

Federal Reserve's Influence Over The Bangladeshi Taka

Abstract:

This paper investigates the relationship between the Bangladeshi Taka (BDT) and the U.S. Federal Reserve's monetary policy, particularly the impact of changes in the U.S. Effective Federal Funds Rate (EFFR) on the Taka's valuation. Despite Bangladesh's steady economic growth from 2003 to 2023, the Taka consistently depreciated against the U.S. Dollar, especially during periods of increased EFFR. The study contrasts the Taka's behaviour with other South Asian currencies, finding that the Taka's depreciation pattern is uniquely correlated with EFFR changes, unlike its regional counterparts. This correlation suggests that external factors, specifically U.S. monetary policy, significantly influence the Taka's value. This insight challenges the local perspective attributing the Taka's depreciation solely to domestic policy failures, emphasizing the need for considering global economic influences in the depreciation of the Bangladeshi Taka.

1 Introduction

Bangladesh is a country located in South Asia with a population of over 160 million people. Additionally, as of 2023, it is the 59th largest economy in the world

— in terms of Real GDP — and is one of the fastest-growing economies in the world (“Bangladesh - the World Factbook”). Upon independence from Pakistan in 1971, the newly independent People’s Republic of Bangladesh adopted the Bangladeshi Taka (BDT) as their legal tender which replaced the Pakistani Rupee (PKR). The Bangladeshi Taka entered its new era in June 2003 when it was declared as a floating exchange-rate based currency (Younus and Chowdhury).

After Taka’s entrance into the new era, it lost more than 90% of its value against the US Dollar (Khan).

Specifically, the Bangladeshi Taka enjoyed a relatively stable exchange rate against the US Dollar and sometimes suddenly experienced prolonged periods of devaluation against the US Dollar (Bokov). A weaker Taka has enabled Bangladesh to emerge as one of the leading ready-made garment producers in the world because a weaker Taka has made it more attractive for foreign investors to import Bangladesh ready-made garments (Bergetal.).

However, since 2021, the Taka has lost 27% of its value against the Dollar which has made it more expensive for the Bangladeshi government to fund government projects, such as the Padma Bridge and Dhaka-Chittagong

Elevated Expressway, which are crucial for connecting the capital Dhaka with the rest of the country. Additionally, the depreciation of the Taka against the Dollar has meant

that it will be around US\$70 million costlier for Bangladesh to repay their loans to their foreign creditors (Kashem). These foreign loans enabled Bangladesh to finance many of the current megaprojects in development. Moreover, Bangladesh imports many necessary products, such as food and energy from abroad, which has resulted in the prices of these goods to go up resulting in inflation currently to be at approximately 10% as of 2023 ("Bangladesh Inflation Hits Decade High of 9.94%").

Even though Bangladeshi GDP has grown from around US\$60 billion in 2003 to around US\$460.2 billion in 2022, the Bangladeshi Taka has consistently depreciated against the Dollar since 2003 ("Bangladesh | Data"). Many papers published in the past have looked into the depreciation of the Bangladeshi Taka against the Dollar since 2003. Specifically, a paper published in the *Fortune Institute of International Business* (Goswami et al.) examined the macroeconomic factors which may have contributed to the depreciation of the Bangladeshi Taka such as the money supply components and the gross domestic product. Additionally, another paper by Asad Khan (Khan) focused on the current account deficit of Bangladesh, Foreign Direct Investment (FDI) in Bangladesh, and the government intervention in trying to control the Dollar-To-Taka exchange rate which may have caused the Taka to depreciate against the US Dollar. Other previous papers focused specifically on the Bangladeshi economic factors and the 2011 Bangladeshi Stock Market Crash that may have caused the depreciation of

the Taka. While these papers focused on the macroeconomic factors that may have led to the depreciation of the Taka, the findings in the papers fail to focus on the correlation between the sudden depreciation of the Taka against the Dollar and the Federal Reserve's change in monetary policy, specifically during the periods of sudden hikes in the Effective Federal Funds Rate. Hence, this paper aims to study the correlation between the Federal Reserve's change in monetary policy, specifically increases in the Effective Federal Funds Rate, which soon resulted in the sudden prolonged depreciation of the Taka.

Key words: GDP, Bangladeshi Taka, Federal Fund, Growth influence,

2 The Bangladeshi Journey

2.1 The Economy of Bangladesh

The Bangladesh economy is heavily reliant on exporting ready-made garments to economically developed countries, such as the United States, and garments alone accounted for 80.7% of the total exports and 12.36% of the GDP during the 2016-17 financial year (Paul and Quadir). The garment industry has enabled the Bangladesh economy to experience rapid economic growth since 2003. Bangladesh was one of the few countries in the world to register a GDP growth rate of 7.2% during the 2021-2022 fiscal year right after the coronavirus pandemic started ("Bangladesh Economy, Politics and GDP Growth Summary -the Economist Intelligence Unit"). Even though the country has registered steady economic growth, its currency has steadily depreciated against the Dollar. One

might expect that a strong booming economy's currency would not depreciate over 90% in 20 years, however, in the case of Bangladesh, it is the exact opposite (Banton). Table 1 showcases the nominal GDP, the real GDP growth rate, the inflation rate, the unemployment percentage of Bangladesh from 2003 to 2023, and the Dollar-to-Taka exchange rate of the corresponding years on the 1st of June.

| Table 1. Macroeconomic Indicators vs. Dollar-To-Taka Exchange Rate | | | | | |
|--|----------------------------------|---------------------------------|--------------------------------|------------------------------|------------------------------|
| Year | GDP (In Billions, US \$ Nominal) | Real GDP Growth (In Percentage) | Inflation Rate (In Percentage) | Unemployment (In Percentage) | Dollar-To-Taka Exchange Rate |
| 2003 | 60.1 | +4.4 | +4.6 | 4.3 | 57.95 |
| 2004 | 65.7 | +5.3 | +5.7 | 4.3 | 57.54 |
| 2005 | 69.5 | +6.3 | +10.2 | 4.3 | 63.71 |
| 2006 | 71.8 | +6.0 | +6.8 | 3.6 | 66.10 |
| 2007 | 79.6 | +6.6 | +9.1 | 4.1 | 68.33 |
| 2008 | 91.6 | +7.1 | +8.9 | 4.6 | 67.38 |
| 2009 | 102.5 | +6.0 | +7.6 | 5.0 | 67.58 |
| 2010 | 115.3 | +5.0 | +6.8 | 3.4 | 68.06 |
| 2011 | 128.6 | +5.6 | +10.9 | 3.8 | 73.08 |
| 2012 | 133.4 | +6.5 | +8.9 | 4.1 | 80.48 |
| 2013 | 150.0 | +6.5 | +6.8 | 4.4 | 76.67 |
| 2014 | 172.9 | +6.1 | +7.3 | 4.4 | 76.28 |

| | | | | | |
|------|-------|------|------|-----|--------|
| 2015 | 195.1 | +6.6 | +6.4 | 4.4 | 76.14 |
| 2016 | 265.4 | +7.1 | +5.9 | 4.3 | 76.87 |
| 2017 | 293.7 | +7.3 | +5.4 | 4.4 | 79.08 |
| 2018 | 321.0 | +7.9 | +5.8 | 4.4 | 82.94 |
| 2019 | 353.6 | +8.2 | +5.5 | 4.4 | 82.93 |
| 2020 | 373.1 | +3.5 | +5.6 | 5.4 | 83.36 |
| 2021 | 416.1 | +5.0 | +5.6 | 5.2 | 83.16 |
| 2022 | 460.7 | +6.4 | +6.0 | N/A | 89.21 |
| 2023 | 510.4 | +6.7 | +6.2 | N/A | 107.69 |

Table 1 highlights that the Bangladesh economy has grown steadily from 2003 to 2023 and has always reported a positive GDP growth rate since 2003. Additionally, the inflation rate spiked 10% only twice and inflation averaged around 7.3% during the 20-year period. Moreover, the unemployment rate was relatively constant at around 4%. On the other hand, the Taka did not respond well to the increasing GDP growth rate and depreciated steadily against the US Dollar during the 20-year period from 2003 to 2023. Moving on, Table 2 shows the real interest rate (%) of Bangladesh during the 20-year period from 2003 to 2023 and the corresponding Dollar-To-Taka Exchange Rate ("World Bank Open Data").

| Table 2. Real Interest Rates vs. Dollar-To-Taka Exchange Rate | | |
|---|------------------------|------------------------------|
| Year | Real Interest Rate (%) | Dollar-To-Taka Exchange Rate |
| 2003 | 5.9 | 57.95 |

| | | |
|------|-------|--------|
| 2004 | 5.6 | 57.54 |
| 2005 | 5.8 | 63.71 |
| 2006 | 5.5 | 66.10 |
| 2007 | 5.8 | 68.33 |
| 2008 | 4.7 | 67.38 |
| 2009 | 6.1 | 67.58 |
| 2010 | 4.7 | 68.06 |
| 2011 | 5.1 | 73.08 |
| 2012 | 5.3 | 80.48 |
| 2013 | 6.0 | 76.67 |
| 2014 | 5.5 | 76.28 |
| 2015 | 4.3 | 76.14 |
| 2016 | -13.6 | 76.87 |
| 2017 | 4.3 | 79.08 |
| 2018 | 3.6 | 82.94 |
| 2019 | 5.7 | 82.93 |
| 2020 | 4.3 | 83.36 |
| 2021 | 3.1 | 83.16 |
| 2022 | 2.0 | 89.21 |
| 2023 | 1.97 | 107.69 |

Even though positive real interest rates lead to the appreciation of acurrency in general, the Taka has consistently depreciated against the Dollar(Tarver).InTable2,onerealinterestrategewhichstandsoutis-13.6%

for the year 2016. It is important to note that in 2016, Bangladesh had one of its worst terrorist attacks to date in history when ISIS militants took over a café called Holy Artisan in the capital's Gulshan Thana on July 1st and killed 24 hostages, 17 of them were foreigners who were investing or working in the country's growing ready-made garment and other industries (Hammadi et al.). The 2016 Holy Artisan Attacks led to a sharp decrease in Foreign Direct Investments (FDI) in Bangladesh which may explain the only negative real interest rate of Bangladesh during the 20-year time period (Ayres). Even though the real interest rate during that period was negative, the Taka did not depreciate until much later in 2018 as seen in Table 2.

2.2 The Taka Journey

In Section 2.1, this paper vaguely talked about the Dollar-To-Taka exchange rate and how even with a rising GDP, steady inflation, and a positive real interest rate in 19 out of the 20 years still led to the depreciation of the Taka. However, the Dollar-To-Taka exchange rate that was provided in Table 1 and Table 2 only looked at the corresponding year's 1st June exchange rate. Additionally, the table does not provide any real visualisation on when the Taka really depreciated and at what month of the year, and in which periods from 2003 to 2023 the Taka was relatively stable against the USDollar.

The Taka, unlike major currencies like the US Dollar, has a relatively low trading volume which means that the Dollar-To-Taka exchange rate stays the same most of the time but as seen in Figure 1, the Dollar-To-Taka exchange rate sometimes changes swiftly which leads to depreciation of the Taka (Islam). Therefore, it is extremely necessary to know when the Taka went through its major depreciation periods. Figure 1 provides an annotated analysis of the periods when the Taka depreciated greatly and the respective time periods.

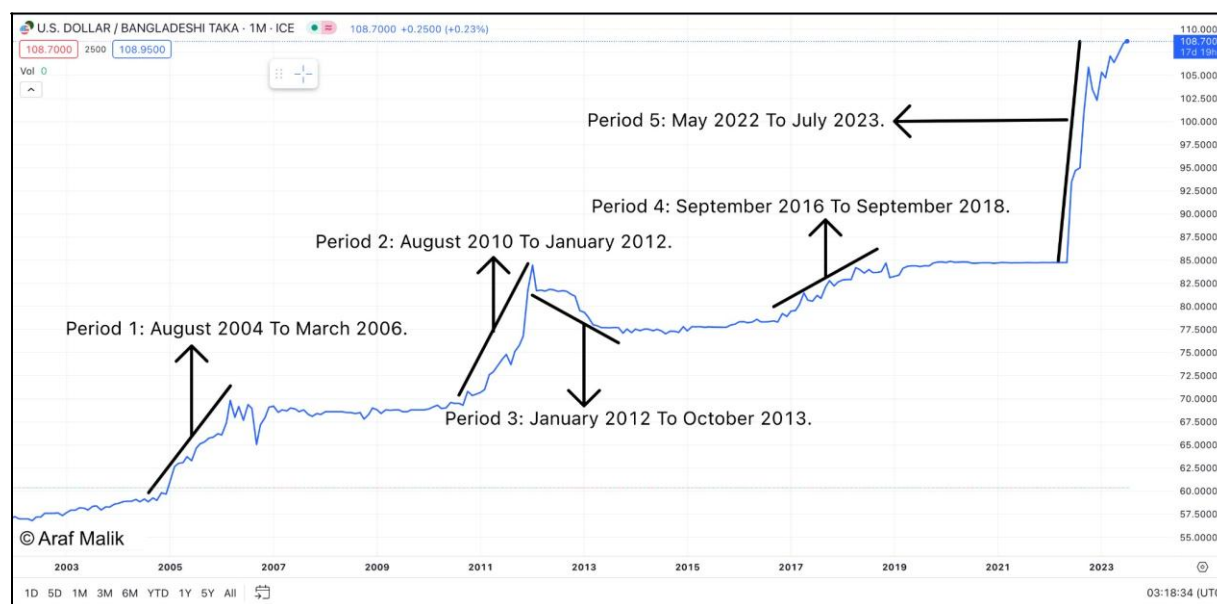


Figure 1 provides an annotated analysis of the periods that the Taka went through depreciation. From 2003 to 2023, there were four periods that the Taka depreciated significantly against the Dollar and there was only one period where the Taka appreciated significantly against the Dollar. It is also important to understand that the Taka remained relatively stable against the Dollar as seen in

Figure1duringthe20-yearperiodfrom2003to2023exceptforthe fiveperiods.Table 3 highlights the changes in the value of the Taka during the five periodswherethevalueoftheTakachangedsignificantly.

| Table3.ChangesInTheValuationofTheBangladeshiTaka | | | |
|--|--|--|---|
| Period | Dollar-To-TakaExchange Rate(At The Start ofPeriod) | Dollar-To-TakaExchange Rate(AtEndofPeriod) | Change InPercentage (ofBangladeshiTaka's Valuation) |
| Period1(August 2004ToMarch 2006) | 57.53 | 67.70 | -17.68% |
| Period2(August 2010ToJanuary 2012) | 68.11 | 82.11 | -20.55% |
| Period3(January 2012ToOctober 2013) | 82.11 | 76.46 | +6.88% |
| Period4 (September 2016To September2018) | 76.35 | 82.26 | -7.74% |
| Period5(May 2022ToJuly 2023) | 87.26 | 108.71 | -24.58% |

As seen in Table 3, Taka's valuation changed significantly during the five periods. At the start of Period 1 (August 2004 to March 2006), the Taka had an exchange rate of 57.53 against the US Dollar but by the end of Period 2 (May 2022 to July 2023), the Taka had an exchange rate of 108.71 against the US Dollar.

2.3 The People's Republic's Journey

In Section 2.1, this paper examined the economy of Bangladesh and through the evaluation of several economic indicators, it was found that the Taka depreciated even though the Bangladesh economy grew every year during the 2003-2023 year period. Even during the 2007-2009 Great Recession in the United States, the Bangladesh economy grew at a 6.66% real GDP growth rate during the 2007-2009 period (Ohnsorge). Moreover, in Section 2.2, this paper closely examined how the evaluation of the Bangladeshi Taka changed during the 2003-2023 year period. Specifically, this paper looked at the periods where the Bangladeshi Taka went through prolonged periods of depreciation and highlighted that the Taka was relatively stable after it went through periods of depreciation.

In this section, this paper is going to look at the different political changes that the People's Republic of Bangladesh went through during the 2003-2023 period and examine whether those political changes might have had an impact on

the Bangladeshi Taka. Additionally, this section would also focus on some brief periods of political instability that Bangladesh went through in the 20-year period.

From 2006 to 2008, Bangladesh went through a political crisis when a caretaker government was declared and Bangladesh saw a rapid escalation of violent protests during this period (Rahman). Elections that were scheduled to have happened in early 2007 were cancelled after protests from the Awami League who claimed that the electoral process favoured the Bangladesh Nationalist Party ("Renewed Violence Hits Bangladesh"). Additionally, there were widespread protests and clashes between the supporters of both of the parties in the country which resulted in 2000 people being wounded and 12 people being killed and led the then President of Bangladesh Iajuddin Ahmed to declare a state of emergency and to cancel the 2007 elections (Sudworth). Moreover, this led to civil liberties being restricted and media being heavily censored and the crisis finally ended in December 2008 after new parliamentary elections were held and the Awami League emerged victorious ("Bangladesh to Hold Local Election"). As seen in Table 3 and Figure 1, the valuation of the Bangladeshi Taka did not seem to depreciate much during the 2006-2008 period and in fact, the Taka seemed to have stopped depreciating immediately after the start of the 2006-2008 Bangladesh political crisis in 2006.

Moving on, in 2009, Bangladesh experienced a mutiny from one of its paramilitary organisations who were tasked with securing the borders of the country (bdnews24.com). The incident came to be known as the Bangladesh Rifles (BDR) mutiny which happened in February 2009 and was a violent uprising which happened in the Pikhana District of Dhaka, the capital of Bangladesh ("Bangladesh: Mass Death Sentences Confirmed"). The mutineers who were composed of BDR soldiers attacked their commanding officers and high-ranking Bangladesh Army officers and assassinated them (Manik). The BDR mutineers also killed their Chief Commanding Officer Director-General Major General Shakil Ahmed and his wife and other 74 high-ranking officials of Bangladesh ("BDR Chief Killed in Hail of Bullets"). The mutiny ended after negotiation with the Prime Minister of Bangladesh. Moreover, after the peace agreement, a Bangladeshi Special Court sentenced 152 former BDR soldiers to death for their involvement in the mutiny (Quadir). For the purposes of this research paper, as seen in Table 3 and Figure 1, the Bangladeshi Taka did not seem to depreciate following February 2009. The Taka did depreciate later in October 2010 which was almost more than two years later.

Bangladesh also went through periods of violence and communal disputes in 2013 when members of the Hindu minority of the country were attacked and their homes were demolished (Pokhare and Hume). In addition to that, there were attacks on atheist bloggers and secularists throughout the country by different

people. To be specific, between 2012 and 2015, around 48 people were killed throughout the country for posting blogs and writing about homosexuality, promoting the diversification of other religions in the country except Islam, promoting atheism and secularism throughout the country that had hurt the sentiments of the Bangladeshi people (Subramanian). Additionally, there were scheduled *hartals* (lit. collective actions), which roughly translates to protests, throughout the country by various members of the Bangladeshi opposition and Islamic parties which saw violent clashes between the police and the protestors and these violent clashes and protests resulted in the death of over 500 people throughout the country ("Over 500 Killed in Political Violence in Bangladesh in 2013"). As for the purposes of this research paper, the Bangladeshi Taka did not depreciate during the 2012 to 2015 time period but seemed to actually appreciate around 6.88% against the US dollar. This is extremely unusual as worsening political instability usually is linked with the depreciation of a nation's currency (Lioudis).

The violence against the Hindu minority again happened in October 2021 when over 50 temples were vandalised all over the country and around 8 people died from violent communal clashes (Zaman). However, like the examples given before, the Taka did not depreciate during the 2021 period when communal violence happened throughout the country. As seen in Table 3 and Figure 1, the

TakadepreciatedalmostmorethanoneyearaftertheattacksagainstHinduswerereportedinthecountryofBangladesh.

2.4 TheBangladeshStockMarketCrash

The Bangladesh Stock Market Crash happened in the year 2011 due to asignificant decline in the stock prices of companies listed on the Dhaka StockExchange (DSE) ("Banks Pumping Money in Share Market: ABB | Business |Bdnews24.Com"). There are several speculations about how the stock marketcrash may have happened. Some sources say that the Bangladeshi stock markethad a period of rapid growth which reached an all-time high in December 2010 toaround 8,500 index points to which Mirza Azizul Islam — former financial adviserofBangladesh— commentedbysayingthatitwas'toohightobenormalandtheactual DSE index points should be between 6000 and 6500' ("500-Point Fall OnlyNormal"). This led to speculations and concerns that influential figures who wereconnected closely to the Bangladeshi government were insider trading to drive upthe prices as early as January 2010 ("Daily New Age.Com"). This led to additionalconcerns about liquidity shortages and regulatory issues which led to the marketsentiment being turned negative and a wave of panic selling began to occur afterconcerns emerged about most of the stocks being overvalued (Chowdhury). Thisled to a total 21% fall in the Dhaka Stock Exchange Index and a total loss ofaround US\$667 million between December 2010 and January 2011 and themarketfellfrom8,500to1,800indexpointsinjusttwomonths(Paul).Itwasthe

only time the Dhaka Stock Exchange fell by about 6700 index points in its almost 65-year history (Banyan).

However, the Bangladesh Securities And Exchange Commission (BSEC) took measures to control the fall by suspending the operations of some brokerage firms that were suspected of insider trading and by launching an investigation into the claims of market manipulation ("I Won't Resign: Muhith | Bangladesh | Bdnews24.Com"). Additionally, the BSEC worked to implement several reforms to improve transparency and restore investor confidence in the DSE ("Why Muhith in Office? Asks Khaleda | Bangladesh | Bdnews24.Com"). Moreover, the former Bangladesh Bank Governor Ibrahim Khaled led a four-man committee that came to the conclusion that the then BSEC Chairman Ziaul Haque Khandaker did not take adequate measures to stop the fall ("Biggest Fall in a Decade at DSE | Bangladesh | Bdnews24.Com"). This led to the dismissal of Ziaul Haque Khandaker and Mohammed Khairul Hossain was appointed the BSEC Chairman on 15 May 2021 (Ahmed). These measures finally restored investor confidence and the DSE rose to around 5,500 index points by October 2011 from around 1,800 points at the start of the year ("Police Disperse Motijheel Protesters | Business | Bdnews24.Com").

For the purposes of this research paper which aims to understand the reasons for the depreciation of the Bangladeshi Taka over the last 20 years from

2003 to 2023, it can be seen from Figure 1 that the value of the Taka depreciated 20.55% from having a Dollar-Taka exchange rate of 68.11 in August 2010 to a Dollar-Taka exchange rate of 82.11 in January 2012. Moreover, it was also seen that after investor confidence was restored in the DSE, the DSE index points rose to around 5,500 in October 2011 and the Taka appreciated 6.88% from having a Dollar-Taka exchange rate of 82.11 in January 2012 to a Dollar-Taka exchange rate of 76.46 in October 2013 and it was the only time that the Taka had a major appreciation during the 20-year period of 2003 to 2023.

3 The Federal Reserve

3.1 The Short Story

The Federal Reserve is the central bank of the United States and it plays a critical role in managing the monetary policy of the United States and is responsible for maintaining a stable financial system (Hayes). The Federal Reserve was established in 1913 and has evolved to become one of the most influential financial institutions in the entire world (Petroff). The main goal of the Federal Reserve is to promote maximum economic growth while ensuring low inflation through using discount rates, effective federal funds rates, and the reserve-deposit ratio to control the money supply in the United States in order to influence the US economy ("Reserve Requirements").

Additionally, the Federal Reserve also oversees and regulates financial institutions to ensure the stability and integrity of the US banking system (Du). Compared to the central bank of many nations around the world, the Federal Reserve operates with a high degree of independence from the U.S. government to avoid monetary policy decisions being influenced by politics (Beers).

Finally, one key issue that the Federal Reserve tries to address is by ensuring that the output gap between the potential GDP and the actual GDP of the United States is reduced as much as possible (Zucchi). They solve their issues by adjusting different requirements for banks such as the Effective Federal Funds Rate (Clarine). They often increase the Effective Federal Funds Rate in order to slow down the economy in order to reduce inflation in the United States (Silver). This often leads to the rise in the valuation of the United States Dollar as the money supply in the US economy is heavily reduced during the contractionary monetary policy period when the Federal Reserve increases the Effective Federal Funds Rate (Hyatt).

3.2 The Effective Federal Fund Rates

The Effective Federal Funds Rate is the interest rate at which banks and other depository institutions lend reserve balances to each other overnight to usually meet their reserve requirements and is the basis for all interest rates in the United States. The Effective Federal Funds Rate is set by the members of the

Federal Open Market Committee (FOMC) who work within the US Federal Reserve (Chen). The Federal Reserve usually manipulates the Effective Federal Funds Rate as part of its monetary policy to regulate economic activity. In some cases, the Federal Reserve lowers the Effective Federal Funds Rates in order to encourage economic growth and in some cases, the Federal Reserve increases the Effective Federal Funds Rate to reduce inflation and slow down the economy (Bermejo Carbonell and Werner). For example, during the Great Recession of 2007 to 2009, the Effective Federal Funds Rate was slashed to a record-low target of almost 0% in an attempt to encourage economic growth and stimulate the aggregate demand side of the economy. By controlling the Effective Federal Funds Rate, the Federal Reserve at the end of the day controls the money supply in the United States and the overall economic outlook of the country ("FRB: Press Release--Board Announces That It Will Begin to Pay Interest on Depository Institutions Required and Excess Reserve Balances--October 6, 2008"). Table 4 shows the US Effective Federal Funds Rate between 2003 to 2023.

| Table 4. Effective Federal Funds Rate of The United States | | |
|--|--|---|
| Year | Effective Federal Funds Rate, In Percentage(%) | Change From Previous Year, In Percentage(%) |
| 2003 | 1.26 | Not Applicable |
| 2004 | 1.00 | -0.26 |
| 2005 | 2.29 | +1.29 |

| | | |
|------|------|----------|
| 2006 | 4.30 | +2.01 |
| 2007 | 5.26 | +0.96 |
| 2008 | 3.93 | -1.33 |
| 2009 | 0.16 | -3.77 |
| 2010 | 0.17 | +0.01 |
| 2011 | 0.08 | -0.09 |
| 2012 | 0.08 | NoChange |
| 2013 | 0.14 | +0.06 |
| 2014 | 0.07 | -0.07 |
| 2015 | 0.12 | +0.05 |
| 2016 | 0.36 | +0.24 |
| 2017 | 0.66 | +0.30 |
| 2018 | 1.42 | +0.76 |
| 2019 | 2.40 | +0.98 |
| 2020 | 1.55 | -0.85 |
| 2021 | 0.09 | -1.46 |
| 2022 | 0.08 | -0.01 |
| 2023 | 4.33 | +4.25 |

As seen in Table 4, there were a few years when the Effective Federal Funds Rate had major changes and went through prolonged consecutive periods of positive changes. As seen in Table 4, from 2004 to 2007, the Effective Federal Funds Rate went through massive three periods of prolonged positive increases from 1.00% to 5.26% during the three-year period. Additionally, as seen in Table

4, the Effective Federal Funds Rate went through prolonged consecutive periods of positive changes from 2015 to 2019 when the Effective Federal Funds Rate went from 0.12% to 2.40% during the four-year period. Finally, even though the Effective Federal Funds Rate did not go through a consecutive period of positive changes from 2022 to 2023, it can be seen that the Effective Federal Funds Rate jumped from only 0.08% to 4.33%.

Upon examining Table 3, it can be seen that the Taka depreciated greatly from 2004 to 2006, 2010 to 2012, 2016 to 2018, and from 2022 to 2023. In the four periods, the Taka depreciated from having a Dollar-To-Taka exchange rate of 57.53 in 2003 to having a Dollar-To-Taka exchange rate of around 108.71 as of July 2023. Aware of the years when the Taka depreciated greatly and taking a glance at Table 4, it can be seen that from 2004 to 2007, 2015 to 2019, and from 2022 to 2023, the value of the Effective Federal Funds Rate had major positive changes and these were roughly the years that the Taka had a major depreciation. One odd year in Table 3 is the period from 2010 to 2012 when the Taka depreciated -20.55% against the Dollar likely due to the Bangladesh Stock Market Crash but eventually the Taka appreciated by +6.88% against the Dollar from 2012 to 2013 — the only time the Taka appreciated against the Dollar from 2003 to 2023. The next section of this paper will graphically examine how the increases in the Effective Federal Funds Rate set by the Federal Reserve have greatly influenced and are closely correlated with the depreciation of the

Bangladeshi Taka. Section 5.1 of this paper then will try to highlight some of the limitations of the correlation found between the depreciation of the Taka and the increases in the Effective Federal Fund Rates.

4 The Unexpected Pictures

4.1 The Linear Picture

In Section 3.2 of this paper, it was examined how the increases in the Effective Federal Funds Rate which is controlled by the Federal Reserve correlated with the depreciation of the Taka in the past 20 years. This section of the paper will try to examine more closely the relationship between the increases in the Effective Federal Fund Rates and the depreciation of the Taka. Table 5 shows the values of the Dollar-To-Taka exchange rate during the start of the periods that the Taka went through major depreciations and the values of the Dollar-To-Taka exchange rate during the end of the periods and the corresponding average Effective Federal Funds Rates during that year.

| Table 5. Changes In The Valuation of The Bangladeshi Taka | | |
|---|------------------------------|---|
| Period | Dollar-To-Taka Exchange Rate | Average Effective Federal Funds Rate, In Percentage(%). |
| Start of Period 1: August 2004 | 57.33 | 1.00 |

| | | |
|------------------------------------|--------|------|
| End of Period 1:March2006 | 67.70 | 4.30 |
| Start of Period 2:August2010 | 68.11 | 0.17 |
| End of Period 2:January2012 | 82.11 | 0.08 |
| Start of Period 3:January2012 | 82.11 | 0.08 |
| End of Period 3:October2013 | 76.46 | 0.14 |
| Start of Period 4:September2016 | 76.35 | 0.36 |
| End of Period 4:September2018 | 82.26 | 1.42 |
| Start of Period 5:May2022 | 87.26 | 0.08 |
| End of Period 5:July2023 | 108.71 | 4.33 |

Table5showsdatathathighlightstheDollar-To-Takaexchange rateandtheEffectiveFederalFundRatesduringthestartoftheperiodsandthe Dollar-To-Taka exchange rate and the Effective Federal Funds Rate during theendoftheperiods.ItcanbeseenclearlythatduringPeriod1,Period2,Period4,

and Period 5, the Taka depreciated against the dollar greatly. It can also be determined from Table 5 that during the start of Period 1, Period 4, and Period 5, the Effective Federal Funds Rate were considerably lower than they were at the ends of the respective periods.

Moreover, as seen in Table 5, Period 2 and Period 3 were the timeframes where the Taka depreciated and appreciated against the USDollar independent of the Effective Federal Funds Rate which may be due to the Bangladesh Stock Market Crash. As explained in detail in Section 2.4, the Bangladesh Stock Market Crash of 2011 was the most severe stock market crash in Bangladesh and may have led to the depreciation of the Bangladeshi Taka against the Dollar in Period 2. However, the actions taken by the Bangladesh Securities And Exchange Commission restored investor confidence in the Dhaka Stock Exchange (DSE) which may have caused the appreciation of the Taka during Period 3. In fact, Period 3 was the only timeframe between 2003 and 2023 when the Bangladeshi Taka appreciated against the Dollar.

Figure 2 shows a graphical analysis of the relationship between the Bangladeshi Taka and the Effective Federal Funds Rate. Period 2 and Period 3 and their corresponding Dollar-To-Taka Exchange Rate and the Effective Federal Funds Rate have been left out from Figure 2 because it can be considered as explained in the previous paragraph and Section 2.4 that the cause of the

depreciation of the Taka in Period 2 and the cause of the appreciation of the Taka in Period 3 may have been due to the Bangladesh Stock Market Crash.

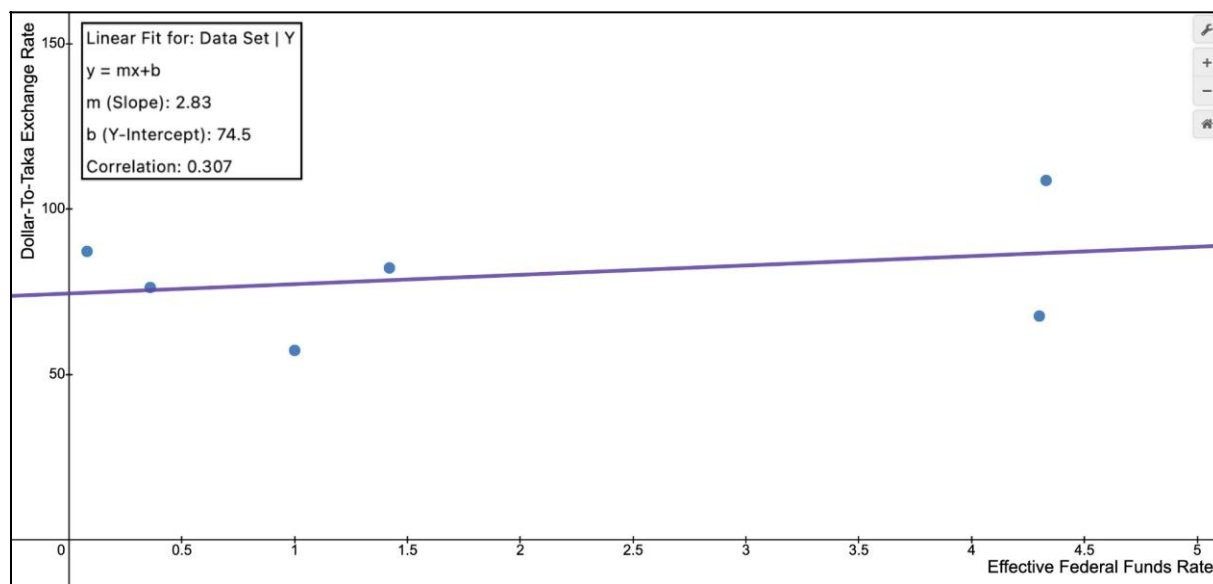


Figure2: Graphical Relationship Between The Dollar-To-Taka Exchange Rate And The Effective Federal Funds Rate.

Based on the graphical analysis from Figure 2, it can be determined that indeed there seem to be a medium-correlating relationship between the Dollar-To-Taka exchange rate and the Effective Federal Funds Rate. From Figure 2 it can be seen that the slope of the period plotted is 2.83 which indicated that a 2.83 increase in the Effective Federal Funds Rate would be roughly 1 increase in the Dollar-To-Taka exchange rate and when the Effective Federal Funds Rate would be 0, the Dollar-To-Taka exchange rate would roughly be equal to 74.5. However, the data and the graphical analysis do not correspond with Table 5 and

the analysis is done prior to the introduction of Figure 2. One possible explanation of why that might be the case is because the correlation between the Dollar-To-Taka exchange rate and the Effective Federal Funds Rate is about 0.307 which shows that it has a low correlation. Even though the graph does not accurately represent the data from Table 5, it provides an overview that the increase in the Effective Federal Funds Rate is likely to depreciate the Taka and increase the Dollar-To-Taka exchange rate which is evident due to the positive correlation found in the graphical analysis.

Another possible factor why the graph's relationship is not an accurate representation of the data in Table 5 is because the relationship between the Effective Federal Funds Rate and the Dollar-To-Taka exchange rate from 2003 to 2023 is not clearly explainable through equations. Table 6 in detail shows the Dollar-To-Taka exchange rate and the corresponding Effective Federal Funds Rate for every single year between 2003 and 2023.

| Table 6. Effective Federal Funds Rate of The United States vs. The Dollar-To-Taka Exchange Rate. | | |
|--|---|----------------------------------|
| Year | Effective Federal Funds Rate, In Percentage (%) | The Dollar-To-Taka Exchange Rate |
| 2003 | 1.26 | 57.95 |
| 2004 | 1.00 | 57.54 |
| 2005 | 2.29 | 63.71 |

| | | |
|------|------|--------|
| 2006 | 4.30 | 66.10 |
| 2007 | 5.26 | 68.33 |
| 2008 | 3.93 | 67.38 |
| 2009 | 0.16 | 67.58 |
| 2010 | 0.17 | 68.06 |
| 2011 | 0.08 | 73.08 |
| 2012 | 0.08 | 80.48 |
| 2013 | 0.14 | 76.67 |
| 2014 | 0.07 | 76.28 |
| 2015 | 0.12 | 76.14 |
| 2016 | 0.36 | 76.87 |
| 2017 | 0.66 | 79.08 |
| 2018 | 1.42 | 82.94 |
| 2019 | 2.40 | 82.93 |
| 2020 | 1.55 | 83.36 |
| 2021 | 0.09 | 83.16 |
| 2022 | 0.08 | 89.21 |
| 2023 | 4.33 | 107.69 |

As seen in Table 6, when the Effective Federal Funds Rates were decreased anytime between 2003 and 2023, the Bangladeshi Taka did not seem to appreciate significantly against the US Dollar. However, as seen in Table 6, whenever the Effective Federal Funds Rates were increased, it seemed to have caused the Bangladeshi Taka to depreciate against the US Dollars significantly.

This may be one of the reasons why Figure 2 may not be the most accurate representation of the Effective Federal Funds Rates and the Dollar-To-Taka exchange rate. Nevertheless, the correlation of 0.307 seen in Figure 2 seems to highlight that there is a positive correlation between the Effective Federal Funds Rates and the Dollar-To-Taka exchange rate and seems to suggest that whenever the Effective Federal Funds Rates are going to be increased, it is going to increase the Dollar-To-Taka exchange rate and thus depreciate the Bangladeshi Taka.

4.2 The Full Picture

In Section 4.1 of this paper it was examined and explained that whenever the Federal Reserve seems to have increased the Effective Federal Funds Rates, it depreciated the Bangladeshi Taka between 2003 and 2023. This section of the paper is going to try to explain why the Bangladeshi Taka is so vulnerable to increases in the Effective Federal Funds Rates.

One of the first reasons that may have caused the Bangladeshi Taka to be vulnerable to changes in the Effective Federal Funds Rates is because of Bangladesh's mediocre credit rating. Bangladesh is graded by Moody's Investors Service to have a rating of B1 and Moody's Investors Service defines a B1 rating as a high credit-risk nation that has some speculative elements ("Moody's - Credit Ratings"). Additionally, Fitch Ratings incorporates Bangladesh to be a BB-

nation and Fitch Ratings Incorporation claims a BB- nation is a nation with a stable economic outcome that may be prone to changes due to political situations. Fitch Ratings Incorporation also claims that Bangladesh received a BB- rating because Bangladesh ranks in 177th place in the World Bank's Ease of Doing Business report ("Fitch Affirms Bangladesh at "BB-"). It may be speculated that due to Bangladesh not having a stellar rating when it comes to credit rating, the Bangladeshi Taka is more vulnerable to changes in the Effective Federal Funds Rates.

Additionally, one of the reasons the Bangladeshi Taka is vulnerable to the Effective Federal Funds Rate may be because of the worsening ranks of Bangladesh in the World Bank's Ease of Doing Business Report. Table 6 shows the rank of Bangladesh in the Ease of Doing Business Report from 2006 to 2020.

| Table 7. Bangladesh's Rank in World Bank's Ease of Doing Business Report | |
|--|---------------------------------------|
| Year | Rank in Ease of Doing Business Report |
| 2006 | 65 |
| 2007 | 88 |
| 2008 | 107 |
| 2009 | 110 |
| 2010 | 119 |
| 2011 | 107 |

| | |
|------|-----|
| 2012 | 122 |
| 2013 | 129 |
| 2014 | 130 |
| 2015 | 173 |
| 2016 | 174 |
| 2017 | 176 |
| 2018 | 177 |
| 2019 | 176 |
| 2020 | 168 |

As seen in Table 7, the rank of Bangladesh in the World Bank's Ease of Doing Business Report has gradually decreased since 2006. This may be one of the reasons why the Bangladeshi Taka has been vulnerable to increases in the Effective Federal Funds Rates. It can be speculated that due to Bangladesh gradually climbing down the ranks of the Ease of Doing Business Report, the demand of the Bangladeshi Taka may have been reduced in the Foreign Exchange Market which may have caused the Bangladeshi Taka to be traded less. Additionally, one key piece of information to note is that currencies are usually listed as forepairs and in the Foreign Exchange Market, the Bangladeshi Taka is listed as USD/BDT — where USD is the base currency and BDT is the quote currency. In the USD/BDT currency pair, when the value of the base currency which is the USD goes up, the value of the Bangladeshi Taka which is BDT goes down. It may be speculated that due to the demand for Bangladeshi

Taka decreasing in the Foreign Exchange Market, the USD/BDT pair's volume decreased significantly but the volume only increased when the Effective

Federal Funds Rate was increased by the Federal Reserve in order to decrease inflation in the United States. This may have caused the value of the USD/BDT to go up which depreciated the Bangladeshi Taka each time the Effective Federal

Funds Rate was increased by the Federal Reserve. However, when the Effective Federal Funds Rate was decreased in the United States in order to promote economic growth, especially during the late 2000s after the Great Recession, the value of the USD/BDT did not decrease as even though the Dollar usually depreciates when the Effective Federal Funds Rate are decreased, the demand for the Bangladeshi Taka was low in the Foreign Exchange Market due to Bangladesh climbing down in the Ease of Doing Business Report rank and for this reason, the Bangladeshi Taka may not have appreciated during the late 2000s when the Effective Federal Funds Rates were at their lowest.

One exception to the depreciation of the Bangladeshi Taka which was independent of the Effective Federal Funds Rates was during Period 2

shortly after the Bangladesh Stock Market Crash in 2011 as seen in Table 5. However, as seen in Table 5, the Bangladeshi Taka actually appreciated against the US Dollar after the Dhaka Stock Exchange (DSE) in Bangladesh — the primary stock exchange which was affected during the Bangladesh Stock Market Crash — was able to restore investor confidence within a year. In fact, Period 3 as seen in Table

5 was the only time that the Bangladeshi Taka significantly appreciated against the US Dollar between 2003 and 2023.

However, it is important to note that the reasoning provided in this section is a speculation of why the Bangladeshi Taka is vulnerable to the increases in the Effective Federal Funds Rate. This section aimed to show that one of the reasons the Bangladeshi Taka did not appreciate even after the positive economic indicators as discussed in Section 2.1 may have been because of the low demand for the Bangladeshi Taka in the Foreign Exchange Market as Bangladesh slowly became a considerably harder country to do business in. This caused the value of the Bangladeshi Taka to be relatively the same against the US Dollar in the past 20 years from 2003 to 2023 as seen in Figure 1 except when the Bangladeshi Taka depreciated significantly whenever the Effective Federal Funds Rates were increased.

4.3 The Bigger Picture

In Section 4.2, the possible reasons why the Bangladeshi Taka is vulnerable to the Effective Federal Funds Rate from 2003 to 2023 were examined. Additionally, Section 4.1 of this paper showed the relationship between the Effective Federal Funds Rate and the Dollar-To-Taka exchange rate. This section of this paper is going to try to examine whether the Bangladeshi Taka is the only currency in the South Asian region to be affected by increases in Effective Federal

FundsRateorwhetherthereareothercurrenciesintheregionthatfacethesame scenario.

In order to study whether the Bangladeshi Taka is the only currency in the South Asian region to be vulnerable to the Effective Federal Funds Rate or not, it is first necessary to fully determine what are the 'South Asian' countries.

According to the United Nations Geoscheme, the South Asian countries are the Islamic Emirate of Afghanistan, the People's Republic of Bangladesh, the Kingdom of Bhutan, the Republic of India, the Islamic Republic of Iran, the Republic of Maldives, the Federal Democratic Republic of Nepal, the Islamic Republic of Pakistan and the Democratic Socialist Republic of Sri Lanka ("UNSD —Methodology"). However, for the purposes of this research paper, countries that have a similarity rating close to Bangladesh are only going to be considered as part of South Asia in this research. According to Objective Lists, the top three countries that are most similar to Bangladesh are as follows:

1. India,
2. Pakistan and
3. Sri Lanka (Jones).

According to the list, the countries that are both similar to Bangladesh and are considered to be part of South Asia by the United Nations Geoscheme are

India, Pakistan, and Sri Lanka. Therefore, this section of the paper is going to look at the valuation of the Indian Rupee, the Pakistani Rupee, and the Sri Lankan Rupee between 2003 and 2023 and whether they are significantly affected by changes in the Effective Federal Funds Rate. Table 8 focuses on the valuation of the Indian Rupee and the Effective Federal Funds Rate between 2003 and 2023.

Table 8. Effective Federal Funds Rate of The United States vs. The Dollar-To-Indian Rupee Exchange Rate

| Year | Effective Federal Funds Rate, In Percentage (%) | The Dollar-To-Indian Rupee Exchange Rate |
|------|---|--|
| 2003 | 1.26 | 45.00 |
| 2004 | 1.00 | 43.50 |
| 2005 | 2.29 | 44.50 |
| 2006 | 4.30 | 45.50 |
| 2007 | 5.26 | 41.50 |
| 2008 | 3.93 | 50.00 |
| 2009 | 0.16 | 47.50 |
| 2010 | 0.17 | 45.00 |
| 2011 | 0.08 | 49.00 |
| 2012 | 0.08 | 55.00 |
| 2013 | 0.14 | 61.00 |
| 2014 | 0.07 | 63.50 |
| 2015 | 0.12 | 66.00 |
| 2016 | 0.36 | 67.00 |
| 2017 | 0.66 | 65.00 |

| | | |
|------|------|-------|
| 2018 | 1.42 | 70.00 |
| 2019 | 2.40 | 71.00 |
| 2020 | 1.55 | 75.00 |
| 2021 | 0.09 | 76.53 |
| 2022 | 0.08 | 82.20 |
| 2023 | 4.33 | 81.75 |

As seen in Table 8, from 2003 to 2006 when the Effective Federal Funds Rate was increased from 1.26% in 2003 to 4.30% in 2006, the Dollar-To-Indian Rupee exchange rate was not affected virtually at all. The Indian Rupee only depreciated from having a Dollar-To-Indian Rupee exchange rate of 45.00 in 2003 to having a Dollar-To-Indian Rupee exchange rate of 45.50 in 2006. Additionally, when the Effective Federal Funds Rate seemed to be decreased in 2007 from 5.26% to around 0.07% at the end of 2014, the Dollar-To-Indian Rupee exchange rate increased from 41.50 in 2007 to a Dollar-To-Indian Rupee exchange rate of 63.50 in 2014. This shows that when the Effective Federal Funds Rate was decreased from 2007 to 2014, the Indian Rupee seemed to be actually depreciating against the Dollar even when the Effective Federal Funds Rate was decreased. Moreover, when the Effective Federal Funds Rate was increased from 0.12% in 2015 to around 1.42% in 2018, the Dollar-To-Indian Rupee exchange rate increased from 63.50 in 2014 to 70.00 in 2018. During 2014 and 2018, the Indian Rupee depreciated against the US Dollar when the Effective Federal Funds Rate was increased. This contradicts what happened between 2007 to 2014 when

the Indian Rupee actually depreciated against the US Dollar when the Effective Federal Funds Rate was decreased. Additionally, from 2019 to 2023 when the Effective Federal Funds Rate was around 2.40% in 2019 which was increased to 4.33% in 2023, the Dollar-To-Indian Rupee exchange rate changed from 71.00 in 2019 to around 81.75 in 2023. This shows that during 2019 and 2023, when the Effective Federal Funds Rate was increasing, the Indian Rupee depreciated against the US Dollar. In short, it can be determined unlike the Bangladeshi Dollar, the Indian Rupee depreciated against the US Dollar and is not dependent on the Effective Federal Funds Rate like the Bangladeshi Taka as during some years like from 2007 to 2014, the Indian Rupee depreciated when the Effective Federal Funds Rate was decreased but from 2019 to 2023, the Indian Rupee depreciated when the Effective Federal Funds Rate was increased. Table 9 focuses on the evaluation of the Pakistani Rupee and the Effective Federal Funds Rate between 2003 and 2023.

Table 9. Effective Federal Funds Rate of The United States vs. The Dollar-To-Pakistani Rupee Exchange Rate

| Year | Effective Federal Funds Rate, In Percentage (%) | The Dollar-To-Pakistani Rupee Exchange Rate |
|------|---|---|
| 2003 | 1.26 | 57.00 |
| 2004 | 1.00 | 59.50 |
| 2005 | 2.29 | 59.00 |
| 2006 | 4.30 | 60.00 |
| 2007 | 5.26 | 60.50 |

| | | |
|------|------|--------|
| 2008 | 3.93 | 70.50 |
| 2009 | 0.16 | 80.00 |
| 2010 | 0.17 | 85.00 |
| 2011 | 0.08 | 87.50 |
| 2012 | 0.08 | 95.00 |
| 2013 | 0.14 | 105.00 |
| 2014 | 0.07 | 102.00 |
| 2015 | 0.12 | 104.50 |
| 2016 | 0.36 | 104.50 |
| 2017 | 0.66 | 105.50 |
| 2018 | 1.42 | 138.00 |
| 2019 | 2.40 | 156.00 |
| 2020 | 1.55 | 160.00 |
| 2021 | 0.09 | 175.00 |
| 2022 | 0.08 | 225.00 |
| 2023 | 4.33 | 280.00 |

As seen in Table 9, from 2003 to 2006 when the Effective Federal Funds Rate was increased from 1.26% in 2003 to 4.30% in 2006, the Dollar-To-Pakistani Rupee exchange rate was not affected virtually at all. The Pakistani Rupee only depreciated from having a Dollar-To-Pakistani Rupee exchange rate of 57.00 in 2003 to having a Dollar-To-Pakistani Rupee exchange rate of 60.00 in 2006. Additionally, when the Effective Federal Funds Rate seemed to be decreased in 2007 from 5.26% to around 0.07% at the end of 2014, the Dollar-To-Pakistani

Rupee exchange rate increased from 60.50 in 2007 to a Dollar-To-Pakistani Rupee exchange rate of 102.00 in 2014. This shows that when the Effective Federal Funds Rate was decreased from 2007 to 2014, the Pakistani Rupee seemed to be also depreciating against the Dollar. Moreover, when the Effective Federal Funds Rate was increased from 0.12% in 2015 to around 1.42% in 2018, the Dollar-To-Pakistani Rupee exchange rate increased from 102.00 in 2014 to 138.00 in 2018. Additionally, from 2019 to 2023 when the Effective Federal Funds Rate was around 2.40% in 2019 which was increased to 4.33% in 2023, the Dollar-To-Pakistani Rupee exchange rate changed from 156.00 in 2019 to around 280.00 in 2023. This shows that during 2019 and 2023, when the Effective Federal Funds Rate was increased, the Pakistani Rupee depreciated against the US Dollar. In short, unlike the Bangladeshi Taka, the Pakistani Rupee depreciated against the US Dollar and is not dependent on the Effective Federal Funds Rate. This is exemplified in Table 9 as it can be seen that the Pakistani Rupee depreciated against the US Dollar regardless of whether the Effective Federal Funds Rate was increased or decreased. Table 10 focuses on the evaluation of the Sri Lankan Rupee and the corresponding Effective Federal Funds Rate between 2003 and 2023.

Table 10. Effective Federal Funds Rate of The United States vs. The Dollar-To-Sri Lankan Rupee Exchange Rate

| Year | Effective Federal Funds Rate, In Percentage (%) | The Dollar-To-Sri Lankan Rupee Exchange Rate |
|------|---|--|
| 2003 | 1.26 | 101.00 |

| | | |
|------|------|--------|
| 2004 | 1.00 | 100.50 |
| 2005 | 2.29 | 100.00 |
| 2006 | 4.30 | 103.00 |
| 2007 | 5.26 | 109.00 |
| 2008 | 3.93 | 114.00 |
| 2009 | 0.16 | 114.50 |
| 2010 | 0.17 | 112.50 |
| 2011 | 0.08 | 111.00 |
| 2012 | 0.08 | 131.00 |
| 2013 | 0.14 | 130.00 |
| 2014 | 0.07 | 131.00 |
| 2015 | 0.12 | 141.00 |
| 2016 | 0.36 | 145.00 |
| 2017 | 0.66 | 153.00 |
| 2018 | 1.42 | 160.00 |
| 2019 | 2.40 | 181.00 |
| 2020 | 1.55 | 184.00 |
| 2021 | 0.09 | 195.00 |
| 2022 | 0.08 | 360.00 |
| 2023 | 4.33 | 330.00 |

As seen in Table 10, from 2003 and 2006 when the Effective Federal Funds Rate was increased from 1.26% in 2003 to 4.30% in 2006, the Dollar-To-Sri Lankan Rupee exchange rate was not affected virtually at all. The Sri Lankan

Rupee only depreciated from having a Dollar-To-Sri Lankan Rupee exchange rate of 101.00 in 2003 to having a Dollar-To-Sri Lankan Rupee exchange rate of 103.00 in 2006. Additionally, when the Effective Federal Funds Rate seemed to be decreased in 2007 from 5.26% to around 0.07% at the end of 2014, the Dollar-To-Sri Lankan Rupee exchange rate increased from 109.00 in 2007 to a Dollar-To-Sri Lankan Rupee exchange rate of 131.00 in 2014. This shows that when the Effective Federal Funds Rate was decreased from 2007 to 2014, the Sri Lankan Rupee seemed to be also depreciating against the Dollar. Moreover, when the Effective Federal Funds Rate was increased from 0.12% in 2015 to around 1.42% in 2018, the Dollar-To-Sri Lankan Rupee exchange rate increased from 131.00 in 2014 to 160.00 in 2018. Additionally, from 2019 to 2023 when the Effective Federal Funds Rate was around 2.40% in 2019 which increased to 4.33% in 2023, the Dollar-To-Sri Lankan Rupee exchange rate changed from 181.00 in 2019 to around 330.00 in 2023. In short, unlike the Bangladeshi Taka, the Sri Lankan Rupee depreciated against the US Dollar and is not dependent on the Effective Federal Funds Rate. This is exemplified in Table 10 as it can be seen that the Sri Lankan Rupee depreciated against the US Dollar regardless whether the Effective Federal Funds Rate was increased or decreased between 2003 and 2023.

In Section 4.3, it was seen that countries that are similar to Bangladesh like India, Pakistan and Sri Lanka were not affected at all by decreases or increases in

the Effective Federal Funds Rate. Most notably, the currency of India, which is the Indian Rupee, seemed to depreciate sometimes when the Effective Federal Funds Rate was decreased such as between 2007 and 2014 and sometimes seemed to depreciate when the Effective Federal Funds Rate was increased such as between 2019 and 2023 which shows that the Indian Rupee is not affected at all by increases in the Effective Federal Funds Rate. Additionally, the Sri Lankan Rupee and the Pakistani Rupee seemed to be depreciating between 2003 and 2023 no matter whether the Effective Federal Funds Rate was increased or decreased which shows that increases or decreases in the Effective Federal Funds Rate did not affect the Sri Lankan and the Pakistani Rupee at all between 2003 and 2023.

5 The Finish Line

5.1 The Leaks

Throughout the research paper, the main objective was to highlight the Federal Reserve's influence over the Bangladeshi Taka which was done through highlighting how a rise in Effective Federal Funds Rate which is determined by the Federal Reserve often led to the depreciation of the Bangladeshi Taka. The objective of this paper was achieved based on the correlation between the increases of the Effective Federal Funds Rate and how they led to the increase of the Dollar-To-Taka exchange rate and the devaluation of the Bangladeshi Taka.

However, correlation necessarily may not mean causation. Even though factors such as political events, economic indicators such as GDP growth and economic incidents such as the Bangladesh Stock Market Crash of Bangladesh were thoroughly analysed in the entirety of Section 2 of this paper, it seemed that the Taka did not appreciate against the US Dollar no matter how well the Bangladesh economy was doing and the increases in the Effective Federal Funds Rate seemed to show whenever there was an increase in it, the Bangladeshi Taka depreciated between 2003 and 2023. One exception to this that was found was during the Bangladesh Stock Market Crash when the Taka depreciated even when the Effective Federal Funds Rate was not increased but the Taka did appreciate, the only time between 2003 and 2023, against the US dollar when investor confidence was restored after the Bangladesh Stock Market Crash. Nevertheless, except an exception, overwhelming evidence shows that the increases in the Effective Federal Funds Rate seemed to be the cause of depreciation of the Bangladeshi Taka as even terrorist attacks were not able to depreciate the Taka.

However, it may be a coincidence that the Taka only depreciated against the Effective Federal Funds Rate only between 2003 and 2023. One possible reason why there is a possibility of it being a coincidence is that other countries in the South Asian region which have a similarity index that is closer to Bangladesh such as India, Pakistan and Sri Lanka do not seem to have the depreciation of

their currencies based on the increases of Effective Federal Funds Rate. In order to confirm whether this is an indeed coincidence or not, it may be necessary to study whether increases in the Effective Federal Funds Rate seem to depreciate the Bangladeshi Taka or not in the next 20 years such as between 2023 and 2043 when more data would be available as it is not possible to find old data as the Bangladeshi Taka entered the floating exchange rate regime only in May 30, 2003 (Younus and Chowdhury).

5.2 conclusion

The research paper aimed to address one key area that many intellectual economists were not looking at when evaluating the depreciation of the Bangladeshi Taka: foreign factors. Papers mentioned at the start of this research paper in Section 1 such as by the Fortune Institute of International Business seemed to only focus on the macroeconomic factors of Bangladesh when trying to understand the devaluation of the Bangladeshi Taka. However, as examined in Section 2.1, the Bangladesh economy has been operating in stellar performance and the Taka should have been appreciating between 2003 and 2023 but it did the opposite. The depreciation of the Bangladeshi Taka is often misunderstood as a failure of government policies by different news sources in Bangladesh but looking at other foreign factors may help to understand why the Taka is depreciating (Kabir).

Additionally, this paper looked at one of the foreign factors which was the Effective Federal Funds Rate and analysed how increases in the Effective Federal Funds Rate often led to the increase in the Dollar-To-Taka exchange rate and thus the depreciation of the Bangladeshi Taka. In Section 5.1, it was also highlighted that the depreciation of the Bangladeshi Taka and its relationship with the Effective Federal Funds Rate may be a coincidence since other nations in the South Asian region, notably India, Pakistan and Sri Lanka, who have a high similarity to Bangladesh did not seem to see their currency depreciate because of the increases in the Effective Federal Funds Rate. However, Bangladesh may be an exception from the South Asian country list because every time the Effective Federal Funds Rate is raised by the Federal Reserve, the Taka seemed to have depreciated between 2003 and 2023. Therefore, it may not be the Bangladesh Bank — the central bank of Bangladesh — through their policies may have been behind the devaluation of the Taka but the Federal Reserve's influence over the Effective Federal Funds Rate which made them indirectly influence and depreciate the Bangladeshi Taka.

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