

THE IMPACT OF TOURISM ON ECONOMIC GROWTH IN NEPAL

Binita Gaire

ABSTRACT

This study aims to examines the impact of tourism on economic growth in Nepal. The data were taken from the period of 2000 to 2020 for the study. The main purpose of the study is to use the ARDL and ECM models to analyze how tourism has affected Nepal's economic growth. Utilizing secondary data, descriptive and analytical research methods have been applied. Gross Domestic Product is taken as dependent variable whereas Foreign Exchange Rate, Tourists arrival are used as independent variables. The results of the study revealed that there is negative and significant relationship between tourists' arrival and gross domestic product whereas foreign exchange rate has positive and insignificant relationship with gross domestic product respectively.

Keywords: ARDL, ECM, Foreign Exchange Rate, Tourists Arrivals and Economic Growth.

I. INTRODUCTION

Nepal is eager to promote tourism throughout the world and provides significant natural and cultural advantages for travelers seeking exciting locations. Exploring the relationship between tourism and economic growth in Nepal makes it possible for decision-makers to create efficient tourist regulations. Travel experiences are delivered by a variety of activities and services collectively referred to as tourism. These services include transportation, lodging, cuisine and drinking establishments, retail stores, funfairs, and other tourism-related activities offered to individuals or groups traveling abroad. Shrestha and Shrestha (2012) highlighted the contribution of the tourist sector to socioeconomic areas, particularly in terms of foreign exchange earnings, employment possibilities, and national economic development. Based on secondary data from 1962 to 2010, the study examined many aspects of tourists, such as age, gender, nationality, the reason for arrivals, seasonality, length of stay, and means of arrival. The relevance of tourism in reducing poverty with the help of the public and private sectors in the tourist sector was the subject of the article's conclusion.

Tourism around the world is expanding quickly and often exceeding predictions. Tourism is described as a brief movement of people to a location other than their customary habitation, the activities they engage in while there, and the facilities created to meet their needs. (Gautam, 2008). One of the productive activities intended to produce products and services is tourism. It offers goods and services to tourists, who are often foreigners, as well as money and employment to locals (Ohlan, 2017). According to the World Travel &



Tourism Council's (WTTC) annual research in 2018, tourism is one of the world's booming industries, generating approximately US\$ 8.8 trillion annually and contributing 319 million jobs to the world economy. Despite various efforts by the government of Nepal, tourism still represents up a small portion of the national economy. Over time, Nepal's employment and foreign exchange gains from tourism have not increased significantly (Bhattarai et al., 2021). A important source of employment and revenues in foreign currency, tourism expands consumer markets, fosters export trade, and contributes to a nation's total economic growth (Badal, 2019). It was discovered that the services, businesses, and activities associated to tourism have ripple effects on other economic sectors and multiplier effects on Gross Domestic Product (Dhakal, 2016).

II. REVIEW OF LITERATURE

Over the past years, tourism has grown exponentially over the world, outpacing traditional industries to become one of the largest and fastest expanding economic sectors (Pao, 2005). Many people agreed that it not only boosts foreign exchange profits but also opens up job prospects. Also, it promotes the expansion of different businesses and industries, which in turn fuels general economic growth. The literature in general and economic impact analysis in particular has paid very little attention to tourism despite the fact that it is becoming more and more important. According to Srinivasan et al. (2012), both short- and long-term economic growth in Sri Lanka was positively impacted by tourism. In comparison to the long run, the short-term impact of tourism was incredibly minimal. According to Gautam (2011), there is a long-term cointegrating relationship as well as a short-term dynamic relationship between Nepal's GDP and tourism income.

Khalil et al. (2007) tested empirically the existence of either a unidirectional or a bidirectional causal relationship between Pakistani tourism and economic expansion. They evaluated the impact of tourism using annual time series data for the years 1960 to 2005 to assess the role of tourism in economic expansion. Their study investigated both short-term dynamic relations and long-run equilibrium circumstances using the theories and procedures of co-integration and the Granger Causality Test. They discovered a co-integration between tourism and economic growth in Pakistan and came to the conclusion that economic growth is essential for the development of tourism.

Mishra et al. (2011) stated that VECM was used to examine the relationship between India's real GDP, foreign tourist arrivals, and foreign exchange revenues from 1978 to 2009. They discovered that there is a long-term, unidirectional causal relationship between Indian economic growth and tourism-related activity. They failed to discover short-term causation between the factors, though. Bouzahzah and El Menyari (2013) analyzed using time-series data from 1980 to 2010 the impact of tourism on the economic growth of Morocco and Tunisia. According to the study, tourism receipts have a significant short-term impact on GDP



growth in both Morocco (at 5%) and Tunisia (at 1%). Long-term data, however, indicate that whereas Morocco's real GDP growth rate was significantly impacted by tourist (at 10%), Tunisia's real GDP growth rate was not much impacted by tourism.

III. METHODOLOGY

3.1. Data sources

The objective of the study is to examine the impact of tourism on economic growth in Nepal. For the study, data are collected from the time period of 2000-2020. World Bank is considered as an authentic source of data collection, secondary data of the mentioned variables are collected from there. As well as the data of tourist's arrival were collected from statistics on tourism for Nepal (Nepal tourism statistics; annual statistical report) and ministry of culture, tourism and civil aviation of Nepal. For this article, it has used foreign exchange rate, tourist' arrival as an independent variable. So, the general model that shows the relationship between the tourism and economic growth can be written as

 $RGDP = \beta_0 + \beta_1 FER + \beta_2 TA + \xi$

Where,

RGDP= Real GDP FER= Foreign Exchange Rate TA= Tourists Arrival ξ = Error term

IV. RESULT AND ANALYSIS

4.1. Unit root test

Running a regression using non stationary data gives inaccurate results because estimates obtained from such data will have non constant mean and variance. In order to ensure that the results were legitimate, the study set out to determine the stationarity of the data or what order they were integrated. ADF, or Augmented Dickey Fuller, was utilized to examine the unit roots.



Table 1

| Unit | root | test |
|------|------|------|
| | | |

| Variables | Adj. t-stat (at level) | Adj. t-stat (at first difference) | Conclusion |
|-----------|------------------------|-----------------------------------|------------|
| FER | 0.749877(0.9901) | -3.418297(0.023) | l (1) |
| ТА | -0.314397(0.9026) | -4.725990(0.0022) | l (1) |
| GDP | -4.468179(0.0029) | | I (0) |

Source: output from collected data analysis from E-views 10, LBC library

From the above Table 1, it clearly indicates that TA is stationary at first difference because their p-value at the first difference is less than 5%, as well as other variables are also stationary because their level p-value is less than 5%. Hence, we have a mixed-order integration case for the variables I (1) and I (0), which supports the ARDL co-integration strategy.

4.2. Autoregressive Distributed Lag (ARDL) Model

Table 2

Autoregressive Distributed Lag (ARDL) Model

| Variables | Coefficient | Std. Error | t-Statistic | Prob.* |
|---------------------------------|--------------------------------|------------|-------------|--------|
| GDP | -0.154671 | 0.195678 | -0.790434 | 0.44 |
| FER | 0.040285 | 0.051676 | 0.779577 | 0.44 |
| ТА | -0.0000159 | 0.00000478 | -3.327006 | 0.01 |
| С | 1.753496 | 2.624152 | 0.668214 | 0.52 |
| | | | | |
| R2= 0.799653 | Akaike info criterion=3.746649 | | | |
| Adjusted R2=0.722597 | Schwarz criterion=4.044893 | | | |
| F-Statistic=10.37751 [0.000353] | Durbin-Watson stat=1.620393 | | | |

Source: output from collected data analysis from E-views 10, LBC library

According to Table 2, the ARDL results indicate that there is a positive correlation between GDP and FER but TA is negatively correlated with GDP. The analysis of annual time series shows an R-square of 0.799653, or 79.96%, indicating that the independent variables (tourist arrival and foreign exchange rate) explain 79.96% of the model's explanation, with the remaining factors determining for the other variables. Additionally, adjusted R-square is 0.722597 or 72.25%, which in addition to other independent variables, indicates the goodness of fit. Higher R-square is generally considered good because higher R-square explain more about independent variables and its relation with dependent variable. Because the prob(F-statistics) is 0.00 and less than the 0.05 level of significance, the overall model is considered statistically significant. The foreign exchange rate's coefficient is 0.040285, which is positive but statistically insignificant to GDP. Whereas, the coefficient of tourist arrivals is -0.0000159, which is negatively correlated but statistically significant. which indicates that 1% change

T



in tourist arrivals results 5.53E-06 increases in GDP. The regression equation obtained from the regression result is:

GDP=1.753496+0.040285 FER-0.0000159 TA

4.3. Error Correction Model Representation for the Selected ARDL Model

Table 3

Error Correction Model Representation for the Selected ARDL Model

| Variables | Coefficients | Std. Error | t-Statistic | Prob* |
|-----------------------------|--------------|-------------|-------------|---------|
| D(TA) | 0.00000543 | 0.0000012 | 4.531322 | 0.0006 |
| D (TA) | 0.0000159 | 0.00000258s | 6.168472 | 0.00000 |
| CointEq (-1) * | -0.75467 | 0.142825 | -8.084501 | 0.0000 |
| | | | | |
| R2=0.891277 | | | | |
| Adjusted R2=0.877687 | | | | |
| Darwin-Watson stat=1.620393 | | | | |

Source: output from collected data analysis from E-views 10, LBC library

From the above Table 3, it shows the result of short-term error correction model. The coefficient of error correction model is negative and statistically significant which indicates that there is evidence of co-integration between the GDP and other variables in the model. The coefficient of error correction term (i.e., -0.75467) suggests that when a shock occurs, approximately 75.476% of the overall adjustment occurs annually. The results mentioned above reveal that the estimated GDP equation's error-correction term, coineqn (-1), is statistically significant and negative, indicating that it will appropriately work to correct historical variances from the long-run equilibrium. The 75.476 coefficient indicates that 75.476 percent of any previous deviations will be corrected in the present era.

4.4. Diagnostic Test

Diagnostic tests, which include the Breusch-Godfrey Serial Correlation LM Test, are typically performed to assess the suitability of the model specification. Breusch-Pagan-Godfrey were used to determine heteroskedasticity and the Normality Test were included below:



4.4.1. Serial Correlation Test

Table 4

Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:

| F-statistic | 0.458716 | Prob. F (1,12) | 0.5111 |
|---------------|----------|----------------------|--------|
| Obs*R-squared | 0.699559 | Prob. Chi-Square (1) | 0.4029 |

Null hypothesis: No serial correlation at up to 1 lag.

Source: output from collected data analysis from E-views 10, LBC library

From the above table 4 it shows that probability Chi square is greater than p-value that is 0.05% which means that we reject alternative hypothesis and accept null hypothesis. Hence, it concluded that there is no serial correlation.

4.4.2. Heteroskedasticity Test

Table 5

Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

| F-statistic | 1.331774 | Prob. F (5,13) | 0.3111 |
|---------------------|----------|----------------------|--------|
| Obs*R-squared | 6.435696 | Prob. Chi-Square (5) | 0.2661 |
| Scaled Explained SS | 1.959611 | Prob. Chi-Square (5) | 0.8547 |

Null hypothesis: Homoskedasticity

Source: output from collected data analysis from E-views 10, LBC library

From the above table 5 the research study shows that the probability Chi square is greater than p-value that is 0.05% which means that we reject alternative hypothesis and accept null hypothesis. Hence, it was concluded that there is no problem of heteroskedasticity.



4.4.3. Normality Test

Figure 1





Source: output from collected data analysis from E-views 10, LBC library

The above figure 1 illustrates that the residuals were normally distributed. In the above figure probability value was 0.523710 which is greater than p-value that is 0.05% which indicates that the alternative hypothesis is rejected whereas null hypothesis is accepted.

4.4.4. Stability Test

It is important to look at the estimated equations' long-run parameter stability as well as short-run movements. The cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMSQ) tests recommended by Borensztein et al. (1998) were used to support this thesis. The ECM residuals are subject to the test. Figure 2 provides a graphic representation of the CUSUM test in the below:



Figure 2





Source: output from collected data analysis from E-views 10, LBC library

Figure 3

Cumulative Sum of Squares of Recursive Residuals



Source: output from collected data analysis from E-views 10, LBC library



From the above study, by using of plots in figure 2 and figure 3 it shows that the cumulative sum of recursive residuals and cumulative sum of square of recursive residuals respectively. From the above plots they clearly indicate that the CUSUM and CUSUMSQ curves both lie in the 5% level of significance. Thus, it is possible to be concluded that the OLS model's parameter space is stable and that the model is not mis specified.

V. DISCUSSION

In the study, the relationship between tourism and economic growth in Nepal from 2000 to 2020 was assessed, and the empirical results obtained through this evaluation are examined. Foreign Exchange Rate (FER) has positive correlation and insignificant effect on Gross Domestic Product (GDP). Whereas this contradicts Lubis et al. (2017); Koirala (2018); Kaphle (2021) found that there has positive significant effect of Foreign Exchange Rate (FER) on Gross Domestic Product (GDP). Whereas, Idris (2019) supports the results of Foreign Exchange Rate (FER) has positive correlation but insignificant effect on Gross Domestic Product (GDP). From the above study the researcher has found that Tourists Arrival (TA) has negative correlation but has significant effect on Gross Domestic Product (GDP). Biagi et al. (2012); Ahmad Mir (2018); Scarlett (2021) revealed that there is significant effect on Gross Domestic Product (GDP). Whereas, this contradicts Bhattarai and Karmacharya (2022) found that there is no significant effect of tourists arrival on gross domestic product.

VI. CONCLUSION

The research study has used time series data from 2000-2021 to examine the relationship and impact of tourism on economic growth in Nepal. From the above study it has analyzed that foreign exchange rate has positive relationship between gross domestic product and has insignificant effect on it whereas tourists' arrival has negative relationship with gross domestic product and has significant effect on it. So, the study has concluded that Regulators should estimate exchange rate volatility accurately in order to assess risk, and the importance of the actions to be taken should not be overstated. To prevent speculative activity in the foreign exchange market, political influence, and premium seekers taking advantage, policymakers should be consistent with their foreign exchange policies. To attract or to increase the tourist arrivals government should focus on proper services such as hospitality services, availability of guest house and lodges etc.



REFERENCES

- Ahmad Mir, S. (2018). The Impact of Tourism Industry on Gross Domestic Product and Balance of Payments in India. *International Journal of Economics & Management Sciences*, 07(01), 1–2. https://doi.org/10.4172/2162-6359.1000498
- Badal, B. P. (2019). Tourism: Visit Nepal 2020. *Research Nepal Journal of Development Studies*, 2(2), 12–32.
- Bhattarai, K., & Karmacharya, R. (2022). THE GAZE JOURNAL OF TOURISM AND HOSPITALITY Impact of Tourism on Economic Growth of Nepal: Is Tourism-Led Growth Hypothesis Valid for Nepal? *The Gaze Journal of Tourism and Hospitality*, 13(1), 93–110.
- Bhattarai, K., Upadhyaya, G., & Bohara, S. K. (2021). Tourism, Employment Generation and Foreign Exchange Earnings in Nepal. *Journal of Tourism and Hospitality Education*, *11*, 1–21.
- Biagi, B., Lambiri, D., & Faggian, A. (2012). The effect of tourism on the housing market. Handbook of Tourism and Quality-of-Life Research: Enhancing the Lives of Tourists and Residents of Host Communities, August, 635–652.
- Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, 45(1), 115–135.
- Bouzahzah, M., & El Menyari, Y. (2013). International tourism and economic growth: the case of Morocco and Tunisia. *Journal of North African Studies*, *18*(4), 592–607.
- Dhakal, B. (2016). Analyzing Nepal's foreign exchange earnings from tourism using co-integration and causality analysis. *American Journal of Mathematics and Statistics*, 6(6), 227–232.
- Gautam, B. P. (2008). The Sources of Tourism Financing in Nepal an Assessment. *Socio-Economic Development Panorama*, 1(3), 79–96.
- Gautam, B. P. (2011). Tourism and Economic Growth in Nepal. NRB Economic Review, 23(2), 18–30.
- Idris, I. M. (2019). Relationship between Exchange Rate and Gross Domestic Product in Nigeria ARDL Approach. *Journal of Economics and Development Studies*, 7(3), 66–76.
- Kaphle, R. R. (2021). Impact of Foreign Exchange Reserve on Economic Growth in Nepal. *Journal of Management and Development Studies*, 30(1), 14–23.
- Khalil, S., Kakar, M., & Waliullah. (2007) of Tourism in Economic Growth: Empirical Evidence from Pakistan Economy. *The Pakistan Development Review*, *46*(4), 985–995.

Koirala, S. (2018). An Analysis of the Impact of Real Effective Exchange Rate on Economic Growth of

Nepal. Pravaha, 24(1), 206–216.

- Lubis, M. R. G., Karim, N. A.-H. A., Tha, G. P., & Ramli, N. R. (2017). Exchange Rate Effect on Gross Domestic Product in the Five Founding Members of ASEAN. *International Journal of Academic Research in Business and Social Sciences*, 7(11), 1284–1293.
- Mishra, P. K., Rout, H. B., & Mohapatra, S. S. (2011). Causality between tourism and economic growth: Empirical evidence from India. *European Journal of Social Sciences*, *18*(4), 518–527.
- Ohlan, R. (2017). The relationship between tourism, financial development and economic growth in India. *Future Business Journal*, *3*(1), 9–22.
- Pao, J. (2005). A Review of Economic Impact Analysis for Tourism and Its Implications for Macao. 67–81.
- Scarlett, H. G. (2021). Tourism recovery and the economic impact: A panel assessment. *Research in Globalization*, *3*(March), 100044. https://doi.org/10.1016/j.resglo.2021.100044
- Shrestha, H. P., & Shrestha, P. (2012). Tourism in Nepal: A Historical Perspective and Present Trend of Development. *Himalayan Journal of Sociology and Anthropology*, 5, 54–75.
- Srinivasan, P., Kumar, P. k. S., & Ganesh, L. (2012). Tourism and Economic Growth in Sri Lanka: An ARDL Bounds Testing Approach. *Environment and Urbanization Asia*, *3*(2), 397–405.