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# AN EMPIRICAL INVESTIGATION BETWEEN FOREIGN DIRECT INVESTMENT (FDI) AND TOURISM IN BANGLADESH

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## *ABSTRACT*

We examine the empirical relationship between FDI and tourism in Bangladesh by employing the annual time series data from 1972 to 2017. Standard econometric techniques, like Augmented-Dickey Fuller (ADF), Phillips-Perron (PP) and Zivot-Andrews structural break augmented unit root tests, Johansen cointegration test, Granger causality test, Vector Error Correction Model (VECM), Dynamic Ordinary Least Square (DOLS) and Autoregressive Distributed Lag (ARDL) estimation methods and Cumulative Sum (CUSUM) stability test have been applied in this paper. Variables are found to be stationary at first difference form. Furthermore, cointegration results show concerned variables are associated in the long run. We find both short run and long run causality running from FDI to tourism in the case of Bangladesh but not vice versa. From the long run estimation results of DOLS and ARDL, we find that a 1 million USD increase in FDI will increase tourism receipts by 0.065 and 0.062 million USD respectively. Our results are expected to provide guidelines to the policymakers to formulate the sustainable tourism policies in Bangladesh.

**Contribution/Originality:** This paper contributes the first empirical analysis on the association of FDI and tourism activity from the perspective of Bangladesh economy. The analysis of this paper has been carried out by incorporating robust econometric techniques and led to key tourism policy implications.

## 1. INTRODUCTION

In the last few decades, Foreign Direct Investment (FDI) has boomed due to the globalisation and led to economic progress and transformation by employing foreign asset, technology and skills. FDI in the tourism sector generates employment, raises productivity, and transfers managerial skills and technology across the host countries (Selvanathan, Selvanathan, & Viswanathan, 2012; Tang, Selvanathan, & Selvanathan, 2007). Moreover, FDI is often considered as one of the better sources of financing for the tourism sector since the host country's access to funding is limited and is not sufficient to spend on the much-needed re-engineering of tourism tools in many cases (Rajapakse, 2016). Therefore, most governments in developing and emerging countries often place the highest priority on attracting FDI by experimenting with a variety of policies (Zhang, Chong, & Ap, 1999).

The most significant economic feature of the tourism sector is that it contributes to five high priority socio-economic goals of the developing and emerging countries: the generation of income, jobs creation, foreign exchange

earnings, improvement of the living standards, and poverty reduction (Amin & Khan, 2018; Amin & Rahman, 2019). A vast amount of empirical studies also examined the causal relationship between tourism and economic growth and found a correlation and causal relationship between tourism and economic growth (Balsalobre-Lorente, Driha, & Sinha, 2020; Brida, Lanzilotta, & Sebestian, 2013; Payne & Mervar, 2010).

Moreover, globalisation is a common feature linking FDI and tourism as the tourism sector requires capital, infrastructure, knowledge, and access to global marketing and distribution chains to develop and sustain (Banerjee, Cicowiez, & Gachot, 2015; Stauvermann & Kumar, 2017). The accessibility of financial sources is, therefore, essential for fostering tourism development and economic growth, especially in the case of capital-intensive tourism projects that are often tied up with huge set-up costs.

Although there are several studies relating to FDI and economic growth, tourism development, and economic growth, only a handful of literatures have focused on the relationship between FDI and tourism sector. Samimi, Sadeghi, and Sadeghi (2013) found that a causality between FDI and tourism using dynamic panel data analysis, where causality runs from FDI to tourism in the developing countries. Sanford and Dong (2000) found unidirectional causality running from tourism to FDI in the USA. On the other hand, Sadi and Henderson (2001) found a bidirectional relationship between FDI and tourism development in Vietnam. Several researchers also found evidence of the relationship between FDI and tourism in many developing and emerging countries like India, Turkey, and China (Selvanathan et al., 2012; Tang et al., 2007).

Shortly after the independence of Bangladesh, the annual FDI inflow stood at a mere 0.090 million USD in 1972. After an extended period of 35 years, the FDI rose to 989 million USD in 2006. FDI averaged 1001.57 USD million from 2002 to 2016, reaching a ceiling of 2003.53 USD million in 2016 and a record low of 276 million in 2004 (Bangladesh Bank, 2006; 2016). On the other hand, according to The World Travel & Tourism Council, WTTC (2018) the direct contribution of Travel & Tourism to GDP was USD 5,310.4 million in 2017 which is 2.2% of total GDP in 2017. This is forecasted to rise by 6.2% pa, from 2018-2028. Figure 1 shows a graphical representation of FDI and Tourism Receipts (TR) in Bangladesh.

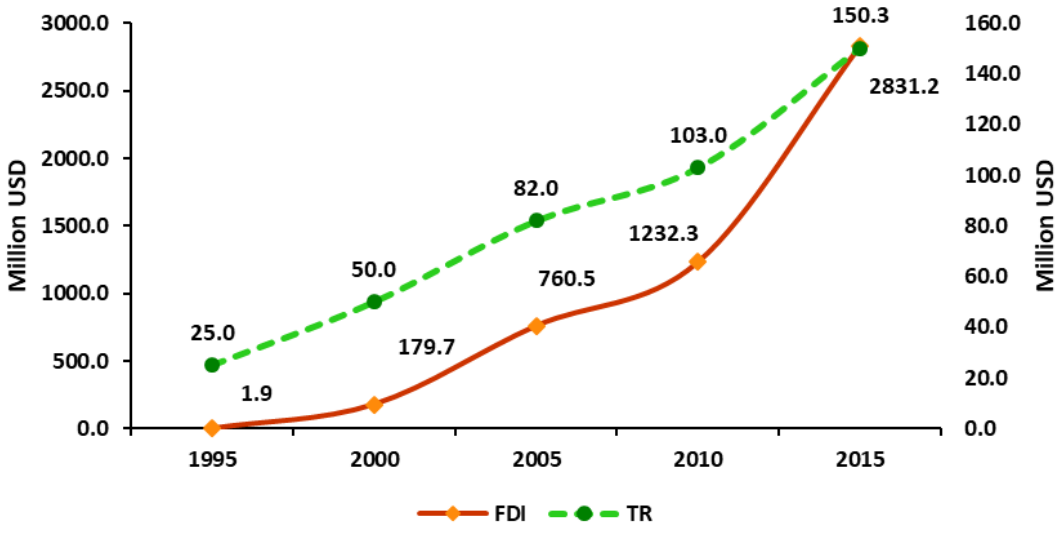


**Figure-1.** Graphical Representation of FDI and TR.

To our knowledge, no study has been conducted to examine the relationship between FDI and tourism sector in the context of Bangladesh. Therefore, this paper aims to examine the relationship between FDI and tourism in Bangladesh and analyse the policy framework required to attract FDI for tourism development in Bangladesh.

To check the stationary properties, we have employed the Augmented Dickey-Fuller (ADF), the Phillips-Perron (PP) and the Zivot-Andrews unit root tests with a structural break. Johansen cointegration test has been

conducted to check the existents of meaningful long run association among the variables of interest. After the cointegration test, the Granger Causality test and the Vector Error Correction Model (VECM) have been run to observe the causality between the variables in the long run and short run, respectively. Dynamic Ordinary Least Square (DOLS) estimation and Autoregressive Distributed Lag (ARDL) are also used to estimate the long run coefficient. Finally, the Cumulative Sum (CUSUM) test has been incorporated for investigating the stability of the concerned variables. Our results are expected to provide the necessary platform for the policymakers of the government and other affiliated tourism stakeholders so that they can set a long-term tourism growth strategy and appropriate planning for development in the future.

The remaining paper is organised as follows: section 2 provides a review of the existing literature, section 3 discusses the methodologies used, section 4 discusses the results of the econometric analysis and finally, Section 5 provides the concluding remarks and policy implications of the results found.

## 2. LITERATURE REVIEW

The direction of causality between FDI and tourism is not cohesive as the result varies with different studies. Several studies revealed that FDI causes tourism positively, leading to tourism growth and development (Jayaraman, Chen, & Bhatt, 2014; Li, Huang, & Song, 2017; Tomohara, 2015). In contrast, some studies found reverse causality from tourism to FDI which showed that tourism sector attracts FDI in countries like India, China, Pakistan, Russia, Malaysia, Thailand, and Hong Kong, etc (Alam, Malik, Ahmed, & Gaadar, 2015; Tiwari, 2011).

Empirical studies of FDI and tourism for the economy of Turkey had generated mixed results. Katircioglu (2011) studied tourism and FDI inflows growth by using bounds test with the data of Turkey from 1970 to 2005 which, showed that the two variables were in a level or relationship only when net FDI Inflows were the dependent variable in Autoregressive Distributed Lag Model (ARDL). However, Pham and Tran (2015) yielded different results. They examined the causal relationship between international tourist arrivals and FDI for the period of 1980-2012, which indicated a definite strong causality between the two variables and established tourist arrivals as a catalyst for foreign direct investment. The paper further highlighted that tourism in Turkey should be uplifted to enhance the economy's growth.

Alam, Idris, Malik, and Gaadar (2016) conducted a study using data from the period 2000-2013 of the Kingdom of Saudi Arabia and applied time series cointegration method by using the variables: number of visitors and total receipt from the tourism sector and FDI. By using the Johansen Co-integration test, they showed that there was both a long run and short run positive relationship between FDI and tourist value. The Granger causality test showed bidirectional causality between tourism expenditure and FDI.

Seetanah and Fauzel (2019) investigated the link between foreign direct investment (FDI) and tourism development for the case of the small island economy of Mauritius for the period 1980-2015. The research employed a dynamic time series econometrics framework, namely a vector error correction model (VECM), to account for a potential dynamic and endogenous relationship in the FDI–tourism nexus. They showed that FDI had a positive and significant effect, though relatively lower compared to the other classical factors of tourism development, in the long run. Interestingly, a bidirectional effect was observed in the long run, while an indirect link between FDI and tourism development via the economic growth channel was found.

Tang et al. (2007) used the Granger causality test under a VAR framework using quarterly data from the time period of 1987 to 2001. They found a one-way causality from FDI to tourism in China. They also argued that more tourists would increase the demand for hotels, and consequently, the investment would expand. China played a leading role in absorbing FDI among emerging economies and developing countries. FDI could positively benefit large international hotel chains spread their brand and cater to the growing tourism demand.

Craigwell and Moore (2007) applied panel causality tests to establish this relationship for selected Small Island Developing States (SIDS). The results indicated several causal relationships between the variables which were used.

The causality ran from FDI to tourism, validating that FDI indeed helped to reduce the financial gap in developing nations. Furthermore, the results suggested that SIDS would actively pursue foreign investment to generate funding which the country could not collect on its own. The lack of a bidirectional causal relationship between the two variables indicated that some SIDS might need to do a better job of marketing their tourism product to encourage more significant foreign investment.

On the other hand, Willem and Nair (2006) used panel regression analysis to establish whether Caribbean countries could increase the amount of FDI influx towards tourism using their trade negotiations. They found a positive association between FDI flows and the number of General Agreement on Trade in Services (GATS) commitment; however, they did not find a notable relationship between tourist arrival and FDI flows. The insignificant results could be liable for the small sample size of 9 countries and a short period of data collected.

Samimi et al. (2013) documented the relationship between FDI and tourism development in a panel of selected 20 developing countries using a framework that confines both inter-country and inter-temporal variation for the period of 1995 to 2008. The results of panel cointegration tests proved that there was a cointegrated relationship between tourism-related FDI and tourism growth in the long run. Besides, there was a long term bilateral relation between business enterprise connected FDI and business enterprise development, whereas there was no short term relation between variables. Broadly, whenever the system suffered a shock, the variables made adjustments to recover long run equilibrium.

## 3. METHODOLOGY, DATA, AND VARIABLES

Following Jayaraman et al. (2014) Tourist Receipts (TR) is considered as a proxy variable for explaining the intensity of tourism activity in this paper. TR is the earning from tourism in the country in million USD. FDI is the foreign direct investment inflow in the country in million USD. Both the data of FDI and TR range from 1972 to 2017. The Data for FDI is collected from the World Development Indicators (WDI) 2019 [1], published by World Bank whereas the data for TR has been drawn from the different annual reports published by Bangladesh Bank [2, 3].

### *3.1. Unit Root Test*

To check the stationary properties of the variables, Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests have been conducted. However, one of the main limitations of these traditional unit root tests is that they cannot determine the time of structural breaks in time series data endogenously (Pahlavani, Valadkhani, and Worthington (2005). To overcome this problem, Zivot and Donald (1992) unit root test with structural break is used in this paper.

### *3.2. Cointegration Test*

The Johansen procedure is applied, which is a unified framework for estimation and testing for co-integration relations in the context of the Vector Autoregressive (VAR) error correction model (Sjo, 2008). For this approach, one has to estimate an Unrestricted Vector of Autocorrelation of the form:

$$\Delta x_t = \alpha + \theta_1 \Delta x_{t-1} + \theta_2 \Delta x_{t-2} + \theta_3 \Delta x_{t-3} + \cdots\cdots + \theta_{k-1} \Delta x_{t-k+1} + \theta_k \Delta x_{t-k} + u_t \quad (1)$$

Where $\Delta$ is the difference operator, $x_t$ is a $(n \times 1)$ vector of non-stationary variables (in levels) and $u_t$ is also the $(n \times 1)$ vector of random errors. The matrix $\theta_k$ contains the information in the long run relationship between

[1] https://databank.worldbank.org/reports.aspx?source=world-development-indicators
[2] https://www.bb.org.bd/pub/index.php
[3] Time series data for tourism in not available in WDI or World Tourism Organization (UNWTO). Therefore, we have used the data from the local source.

variables. If the rank of $\theta_k = 0$, the variables are not meeting cointegration conditions. On the other hand, if the rank (usually signified by$r$) is equal to one, there will be one cointegrating vector. Finally, if the condition is$1 < r < n$, then there exist multiple cointegrating vectors. Johansen and Juselius (1990) derived two tests for Cointegration. The tests are the trace test and the maximum Eigenvalue test. The trace statistic evaluates the null hypothesis that there are at most r cointegrating vectors whereas the maximal Eigenvalue test, evaluates the null hypothesis that there are exactly r cointegrating vectors in$x_t$ (Amin & Khan, 2018). If cointegration is established, then we use the causality test to check the possible direction of causality between the variables of concern.

### *3.3. Causality Tests*

Engle and Granger (1987) and Granger (1988) proposed the Granger causality test which is used widely in empirical studies. In this paper, we can establish a long run relationship between non-stationary time series variables when the variables are cointegrated. The causality test between international Tourist Receipts (TR) and Foreign Direct Investment (FDI) will be conducted. We can determine whether the past value of TR augments the explanation of the present value of FDI given that by information in the past value of FDI itself and vice versa. Therefore, the following two sets of equation will be estimated:

$$TR_t = \alpha_0 + \alpha_1 TR_{t-1} + \cdots\cdots + \alpha_l TR_{t-l} + \beta_1 FDI_{t-1} + \cdots\cdots + \beta_l FDI_{t-l} + u_t \quad (2)$$

$$FDI_t = \alpha_0 + \alpha_1 FDI_{t-1} + \cdots\cdots + \alpha_l FDI_{t-l} + \beta_1 TR_{t-1} + \cdots\cdots + \beta_l TR_{t-l} + v_t \quad (3)$$

For all possible pairs of $(FDI, TR)$ series in the group. The reported F-statistics are the Wald statistics for the joint hypothesis$\beta_1 = \beta_2 = \beta_3 = \cdots\cdots = \beta_l = 0$

The VECM approach is considered in this paper because a possible limitation of the Granger causality test is that it takes into account causal relationships only in the long run but not for the short run while VECM provides information for both time frames. By doing so, the short run deviations of series from their long run equilibrium path are also captured by including an error correction term. Therefore, error correction models of cointegration under the bivariate system in this paper can be specified as follows:

$$\Delta TR = \alpha + \sum_{i=1}^{m} \beta i TR_{t-i} + \sum_{j=1}^{n} \gamma_j \Delta FDI_{t-j} + \theta Z_{t-1} + \varepsilon_t \quad (4)$$

$$\Delta FDI = \alpha + \sum_{i=1}^{m} \beta_i TR_{t-i} + \sum_{j=1}^{n} cj \Delta FDI_{t-j} + fZ_{t-1} + \varepsilon_t \quad (5)$$

$Z_{t-1}$ is the error-correction term, which is the lagged residual series of the cointegrating vector. The error-correction term trials the deviations of the series from the long run equilibrium relation.

### *3.4. Dynamic OLS (DOLS)*

The Dynamic OLS (DOLS) was introduced by Stock and Watson (1993) which is an updated version of the OLS approach where one can deal with smaller sample size and dynamic sources of biases. It is a robust single equation approach that corrects the regressor endogeneity by including lags and leads. DOLS can assess long run equilibrium where variables are integrated in the same or dissimilar order. Moreover, it has the same kind of optimality as Johansen distribution. This is one of the major benefits of this method (Amin & Khan, 2020). If $TR_t$ is

the dependent variable with independent variable $FDI_t$, where t = 1,2,3…, n then,

$$TR_t = \beta_1 FDI_t + \sum \alpha_{i\Delta} FDI_{t-i} + \varepsilon_t \quad (6)$$

### *3.5. Autoregressive Distributed Lag (ARDL)*

Pesaran and Yongcheol (1999) introduced the Autoregressive Distributed Lag Model (ARDL) approach. This method has two important advantages. Firstly, it effectively corrects for possible endogeneity of explanatory variables. Secondly, the estimates exhibit desirable small sample properties (see also (Caporale & Pittis, 2004; Panopoulou & Pittis, 2004)). Another advantage of the ARDL test is that one can use variables which are I (0) or I (1) or the mixture of I (0) and I (1).

We will use long-term ARDL (p, q) as given below,

$$TR_t = \beta_0 + \sum_{i=1}^{q1} \beta 1\, FDI_{t-i} + \cdots + \varepsilon_t \quad (7)$$

### *3.6. CUSUM Test*

Usually, we use the Cumulative SUM (CUSUM) test to investigate any systematic changes or movements in which there are possibilities of change in values of the coefficient revealing structural instability. Existence of any unknown breakpoint results rejecting the specification throughout the period. Through hypothesis testing, we can find out whether the model parameters are stable or not by rejecting or accepting the null hypothesis (Farhani, 2012).

$$W_m = \sum_{t=K+1}^{m} \frac{w_t}{\gamma_w} \quad (8)$$

Under the null hypothesis, $W_m$ must be inside the corridor ($-L_m$ to $L_m$)

$$L_m = \frac{a(2m+t-3k)}{\sqrt{T-K}} \quad (9)$$

We will reject the null hypothesis (i.e., the model is stable) if $W_m$ cuts the given range of corridors. Which actually means the variables are not stable enough.

## 4. RESULTS ANALYSIS

### *4.1. Unit Root Test Results*

Table 1 shows the results of ADF unit root test. Results reveal that the variable TR is stationary at the first differenced form. Considering the ADF test, we do not have a satisfactory outcome to conclude that the variable FDI is stationary at level or at first difference. Therefore, following Amin and Khan (2018) where PP unit root test was used to check the stationary properties of some variables after the inconclusive results of ADF unit root test, we also run the PP unit root test reported in Table 2. Test results reveal that both variables are stationary at their first difference form.

**Table-1.** Augmented dickey-fuller unit root test for the variables.

| Panel 1: Levels | | | |
|---|---|---|---|
| **Variable** | **ADF Statistics (Only Constant)** | **ADF Statistics (Constant & Trend)** | **Decision** |
| FDI | 2.750606 | 2.887723 | Non-Stationary |
| TR | 2.249270 | 1.723620 | Non-Stationary |
| Panel 2: First Differences | | | |
| Variable | ADF Statistics (Only Constant) | ADF Statistics (Constant & Trend) | Decision |
| FDI | 4.270723 | 2.2688861 | Non-Stationary |
| TR | -7.871346 | -8.256743 | Stationary |

**Table-2.** Phillips-Perron unit root test for the variables.

| Panel 1: Levels | | | |
|---|---|---|---|
| **Variable** | **Phillips-Perron Statistics (Only Constant)** | **Phillips-Perron Statistics (Constant & Trend)** | **Decision** |
| FDI | 0.143186 | -1.432057 | Non-Stationary |
| TR | 0.227607 | -1.231497 | Non-Stationary |
| Panel 2: First Differences | | | |
| Variable | Phillips-Perron Statistics (Only Constant) | Phillips-Perron Statistics (Constant & Trend) | Decision |
| FDI | -7.176089 | -7.687269 | Stationary |
| TR | -7.902055 | -8.331595 | Stationary |

Zivot-Andrews unit root test with structural break shows both variables fail to reject the null hypothesis of unit root in the presence of structural break in the intercept and trend. Results are reported in Table 3. Therefore, it can be concluded that the variables have unit root in the presence of structural break, meaning the variables are not mean-reverting at their levels. Figure 2 and Figure 3 graphically illustrate the break points in our variables of interest.

**Table-3.** Unit root test with structural break (Zivot-Andrews).

| Variable | T-Statistics (Intercept &Trend) | Break Year | P-Value |
|---|---|---|---|
| FDI | -1.9313 | 2004 | 0.559888 |
| TR | -2.3450 | 2010 | 0.135512 |

**Note:** Null hypothesis is that series has a unit root with a structural break in both the intercept and trend.

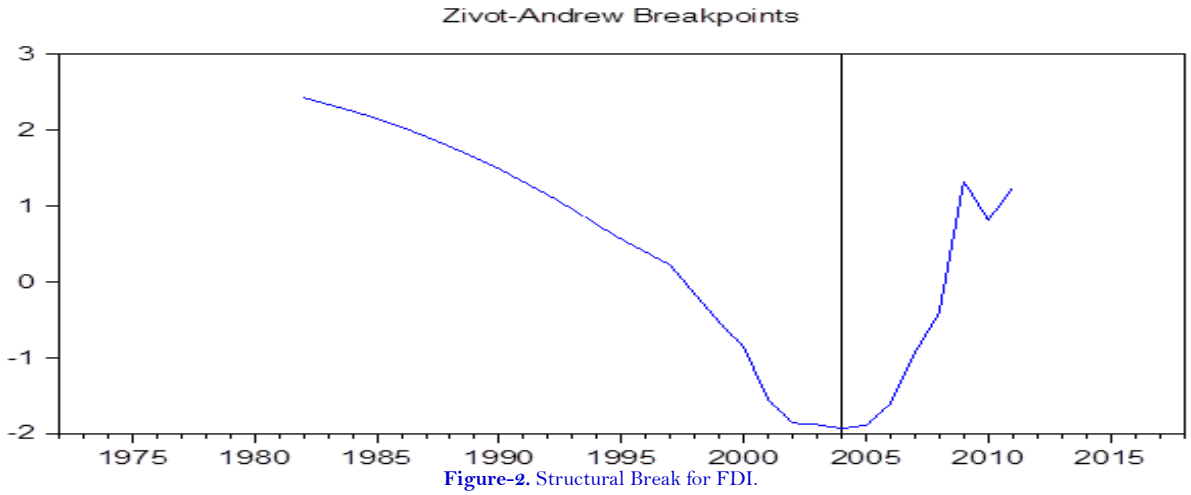


**Figure-2.** Structural Break for FDI.

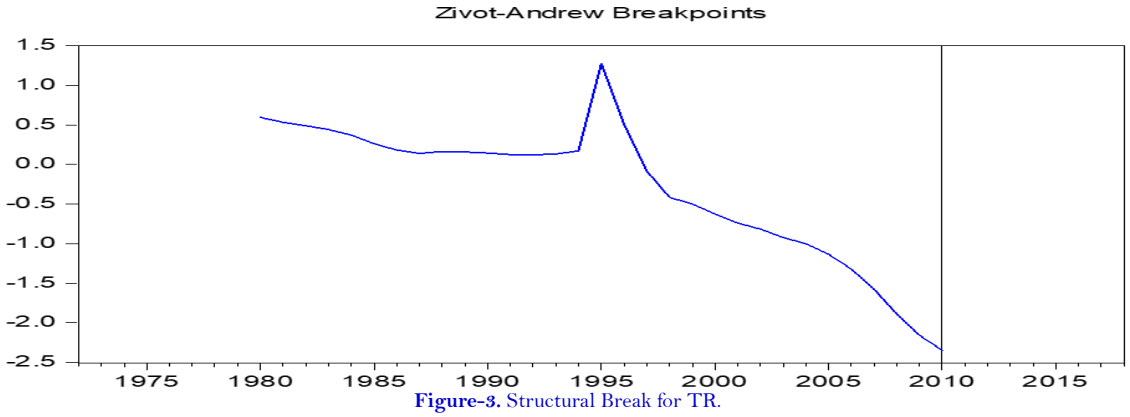


**Figure-3.** Structural Break for TR.

### *4.2. Johansen Cointegration Test Results*

The Johansen cointegration test that has been carried next in Table 4 to investigate whether the two series have at least one meaningful cointegrating relationship in the long run. Both the Trace test and the Maximum Eigen value tests have revealed the existence of one cointegrating relationship.

**Table-4.** Johansen cointegration test results.

| Trace Test | | | | |
|---|---|---|---|---|
| **Null** | **Alternative** | **Trace Statistic** | **95%Critical Value** | **Conclusion** |
| r=0 | r=1 | 19.01818 | 15.49471 | 1 Cointegrating equations at 5% level |
| r<=1 | r=2 | 1.493368 | 3.841466 | |
| Maximum Eigen Value Test | | | | |
| Null | Alternative | Max-Eigen Statistic | 95%Critical Value | Conclusion |
| r=0 | r=1 | 17.52481 | 14.26460 | 1 Cointegrating equation at 5% Level |
| r= 1 | r=2 | 1.493368 | 3.841466 | |

### *4.3. Causality Test Results*

Results of the long run causal relationship between TR and FDI are summarised in Table 5. It can be seen that FDI causes TR in the long run. The finding suggests that FDI can stimulate the tourism sector in the long run. Tang et al. (2007) and Othman, Salleh, and Sarmidi (2012) also found similar significant causality running from FDI to Tourism. The tourism sector is combined with multi industries like service, transportation, accommodation, etc. The sector needs capital, developed infrastructures, technical skills, policy implementations etc. which are important for the long run sustainable development (Amin & Rahman, 2019). FDI inflow into this sector will eventually help to achieve these long run requirements for the development of this sector. The results of the VECM in Table 6 find a unidirectional causality running from FDI to TR in the short run. Previously, Selvanathan et al. (2012) also found a similar result. One of the possible reasons for this is that in the short run, inflow of FDI can stimulate more tourism related services with existing resources through generating more jobs in the tourist regions.

**Table-5.** Long run causality results.

| Hypothesis | F-Statistic | P-Value | Granger Causality |
|---|---|---|---|
| TR does not Granger cause FDI | 0.45977 | 0.7649 | FDI Causes TR in Long Run |
| FDI does not Granger cause TR | 4.33578 | 0.0065 | |

**Table-6.** Short Run causality results.

| Null Hypothesis | Chi-square statistic | P-Value | Conclusion |
|---|---|---|---|
| FDI does not cause TR | 8.520729 | 0.0141 | FDI Causes TR in Short Run |
| TR does not cause FDI | 0.488059 | 0.7835 | |

### *4.4. Long run Coefficient Estimation*

The DOLS and ARDL results are given in Table 7. Long run FDI coefficients are found to be 0.065 and 0.062 by DOLS and ARDL estimation, which are positive and significant as well. The results assert that a 1 million increase in FDI will increase the tourism receipts by 0.065 million USD in DOSL estimation and 0.062 million USD in ARDL estimation. It is worth mentioning that both estimation results show a similar pattern, which indicate the robustness of the estimated long run coefficient of FDI. However, the coefficient value is relatively small. It is because a larger portion of the FDI is directed to RMG, leather textile, and other manufacturing sectors of Bangladesh. In addition, tourism is a relatively new sector in Bangladesh and has not yet been able to give proper signals to the foreign investors. Therefore, the effect of FDI is not seen much in the tourism sector of Bangladesh.

**Table-7.** Estimation of cointegrating factors (long run).

| Variable | DOLS Estimation | ARDL Estimation |
|---|---|---|
| FDI (Million) | 0.065209 (0.0000) | 0.061777 (0.0488) |
| Adj $R^2$ | 0.64 | 0.60 |

**Note:** Probability is given in parenthesis.

The Cumulative SUM (CUSUM) test was used to observe any possible change of coefficient value in any structural instability. Figure 4 reveals that $W_m$ remains inside the 5 percent limit corridor. It means that parameters are stable.

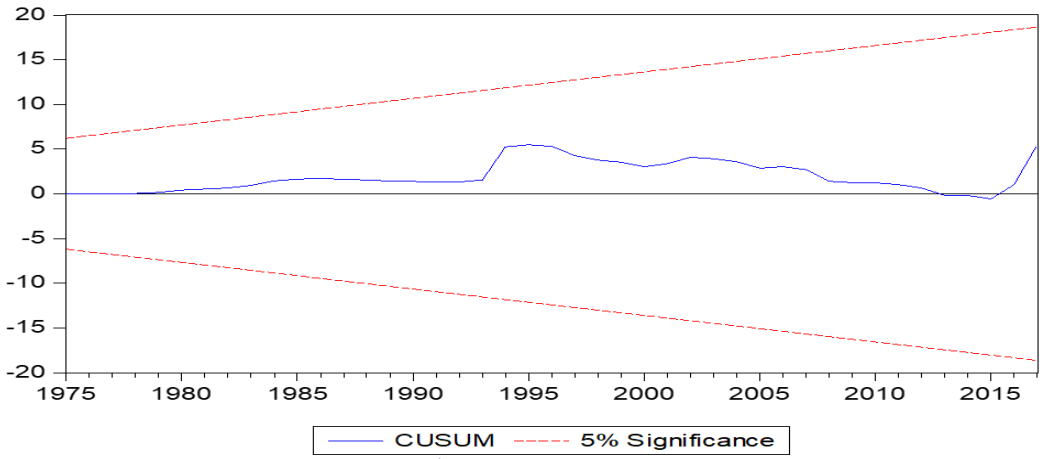


**Figure-4.** Cusum Test.

**Source:** Software generated values. Compiled by authors.

## 5. CONCLUSION AND POLICY IMPLICATIONS

FDI plays a crucial role in many countries for facilitating the development of different sub-sectors and overall progress. FDI inflow into a country creates opportunities for employment, socioeconomic development, infrastructural development, and other aspects of an economy. Thus, FDI is given high priority for development by most governments in emerging countries (Khoshnevis Yazdi, Homa Salehi, & Soheilzad, 2017). On the other hand, tourism is considered as one of the important drivers for economic growth (Amin, Kabir, & Khan, 2019). Consequently, FDI can play an important role in developing the tourism sector, which is comprise of multi-skill industries including technical skills, infrastructural capital, and supply chain system (Banerjee et al., 2015). The availability of financial assistance intensifies the development of the tourism sector, especially in the case of capital-intensive tourism projects, which require a huge setup cost.

Bangladesh needs export diversification to achieve sustainable development. Most of the developing and emerging countries like Bangladesh need capital, infrastructure, knowledge, access to global marketing and distribution chains for desired development progress (Stauvermann & Kumar, 2017). Since Bangladesh has huge

potential in the tourism sector, it can be one of the prospective sectors for this country to accelerate economic growth and development. The government needs to promote the tourism sector considering its huge potential for the Bangladesh economy. To facilitate the tourism sector of a country, FDI among others is expected to play a significant role by providing the required financial assistance.

Although there are a few studies on the relationship between tourism and FDI from a range of perspectives, the direction of its causality remains an unsolved conundrum in Bangladesh. This paper aims to examine the relationship between FDI and tourism in Bangladesh to fill the gap in literature. To check the stationary properties, we have used the ADF unit test, the PP unit root test, and the Zivot-Andrews unit root test. Johansen cointegration test reveals that there is at least one cointegrating equation. This means that our variables are associated in the long run. Both long run and short run causality are established by Granger causality test and VECM with a unidirectional causality running from FDI to tourism. This suggests that the FDI inflow into the country enhances the tourism sector both in the long run and short run. To estimate the coefficient of FDI, we have incorporated DOLS and ARDL robust estimation methods. The results of DOLS and ARDL estimation methods show that a 1 million USD increase in FDI will increase tourism receipts by 0.065 million USD and 0.062 million USD, respectively. CUSUM stability test shows that the parameters are stable given any unknown break as $W_m$ remains inside the corridor.

As the result shows that FDI plays a positive role in expanding the tourism sector in Bangladesh, appropriate policies to explore tourism resources and plans to develop new tourist venues are important. The government should undertake the policies to give incentives for investing in the tourism infrastructures, and thus the potential of tourism will come under the spotlight. Policies for increasing both national and international tourism demands are highly recommended. It is because; increase in tourism demand can give signals to foreign investors to invest more in the tourism sector of Bangladesh. Regional and sectoral development is needed to create a tourism-friendly environment to attract international tourists. Underdeveloped regions such as hill tract areas of Bangladesh should be given priority because of natural scenic beauty. These areas can attract more tourists from the national and international arena. Tourist friendly services are needed, such as proper transportation facilities (Taxi or Car lift) after tourists arrive into the country. This is one of the important factors for Bangladesh. Besides, proper tourist guiding is needed to provide knowledge about tourism spots, culture, and culinary of Bangladesh.

There are other points worth mentioning about this paper. Firstly, we use a bivariate model to analyse the relationship between FDI and tourism. However, more explanatory variables such as exchange rate, GDP, political stability, and business environment can be added to the model to see more robustness of the findings. Secondly, the paper can be done in panel data, including other countries from the South Asian Region.

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