

Does Market Capitalization Promote Economic Growth? A Case Study of Bangladesh

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ABSTRACT

The expansion of trade and industry significantly impacts an economy, ultimately influenced by the capital market. A country's central bank, government advisors, and business organizations closely monitor stock market activity. The main objective of this paper is to investigate the role of stock market capitalization in promoting economic growth in Bangladesh. To attain the goal, this study applied the unit root test, Granger causality test, Cointegration techniques, and Vector Error Correction model (VECM) by using yearly time series data from 1990 to 2020. The granger causality showed a bidirectional causal relationship between the variables. The findings confirm a positive and significant impact of stock market capitalization on GDP growth. Furthermore, the estimated error correction term suggests that the economy will correct the disequilibrium in GDP growth and converge to the equilibrium at a 4.2% rate in a year. Therefore, this study advocates the stock market regulatory body to address policy concerns that would encourage new companies to enter the market and increase investors' confidence.

Keywords: Market capitalization, Economic growth, Cointegration, VECM.

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1. Introduction

Economic growth is the ultimate goal of any country to achieve sustainable development. Economic growth requires a safe and sound financial system to serve as a transmission mechanism that transfers funds from savers to entrepreneurs seeking capital for productive investments (Barth et al. 2006). Generally, capital formation takes place in the financial system of a country, and this capital can be accumulated for effective economic growth through the capital market. In this case, a country's economic growth is affected mainly by the capital market, as it plays a significant role in mobilizing and allocating savings from the savers to the entrepreneurs. The stock market offers an opportunity to investors to collect capital at an affordable cost through market-based financing instead of bank-based financing, thereby positively influencing economic growth. Stock markets, in general, facilitate investment and economic growth by reducing the saving-investment gap and ensuring capital utilization. Well-functioning stock markets are expected to influence growth through increased capital accumulation and by influencing the efficiency of capital allocation (Levine, 2001). Being the important pillar of the economy, the stock market plays a pivotal role in promoting economic growth through the growth of industry and commerce, acting as a mediator between savers and borrowers.

According to Levine and Zervous (1998), certain factors can be used as a measurement of the stock market's performance, and as such, they have a direct relation with the economic growth of the country as well. These factors are mainly the size and liquidity of the stock market. Stock market capitalization and turnover of stocks, respectively, represent the size and liquidity of the stock market. Bangladesh's stock market is gradually growing in terms of market capitalization and turnover. Apart from having major crashes in 1996 and 2010, Bangladesh's stock market development has been noticeable since the early 1990s. Presently, the Bangladesh stock market is contributing significantly to the economy, which indicates the soundness of the stock market resulting in optimism among the stakeholders.

Many studies support the positive influence of the development of the stock market on its economic growth. Stock market development refers to its expansion depth and breadth. Market capitalization is one of the significant indicators of any stock market, representing the health of the capital market. Currently, the market

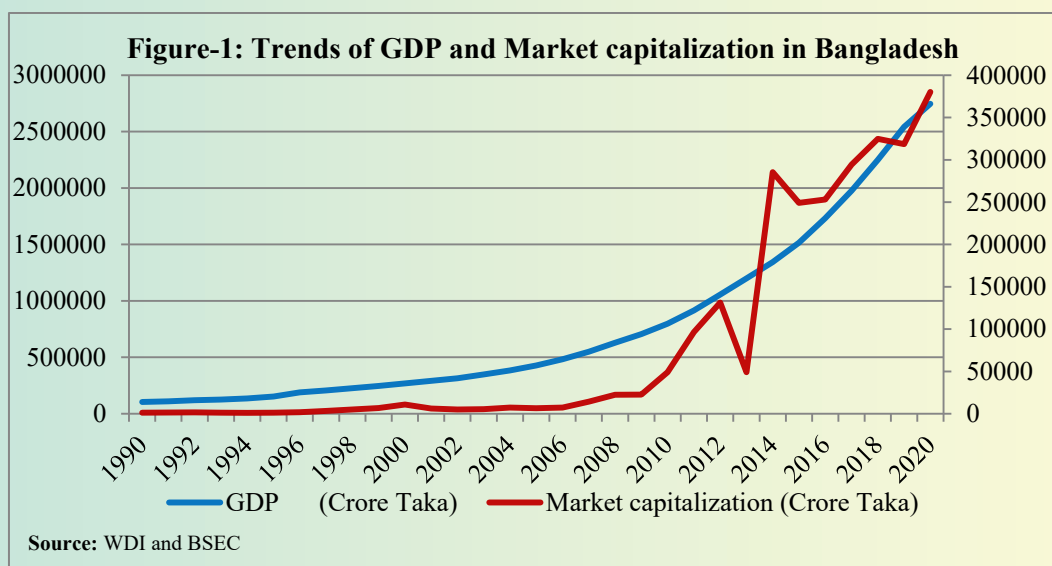
capitalization to GDP ratio is gradually growing up. Our study is disparate from all other studies by sample size and data types. This paper investigates the contribution of market capitalization to economic growth in Bangladesh using a time series analysis.

The rest of the paper is organized as follows: Section II provides an overview of Bangladesh's capital market. Section III presents the empirical studies related to the paper. Section IV contains data analysis and model specification. Section V includes empirical results and section VI presents diagnostic tests. Finally, section VII presents concluding remarks and policy implications.

2. An Overview of Bangladesh Capital Market

The capital market is regarded as the second-largest component of the financial system of Bangladesh. It contributes significantly to the financial sector by funding long-term investment plans and development projects that help hasten economic growth. This market is generally well known for facilitating capital inflows and improving the efficient mobilization of savings for investment. As a source of financing, the stock market plays a significant role in the economy of Bangladesh by contributing to economic growth. The market is comprised of the Dhaka Stock Exchange (DSE), the Chittagong Stock Exchange (CSE), and its subsidiaries. The stock market of Bangladesh is gradually growing in terms of depth and breadth, turnover, and market capitalization, which resulted in optimism among the stakeholders. By increasing the effectiveness of financial intermediaries, raising the marginal productivity of capital, and raising the savings rate, stock markets are crucial for boosting productivity (Jalloh, M.2015). Market capitalization refers to how much a company is worth as determined by the stock market. A firm's market capitalization is the sum of its outstanding shares' financial values. It is determined by dividing the share price by the number of outstanding shares (Omodero, C.O.2020). Market capitalization has a positive and significant link with the sustainable economic development of Bangladesh.

The following figure shows the trends of GDP and market capitalization of Bangladesh over the last four decades.



In figure-1, the data of GDP and market capitalization of DSE from 1990 to 2020 is plotted. The figure gives the impression that Bangladesh's economic growth is positively related to the amount of market capitalization, with a few ups and downs. The amount of market capitalization did not appear to change significantly until 2007. Afterward, it demonstrated an upward trend. It reached its highest amount in 2019 and continued with the increased market capitalization by maintaining a relationship with economic growth.

3. Literature Review

The stock market plays a vital role in the economy of any country. Since 1990s, studies on the relationship between the stock market and economic growth have been conducted in Bangladesh and other countries. Some studies have been conducted in the last decade. Using quarterly GDP and BET (index of MCAP) data, Barna, F., & Mura, P.O. (2010) found a positive bidirectional relationship between the stock market and economic growth in Romania. However, a stronger linkage is found between economic growth and the capital market. The author concluded that capital markets play an essential role in the economic development of emerging capital markets. The study by Nazir et al. (2010) also concluded the same result indicating that the economic growth of Pakistan can be attained through increasing the size of stock markets and market capitalization of the

country. The authors applied econometric analysis using data (1986-2012) of market capitalization ratio, turnover ratio, HDI of Pakistan, and FDI (% of GDP) corresponding to per capita GDP.

Jahfer, A., & Inoue, T. (2014) investigated the relationship between stock market development and economic growth in Sri Lanka using quarterly data from 1996 to 2011. They used stock market capitalization as a proxy of stock market development and applied the Johansen Co-integration test, Augmented Dickey-Fuller (ADF) test, and Vector Error Correction model (VECM). The result indicates the long-run unidirectional relationship between stock market development and economic growth, only directing from stock market development to economic growth.

A slight variation is observed in the study by Mia, A.H., Qamruzzaman, M., & Ara, L.A. (2014). In this study, the authors found a long-run bidirectional relationship between stock market development and economic growth and a short-run unidirectional relationship running from stock market development to economic growth. The authors used six independent variables in the study: market capitalization, turnover, foreign direct investment (FDI), initial public offering (IPO), Remittance, and local investment, and applied advanced econometric techniques of Unit Root Tests Co-integration test, Granger causality test, and Robust regression analysis.

Jalloh, M. (2015) carried out a study using various indicators of stock market capitalization and other financial indicators from a cross-section of 15 African countries over the period 2001-2012 and found a positive and significant relationship between stock market capitalization and economic growth. This study reveals that raising stock market capitalization on average by 10% will induce economic growth of approximately 5.4% in the countries studied. Considering the positive and significant relationship between stock market capitalization and economic growth found in the study, the authors draw the attention of policymakers to the implementation of necessary policy measures encouraging the development of the stock market to promote economic growth.

Employing the bounds testing co-integration procedure and ARDL-error correction model, Hasan, M.A (2018) examines whether stock market

development promotes the economic growth of Bangladesh or not. The author used time series data covering 37 years (1981 to 2017) using independent variables of the market size (market capitalization) and market liquidity (turnover ratio) from the Dhaka Stock Exchange (DSE). The test result shows highly-significant long-run causality from stock market development to real economic growth and no short-run causality between the two.

Almost all the researchers from home and abroad found a positive correlation between capital market development and economic growth. However, the direction and time horizon link varies from researcher to researcher and country to country.

Using time series data (1993-2016) and applying ARDL Bounds testing approach, Mamun et al. (2018) found a direct impact of stock market development on economic growth both in the short-run and long-run together with financial depth, interest spread, and real effective exchange rate. Along with GDP as a dependent variable, the author used four independent variables: stock market capitalization ratio as a proxy of stock market development, financial depth (broad money divided by GDP), interest rate spread (the difference between lending and deposit rate), and Real effective exchange rate. The Granger causality test result of the study confirms a bidirectional relationship between stock market development and economic growth.

Hossin et al. (2019) found both short-run and long-run relationships between the stock market and economic growth in Bangladesh by applying the Augmented Dickey-Fuller test, Co-integration test, Error-Correction Modeling, and Granger Causality test. The study covers time series data from 1989 to 2012 using GDP growth rate as a proxy of economic growth and market capitalization as a proxy of stock market development. The evidence from the result indicates that the long-run causality runs from stock market development to economic growth with no reverse relation.

Using a time series data from 1998 to 2019, ARUMONA et al. (2020) investigated the effect of stock market capitalization on Nigerian economic growth. Analyzing the results from VECM model, they concluded that stock market capitalization has a significant effect on Nigerian economic growth. The

study suggested that the Nigeria government should place priority on the development of the stock market through formulated effective monetary and fiscal policy management.

Using information on market capitalization, stock turnover, and GDP growth from 2001 to 2018, Hossin et al. (2021), assess the impact of capital market performance on Bangladesh's economy. The unit root test, Johansen co-integration test, vector error correction model, autoregressive distributed lag model, non-linear autoregressive distributed lag model, Granger causality test, and Toda-Yamamoto Granger non-causality test were all used in this study to investigate this effect. The outcome of the vector error correction model showed that market capitalization and stock turnover, which are independent variables of GDP, have a long-term relationship. Again, the outcomes of both the non-linear autoregressive distributed lag model and the autoregressive distributed lag model demonstrated that there is a sizable positive association between Bangladesh's stock market and its GDP. Finally, the unidirectional causation connecting the capital market to GDP is confirmed by the Toda-Yamamoto Granger non-causality test.

Adegun et al. (2022) looked at how Nigeria's market capitalization was affected by the country's economic recovery. The study's precise goals include investigating the relationship between market capitalization and the growth rate of the gross domestic product (GDP), figuring out the impact of inflation on market capitalization, and evaluating the influence of exchange rates on market capitalization. The hypotheses were tested using multiple regression analysis through compiling the necessary data from secondary sources. According to the research, market capitalization is positively impacted by GDP growth but negatively impacted by inflation and currency rates. The report suggests that the Nigerian government come up with a strategy for accelerating the rate of growth of the country's GDP through efficient use of its budgetary and revenue allocations. The research also suggests that the Nigerian government make sure that inflation is kept to a minimum while the country's economy is recovering. Market capitalization in Nigeria may decrease due to inflation, which is the main economic component that might be impeded by an economic downturn.

Most of the studies reveal that the development of the capital market tends to promote economic growth as the capital market plays a very crucial role in the growth of commerce and industry. Despite the fact that a good number of studies have broadly attempted to examine the relationship between stock market development and economic growth, there seems to be a space for more research to determine the impact of stock market developments on the economic growth of Bangladesh. Almost all the studies have concluded a long-run positive relationship between stock market development and economic growth. Some studies found bi-directional causation between stock market developments and economic growth, whereas others found unidirectional causation between the two. Besides, some studies also found a short-run relationship between stock market development and economic growth, whereas others did not. Most researchers used yearly data; some used quarterly data, and others used monthly data. In this study, yearly data (1990-2020) is used from World Development Indicators (WDI) and Bangladesh Security Exchange Commission (BSEC) to investigate the impact of stock market capitalization on economic growth in Bangladesh.

4. Data and Model Specification

4.1 Data

This study attempts to investigate the relationship between stock market capitalization and the economic growth of Bangladesh using secondary data from different sources for the period 1990 to 2020. GDP, the dependent variable, is used as a proxy to measure the economic growth of Bangladesh and market capitalization is used as independent variable. The market capitalization of Dhaka Stock Exchange (DSE) is used as the proxy of stock market capitalization since it is the major contributor in Bangladesh capital Market. The data of GDP was collected from world development indicators and the data of market capitalization of DSE was collected from various issues of annual report of the Bangladesh Security Exchange Commission (BSEC). Fiscal year data is used in this study and GDP is considered at current prices as the data on market capitalization are available at current prices only.

4.2 Model Specification

A regression analysis has been undertaken to show the relationship between stock market capitalization and the economic growth of Bangladesh. Based on the study of Hossin et al. (2019) and ARUMONA et al. (2020) we specify the following relationship.

$$GDP = f(DSEMC)$$

Where, GDP= Gross Domestic Product (as a proxy of economic growth)

DSEMC = Dhaka Stock Exchange Market Capitalization

A log-linear time series specification for studying the effect of stock market capitalization on economic growth is given by:

$$\ln(GDP) = \beta_0 + \beta_1 \ln(DSEMC) + \varepsilon_t$$

Where, β_0 is the constant, β_1 is the co-efficient of the DSEMC and ε_t indicates error term with zero mean and constant variance.

5. Empirical Results

5.1 Stationarity Test Result

Both the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron (PP) test are adopted to check the stationarity of the variables with a view to avoiding spurious results. The ADF and PP test statistic results of the variables are presented in table-1.

Table-1: Unit Root Test

Variables	ADF				PP			
	Level		First Difference		Level		First Difference	
	Constant	Constant and Linear Trend	Constant	Constant and Linear Trend	Constant	Constant and Linear Trend	Constant	Constant and Linear Trend
lnGDP	1.57	-0.97	-4.01*	-4.18*	1.42	-1.15	-4.03*	-3.92**
lnDSEMC	-1.51	-3.34***	-7.61*	-7.58*	-1.46	-3.41***	-7.82*	-7.78*

Note: *, **&*** indicate significant at 1%,5%& 10% level respectively.

The above results show that both variables are stationary at first difference at 1% and 5% level of significance, which means both variables are I(1) and it permits

us to go for a VECM model in case any cointegration is found among the variables of interest.

5.2 Granger Causality Test

Granger causality test is used to examine the causality between DSEMC and GDP. Based on this test, it's possible to determine the direction of causality between two variables. Table-2 displays the results of the pair-wise causality test developed by Engel and Granger.

Table-2: Granger Causality Test

Null Hypothesis	Observation	F-Statistics	Probability
lnDSEMC does not Granger Cause LGDP	31	3.52	0.03*
lnGDP does not Granger Cause LDSEMC		15.88	0.00*

Note: *indicate 5% level of significance

The results shown in the above table indicate that the null hypotheses are rejected and there is bidirectional causality between lnDSEMC and lnGDP. This finding implies that a change in market capitalization does cause a movement in GDP and vice-versa.

5.3 Selection of Optimal Lag

Prior to estimating any cointegration among the variables in this model, the optimal lag length must be selected. Various information and probability criteria can do it easily and the result of all the available criteria is presented at Table-3. Most of the criteria hint for 3 as the optimal lag for this model.

Table-3: Optimal Lag selection

Lag	LogL	LR	FPE	AIC	SC
0	-79.02	NA	0.64	5.23	5.32
1	35.66	207.16	0.00	-1.91	-1.64
2	47.15	19.28	0.00	-2.40	-1.93
3	54.40	11.22*	0.00*	-2.61*	-1.96*

* indicates lag order selected by the criterion

5.4 Johansen Test of Cointegration

The Johansen cointegration test procedure uses two tests to determine the number of cointegration vectors: The Maximum Eigen value test and the Trace test. To investigate the existence of possible long-run relationship among the variables, Johansen test of cointegration is performed with 3 lag and the results (Presented at table-4) suggest that both λ_{max} and λ_{trace} statistic rule out the possibility of no cointegrating relation at 5% level of significance. The trace statistic tests the null hypothesis that there is no cointegrated equation. Therefore, a rejection of the null hypothesis means that there are cointegrating equations. From the table above the trace statistic of 16.73 clearly exceed the critical value of 15.41 at 99 percent confidence interval, hence, we are rejecting the null hypothesis and conclude that there is at least one cointegrating relationship and therefore, a long run equilibrium relationship exists between the variables. The eigen value test also supported this claim of long run equilibrium relationship between the variables. The maximum eigen value statistics of 15.54 exceed the critical value of 14.07 at 99 percent confidence level, thus, we are rejecting the null hypothesis of no cointegrating relationships between the variables.

Table-4: Johansen Test of Cointegration

Null Hypothesis	Trace Statistics			Max-Eigen statistics		
	λ_{trace}	5% Critical Value	1% Critical Value	λ_{max}	5% Critical Value	1% Critical Value
$r=0$	16.73*	15.41	20.04	15.54*	14.07	18.63
$r \leq 1$	1.19	3.76	6.65	1.19	3.76	6.65

*(**) denotes rejection of the hypothesis at the 5% (1%) level.

5.5 Vector Error Correction Model (VECM) Test

VECM technique is handy in estimating the required level or period for bringing back to equilibrium state after some shock, foreseen or unforeseen, to any or some of the variables of the model. So, this model captures the underlying long-run and, most importantly, short-term dynamics among the dependent and independent variables. As one of the preconditions i.e. existence of at least one cointegrating relation among the variables of interest, is met, we can proceed to the VECM model. The long run relationship between the variables can be shown in the following equation-

$$\ln GDP_t = 8.18 + 0.79 \ln DSEMC_t \dots \dots \dots (1)$$

According to this equation, market capitalization significantly affects GDP. More specifically, if everything else stays the same, a 1% rise in market capitalization will cause the GDP to rise by 0.79 %. Since LDSEMC and LGDP are cointegrated, a short run equation of vector error correction model representation could have the following form:

$$\Delta \ln GDP = \beta_0 + \sum_{j=1}^M \beta_j \Delta \ln DSEMC_{t-j} + \alpha EC_{t-1} + \mu_t \dots \dots \dots (2)$$

Where, Δ is the first difference and μ_t is the error term with mean zero.

As stated previously, this short run dynamics depicts the convergence path, if any, following any sort of shock that caused temporary disequilibrium. The coefficient of EC_{t-1} (i.e. -0.042) which is termed as the speed of adjustment and the negative sign indicates that the short run dynamics act to converge to the long run equilibrium. The fact that absolute value of less than one indicates its convergence path will be not be oscillatory in nature and the absolute value of 0.042 of the error correction signifies that approximate 4.2 percent of the shock of any particular year will disappear in the very next year requiring more than 20 years to bring the system into the steady state once it is disturbed. Last but not least, the adjusted R^2 of 0.40 points out that approximately 40 percent variation in the dependent variable is explained by the independent variable included in the model.

The short run dynamics of the VECM model is presented in table-5.

Table-5: Error Correction Equations

Dependent Variable: ΔGDP			
Regressors	Coefficient	Std. Dev.	t-statistic
Constant	0.218	0.040	5.413
EC_{t-1}	-0.042	0.011	-3.839
$\Delta \ln GDP(-1)$	0.025	0.180	0.141
$\Delta \ln GDP(-2)$	-0.488	0.265	-1.844
$\Delta \ln GDP(-3)$	-0.542	0.258	-2.098
$\Delta \ln DSEMC(-1)$	-0.008	0.010	-0.758
$\Delta \ln DSEMC(-2)$	0.009	0.007	1.224
$\Delta \ln DSEMC(-3)$	0.008	0.006	1.341
$R^2 = 0.54$			
Adjusted $R^2 = 0.40$			
F-Statistics = 3.82			

6. Diagnostics tests

To test the health of the estimated model, roll out and data or model related misspecification as well as the possibility of spurious correlation, relevant statistical tests namely the normality test, serial correlation LM test and heteroscedasticity test have been performed. The finding from normality test, performed using Jarque-Bera, ensures that error terms are normally distributed. The Serial Correlation LM test confirms that there is no serial correlation in the residuals of the ECM regression up to ten lags. The heteroscedasticity test result shows that the test cannot reject the null hypothesis that there is no heteroscedasticity.

7. Conclusion and Policy Implications

In this study, Johansen cointegration technique as well as VECM approach has been applied to analyze the effect of market capitalization on Economic growth of Bangladesh using yearly data covering the period of 1990 to 2020. The findings from the empirical results indicate that market capitalization has long term positive impact on economic growth. But this relationship is not statistically significant. The estimated results from the paper indicate that there is a bi-directional relationship between market capitalization and Economic growth in Bangladesh. The findings imply that economic growth in Bangladesh can be achieved by raising stock market capitalization levels. The bidirectional relationship between market capitalization and economic growth indicate that development of stock market results in economic growth and at the same time economic growth also works for the betterment of stock market in Bangladesh. The significant error correction term showed the disequilibrium will be disappeared by 4.2 percent a year.

Market capitalization is the total value of a company's shares of stock which allows investors to size up a company based on how valuable the public perceives it to be. Large market capitalization typically indicates lower volatility and a steady dividend stream. It helps investors to predict the future performance of the stock of a company. Market capitalization, one of the instruments of keeping a steady market, is positively linked with the economic growth in Bangladesh. Therefore, the stock market regulatory body should address policy issues to

encourage new companies to enter the market and increase investors' confidence through improved policy formulation.

Some initiatives must be undertaken in this regard. Ensuring the smooth operation of the primary and secondary markets; increasing financial literacy among investors; minimizing market volatility, creating both individual and institutional investors; improving brokerage house efficiency; initiating knowledge-based trading; rationalizing the cost of generating funds and costs of funds; reducing formalities involved and required documents are all suggested here to increase the total value of trade significantly, thus raising stock market capitalization, which ultimately will increase economic growth at an expected level .

References:

- Adegun, E. A., Akeh, M. U., & Anochie, U. C. (2022). Impact of Economic Recovery on Market Capitalization In Nigeria.
- Arumona, J., Lambe, I., & Dauda, J. D. (2020). Effect of Market Capitalization on Nigerian Economic Growth.
- Banerjee, P. K., Ahmed, M. N., & Hossain, M. M. (2017). Bank, stock market and economic growth: Bangladesh perspective. *The Journal of Developing Areas*, 51(2), 17–29.
- Bangladesh Bank, Annual Report-2020-2021.
- BSEC, Annual Report, Various Issues, Bangladesh Securities and Exchanges Commission (BSEC).
- Barna, F., & Mura, P. O. (2010). Capital market development and economic growth: the case of Romania. *Annals of the University of Petrosani, economics*, 10(2), 31–42.
- Barth, J. R., McCarthy, D., Phumiwasana, T., & Yago, G. (2006). Opportunities and challenges in Asian Bond Markets. *Asia's Debt Capital Markets*, 11–32. https://doi.org/10.1007/0-387-25090-5_2.
- Dökmen, G., Ahmet, A. Y. S. U., & Bayramoğlu, M. F. (2015). Linkages between market capitalization and economic growth: the case of emerging markets. *Uluslararası Ekonomik Araştırmalar Dergisi*, 1(1), 39–48.
- Hasan, M. A. (2018). Does stock market development promote economic growth? A bounds testing analysis for Bangladesh. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, 6(1), 69–78.
- Hossain, M. S., & Kamal, K. M. M. (2010, August). Does stock market development cause economic growth? A time series analysis for Bangladesh economy. In *international conference on applied economics-ICOAE*.
- Hossin, Md. S., & Hamid, Md. K. (2021). Capital Market Performance and Bangladesh's economy: An empirical study. *Global Business Review*. <https://doi.org/10.1177/0972150920982247>.
- Hossin, M. S., & Islam, M. S. (2019). Stock market development and economic growth in Bangladesh: An empirical appraisal. *International Journal of Economics and Financial Research*, 5(11), 252–258.

- Jahfer, A., & Inoue, T. (2014). Stock market development and economic growth in Sri Lanka. *International Journal of Business and Emerging Markets*, 6(3), 271–282.
- Jalloh, M. (2015). Does stock market capitalization influences economic growth in Africa? Evidence from panel data. *Applied Economics and Finance*, 2(1), 91–101.
- Levine, R. (2001). International financial liberalization and economic growth. *Review of international Economics*, 9(4), 688–702.
- Levine, R., & Zervos, S. (1998). Capital control liberalization and stock market development. *World development*, 26(7), 1169–1183.
- Mamun, A., Ali, M. H., Hoque, N., Mowla, M. M., & Basher, S. (2018). The causality between stock market development and economic growth: Econometric evidence from Bangladesh. *International Journal of Economics and Finance*, 10(5), 212.
- Mia, A. H., Qamruzzaman, M., & Ara, L. A. (2014). Stock market development and economic growth of Bangladesh-A causal analysis. *Bangladesh Journal of MIS*, 6(2), 62–74.
- Nazir, MS, Nawaz, MM, & Gilani, UJ (2010). Relationship between economic growth and stock market development. *African Journal of Business Management*, 4(16), 3473–3479.
- Omodero, C. O. (2020). Capital market determinants and market capitalization in Nigeria. *International Journal of Financial Research*, 11(1), 462–473.
- Khan, Z. S., & Hossain, M. I. (2010). Democracy and trade balance: a vector autoregressive analysis. *Bangladesh Development Studies*, 33(4), 23.
- World Bank (2020), World development indicators (WDI). Retrieved March 20, 2022 from: <https://databank.worldbank.org/reports.aspx?source=world-development-indicator>.