Strengthen Bangladesh Economic Growth & Employment through Travel & Tourism Capital Investment and Visitor Export

[1]MD. SHAHARIA PAVEL, [2]DR. VIJIT SUPINIT

Department Master of Business Administration, Faculty of Graduate School, Siam University, Thailand.

Abstract: Travel & Tourism is a developing sector in Bangladesh and it is very imperative to ensure sustainable development goal of Bangladesh and uphold GDP @ 7 %, where Total Travel & Tourism's contribution share near about 4.7 % of total GDP. It will be a challenging task for Bangladesh to maintain GDP growth more than 7% in near future but tourism sector has the potentiality to support GDP growth besides RMG sector. Bangladesh is a land of river & beauty which has world longest sea beach with UNESCO world heritage Sundarbans. Through the paper we observe the causality between Travel & Tourism's contribution to GDP growth & employment in Bangladesh by formulating an econometrics model. All analyses have been conducted by vector error correction model and Engle & Ganger test of causality with the yearly data on employment in tourism sector, visitor export, and capital investment in tourism sector over the period of 1990 to 2015. Through the analyses we detect that travel and tourism's variables together have long-run significant relationship with GDP growth and employment creation. Our forecast that in future Bangladesh GDP growth and employment growth in tourism will be strengthened through capital investment and visitor export and in coming years Bangladesh GDP growth will be near to 7% where as in 2016 Bangladesh GDP growth rate was 6.9 % and employment generation growth in tourism sector is also forecasted to be near to 10%.

Keywords: GDP Growth, Tourism Employment Growth, Econometric Analysis, Vector Error Correction Model, Visitor Export, Bangladesh Travel & Tourism Capital Investment.

1. INTRODUCTION

Beauty of Bangladesh defamation is the simplicity. The Bangladeshis are one of the simplest nations in terms of lifestyle. Beauty of Bangladesh lies in the Bangladeshi's sacrificing attitude, struggling mentality and in the ability to adapt. Bangladesh is a developing country with great prospect in future global economy. At present Bangladesh is continuing incredibly steady growth in GDP at 7%. Now Bangladesh is the example for her growth in every sector but Travel and Tourism contribution is still below average. Bangladesh is a county of density population which represents 153 million people where as 65% of between 15 and 64 years old and near about 2.6 million people still unemployed (4.3%). It is a massive challenge for Bangladesh to ensure GDP growth rate more than 7% and creating new scope of work for young generation. There are many sectors could be in consideration to solve unemployment & economic growth but tourism could be the one of the biggest sectors for deployment of young workforce. On the other hand, Bangladesh foreign currency earning one of the main sources is remittance earnings that will be challenging in near future due to change of global demand of labour supply but visitor export could be a way to face the challenges. As Bangladesh already reached in lower- middle income country, it is predictable that domestic spending and people test of choice will change vividly.

Travel & Tourism drives foreign trade, international relationship, business travel that vital contributor to the economy of most countries, developed and developing lowering prices, creating economies of scale, focus on areas of competitive advantage, develop relationships with potential customers and suppliers in overseas locations. It also enhances foreign

direct investments (FDI) that result from business travel introduces capital, technology, skills, people, know-how, demand for local supplies to the domestic economy, and brings improvements in trade balances. On the other hand, infrastructure improvements that collectively benefit tourists, local residents, and the wider economy, improve the quality of life for local residents by expanding the choices available to them in their local community. Travel & Tourism drives the development of collective investments in public utilities and transportation infrastructure including roads, airports, harbours, electricity, sewage, potable water, and communication infrastructure.

It promotes unique cultural heritage has also become a way for countries to differentiate themselves to compete for tourism spending. Travel & Tourism also benefits local economies by enhancing labour mobility. Bangladesh can take more advantage by speeding up this sector.

Through this work we will relate the relationship between travel and tourism's contribution to GDP growth with economic variables like employment growth rate, visitor export, capital investment in travel & tourism by creating an econometric model and we will use vector error correction model to analyse causality between variables and lastly we will forecast future travel & tourism contribution to GDP and employment growth.

2. OBJECTIVES OF THE STUDY

The objectives of this project paper are as follows:

1) To evaluate causality between dependant and independent variables.

2) To understand tourism employment growth contributions to GDP growth.

3) To observe capital investment impact on Bangladesh GDP growth.

4) To estimate the relationship between visitor export and GDP growth.

5) Developing an econometric model on travel & tourism contribution

6) Estimating future trend of travel & tourism contribution to GDP and employment.

7) To realize relationship between capital investment and visitor export to employment creation.

3. CONCEPTUAL FRAMEWORK

INDEPENDENT VARIABLES   **DEPENDENT VARIABLES**
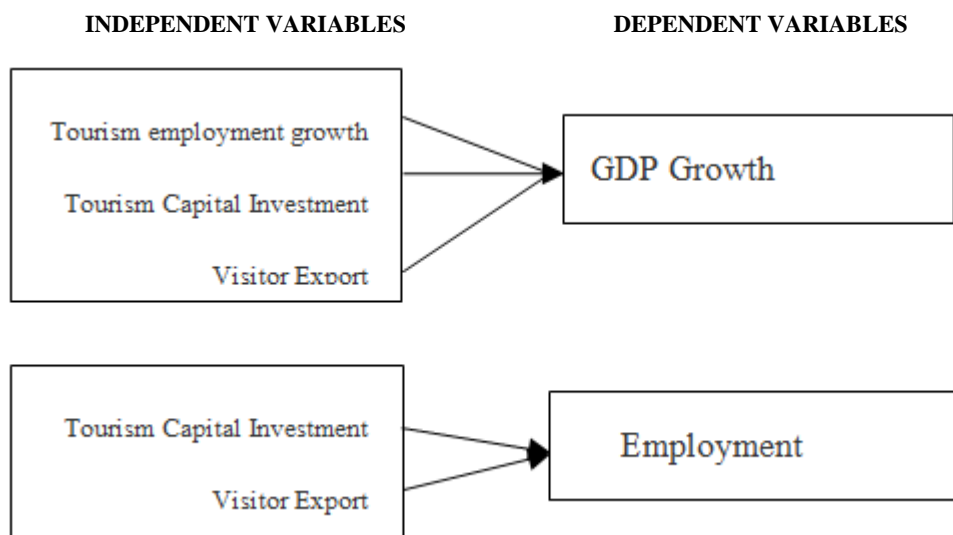
4. HYPOTHESIS

H1: There is a long-run association ship between GDPG and EMPG, CIV, VEX.

H2: There is a short –run causality running from VEX to GDPG.

H3: There is a short-run causality running from CIV to GDPG.

H4: There is a long-run relationship between EMPG and VEX, CIV.

H5: There is a unidirectional causality running from CIV to VEX.

Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period. GDP is a broad measurement of a nation's overall economic activity.

Visitor exports (VEX) are the spending within a country by international tourists for leisure and business travel including spending on transport.

Tourism employment (EMPG) has direct contribution to GDPG. When GDP growth rate is increased then employment also increases and has positive relationship that flows Okun's Law. Here we consider employment growth is independent variable and GDP growth rate as dependent variable.

Capital Investment in Tourism Sector (CIV): Capital investment is the first initiative to run a business and for tourism sector it is very essential to ensure proper quality and infrastructure and it has big contribution to GDP. Here we consider capital investment as an independent variable.

In another VECM model we consider employment growth rate in tourism is dependent variable where capital investment and visitor export in tourism as independent variable.

5. LITERATURE REVIEW

Through the article reviews our understanding that travel and tourism development has been considered as positive contribution to economic growth.

Kadir, N. & Josoft, k.(2010) reported that their causality test on Malaysia tourism sector got unidirectional causality running from imports to international tourist receipts at 5% significance level as well as total trade to international tourism receipts significant at level 10%. They end up by a conclusion that increases in total trade, exports and imports will cause expansion in the tourism sector in Malaysia.

Liangju, W. & LI, Z. & Wanlian, L (2012) observed on Chinese economic growth and tourism through the causality test based on computational econometrics and ended up by finding a long-run co-integration relationship between economic growth and the development of China's domestic tourism. If China's domestic tourist arrivals increase one percent in long term China's GDP will increase 0.810 percent.

Caglayan, N. & Sak, K. & Karymshakov (2013) observed that on existence and directions of causality confirm the importance of tourism for economic growth and the conditionality of this relationship on other possible determinants investigated in tourism revenue and GDP.

Pavlic, Tolic & Svilokos, (2013) also reported that in Croatia increasing tourism flows can bring many positive economic consequences to host countries, particularly in terms of GDP, employment opportunities, revenues and foreign exchange earnings and they also found through theoretical and empirical studies that tourism has a positive effect on employment.

Dritsakis, N. (2004) worked on Greece economy and found a relationship among international tourism earnings, real exchange rate and economic growth. It has common trend or long-run relationships among these variables. He also found that real exchange rate cause international tourism earnings "simply causal" relationship.

From the above literature review we have observed that most of them have taken in consideration independent variables are import, tourist receipt, visitor arrivals, exchange rate and found a positive relationship to economic growth. On the other hand ignored other important independent variables like visitor export, capital investment and employment generation in tourism sector .In our analysis we will create a model by taking these independent variables to Bangladesh's economic growth and employment. Tourism sector mainly contributes to a country's GDP growth and employment at the end. But in literature review we have seen they didn't consider the capital investment as independent variable and its contribution to GDP growth.

6. RESEARCH METHODOLOGY

6.1 Johansen's cointegration test:

Non stationary series is concluded in experiential economics macroeconomic variables. Treating non stationary variables in experiential analysis is important to avoid the results of false regressing. According to the model of cointegration, if there is two or more non-stationary time series share a common trend, then it is cointegrated.

Through the Johansen's (1991) co integration test we can decide whether the variable has log-run association-ship. In 1990 Johansen and Juselius commenced λtracee and λmax statistics based on the maximum likelihood or logarithm to analyze no-stationary time series data to find out the numbers of significant co-integration vector. The benefit of this analysis that the test statistic is used to evaluate more than one variables to get at least one co-integration vector in the model.

The testing is initiated by selecting the LAG length that is we has decided to use through the AIC information criteria. In the Johansen procedure, following a vector autoregressive (VAR) model, it engages the recognition of rank of the n x n matrix $\prod$ in the requirement given by:

$$\Delta Y_t = \delta + \sum_{i=1}^{k-1} \Gamma_i \Delta Y_{t-i} + \Pi Y_{t-k} + \varepsilon_t$$

Where, Yt – column vector of the n variables, Δ –

difference operator, Γ and $\prod$ are the coefficient matrices,

k indicates the lag length and δ is a fixed.

If there is no cointegrating vector that means $\prod$ is a singular matrix and which denotes that the rank of the cointegrating vector is equal to zero. Here the null hypothesis, in this model there is no co-integration equation but it could be rejected if the analysis finds out that the probability is less than 5% and the λtrace statistic is getter than the critical value then it shows that they alternative hypothesis could be accepted and there is at least one cointegration equation in the model.

6.2 Vector Error Correction Model (VECM):

In 1993 Toda & Phillips denoted that testing causality in the VECM framework is presently at the very forefront of econometric research. Engle and Granger (1987) who confirmed that once a number of variables (say, xt and yt) are found to be co integrated, there always be present a correspondent error-correction representation, which involves that changes in the dependent variable are function of the level of disequilibrium in the cointegration relationship that is captured by the error-correction term, ECT.

If we exploit the idea that there may exist co-movements between variables and possibilities that they will trend together in finding a long run stable equilibrium, by Granger representation theorem, we may hypothesize the following testing relationship, which constitute VECM given by equation:

$\Delta X t = \Sigma A i \Delta X t\text{-}i + \Sigma \xi i \Theta t\text{-}i + \upsilon t$

Where the As are parameters, X t is an n x 1 vector of variables cointegrated of order r; Θ contains the r individual ECTs get from r long run cointegrating vectors via the Johansen-Juselius (JJ) maximum likelihood method. VECM approach also helps in testing Granger causality in long-run and short-run.

In the short term, when the variables are cointegrated, variations from this long-run equilibrium will feed back on the alteration in the dependent variable to strength the association towards the long-run stability.

As on our model the equation as below-

$\Delta LGDPGt = a0 + \Sigma a1j\Delta$ LGDPGt-j + $\Sigma a2j\Delta$ LCIVt-j + $\Sigma a3j\Delta$ LEMPGt-j + $\Sigma a4j\Delta$ LVEXt-j + $\delta ECt\text{-}1$ + et

 Where- t = Time a0 = Co-efficient of the model ECt-1 = error correction term et = Random error

GDPG = Gross Domestic Product Growth. CIV= Capital Investment in Tourism. EMPG = Total employment growth in Travel & Tourism VEX= Visitor Export.

The main objective of this model to finding the way to minimise the error correction term to make the model more forecasted and set the model in implementation and execution to get expected result in future.

In this model we could set the null hypothesis that there is no log-run association ship between the variables but if the data output shows the that error correction term is negative and the probability is less than 5% that is significant that could reject the null hypothesis and accepted the alternative hypothesis –there is a long-run association ship between variables. The error correction negative means the model has good force to get equilibrium in near future.

7. DATA ANALYSIS & RESULTS

Scatter presentation of Variables:
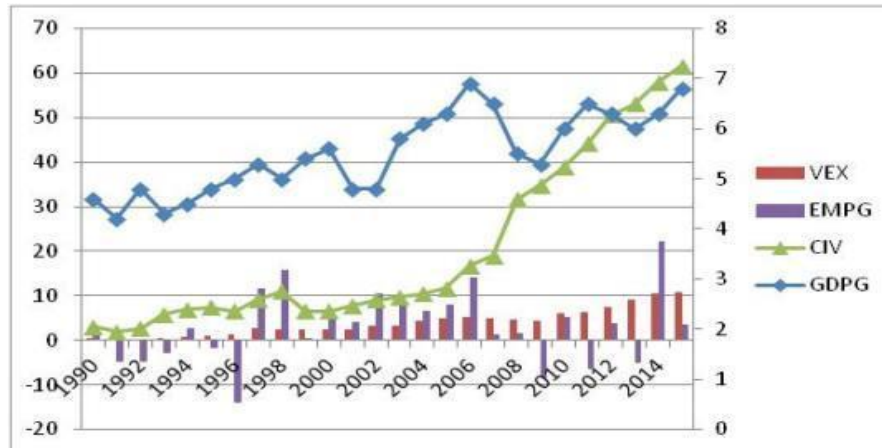
Data Source: https://knoema.com/atlas/Bangladesh and author calculation.

Here the graph presents the trends of the variables for the period of 1990-2015.It shows the variables are non-stationary and has steady growth .Here in data we use travel & tourism's total employment growth (EMPG) per year, GDP in growth rate per year, Visitor Export (VEX) in BDT billion & Capital investment in tourism in BDT billion.

7.1 Augmented Dickey-Fuller test (1979): (At first difference):

Here in this test we will consider the value of test data as absolute value that means we will ignore the negative sign.

Variables	ADF test statistic	At 5% level	Probability(P) %	Results
D(GDPG)	-3.43	-3.01	2%	Reject Null, No unit root.
D(EMPG)	-8.64	-2.99	0%	Reject Null, No unit root.
D(VEX)	-4.25	-2.99	0%	Reject Null, No unit root.
D(CIV)	-3.59	-2.99	1%	Reject Null, No unit root.

Here, we have tested our variables with ADF that is precondition to go for Johansson Co-integration test. The null hypothesis H0: the variables are unit root at first difference but after the test we get value ADF test statistic are lower than level 5% value and the probability also less than 5%.That reject the null hypothesis and accept the alternative hypothesis that there is no unit root at first difference.

7.2 Johansson and Juselius Co-Integration Test:

In ADF test we observe that all the variables are stationary at difference and before it was non-stationary.

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.762379	69.43194	47.85613	0.0002
At most 1 *	0.564396	36.37915	29.79707	0.0075
At most 2 *	0.391045	17.26566	15.49471	0.0268
At most 3 *	0.224827	5.857391	3.841466	0.0155

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Here,

H0 (the null hypothesis) the variables are not Co-integrated at p is 5% level. But here the probability is 0% that is less than 5%, so We can reject the null hypothesis and accept the alternative hypothesis , the variables are cointegrated .On the other hand trace statistic indicates 4 co-integration within the variable .Here, trace statistic value is greater than critical value for all variables that also suggested to reject null-hypothesis.

7.3 Vector Error Correction Model (VECM):

Before going for VECM we have to select LAG, we have selected LAG two as we observed that lag two has lowest Akaike (AIC) value in unrestricted Johansson co integration test. After running the VCEM model at first difference we get the data as above that shows out model is well fitted due to R squared value is 75% and adjusted R-squared also 55% and the error correction term (Coefficient) is negative (-.957) that follows reverse correction mechanism and significant at 5% level for that the variables are co-integrated and has log-run association ship.

74 Hypothesis Testing:

7.4.1 Hypothesis (H1): Long Run Relationship Test:

H0: There is no run-run causality between dependent and independent variable.

From the VECM we can observed that error correction term the probability is 0% that is less than 5%.So the null hypothesis is rejected and alternative hypothesis is accepted that is all the variables have long-run causality running from the three independent variables to dependent variable and here Prob (F-Statistic) is 1.6% that is less than 5%.In long run the three independent variables have influence on dependent variable.

On the other hand the C (1) is negative in sign means that the model is going forward to speed of adjustment.

7.4.2 Hypothesis (H2): Visitor export short-run causality (VEX) to GDPG:

From the Wald test, we get the value of F-statistic 5.14 & probability 2% and chi-square 10.28 as well as probability is 0% where C(7)=C(8)=0.The hypothesis H0: There is no short run causality between GDPG and VEX. Here Chi-Square value is 0%. So, reject the null hypothesis and accept alternative hypothesis that is a short-run causality between visitor export and GDP growth. So, visitor export Lag1 & Lag2 jointly can cause of GDP growth

7.4.3 Hypothesis (H3): Capital investment in tourism (CIV) short-run causality to GDP growth:

From the Wald test, we get the value of F-statistic 4.85 & probability 2% and chi-square 9.72 as well as probability is 0% where C (9) =C (10) =0.The Null Hypothesis H0: There is **no short-run** causality between GDPG and capital investment.

Here Chi-Square value is 0 % that is less than 5% so we reject the null hypotheses and accepted the alternative hypothesis that there is a **short-run causality** (LAG1 & LAG2) running from CIV to GDPG

7.4.4 Hypothesis (H4): Long run association ship running from VEX and CIV to EMPG.

Here we have created another model to test relationship between employment growth in tourism with capital investment and visitor export after tested all variables through ADF and Johansson co-integration (at least One Co-integration equation).Here we get the result for error correction term (coefficient of the model) is **-**3.27 , probability 0.09 % ,R-square 79% &

Here in this model we observe that capital investment and visitor export has long-run association ship to employment growth .Here VECM shows that C (1) ,error correction term is negative in sign(-3.27) and probability is 0% that makes the model significant and promptly going to get equilibrium.

7.4.5 Hypothesis (H5): Unidirectional causality running from CIV to VEX.

Through the Pairwise Granger Causality tests we get the result of the Hull Hypothesis H0: CIV does not Granger cause VEX is Obs-24, F-statistic 5.4 but Probability is 1.34% than is less than 5% .The null hypothesis is rejected and alternative hypothesis is capital investment could cause of visitor export.

7.4.6 Forecasting GDPG considering travel & tourism contribution:

Before we tested the model with Breuch-Godfery serial co-relation test and got there is no serial correlation in this model.
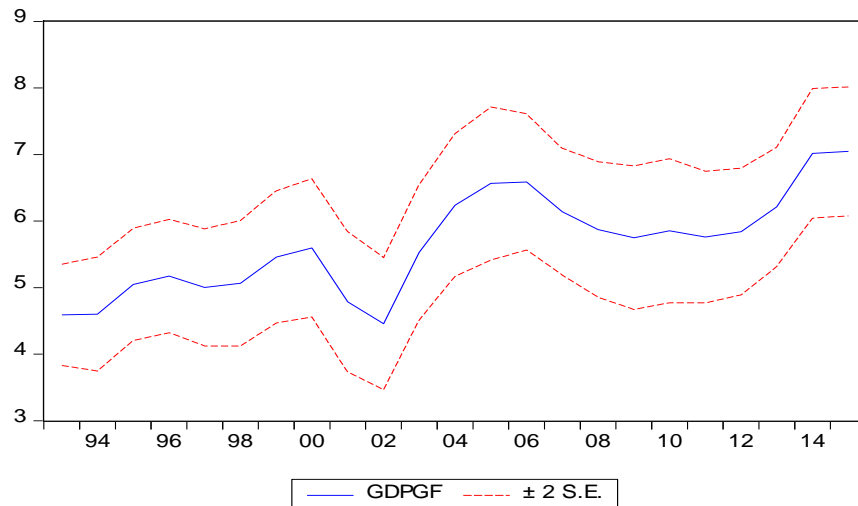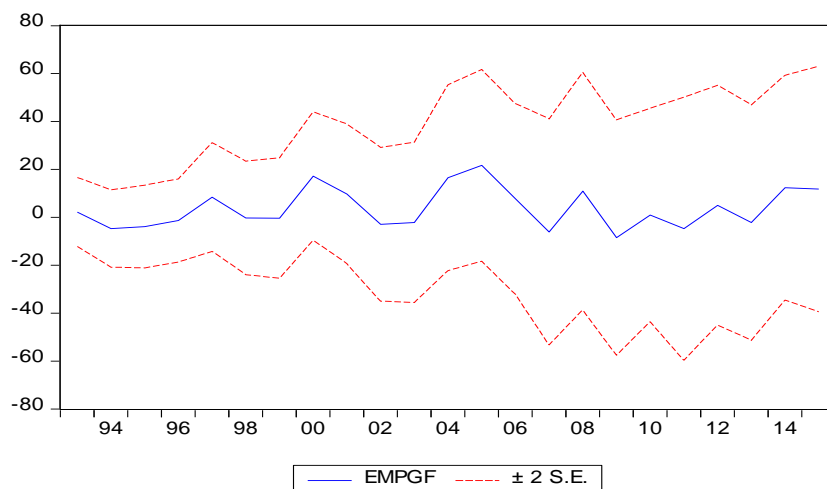
**7.4.7 Comparison GDP growth and forecasted GDP growth in Bangladesh:**

Here the green colour curve is GDP growth and red colour curve is forecasted GDP growth. The forecasted GDP growth is upward trend and getting more strengthen with the contribution from travel & tourism.

7.4.8 Forecasting Total employment growth in travel and tourism:

Here the blue curve represent forecasted employment trend that is positive and upward. From this analysis we observe that in future domestic expending and visitor export as well as capital investment will enhance employment in tourism sector.

Page | 598

7.4.9 Comparison Total employment growth and forecasted employment growth in tourism:
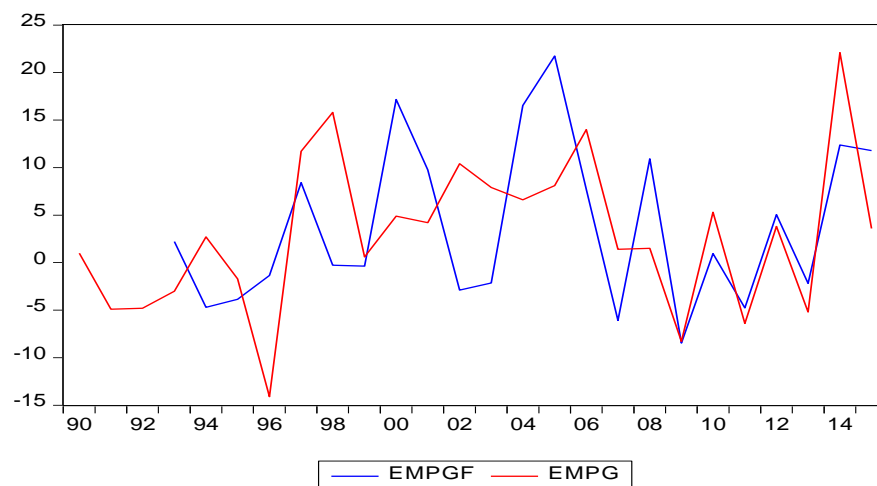
Tourism employment is often characterised by one or more of the following factors are seasonality, part-time and/or excessive hours of work & low-paid (or unpaid) family labour. It is more difficult to measure employment in the tourism industries than is the case for many other industries. Here our predictions signify that at present Bangladesh travel and tourism contribution to total employment growth will be continuing in future.

8. CONCLUSION & RECOMMENDATION

The main object of this study is to investigate the real relationships between travel & tourism's contribution to Bangladesh GDP growth and employment. This paper arrives at following four conclusions by employing VECM and Granger causality test.

First of all, we find out that there is a long-term and stable equilibrium relationship (co-integration relationship) between the travel and tourism's independent variables and economic growth. Secondly, there is short-run relationship running from capital investment to GDP growth rate. Nevertheless, visitor export has short-run relationship with GDP growth. Visitor export is the great source of foreign currency earning and meets demand of foreign currency liquidity. As visitor export has cause to GDP growth. Bangladesh should have to take more advantage from the relationship.

Furthermore, we also observed in our second model tourism employment growth rate (dependent) and visitor export and capital investment as independent. We found that visitor export and capital investment has long-run relationship with GDP growth. Lastly, there is a unidirectional relationship between capital investment and visitor export. Capital investment in tourism has great influence on visitor export.

Our forecasting also indicates that travel and tourism's capital investment, visitor export and employment growth has significant and upward trend to GDP growth and employment generation in future. In long-run GDP & employment will be strengthened by the travel & tourism sector contribution that will be significant to help Bangladesh maintaining GDP growth. As our model forecasts that coming years Bangladesh GDP growth will be near to 7% where as in 2016 Bangladesh GDP growth rate was 6.9 % and employment generation growth in tourism sector is forecasted to be near to 10% in coming years.

Our recommendation, Bangladesh has to create special tourist zone for international tourist through the participation of national and international partnership organizations by offering special facilities whose have dynamic business model. To ensure foreign direct investment in tourism sector has to boost up confident of international investors by offering tax holiday, incentive & rewarding etc.

In our analysis capital investment has a unidirectional relationship to Visitor export. As Bangladesh tourism sector is just growing stage and lack of infrastructure development and the investment has to increase in the accommodation, roads & highways and airways facilities that will certainly increase more foreign visitor.

On the other hand, human capital investment is the vital factor for hospitality industry that required more expertise employees who hold the norms, values and manner related to tourism sector as well as representing Bangladesh.

She has to maintain real time data and holistic analysis with forecasting on tourism sector that will help investor as well as international tourist in decision marking. She should be taken in consideration the guideline of UNWTO in decision making. Making sure more activities and participations of local government and people awareness helping domestic & international tourist. Barding and marketing Bangladesh showing positiveness, prospect & future with the commitment of Government and tourism sector to offer.

REFERENCES

[1] Journal: Caglayan, N Sak, K Karymshakov (2013) Relationship Between tourism and economic growth: A PANEL GRANGER CAUSALITY APPROACH E, Asian Economic and Financial Review 2(5)PP.(591-602)

[2] Dritsakis, N. (2004). Tourism as a long-run economic growth factor: an empirical investigation for Greece using causality analysis. Tourism Economics, 10(3), 305-316.

[3] Kadir,N & Josoft,k(2010). The Cointegration and Causality Tests for Tourism and Trade in Malaysia,2(1),PP.(138-143).

[4] Liangju, W. & LI,Z. & Wanlian, L (2012) Analysis of Causality between Tourism and Economic Growth Based on Computational Econometrics, Journal of computres,7(9),PP.(2152-2158)

[5] Pavlic, Ivana, Meri suman tolic, and Tonci Svilokos "Impact of tourism on the employment in Croatia." The proceedings of the 1st international conference on management, marketing, tourism, retail, finance and computer application (MATREFC'13), 2013.

[6] Books: Johansen,S.(1995), Likelihood-Based Inference in Cointegrated Vector Autoregressive Models, Oxford University Press, Oxford.

[7] https://www.tradingeconomics.com

[8] https://knoema.com/atlas/Bangladesh

[9] http://www.tradingeconomics.com/bangladesh/gdp-growth

[10] http://data.worldbank.org/country/bangladesh