Nexus between Economic Growth, Tourism Revenue and Financial Development in Bangladesh: A Time Series Analysis

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Abstract

The main objective of this study is to analyze the nexus between economic growth, tourism revenue, and financial development in Bangladesh. This paper uses time series data from 1995 to 2016. Advance technique of time series analysis: Johansen Cointegration Approach is used to test the Cointegration among variables. Moreover, the Vector Error Correction (VECM) has been applied to study the long run and short run association among variables.

The outcome of this study reveals that the tourism revenue and financial development has positive impact on economic growth in the long run. Variance decomposition and impulse response function also supports the positive association. According to the estimation of Granger Causality also reveals the unilateral direction in short run economic growth to tourism revenue. Providing more credit by financial sector to invest more on infrastructure and promoting Bangladesh as well as insuring proper security for foreign visitors would increase the revenue of this sector, which in turn stimulates economic growth of the country.

Keywords: Domestic credit provided by financial sector (DCFS), Tourism Revenue, Economic Growth, Cointegration, VECM, Variance Decomposition, Impulse Response Function and Granger Causality

JEL Classification Codes: C22, E44, O40, Z32

1. Introduction

The travel and tourism sector become an important driver of Bangladesh's economy. It is one of the emerging sectors of Bangladesh. Over the past two decades, Bangladesh earns significant revenue from travel and tourism sector according to World Travel and Tourism Council (WTTC), about $0.175 billion earned from travel and tourism sector in 2016 (Census & Economic Information Center, CEIC). In 1972, under the Ministry of Civil Aviation & Tourism, Bangladesh Parjatan Corporation (BPC) was established with an aim to expand the tourism sector and provide the services needed for local and foreign tourists. After that in 1974, National Hotel & Tourism Training Institute (NHTTI) was established under BPC that used to offer courses to ensure trained personnel for hotel & tourism industry. NHTTI experienced major changes in 2010 after the collaboration of Bangladesh Tourism Board and United Nations World Tourism Organization (UNWTO). In Bangladesh, tourism sector is also known as the service sector that encircles different types of complex activities namely parasailing, camping, surfing, scuba diving etc. A major portion of income is generated from this sector, which is on average $0.076.With the enhancement of this sector, economic, social and environmental benefit can be ensured. This can support the country's Balance of Payment (BOP) and will help people to exchange their cultural values.

Observing data of tourism sector from year 1996 to 2016 highlighted positive growth of revenue. Bangladesh generated $0.0133 billion visitor exports in 2016 (WTTO, 2017) which became $0.0221 billion in 2017(WTTO, 2018), this statistic provides evidence that more international tourists visit Bangladesh day by day. This sector generated 1,178,500 jobs directly in 2017 contributing to approximately 1.8% of total employment.[1] This is expected to grow by 3.0% in 2018 and would become 1,214,000 (1.9% of total employment). Hotels, travel agents, airlines and other passenger transportation services help this sector to generate this amount of jobs directly. Direct contributions from travel and tourism sector to Bangladesh's GDP in 2017 was BDT427.5 billion (2.2% of total GDP) but travel and tourism are expected to have attracted capital investment of BDT83.0 billion in 2017(WTTO, 2018), which provides clear insight that this sector requires more investment. In 2016, BDT

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[1]Travel and Tourism Economic Impact, 2018. Retrieved from
https://www.wttc.org/-/media/files/reports/economic-impact-research/countries-2018/bangladesh2018.pdf

72.5billion invested in the travel and tourism sector (only 1.2% of total investment).[2] McKinnon (1964) argued that tourism revenue could improve the foreign exchange reserve balance, which enables us to bring new technologies for production. It can also increase investment in infrastructure development and human capital development (Blake, Sinclair, & Campos, 2006). Moreover, tourism leads to industrial development through spillover effect, creates employment opportunities, and generates positive externalities (Punia, 1994; Andriotis, 2002).

It is also noted that financial development is also emerging as a significant determinant of economic growth. The nexus between economic growth and financial development has been discussed previously in economic literature and still there is debate over the direction of causality. After the financial crisis of 2007-2008, it is needed to re-examine the nexus. According to economic theory [Harrod(1939), Ricardo(1817) and Domar (1946)], capital accumulation can positively affect economic activities by facilitating firm's information, management of risk and financial exchange. Schumpeter (1911) argued that technological innovation could happen if financial market works efficiently which in turn stimulates economic growth. It is evident that there exist a long run relationship between financial development and economic growth in Bangladesh (Amin and Hossain, 2017). They also identified that weak financial structure is the reason for slow economic growth, and they suggested improving financial structure through proper policy. Therefore, efficient investment is not possible without financial development. If financial sector provides credit to tourism sector properly then tourism sector can contribute to the economic growth of Bangladesh. This paper analyses the nexus between economic growth, tourism revenue and financial development in Bangladesh. The rest of this paper is organized as follows: Section-2 reviews the Literature and relevant empirical studies. Section-3 describes data, methodology and the empirical results. Finally, section-4 concludes the paper.

2. Literature Review

The growth in tourism industry would lead to economic growth (Oh, 2003). According to Oh *et al.*(2003) tourism has contributed positively to economic growth as exports have strongly triggered economic expansion. Nevertheless, when researchers started using econometric model different output started to reveal. Researchers have studied the relationship between tourism and economic growth; the results are conflicting, sometime in the same region or same country (Belloumi, 2010). These kinds of statement and studies create a debate on the relationship between tourism growth and economic growth.

"World's tourism growth, by contrast, has a negative impact on economic growth", this kind of result or statement have not found yet. But Papatheodorou *et al.* (2005) conducted a study using forty years data (1960–2000) including nominal and real per capita levels with international tourism arrivals to produce forecast for 2001 to 2010. To take optimal tourism policy forecasting is an essential analytical tool (Papatheodorou *et al*., 2005). The study also suggested that tourism growth might not be as positive as it was expected. In the study, a

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[2]Travel and Tourism Economic Impact, 2017. Retrieved from
https://www.wttc.org/-/media/files/reports/economic-impact-research/countries-2017/bangladesh2017.pdf

negative pattern has been found between per capita terms and international tourism arrivals that should be consider seriously by the policymakers. This kind of result might come for two reasons – firstly, the study was based on fully on time series analysis and no economic explanatory variable has been used; secondly, the power of explanatory regressions is not very high.

Over the past several decades, international tourism revenue has been steadily increasing, as well as the importance of the tourism industry for the economy of many countries (Oh *et al.*, 2003). It is a highly labor-intensive sector and has spillover effects on other sectors of the economy (Durbarry *et al.*, 2004). A general consensus has emerged that it increases not only the foreign exchange earnings, but also creates employment opportunities, stimulates the growth of the tourism industry and by virtue of this, triggers overall economic growth (Lee *et al.*, 2007). In 2005, tourist arrivals in Africa registered only 37 million (or 5 percent of the world) as compared to 444 million arrivals (55 percent) in Europe, 156 million (19 percent) in Asia/ Pacific, 133 million (16 percent) in the Americas, and 38 million (5 percent) in the Middle East (Fayissa *et al.*, 2007). Tourist activities could stimulate the growth in the world by generating employment, foreign exchange revenue and income (Belloumi*,* 2010). Tourist activities could stimulate the growth in the world by generating employment, foreign exchange revenue and income (Belloumi, 2010). Tourists spending are an alternative form of exports and it improves the balance of payment through foreign exchange revenues in many countries (Belloumi, 2010).

Kulendran *et al.* (1997) tried to forecast tourist flows by using error-correction and time series model. This study incorporated four countries' market flows (the market of the U.S., Japan, UK and New Zealand) into Australia. Tourist price can be divided by two factors; firstly, the cost of living at the destination; secondly, the cost of transport. According to the results of Kulendran *et al.*, (1997) forecast is best for the U.S. (from RM result) and forecast is worst for both the UK and New Zealand.

According to Balaguer *et al.*, (2002) stated tourism led to economic growth in Spain. This statement was confirmed by through co-integration and causality test. In the last few decades, Spain's economic growth is sensible due to expansion of international tourism (Balaguer *et al.*, 2002). Tourism industry of Spain has become a fundamental source of employment as this sector is labor-intensive. Balaguer *et al.*, (2002) found that tourism in Spain would stimulate the economy in long-term but this sector has low promotional activity. Allocating more recourse to the tourism sector would help to rise the income level but this hypothesis was not found from any empirical studies because in Spain, the number of empirical studies about tourism is very low (Balaguer *et al.*, 2002). According to Bayramoğlu *et al.*, (2015) tried to find out how foreign visitors who came to Greece between 1980 and 2013 affected the economic growth. Tourism sector or industry always an important sector or industry for Greece but due to economic crisis this sector is struggling (Bayramoğlu *et al.*, 2015). According to UNWTO (2014), the country earns $13 million revenue with the help of 17 million visitors annually (Bayramoğlu *et al.*, 2015). Moreover, tourism growth is a solution for Greece budget-deficit problem as well as other financial problem meaning growth in tourism industry is an escape plan for the current Greece problem. Finally, he found that

increasing importance of tourism would lead to economic growth meaning positive impact.

Belloumi, (2010) studied the relationship between tourism receipts, real effective exchange rate and economic growth in Tunisia by using annual data from 1970 to 2007 and found that there is a co-integrating relationship between tourism and economic growth meaning tourism has a positive impact on GDP. Belloumi (2010) research aim was to examine the causal relationship between international tourism earnings and economic growth by using the Johansen Cointegration technique. In the study, both short run and long run dynamic relation was found.

Eugenio-Martin *et al.*, (2004) conducted a research on Latin American countries and tried to find out the relationship between tourism and economic growth. In the paper, the researchers consider 21 Latin American countries to conduct the research. Eugenio-Martin *et al.*, (2004) found that the growth in tourist per capita trigger an economic growth during 1985 and 1988. By splitting the Latin American countries in 3 groups, low middle and high, on the basis of GDP tourism trigger to growth efficiently for low and middle GDP grouped countries (Eugenio-Martin *et al.*, 2004). Risso *et al.*, (2008) stated that international tourism can earn foreign exchange and export from many low-income countries as well as developed countries. In the results, it is mentioned that international tourists' spending positively affects the Chilean economic growth (Risso *et al.*, 2008). As tourism is an important engine of growth, it should decentralize by improving domestic tourism to attract and earn more from international tourists (Risso *et al.*, 2008). Ridderstaat *et al.*, (2013) conducted a research in Aruba (Geographically located in South America) to find out the relationship between tourism development and economic growth. The result of the research state a bilateral causation between all combinations of all the variable which are analyzed meaning not only an engine for long-term economic growth but also economic growth itself could play an important role to develop tourism sector (Ridderstaat *et al.*,2013).

According to Tang *et al.*, (2007), foreign investment plays an important role in many industries of China including tourism industry. In 2002, when China opened its economy to the outside world their FDI increased drastically from a very low level (Tang*et al.*, 2007). The study also showed that there exists one-way causality between FDI and tourism but no econometric evidence that support the causal relation between tourism and FDI.

Amin and Hossain (2017) tried to find out the long run relationship between financial development and economic growth in Bangladesh by using the data from 1985-2014. They found long run association between economic growth and financial development. They also identified that weak financial structure is the reason for slow economic growth, and they suggested improving financial structure through proper policy. Shahbaz et al. (2014) studied the nexus between economic growth and financial development by using quarterly data over the period of 1976-2012. They used real domestic credit to private sector as an indicator of financial development and found that financial development stimulates economic growth through capitalization. They suggested policymakers to ensure perfect use of capitalization for sustainable long run economic growth.

Abu-Bader and Abu-Qarn (2008) studied the causality between economic growth and

financial development by using a tri-variate vector auto regressive framework in Egypt and found strong evidence to support the causality among the variables. They suggested that Egyptian government should bring financial reforms in order to accelerate investment and subsequently long-term economic growth.

Favara (2003) conducted a research to re-examine the association between financial development and economic growth by using cross section and panel data. He used the level of liquid liabilities of the banks and the amount of credit issued to the private sector as the indicators of financial development. He found a weak relationship between financial development and growth. However, non-linearities in data imply that finance can influence growth at preliminary level of financial development. From a panel analysis with heterogeneous slope coefficients, he obtained that growth is not stimulated by financial development and sometimes the relationship is negative.

In order to stimulate productive investment, a nation should increase its savings. Various financial institutions are engaged in transformation of saving into productive investment. This process of transformation is known as financial development. Hye and Dolgopolova, (2011) argued that financial development is not only the growth in financial market but also the efficient way of fund transfer. According to Aziz and Duenwald (2002), Economic growth can be influenced by financial development by three ways. First, it enhances the amount of saving, which could stimulate the investment through financial development. Second, it increases the marginal productivity of the capital through collecting information to assess the alternative investment projects. Finally, financial development also helps in increasing the amount of private savings. Targeting the nexus between economic growth, tourism revenue and financial development, this paper will try to show an empirical analysis with the help of econometric model in terms of Bangladesh.

3. Data, Methodology and Results

3.1 Data

The annual data from 1995 to 2016 is used for empirical analysis. The data are collected from secondary sources. Tourism revenue (TR), Gross domestic product (GDP), Domestic credit provided by financial sector (DCFS) and Broad Money (M2) are employed to address the objectives of the study. Here, DCFS is used as a proxy of financial development. For simplicity and some other advantages, all the variables are converted into natural logarithmic form.[3]

3.2 Model Specification

$$GDP_t = f(TR_t, DCFS_t, M2_t)$$

After the transformation into natural logarithmic form-

$$lnGDP_t = \beta_0 + \beta_1 lnTR_t + \beta_2 lnDCFS_t + \beta_4 lnM2_t + \varepsilon_t$$

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[3] It is important to note that logarithmic transformation of variables allows interpreting coefficients the model in terms of elasticity.

Table 1. Data description

Variable	Description	Source
GDP	Gross domestic product ($ million)	World Bank
TR	Tourism revenue ($ million)	CEIC
DCFS	Domestic credit provided by financial sector (as % of GDP)	World Bank
M2	Broad money (% of GDP)	World Bank

Note: Tourism revenue is extracted from CEIC dataset. See

https://www.ceicdata.com/en/indicator/bangladesh/tourism-revenue for details.

3.3 Econometric Analysis

3.3.1 Unit-root Test

Analyzing long-term relationship among a series of economic variables requires testing stationarity carried out applying unit root. Most widely used testing procedure for unit root in times series literature are Augmented Dickey-Fuller (ADF) test and Phillips-Perron (PP) test. To check stationarity, the ADF test is performed using the following equation:

$$\Delta y_t = \mu + \delta y_{t-1} + \sum_{i=1}^{k} \beta_i \Delta y_{t-i} + \varepsilon_t$$

Here, the null hypothesis of ADF is $\delta = 0$ and the alternative hypothesis is $\delta < 0$. if the null hypothesis is not rejected then there unit root is present and rejection implies that the series is stationary.

Now, the PP test is performed using the following equation:

$$\Delta y_t = \pi y_{t-1} + \beta_i D_{t-i} + \varepsilon_t$$

PP test is conducted based on the hypothesis of $\pi = 0$

Table 2. Test for stationarity

Variable	ADF			PP		
	t-statistic at Level	**t-statistic First difference form**	**Remarks**	**t-statistic at Level**	**t-statistic First difference form**	**Remarks**
LGDP	1.815624 (0.9994)	-3.550899 (0.0172**)	I(1)	1.713007 (0.9992)	-3.623066 (0.0148**)	I(1)
LTR	-1.594608 (0.4676)	-5.110150 (0.0006***)	I(1)	-1.574501 (0.4775)	-6.856682 (0.0000***)	I(1)
LDCFS	-1.199990 (0.6543)	-3.915077 (0.0080***)	I(1)	-1.199668 (0.6544)	-3.906265 (0.0081***)	I(1)
LM2	-0.620789 (0.8458)	-3.878305 (0.0086***)	I(1)	-0.659664 (0.8363)	-3.875534 (0.0087***)	I(1)

Note: *** denotes 1% significance level, ** denotes 5% significance level and * denotes 10% significance level. P-values are in parentheses

Results obtained from both the ADF and PP test suggest to conclude that all the variables

considered for the current study are non-stationary in the level form (i.e. I(0)) while the variables are stationary at first difference form (i.e. I(1)) (Table 2). Since the variables are stationary in the first difference form, co-integration analysis can be done to explore the long relationship.

The following graphs show the combined status of non-stationarity and Stationarity:
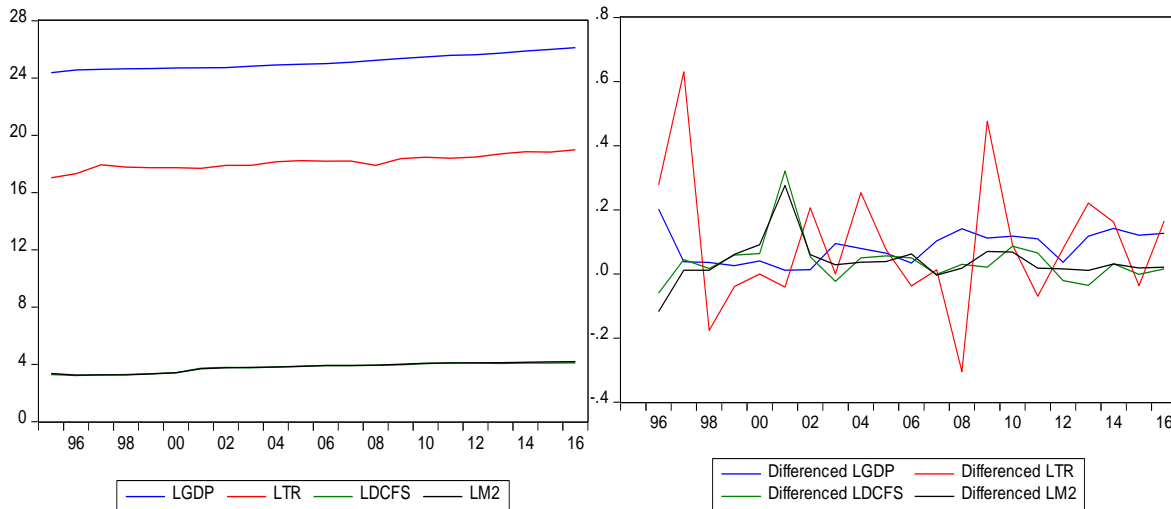

Figure 1. Trend of variables

3.3.2 Johansen Co-integration Approach

After identifying the behavior of stationarity, in order to find out does any long-run relationship exist among the variables, Johansen and Juselius (1990) co-integration approach can be performed. It allows concluding the existence of an equilibrium or long-run relationship among two or more-time series which are individually non-stationary. To achieve stationarity, it is needed to differentiate the variable at least once. In that case the variables must be integrated at order 1(0) or I (1).

The key idea of the Johansen approach is to determine the rank of the matrix which represents the number of independent co-integrating vectors. Two test statistics named Trace and Eigen-value test statistic are performed for estimating the number of co-integrating vectors or equations. Trace statistics and Eigenvalue statistics can be represented as follows:

$$\lambda_{Trace}(r) = -T \sum_{i=r+1}^{g} in(1 - \hat{\lambda}_i)$$

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

Where, $\hat{\lambda}_i$ is the estimated value for the ith ordered Eigenvalue from the π matrix.

Existence of cointegration confirms a long run relationship among variables and we will go for vector error correction model (VECM) to present the short run dynamics.

In order to estimate VECM, an appropriate lag length must be determined as argued that the number of co-integrating vectors generated by Johansen approach may be sensitive to the number of lags in the VAR model. Thus, three different criteria which are Akaike Information Criteria (AIC), Schwarz Information Criteria (SIC) and Hannan-Quinn Information Criteria (HQ) are used to determine the lag lengths used in the VAR. Here all the criteria suggest only 1 lag.

Table 3. VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	SC	AIC	HQ
0	60.36759	NA	3.11e-08	-5.933430	-5.734601	-5.899781
1	148.2985	129.5824*	1.69e-11*	-13.50511*	-12.51096*	-13.33686*
2	156.7964	8.945114	4.91e-11	-12.71541	-10.92594	-12.41256
3	171.4068	9.227606	1.39e-10	-12.56913	-9.984352	-12.13168

Note: * indicates lag order selected by the criterion

Table 4. Johansen co-integration test

Hypothesized No. of CE(s)	Trace Statistic	p-value	Max-Eigen Statistic	p-value
None*	60.85323	0.0019	35.41059	0.0040
At most 1	25.44264	0.1462	16.98970	0.1725
At most 2	8.452940	0.4183	8.390145	0.3404
At most 3	0.062795	0.8021	0.062795	0.8021

Note: * denotes rejection of the hypothesis at the 0.05 levels

From table 4, it is found that both Trace test and Max-Eigenvalue test indicates one cointegrating equation at 5% level of significance. After normalizing the cointegration vector on LGDP, normalized coefficients are as follows:

Table 5. Normalized cointegrating coefficients

LGDP	LTR	LDCFS	LM2
1.000000	-2.246086	-10.60967	11.48429
	(0.0002)	(0.0759)	(0.2399)

Note: p-values are in parentheses.

As we normalized the cointegrating coefficients, the signs are reversed. The estimation of the equation by Cointegration gives the following one:

$$LGDP = 2.25 \, LTR + 10.61 \, LDCFS - 11.48 \, LM2$$

This clearly shows that in the long run tourism revenue has a positive impact on gross domestic product (GDP). On the other hand, in the long run DCFS has a positive impact on GDP and broad money supply has a negative impact on GDP. The relationship between GDP and tourism revenue found statistically significant. The result is implying that in the long run, a one percent increase in tourism revenue contributes 2.25% increase in GDP in Bangladesh.

3.3.3 Vector Error Correction Model (VECM)

Vector error correction mechanism has been used to find out the short run dynamics among the variables and the results are shown in table-6

Table 6. Error Correction Model

Error Correction:	D(LGDP)	D(LTR)	D(LDCFS)	D(LM2)
ECM$_{t-1}$	-0.039293	0.590979	0.065022	0.053882
	(5.01190)**	(-1.16119)	(0.87793)	(0.93488)
D(LGDP(-1))	0.663826	-1.694012	-0.316163	-0.453928
	(2.23609)**	(-1.63754)	[-0.48658)	(-0.89772)
D(LTR(-1))	-0.016514	0.074797	0.029661	-0.018997
	(-0.39311)	(0.51096)	(0.32260)	(-0.26550)
D(LDCFS(-1))	-0.949512	2.053247	-0.225098	-0.211249
	(-3.35758)**	(2.08357)	(-0.36367)	(-0.43857)
D(LM2(-1))	1.026067	-2.692289	0.418445	0.321773
	(2.95978)**	(-2.22867)	(0.55148)	(0.54495)
C	0.022150	0.241147	0.059527	0.081599
	(0.75866)	(2.37025)	(0.93152)	(1.64088)
R-squared	0.526395	0.739286	0.136936	0.214559
Adj. R-squared	0.357250	0.646174	-0.171301	-0.065956
Sum sq. resids	0.018235	0.221421	0.087353	0.052900
S.E. equation	0.036090	0.125761	0.078991	0.061470
F-statistic	3.112096	7.939745	0.444255	0.764876
Log likelihood	41.62281	16.65546	25.95652	30.97199
Akaike AIC	-3.562281	-1.065546	-1.995652	-2.497199
Schwarz SC	-3.263562	-0.766826	-1.696932	-2.198480
Mean dependent	0.078096	0.083414	0.044067	0.047192
S.D. dependent	0.045016	0.211422	0.072986	0.059538

Note: Value of t-statistics are in parentheses, ** indicates statistically significant at 5% level

Table 6 shows the speed of adjustment of coefficients. The estimated coefficient of error correction term indicates that about 3.93% deviation of GDP from its long run equilibrium level is corrected each period in the short run, while the gaps in the TR, DCFS and M2 close by about 59.1%, 6.5% and 5.4% respectively.

3.3.4 Variance Decomposition

We use forecast error variance decomposition for further analysis of short-run dynamic properties of GDP. Variance decomposition represents the amount of attributes each variable contributes to other variable in a VAR model. The result of variance decomposition is given in table 7.

Table 7. Result of Variance decomposition: LGDP

Period	S.E.	LGDP	LTR	LDCFS	LM2
1	0.036090	100.0000	0.000000	0.000000	0.000000
2	0.075068	92.02954	5.555384	0.059574	2.355499
3	0.108772	88.79659	8.212281	0.222654	2.768476
4	0.135525	87.31743	10.02290	0.299379	2.360287
5	0.157921	86.50086	11.09293	0.345547	2.060670
6	0.177756	86.10215	11.59543	0.379008	1.923418
7	0.195829	85.85179	11.89683	0.400403	1.850977
8	0.212454	85.65158	12.13937	0.414939	1.794112
9	0.227862	85.49625	12.33003	0.426139	1.747582
10	0.242286	85.37975	12.47342	0.434972	1.711860

The results of Table 7 show that the dynamic contrast in GDP explains 100% of the components of variation in the first period when the shock by a standard deviation of one in the variable itself, and in the second period it goes to 92.03% of the error prediction of the variability. During the second period 5.56%, 0.06% and 2.36% variation in GDP is due to variation in tourism revenue, DCFS and broad money respectively. The increase in the proportion attributable to variation in tourism revenue and DCFS continue to fluctuate with a tendency to increase that up to about 12.47% and 0.43% respectively in the period of the tenth. It is observed that both in the long run and short run tourism revenue has strong impact on GDP compared to financial development.

3.3.5 Impulse Response Function

Figure 2 shows impulse responses. It shows the impact of a one standard deviation generalized innovation in the tourism revenue, DCFS and M2 money supply on the GDP of Bangladesh. From the figures, we can see that the results are in line with the variance decomposition. Both tourism revenue and financial development has positive impact on GDP of Bangladesh.

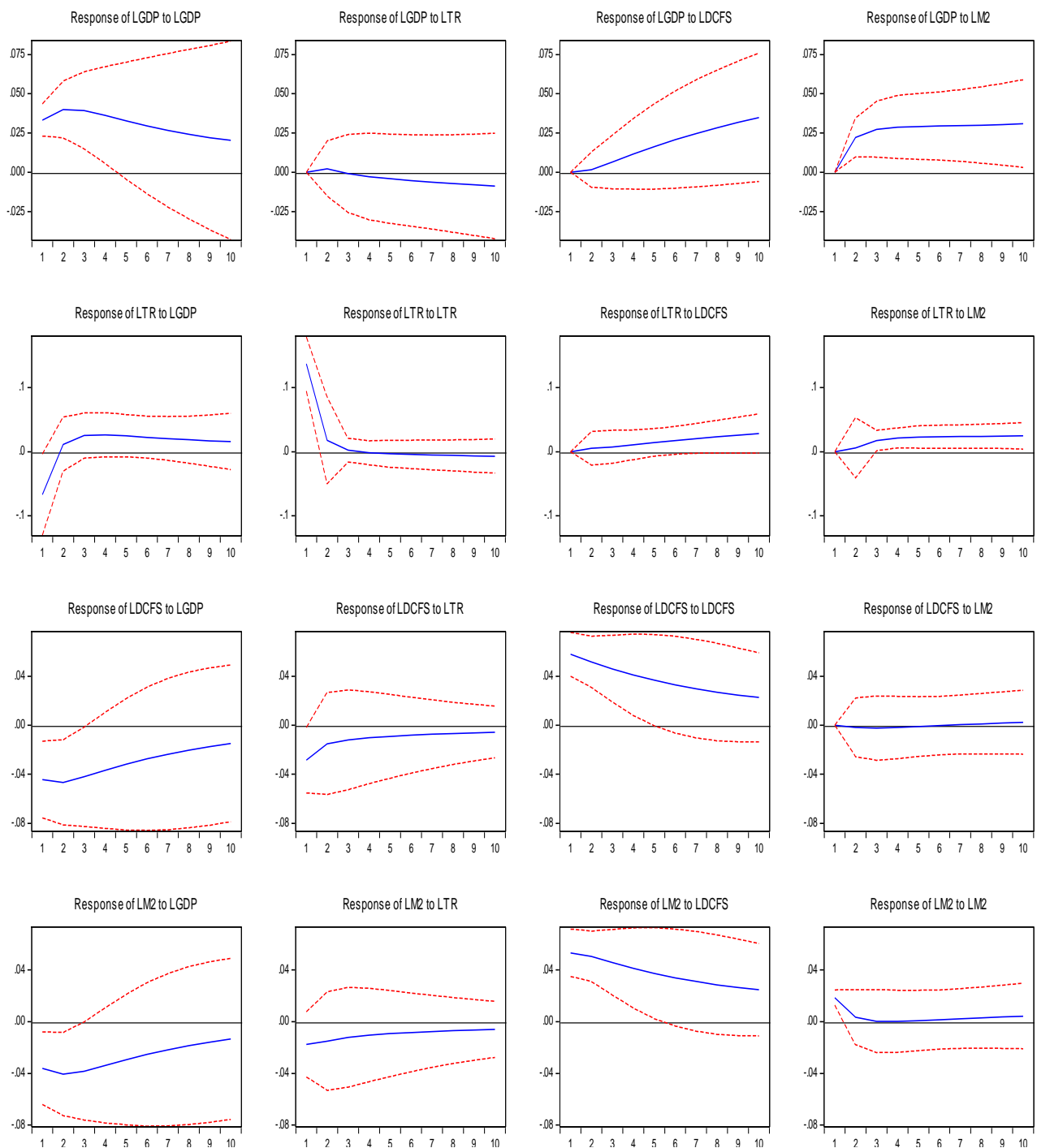Response to Cholesky One S.D. (d.f. adjusted) Innovations ± 2 S.E.

Figure 2. Impulse Response Function (IRF)

3.3.6 Ganger Causality Test

Ganger causality test determines the causal relationship between variables. This relation can be both unidirectional or bidirectional. From Table-7 it can be concluded that there is unidirectional causality among LTR and LGDP where, tourism sector has no effect on GDP growth rate, but growth rate affects the tourism revenue, the test is significant at 1% level of

significance.

Table 7. Ganger Causality test

Null Hypothesis	F-Statistic	Prob.	Granger Causality
LTR does not Granger Cause LGDP	2.18810	0.1564	No
LGDP does not Granger Cause LTR	19.1583	0.0004***	Yes
LDCFS does not Granger Cause LGDP	0.28094	0.6026	No
LGDP does not Granger Cause LDCFS	0.08203	0.7778	No
LM2 does not Granger Cause LGDP	1.32438	0.2649	No
LGDP does not Granger Cause LM2	0.28630	0.5991	No

Note: *** indicates statistically significant at 1% level

4. Conclusion

This paper examines the nexus between economic growth, tourism revenue and financial development for Bangladesh for the period 1995-2016. Tourism revenue and financial development are responsible for the economic growth of Bangladesh. The study shows that there is short run and long run relationship between economic growth and other independent variables like tourism revenue, domestic credit provided by financial sector and broad money supply. In the long run, tourism revenue and DCFS has positive impact on economic growth of Bangladesh while broad money supply has negative impact on economic growth of Bangladesh. As there is negative relationship between money supply and economic growth rate, so it violates the theoretical ground. The economic theory shows that money supply and economic growth is positively related. Tourism revenue and financial development is generating positive growth in the economy increasingly and this trend is expected to be continued in near future. Lastly, there is unidirectional causal relationship between GDP and tourism revenue. Growth rate influences the tourism revenue that implies when the growth of the country will increase the revenue of tourism will also increase significantly. Therefore, a stronger tourism sector can trigger the economic growth of Bangladesh if financial institutions provide adequate credit to the investor interested in tourism development.

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