Inflation and Economic Growth in Bangladesh: A Study on the Trend

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Abstract

The link between inflation and economic growth has drawn attention of policy makers, macro-economists and central bankers of many developed, developing and least developed countries of the world. A debate continues on the issue whether inflation helps or hinders economic growth or not. Tobin and Mundall predict a positive link between the rate of inflation and the rate of capital accumulation. They argue, since money and capital are substitutable, an increase in the rate of inflation increases capital accumulation by shifting portfolio from money to capital and thereby stimulating a higher rate of economic growth. Again, Fischer and Modgliani suggest a negative and nonlinear relationship between the rate of inflation and economic growth through the new growth theory mechanisms. To them, inflation restricts economic growth by reducing efficiency of investment rather than its level. This paper discusses the link between inflation and economic growth in Bangladesh. The author has studied average inflation rate and average growth rate of 1996-97 to 2003-04 and 2004-05 to 2011-12 in Bangladesh. Data analysis of first eight years suggests that a low degree of positive relations exists between inflation and economic growth: Average inflation growth rate is found 4.68 percent and average growth rate is 5.30 percent. From the data analysis of second eight years (2004-05 to 2011-12) it is found that a low degree of positive co-relation exists between two. . Rate of inflation and economic growth. Average inflation rate is found 8.05 and average growth rate is 6.28. However, Bangladesh should be cautious about higher increment of inflation rate and it should not exceed ten percent. The author opines that low rate inflation trigger economic growth but once the economy achieves faster growth, inflation may affect sustainable growth.

Introduction

In Bangladesh, the natural and mineral resources are not explored and used properly. Moreover, our workforce is not highly skilled. As a result, the economic development and growth have not been achieved to meet the aspirations of the people and of the society. To solve the economic problems a huge development work at all sectors is needed. Since the independence of Bangladesh, all the successive governments have tried to formulate and implement various development plans. Regrettably enough, the successive governments did not succeed in implementing their programs fully.

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However owing to the development plans and programs the government expenditure has increased gradually and the amount of public budget have been extended correspondingly. As a result, the money supply increases and inflationary situation crops up, and so the question arises whether this helps or hinders economic growth. There has been an extensive study to focus on the relationship between inflation and economic growth. However, in the present study regarding the inflation and economic growth the author has targeted total sixteen years from (1996-97 to 2011-12) divided into two parts. First part includes the years of (1996-97 to 2003-04) and the second part is in the years of (2004-05 to 2011-12).

Objectives

- to define inflation and economic growth for the better understanding of the subject matter;
- to identify the causes of inflation and constraints on the way of economic growth;
- to observe the average inflation rate and growth rate of total sixteen years in the context of Bangladesh (1996-97 to 2011-12); and
- to show the link between inflation and economic growth in the context of Bangladesh.

Methodology

Secondary data were collected from different sources such as BBS, Bangladesh Bank, national dailies, Website, etc. Available literature on the relevant subject was reviewed. Different sections of people were interviewed. In addition, the author watched price level of essential goods and the increment of income of the people, higher cost of transport communication and living standard of the people.

Theoretical clarification of the dimensions of inflation and economic growth

Inflation refers to a steady increase in the supply of money. In other words, it is a situation where demand persistently exceeds supply. It is said that inflation exists when there are continuous increase in the price level for increase in the aggregate demand. Inflation occurs when the general level of prices is rising. According to Professor Pigou, "Inflation exists where money income is expanding more than in proportion to income earning activity". Another economist Crowther says that "Inflation is such a situation when too much money chases too few goods". There are three main features of inflation (a) it is a process of rising prices (b) It is initiated by some change which makes it impossible to satisfy the whole of the demand which is forthcoming of existing price, so that initial price rises occur and (c) It is propagated by the reactions of buyers or group of buyers to the initial price rises so that farther rise in price is induced.

Different types of inflation based on causes or symptoms are perceivable

1. Regarding causes: Currency, credit, wage, profit, and deficit induced inflation, demand pull and cost push inflation.

2. As per the rate of increase in price level, it may be classified into mild, walking and hyper or galloping inflation.

3. According to control base there are open and suppressed inflation. Keynes opines that there are true and partial inflation. The other economist explains the inflation on expected and unexpected inflation. Lewis Hunter (1972) discusses, "Where Keynes Went Wrong". Keynes says that the way to bring interest rates down is to create more money. Government can and should bring interest rates down to a more reasonable level by increasing the 'quality' of lendable funds. This is done by creating new money that is made available to banks to land. The new money will tend to create inflation. Inflation leads to higher, not lower, interest rates. There arises further a question. What will happen to interest rates where other prices start to rise? Lenders will of course notice that the money coming back to them at the end of the loan will not buy as much as it once did. This will cause them to stop lending or lend less, which would tend to raise interest rates. Rates may even rise before inflation appears if lenders look into the future and take steps to protect themselves.

This is an example of what economists call an "unintended consequence". The attempt at lowering interest rates by injecting new money into the economy tends to lead, sooner or later, to higher rates. Swedish economist

Knut Wicks ell (1851-1926) initially developed this point.

In the US and elsewhere, printing money throughout the 1960s and 1970s led to very high inflation, which is turn led to very high long term interest rates.

Masked Inflation

Economist Ludwig von Mises11 (1881-1973) pointed out that there are times when consumer price inflation is harder to discern. Mises was thinking of the 1920s, but his observation apply to the 1990s and much of the 2000s as well. P-95

Hunter Lewis says that it is rich, not poor, people who benefit from inflation. It is known to us that inflation does not end poverty. It just makes poor people poorer, as numerous economic studies are done (Dr. Dollar and A. Karry, "World Bank Study" cited in Forbes (Aug 2001): 77. If any one is going to make money from inflation, it is rich people, especially Wall streeters and other financial insiders where Keynes Went Wrong12", Lewis Rich people understand what is happening. They understand the system. President Andrew Jackson foresaw all this in the 19th century. He abolished the United States, first central bank, because he observed rich people taking control of it and using it for their own ends. The creation of modern central banks has facilitated Keynes's Inflation. The idea of the governments successfully creating a budget surplus in order to combat inflation is completely fanciful.

The great inflation of the 1970s again provides some real life evidence P-110 of Hunter Lewis' book. Inflation brings not only more unemployment, but suboptimal employment, says W. H. Hutt. From the observation, it is found that in Bangladesh all varieties of causes exist. The reasons attributed for the incidence of inflation are syndication problem, unstable political environment, money supply increase, production increase, higher population growth rate, production cost increase, food problem, natural calamities change, international market effect, mismatch between demand and supply of goods and services, government expenditure increase, salary and wage increase.

Bangladesh being a food importing country, any rise in prices of food items in the world market influences immediately the domestic prices of those goods, such as rice, wheat and edible oil increase significantly in the international market. Therefore, domestic prices of those items have gone up. Besides, there is the growth of money supply that is directly related to the price situation. Inflation is a monetary phenomenon. Thus, it is explained by a host of economists that the excessive supply of money in the economy may cause inflation. This is why, the government must be cautious in framing monetary policy. The Bangladeshi currency/taka has depreciated against its international currency, US dollar over the past several years. But the Indian rupee has depreciated higher than that. Consequently, the relative position of the Bangladeshi currency has suffered having its impact on the economy. This is because; India is the major source of import for Bangladesh. Fuel prices are yet another factor that impacts the domestic price situation. If the fuel prices go up that impacts the prices of goods and leads to high cost of irrigation, raises the cost of agriculture production, increases the cost of transportation, etc. The issue of growth of remittance has links with inflation. There has been a steady rise in remittance in flow over the last few years. Such inflow contributes to demand pull inflation in Bangladesh. An extreme form of inflation is 13hyper inflation or galloping inflation which was found in Germany in 1923 during First World War. And by the end of that year, prices were one million, million times greater than there pre- war level. Towards the end of 1923 paper money was loosing half or more office value in one hour and wages were fixed and paid daily. The price of a news paper rose to 200,000,000,000 marks (One mark had been worth about 51 in 1914).

In Bangladesh, the price level of essential goods specially vegetables, fish, meat, etc. and transport cost are increasing rapidly as compared to the increment of the people's income. The law and order situation of the country often becomes bad. It is reported by (B.B.S) 14 Bangladesh Bureau of statistics that the overall inflation in Bangladesh dropped to 5.21 percent in July, 2012 in the light of a new base year that was adopted to measure the consumer price index (CPI). But the non-food inflation still remained high at 10.9 percent. The BBS calculated officially the country's consumer price index and the inflation rate, based on both new and old base year. The BBS introduces 2005-06 as the new base year, instead of 1995-96 by revising the product baskets and there weights for calculating inflation.

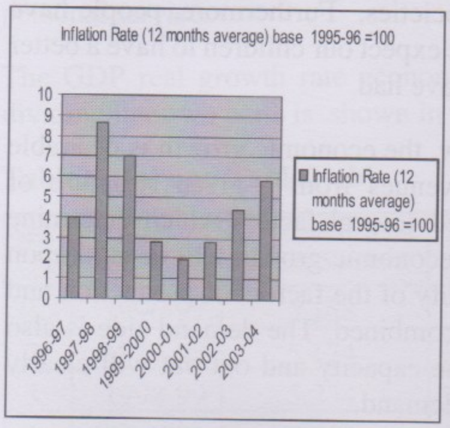
But the national statistics agency will keep providing data on inflation based on the old base year until December next. Ahsan H Mansur, executive director of the Policy Research Institute (PRI) of Bangladesh told the FE: "The new base year will reduce the rate of inflation due changes in weights and revision of the products." He also said that BBS data collection methodology and analysis based on the new base line are close to best international practices.15 Dr. Mostafizur Rahman, Executive Director of the country's another think- tank Center for Policy for Dialogue (CPD) told the FE "The food inflation remained low as per the new base year following a good harvest of rice". Rahman said non-food inflation remained high mainly because of the high house rents, transport cost and power prices*. The inflation rate year to year is fluctuating without maintaining similarity. However, the rate of inflation in Bangladesh is quoted by the author which is measured by the consumer price index (CPI) from 1996-97 to 2003-04 and 2004-05 to 2011-12 on 12 months average. This may be shown by 12 months average in Table no.1 (a) and 1(b).

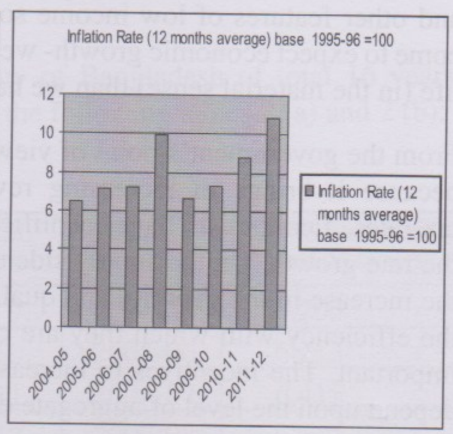
16 Table (a)

SL	Year	Inflation Rate (12 months average) base 1995-96 =100	SL No.	Year	Inflation Rate (12 months average) base 1995-96 =100
1.	1996-97	3.96	9.	2004-05	6.48
2.	1997-98	8.66	10.	2005-06	7.16
3.	1998-99	7.06	11.	2006-07	7.20
4.	1999-2000	2.79	12.	2007-08	9.94
5.	2000-01	1.94	13.	2008-09	6.66
6.	2001-02	2.79	14.	2009-10	7.31
7.	2002-03	4.38	15.	2010-11	8.80
8.	2003-04	5.83	16.	2011-12	10.88

Table- 1(b)

Table1 (a) can be shown through the following Table1 (b) can be shown through the Part diagram. following diagram





Implications of Economic Growth

Economic growth implies the increase of per capita gross domestic product or other measure of aggregate income. Professor J.A Schumpeter says that "Economic Growth is a general and steady change in the change in the long run which comes out by gradual increase in the rate of savings and population". According to Milton Friedman, "Economic Growth an expansion of the system in one or more dimension without a change in its structure". Economics Growth represents the expansion of a country's potential GDP or national output. Put differently, economics growth occurs when a nation's production possibility frontier whither (PPF) shifts outward.

There are four wheels or factors of economics growth

- Human resources (Labor, supply, education, discipline, motivation)
- Natural resources (land, minerals, fuels, environmental quality)
- Capital Formulation (machines, factories, roods)
- Technology (science, engineering, management, entrepreneurship)

Growth is an important agenda of an economic policy as it is a key to higher standard of living. It is economic growth which makes it possible for millions of people to escape from the miseries f long hours of back-breaking toil, deplorable living condition, a low expectancy of life and other features of low income societies. Furthermore, people have come to expect economic growth- we expect our children to have a better life (in the material sense) than we have had.

From the government's point of view, the economic growth is desirable because it brings in increasing revenues from a given structure of tax-rates. Economists have identified several factors which determine the rate growth. On the supply side economic growth will depend upon the increase in the quantity and quality of the factors of production and the efficiency with which they are combined. The demand side is also important. The incentives to increase capacity and out put will clearly depend upon the level of aggregate demand.

There are some ways in which nation's productivity and potentials can be increased by adopting following measures, i.e. (1) Increased skills and education (2) economies of scale (3) investment (4) new technology (5) re-allocation of resources.

The policy measures may be used to influence the various factors which determine the growth. Fiscal and monetary measures can be used to stimulate private and public investment, research and development.

Analysis of the growth trend following inflation

Bangladesh has been performing well in terms of economic growth over the last ten years or more. Its gross domestic product (GDP) base is not small in absolute volume terms. It is the 50th largest economy in a sample of 177 countries. Many developing countries have not grown faster than Bangladesh with bigger GDP volumes since early 1990.

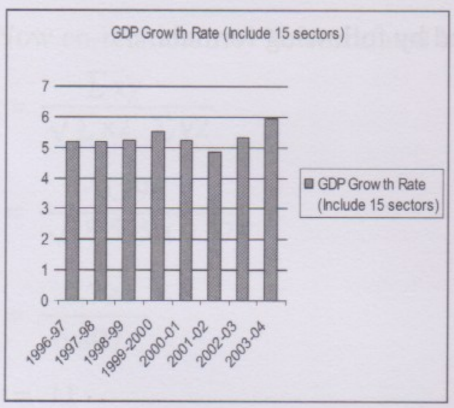
We can explain the GDP real growth rate economy of Bangladesh through the table 212(a) and 2(b). In the calculation of the growth rate we have included 15 heads or sectors; these include (i) agriculture and forest (ii) fishery (iii) mineral resource (iv) industry (v) electricity, gas and water resource. (vi) Building construction (vii) whole sale and retail marketing (viii) hotel and restaurant (ix) transport, communication and maintenance (x) service of financial institutions (xi) real estate, renting and other business (xii) public administration and defence (xiii) education (xiv) health and social service (xv) community, social and personal service.

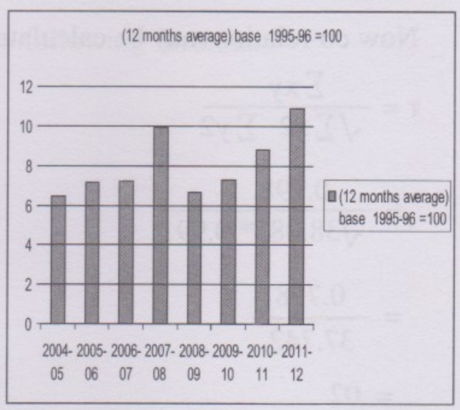
The GDP real growth rate economy of Bangladesh of total 16 years dividing into two parts is shown in the following tables 2 (a) and 2 (b):

Table2 – (a) and Table2- (b)

SL	Year	GDP Growth Rate (Include15 sectors)	SL No.	Year	GDP Growth Rate (Include15 sectors)
1.	1996-97	5.158	9.	2004-05	6.205
2.	1997-98	5.174	10.	2005-06	6.413
3.	1998-99	5.234	11.	2006-07	6.415
4.	1999-2000	5.510	12.	2007-08	6.132
5.	2000-01	5.217	13.	2008-09	5.934
6.	2001-02	4.839	14.	2009-10	6.142
7.	2002-03	5.310	15.	2010-11	6.142
8.	2003-04	5.942	16	2011-12	6.320

Table2 (a) can be shown through the following Bar diagram Table2(b) can be shown through the Bar diagram.





Source22

Bangladesh has successfully tackled the impact of global recession and attained growth which is visible from the above table. This also shows link between inflation and economic growth occurring in Bangladesh.

SL No.	Year	Inflation X	$(x-\bar{x})=(x)$	$(x-\bar{x})2 = x2$	Growth	$y-\bar{y}=y$	Y2	xy
1.	1996-97	3.96	- 0.72	0.518	5.158	-0.142	0.020	0.102
2.	1997-98	8.66	3.98	15.840	5.174	-0.126	0.015	-0.501
3.	1998-99	7.06	2.38	5.664	5.234	-0.066	0.004	-0.157
4.	1999-2000	2.79	-1.89	3.572	5.510	0.210	0.044	-0.396
5.	2000-01	1.94	-2.74	7.507	5.217	-0.083	0.006	0.227
6.	2001-02	2.79	-1.89	3.572	4.839	-0.461	0.212	0.871
7.	2002-03	4.38	-0.30	0.090	5.310	0.310	0.096	-0.093
8.	2003-04	5.83	1.15	1.322	5.942	0.642	0.412	0.738

Table-3: The link between inflation and economic growth of 1996-97 to 2003-04 has been calculated.

$\sum x = 37.41$ $\sum x2 = 38.085$ $\sum y = 42.384$ $\sum y2 = 0.991$ $\sum xy = 0.798$

$\bar{X} = \frac{\sum x}{N} = \frac{37.41}{8} = 4.68$ [Average inflation rate from 1996-97 to 2003-04]

$\bar{Y} = \frac{42.384}{8} = 5.30$ [Average growth rate from 1996-97 to 2003-04]

Now co-relation may be calculated by following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x2 \ \sum y2}}$$

$$= \frac{0.798}{\sqrt{38.085 * 0.991}}$$

$$= \frac{0.798}{37.742}$$

$$= .02$$

From the above analysis it is found that there is a low degree of positive co-relation between inflation and economic growth in Bangladesh in the period of 1996-97 to 2003-04.

Table-4: The link between inflation and economic growth of 2004-05 to 2011-2012 has been calculated.

SL No.	Year	Inflation X	- (x-x)=(x)	- (x-x)2 =x2	Growth	- y-y=y	Y2	xy
1.	2004-05	6.48	-1.57	2.46	6.20	-0.08	.006	0.126
2.	2005-06	7.16	-0.89	0.79	6.41	0.13	.016	-0.116
3.	2006-07	7.20	-0.85	0.72	6.41	0.13	.016	-0.111
4.	2007-08	9.94	1.89	3.57	6.13	-0.07	.005	-0.132
5.	2008-09	6.66	-1.39	1.93	5.93	-0.35	.122	0.487
6.	2009-10	7.31	-0.74	0.56	6.14	-0.14	.019	0.104
7.	2010-11	8.80	0.75	0.56	6.71	0.43	.185	0.323
8.	2011-12	10.88	2.83	8.00	6.32	0.04	.002	0.113

$\sum x = 64.43$ $\sum x2 = 18.59$ $\sum y = 50.25$ $\sum y2 = 0.371$ $\sum xy = 0.794$

$\bar{X} = \frac{\sum x}{N} = \frac{64.43}{8} = 8.05$ [Average inflation rate from 2004-05 to 2011-12]

$\bar{Y} = \frac{\sum y}{N} = \frac{50.25}{8} = 6.28$ [Average inflation rate from 2004-05 to 2011-12]

Now co-relation may be calculated by following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x2 \ \sum y2}}$$

$$= \frac{0.794}{\sqrt{18.595 \times 0.371}}$$

$$= \frac{0.794}{6.897}$$

$$= .11$$

From the above analysis it is found that there is a low degree of positive link between inflation and economic growth in Bangladesh in the period of 2004-05 to 2011-2012.

Summary of the findings

It is observed that the rate of inflation in Bangladesh based on consumer price index (CPI) from 1996-97 to 2003-04 is not similar. The lowest rate of inflation is found 1.94 (12 months average) in 2000-01 and 2.79 in 1999-2000 and 2001-2002. The highest rate of inflation was 8.66 in 1997-98 and 7.06 in 1998-99 respectively which have been shown in Table 1(a).

In Table 1(b) indicates that lowest rate of inflation is 6.48 in 2004-05 and highest rate of inflation is 10.88 in 2011-12 and 9.94 in 2007-08 respectively. From the above two tables, it can be concluded that in this country that the inflation rate has been increasing by degrees.

The Economist Intelligent Unit (EIU) 23 forecasts 6.3 percent GDB growth for Bangladesh. In the current fiscal year, far short of the government's estimate24 of 7.2 percent. The Governor of Bangladesh Bank, Atiur Rahman said in Tokyo on Friday, 12th October 2012, that Bangladesh economy would grow by more than 6.5 percent in the current fiscal year. He further said the country was maintaining its growth, the inflation was going down and the exchange rate was stable. (The Daily Star, October 14, 2012.) Dr. Sadiq Ahmed remarks the estimated average inflation rate for FY12 is 10.6 percent, much higher than the sixth plan target of 7.5 percent. For the future monetary and fiscal policies need to be integrated so that the Treasury borrowing from Bangladesh Bank is restrained and the monetary growth rate was consistent with the 6th plan's inflation target. Proper implementation of the MPS for FY 13 is of critical importance for reducing inflation25.

Concluding remarks

The link between the rate of inflation and economic growth remains fuzzy. Several empirical studies confirm the existence of either positive or negative relationship between these two variables. However, there is a consensus that low and stable inflation promotes economic growth.

From the study of total 16 years of data since in 1996-97 to 2011-12, it is found that the rate of inflation has increased without maintaining any uniformity. On the other hand, the growth rate has been increased very steadily. The impact of economic depression and recession still prevails all over the world. There is a saying when America sneezes the world gets flue. This is evident as the American financial crises have impacted many countries of the world. The global financial crises of September-October 2008 were a major on going financial crises, the worst of its kind since the great depression. It became glaringly visible in September 2008 with the failure merger of several large United States based financial firms. The financial crises could lead to record global unemployment with 20 million more people out of work by the end of 2009. Fortunately, as others were, Bangladesh was not affected heavily. It is due to the fact, Bangladesh is not industrially developed and it largely depends on agriculture. Our finance minister said in the budget speech 2012-13 that the agriculture sector would help continuously the process of our growth. If production of flood-draught- salinity resistant seeds, targeting of government assistance in the sector, provision of uninterrupted power supply for irrigation, and increased flow of agricultural credit continue, these will result in enhanced agricultural productivity, crop intensity and its diversification. It may be predicted that if the skill and efficiency of human resources is increased through the technical education and practical training, if the natural and mineral resources are explored and properly utilized, the rate of economic growth of the country will increase. The inflation rate has to be monitored continuously so that it cannot cross beyond 10% in 12 months average.

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Tobin, J. (1965), *"Money and Economic Growth". Econometrica 33 (4): 671–684. doi:10.2307/1910352 In a classic paper, Mundell (1965) presented a very neat indictment of inflationary finance to promote growth Mundell is a professor of economics at Columbia University and the Chinese University of Hong Kong, Both are researcher.*