

Does Remittance Inflow Affect Foreign Exchange Reserve? A Case Study of Bangladesh*

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ABSTRACT

The inflow of remittances in foreign currency increases the supply of foreign exchange in the domestic market, leading to an increase in the foreign exchange reserve of the country. In Bangladesh, remittance inflow plays a significant role in the country's economy, as it is one of the top recipients of remittances globally. The main objective of this study is to investigate the impact of remittance inflow on foreign exchange reserve in Bangladesh. To fulfill this objective the study applied ARDL bound testing approach of cointegration to test the long-run and short-run relationship by using the data from 1988-2022. The paper finds significant positive impact of remittance on the foreign exchange reserve in the long run, while negative and insignificant effect in the short run. On the contrary, trade and inflation showed a significant but negative impact on the reserve in the long run. Furthermore, the estimated error correction term suggests that the economy will correct the disequilibrium in reserve and converge to the equilibrium at a 58% rate in a year.

Keywords: Foreign Exchange Reserve, Remittance inflow, ARDL.

JEL Classification: F31, F24, P33, C32.

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1. Introduction

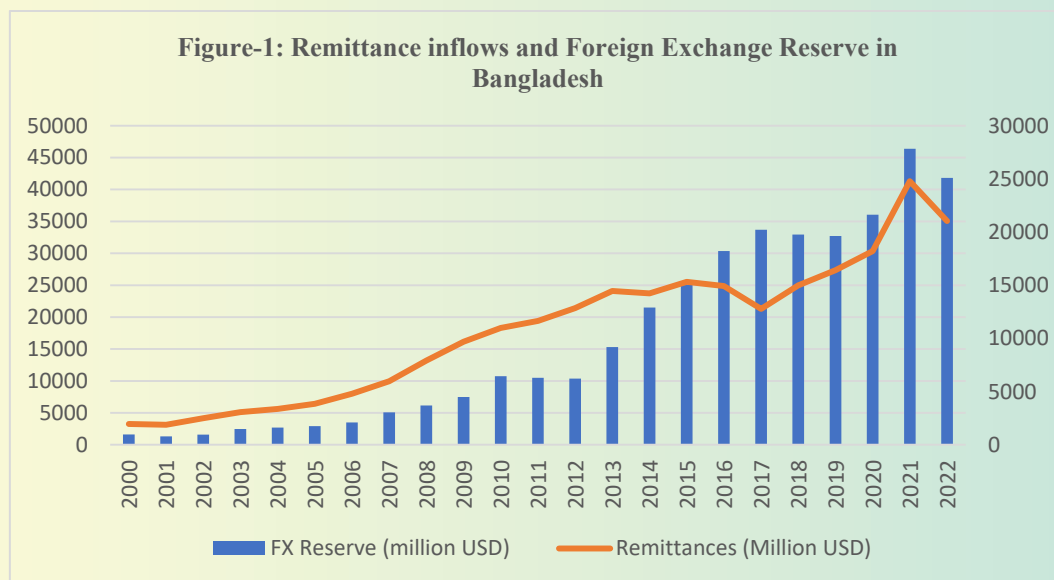
Bangladesh, like other import-dependent countries in Asia, has become more attentive to increasing foreign exchange reserve to cope with sudden external economic shocks, balance of payment deficits and import costs. Moreover, countries hold foreign exchange reserves to maintain exchange rate stability and safeguard other economic activities (Kashif, Sridharan, & Thiyagarajan, 2017) to reduce external debt risks and mitigate the adverse shocks of an unanticipated waning of capital inflow or capital flight (Yongzhong & Freeman, 2013).

Bangladesh has experienced phenomenal progress in achieving the continuous acceleration of growth over the last four decades, and the remarkable expansion of growth is primarily propelled by Readymade Garments (RMG), exports and remittances (Bourguignon & Raihan, 2020). Although the RMG sector has historically provided the nation's foreign exchange reserves, remittance accounted for 5.52 percent of the country's GDP and 54.06 percent of all export earnings in FY20⁵. Besides, it becomes more prominent than foreign aid which helps in reducing reliance on foreign assistance.

A country's accumulation of foreign exchange reserves can be clearly illustrated by the Balance of Payments (BoP). A surplus in BoP means the central bank is building up the foreign exchange reserve; a deficit means the reserve is falling or the government is borrowing from overseas. As a result of Bangladesh's persistent trade imbalance, the country's current account balance has consistently deteriorated over time. However, the overall balance of payment in FY'21 witnessed a healthy surplus, supported by a relatively low current account deficit mainly due to record high of inward remittances from the Bangladeshi nationals working abroad.

The number of remittances received ranged from USD 758 million in 1990 to USD 1949 million in 2000 to USD 10987 million in 2010 to USD 18205.01 million in 2020. Additionally, this inflow increased from FY20 to FY21 by 36.10 percent, or USD 24777.71 million and USD 21031.68 in FY22. The following figure represents reserve-remittance trend of the last two decades in Bangladesh.

⁵ Bangladesh Economic Review, BBS



The more grounded inflow in the worker's remittances in FY21 was the consequence of government's supportive policy measures like sending remittances through formal banking channels preventing the informal channels by allowing 2% cash incentives to the beneficiaries of the overseas wage earners. According to the World Bank (2020) statistics, steady remittance inflow have driven Bangladesh to become the world's 8th largest remittance-recipient economy.

However, remittance alone cannot build up the reserve. It contributes to reserve accumulation just like other factors do. But the importance of remittances lies in the fact that remittances alone can contribute to accumulating reserves even when other factors do not work during economic crisis as seen in Covid-19 period. As the pandemic unfolded in 2020, all major economies announced lockdown and put restrictions which drastic impact on foreign exchange reserve along with some pre-existing economic fragilities, especially in emerging economies. This is because the source of foreign exchange reserve in most of the developing nations are generally export earning, remittances and in few cases foreign assistances. Surprisingly, unlike most emerging countries, Bangladesh showed an increasing trend in the foreign exchange reserve during the pandemic reaching to historically high level of USD 46391.44 million in FY21. In the year 1990 the foreign exchange reserve was USD 588.69 million, USD 1602.10 million in 2000, USD 10749.70 million in 2010, USD 36037 million in 2020 and USD 41826.70 million

in FY22. The background of the study showed that remittance has always a significant effect in foreign exchange reserve.

However, the recent spike in reserves, which occurred despite a decline in exports, was caused by a rise in remittances has attracted the attention of the researchers. Although even after the pandemic Bangladesh is still dependent on the workers remittances for increasing the reserve of the country. Therefore, the main objective of this study is to determine if the impact of remittance inflows on the accumulation of foreign exchange reserves in Bangladesh is consistently higher than that of other variables. This study investigates the situation with the most recent data.

The rest of the paper is organized as follows: Section 2 provides the empirical studies related to the paper, Section 3 contains data, methodology and estimation process, section 4 discusses empirical results and diagnostic tests. Finally, section 5 presents the concluding remarks.

2. Literature review

In the last couple of decades, after the collapse of the Bretton woods system, the trend of increasing the foreign exchange reserve has been rising as a precautionary motive during the financial crisis. Therefore, researchers became interested in the foreign exchange reserve and its determinants. Moreover, scholars are more interested in this topic as the global foreign exchange reserve has become double during the shortest possible time (IFS 2005).

Despite various researches, few studies have differentiated the impact of different factors on reserve in developed and developing nations. In the year 1978, Frenkel in his paper stated the determinants of the foreign exchange reserve considering the sample of both developed and less developed countries. Measuring a country's marginal propensity to imports (MPI) as the ratio of imports over GDP, he also argued that if the foreign exchange reserve were hold as a precautionary motive, then MPI will be positively related to the foreign exchange reserve.

In 2007, Fukudan and Kon showed that an increase in foreign exchange reserve accumulation will have a permanent influence in depreciation of REER (Real Effective Exchange Rate) and decrease in consumption in developing countries.

Using the monthly data from 1980 to 2002, Narayan and Smith (2006) examined the long run and short run relationship of China's real exchange rate, foreign exchange reserves and the real interest rate differential between China and United States. Applying ARDL bound test approach they asserted a long-run cointegration relationship among real exchange rate, foreign exchange reserve and real interest rate differential. Furthermore, in the short-run non-monotonic relationship has been found among the variables.

Cheung and Ito (2009) have showed that the relationship between the foreign exchange reserve and its determinants significantly varies between developed and developing countries using the data for more than 100 countries from 1975 to 2005.

For Pakistan Arize, Malindretos and Grivoyannis (2004) used various co-integration techniques and explored one linear relationship among real import, real income, relative prices of import and foreign exchange reserve. In addition, they also showed that, long run equilibrium relation emerge for Pakistan only when a constant parameter is accounted for foreign exchange reserve and long run unit income homogeneity.

The impact of remittances on reserves was investigated by Akram et al. (2012) emphasizing the importance of remittances and reserves as well as the implications for reserves in three countries: Pakistan, India, and Bangladesh. For the years 2000 to 2009, the study discovered that remittances had a considerable and statistically significant impact on reserve growth in all three countries.

Kaphle (2021), using time series data from 1975 to 2018, primarily examined the impact of foreign exchange reserve on economic growth in Nepal. Using Vector Error Correction Model (VECM), he confirmed in his study that historical foreign exchange values had a favorable impact on economic growth and that foreign exchange reserves had a beneficial impact on Nepal's economic growth.

However, there exist very few studies in Bangladesh regarding this issue. Alam et al (2013) studied impact of exchange rates on foreign exchange reserves in Bangladesh by employing both primary and secondary data. A systematic questionnaire was used to collect primary data from 50 respondents. Bangladesh foreign exchange reserves, current account balance, capital and financial account

balance, and exchange rates are among the secondary data sources. This study included data from 01 July 1996 to 30 June 2005 as well as quarterly data from 01 July 2005 to 30 June 2012. The findings of this study illustrated that exchange rates were the most important of the 16 factors determining foreign exchange reserves.

An econometric examination by Chowdhury, Uddin, and Islam (2014) was conducted using Engle-Granger cointegration technique. The empirical findings showed that foreign exchange reserves, exchange rate, remittance, home interest rate, broad money, UPI (Unified Payments Interface) of export and import, and per capita GDP all had a strong link with the reserve. The coefficients changed smoothly as a function of seven threshold variables out of nine choices, six of which are statistically significant. Inferring from these findings, it is possible to conclude that the exchange rate, robust remittance-related policies, high-quality exports, and a stable GDP can all play a significant and viable role in maintaining a healthy level of foreign exchange reserves for a host country like Bangladesh.

Chowdhury (2015) focused on the reserve position and its prospects for FY2005-2006 to FY2014-2015. According to her study, foreign reserve holdings were significantly higher, indicated that the amount of money was equivalent to seven months of import payments and sufficient to cover the country's import bills for more than seven months. Different approaches to foreign reserve adequacy level suggest taking immediate steps to put the money to the best possible usage unless it will result in a large liability in Bangladesh.

Khan and Amin et al (2021) investigated the relationship between Bangladesh's foreign exchange reserve, remittances, exchange rate, and trade balance for the period 1986 to 2019. Using the ARDL approach, the study found that remittance inflows and trade balance have a statistically significant positive impact while the insignificant impact of exchange rate on foreign exchange reserves over time. Moreover, remittance inflow to foreign exchange reserve and remittance inflow to exchange rate have a unidirectional connection.

From the above discussion, it can be inferred that most of the studies demonstrate the positive impact of remittance inflow to the foreign exchange reserve. Even

though a good number of studies have attempted to examine the relationship between remittance inflow and foreign exchange reserve, there are very few studies in Bangladesh on this topic. There seems to be a space for more researches in this area in Bangladesh. Our study is different in terms of sample size, number of variables and time horizon. In this study, we focus on the impact of remittance inflow on foreign exchange reserve in Bangladesh considering other factors like inflation, trade, and exchange rate. Some researchers used yearly data and some others used monthly data. In this study, we used yearly data (1988-2022) from World Development Indicators (WDI) and Bangladesh Bank to investigate the impact of remittance inflow on foreign exchange reserve in Bangladesh.

3. Data and Methodology

Although we attempted to investigate the impact of remittances on reserve, we have used other control variables as well. This is because reserve is not only affected by the remittance but also by some other variables. In this study, the foreign exchange reserve is considered the dependent variable, while remittance, inflation, exchange rate, and trade are treated as independent variables. The selection of these variables is based on their causal relationship with the foreign exchange reserve.

Foreign exchange reserves can be increased by remittances, which help in exchange rate stability. The cost of imported items can affect inflation, thereby influencing the exchange rate. Exchange rate is the controversial aspect of international macroeconomics which affects international trade, balance of payments, and macroeconomic performance (Abbas et al. 2002). A country with significant foreign exchange reserves can utilize its reserves to intervene in the foreign exchange market through buying or selling its currency. The central bank can influence the supply and demand dynamics, thereby exerting an impact on the exchange rate, while higher reserves can play a role in stabilizing or strengthening the domestic currency against other currencies. However, when a currency depreciates against other currencies, it makes imported goods more expensive. This increase in import costs can lead to higher prices for goods and services in the domestic market, contributing to inflation. Conversely, if a currency appreciates, it makes imports cheaper, which can reduce inflationary pressures.

Overall, remittances can influence foreign exchange reserves, which in turn can affect the exchange rate. The exchange rate along with other factors like import dependence can influence inflationary pressures within the economy. However it is important to note that, the relationship among these factors can be intricate and subject to influence from various other economic factors and policies. Here, a time series data for the period of 1988 to 2022 is used because of the adaptation of the extended structural adjustment policy by the government of Bangladesh facilitated by the IMF and the World Bank as a condition of stringent policy conditionality for structural adjustment loans (Rahman 1992). The descriptions of the variables are shown in the table 2.

Table 2: Description of the variables

Variables Name	Description/ Definition	Time Period	Source
rem	Personal remittances, received (% of GDP)	1988-2022	WDI
trade	Trade (% of GDP)	1988-2022	WDI
fxr	FX Reserve (million USD)	1988-2022	BB
excp	Exchange Rate (Percentage)	1988-2022	BB
inf	Inflation (Rate)	1988-2022	BB

3.1 Methodology:

Model Specification:

A regression analysis has been undertaken to show the relationship between reserve and remittance. Moreover, other than remittance there are some variables that affect the foreign exchange reserve of a country. By following Chowdhury, Uddin, and Islam (2014) we specify the following relationship:

$$\text{Foreign Exchange Reserve} = f(\text{Remittance, Exchange rate, Trade, Inflation})$$

The econometric specification of the model is as follows

$$fxr_t = \beta_0 + \beta_1 rem_t + \beta_2 excp_t + \beta_3 trade_t + \beta_4 inf_t + \varepsilon_t \text{-----}(1)$$

Taking logarithmic form of the dependent variable the equation 1 is as follows

$$\log fxr_t = \beta_0 + \beta_1 rem_t + \beta_2 excp_t + \beta_3 trade_t + \beta_4 inf_t + \varepsilon_t \text{-----}(2)$$

Here, t represents time for the period of 1986 to 2020. The endogenous variable $\log f_x r_t$ represents the logarithmic form of foreign exchange reserve while the exogenous variables rem_t , $excp_t$, $trade_t$, and inf_t are the logarithmic form of remittance, exchange rate, trade, and inflation, respectively. The coefficients β_1 , β_2 , β_3 and β_4 show the elasticity of all those exogenous variables. β_0 and ε_t represents the intercept and white noise error term, respectively. Although the signs of the coefficients are intrusive in nature, our focus will be on the magnitude of the coefficients.

Stationarity test:

First of all, we conduct stationary test to ensure that none of the variables are 2nd difference stationary or $I(2)$. Among various unit root test in this study, we are using Augmented Dickey Fuller test (ADF) as it is considered most popular because of its easy applicability. By adding lagged difference term of the dependent variable, this process also takes care of possible autocorrelation in the error term. Furthermore, for more accurate result we are also applying Philips Perron test.

Cointegration Test:

The theoretical discussion shows that there is a long-run association between the variables used in this study. In other words, the mean and variance of the variables are not depending on time that is they are constant. In order to keep the properties of long-run relationship intact we use cointegration, establishing a statistical and economic basis for empirical error correction model that brings short run and long run information among the variables. Therefore, the main estimation method of the study is Auto Regressive Distributed Lag (ARDL) approach using time series data for the period of 1986 to 2020.

Now, for the ARDL approach the equation 2 can be written as model used by Pesaran, Shin and Smith (1999) and Pesaran et al (2001)

$$\Delta \log f_x r_t = \beta_0 + \sum_{k=1}^n \beta_1 \Delta rem_{t-k} + \sum_{k=1}^n \beta_2 \Delta exp_{t-k} + \sum_{k=1}^n \beta_3 \Delta trade_{t-k} + \sum_{k=1}^n \beta_4 \Delta inf_{t-k} + \lambda_1 \Delta rem_t + \lambda_2 \Delta exp_t + \lambda_3 \Delta trade_t + \lambda_4 \Delta inf_t + \varepsilon_t \text{-----}(3)$$

Where n represents the maximum lag order, β_0 represents drift component whereas Δ shows the first difference and ε_t is the white noise. Here, $\beta_1 - \beta_4$ corresponds to long-run relationship, while $\lambda_1 - \lambda_4$ represent the short-run dynamics of the model. Two sets of critical value have been developed by Pesaran et al (2001) for F-test. One set is for lower bound and other is for the upper bound. If the value of the F-test is smaller than the lower critical bound, then there will be no long-run relationship in the model. On the other hand, if F-test value is higher than the upper critical bound then it can be concluded that there will be a long-run relationship among the variables. However, if the value lies in between upper and lower critical bound the result will be inconclusive.

If there is evidence of cointegration, then the next step is the estimation of long-run relationship of the ARDL model. However, it is necessary to determine the optimum lag length by proper model order selection criteria such as Akaike Information criterion (AIC), Schwartz Bayesian Criterion (SBC) or Hannan-Quinn Criterion (HQC) in order to select the appropriate model of the long-run underlying equation.

The Long-run association among the variables can be written as following

$$\Delta \log f_x r_t = \beta_0 + \sum_{k=1}^n \beta_1 \Delta rem_{t-k} + \sum_{k=1}^n \beta_2 \Delta exp_{t-k} + \sum_{k=1}^n \beta_3 \Delta trade_{t-k} + \sum_{k=1}^n \beta_4 \Delta inf_{t-k} + \varepsilon_t \text{-----}(4)$$

Here, n is the optimum lag length.

Lastly, to find out the short-run dynamics the error correction model can be formulated below in the equation 5

$$\Delta \log f_x r_t = \beta_0 + \sum_{k=1}^n \beta_1 \Delta rem_{t-k} + \sum_{k=1}^n \beta_2 \Delta exp_{t-k} + \sum_{k=1}^n \beta_3 \Delta trade_{t-k} + \sum_{k=1}^n \beta_4 \Delta inf_{t-k} + \phi ECM_{t-1} + \varepsilon_t \text{-----}(5)$$

Where, Δ represents the first difference as before while ϕ is the coefficients of the error correction term for short run dynamics. ECM_{t-1} describes the speed of adjustment that is how much disequilibrium will be corrected. The coefficient of the ECM is expected to be between -1 to 0. The negative sign indicates the degree of correction.

In this study we used the ARDL approach instead of Johansen Juselius (1990) cointegration procedure as there is a single long-run relationship equation for each variable and so it assumes that only a single reduced form equation relationship exists between the endogenous and the exogenous variables (Pesaran, Smith and Shin 2001). However, this approach will not be applicable if the variables are integrated in I(2). To forestall the effort in futility, at the very beginning of the analysis we will check the stationarity of the variables.

4. Empirical Results and Discussions

4.1 Unit Root Test Results

In order to check the stationarity of the variables used in this study we have done Augmented Dickey Fuller test (ADF) and Philips-Peron Test (PP). The results of these two tests are shown in the Table 3 below

Table-3: Unit Root Test results

Test		Logfxr	rem	excp	inf	trade
ADF	Level	-0.94	-1.55	-0.07	-3.96*	-1.74
	1 st difference	-4.26*	-3.39*	-5.12*	-	-4.09*
PP	Level	-0.11	-1.40	-0.96	-3.94*	-1.74
	1 st difference	-4.27*	-3.99*	-7.32*	-	-4.99*

*,**denotes significant at 1%,5%level respectively.

It can be seen from the table, the time series variables logfxr, rem, excp and trade are stationary in their first difference form that is I(1) in both ADF and PP test. However, in case of inf are stationary in the level form in both ADF test and PP test.

Therefore, the combination of I(0) and I(1) confirms that we can use ARDL estimation method in this study.

4.2 Lag Selection Criteria

For the lag selection criterion, we selected the automatic selection criterion in the Eviews-10 and used Akaike Information criterion (AIC) for choosing the length with a maximum lag of 4. The optimal combination according to Akaike Information criterion (AIC) is ARDL (2,4,4,4,4). The model selection according to AIC is shown in the annex 1.

4.3 ARDL estimation Result

The calculated F statistics and critical values of upper and lower bounds are shown in the table 4 where the computed F-statistics (11.95) is higher than the upper bound critical value I(1) at the 1% level of significance implying that the null hypothesis cannot be accepted. Thus, there is a long run cointegration relationship among the variables.

Table-4: Result of ARDL Bound test

Null Hypothesis: No levels Relationship				
Test statistics	Value	Significance	I(0)	I(1)
F-statistics	11.95	10%	2.2	3.09
		5%	2.56	3.49
k	4	2.5%	2.88	3.87
		1%	3.29	4.37

4.4 Long-Run and Short-Run Relationship

Long-Run relationship

The confirmation of the existence of the long run relationship in the model allows us to estimate the long run form of equation. Using ARDL approach the estimated long-run relationship are described in the table below:

Table-5: Long-run results

Variables	Dependent variable: Logfxr		
	Coefficients	Standard error	Probability
rem	0.60*	0.10	0.00
inf	-0.11**	0.04	0.02
trade	-0.23*	0.03	0.00
excp	0.07*	0.00	0.00

Note: * p<0.01, ** p<0.05, *** p<0.1

From the table above, remittance has a positive and significant impact on the foreign exchange reserve, i.e. if the remittance increases by 1 percent then the foreign exchange reserve will increase by 6 percent in the long-run. Exchange rate also has a positive and significant result meaning that there is a long-run association between exchange rate and reserve.

Furthermore, the coefficients of both inflation and trade are showing negative but significant impact on foreign exchange reserve. Inflation coefficient is -0.11 meaning that 1 percent decrease in inflation will raise the reserve by 0.11 percent. Because the reserve requires stabilizing the value of the foreign exchange rate to keep inflation low, if the inflation is high, it will have an impact on foreign exchange reserves as more funds will be necessary to stabilize the foreign exchange reserve. However, if the inflation is stable in the country, then it can have a positive impact on the reserve as the domestic products can compete in the foreign market.

The impact of trade in reserve is also negative that is if trade increases by 1 percent, then the reserve will decrease by 0.23 percent. The demand for foreign currency is also consistently high since import volumes are high in comparison to export revenues. This has led to rising inflation throughout the nation.

Short-run relationship

From the table-6 we can see that remittance have a positive and significant effect on reserve in the short-run. Though, trade and exchange rate depict a negative relationship with reserve in the short run. However, trade showed a significant effect while exchange rate showed an insignificant effect on reserve in the short run. That is, there is no short-run relation among exchange rate and reserve as well.

Table-6: Short-run results

Dependent variable: D(logfxr)			
Variables	Coefficients	Standard error	Probability
D(rem)	-0.03	0.22	0.2
D(excp)	-0.02***	0.01	0.08
D(trade)	-0.03*	0.00	0.00
D(Inf)	0.02**	0.00	0.04
cointEq(-1)*	-0.58	0.05	0.00
R ²	0.97		
Adjusted R ²	0.92		

Note: * p<0.01, ** p<0.05, *** p<0.1

The coefficient of error correction term is significant at 1% level. Highly significant negative sign of the error correction term strengthens the presence of

long run relationship among the variables. The estimated coefficient on the ECM is -0.58 suggesting the speed of adjustment from previous year's disequilibrium in reserve added to current year's equilibrium is 58 percent. Furthermore, the linear model showed that, approximately 97 percent of the foreign exchange reserve movements can explain by this short-run model.

Therefore, we can conclude that remittance has an insignificant and positive impact on foreign exchange reserve in short run. However, Trade showed a negative impact during both cases, mainly due to the trade deficit. That is because import is always higher than export in Bangladesh.

On the other hand, exchange rate and inflation showed a significant relation in both long run and short run relations.

4.5 Diagnostic Tests

To check the competencies of the ARDL model several diagnostics test have been performed which are shown in the table 7:

Table-7: Diagnostic tests results

Name of the Test	F-statistics/ Jarque Bera	Obs [*] R-squared	P- value
Breusch-Godfrey Serial Correlation LM Test:	4.10	24.92	0.10
Heteroscedasticity Test: Breusch-Pagan-Godfrey	0.81	21.36	0.68
Test of Normality	0.73	-	0.69

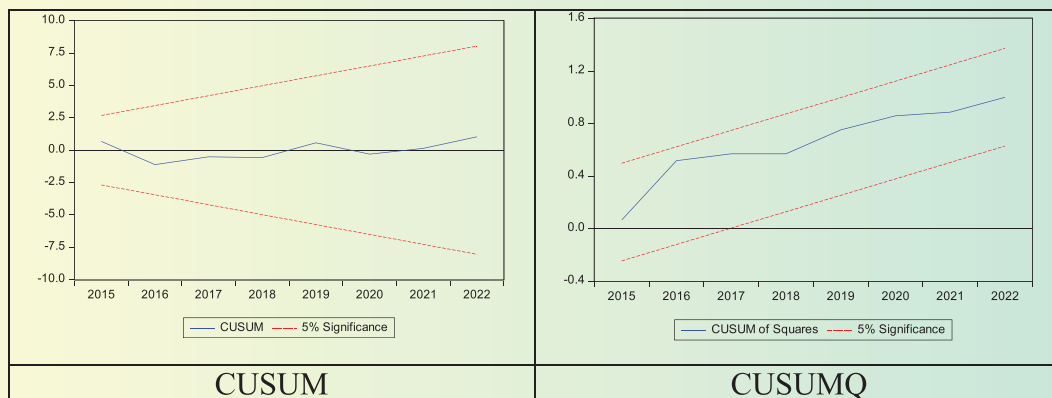
The P- value of Breusch-Godfrey serial Correlation LM Test, Heteroscedasticity test: Breusch-Pagan-Godfrey and normality test is greater than 5 percent which is desirable. So, this model is free from autocorrelation and heteroscedasticity. The residuals are normally distributed.

Stability Test

CUSUM and CUSUMQ test allowed us to analyze the structural stability of the long run parameters together with the short run movement. The test results suggest that all the coefficients in the given regression will be stable if the plots of

the CUSUM and CUSUMSQ residuals stay within the critical bounds of 5% level of significance. The tests are conducted and plotted in the Figure-2.

Figure-2: CUSUM and CUSUMQ Test of Stability



As per the plots in the Figure-2 the lines are between the 5% critical bounds implying that this model is robust and stable in both short run and long run over the study period.

5. Conclusion and Policy Implications

Remittances boost the amount of foreign exchange available on the domestic market, increasing the nation's foreign exchange reserve. Being one of the top recipients of remittances globally, Bangladesh's economy is greatly benefited from remittance inflow. The objective of the study was to analyze the impact of remittance inflow on foreign exchange reserve in Bangladesh. It finds that, there is a positive and significant relationship between remittance and foreign exchange reserve in long run. On the other hand, in short run the remittance showed an insignificant relation with foreign exchange reserve.

Moreover, this study also shows that there is negative but significant long run relationship among trade, inflation, and reserve, while exchange rate has a positive and significant relationship which is related to the current economic condition of Bangladesh which is different from the other studies.

The results indicate that, remittance is an important determinant of foreign exchange reserve in Bangladesh although it is not the sole indicator. The importance of remittance in crisis period like COVID-19 is that when all other

indicators fail to contribute in foreign exchange reserve in Bangladesh, remittance alone can mitigate the balance of payment contributing in foreign exchange reserve. Furthermore, in recent times when the country is facing a trade deficit, remittance has also the highest impact on reserve other than the trade.

Although having a pandemic situation worldwide, remittance inflow was at increasing trend in Bangladesh. This might be happened because of government stimulus package of 2% cash assistance on remittance taken on 1st July, 2019. Government initiative of such stimulus package has brought the flow of remittances from informal channel to formal channel which helped boosting up the remittance. Following the positive impact of the stimulus package, the Government of Bangladesh has extended the term of the package from 1st January 2022 and decided to increase the existing rate of cash assistance to 2.5% considering the importance of remittance which is ongoing till the date. Furthermore, it is challenging for Bangladesh to maintain the rising trend of remittance inflow although it is sensitive to the GDP of the country. To address this issue, the government may focus on sending skilled labor forces abroad, as they tend to contribute higher remittances. Additionally, both the government and the central bank should collaborate to control exchange rate fluctuations. By implementing appropriate measures, such as intervening in the foreign exchange market, when necessary, they can help in maintaining a stable exchange rate. This stability, in turn, assists in meeting targeted inflation rates and safeguard the foreign exchange reserves of the country.

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ANNEXURE-1

Model Selection Summary

