduced our expected reserve comparing to the growth of previous years. Even the growth of foreign exchange reserve showing unusual instability in recent years.

Figure 1: Foreign Exchange Reserve Volatility of Bangladesh

### 3.5 Price volatilities in consumer products, services, investment and stock markets

Price volatility hits all over the commodity market including large number of consumer goods. Consumer product from t-shirt to transportation, cookies to candy all most all the consumer goods face significant changes in price in last few years. Some of them even change dramatically within a week.

Price volatility even hits the stock market, with rumors and forex trading recently become the main cause of price volatility. Actually in the year 2010 the unethical practice in trading stocks actually damaged the capital market. 2010 capital market was adversely affected by the price vulnerability factor. Thing went out of control when the market falling once on 13 December by 285 points, over 3% of the DGEN Index which stood at around 8,500 points. The capital markets suffered a second fall on 19 December, with the index falling a further 551 points, or about 7%. This 7% fall in the Dhaka Stock Exchange's index on a single day was the largest fall in the 55-year history of the exchange; Both Dhaka and Chittagong stock markets till today have been facing lack of trust by new investors. Resulting a massive insecurity in capital market hampering small investor to participate in the formation of capital market development, which is It is a vital issue to collect new capitals and in secondary market also thus has become more volatile due to unusual reason.

## 4. Causes of price volatilities

There are various ways responsible for price fluctuation. Analyzing the responses as well as secondary data, the following reasons are discovered which are affecting the changes of price.

### 4.1 Natural calamities

By natural cause we mean those reasons which cause volatilities, not controllable by human behavior. These take place by natural interventions. Studies shows that among the agricultural product marketer, natural calamities is the top most vital issue in price adjustment and distribution poultry goods (Omar, Sabur , Moniruzzaman and Hoq, 2013). The main natural causes of price volatility are stated below:

#### 4.1.1 Flood

Bangladesh lies in a natural calamity zone. Every year flood hits many parts of the country and destroys huge amount of agricultural field and crops. These happen suddenly and affect supply of goods. The law of supply and demand operates and the price automatically goes up. This is observed in the case of many agricultural goods including rice, vegetable and fruits.

#### 4.1.2 Cyclone

Another natural calamity is cyclone. Rice is the main staple food and dominant crop in Bangladesh and it is grown on more than three fourths of the total cultivable land. Food self-sufficiency mostly depends on rice production (Barmon and Chaudhury. 2012). The total contribution of the rice production is about 70% of the total agricultural contribution to GDP (BBS, 2009). Barisal, the supplier of large number of food grain (rice), because of its coastal location, faces cyclone almost every alternative year, which actually affects the supply of rice and other industrial raw material and creates price hike. So cyclone, a natural calamity, on which we have no control, is one of the main reasons of price fluctuation.

#### 4.1.3 Rainfall

Price volatility not always brings the price in higher level but can sometimes makes it as low as possible. So, the farmers suffer due to low selling price. This happens when the production is matched or exceeds the estimation because of right amount of rain fall or other favorable natural imbalance. So, the just desired amount of rainfall in fact, produces the crops to the fullest and that over meets the demand. But when the rainfall is limited and scanty for growing crops, the gross production grows down and definitely helps the rising of the price. So rainfall, in fact, plays a great role for determining the price of most agricultural products.

#### 4.1.4 Drought

Bangladesh is affected by major country-wide droughts every five years. Apart from loss to agriculture, droughts have significant effect on land degradation, livestock population, employment and health. Between 1960 and 1991, droughts occurred in Bangladesh 19 times. Very severe droughts hit the country in 1951, 1961, 1975, 1979, 1981, 1982, 1984, 1989, 1994, 1995 and 2000. Past droughts have typically affected about 47 percent of the country and 53 percent of the population. The associated decline in crop production, losses of assets and lower employment opportunities contributed to increased household food insecurity. It also affects price level, because due to drought production reduces significantly raising price level and causing hardship to the buyers. (Note2)

#### *4.2. Artificial causes of price volatilities*

By artificial causes it is meant the reasons which affect the change in price is not natural. It is caused by human beings. This happens by illegal practice, mismanagement and accidental interventions from other sources. The most common artificial reasons of price volatilities maybe:

##### *4.2.1 Trade syndicate*

The businessmen are involved with illegal practice in order to fulfill their ultimate motive or to become rich overnight causing hardship to the general consumers. Trade syndicate is something common and it has been observed that many agricultural and industrial products are technically controlled by those syndicates. Most of the imported goods like edible oil, gold, diamonds, computer or mobile phone accessories etc., for example are controlled by illegal syndicate. Few trading houses in Bangladesh who have the capability to import in bulk (edible oil, sugar, wheat, pulses) and the financial capacity to hold on to the stocks have been observed as one big reason for instability or more specifically raising the price (Saha, 2013). The stock market syndicate is another vital reason to fluctuate the price of shares which was clearly observed in the Dhaka and Chittagong market in 2010.

##### *4.2.2 Corruption*

Corruption in every step of our lives makes hardship to do business or even normal life is affected badly. The history of corruption is old and unfortunately Bangladesh is widely known and criticized for such offence. (TIB Report, 2011-2014). The corruption in transport agency raises the price when distribution from one part to another become quite common (Mollah and Uddin, 2003). All most all the drivers of truck and lorry reported that they are to face this problem at least at 3 places when carrying vegetable from Rajshahi to Dhaka. Unfortunately, police, highway police traffic police linked with politics are involved with this illegal practice (Report TIB, 2002). The final consumers have to bear the ultimate burden of extra prices causing hardship.

##### *4.2.3. Rising price of fertilizer*

Another critical factor of production is fertilizer input. The expansion of modern agricultural practices together with intensified cultivation has led to an increasing demand for fertilizers. It is, therefore, necessary to ensure timely supply of fertilizers to meet the increasing demand. Imbalanced use of chemical fertilizers is causing land degradation. Excessive mining of plant nutrients resulted in declining of soil fertility on the one hand and reduction in the potential yield on other. It is, therefore, important to adopt pragmatic measure so as to encourage farmers in using balanced fertilizers to maintain soil fertility. Proper use Fertilizer is important thing for a better growing of agricultural crops. Change in price of fertilizer affects agricultural production which can cause serious volatility on the price of ultimate product.

##### *4.2.5 Rising the cost of living*

Price fluctuation is not considered as blessing. It affects not only the general customers but also it affects the seller as well as overall economic condition of the state. It has direct adverse bearing on lower income group. When the price level rises, the cost of living also rises and the standard of living decreases.

### **5. Affected customers due to price volatilities**

It is obvious that consumers are affected due to price volatility, especially when it is upwards. Due to price spiral three types of people become victims. They are fixed income people, lower income people, and honest citizens. They cannot meet both ends due to price spiral.

#### *5.1. Fixed income group*

The acute effect is shown in fixed income group, people who has no other sources of income other than the fixed salary they drawn from government of private organization are the most sufferer. These people have limited income and budget for each sector of their lives, sudden price hike not only because their economic situation shaky but also it also affect bring dramatic changes in their whole life plan.

#### *5.2 Lower income group*

Instability in the market of essential commodities has been a matter of constant concern for the people of Bangladesh in general and the poor, the fixed wage earner and the lower income earner are among the maximum sufferer (Shakib, S. U., 2016). Bangladesh is a developing country; hence here many of the people live below poverty line. Their income and expenditure both are limited; any change in price hurts them severely. There is certain food including necessary fruits that helps to build and protect our body from different diseases become so costly that they are out of reach to that lower income group, which result low productivity, poor efficiency and over all less economic development.

#### *5.3 Honest citizens*

There is another group which may not sound a good number or reason to observe, yet a certain number of people are still following honesty and integrity in their daily lives, who are also sufferer. These people often face this

price instability, both rise and fall of sudden price and it affect them more seriously as their honesty restrict them to manipulate or take advantages of these situations. Their honesty is frequently challenged being the deprived from life facilities. It is observed that honesty has been decreasing from our society day by day. Thought it is arguable that circumstances made few people more vulnerable to act illegally towards earning more money but it is a reality that our moral commitments to the society and values have been decreasing significantly.

## **6. Remedies**

Analyzing the respondent's identification of remedies they would assume as the most suitable measures to control the price volatility, following are the finding to control or help the price instability situations for economic stability.

### *6.1. Legislation on price control*

The first thing that can bring an important change is to establish the rule of law. Our government has already enough enactments to control the price. But unfortunately the implementations of those laws have not yet been implemented properly to bring significant change. The following laws that are already enforced can bring the change in fluctuating price if implemented strictly.

#### *6.1.1 Food adulteration law*

Because of frequent food adulteration taking part all over the country, it is an urgent need to establish the food adulteration law and its effect immediately. Such laws in Europe and United States shows strong influence to bring the stability and consumer protections.

#### *6.1.2. Stocking*

Stocking of goods often cause the raise of product. It must be ensured the normal flow of goods continue to meet the market demand. So far Bangladesh government frequently failed to control the situation and it has been common practice that whole seller and 'arotder' (who hold balk stock and distribute them to wholesaler and retailer, mostly the agricultural goods) stocking and creating artificial problems. Section 8 describing the withholding rules as 'No trader shall, unless previously authorized to do so by the Government, withhold from sale or refuse to sell to any person, any essential article in quantities not contrary to the normal practices of his business.' (The Essential Articles (price control and Anti-holding) Act, 1953).

#### *6.1.3. Control of artificial price rise*

The world itself signifies that this is just like a planned way to increase the price when the consumer obliged to buy. It's one kind of black mailing. From industrial goods to consumer goods, this malpractice is found everywhere in the country and frequently. The help of local authority and law order controlling authority things can be resolve immediately.

### *6.2. Control of using chemicals in food*

The use of formalin and other chemical for preservative unethically actually give more scopes to create artificial shortage and that cause unusual price insatiability. The strict use of chemical and law enforcement activity certainly can control it and help the natural flow of goods and thus bring natural price stability in markets.

### *6.3. Geographic pricing*

One another strong tool can be use to minimize the effect that is geographic pricing. Both government and private companies can help in setting geographic pricing to provide suitable living standard to all the parts of country. More focus should be given to rural and poverty affected areas.

### *6.4. Effective participation from TCB*

Trading corporation of Bangladesh(TCB) has been playing insignificant roles, though they are introduction was to ensure justified pricing, which they are not fulfilling because of the number of items they consider as well as the quantity they import and distribute are not significant considering the massive demand in market. TCB should focus on timing and goods that are largely affected with price instability.

### *6.5. Effective anti-corruption unites*

To control trade syndicate that manipulate price it is need to establish a proper and string anti corruption unite. After the enforcement of consumer act, 2009 there is no strong enforcement and punishment is visible yet. The proper monitoring, mobile court establishment and frequent market survey is needed.

### *6.6. Reducing unnecessary middlemen from supply chain*

Unnecessary layers of middle man both in agricultural and manufacture goods are rising, the more the middleman, the more the profit margin and hence price hike. With proper marketing knowledge and logistic support farmers can improve this situation. Initiative has been taken including from mobile network providing

company, such as ‘Banglalink Krishibazar’ but its not enough yet to aware and create stronger supply chain logistics.

#### 6.7 Establishing a strong social safety net

It has been observed that lower income group are the maximum sufferer of price instability, both in the time of selling the crops, the farmers get low price and at the same time they have to buy with raised price. It become a huge burden for them, so to ensure minimum support to those people, government should establish more and wider safety nets. Govt. already took some initiatives but to bring into wider effect it should be spreads all over the country and all the segment of the population who deserve it.

### 7. Conclusion

Not all price volatility brings the economic down fall, for example in a stock market a firm’s stock return volatility can be higher in a country because institutions in that country make it advantageous for firms to take risks that lead to greater economic growth (e.g., Acemoglu and Zilibotti (1997) and Obstfeld (1994)). Government should take necessary actions to control unusual price instability especially in food and beverage sector as it is becoming the major reasons to cause middle and lower class people with much suffering. Implementing and monitoring of price control laws, ensuring social safety net through TIB and other government agencies can play the significant roles to face these price instability and hence support the continuous improvement of living standard in Bangladesh.

### References

1. Acemoglu, Daron, and Fabrizio Zilibotti, 1997, Was Prometheus unbound by chance? Risk, diversification, and growth, *Journal of Political Economy* 105, 709-751.
2. Alexeev Michael and Leitzel James, (1999), Income Distribution and Price Controls: Targeting a Social Safety Net During Economic Transition, Working Paper Number 281.[<https://core.ac.uk/download/files/158/3102736.pdf>]
3. Bangladesh Bureau of Statistics, (2009). *Statistical Yearbook of Bangladesh*. Planning Division, Ministry of Planning, Government of the People’s of Bangladesh, 421-23 pp.
4. B.K. Barmon and M. Chaudhury. (2012). “Impact of Price and Price Variability on Acreage Allocation in Rice and Wheat Production in Bangladesh”. *The Agriculturists* 10(1): 23-30 (2012), A Scientific Journal of Krishi Foundation.
5. Case Study by Institute of Rural Development, (2007), “Climate variability and change: adaptation to drought in Bangladesh”, Asian Disaster Preparedness Center Food and Agriculture organization of the United Nations, Rome.[[http://www.adpc.net/v2007/Programs/CRM/Downloads/CCAandCV\\_droughtBangladesh.pdf](http://www.adpc.net/v2007/Programs/CRM/Downloads/CCAandCV_droughtBangladesh.pdf)]
6. Fighting Corruption in the Road Transport Sector, Lessons for Developing Countries, Sustainable Urban Transport Technical Document 10, Federal ministry for Economic Cooperation and Development. [[http://www.sutp.org/files/contents/documents/resources/B\\_Technical-Documents/GIZ\\_SUTP\\_TD10\\_Fighting-Corruption-in-the-Road-Transport-Sector\\_EN.pdf](http://www.sutp.org/files/contents/documents/resources/B_Technical-Documents/GIZ_SUTP_TD10_Fighting-Corruption-in-the-Road-Transport-Sector_EN.pdf)]
7. Khan, R.M. and Roy, C.P. (2006). Credit Policy, “Disbursement and its Impact on Poultry Industry in Bangladesh”. *Presented in Third International Poultry Show and Seminar*, February 28-March 2, 2006, Organized by Worlds Poultry Since Association, Bangladesh Branch, Dhaka.
8. Kotler, Philip, and Armstrong, Gary, (2012) *Principles of Marketing*, 14th ed., Pearson Prentice Hall, USA.
9. M. I. Omar, S. A. Sabur , M. Moniruzzaman and M. S. Hoq, (2013). “Marketing channel, margin, and price behavior of egg in selected areas of Gazipur district”. *J. Bangladesh Agril. Univ.* 11(2): 277–284, 2013
10. Mollah, Awal Hossain and Uddin, Nizam, Combating Corruption in Bangladesh: Some Strategies. [<http://unpan1.un.org/intradoc/groups/public/documents/UNPAN/UNPAN009521.pdf>]
11. Obstfeld, Maurice, 1994, Risk-taking, global diversification, and growth, *American Economic Review* 84, 1310-1329.
12. Quasem, M. A. 2011. Conversion of Agricultural Land to Non-agricultural Uses in Bangladesh: Extent and Determinants. *Bangladesh Development Studies*, 34 (1):59-85.(2011)
13. Report TIB, (2002), Police, then judiciary most corrupt public institutions in South Asia, Transparency International, Bangladesh, reveals TI survey [[http://www.transparency.org/news/pressrelease/police\\_then\\_judiciary\\_most\\_corrupt\\_public\\_institutions\\_in\\_south\\_asia\\_reveal](http://www.transparency.org/news/pressrelease/police_then_judiciary_most_corrupt_public_institutions_in_south_asia_reveal)]
14. Saha, Sanjoy Kumar, (2013), Food inflation in Bangladesh: causes and consequences, *Research Journal of Finance and Accounting* , 87-88 [<http://www.iiste.org/Journals/index.php/RJFA/article/viewFile/7164/7377>]
15. Shakib, Shamsu Uddin, (2012), “Impact of Price Hike over Lower Middle Class: A Case Study on Dhaka Metropolitan Area and Sylhet Division of Bangladesh.”, *European Journal of Business and Management*,

**Notes**

1. Department of Agricultural Marketing, Ministry of Agriculture, Peoples republic of Bangladesh, September, 2015
2. Climate variability and change: adaptation to drought in Bangladesh, Asian Disaster Preparedness Center Food and Agriculture organization of the United Nations, Rome, 2007

Table 1: Price volatility in agricultural goods in Bangladesh

Commodity	unit	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Egg (Farm Red)	4 Pcs.	21	17	17	22	26	24	24	-	-	-	38
Rice (Fine)	1 kg	24	23	27	40	32	39	46	48	45	53	65
Wheat flour(White)		18	20	27	37	20	23	30	36	36	36	40
Potato	1 kg	18	17	17	14	21	13	9	20	20	20	23
Soyabean Oil	1 lit.	49	53	73	104	75	80	107	128	125	104	135
Powder Milk (Dano)	2 kg	637	681	890	1114	1089	981	982	1165	1163	1340	1325
Musur Dal	1 kg	48	59	65	90	99	100	91	112	122	107	101
Chili (Green)	1 kg	-	-	-	-	-	-	-	48	64	57	91

Table 2: Volatilities of exchange rates (Bangladeshi Taka with US Dollar)

Year	Rate
2016 (January)	78.50
2015 (January)	77.80
2013 (January)	79.20
2012 (January)	84.39
2011 (January)	77.15

Figure 1: Foreign Exchange Reserve Volatility of Bangladesh

