

DYNAMICS AND CAUSALITY AMONG ECONOMIC GROWTH, FINANCIAL DEVELOPMENT AND BUDGETARY ALLOCATION TO THE TOURISM SECTOR OF BANGLADESH

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Citation: Bhuiyan, M.B., Islam, M.A., Haque, M.Z., & Hassan, M.K. (2021). DYNAMICS AND CAUSALITY AMONG ECONOMIC GROWTH, FINANCIAL DEVELOPMENT AND BUDGETARY ALLOCATION TO THE TOURISM SECTOR OF BANGLADESH. *GeoJournal of Tourism and Geosites*, 35(2), 419–427. <https://doi.org/10.30892/gtg.35221-668>

Abstract: Tourism contributes to economic growth and financial development in many countries around the world. The aim of the study is to examine the cause and effect relationship between economic growth, financial development and budgetary allocation to the Bangladesh tourism industry during 2000-2019. Several methods such as Augmented Dickey-Fuller (ADF), Phillips-Perron (PP), Johansen-Juselius Cointegration, and Granger Causality tests have been applied to measure the associations between the variables. The results show that there is a cause and effect relationship between the budgetary allocations and economic growth and budgetary allocation also causes of financial development.

Key words: tourism, budgetary allocation, economic growth, financial development, and Bangladesh

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INTRODUCTION

Tourism, a growing industry of Bangladesh, has contributed 4.4% to the total GDP of the country in 2018 (UNWTO, 2019). Despite having a considerable contribution to the economy of the country the relative budgetary allocation to the tourism industry is considerably inadequate (Hasan, 2020). The government of the country has allocated BDT 34.88 billion in FY2019-20 to the tourism industry through the Ministry of Civil Aviation and Tourism. The allocation is more than double in relation to previous financial year that indicates that the Government is providing more priority to the Bangladesh tourism sector. But still, the allocation of tourism is only 0.67% of the national budget of FY2019-20. Due to the limited allocation in the national budget for decades, the tourism industry in Bangladesh is relatively staying behind than its neighboring South Asian countries such as India and Nepal (Shawon, 2017). With considerable natural and cultural tourism resources in Bangladesh, the country has high potentials to flourish domestic and inbound tourism depending upon budgetary allocation to the industry (Tuli, 2014). In Bangladesh, the tourism sector is extremely driven by SMEs (Small and medium enterprises), particularly in hotels, motels, restaurants, tour operators, travel agencies, and entertainment facilities providers. Except for a few international flagship hotels, most of the tourism businesses of the country are based on domestic investment by the private entrepreneurs. At present, the tourism industry does not receive any direct monetary supports like cash allowances, tax holidays and VAT deductions from the government of the country (Uddin, 2019).

In the financial policy of Bangladesh, other industries such as readymade garments, leather goods, and agriculture receive monetary support to grow and develop whereas tourism is widely ignored for years in the national budget. One of the core reasons for not allocating a significant amount of money in the national budget for tourism is not realizing the importance of the industry to the overall economy. The budgetary allocation influences any industry in terms of economic growth and financial development. If the increase of allocation results in affirmative changes in the economy then the budget is considered to be appropriately utilized. It is, therefore, important to assess how the increase in budgetary allocation to an industry contributes to the economic growth and development (Kontsiwe and Visser, 2019; McGuire et al., 2020). The result of the assessment provides decision-makers whether the budgetary allocation to the industry is worthy. Researchers working on budgetary allocation and its impacts hardly looked at how much changes occur in the economy of Bangladesh due to changes in the budget of tourism. In order to address this research gap, the objective of the research is to examine the cause and effect relationship between economic growth, financial development and budgetary allocation to the

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Bangladesh tourism industry during the period of 2000-2019. To do so, this study utilized different econometric models on the time-series data of Bangladesh regarding budgetary allocation to tourism, economic growth and financial development.

Utilization of public finance can be assessed by addressing three Es criteria: effectiveness, efficiency, and economy. For being effective, the allocation of the budget to any industry such as agriculture, banking and tourism needs to be ensured that the financing will accomplish the desired contribution to the economy in terms of growth and development (Garidzirai and Pasara, 2020). Ineffective deployment of national finance discourages government to continue the allocation for the following fiscal years. Effective utilization of budgetary allocation is necessary but not sufficient for the betterment of an economy – ensuring efficient use of the money is also vital. If the allocated money for the industry cannot create reasonable functional benefit to the economy, then it is wise to utilize the money for other industries that can make sure efficient usage of the allocation. A monetary assessment can be a way to measure how the available financial resources can deliver optimum economic benefit. Efficient utilization of the budgetary allocation is likely to contribute to the health of GDP and growth.

The government of a country usually allocates the financial resources in the sectors where there are high growth potentials (Joshi, 2018; Rudnik and Romanova, 2017). Established industries that contribute to the GDP of a nation at a significant level receive more budgetary allocation than those which contribute less (Eze et al., 2020). Every country, even a developed nation, wants to allocate its budget such a way so that they can maximize their national production, GDP growth rate and infrastructural and procedural development. Besides, a range of factors such as public demands, immediate need-fulfilment requirements, high growth potentiality, governance policy, the relative importance of the sector for a nation are the determinants of what would be the amount of budgetary allocation for an industry (Baumgartner et al., 2017; Bondarenko et al., 2018; Rudnik and Romanova, 2017; Voronkova et al., 2020). There are some countries such as Maldives, New Zealand, and France where tourism is one of the top sectors which contributes to GDP, have high budgetary allocation of the tourism industry. Most of the countries that cannot recognize the indirect impact of tourism on national income do not assign reasonable finance for the sector (Abrahams, 2019; Joshi, 2018).

Tourism, as high yield financial sector, can contribute to economic growth and development in several ways. Firstly, it encourages technological advancement in the hospitality service production procedure that may lead to economic advancement (Akimov et al., 2009). Secondly, tourism accelerates investment in related production sectors and human capital development (Lemmetynen and Go, 2009). Thirdly, tourism is likely to be a reason for industrial development due to the spillover effect (Cernat and Gourdon, 2012). Fourthly, travel and tourism can create new job opportunities and develops standard of living by promoting earnings of local residents of tourist destinations (Fredman, 2008; Lee and Chang, 2008). Last but not least, tourism accelerates infrastructural development which supports relevant industrial growth and development of nations (Croes, 2006). Inbound tourism is an emerging approach to export in many countries of the world and domestic tourism is proved means of financial development by increasing the velocity of money (Dolnicar et al., 2008; Alegre, 2010; Shahbaz et al., 2016). In context of many developing and developed countries, tourism belongs to one of the top important economic functions.

Many scholars including Kim and Chen (2006), Wang (2009); Yap and Allen (2011), Hung, et al. (2011), Pablo-Romero and Molina (2013); Kumar et al. (2015), Ridderstaat and Croes (2015); Brida et al. (2016), Utomo et al. (2020), address the association between allocation in the national budget for tourism and economic growth and financial development. Whereas, a group of scholars such as Bouzahzah and Menyari (2013), Ivanov and Webster (2012); Lee (2012); Matarrita-Cascante (2010) have found that economic growth has favorable influence on tourism, however, influence of tourism on economic growth is unrecognized by researchers community. While a group of other research results including Seetanah, (2011) and Yazdi et al. (2017) address that there is a lean type of connection between tourism development and economic growth. Again, a few other studies such as - Katircioglu, 2009; Tang and Jang, 2009 cannot find any association between economic growth and tourism. Lanza and Pigliaru (2000) and Singh (2008) find in their researches that countries with small land area are relatively more depended on tourism, while Sequeira and Nunes (2008) conclude that size of a country has no effect on tourism in terms of economic functions. Ekanayake and Long (2012) and Figini and Vici (2010) unearth that tourism is less visible in developing countries compared to developed nations in terms of economic growth (Cárdenas-García et al., 2015). Tourism has a positive influence on the economic growth in case of both developing and developed nations but developed countries are having more growth (McKinnon, 1964; Seetanah, 2011; Salmani et al., 2014).

Tourism, generally, is not considered as a prominent economic sector in Bangladesh (Mowla, 2019). The industry does not gain desired attention for years in terms of budgetary allocation as much as it should have (Hassan et al., 2013, Alauddin et al., 2014). There are two main reasons for this. Primarily, the true contribution of tourism to the economy is largely uncalculated. There are quite several sub-sectors such as - accommodation, transportation, food and beverage, and entertainment are involved in tourism (Divisekera, 2010; Hassan, 2012). There is no national policy to add the contribution of all sub-sectors together to determine the true contribution of the tourism industry to the economy. The country does not maintain any tourism satellite account (TSA) as a result the true contribution of tourism to the national economy of Bangladesh is largely unrecognized. Therefore, budgetary allocation for tourism is relatively lesser than other industries which have a visible contribution to the economy. Secondly, lack of immediate and direct revenue by tourism often discourages the government body of the country to allocate sufficient budget money in the industry. As a developing country, Bangladesh has a lot of poverty-related current social problem that takes more focus in the national budget than tourism.

In order to enhance budgetary allocation to the tourism industry in Bangladesh, a clear assessment of the current contribution of the industry to the economy is required. It also needs to reveal how the extension of the budget amount for tourism impacts on economic growth and financial development. If the government of the country finds a reasonable positive association between allocation to tourism and the growth of GDP, then it is more likely that the government will be encouraged to allocate money in the national budget (Lim et al., 2009; Rudez, 2008; Mullen and Arora, 2016). Relative contribution to

economic growth is another aspect. With a particular amount of budgetary allocation, if tourism industry can contribute more to the growth than other industries then the tourism industry has a greater chance to receive the allocation. Besides, the budgetary allocation of tourism should ensure more velocity of money in the economy than that of another industry. Except for a few studies such as - the research regarding the relationship of the budgetary allocation in tourism and economic growth is largely ignored by the researcher communities. Addressing this research gap can provide an outline of how and why the government should allocate budget for tourism for increasing economic growth and financial development.

METHODS AND MODELS EMPLOYED

In order to address the cause and effect relationship between the three variables – economic growth, budgetary allocation to the tourism and financial development, this research employed the vector error correction model (VECM) theme. Before estimating the relationship among the variables, it is important to identify the presence of unit root and cointegration between the time series data. This process will accelerate the implementation of VECM schemes that assumes that all variables are endogenous.

1. Unit Root Test

To examine the status of three variables, this research applied a unit root test for the historical data series regarding economic growth, financial development, and budgetary allocation to tourism. The reason for using unit root test is to determine the nature of the variables – stationary or continuous. The test also examines the degree of integration between the variables. This research identifies the existence of unit root in the financial data by analyzing the Augmented Dickey-Fuller (ADF) test and Phillips-Perron (PP) test. The autoregressive unit root analysis is improved by Said and Dickey (1984) to satisfy autoregressive-moving-average (ARMA) frameworks with undisclosed sequences. The analysis of these frameworks is ADF test that results in examining the complementary regression (Dickey and Fuller, 1979; Said and Dickey, 1984).

$$y_t = \beta' D_t + \phi y_{t-1} + \sum_{j=1}^p \psi_j \Delta y_{t-j} + \varepsilon_t$$

Here, D_t stands for a vector of inevitable terms (constant, trend and so on). ϕy_{t-1} is a coefficient of null hypothesis y_t . The ρ and Δy_{t-j} are applied to determine the errors related to ARMA arrangement, and ρ value is meant by the error ε_t that is sequentially uncorrelated. In this case, the ADF analysis uses parametric 'auto regression'. The error term is also assumed to be homoskedastic. The specification of the deterministic terms depends on the assumed behavior of y_t under the alternative hypothesis of trend stationary as described in the previous section. Under the null hypothesis, y_t is $I(1)$ which implies that $\phi = 1$. The PP analysis ignores the chronological correlation in case of testing regression. For the PP analysis, the test regression is:

$$\Delta y_t = \beta' D_t + \pi y_{t-1} + u_t \quad u_t \sim I(0)$$

Here u_t is $I(0)$ that can be heteroskedastic in nature. The PP tests have been used for chronological correlation analysis. The heteroskedasticity in u_t transforms the $t_{\pi=0}$ and $\hat{T} \hat{\pi}$. These modified test statistics stand for Z_t and Z_π are given:

$$Z_t = \left(\frac{\hat{\sigma}^2}{\hat{\lambda}^2} \right)^{1/2} \cdot t_{\pi=0} - \frac{1}{2} \left(\frac{\hat{\lambda}^2 - \hat{\sigma}^2}{\hat{\lambda}^2} \right) \cdot \left(\frac{T \cdot SE(\hat{\pi})}{\hat{\sigma}^2} \right)$$

$$Z_\pi = T \hat{\pi} - \frac{1}{2} \frac{T^2 \cdot SE(\hat{\pi})}{\hat{\sigma}^2} (\hat{\lambda}^2 - \hat{\sigma}^2)$$

The terms $\hat{\sigma}^2$ and $\hat{\lambda}^2$ are consistent estimates of the variance parameters.

$$\sigma^2 = \lim_{T \rightarrow \infty} T^{-1} \sum_{t=1}^T E[u_t^2] \quad \lambda^2 = \lim_{T \rightarrow \infty} \sum_{t=1}^T E[T^{-1} S^2 T]$$

where $S_T = \sum_{t=1}^T u_t$. The sample variance of the least squares residual \hat{u}_t is a consistent estimate of σ^2 , and the Newey-West long-run variance estimate of u_t using \hat{u}_t is a consistent estimate of λ^2 .

2. Cointegration Analysis

The theory implies the association of cointegration in a model has a regular equilibrium movement between the variables in the long-run. When the time-series are fixed at first difference, it is assumed that variables are integrated. The study employed the Johansen and Juselius (1990) cointegration model to identify the number of cointegrations vector(s). Johansen and Juselius (1990) multivariate cointegration model can be expressed as:

$$\Delta Y_t = \alpha_0 + \Pi Y_{t-1} + \sum_{i=1}^{p-1} \Pi_i \Delta Y_{t-i} + \varepsilon_t$$

Here, Π and Γ_i are the coefficient matrices, Δ is the symbol of difference operator and p is the lag order selected based on Schwarz Bayesian Criterion (SBC). Johansen-Juselius techniques use two likelihood ratio test statistics to obtain

the quantity of cointegrating vector(s) known as the Maximum Eigenvalue test and the Trace test which can be computed respectively as:

$$\lambda_{max}(r,r+1)=-T\ln(1-\tilde{\lambda}_{r+1})$$

$$T(r)=-T\sum_{i=r+1}^n \tilde{\lambda}_i (1-\tilde{\lambda}_i)^{n-i}$$

Here, $\tilde{\lambda}_i$ indicates the expected Eigenvalue of the characteristic roots and the size of the sample is notated with T . The null hypothesis of the Trace test investigates the quantity of r cointegrating vectors between the substitute of n cointegrating vectors. The null hypothesis of the Highest Eigenvalue test investigates the quantity of r cointegrating vectors between the substitute of $r+1$ cointegrating vectors. So after performing the Johansen-Juselius test, it is concluded that there is a cointegration among the variables and long-run relationship exists among the variables.

3. Granger Causality Test

The Granger Causality test because of its large acceptability to investigate the degree of causality among economic growth, budgetary allocation to the tourism sector and financial development is applied in this research. The premise of the Granger Causality is that X reasons for Y if Y may be described by the current values of X compare to the past values of Y. The Granger Causality test is determined using regression equations provided by Granger (1969) and Freeman (1983).

$$Y_t = \sum_{i=1}^m \beta_i Y_{t-i} + \sum_{i=1}^n \phi_i X_{t-i} + \varepsilon_t \quad X_t = \sum_{i=1}^m \phi_i X_{t-i} + \sum_{i=1}^n \mu_i Y_{t-i} + v_t$$

here, ε_t and v_t stand for noise error factor and m & n stand for the number of lags. The present value of Y is associated with past values and that of X; and X_t indicates to identical characteristics of X. For detailed explanation of the mentioned equations, see the paper of Granger (1969) and Freeman (1983).

4. Data Description and Analysis Technique

The research presented in this paper attempts to address the dynamics and causality among economic growth, budgetary allocation in Bangladesh tourism sector and financial development. Secondary source have been utilized in the analysis. The study used the annual figure for the period stretching from 2000 to 2019 representing the economic growth (a proxy variable of GDP per capita) and budgetary allocation and financial development. The inclusion of budgetary allocation and financial development are distinguished features of this study. In line with the recent study of Ohlan (2017) regarding the relationship between economic growth, tourism receipt and financial development. This study used share of broad money (M3) to GDP representing financial development. Data for GDP per capita and financial development were collected from the WDI (World Development Indicators) produced by the World Bank. The Bangladesh Bureau of Statistics (BBS) and Ministry of Finance (Bangladesh) are the sources of data regarding the allocation to the tourism sector in the national budget. Eviews 11.0 (the latest econometric software) and Microsoft Excel have been used for data analysis.

Table 1. Summary Statistics

	TA	FD	EG
Mean	50.10363	54.27502	873.3490
Median	23.96339	56.81381	741.7090
Maximum	417.8048	65.84829	1855.740
Minimum	0.121950	30.55399	413.0803
Std. Dev.	96.87574	10.11366	461.7307
Skewness	3.032675	-0.639376	0.809146
Kurtosis	11.73293	2.481608	2.395048
Jarque-Bera	94.21051	1.586616	2.487364
Probability	0.000000	0.452346	0.288321
Sum	1002.073	1085.500	17466.98
Sum Sq. Dev.	178313.3	1943.436	4050710.
Observations	20	20	20

EMPIRICAL RESULTS AND DISCUSSIONS

1. Analysis of Summary Statistics

The statistical summary of all indices used in this study is presented in Table 1. The summary reflects the significant features of growth domestic product per capita, budgetary allocation to the tourism sector and financial development mean standard deviation skewness and kurtosis. The classical performance measures the Jarque-Bera (JB) normality test statistics value. It is found from the Jarque-Bera test that the observation for financial development and GDP per capita are normal since the null hypothesis is not rejected, On the other hand, the data for budgetary allocation to the tourism sector is not normally distributed since the probability value is near to zero.

2. Analysis of Granger Causality test

2.1. Analysis of Augmented Dickey-Fuller (1981) Stationary Analysis

Both the ADF test and PP test are utilized in this research to find out the existence of unit root in all the time-series data. The outcomes emerged from the ADF and PP tests show that all the data are fixed. The result of the analysis is presented in Table 2 and Table 3. The analysis of ADF describes that the GDP per capita is considerable at 10% level of significance, which confirms GDP per capita is stationary in the first differenced series. Again the ADF result demonstrates that budgetary allocation to the tourism sector is statistically significant at 1% confidence interval and static at the 1st difference (both at Intercept and Trend & Intercept) test. Finally, the test result implies that financial development is stationary at first different at intercept and Trend & Intercept test. These results provide a ground to the assumption of the long-run association between the three variables of the study. The results of PP test, given in the Table 3, show that at the first difference, the factors GDP per capita is considerable at 5% significance level and confirms that GDP per capita is stationary in the initial dissimilar series, i.e., I (1) in all cases. Again, results of PP tests show the budgetary allocation to the tourism sector is

statistically significant at 1% level and stationary at the 1st difference (at Intercept and Trend and Intercept) test. Lastly, Phillips-perrons test indicates that financial development has no unit root at the first difference I(1) both at Intercept and Intercept & Trend test. This is the foundation of long-run association between the three variables of the study.

Table 2. Integration analysis by using ADF test

Variables	Augmented Dickey-Fuller (Intercept)		Augmented Dickey-Fuller (Trend and Intercept)	
	Level	1st Diff.	Level	1st Diff.
InEG	0.872238	-2.942442*	-3.469999*	-3.107848*
InTA	-0.605091	-4.715582***	-1.448856	-4.567170***
InFD	-2.071518	-3.150105*	-5.191414***	-9.241912***

Notes: *** at the 1%, ** at the 5% and * at the 10% level of significance, indicating the rejection of the null hypothesis (variables are unit root/non-stationary); EG: Economic growth; TA: Budgetary Allocation in Tourism sector; FD: Financial Development

Table 3. Integration analysis by using PP test

Variables	Phillips Perron (Intercept)		Phillips-Perron (Trend and Intercept)	
	Level	1st Diff.	Level	1st Diff.
InEG	2.235846	-3.059385**	-6.578420***	-3.040184*
InTA	-0.139670	-5.059365***	-2.236083	-4.896007***
InFD	-1.041098	-8.655976***	-4.539713*	-11.55675***

Notes: *** at the 1%, ** at the 5% and * at the 10% level of significance, indicating the rejection of the null (variables are unit root/non-stationary); EG: Economic growth; TA: Budgetary Allocation to Tourism; FD: Financial Development

2.2. Cointegration Analysis

In this research Johansen-Juselius cointegration analysis is applied. As the ADF test shows that the data is static in initial difference and the variables are integrated in the same order, the Johansen-Juselius cointegration test is applied to determine the long-run equilibrium position of the variables. The purpose of the cointegration test is to describe the level of integration among the variables. If the critical value is less than the determined Trace statistic or Max Eigen Value, then the null hypothesis would be rejected which indicates there is no cointegration among the variables. Table 4 shows the rejection of the null hypothesis under the trace and maximal Eigenvalue test. In the trace test, the rejection of the null hypothesis exhibits there is no cointegration between the three variables (GDP per capita, financial development and budgetary allocation to tourism). As the coefficient of the test (37.68190) is greater than the calculated value (29.79707) at 95% confidence interval, so the null hypothesis is rejected. It indicates the long-run cointegration between the variables in any case.

Table 4. Unrestricted Cointegration Rank Analysis (Trace)

Hypothesized No. of CE (s)	Eigenvalue	Trace Statistic	Critical Value (0.05)	Prob.**
None *	0.747820	37.68190	29.79707	0.0050
At most 1	0.492894	12.88485	15.49471	0.1191
At most 2	0.036120	0.662199	3.841465	0.4158

At the 0.05 level, the Trace test designates 1 cointegration; * shows rejection of the null hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values

Table 5. Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	Critical Value (0.05)	Prob.**
None *	0.747820	24.79705	21.13162	0.0145
At most 1	0.492894	12.22265	14.26460	0.1025
At most 2	0.036120	0.662199	3.841465	0.4158

Notes are same as Table 4

As the coefficient of the test (24.79705) is greater than the estimated value (21.13162) at 95% confidence interval, so the null hypothesis is rejected. The Max-Eigen value demonstrates the existence of cointegrating association between variables.

The calculated coefficient of standardized cointegration describes budgetary allocation to tourism can be described with the economic growth. In long-run, an increase 1% allocation to the tourism in the national budget can accelerate 0.06% in economic growth and 0.43% financial development. The connections between economic growth, budgetary allocation to the tourism sector, and financial development is considerably significant.

3.3. Granger Causality Analysis

Granger causality test has been applied to examine the case and effect association between the economic growth and budgetary allocation. Table 7 depicts the results of causal relationship:

Table 6. Long-run impact of TA and FD

Variables	Normalized cointegrating coefficients	Standard Error
EG TA	0.060415	(0.02737)
EG FD	0.430008	(0.00621)

Note- EG: Economic growth; TA: Budgetary Allocation to Tourism Sector; FD: Financial Development

Table 7. Granger Causality test

Null Hypothesis	F-Statistic	p-value	Granger Causality
In EG does not Granger Cause In TA	2.24304	0.1537	No
In TA does not Granger Cause In EG	4.11945	0.0494*	Yes
In FD does not Granger Cause In TA	2.06093	0.1704	No
In TA does not Granger Cause In FD	10.8322	0.0046*	Yes
In FD does not Granger Cause In EG	7.72997	0.0134*	Yes
In EG does not Granger Cause In FD	8.43813	0.0103*	Yes

Note: * at the 5% level of significant, EG: Economic growth; TA: Budgetary Allocation in Tourism Industry; FD: Financial Development

The Table 7 exhibits that budgetary allocation to the tourism sector is Granger cause of economic growth in Bangladesh. Conversely, economic growth is not granger cause of budgetary allocation. The unidirectional causality exists between the economic growth and budgetary allocation to the tourism sector. Besides, financial development is not a granger cause of budgetary allocation to tourism but the budgetary allocation is the granger cause of financial development. There is a unidirectional causality exist between budgetary allocation to the tourism sector and financial development. Financial

development is granger cause of economic growth and economic growth is also granger cause of financial development. The result of the test indicates that there is an intertwined cause and effect relationship between the three variables.

3.4. Vector Error Correction Estimates

The presence of a co-integrating association is shown by the Johansen Cointegration between the dependent and independent variables. As shown in Table 8, the effects of the correction of vector errors include short-term and long-term coefficients as well as diagnostic statistics. Economic growth, expenditure allocation in the tourism sector and financial development are the variables at issue. The coefficient value of the probability statistics shows the general importance of the model explanatory variable. The long-term projections indicate that financial development is associated with economic growth in the long run. Budgetary allocation to the tourism sector, however, is not statistically important in shaping long-term economic growth. In the short-term, the first and second lagging importance of the tourism allocation in the tourism sector is optimistic and important in affecting the 5% likelihood level of economic growth. The initial lagging value of financial progress, on the other hand, is optimistic and substantially linked to economic growth. Financial development at a lagging second value is not correlated with short-term economic growth. The model's error correction coefficient (0.041552) has the predicted positive sign and is important at the 5% level of significance, validating that it has a long-run association between economic growth, budget allocation to the tourism sector and financial development.

Table 8. Vector Error Correction Estimates of Economic Growth in Bangladesh

Variable	Coefficient	Standard Error	statistic
Long-run			
Constant	-5.992719		
lnEG (-1)	1.000000		
lnTA(-1)	-0.106414	0.10798	-0.98550
lnFD(-1)	1.830863	1.79420	1.02043
Short-run			
Constant	0.038130	0.01825	
Δ lnEG (-1)	0.209252	0.34628	
Δ lnEG (-2)	-0.354348	0.35239	
Δ lnTA (-1)	0.006070	0.01279	
Δ lnTA(-2)	0.009738	0.00977	
Δ lnFD(-1)	0.252218	0.59683	
Δ lnFD(-2)	-0.056942	0.23582	
ECM (-1)	0.041552		

Note: EG; Economic growth; TA: Budgetary Allocation in Tourism Industry; FD: Financial Development

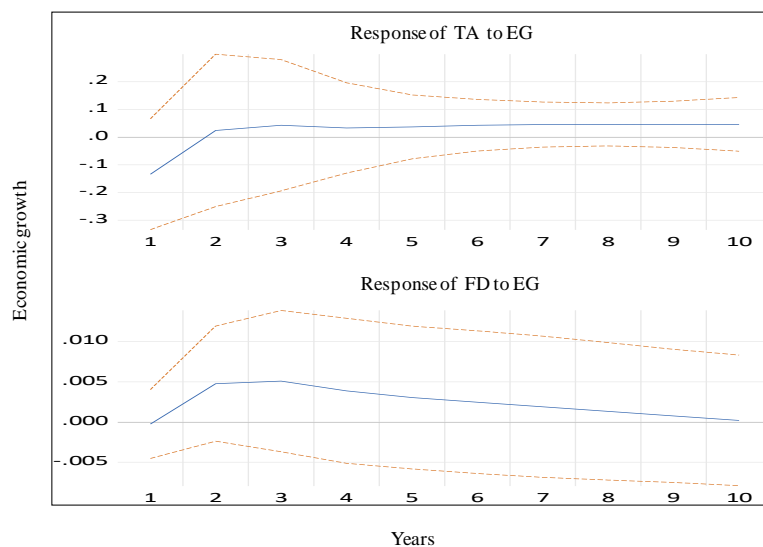


Figure 1. Cross-response of TA, EG and FD in case of Bangladesh

3.5. Impulse Response Function

The Impulse Response Analysis is applied to address the consequences of developments on economic growth in all variables of the system. The impulse responses of economic growth to the budgetary allocation in tourism and financial development based on standard deviation are shown in Figure 1.

The outcomes of the impulse response indicate that, firstly, the reaction of economic growth to the budget allocation in the tourism industry from year one to two is upward but negative. The economic growth response to the budget allocation in the tourism industry is positive after the second year and the response is stable from year two to ten. The reaction of economic growth to financial progress, on the other hand, is upwardly sloping and optimistic. The economic growth response has been declining from year 2 to 10, and it has been almost zero in the last year.

POLICY RECOMMENDATION AND CONCLUSIONS

The research presented in this paper has addressed whether the allocation in the national budget to the tourism industry influences economic growth in long-run and short-run and examined the causality connection among the budgetary allocation to the tourism sector, economic growth and financial development. It has been revealed that all the three variables are continuous at different levels, but all the variables of this study are stationary (not continuous) in nature at first differences. The finding developed from this research may accentuate the more reliable tourism allocation to take full advantage of the potential of tourism in economic growth. Aligning with the result of, the current research indicates that budgetary allocation for the tourism industry is a cause of economic growth in Bangladesh. Side by side, allocation in the national budget for tourism is a granger reason for financial development. The results of the test indicate that if the budgetary allocation in tourism industry increase, economic development will increase in the context of Bangladesh.

In addition, financial development is reason for economic growth and vice versa. It implies there is a two-way cause and effect relationship between economic growth and financial development in Bangladesh. The findings of this research may assist policymakers of Bangladesh to allocate for the tourism industry in the national budget every fiscal year. As the tourism industry is rising by trending continuous growth and its contribution to financial development for the economy is significant, the Government of the country can receive a desirable return from financial allocation.

The result of this study confirms that budgetary allocation to the tourism sector is a cause of the economic growth in the country from 2000 to 2019. In order to deal with the unemployment and other economic challenges, the government and policymakers can make the planned allocation in the national budget for tourism.

The paper exhibits that there is a long-run and short-run association between economic growth, budgetary allocation to the tourism sector, and financial development. It also discloses a similar result that budgetary allocation appropriately shocks the economic growth of Bangladesh. The paper uncovers that 1% raise in budgetary allocation to the tourism sector enhance 0.06% of economic growth. The positive influence of budgetary allocation on economic growth may accelerate GDP and financial development. The research of this paper has indicated budgetary allocation to the tourism sector and financial development to analyze the economic growth of Bangladesh.

The result suggests an abnormal conclusion compared to the past research findings, which have indicated a primarily affirmative influence on budgetary allocation to the tourism sector on economic growth in the country. By comprehending this impact on economic growth, the government of the country can rethink the national financial plan. In respect to the policymaking context, the findings of the study offer justification of budgetary allocation to the tourism sector.

The economic growth of Bangladesh is dependent on the tourism industry and policymakers may concentrate more on this sector. The tourism industry is observing a lack of competent human resource that is important for attracting domestic and international tourists. Besides, the tourism infrastructure of the country is insufficient and mostly outdated. Reasonable budgetary allocation in tourism for manpower and infrastructure development will uplift the economic growth of Bangladesh. This paper contributes to academic knowledge by consolidating widely acceptable theories regarding time-series data with the contextual national scale data of Bangladesh to approve the clear bond among three threshold variables budgetary allocation to the tourism sector, financial development, and economic growth. The economic growth is changed due to budgetary allocation under explicit conditions. This research used the ratio of broad money to GDP as a proxy of financial development. Future researchers can use the ratio of money supply to GDP as an indicator of financial development. The influence of budgetary allocation in a particular sector on relative economic growth might be explored by future researchers to access the efficiency of national financial plans.

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