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Effect of Landlockedness on Tourism Income in SAARC Countries

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Abstract

This study looks into the economic-driven tourism growth hypothesis in the context of SAARC countries. It also investigates the effect of landlockedness on tourism income receipt. It is based on secondary data gathered from several World Bank Reports and economic surveys of respective countries. It made use of 169 data points from SAARC's eight member countries. The data from an unbalanced panel was used. It makes use of an exploratory and analytical research design. For the impact study of independent variables on dependent variables, descriptive statistics, panel unit root testing, panel quantile regression analysis, quantile process estimates, quantile slope equality test, and symmetric quantile test are used. The GDP has a positive impact on tourism income in SAARC countries. It is found that one percent increase in the median value of GDP, the tourism income is increased by 0.219 percent. The evidence has proved the economic-driven tourism growth hypothesis, particularly regarding SAARC countries. This highlights the need for tailored tourism initiatives aimed specifically at landlocked nations.

Keywords
Economic-driven tourism growth hypothesis, quantile regression, symmetric, predictor.

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1 Introduction

There are various adverse effects of landlockedness on economic activities. Landlocked countries are facing many complex challenges. Due to their geographical remoteness, lack of direct access to the open sea, and high transportation and transit costs, they are at a significant economic disadvantage compared to the rest of the world [1,2] Nations surrounded by other countries lacking access to waterways have a significant economic advantage because trade routes are primarily out of their control [3].

There are two main disadvantages of landlocked countries, i.e., higher transportation costs and the impact of neighbouring countries. Landlocked

countries must pay more to get their goods and services to the global market. Similarly, landlocked countries depend on their neighbouring countries' economic policies [4]. Landlocked developing countries bear an extra burden [5]. Landlockedness hampers the economic growth of the nation [6] There are 45 landlocked countries in the world. Only 9 are high-income countries; the remaining 36 are low-income and middle-income countries [7].

The economic-driven tourism growth hypothesis refers to the idea that the growth and development of the tourism industry are driven primarily by economic factors such as income, employment, and investment. According to this hypothesis, the growth of the tourism industry is caused by increased economic activity, which stimulates demand for tourism services. The real GDP is generally used to measure economic growth [8].

The origin of the economic-driven tourism growth hypothesis is not attributed to a single individual or founder. It is a theoretical framework developed and refined by economists, tourism researchers, and scholars over time. Economic growth stimulates tourism demand by increasing the disposable income of individuals, leading to increased travel spending. Economic growth increases the capacity to invest in the tourism industry. The well-developed tourism sector attracts internal and external tourists, and the country can earn more income.

The tourism industry can contribute considerably to poverty alleviation in developing countries . Due to the landlockedness, tourists must pay a high price and find reaching their desired countries and destinations difficult. Landlocked countries face various problems in the tourism sector and can earn less than others [9].

Typically, landlocked countries are poor. They are unable to develop the infrastructure related to tourism. Landlocked countries have no direct route from the sea. So, the transportation cost to reach such countries is significantly high. The price of goods and services is comparatively high than in other countries. More expensive and delayed transportation is found in landlocked countries. That hampers the tourism industry [10]. In landlocked countries, it is not easy to travel because travel by ship is more comfortable than bus or surface transport; due to the difficulty in travelling, many tourists postpone or cancel to visit in landlocked countries. Similarly, the stay is short due to more expenses and a lack of attractive tourist sites.

The south Asian Association for Regional Cooperation (SAARC) was established on 8th December 1985. SAARC has eight member countries: Nepal, Bhutan, India, Bangladesh, Pakistan, Afghanistan, Maldives, and Sri Lanka. Among them, Nepal, Bhutan, and Afghanistan are landlocked countries. The SAARC was established to promote the regional welfare of the people of south Asian countries.

This study examines the effect of landlockedness on tourism income in SAARC countries. It also seeks the validity of the economic-driven tourism growth hypothesis in the context of SAARC countries.

This research is organized into five sections. The remainder of this article is: section 2 represents the theoretical and empirical literature review. In section 3, the research materials and methodology are presented. Section 4 covers the empirical findings. While section 5 covers the study's conclusion, policy implications, and limitations.

2 Literature Review

Four hypotheses are developed in the field of tourism that establish the relationship between tourism and economic growth from various aspects and directions. The tourism-led economic growth hypothesis, the economic-driven tourism growth hypothesis, the bi-directional causality hypothesis, and the no causality hypothesis have been developed and refined by economists, tourism researchers, and scholars. The tourism-led economic hypothesis postulates that tourism income flourishes in economic growth [2]. On the other hand, the economic-driven tourism growth hypothesis believes that the economic growth of a country promotes the tourism industry. The bi-directional causality hypothesis combines the tourism-led economic growth hypothesis and the economic-driven tourism growth hypothesis. According to this hypothesis, economic growth promotes tourism and supports economic growth. But no causality hypothesis established the insignificant relationship between tourism and economic growth [11].

Coloccho and Vergori [12] found the existence of a unidirectional causality going from economic growth to tourism development. Their finding has proved the validity of the economic-driven tourism growth hypothesis. Payme and Mervar (2010) concluded that economic growth flourished tourism development and income. Corrie et al. [13], Antonakakis et al. [8], and Lee [14] identified the authenticity of the economic-driven tourism growth hypothesis.

There are so many studies about the role of tourism income on economic growth. Similarly, there are a lot of studies about the authenticity of the tourism-led economic growth hypothesis. But little studies are found the validity of the economic-driven tourism growth hypothesis. This study examines the reality of economic growth promoting tourism development or the economic-driven tourism growth hypothesis. Additionally, it

searches the impact of landlockedness on receiving tourism income in SAARC countries. So, this study differs from others, and a vast research gap can be found between previous and present studies.

3 Materials and Methods

3.1 Research Design

This study is based on exploratory and analytical research design. The exploratory research design is used to examine the effect of landlockedness on receiving tourism income and to taste the validity of the economic-driven tourism growth hypothesis in the context of SAARC countries. The descriptive research design describes the variables and results of econometric tools and techniques.

3.2 Data and Data Analysis

This study is based on the secondary data obtained from the various World Development Reports and respective countries' economic surveys. The unbalanced panel data is used, which ranged from a maximum of 23 to a minimum of 14 data points. It examined the 169 data points of eight different member countries of SAARC. Twenty-three observations from 1999/00 to 2021/22 include India, Nepal, Bangladesh, Sri Lanka, Pakistan, and Maldives from each country. Seventeen observations from 2005/06 to 2021/22 and 14 observations from 2008/09 to 2021/22 are included from Bhutan and Afghanistan, respectively. Simple statistical and econometric tools are used to explore the effects of landlockedness on receiving tourism income and to test the validity of the economic-driven tourism growth hypothesis. **Variable specification**
In this study, only two variables Gross Domestic Product (GDP) and tourism income, are taken as study variables. The landlockedness of the country is taken as the dummy variable. Tourism income is the dependent variable, and GDP is the independent variable. In this study, the theoretical framework is developed depending upon the concept of the economic-driven tourism growth hypothesis, which means tourism income depends upon the GDP or economic progress of the country.

3.3 Model specification

Tourism depends upon the economic progress of the country. The tourism income of SAARC countries depends upon economic progress or GDP. The increase in real GDP is generally called economic growth (Antonakakis et al., 2019). In this sense,

$$TI = f(GDP) \tag{1}$$

$$LNTI = f(LNGDP) \tag{2}$$

The basic panel model is defined as follows:

$$M_{it} = \alpha + \beta N_{it} + \mu_{it} \tag{3}$$

Equations (3) M_{it} and N_{it} show the dependent and independent variables for all cross-sections and time periods, respectively. Likewise, μit is the error term. More specifically,

$$LNTI_{it} = \alpha + \beta LNGDP_{it} + \mu_{it} \tag{4}$$

In equation (4) $LNTI_{it}$ indicates the tourism income of SAARC countries over time t and α and β, the intercept and coefficient, respectively.

3.4 Quantile Regression Model

The quantile regression estimation process starts with the central median case which the median regressor estimator minimizes a sum of absolute error, as opposed to Ordinary Least Square (OLS), which minimizes the sum of squared errors. Quantile regression provides an alternative to the OLS regression model and related methods, which typically assumes that the associations between independent and dependent variables are the same at all levels [15]. Quantile regression is an extension of linear regression used when the conditions of linear regression like linearity, homoscedasticity, independence or normality are not met. The simple quantile regression model is:

$$Yt = X'\beta_q \tag{5}$$

where β_q is the vector of unknown parameters related to q^{th} quantiles.
Simple quantile regression for panel data is specified as given below [16]

$$\begin{aligned} QT(Y_{it}) = \beta_0(T) + \beta_1(T)X_{it}1 + \beta_2(T)X_{it}2 \\ + ... + \beta_P(T)X_{ip} \end{aligned} \tag{6}$$

The Quantile regression minimizes $\Sigma_t q|e_t| + \Sigma t(1-q)|e_t|$, which is a sum that produces the asymmetric quantiles $q|e_t|$ representing under the prediction and $(1-q)|e_t|$ for over forecast. In equation 6, Q_T represents the percentiles or quantiles.

4 Presentation and Analysis

4.1 Descriptive Statistics of Variables

Descriptive statistics show the nature of data, including mean, median, maximum and minimum variation, standard deviation, skewness, kurtosis, and Jarque-Bera probability. Descriptive statistics show the condition and features of response and predictor variables of SAARC countries. Table 1 shows the descriptive statistics of Dependent and independent variables from the fiscal year 1999/00 to 2021/22.

Table 1 displays the outcomes of descriptive statistics of GDP variables and tourism income of

8 member countries of SAARC. The GDP ranges from 589.2 to a high of 3177900.0 with an average of 276698.6 billion USD. The tourism income ranges from 16.0 to a maximum of 30056.0, resulting in an average of 2471.928 billion USD. All the data are positively skewed, i.e., the mean is greater than the median. A positive value of kurtosis indicates a distribution is more peaked than normal. The value of kurtosis (K) is greater than 0,263 (K>0.263). So, the distribution is leptokurtic. The standard deviation of tourism income is less than GDP. So, the mean value of tourism income is more representative than the average GDP. Tourism income's coefficient of variation (CV) is less than GDP. So, the data on tourism income is more consistent than the data on GDP.

Table 1: List of the outcomes of descriptive statistics.
(Source: - Calculated by author by using EViews12)

Description	Gross Domestic Product (GDP)	Tourism Income (TI)
Mean	276698.6	2471.928
Median	34190	498
Maximum	3177900	30056
Minimum	589.20	16
Standard deviation	616028.80	5398.791
Skewness	3.002	3.348
Kurtosis	11.361	14.242
Coefficient of variation (CV)	222.635%	218.404%
Jarque-Bera	746.106	1205.720
Probability	0.000	0.000
Total observation	169	169

4.2 Panel Unit Root Testing

Panel unit root testing is performed to identify whether the data are predictable. Panel unit root testing is carried out to determine the order of cointegration. It is necessary to be stationary to predict anything from the data because non-stationary data are divergent and cannot predict anything. In this research, the first-generation panel unit root testing test is used. The first-generation test, Levin, Lin, and Chu test, Im, Pesaran, Shin test, and Fisher type test are included [17]. In table 2, the results of the panel unit root are displayed:

Table 2: Results of a stationary test.
Null Hypothesis: Series are non-stationary.
Benchmark: Individual Intercepts.
(Source: - Calculated by author by using EViews12.)

Variables	Methods	Level	First difference	Decision
LNGDP	Levin, Lin, Chu test	-0.480 (0.316)	-6.432 (0.00)	Stationary after the first difference
	Im, Pesaran, Shin	0.938 (0.826)	-6.089 (0.00)	
	ADF-Fisher chi-square	9.915 (0.871)	68.929 (0.00)	
	PP-Fisher chi-square	11.109 (0.842)	79.766 (0.00)	
LNTI	Levin, Lin, Chu test	2.354 (0.991)	-4.575 (0.00)	Stationary after the first difference
	Levin, Lin, Chu test	2.354 (0.991)	-4.575 (0.00)	
	Im, Pesaran, Shin	2.435 (0.993)	-4.981 (0.00)	
	ADF-Fisher chi-square	6.179 (0.986)	57.328 (0.00)	
	PP-Fisher chi-square	5.913 (0.989)	63.267 (0.00)	

According to table 2, the probability value of all methods is more than 0.05 or 5 percent significance level. So, we cannot reject the null hypothesis. Therefore, at the level, all variables are non-stationary. At the first difference, the P-value of all variables is less than 0.05 or a 5 percent level of significance. Therefore, we can reject the null hypothesis and accept the alternative hypothesis. So, variables are stationary after their first difference. Specifically, the GDP and tourism income data al are non-stationary in level I (0) and stationary in their first difference I(1). So we can use them to

run further regression analysis.

4.3 Panel Quantile Regression Analysis

Panel data quantile regression allows the estimation of heterogeneous effects throughout the conditional distribution of the response variable while controlling for individual and time-specific confounders. This type of heterogeneous effect is not well-summarized by the average impact. The quantile regression estimates the weights of the distance between the values predicted by the regression line and the observed values and then tries to minimize the weight distance [18]. Quantile regression is an extension of linear regression when the condition of linear regression is not met, like linearity, homoscedasticity, and normality. The quantile regression has no solid distributional assumptions. Quantile regression analysis is made based on median or various quantile values. Table 3 displays the outcomes of quantile regression.

Table 3: List of outcomes of quantile regression.
Dependent Variable: LNTI
Method: Quantile Regression (Median)
Sample: 1999 2021
Included observations: 169
(Source: - Calculated by author by using EViews12.)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNGDP	0.219	0.099	2.218	0.027
DUMMY	-1.302	0.313	-4.160	0.0001
C	4.359	1.045	4.172	0.000
Pseudo R-squared	0.2437	Mean dependentvar		6.334
Adjusted R-squared	0.235	S.D. dependent var		1.703
S.E. of regression	1.335	Objective		87.593
Quantile dependent var	6.211	Restr. objective		115.821
Sparsity	3.445	Quasi-LR statistic		65.554
Prob (Quasi-LR stat)	0.000			

In table 3, the results of quantile regression are displayed. The GDP (i.e., LNGDP) is statistically significant to explain the tourism income (i.e., LNTI) since the P-value is 0.027, less than 0.05. If there is an increase in the one percent median value of GDP, then tourism income is increased by 0.219 percent in the median value. It proved the validity of the economic-driven tourism growth hypothesis with particular reference to SAARC countries. The economic progress of a country contributes to the development of the tourism industry. Payme and Mervar [19] concluded that economic growth flourished tourism development and income. Corrie et al. [13], Antonakakis et al. [8], and Lee [14] identified the authenticity of the economic-driven tourism growth hypothesis. A country's landlockedness negatively impacts the receipt of tourism income because the intercept of the dummy (i.e., Landlockedness) is negative and significant.

The Pseudo R-squared is 24.37 percent, and the adjusted R-squared is 23.5 percent. So, a 23.5 percent variation in the conditional median in tourism income is due to dependent variables. The Quasi-Likelihood Ratio (LR) statistics is 65.554, and the P-value is less than 0.05, indicating that the model is suitable. The value of standard error (SE) of regression is 1.335. the small value of the standard error of regression suggests that the data points fall near the regression line. The smaller value of SE of regression is better because it indicates that the observations are closer to the fitted line or trend line. A slight difference exists between the observed and calculated values produced from this model. The quantile regression is found:

$$LNTI = \underset{}{0.435} + \underset{(0.027)}{0.219}LNGDP - \underset{(0.0001)}{1.302}Dummy \tag{7}$$

4.4 Quantile Process Estimates

The quantile process estimates show the effect of various quantiles of independent variables on dependent variables. The quantile process estimates show the relationship between a set of predictor variables and specific quantiles of target variables [20]. The quantile process coefficient of estimation from 0.10 to 0.90 quantiles is presented in table 4.

Table 4: Results of quantile process estimates.
Quantile Process Estimates
Equation: UNTITLED
Specification: LNTI LNGDP DUMMY C
Estimated equation quantile tau = 0.5
Number of process quantiles: 10
Display all coefficients
(Source: - Calculated by author by using EViews12.)

	Quantile	Coefficient	Std. Error	t-Statistic	Prob.
LNGDP	0.100	0.188	0.293	0.640	0.523
	0.200	0.030	0.084	0.363	0.716
	0.300	0.136	0.087	1.570	0.118
	0.400	0.183	0.099	1.833	0.068
	0.500	0.219	0.099	2.212	0.027
	0.600	0.358	0.072	4.998	0.00
	0.700	0.368	0.044	8.353	0.00
	0.800	0.364	0.042	8.743	0.00
	0.900	0.336	0.035	9.722	0.00
DUMMY	0.100	-0.054	0.963	-0.056	0.955
	0.200	-1.619	0.287	-5.643	0.00
	0.300	-1.556	0.289	-5.368	0.00
	0.400	-1.369	0.317	-4.316	0.00
	0.500	-1.301	0.312	-4.160	0.001
	0.600	-1.388	0.303	-4.567	0.00
	0.700	-1.898	0.251	-7.557	0.00
	0.800	-2.056	0.229	-8.956	0.00
	0.900	-2.223	0.192	-11.549	0.00
C	0.100	2.365	3.439	0.687	0.492
	0.200	5.555	0.852	6.517	0.000
	0.300	4.869	0.916	5.314	0.000
	0.400	4.581	1.055	4.341	0.000
	0.500	4.358	1.045	4.172	0.000
	0.600	3.465	0.784	4.419	0.000
	0.700	4.120	0.507	8.124	0.000
	0.800	4.469	0.478	9.346	0.000
	0.900	5.057	0.396	12.759	0.000

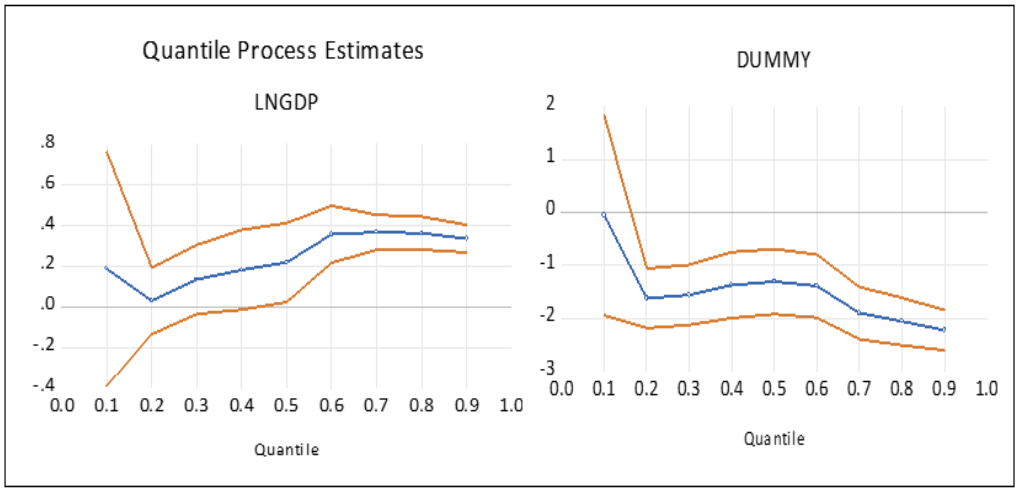

Figure 1: Diagrammatic representation of quantile process estimates.

Table 5: Results of quantile slope equality test.
Specification: LNTI LNGDP DUMMY C
Estimated equation quantile tau = 0.5
Number of test quantiles: 10
Test statistic compares all coefficients
(Source: - Calculated by author by using EViews12.)

Test Summary		Chi-Sq. Statistict	Chi-Sq. d.f.	Prob.
Wald Test		78.483	16	0.000
Restriction Detail: b(tau$_h$) − $b(tau_k)$ = 0				
Quantiles	Variable	Restr. Value	Std. Error	Prob.
0.1, 0.2	LNGDP	0.157	0.251	0.530
	DUMMY	1.566	0.831	0.059
0.2, 0.3	LNGDP	-0.106	0.058	0.073
	DUMMY	-0.064	0.199	0.751
0.3, 0.4	LNGDP	-0.047	0.061	0.432
	DUMMY	-0.187	0.193	0.334
0.4, 0.5	LNGDP	-0.036	0.060	0.547
	DUMMY	-0.067	0.191	0.724
0.5, 0.6	LNGDP	-0.138	0.058	0.017
	DUMMY	0.086	0.198	0.663
0.6, 0.7	LNGDP	-0.009	0.045	0.830
	DUMMY	0.510	0.185	0.006
0.7, 0.8	LNGDP	0.004	0.029	0.893
	DUMMY	0.158	0.167	0.342
0.8, 0.9	LNGDP	0.027	0.032	0.387
	DUMMY	0.166	0.176	0.343

Table 6: Results of symmetric quantile test
Specification: LNTI LNGDP DUMMY C
Estimated equation quantile tau = 0.5
Number of test quantiles: 10
Test statistic compares all coefficients
The null hypothesis: Two populations have the same median.
Alternative hypothesis: They have different medians.
(Source: - Calculated by author by using EViews12.)

Test Summary		Chi-Sq. Statistict	Chi-Sq. d.f.	Prob.
Wald Test		40.479	12	0.001
Restriction Detail: b(tau) + b(1-tau) - 2*b (.5) = 0				
Quantiles	Variable	Restr. Value	Std. Error	Prob.
0.1, 0.9	LNGDP	0.085	0.296	0.773
	DUMMY	10.326	0.972	0.737
	C	-1.294	3.386	0.702
0.2, 0.8	LNGDP	-0.045	0.158	0.777
	DUMMY	-1.073	0.494	0.030
	C	1.307	1.668	0.433
0.3, 0.7	LNGDP	0.065	0.135	0.630
	DUMMY	-0.851	0.407	0.037
	C	0.272	1.419	0.848
0.4, 0.6	LNGDP	0.102	0.092	0.264
	DUMMY	-0.154	0.287	0.592
	C	-0.671	0.971	0.490

According to table 4, the 10^{th}, 20^{th} 30^{th}, and 40^{th} quantiles of GDP are not statistically significant in determining tourism income. 50^{th}, 60^{th}, 70^{th}, 80^{th}, and 90^{th} quantiles of GDP positively and significantly impact tourism income. The 50th or 0.50 quantile of GDP increased the tourism income by 0.219 percent. In the 60th, 70th, 80th, and 90th quantiles of GDP, tourism income increased by 0.358, 0.368, 0.364, and 0.336 percent, respectively. After the 50th quantile, the tourism income rises, and later 80^{th} quantile, the increase rates start to decrease. All quantiles besides the 10th quantile have a negative and significant impact of landlockedness on the country's tourism income. Landlockedness hurts tourism income in these countries. The quantile process estimates are presented in figure 1.

Figure 1 shows the quantile process of estimates of two independent variables, GDP and dummy (i.e., landlockedness), in graphical form. The middle line, or blue line, shows the confidence interval. After the 10th quantile, there is light fluctuation; up to the 80th quantile, the rate of increase increases, and then the change rate is slightly decreasing. But in the case of the dummy variable, after 0.50 quantiles, there is a negative and significant impact on tourism income. Such a conclusion can be derived from the trend and slope of the middle or blue line.

4.5 Test of Quantile Regression Coefficients

The quantile regression coefficient test identifies the slope equality and symmetrical condition along the various ranges of quantiles. The test of quantile regression coefficients has two parts, i.e., slope equality test and symmetric quantile tests.

4.5.1 Quantile Slope Equality Test Analysis

The Quantile Slope Equality Test is a non-parametric test that does not rely on assumptions about the underlying distributions of the two samples. The test is based on estimating the slopes of the two samples at a given quantile level and comparing them using a statistical test. The test of slope equality is considered a separate test, meaning that the null hypothesis is equivalent to testing if each predictor in the specific model has a constant effect across the different quantiles. The typical implementation of such a test consists of an F-test [21]. The null hypothesis for the Quantile Slope Equality Test is that the two samples have the same slope at the given quantile level. Suppose the p-value of the test is less than the significance level (typically 0.05). In that case, we reject the null hypothesis and conclude that the slopes of the two samples are significantly different at the given quantile level.

In summary, the Quantile Slope Equality Test is a valuable tool for comparing the effects of two treatments across different data quantiles, providing insight into whether the treatment effect is consistent across the entire range of values or varies across different quantiles. The outcomes of the quantile slope equality test are displayed in table 5.

According to the Wald test, the chi-square statistics value of the slope equality test is 0.00, which is statistically significant. So, reject the slope equality hypothesis at a 5 percent considerable level, meaning that slope equality differs across the quantile level. However, the later quantile range could not reject the null hypothesis of equality at a 5 percent significance level, implying that slope equality does not differ.

According to table 5, at the 10th to 20th quantile range, the p-value is 0.530, which is more than 0.05. So, we can reject the null hypothesis of quality. It implies that slope equality does not differ. Similarly, various quantiles range from 20th to 30th, 30th to 40th, 40th to 50th, 60th to 70th, 70th to 80th, and 80th to 90th all have a P value of more than 0.05. Therefore, in these quantile ranges, slope equality does not differ, but 50th to 60th quantile range, the p-value is 0.016, which is less than 0.05, which implies that the slope equality is different.

4.5.2 Symmetric Quantile Test

The Symmetric Quantile Test is a statistical hypothesis test used to determine whether two datasets have the same distribution, particularly when comparing the medians or other quantiles. The test is called "symmetric" because it assumes that the distribution of the two datasets is symmetric, meaning that the two datasets have the same shape, but their centers may differ [22]. The test compares the quantiles of the two samples to see if they are similar. The quantiles divide a dataset into equal parts, such as the median, which splits the data into two halves. The test compares the difference between the quantiles of the two samples to a reference distribution to determine whether the samples are likely to come from the same population. The symmetric quantile test is "symmetric" because it tests for differences in the distribution's upper and lower tails. It helps detect differences in the tails of distributions that other tests, such as the t-test, may miss. The symmetric quantile test helps analyze non-normally distributed data and determine whether two samples have similar distributional shapes. The results of the Panel symmetric quantile test are plotted in table 6.

According to the Wald test and chi-square statistical value of the symmetric quantile, test is 40.479, which is statistically significance. There is no evidence of symmetry as the P-value is 0.0001, that is, they have a different median or distribu-

tion. The individual coefficient restrictions test values show no evidence of asymmetry across the quantiles because the P-values in the diverse quantile range are more than 0.05. So, we cannot reject the null hypothesis. It means there is evidence of symmetry in the distribution of different individual coefficients in various quantile ranges.

5 Summary, Policy Implication, and Limitations

The SAARC countries' GDP positively impacts the tourism receipts in their respective countries. There is a positive and significant impact of GDP on tourism income in SAARC countries. One percent increase in the median value of GDP is caused by a 0.219 percent increase in tourism income. The evidence has proved the validity of the economic-driven tourism growth hypothesis in the case of SAARC countries. A country's economic progress or growth contributes to the development of the tourism industry. The landlockedness of a country negatively impacts tourism receipts. Landlockedness hurts the tourism Industry. Different quantiles of GDP have an extra level of impact on tourism income. After the 50th quantile, tourism income has a positive and significant impact. All quantiles of landlockedness hurt the receipt of tourism income. The quantiles slope equality was found to differ across the quantile level, and there is no evidence of Symmetry. Economic improvement is required for the tourism industry to develop. As a result, the reverse operation of the tourism-led economic growth theory must be considered. As a result, policymakers must devise strategies for long-term economic growth. The receipt of tourism income is harmed when a country is landlocked. As a result, specific tourism industry standards for landlocked countries must be developed. The study is based on the secondary data received from the various reports of the World Development Bank. It only evaluates the viability of the economic theory of tourism growth and looks at the effect of a country's geographic isolation on tourism revenue. The analysis makes use of the quantile regression model. Hence, additional research is required to employ more data, various instruments, approaches, and procedures to get an outcome that is more convenient and representative.

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