Dollar Based Exchange Rate System and Foreign Exchange Market Volatility in Bangladesh

Taslim Hasan

Abstract:

This paper tries to find out the real causes of volatility in foreign exchange market in Bangladesh. For this purpose, performance of dollar based fiat currency regime compared to gold standard regime is analyzed, furnishing statistical data. Fixed, Pegged or floating exchange rate regime in this country have been behaving identically over the last forty years after independence and the dollar appreciated about 1200% during this period. The dollar based monetary system which is not backed by any real value makes the economy over a bubble one due to its unstable nature of inflation and interest rate. As a result, changing exchange rate system, government intervention or nonintervention is not the answer to this instability. Gold based stable currency is the perfect solution as it holds intrinsic value and makes the exchange rate smooth in international trade.

Keywords: *Forex Market, Fiat Currency, Gold Standard, Pegged System, Floating Exchange Rate and Bretton Woods.*

1. Introduction

From 1947 until independence in 1971, the present territory of Bangladesh was part of Pakistan. The exchange rate of the Pakistani rupee was fixed with the dollar in the early 1960s and remained unchanged until April 1972. In 1972 the exchange rate of taka, which replaced the rupee as the currency of the newly independent Bangladesh, was fixed against the pound sterling. However, because of the Bretton Woods exchange rate agreement, the taka also quasi-floated against the dollar through its link to sterling. Exchange rate was pegged to pound sterling from 1972-1979, peg to currency basket, with pound sterling as intervention currency from 1980-82 and peg to currency basket, with dollar as intervention currency from 1983-2002.

Bangladesh adopted a freely floating regime on May 30, 2003 by abandoning the adjustable pegged system. During floating exchange rate regime the exchange rate has been determined by the demand and supply of the dollar. When the dollar supply is favorable the rate stays in favor of the Bangladeshi Taka (BDT) and vise-versa. This system is continuing and the market mechanism determines the exchange rate.

1.1 Objective of the Study

The main focus of this study is to analyze the volatility in foreign exchange market in Bangladesh. The study will explain the reasons of this volatility which persists over the last few decades and the reasons of recent extreme unusual behavior of the market.

However, the specific objectives of this study are as follows:

- To find out the real causes of volatility in foreign exchange market.
- To analyze and compare existing fiat currency regime and gold standard regime.
- To recommend some measures to make the market stable permanently.

1.2 Methodology of the Study

This article is descriptive in nature. Most of the data used in this article is secondary. Some primary data are collected through formal and informal interview of different top level financial experts. Bangladesh bank, newspaper reports and different other financial institutions are the sources of secondary data. Economic data during gold standard regime and the data of dollar regime indicate the instability and its degree. Gold standard and dollar standard are the basis on which exchange rate is determined. To analyze the gold standard regime, data is taken from economy of Britain as the gold standard regime was ended before the birth of Bangladesh. After the independence of Bangladesh data is available which is under dollar regime (pegged to pound or dollar). Data of exchange rate was taken from 1974 as the country was liberated in December 16, 1971. After independence the market was not structured, so data was not available before 1974. Data showing 1971-1974 is also the data of 1974. Data before and after the introduction of the floating exchange rate were taken and analyzed to show the causes of currency instability under the dollar regime.

1.3 Scope and limitation of the study

- This study analyzes the subject matter from gold and dollar standard point of view, The Advantage or disadvantage of fixed or floating regime is not regarded in the analysis.
- Most of the private financial institutions in Bangladesh were formed after 1990, so the primary data was limited and very few experts were found who have adequate information regarding exchange rate. There was limited secondary literature on the gold based international trade and exchange rate system.

1.4 Literature Review

There has been extensive literature written on foreign exchange market and its behavior in Bangladesh. Hossain (2002) investigates the exchange rate responses to inflation in Bangladesh for the period 1973-1999. He finds that the effect of devaluation on inflation during the fixed exchange rate regime was not significant, and he claims the results to be robust for the whole sample period. Rahman and Basher (2001) have estimated the equilibrium real exchange rate as well as exchange rate misalignment for the period 1977-1998. They find that trade liberalization and increase in debt service burden result in a real depreciation of the currency; while increase in capital inflow, improvement in terms of trade, and increase in government consumption of non-tradable result in a real appreciation of the currency.

Some recent studies try to explain the behavior of nominal exchange rates of Bangladesh after its transition to the floating rate regime. By doing a correlation analysis, Rahman and Barua (2006) explore the possible explanation of the exchange rate movement. Younus and Chowdhury (2006) made an attempt to analyze Bangladesh's transition to floating regime and its impact on macroeconomic variables. They also find that currency depreciation boosted export growth in the floating regime. Chowdhury and Siddique (2006) have analyzed the exchange rate pass-through to domestic inflation in Bangladesh. Analyzing the data for the period 1997:07 to 2005:03, they have not found any significant pass-through effect of exchange rate in Bangladesh. The findings however, appear to have been affected by measurement errors.

Hossain and Ahmed (2009) classified Bangladesh as a managed floating regime. They analyzed both the behavior of the nominal exchange rate and the real exchange rate. They claim, although Bangladesh was committed to maintaining a freely floating regime, its exchange rate policies were not consistent with the characteristics of freely exchange rate policies. He argued, Bangladesh pursues a managed floating rate regime. Shoaib (2009) identified significant and negative relationship between exchange rate volatility and international trade growth in Bangladesh. He used different quantitative techniques by considering the data from May 2003 to December 2008.

All of the studies were conducted on exchange rate under dollar based fiat currency framework. The problem of the dollar as a fiat currency is not identified in any research. In this study the author attempts to identify the dollar based system as a main cause of volatility.

2. Exchange Rate System in Bangladesh

Historically, Bangladesh had been maintaining various pegged exchange rate regimes, such as pegged to pound sterling (£):1972-1979; pegged to a basket of major trading partners' currencies (£ as the intervening currency) 1980-1982; pegged to a basket of major trading partners' currencies (US$ as the intervening currency): 1983-1999; crawling band: 2000-2003; floating exchange rate: May 30, 2003- Present.
The Bangladesh Bank (BB) set foreign currency exchange rate band free from any regulation on May 29, 2003. It came into effect, officially from June 1, Saturday, when banks started to fix buying and selling rates of dollar and other currencies according to supply and demand situation under the free-float system. The attraction of a floating exchange rate system is that, at least in theory, it provides a kind of automatic mechanism for keeping the balance of payments in equilibrium.

The devaluations and their effects on the economy subjected the governments to regular criticism by those affected by the same. Under the floating rate system, the need for official devaluation of the currency will cease. The floating exchange rate system is not totally devoid of official influence. The Bangladesh Bank is likely to resort to buying and selling of foreign currency from time to time to indirectly play a stabilizing role in exchange rate operations.

Donors had also been putting pressure on Bangladesh adopt the floating exchange rate system and reportedly, obtaining foreign assistance from them also depended somewhat on introducing the new floating exchange rate system. Hence, it can be argued that pressure from the International Monetary Fund (IMF) and the World Bank (WB) was an important factor behind the regime change.

3. Condition of Foreign Exchange Market in Bangladesh

Currency reserve in Bangladesh is now $10 billion (July 2012). Though the country has enough reserve to meet its export payment demand, the taka is depreciating day by day. After liberation the price of US dollar (USD) was Tk. 7-8. At that time financial institutions were newly born and state owned. Exchange rate was Tk.14 (During 1975-1978) after denationalization policy was taken in 1976. Historical data to analyze the situation is shown in table I.

Table I: Yearly Exchange Rate-BDT/USD (Fixed Rate Regime)

Year (December 31)	Exchange rate BDT/USD	Yearly Change (%)	Change/decade(%)
1974	08.08		
1975	14.83	83.5%	
1976	14.95	0.81%	
1977	14.40	-3.6%	
1978	14.93	3.6%	
1979	15.64	4.7%	
1980	16.25	3.9%	1975-1988
1981	19.85	22.15%	
1982	24.07	21.25%	
1983 (October)	25.00	3.9%	
1984	26.00	4%	(32.27-
1985	31.00	19.23%	14.83)/14.83
1986	30.00	-3.2%	=117.6%
1987	31.20	4%	
1988	32.27	3.4%	
1990	35.79	10.9%	
1991	38.58	7.8%	1990-2002
1992 (March)	39.90	3.4%	
1993	39.85	-0.13%	
1994	40.25	1.0%	
1995	40.75	1.2%	(49.09-
1998	42.20	3.6%	35.79)/35.79
2000	43.89	4.0%	=37.16%
2002	49.09	11.84%	

Source: Bangladesh Bank

Table II: Yearly Exchange Rate BDT/USD (Floating Rate Regime)

Year (December 31)	Exchange rate BDT/USD	Yearly Change (%)	Change/decade (%)
2003	52.142	6.2%	2003-2012
2004	55.807	7.0%	
2005	57.756	3.5%	
2006	58.150	0.68%	
2007	69.893	20.2%	(82.1-
2008	68.554	-0.02%	52.142)/52.142
2009	69.270	1.0%	=57.45%
2010	70.750	2.1%	
2011	81.990	15.9%	
2012	82.100	0.13%	

Source: Bangladesh Bank

If we observe the exchange rate historically, it is evident that the rate is increasing year after year. Percentage change column shows the ups and downs of the rate and sometimes skyrocketing without any justified reasons. Change over the decade column shows the significant rise of the rate over a decade.

To make the market stable, floating exchange rate system was introduced in May 30, 2003 but the instability of the market continues anyway. The average change in exchange rate was 37.16% (1990-2002) which rose to 57.45% (2003-

2012) under the floating rate regime. Bangladesh did not get the advantages of metallic standard regime due to its birth after second world war and specially after 1971 when the IMF influences all its member countries to covert their gold based exchange rate systems to dollar based one. Bangladesh under this floating regime, will not be able to curb the foreign exchange market as it pertains to the dollar. This fluctuation problem is related to standard of currency and almost the same scenario persists in other south Asian countries neighboring Bangladesh.

Table III: Exchange rate of some third world countries with US dollar (Average January)

Country	2008	2009	2010	2011	2012	(2008-2012) % change
Bangladesh(USD/BDT)	68.554	69.27	70.75	81.99	82.10	19.75%
India (USD/INR)	39.2	48.4	45.8	46.0	53.3	35.96%
Pakistan(USD/PKR)	62.2	79.8	84.9	86.4	90.1	44.85%
Sri Lanka(USD/LKR)	108.83	114.65	115.14	111.84	114.87	5.55%

Source: Central Banks' web

As shown in Table III, in comparison to the average change of currency rate in Bangladesh, 19.75% (2008-2012), the average change of currency rate in India and Pakistan is relatively high 35.96% and 44.85% respectively (2008-2012). India's economic policy reforms of 1991 sought to globalize. At the same time, India moved from a fixed to a floating exchange rate. However, the economy continued to have features of the closed economy and fixed exchange rate regime that had prevailed for a long period, even after rates were supposed to be market determined. Historically, the Indian forex market, which is basically the market for USD-INR (Indian Rupee), has been within 1 to 4 percent monthly volatility. The exchange rate was broadly maintained within 39 to 45 INR in last one year. (Neeti & Sethi, 2011) In December, 2012, the rate stood about INR 55/USD.

The exchange rate regime in Pakistan has gone through five different phases. The first phase (1947-1972) of the Pakistan's exchange rate policy was characterized by a fixed exchange rate regime. In the second phase (1972 – 1982) the rupee was unified and the system of multiple exchange rates, developed in 1960s, was abolished. In the third phase (1982-1998) the rupee was put on the managed float system, and a targeted exchange rate policy was adopted to achieve a target path for the nominal effective rate of PKR (Pakistani Rupee). In the fourth phase (1999-2007) the multiple exchange rate system followed by a fixed pegged system was adopted to run the markets smoothly. In the fifth stage from 2007 onwards, managed floating exchange is in place to alleviate the impact of global financial crises and to put the economy on a growth path. (Nasir et. al., 2012) In spite of taking these initiatives one after another, the rate was not stable, in December, 2012 it stood at about PKR 99/USD.

The investment climate statement- Sri Lanka (2012) published by the US State Department, states Sri Lankan inflation decreased to 6% in 2011 which was double digit in the previous war years. Its exports grew by about 23% whereas imports grew by about 50% resulting in a massive trade deficit of $9 billion, up from $5.2 billion in 2010. In 2009, Sri Lanka received IMF assistance to overcome a balance of payments crisis. Increased foreign commercial borrowing reached $6 billion (4 month of imports) in 2011. The IMF has cautioned Sri Lanka about the declining non borrowed reserves. Despite the widening current account deficit, the Central Bank of Sri Lanka intervened in the foreign exchange markets throughout 2011 to keep the rupee stable until it was depreciated 3% in November. As a result the exchange rate decreased in 2011. The Lankan Rupee (LKR) is still overvalued and rising again. In November 2012, it stands at about LKR132/USD.

From the above discussion it can be concluded that the US dollar is not doing well, the system of dollar as a reserve currency is the main cause of the problem. It is worth mentioning that all of the countries stated above follow the dollar standard regime. It is the fundamental reason behind the turmoil in the foreign exchange market in Bangladesh.

4. Causes of the Instability

The causes of instability in the foreign exchange market in Bangladesh are the exchange rate system under US dollar regime. Because of the fiat currency- the dollar, economy inherently creates inflation. Purchasing power of fiat currency decreases over time which is time value of money. Time value of money concept revolves around interest manifesting as determinant of exchange rate. Elaborately, the causes can be identified as follows-

i) Inflation under dollar regime
ii) Interest rate under dollar regime

Inflation and interest do affect the exchange rate. High inflation increases the exchange rate which would subsequently decrease the demand for various goods in foreign countries. This would decrease foreign currency in the producing country. As a general rule, a country with a consistently lower inflation rate exhibits a rising currency value, as its purchasing power increases relative to other currencies. Countries with higher inflation typically see depreciation in their currency in relation to the currencies of their trading partners. This is also usually accompanied by higher interest rates.

Table IV: Comparison of Inflation and Interest Rate with Exchange Rate

Year	Exchange Rate (Depreciation against Dollar)	CPI Inflation Rate (Average Yearly Change)	Interest Rate (Average Yearly Change)
1972-1974	9.3%	48.3%	35%
1975-1979	9.2%	9.8%	-8%
1980-1982	7.3%	14.0%	2%
1983-1990	7.4%	9.8%	7.8%
1991-1999	1.9%	5.6%	10.2%
2000-2002	7.92%	5.7%	11.4%
2003-2012	6.92%	8.4%	8.2%

Source: Bangladesh Bank (raw data)

Table IV shows the relationship between inflation, interest rate and the exchange rate change over time. Bangladesh experienced high inflation during the early 1970s, caused primarily by excessive monetary expansion. Annual inflation averaged 48% during 1972-74, the highest rate the country had experienced since the 1950s. Exchange rate during this period was depreciated by 9%. The inflation rate situation declined sharply, to about 10% during 1975-79. Exchange rate also depreciated by about 9% a year during this period. In 1979 the government pegged currency to pound sterling (pound was pegged to dollar) as the intervention currency resulting 7% depreciation of exchange rate during the next there years. Since 1983 taka is pegged to dollar till 2002. Exchange rate depreciated by about 7% a year during 1983-1990s. Annual inflations during 1991-99 averaged about 6%, yet the exchange rate depreciated by only 2%. The causes of less depreciation were political instability that affected inflation but not too much on exchange rate. Price spiral after 2000 was significant and crossed the single digit in 2008 (11.8%) though average inflation is single digit from 2000-2012. (5.7%-8.4%)

Interest rates, inflation and exchange rates are all highly correlated. By manipulating interest rates, central bank exerts influence over both inflation and exchange rates and changing interest rates, impact on inflation as well as currency value. Higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract foreign capital and cause the exchange rate to rise. Table IV shows the relationship between interest and exchange rate. In 1975-79 interest rate was negative because of political ramification and financial maneuver. Exchange rate depreciated slightly (1.9%) though average interest rate changed to 10.2% in 1991-1999 due to political instability and turmoil condition in financial market. Other than this incident, the exchange rate was dependent on interest rate like inflation.

After the introduction of a floating exchange rate the volatility appears tremendous. The depreciation of taka from 1990 to 2002 before the introduction of a floating rate was 37.16%. (Table I, 1990-2012) After the introduction, the volatility increases and the depreciation of taka reaches 57.45% (Table I, 2003-2012). Very recent, the turmoil in the foreign exchange market draws attention to this when the value of the taka declined to Tk.85 against the dollar in January, 2012. The extreme upward trend under a floating regime is apparent from July 2010 to January 2012. Conversely, the exchange rate was always volatile and in an upward trend irrespective of pegged, fixed or floating regime as the data above shows (Table I, II & IV).

However, dollar based economy creates more inflation as fiat money has no value itself. Similarly, interest is attached to money as it is the price of money or rate of borrowing or expected return from investment. On the other hand, inflation has impact on exchange rate. Bangladesh is practicing dollar as its currency standard partially or fully from its inception which makes the economy inflationary making exchange market unstable. Statistical data of the foreign exchange rate from 1974 and comparative data of inflation and interest rate (Table IV) make it clear that the bubble economy (dollar based) is the main reason of volatility. United States, being global super power and pioneer of developed economy is stumbling persistently due to its paper based monetary system.(housing bubble, subprime mortgage) Bangladesh as a country of developing economy, by following the currency system suggested by IMF, is facing economic doom manifesting in foreign exchange market volatility. (Table II)

5. Metallic Standard Makes the Market Stable

In metallic standard regime inflation is controlled and purchasing power of currency remains stable over a long period. Metallic regime does not allow supply of money indiscriminately. Before the money supply is to be increased, the monetary base- gold should be increased, that makes the currency stable. On the other hand, in international trade, exchange rate becomes stable due to the gold standard. Historical data of inflation in Britain is presented as a model of controlled inflationary economy under a gold standard regime. Table V shows the minimum inflation under gold a regime and a rising trend after abandoning the gold standard by Bretton Woods.

Table V: Inflation in UK: Gold vs. Fiat Currency Regime (Average Annual Change)

Year	Inflation	Currency Standard
1750-1800	2%	Gold Standard
1801-1851	-1.2%	Gold Standard
1852-1902	0.03%	Gold Standard
1902-1914	0.5%	Gold Standard
1915-1925	5.4%	Gold Abandoned during WW1
1926-1931	-2.1%	Gold Standard
1932-1945	3.8%	Gold Abandoned during WW2
1946-1971	4.4%	Gold Abandoned by Bretton Woods
1972-1993	8.9%	Fiat Currency
1994-2003	2.6%	Fiat Currency
2004-2012	3.1%	Fiat Currency

Source: UK office of National Statistics

As table V shows above, inflation was controlled under the gold standard regime. The change in inflation (1750-1914) was a maximum 2%; on average, percentage change was fractional. This stable inflation made the foreign exchange market stable that was persisted in the gold standard regime. After the First World War (WW1), the gold standard regime ceased to exist and inflation rose to 5.4% (1915-1925). While the gold standard resumed (1926-1931) inflation dropped and there was deflation of 2.1%. After the Second World War (WW2), the gold standard was abandoned again and inflation is persistent at 2.5 to 9.0 percentage range till today. Bangladesh was not born at that time period but the world got the benefit of a gold standard regime.

Findings of the analysis, made on dollar based economic system indicate the requirement of a metallic standard, i.e. gold or silver. It will eradicate the problem we are facing today under dollar based regime. The following points will justify the benefits of a gold standard regime.

i) The gold basis necessitates the balance among gold reserve, real production and money circulation. It ensures the stability of exchange rates between various countries by smoothing the export import balance.

ii) If the gold standard was employed, central banks and governments would not be able to expand the issuance of banknotes without increasing gold reserve, which would control inflation making the price of commodities stable. (Table IV)

iii) Gold standard will make the economy interest free which is one of the main reasons for exchange market volatility.

6. Recommendations and Conclusion

As a gold standard is the most stable currency, the return to the gold standard requires the removal of the reasons that lead to abandoning it and the removal of the factors that lead to its decline. Bangladesh, to save its currency from decline and to turn back economically, requires the following:

- Inflation of the country should be curbed by stopping the fiat currency and restoring the dealings with a gold based currency.
- Interest based economy, i.e. capitalistic economic system should be converted to gold based-real production based economy. It will eradicate interest which is related to market volatility.
- Fixed or floating regime should be converted to controlled open market policy. The government should trade with those countries whose currency will accelerate gold based economy, as USA did during 1971 by converting the currency system of all member countries of IMF into dollar based, surrendering gold reserve to IMF.
- As for it to be implemented, Bangladesh should purchase gold and replace the dollar with it. The economic vision of the country can subdue the hindrances and influence trade partners to adopt gold standard. Inept policies, suggested and unduly influenced by IMF can never pave the way for solution. Independent economic policy of the country with vision to be a regional economic power is inevitable to achieve the goal. Bangladesh, an agricultural country having industrial investment opportunities, seemingly has bright future and penchant for turning into an economic power.

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Taslim Hasan
Lecturer in Finance
Bangladesh Islami University
taslim_ibs@yahoo.com