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Examining the Nexus between External Debt and Economic Growth in Bangladesh: An ARDL-ECM Approach

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Abstract

This paper aims to examine the nexus between external debt and economic growth in Bangladesh for periods ranging from 1973 to 2019. Time-series econometric techniques of Autoregressive Distributed Lag Model (ARDL) and Error Correction Method (ECM) are utilized in empirical analysis to investigate whether short-run and long-run dynamics exist between external debt and the growth of Bangladesh. Findings derived from the analysis reveal a long-run association between external debt and Bangladesh's economic growth. The error correction method also points out long-run adjustment if any disequilibrium arises in a period in the short run. The study recommends maintaining a stable position of overseas debt and ensuring compatible investment conditions for domestic and foreign investors.

Keywords: *External Debt; Economic Growth; ARDL; Error Correction Method.*

1. Introduction

The issue of external debt concerns many researchers, economists, and policymakers investigating its possible impact on a country's economic performance. From the beginning of the twentieth century, most developing countries' total external debt has increased substantially. The primary reasons behind external debt are that developing countries are faced with a lack of internal financial resources to meet their Balance of Payment (BOP) deficit, decrement in export earnings, and a low volume of foreign currencies to implement development programs. Factors including both internal and outer modes contribute to the accumulation of foreign debt (Were, 2001). Excessive usage of expansionary fiscal and trade policies linked with export bias is detected as an internal factor. In contrast, the external factors comprise BOP deficits, high world interest rates, and trade policies formed with protectionism measures of developed countries.

Dual gap analysis emphasized that external borrowing is required in the early stages of developing nations to assure sustainable growth. The extended version of the Harrod-Domar model explains that the import growth of developing countries over export growth is possible if foreign aids are available. The increment of domestic savings would not cover the gap of foreign currencies required for import growth as both kinds of assets are not perfect substitutes, exhibiting the reason behind reliance upon external borrowing to accelerate growth performance (Mario and Jeanne, 2009).

Multifarious studies are accomplished to identify external debt's implication over financial consequences; however still ambiguous and debatable. Researchers are suspicious about whether the external debt could assist in fostering growth performance or whether it could be treated as a burden for the next generations. External debt is conducive to speeding up economic growth for the countries with insufficient domestic resources to supplant their required foreign funds. However, growth per capita follows the path to decline whenever overseas debt is detected to surpass a specific threshold (Clements *et al.,* 2003). Depending on saving-investment gaps, the government should ensure the usage of foreign funds in such projects, which returns will eventually amortize the debt (Senadza *et al.,* 2017).

The idea of external borrowing seems legitimate for developing countries, particularly when it is invested in the productive sector. However, there is a possibility of falling into a debt trap. The definition of external debt most often ignores the donor agencies' restrictions. In particular, the difference between the amount borrowed and the amount received after complying with fees and commissions and the high amount of payable interest pose a severe

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threat to debt repayment. In the meantime, exogenous shocks in the form of catastrophic events, global health crises, and economic crises shrunken a country's competency and widen the possibility of falling into a debt trap. This situation draws policymakers' interest in reconsidering the possible impact of external debt upon growth.

Like other developing countries, Bangladesh has observed a considerable portion of the budget deficit for a long period. The government of Bangladesh had intended to keep the budget deficit within 5 percent of GDP. In FY 2020-21, the budget deficit accounted for BDT 190,000 crore, accounting for 6.0 percent of the GDP (Budget in Brief, Ministry of Finance, Bangladesh). Amid the total deficit, BDT 80,017 crore was decided to be financed from external sources, revealing 42.11 percent of the total deficit. According to Bangladesh Bank statistics, the external debt volume reached a significant level of around US$ 70.67 billion in December 2020. This situation mainly happened due to enormous spending to finance mega-development projects and the COVID-19 recovery process.

The unprecedented health crisis through the spread of COVID-19 created a severe risk to Bangladesh's macroeconomic and financial stability. Disruptions in the production and external trade performance are deteriorating Bangladesh's external balance position. Alongside falling in demand, COVID-19 massively influenced private and foreign investment and widened the existing savings-investment gap. The final consumption fell considerably due to a lower growth rate in general government spending (Siddiquee and Faruk, 2020). To confront such a dire crisis, the Bangladesh government had already taken several stimulus packages to assist the export-oriented industries and low-income groups concerning micro and small enterprises. More specifically, the government of Bangladesh initiated stimulus packages and refinanced schemes measuring BDT 1284.4 billion with the assistance of the Bangladesh Bank, which accounted for 4.59 percent of GDP. The sluggish economic activities, poor revenue mobilization, and spending related to the COVID-19 recovery process induced the government to rely more on external debt.

The external debt is a potential tool to foster economic growth if the borrowed money can be prudently used in investment to incur a significant return as debt repayment. However, a massive foreign debt driven by fiscal deficits and development financing envisages a nation with a high debt burden. The objectives of this empirical investigation are mentioned below:

i. To investigate whether the external debt has any causal relation with the economic growth of Bangladesh.
ii. To figure out why the external debt has risen in recent times and what sort of policies are essential to maintain external debt sustainability.

The following section provides several reviews of diverse literature, and section 3 deals with the methodology. Section 4 provides data analysis based on empirical estimation, and the final section 5 is destined to provide concluding remarks with necessary policy recommendations.

2. Literature Review:

Ayadi and Ayadi (2008) investigated how a large volume of foreign debt influences Nigerian economic growth and other South African economies. By employing external sectors, debt indicators, and macroeconomic variables, the Neoclassical growth model was applied to accomplish goals. Research analysis incorporating ordinary least squares (OLS) and generalized least squares (GLS) framework reported a negative influence of debt and its servicing requirements over the growth process. Furthermore, the study mentioned a non-linear effect where the external debt boosted Nigeria's economy until exceeding a certain limit.

Frimpong and Oteng-Abayie (2006) empirically examined whether the context of debt overhang and the situation of crowding out can come out from the debt-growth nexus in Ghana covering the period 1970-1999. Under the study, the Johansen co-integration method identified long-run association among concerning variables, whereas VECM was utilized for short-run considerations. The result revealed that the continual inflow of external debt positively affected GDP growth. However, the negative association of debt and growth factor ascertained the crowding out aspect.

Malik *et al.,* (2010) studied how Pakistan's economic performance correlated with foreign debt accumulation. The estimation period of study covered 1972-2005. Their analysis revealed an inverse interrelation proposing an increment in debt likely to subside economic progress. In addition, the paper also exposed an identical outcome

regarding debt servicing and growth function. Thereby, the progression of debt servicing will lead to fewer opportunities for economic growth.

Rahman *et al.,* (2012) expressed that funds generated from external sources are essential to face the balance of payments deficits for Bangladesh. They investigated the interconnection between overseas debt and Bangladesh's economic growth by applying an econometric tool from 1972 to 2010. The empirical study observed a significant positive correlation between variables of interest and suggested a long-term relationship. The test of Granger Causality further proved bi-directional causality, which operation was from GDP to ED and ED to GDP.

Farhana and Chowdhury (2014) inquired about the connectivity between foreign debt and Bangladesh's financial progression considering the time frame (1972-2010). Findings revealed by utilizing the Auto-Regressive Distributive Lag model showed that the external debt position of Bangladesh consequence adversely to the overall process of growth. The analysis recommended decreasing the reliance upon overseas debt and enhancing human and infrastructure development and proposed an effective and fair debt management system.

By utilizing the annual time series data spanning 1990 to 2015, Kharusi and Ada (2018) inspected Oman's governmental external borrowing impact on economic growth. Their approach adopted the Autoregressive Distributed Lag co-integration framework to estimate the nexus that emerged in the long run. Findings revealed a negative link that was also significant between external debt and Oman's economic growth. However, the gross capital formation was detected to impact growth positively and recommended more efficient use of external debt funds. Given the converse opinions extracted from empirical findings, it can be concluded that there is still an urgency to assess external borrowing consequences on economic growth, especially for developing countries, by inducing the current database to derive befitting results.

3. Methodology

3.1 Data Sources and Method of Analysis

The study appointed annual time series data spanning 1973 to 2019 for Bangladesh. The dataset included Gross Domestic Product (GDP) growth as the dependent variable, and the concerned independent variable is External Debt (ED). Other relevant control variables appear as Gross Capital Formation (GFC), Broad Money Growth (M2), and Official Exchange Rate (ER). All types of data are obtained from World Development Indicators (WDI). A short description of the study variables is given below:

GDP Growth: GDP growth rate is considered a representative variable for economic growth rate. GDP growth measures the change in GDP by using the formula: GDP growth = (GDP 2- GDP 1)/ GDP 1. The log of GDP growth rate is the dependent variable in our model. **External Debt (ED):** External debt is borrowed from overseas sources and should be repaid in the form of currencies, or goods, or services. Total external debt comprises public, guaranteed publicly, and privately nonguaranteed debt for long-term and short-term. **Gross Capital Formation (GFC):** Gross Capital Formation is also acquainted as 'investment' representing the acquisition of assets by resident producers, deducting disposals. GFC is suspected of having a positive influence on GDP growth. **Broad Money Growth (M2):** Broad money (M2) measures the amount of money circulating in an economy which includes the most liquid forms of money. Growth in broad money represents the change in money supply over the year and is also used to curb future inflation. **Official Exchange Rate (ER):** National authorities determine the official exchange rate, which calculation process is conducted as an annual average generated from the monthly average. The official exchange rate is nominal in nature, frequently used to convert local currency to a common currency to make comparisons.

The study adopted the Autoregressive Distributive Lag (ARDL) Bound test framework (Pesaran *et al.* 1996) to investigate how external debt contributes to economic growth. The ARDL co-integration technique offers several advantages over Engle and Granger (1987) and Johansen and Juselius (1990). Firstly, the Johansen co-integration technique requires a large data sample, whereas the ARDL co-integration technique is highly workable in detecting the presence of co-integration in case of a considerably small sample (Ghatak and Siddiki, 2001). Secondly, Johansen's co-integration approach necessitates that all regressors be formed in a similar order; on the contrary, the ARDL model is applicable irrespective of orders of either I(0) or I(1) or appearance of both. The ARDL model's

third advantage states that it avoids testing a larger number of specifications, including detecting elements of deterministic nature and the order of VAR.

3.2 Model Specification

The following econometric model is considered for the execution of the study, which is stated below:

$$Y = f(ED, GCF, M2, ER) \quad (1)$$

The econometric form of the equation is given as follows:

$$Y_t = \alpha_0 + \beta_1 ED_t + \beta_2 GCF_t + \beta_3 M2_t + \beta_4 ER_t \quad (2)$$

The linear, logarithmic transformed form can also be written as:

$$Y_t = \alpha_0 + \beta_1 L(ED)_t + \beta_2 L(GCF)_t + \beta_3 L(M2)_t + \beta_4 L(ER)_t + U_t \quad (3)$$

Where Y = Gross Domestic Product growth rate (annual %), ED = External Debt Stocks total (Current US$), GCF = Gross Capital Formation (% of GDP), M2 = Broad Money Growth (annual %), ER = Official Exchange Rate (LCU per US$), $\alpha_0, \beta_1, \beta_2, \beta_3, \beta_4$ = parameters to be estimated, U = Stochastic Error term, t = 1, 2, 3……47 (time period is from 1973-2019) and L = Natural log.

3.3 ARDL Model

Although the ARDL technique deals with the variable comprising order I(0) or I(1), it may crash and provide wrongful interpretation with the emergence of a stochastic trend of I(2). It is advisable to test for the unit root to check such a possibility. Following Pesaran *et al.* (2001), the ARDL model can be specified as below:

$$\Delta Y_t = \alpha_0 + \beta_1 Y_{t-1} + \beta_2 LED_{t-1} + \beta_3 LGCF_{t-1} + \beta_4 LM2_{t-1} + \beta_5 LER_{t-1} + \sum_{i=1}^{n} \theta_1 \Delta Y_{t-i} + \sum_{i=1}^{n} \theta_2 \Delta LED_{t-i} + \sum_{i=1}^{n} \theta_3 \Delta LGCF_{t-i} + \sum_{i=1}^{n} \theta_4 \Delta LM2_{t-i} + \sum_{i=1}^{n} \theta_5 \Delta LER_{t-i} + \varepsilon_t \quad (4)$$

Here, the parameter β_i represents long-run multipliers, θ_i denotes short-run dynamic coefficients, α_0, and ε_t refer to the intercept and white noise error term, n represents the lag length for the unrestricted error correction model, and Δ refers to the first difference operator.

The ARDL approach follows two steps procedure. Firstly, the null hypothesis ($i.e.\ H_0$: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$) indicating the non-existence of long-run bondage is examined by conducting an F-test. Critical values proposed by Pesaran *et al.* (2001) are used to compare with the calculated F-statistic. The null hypothesis indicating no co-integration cannot be eliminated if F-statistic falls below lower bound critical values. On the contrary, the null hypothesis is rejected if the computed F-statistic stays above the upper bound critical values. And the test result provides inconclusive results if the F-statistic stays between both categorized critical values.

As the next step, the optimal lag length can be identified by employing well-known Schwarz Bayesian Criteria or Akaike Information Criteria. After confirming long-run connectivity, the augmented ARDL model can be specified as below:

$$Y_t = \alpha_0 + \sum_{i=1}^{n} \theta_1 Y_{t-i} + \sum_{i=1}^{n} \theta_2 LED_{t-i} + \sum_{i=1}^{n} \theta_3 LGCF_{t-i} + \sum_{i=1}^{n} \theta_4 LM2_{t-i} + \sum_{i=1}^{n} \theta_5 LER_{t-i} + \varepsilon_t \quad (5)$$

However, after establishing such long-run bondage, there is still a chance of dis-equilibrium in the short-run period. The short-run parameters from the error correction mechanism can be estimated to correct disequilibrium by using the following:

$$Y_t = \alpha_0 + \sum_{i=1}^{n} \theta_1 \Delta Y_{t-i} \sum_{i=1}^{n} \theta_2 \Delta LED_{t-i} + \sum_{i=1}^{n} \theta_3 \Delta LGCF_{t-i} \sum_{i=1}^{n} \theta_4 \Delta LM2_{t-i} + \sum_{i=1}^{n} \theta_5 \Delta LER_{t-i} + \delta ECT_{t-1} + \varepsilon_t \quad (6)$$

where ECT_{t-1} represents error correction term and δ denotes the speed of adjustments to equilibrium if any shock arises. The sign of the term (ECT_{t-1}) must be negative to assure the convergence to the desired equilibrium path.

We conducted several diagnostic tests to ensure the correct statistical method by inspecting the presence of serial correlation, heteroscedasticity, correlogram of residuals, and normality.

4. Empirical Results

The section represents estimation results and interpretation of that. The descriptive test statistics, the Augmented Dickey-Fuller (ADF) for unit root test, lag selection criteria for ARDL model, the bound test for Co-integration, Error Correction Method (ECM), and diagnostic tests are applied as a method of data analysis. The variables are transformed into logarithmic forms to keep them on the same base.

4.1 Descriptive Statistics

Table 1 represents the descriptive statistics for the required variables of study execution. GDP growth, external debt, gross capital formation, and exchange rate variables are negatively skewed, whereas the remaining broad money growth is positively skewed. All the variables indicated leptokurtic distribution (more peaked values) except the exchange rate, which had platykurtic distribution. Jarque-Bera probability values suggested that the broad money growth and exchange rate have a normal distribution.

Table 1. Descriptive Statistics

	LY	LED	LGCF	LM2	LER
Mean	0.684444	10.01947	1.270809	1.205246	1.573751
Median	0.711729	10.17822	1.299041	1.193409	1.613094
Std. Dev.	0.183434	0.524216	0.189905	0.162167	0.298246
Skewness	-1.778005	-1.364318	-1.202389	0.33624	-0.756577
Kurtosis	8.138638	5.14584	4.200831	4.622038	2.59934
Jarque-Bera	74.84738	24.10016	14.4499	5.781073	4.900326
Probability	0.000000	0.000006	0.000728	0.055546	0.08628
Sum	31.48442	480.9345	60.99883	54.23607	75.54004
Sum Sq.Dev.	1.514165	12.9157	1.69501	1.157115	4.180687

4.2 Unit Root test

ARDL bound test framework necessitates that all variables be formed by integration order of I (0) or I (1) or combining both. According to Ouattara (2004), the computed F-statistic turns invalid with the presence of order I (2). To apply the ARDL framework and avoid spurious regression, all variables must abstain from the order I (2). The unit root test is executed using the Augmented Dickey-Fuller (ADF) test. Results of the ADF test (Table 2) delineated that with constant, each variable is found stationary at both level and first difference, denoted by I (0), except for GDP growth and external debt, which are identified stationary at first difference only. However, with the constant and trend approach, GDP growth, broad money growth, and exchange rate confirmed the stationarity case for both stages. In contrast, rests were ascertained with I (1), indicating stationarity at only the first difference form. Overall, the result shows that none of the variables appeared with the I (2) order and permitted us to perform the ARDL application.

4.3 Lag Length Criteria

Appropriate lag length specification is a pre-requirement before applying the ARDL bound test. The optimal number of lags is chosen depending upon Vector Autoregressive Lag Length Selection Criteria. To confirm lag length under the VAR approach, the AIC provides more robust results than SC and HQ (Liew, 2004). From Table 3, according to AIC, the maximum number of lag-length for estimating our model is identified as 4. After determining the lag length, it is advisable to proceed with ARDL co-integration test.

Table 2. Results of ADF Test for Unit Root Analysis

	Constant			Constant and Trend		
Variables	Level	First Difference	Decision	Level	First Difference	Decision
LY	-0.05192	-2.76931***	I (1)	-4.65444*	-2.72144*	I (0)
LED	-1.300312	-7.94666*	I (1)	-3.05470	-7.20146*	I (1)
LGCF	-3.59586*	-10.16260*	I (0)	-2.28096	-10.14020*	I (1)
LM2	-5.64316*	-8.82232*	I (0)	-5.93742*	-8.68869*	I (0)
LER	-4.8618*	-4.43097*	I (0)	-4.03627**	-6.98464*	I (0)

*Note: *, ** and *** denote 1%, 5%, 10% level of significance.*

4.4 ARDL Bound Test for Co-integration

The results of the ARDL Bound test for Co-integration (Table 4) revealed that the computed F-statistic (9.132954) is higher respected to other lower and upper bounds at 1%, 2.50%, 5%, and 10% critical values, respectively. Since the null hypothesis expressing no co-integration exceeds the critical values, the bound test outcomes expose for rejection of the null hypothesis. The long-run nexus confirmed that economic performance proxied by GDP growth, external debt, gross capital formation, broad money growth, and exchange rate move in a similar way in the long run. The long-run nexus of Bangladesh's external borrowing and economic growth happened as a major portion of the debt is invested to finance physical infrastructure, i.e., roads, railways, electricity, gas, and water supply (Saifuddin, 2016). After determining the co-integrating relationship, the long and short-run parameters are identified and represented in the following sections.

Table 3. VAR Lag-Length Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	182.3497	NA	9.70E-11	-8.867484	-8.656374	-8.791153
1	377.0253	330.9485	2.03E-14	-17.35126	-16.08460*	-16.89328
2	409.4988	47.08663	1.48E-14	-17.72494	-15.40273	-16.8853
3	449.5698	48.08522*	8.23E-15	-18.47849	-15.10073	-17.2572
4	488.2178	36.71553	5.87e-15*	-19.16089*	-14.72758	-17.55794*

*Note: * indicates the lowest criteria of each variable.*

Table 4. Bound test for Co-integration

F-statistic 9.132954

Level of Significance	Lower Bound I(0)	Upper Bound I(1)
10%	2.45	3.52
5%	2.86	4.01
2.50%	3.25	4.49
1%	3.74	5.06

4.5 Long-run Result

The long-run coefficients result from Table 5 implied a positive and significant (at a 10 percent significance level) effect of external debt and gross capital formation on GDP growth. A 1 percent increase in ED will boost growth by 0.21 percent, and growth will also enhance by 0.64 percent due to an equal increment of GCF. The result denotes that external financing may improve the investment position and positively affect Bangladesh's economic growth. Meanwhile, the broad money growth (-0.0631) and exchange rate (-0.0298) affect economic growth negatively and are statistically insignificant. It is evident that money creation often leads to inflation, and Gylfason and Herbertsson (2001) concluded that more than a 10% to 20% inflation rate per year could incur a detrimental effect on growth.

Table 5. ARDL Long-run Coefficients

Variable	Coefficient	Standard Error	t-statistic	Probability
LED	0.206288	0.104751	1.969318	0.0593
LGCF	0.643680	0.319638	2.013777	0.0541
LM2	-0.063193	0.063167	-1.000413	0.326
LER	-0.029814	0.232756	-0.128091	0.899
C	-2.174206	0.881971	-2.465167	0.0203

4.6 Short-run Result

Table 6 represents the result of ARDL short-run coefficients. The most important part of the short-run model is the sign and coefficient associated with the ECM term. The error correction term measures convergence towards equilibrium if any shock arises in the short run. According to earlier work (Banerjee *et al.,* 1998), an effective ECM term is considered a necessary proof for having a stable long-run relation. The ECM term in our model is negative and statistically significant, confirming the expected adjustment towards the long-run equilibrium.

Table 6. ARDL Short-run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (LY (-1))	0.409628	0.282277	1.451158	0.1583
D (LY (-2))	0.497291	0.195150	2.548252	0.0168
D (LY (-3))	0.440839	0.092683	4.756413	0.0001
D (LED)	0.34369	0.173041	1.986176	0.0573
D(LGCF)	-1.530531	0.799375	-1.914658	0.0662
D (LGCF (-1))	3.204884	1.412424	2.269066	0.0315
D (LGCF (-2))	-1.408717	0.817022	-1.724209	0.0961
D (LM2)	-0.105284	0.103398	-1.018244	0.3176
D (LER)	2.070666	1.109135	1.866920	0.0728
CointEq (-1)	-1.666074	0.309597	-5.381436	0.0000

4.7 Diagnostic Test

Conduction of diagnostic tests is necessary to ensure that serial correlation, heteroscedasticity, and non-normality cases will not arise in the case of our long-run coefficients and ECM term to avoid the misspecification of the model. Table 7 shows the ARDL model diagnostic test results.

Table 7. ARDL Diagnostic Test

Diagnostic Test	Test Statistic	p-value
Serial Correlation LM Test	0.339026	0.8488
Heteroscedasticity Test	1.104718	0.3956
Normality Test	2.859106	0.23942

Whenever testing with serial correlation, the serial correlation LM Test proposed by Breusch-Godfrey is applied where associating p-value suggests the non-existence of serial correlation. BPG test is used here for the heteroscedasticity test. Since the null hypothesis pointing at no heteroscedasticity cannot be rejected, this model is free from the problem. The adjusted high p-value with the Jarque-Bera normality test reveals that residuals display normal distribution. Testing constancy of long-run parameters is required since instability problems may arise from the inadequate modeling of short-run parameters (Bahmani and Oskooee, 2001). For that purpose, the CUSUM and CUSUMSQ tests are applied for the stability justification of the model. Figure 1 and 2 represents the plots of recursive residuals.

According to the test, the model is considered stable if the plots stay within the critical bounds. The plots of CUSUM and CUSUMSQ residuals demonstrated in Fig. 1 and Fig. 2 are detected inside critical bounds at a 5% significance level, which further justifies the stability of the model.

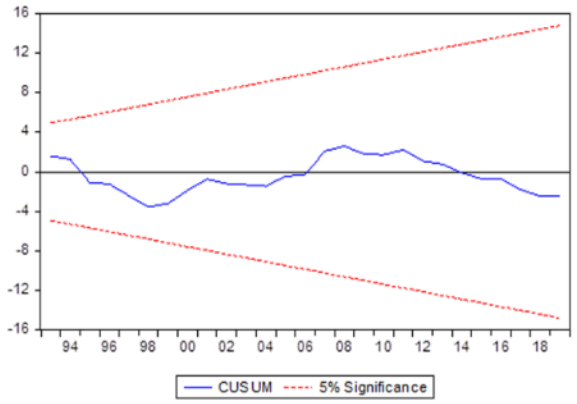

Fig. 1. Stability Test (CUSUM Test)

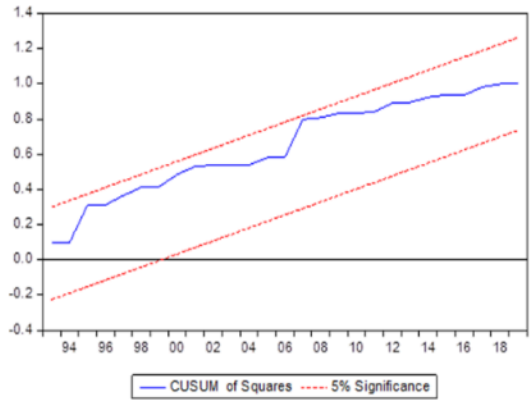

Fig. 2. Stability Test (CUSUMSQ Test)

5. Concluding Remarks and Policy Recommendations

The reliance of Bangladesh's economy on external debt turns out to be significantly higher in recent times due to a higher level of government borrowing to fill the budget deficit requirement. Since Bangladesh is on the way to graduating from the least developed countries (LDCs) list, many developments and mega-projects financed by donor agencies are in the running phase. At the same time, poor revenue collection and the COVID-19 recovery process induced the government to take the support of foreign loans to keep the economy as on track as before. Empirical findings revealed that external debt contributes to the economic growth of Bangladesh in the short and long run. External debt positively influences growth, measured by GDP growth, and investment by generating additional funds available to business entrepreneurs.

External debt costs badly for some developing nations due to improper debt management policies and inefficient usage of external resources. Policymakers of Bangladesh should act cautiously in maintaining a stable position of external debt and minimizing the risk of falling into a debt overhang situation. Excessive import dependency is one of the main reasons for the high external debt. Bangladesh should take initiatives to diversify export baskets and promote industrialization, ultimately curtailing the high import dependency. The exchange rate is

negatively associated with economic growth based on study findings proposing to maintain exchange rate stability and avoid excessive depreciation of the taka against the dollar. Capital formation through investment should be prioritized, and the Bangladesh government should attract foreign direct investment by ensuring compatible investment conditions for foreigners. Since the external debt needs to be repaid in foreign currency, it requires identifying optimal return sectors of debt to avoid falling into a foreign currency reserve crisis and should be invested in sectors that generate expected long-term returns.

Conflict of interest

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and falsification, double publication and submission, and redundancy have been completely witnessed by the authors.

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