

**AN ANALYSIS OF FOREIGN EXCHANGE EARNINGS
THROUGH TOURISM SECTOR IN NEPAL**

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In

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By

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LETTER OF RECOMMENDATION

This thesis entitled “**An Analysis of Foreign Exchange Earnings through Tourism Sector in Nepal**” has been prepared by **Mr. Chet Bahadur Bhandari** under my guidance and supervision. I hereby recommend this thesis for the final examination to the thesis committee as a partial fulfillment of the requirements for the Degree of **Master of Arts in Economics**.

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LETTER OF APPROVAL

We certify that this thesis entitled “**An Analysis of Foreign Exchange Earnings through Tourism Sector in Nepal**” submitted by **Mr. Chet Bahadur Bhandari** to the Central Department of Economics, Faculty of Humanities and Social Sciences, Tribhuvan University, in partial fulfillment of the requirements for the degree of **Master of Arts in Economics** has been found satisfactory in scope and quality. Therefore, we accept this thesis as a part of the Degree.

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DECLARATION

I, CHET BAHADUR BHANDARI, declare that this is my original work except where otherwise indicated or acknowledged in the thesis. The thesis doesn't contain materials which has been accepted or submitted for any other degree at the university or other institution.

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I take sole responsibility for any errors and discrepancies that might have been occurred in this study.

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ABSTRACT

Tourism industry is a most potential industry of the major foreign exchange earnings and job providing sectors is a growing service industry in Nepal. The objective of this study is to investigate Nepal's foreign exchange earnings through tourism with an analysis of the international tourists' arrival in Nepal. Based on the time series data for the period of 1975 to 2020, this study uses ADF test to test the stationary of the variables, and Johansen approach of co-integration for testing the long-run relationship and Granger Causality test to examine the direction of the causality. The empirical result from the co-integration analysis concludes that there exists long-run relationship among the total foreign exchange earnings through tourism, number of international tourists, average length of stay of international tourists and real exchange rate. The findings from Granger causality analysis shows the existence of unidirectional causality from number of international tourists to total foreign exchange earnings and also unidirectional causality from real exchange rate to total foreign exchange earnings but there is no any causal relation between average length of stay to foreign exchange earnings and total foreign exchange earnings average length of stay. This study suggests that the increased number of international tourists' arrival, length of stay and real exchange rate will lead to rise in foreign exchange earnings in the long run, which has multiplier effect by increasing number of places of facilities for the tourists.

Key Words: Tourist arrivals, foreign exchange earnings, Co-integration, Causality

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ABBREVIATIONS

ADF	Augmented Dicky fuller Test
CBS	Central Bureau of Statistics
FY	Fiscal Year
NRB	Nepal Rastra Bank
OLS	Ordinary Least Square
WB	World Bank
TFEET	Real Total Foreign Exchange Earnings through Tourism
NOT	Total Number of International Tourist
LOS	Total Average length of Stay of Internatinal Tourists
ER	Real exchanfe Rate

CHAPTER-I

INTRODUCTION

1.1 Background of the Study

Nepal has been a renowned and unique destination for travelers with its very rich diversity of landscapes, religions, culture, languages and traditions. Tourism industry is one of the fruitful business activities directed for the production of the goods and services. It supplies goods and services to the customers by selling the goods like Thangka and paintings, Pashmina, Khukuri, Handicrafts, Jewelry and arts etc. which are made in Nepal and becomes key factor to GDP growth. Tourism has become one of the main contributors to the Nepalese tourism industry and economy. According to article Tourism, Importance, Prospects and Challenges(2015),The history of tourism in Nepal is not long. In 1951AD, democracy was established in Nepal .Before 1951AD,there was simple control for the travel to go outside and to enter into the country. The arrival of democracy was removed from the severe control and ambassadorial relations of Nepal began to be established with different countries of the world. Nepal took a membership of international travel association (ITA) in 1951 AD. The tourism development board and tourism committee were established in 1956 AD and 1957AD respectively. The tourism development committee was converted into the tourism department in 1958 AD. In 1977AD, the ministry of tourism was established in Nepal. The citizens of India and Nepal initiated to travel to each other country due to their Cultural, social, democratic relations etc. From this Initiation, the tourism is started in Nepal. Nepal Tourism Board (NTB) is a national tourism organization of the country which is established in 1998 AD. It performances as a model of public-private-Partnership to develop and make Nepal as beautiful tourist destination.

Tourism sector can be also the growing industries all over the world. It is an important economic force for developing countries. It can be surprising feature of developing countries like Nepal which is showed the source of Foreign exchange ,increments in employment, Exchange of Culture and concept, increase in Government Revenue, Help to develop Infrastructure, increase in consciousness etc. Foreign exchange earnings are the financial gains attained by selling goods and services or by exchanging currencies in global market. Tourism sector earns the gross revenue and foreign exchange earnings which perform an important role in economic development of a nation. That's why; it is a initiator of foreign exchange at the

national level and also growing industry in the global economy. The contribution of tourism in the economy among its multiple contributions, the chief concern with the development-led vision of tourism is the contribution it makes to country's economy. As such, there are many direct and indirect stakeholders who benefit from tourism related activities. The government gains the benefit from the different tourism related activities like by linking in the production of commodities and services ,launching tourism related industries, making investment and spending in tourism related ventures. Apparently, tourism contributes both directly and indirectly by enhancing income, employment, and creating multipliers in other sectors of the economy. According to The World Travel and Tourism Council (WTTC, 2013),the economic contribution of tourism as follows: The direct contribution to the economy is reflected in the spending by residents and non-residents for business and leisure purpose, and government spending on tourism related activities. Also, direct contributions contain income and employment generated through tourism-related infrastructures such as hotels, airlines, airports, travel agents, recreation services etc. The indirect contribution consist of the GDP and jobs supported by tourism related investments, government spending on tourism activities and domestic purchases of goods and services by the sectors dealing directly with the tourists, including, for example, purchases of food and cleaning services by hotels, fuel and catering services by airlines, and IT services by travel agents and The persuaded contribution measures the GDP and jobs supported by the spending of those who are directly and indirectly employed by the tourism sector.

Potentialities of tourism are huge in Nepal to attract most world tourists and it is also largest source of foreign exchange and revenue generation. There are some capabilities of tourism like infrastructural development, employment generation, cultural preservation, foreign exchange earnings, and environmental protection and, expansion of healthcare and education centers, among others. The macro view of the tourism is to assist the economy in reducing the differences in the service accounts of the balance of payments through improved foreign currency earnings.

Nepal is a country of full diversities regarding natural, cultural, ethnic community and social heritages, flora and fauna, pilgrimage, etc. So it has great potentialities to develop tourism. The promotion of tourism in Nepal in the true sense started more or less only from the beginning of the 1960's. Since the First Five Year Plan and onwards the government of Nepal has been adopted an integrated approach of increasing the number of tourists arrivals and length of stay,

earning exchanges, creating employment opportunities, sustainable economic growth, alleviation of poverty and reduction of regional imbalances through tourism (Gurung, 2010).

Tourism is an important industry and it is gaining a growing recognition in the world. It is smokeless industry. Developed countries have already benefited from tourism while developing countries are gradually benefiting. Tourism industry generates substantial benefits for both host countries and tourist's home country. It is the main source of foreign exchange earnings and an important factor in the development of industries and international trade. It plays an important role in economic and technological development of nations. It also serves to stimulate the development of basic infrastructure, contributes to the growth of domestic industries, attracts foreign investment, facilitates the transfer of technology and information Srivastava and Baral (2010).

Tourism can become one of the main revenue sources for many developing countries like Nepal. Nepal has great potential to become a top destination for tourists as the nation is renowned for its natural beauties, Religious places, Ancient art and culture ,Climate variety, culture variety, World heritage Sites, Bio-diversity ,Customs and festivals etc. due to which we can increase the foreign exchange earnings improving the quality development and quality management in these sector .

1.2 Statement of Problem

Nepal has huge potentialities to have the revenue through the tourism sector because we have a lot of natural beauties, rich culture and religious diversity etc. to attract the tourist. Nepal government had plan to conduct the “Visit Nepal 2020” campaign which was also national development strategy but unfortunately, it had to stop due to covid-19.Despite of these potentialities and possibilities, the contribution of the tourism sector to the GDP is still low as the data of tourism statistics 2020.There is less research in tourism sector by using long time series data and its affecting factors while reviewing the literatures in Nepalese context. So, this thesis can help to find the guidelines to increase the more income from tourism sector. This tourism sector can be big sector for revenue generation in Nepal because it seems other sector like industrial sector can take more time to develop and government has also not sufficient budget for this now. This sector has high chances to grow fast comparatively. So, there should be more research in this tourism sector to improve its weakness and find the solution to generate the big revenue for nation.

The research questions for the study are:-

- i. What is the trend and structure of foreign exchange earnings in Nepal?
- ii. What is the relationship between the foreign exchange earnings from tourism and number of international tourist arrival?

1.3 Objective of the study

The general objective of this study is to analyze the relationship between tourism and foreign exchange earnings in Nepal. The specific objective is:

- i. To analyze the trend and structure of foreign exchange earnings in Nepal
- ii. To examine relationship between the foreign exchange earnings from tourism and number of international tourist arrival.

1.4 Significance of Study

The tourism in the world is rising day by day. In this topic, the Himalayan countries like Nepal can exploit this potential market for the very good reason. The tourism in Nepal can be given a new and highly potential dimension and it can be supportive in taking the tourism of the Himalayan country like Nepal to a desired level of prosperity.

But Despite of these possibilities, this sector is rising very slowly and generating the low revenue to the government. I rarely found the research in this sector to find the solution with reason to improve the revenue through this tourism sector and to know that what factors play the important role to affect the more income generation. So this study can be significant to have the reasons behind the low revenue generation through tourism sector.

1.5 Limitation of the Study

The major limitations of the study are

- i. This study uses annual data from 1975-2020 only though there is seasonal pattern of tourist arrivals.
- ii. This study only include the major determining factor number of international tourist ,average length of international tourist and real exchange rate to get the forex earnings through tourism sector.

1.6 Organization of the study

This thesis is regarding the relationship between tourism and foreign exchange earnings on economic growth in Nepal. The study is structured into five sections. The first chapter covers general background of the study, statement of problems, objectives of the study, significance of the study, limitation of the study and finally organization of the study. The second chapter will be deals with the literature related to the study starting from tourism. This chapter will tries to present the past studies related to foreign exchange earnings from tourism.

The third chapter is the methodology that has been included in research design, nature &source of Data, conceptual framework data, model specification and variable specification of model. Chapter four will determinants of foreign exchange earnings and chapter five presents empirical analysis. It is the main body of thesis. Lastly, the chapter six will deal with the finding and conclusion and also with the Discussions.

CHAPTER-II

REVIEW OF LITERATURE

This Chapter presents reviews on the national and international studies regarding the relationship between the tourism sector and total foreign exchange earnings. Different journals, thesis, books, different national & international article are reviewed.

2.1 International Context

Shan and Wilson (2001) examines the causal relationship between international tourism and international trade flows using the case of China. The paper has used the methodology of Granger no-causality test developed by Toda and Yamamoto (1995) to examine the causality linkage between international trade and international travel employing data from China. The study applies the Granger no-causality procedure and vector auto regression (VAR) model, and attempts to improve previous tourism forecasting studies, in the context of tourist demand function, by identifying the direction of the endogeneity between tourist travel and international trade. The results show a two-way Granger causality between international travel and international trade and hence imply that trade flows do link with tourism in the case of China. Thus, some uncertainty is cast on the use of a single-equation approach in many previous tourism forecasting studies. Additional, the error of the trade variable in these models and the assumption of no endogeneity between international trade and international travel in forecasting tourist flows have verified to generate biased forecasting output.

Dritsakis (2004) empirically examines the impact of tourism on the long run economic growth of Greece. This paper uses causality analysis of real gross domestic product, real effective exchange rate and international tourism earnings. A Multivariate Auto Regressive (VAR) model is applied for the period 1960: I–2000: IV. This paper has observed the relationships among international tourism earnings, real exchange rate and economic growth in one tourism-oriented country, Greece. For empirical testing of these variables, the Johansen co-integration test and then Granger causality tests based on a vector error correction model are used. The results of the co-integration analysis recommend the existence of a co-integration relationship among the three variables, signifying the presence of a common trend or long-run relationships among the variables. The results of the causality analysis show that international tourism earnings and real exchange rate cause economic growth with a ‘strong causal’ relationship,

while economic growth and real exchange rate cause international tourism earnings with a 'simply causal' relationship.

Chi-Ok Oh (2005) examines the causal relations between tourism growth and economic expansion for the Korean economy. This article employed the method of Engle and Granger two-stage approach and a bivariate Vector Auto regression (VAR) model. Two principle results emerge from this study. First, the results of a co-integration test show that there is no long-run equilibrium relation between two series. Second, the results of Granger causality test indicate the one-way causal relationship of economic-driven tourism growth. The hypothesis of tourism-led economic growth is not held in the Korean economy. This result is supported by testing the sensitivity of causality test under different lag selections along with the optimal lag. Eager tourist-attracting policies as a means of economic development may not be completely effective in that economic expansion leads to tourism growth, rather than the other way around. This may further recommend redirecting appropriate tourism policies towards meeting the demand created by the increase in travelers for tourism-related industries.

Serdar Ongan and D.M. Demiroz (2005) empirically examines the impact of international tourism receipts on the long run economic growth of Turkey. This paper has been employed the co-integration and Granger causality testing. The main aim of this paper is to determine the causal relationship between international tourism receipts and GDP for the period 1980Q1-2004Q2. Johansen technique is used and vector error correction modeling (VECM) is incorporated into the Granger causality tests. The bidirectional causal relationship confirms that economic growth contributes to the sectoral development of tourism, and it can be said that economic growth contributes to the sectoral development of tourism while tourism contributes to the economic growth.

Kima et al. (2006) studies the causal relationship between tourism expansion and economic development in Taiwan using the data from 1971 to 2003. A Granger causality test is made following the co-integration approach to show the direction of causality between economic growth and tourism expansion. The major aim of this paper is to reveal the causal relationship between the tourism and economic growth. Test results indicate a long-run equilibrium relationship and further a bi-directional causality between the two factors. In other words, in Taiwan, tourism and economic development emphasize each other. Note that empirical results on the causal relationship between the two variables have been inconsistent in the past. A discussion follows and managerial implications are recognized based on the empirical findings.

Based on the results, decisions on the tourism related matters can be adjusted or transformed such as the overall tourism budget, approval of private or governmental tourism projects, the scale of the worldwide promotion as a travel destination, and so forth.

Nowak et al. (2007) examines the theoretical and empirical evidence of the relationship between tourism exports, imports of capital goods and economic growth. The data used in the present investigation are annual Spanish series on real GDP, real tourism exports and real imports of inputs and manufactured items for the period 1960–2003. The series of international tourist receipts (T) and imports of industrial goods and machinery (I) are acquired from the Instituto Nacional de Estadística. The real GDP (Y) is taken from World Development Indicators (2004). Johansen co-integration test and the multivariate Granger causality tests based on VECMs are employed, both in the short and the long term for the result of this research paper. It shows that the more differentiated tourism services are, the faster the domestic country grows. Therefore, an important policy recommendation for the host country is to increase the degree of differentiation of its tourism services. The results obtained from causality tests are supportive of the TKIG hypothesis, since they show that tourism exports finance imports of capital goods, which in turn affect the economic growth of the Spanish economy. They also display that the TLG hypothesis cannot be rejected. Thus, the two channels of the impact of tourism exports on growth (improvement of the efficiency of productive resources, i.e., the TLG hypothesis; and increase in the quantity of productive resources, that is, the TKIG hypothesis) seem to apply to the Spanish economy.

Lee and Chang (2008) investigate the casual relationship between the tourism and economic development using the heterogeneous panel co-integration technique to re-investigate the long-run movements and causal relationships between tourism development and economic growth for OECD and non-OECD countries (including those in Asia, Latin America and Sub-Saharan Africa) for the 1990–2002 period. On the global scale, after allowing for the heterogeneous country effect, a co-integrated relationship between GDP and tourism development is validated. It is also found that tourism development has a greater impact on GDP in non-OECD countries than in OECD countries, and when the variable is tourism receipts, the greatest impact is in Sub-Saharan African countries. Moreover, the real effective exchange rate has significant effects on economic growth. Finally, in the long run, the panel causality test displays unidirectional causality relationships from tourism development to economic growth in OECD

countries, bidirectional relationships in non-OECD countries, but only weak relationships in Asia. Its empirical findings have major policy implications.

Choyakh (2008) studies the determinants of European tourism demand for Tunisia. France, Germany, Italy and the UK are taken as the four major origin countries of Tunisian tourism since they generate more than 70% of the total number of hotel nights. The aim of this paper is to analysis of determinants of European tourism demand. In this paper, this estimates a model for tourism demand for Tunisia employing the co-integration technique and ECM. The co-integration analysis to examine the long-run relationship between the numbers of night spent by Europeans in Tunisian hotels and leading macroeconomic variables for example income in the origin countries, relative prices and the volume of tourism investment for the period 1962–2005. Error correction models are also built and estimated to study the short-run dynamics of tourism demand for Tunisia. The paper catches that the first determinant of tourism demand is the income of the tourist-generating countries, whereas Tunisian tourism is less sensitive to price variations and tourism investment. The outcome of the study are consistent with both economic theory and empirical fact. This research is limited to four European countries but could be extended to all markets of Tunisian tourism and can be generalized to other south Mediterranean countries; cross-sectional comparison also could be undertaken.

Ouerfelli (2008) focuses on the affecting factor of European tourism demand in Tunisia. The purpose of this study is to identify the factors that affect the destination choice process. In addition to prices and income factors, the supply factor is introduced as an explanatory variable in the econometric model. This article has used the quarterly data from 1981 to 2005 to analyze the tourism demand from the four most important European countries: Germany, France, United Kingdom and Italy. Co-integration analysis and error correction models (ECMs) are used to estimate the long run tourism demand elasticity and to forecast the quarterly European tourism demand for a 1-year-ahead horizon. The major finding of this study indicates that the behavior of European tourists varies from one country to another. The co-integrating relationships show that the large elasticity magnitude may be the reflection of the relatively expensive services often sought after by tourists from these countries. The probable values of the supply elasticity validate the supply induced demand hypothesis. In conclusion, compared to the basic structural model and using the root mean squared error, the ECM delivers extra precise forecasts.

Proenca and Soukiazis (2008) observes the importance of tourism as a conditioning factor for improving the host population's standard of living. The major purpose of this article has been to examine the importance of tourism (through international revenues) as a conditioning growth factor for a sample of four Southern European countries (Greece, Italy, Portugal and Spain) where tourism is a crucial sector. Thus, the well-known conditional convergence approach of Barro and Sala-I-Martin is used to test for convergence in per capita income among four Southern European countries (Greece, Italy, Portugal and Spain), each with a long tradition as a tourist destination. The empirical analysis uses panel data techniques to obtain growth equations, combining time-series and cross-sectional data for the four countries, from 1990 to 2004. In attempting to attain this objective, the convergence approach in per capita income has been used to explain how countries' differences have developed over time. Tourism is assumed to be a conditioning factor to growth for these countries, influencing their path towards convergence. Using the concept of conditional convergence, we found evidence that supported the hypothesis of tourism-led growth, a common result in the tourism literature. Furthermore, we found that the four Southern European countries converged to distinct steady states and that tourism was a relevant conditioning factor, improving the standard of living significantly. Our evidence shows that every 1% increase in international tourism revenues induces an increase of roughly 0.026 p.p. in per capita income in these countries. Hence, tourism can be considered as an alternative source of growth for these countries.

Bridaa et al. (2010) examines the causal relations between tourism growth, relative prices and economic expansion for the Trentino-Alto Adige/Süd Tirol, a region of northeast Italy bordering on Switzerland and Austria. Johansen co-integration and Granger Causality test are applied as method to determine the result of this article. Johansen co-integration test indicates the existence of one co-integrated vector among real GDP, tourism and relative prices where the corresponding elasticity are positive. Tourism and relative prices are weakly exogenous to real GDP. A variation of the Granger Causality test to disclose the unidirectional causality from tourism to real GDP. Instinct response analysis displays that a shock in tourism expenditure produces a fast positive effect on growth. Passionate tourist-attracting policies as a means of economic development may be effective, and tourism policies to motivate new tourism demand should be crucial to take Trentino-Alto Adige from an average to a higher tourism potential region. In this way the effect of relative prices could take more relevance over the real GDP.

Belloum (2010) observes the relationship between tourism and economic growth of Tunisian. The objective of this paper is to analyze causal relationship between international tourism

earnings and economic growth in the Tunisian economic growth. This study has used annual data for Tunisia for the period of 1970–2007. It is used a tri-variate model of real gross domestic product (GDP), real international tourism receipts and real effective exchange rate to discuss the relationship between tourism and economic growth. Using the concepts and methods of the co-integration and Granger causality test, this study discovers the short-term dynamic relations as well as long-run equilibrium conditions. The results of this paper reveal that there is a co-integrating relationship between tourism and economic growth and for the Granger causality test shows that tourism has a positive impact on GDP growth unidirectionally. Based on the results, decisions on tourism-related matters can be improved such as the overall tourism budget, approval of private or governmental tourism projects, the scale of the worldwide promotion as a travel destination and so forth.

Mukhtar and Rasheed (2010) empirically observes the long run relationship between exports and imports for Pakistan using quarterly data for the period 1972-2006. The main objective of the study is to investigate the long run relationship between Pakistan's exports and imports. The econometric framework applied for analysis is the Johansen Maximum Likelihood co-integration technique, which tests both the existence and the number of co-integration vectors. The outcomes of this paper show that there is a long run relationship between exports and imports and the country is not in violation of its international budget constraint. Additionally, for testing the stability of long run equilibrium relationship and direction of causality, vector error correction model (VECM) technique has been used. The findings confirm the stability of the long run equilibrium relationship between exports and imports. Bidirectional causality is found between exports and imports under the Granger causality. Thus, it recommends that overall macroeconomic policies are effective in bringing exports and imports into a long run steady state equilibrium. Finally, the trade balances are sustainable in the long run for Pakistan.

Seetanah (2011) studies the dynamic economic impact of tourism for Island economics. This paper has used a panel data of 19 island economies for the years that span from 1990 to 2007. The study accounted for the possibility of dynamics in the tourism-growth link through the use of dynamic panel data framework, namely the Generalized Methods of Moments (GMM) method and GMM method is employed to account for its issues. The results provide that tourism significantly contributes to the economic growth of island economies. Furthermore, the tourist-growth nexus is perceived to be a dynamic phenomenon and granger causality analysis exposes a bi-causal relationship between tourist and growth. Comparative analysis with samples of developing and developed countries indicates that tourism development on

island economies may have relatively higher growth effects. Government also certifies the security of both foreign and domestic tourists. It is assumed that close collaboration of governments with national tourism industry actors at large to support tourism development strategies is required and also that policy makers should implement sustainable tourism policies for a desirable sustainable tourism as well as economic enlargement.

Samimi et al. (2011) studies the causality and long-run relationships between economic growth and Tourism. The major aim of this paper investigates the causality and long-run relationships between economic growth and Tourism development in developing countries using P-VAR approach during 1995-2008. The findings disclose that there is a bilateral causality and positive long-run relationship between economic growth and Tourism development. In the other words, the tourism-led growth hypothesis is established, as well as, output level which communicates to economic wellbeing and level of development is important in attracting tourist. The significant impact of tourism expanding on developing countries economy validates the necessity of governments intervention aimed, at promoting and increasing tourism demand by providing the tourism facilities. As well, the economic expansion in developing countries affects the tourism growth which is mirrored by the development in infrastructure and tourism resorts.

Massidda and Mattana (2012) analyze the relationship between the international tourist arrivals, GDP and trade in Italy. This article considers quarterly observations for the time span 1987q1-2009q4 from the National Institute for Statistics (ISTAT). This article provides an SVECM investigation of long-run, short-run and contemporaneous relationships across per capita international tourism arrivals (ar), real GDP (y), and total international commercial transactions (tr) for the Italian economy. This paper finds that variables distance a bi-dimensional co-integrating space, which it normalize as long-run relationships between real GDP and per capita international tourism arrivals and between per capita international tourism arrivals and international commercial transactions. Signs and magnitudes of the estimated elasticity are as expected and compare well with the literature. The causation mechanism indicates that none of the variables are weakly exogenous. What it finds is that, whereas there appears to be unidirectional long-run causality running from real GDP to international commercial transactions and from international commercial transactions to per capita international tourism arrivals, bidirectional causality is identified between real GDP and per capita international tourism arrivals. Structural estimation and a study of the Impulse-Response

functions of “meaningful” shocks hitting the economy are used to provide valuable insights for policy and business strategy design.

Liangju et al. (2012) explores the causal relationship between China’s domestic tourism and economic growth. The main object of this study is to investigate the real relationships between China’s domestic tourism and economic growth. This paper has applied co-integration analysis and Granger causality test by using annual time series data from 1984 to 2009. The outcomes from the ECM model indicate that there are short-term disequilibrium relationship between the development of China’s domestic tourism and economic growth. The results of Co-integration analysis shows that there are long-term and stable equilibrium relationships between the development of China’s domestic tourism and economic growth. An adjustment mechanism from short term to long term in the relationship between the development of China’s domestic tourism and economic growth can be found in the ECM model. Furthermore, bidirectional Granger causality between China’s domestic tourism and economic growth is established. The development of China’s domestic tourism is the Granger cause of economic growth, China’s economic growth is the Granger cause of development of domestic tourism as well. The findings of this paper indicate that China may boost its economic growth by strategically strengthening the tourism industry while not ignoring the other sectors which also promote growth.

Zaei and Zaei (2013) emphasizes on the tourism sector and its impacts on the economy, environment, politics and the socio-cultural being of the host community. The main aim of this research is to highlight the well-organized and managed economic impacts by host communities on the host community. Nowadays tourism is one of the dynamic economic activities in creating socio - economic changes across the world which has been increasingly important. Since, in the world present circumstances, diversifying the economy, enhancing human development indicators, reduce the problems of industrialization and pollution excessive cities, employment, cultural exchanges, environmental protection and ultimately sustainable development including the challenges facing the country are considered, importance of desired topic is completely clear.

Pizzolo et al. (2013) investigates the tourism-led growth hypothesis for the four countries of the MERCOSUR regional trade block. This article proposes a new approach to inspect the validity of the TLGH for the MERCOSUR countries: Argentina, Brazil, Paraguay and Uruguay, by means of a nonlinear methodology. We use quarterly series for the period 1990–

2011, which allows us to perform a comparative analysis. By using nonlinear techniques, we discover whether tourism activity leads – in the long run – to economic growth, or, alternatively, economic expansion drives tourism growth, or indeed a bidirectional relationship exists between the two variables. To this end, non-parametric co-integration and causality tests are used to quarterly data for the period 1990– 2011. This displays the existence of a co-integrated relationship between real per capita gross domestic product and tourism expenditure for all countries. Furthermore, the linearity of this relation is rejected for both Argentina and Brazil (economies with a relatively diversified structure). The non-parametric causality tests confirm in all cases the causality from tourism to growth. In the meantime, only for Uruguay and Argentina causality also goes in the inverse direction (from growth to tourism). In conclusion, the paper compares the results of the nonlinear approach with those obtained by using the traditional linear methodology.

Surugiu and Surugiu (2013) examines the long-run relationships between tourism expansion and economic growth in Romania .The analysis was carried out for the period from 1988–2009 using the co-integration method and Granger causality analysis based on the vector error correction model (VECM) and impulse functions. The empirical evidence shows the nature of causal relationships, if any, between domestic travel and tourism spending, internal travel and tourism consumption, the gross domestic product annual growth rate and the real exchange rate. The analysis advises that there are Granger causality relationships running from tourism expansion to economic growth, which sustains the tourism-led growth hypothesis (TLGH). These results focus the essential for more consistent tourism development plans and strategies to be implemented at national and regional levels by the governmental bodies.

Srinivasan et al. (2012) focuses impact of tourism on economic growth in Sri Lanka. The aim of the study is to examine the impact of tourism on economic growth in Sri Lanka using the Autoregressive Distributed Lag (ARDL) bounds testing approach. This study has taken the data from 1969 to 2009 period. This analysis discloses that tourism has a positive impact on economic growth in Sri Lanka both in the short-run and long-run. Though, the study results recommend that positive impact of tourism was extremely low in the short-run compared to the long run.

Aktar et al. (2014) examines the relationship between the tourist arrival and foreign exchange earnings of Bangladesh. Tourism is one of the promising sectors for Bangladesh. The purpose of this article is to investigate the relationship between tourist arrival and foreign exchange earnings. This paper has used the Johansen’s multivariate co-integration procedure using the

data from 2004 to 2010. These data were obtained from the Bangladesh Parjatan Corporation and Bangladesh Tourism Board. In this study there exists long run relation between these two variables. Here, foreign exchange earnings are used to evaluate the contribution of tourism to the economic growth. Since, Bangladesh can maximize their economic benefits from tourism activity by earning more from the receiving more visitors. It denotes that tourism effects economic growth positively through huge amount of foreign exchange earnings. So, the government of Bangladesh should take a long term tourism strategic plan and tourist arrival plan in order to rebound the economy of Bangladesh. Finally, it is already found that there exists a long run relationship between tourist arrival and foreign exchange earnings. So, it can be provide further by creating more employment, generating demand for accommodation and food, improving transportation and as whole branding Bangladesh to the world.

Alper (2014) examines the causal relationship between tourism development and economic growth in the Mediterranean countries. The aim of this study is to focus the relationship between tourism development and economic growth in the Mediterranean countries applying the newly developed panel Granger causality tests taking the data from the 1995–2010 period. It is determined that while there is bidirectional causal nexus between tourism development and economic growth for Portugal but unidirectional causal nexus from economic growth to tourism development is found for Spain, Italy, Tunisia, Cyprus, Croatia, Bulgaria and Greece. Hence, the growth-led tourism hypothesis is supported in case of these seven countries. On the other hand, there is no causal relation for Malta and Egypt. The finding of this study is to support the tourism-led growth hypothesis for a group of panel in Mediterranean countries. The results of the overall study suggest that governments of Mediterranean countries should focus on economic policies to promote tourism as a potential source of economic growth.

Husevni et al. (2017) examines the causal relationship between the tourism and gross domestic product. The aim of this study is to analyses the relationship between tourism and gross domestic product in the context of the Neo-classical growth model in the period after 1980 when Turkey adopted as an export-led growth model. In this paper, gross domestic product, gross fixed capital formation and. tourism revenues between the years 1980-2014 are used. Johansen co-integration technique and Granger causality test are employed. The results of Johansen conclude that the series are co-integrated. Moreover, the result of this Granger causality test is unidirectional causality running from tourism to economic growth is determined. As a developing country, this result indicates that the tourism sector plays an

important role on Turkey's attempts to close the gap with developed countries by financing gross fixed capital formation.

Matthew et al. (2018) examines the impact of foreign exchange earnings from international tourists on the economic growth of Nigeria and the interrelationship between international tourism and foreign exchange earnings. The study has involved time series data sourced from the World Development Indicators for the period 1980–2016 and employed the fully modified ordinary least squares (FMOLS) and Johansen co-integration econometric technique of analysis. The empirical results from the FMOLS presented that revenue generated from tourism have a significant and positive effect on Nigeria's economic growth; the interaction effect of tourism and foreign exchange earnings on economic growth in Nigeria is positive which indicates that an increase in the tourism and foreign exchange earnings will lead to an increase in economic growth. Thus, based on these findings, the study suggested that as a matter of priority, the Nigerian government should encourage diversification through tourism promotion to accomplish the desired level of economic growth and certify that foreign exchange earnings from tourism transmits to the improvement of amusement parks and recreational centers which will significantly develop new opportunities for tourism patronage and hence boost economic growth.

Eyuboglu and Eyuboglu (2019) examines the asymmetric causality between tourism development and economic growth using the data from 1995–2016 period in 9 emerging countries. In the study, the causality between tourism development and economic growth as examined by employing symmetric and asymmetric panel causality tests. Kónya(2006). Exports and growth: Granger causality analysis on OECD countries with a panel data approach. *Econometric Modeling*, 23(6), 978–992] panel causality test results indicate that there is no causality between tourism development and economic growth. Nevertheless, the asymmetric panel causality test, which observes hidden causality between variables, displays that there is causality from the positive shocks of tourism development to the positive shocks of economic growth in Argentina and Turkey. In terms of negative shocks, causality is found only for the Philippines from tourism development to economic growth. These results shows that the hidden tourism-led growth hypothesis is valid in Argentina, Turkey, and the Philippines.

Bharali (2020) examines the percentage share of foreign exchange earnings from tourism in balance of payment in India. The major objective of study is about the contribution of Foreign Exchange Earnings from Tourism to the Balance of Payments of India. It is mostly descriptive

and analytical in nature. In order to attain the objectives of the study, the necessary data have been collected from various sources such as- census reports, reports of Reserve Bank of India and Ministry of Tourism, journals, articles, websites etc. This article is trying to analyze the growth of the tourism sector as well as its percentage share as Foreign Exchange Receipts to the Balance of Payments (BOP) of the country India.

2.2 Nepalese Context

Paudyal (2012) examines the impact of tourism on economic growth of nation. This study has used the secondary data from period of 1975 to 2010 obtained from economic survey and analyzed the data by employing the tourism income multiplier from the Keynesian macroeconomic model, the three stage least square and seemingly unrelated regression techniques and Granger causality test. The results shows that there exists bidirectional impact in between tourism receipts and GDP, also found same relations with some other variables like GNI, exports, Private consumption etc. Which indicate that tourism sector is really matter for the economic growth of Nepal.

Gautam (2014) examines the foreign exchange earnings through tourism on economic growth. This paper is also planned to examine the role of tourism development on economic growth in Nepal. The study is based on annual data of gross domestic product, foreign exchange earnings from tourism and real effective exchange rate for the period spanning from 1975 to 2013. Co-integration techniques and a Vector Error Correction Model (VECM) are used to examine the causality and long-run relationships between economic growth and Tourism development in Nepal. This study shows that there exists short term dynamic relationship between tourism earnings and GDP. This model concludes that there is positive relation between tourism income and GDP but we get weak relationship in tourism income and economic growth in long run and insignificant between real exchange rate and GDP.

Dhakal (2016) analyzes the foreign exchange earnings of Nepal from tourism using number of international tourist arrival and average length of stay of international tourists.. The researcher has used the annual time series data from 1991-2014 obtained by Ministry of Tourism and Civil Aviation. Johansen co-integration and Granger Causality test has been used for the empirical results shows that there exists long-run relationship among the foreign exchange earnings from tourism, number of international tourists, and average length of tourist stay. The conclusions from Granger causality analysis display the existence of unidirectional causality from number

of international tourists to foreign exchange earnings through tourism, and average length of stay to foreign exchange earnings. Likewise, there is bidirectional causality between number of international tourist and their length of stay. This study suggests that the increased tourists' length of stay and number of international tourists' arrival will lead to rise in foreign exchange earnings, which has multiplier effect by increasing number of places of facilities for the tourists.

Jaisawal (2018) analyze the importance and impact of tourism in the economy of Nepal and also studies the tourism as sources of foreign exchange, earnings income, employment generation and development of trade. The quantitative and descriptive methodologies are employed about the tourism policy of Nepal from the period of 2006 to 2015 of this study. As the study, Tourism is becoming a source of earnings and employment generation, In Nepal, It has contributed the 3.6 percent in GDP in 2016. Capital investment from travel and tourism in Nepal was NPR16.5bn in 2016. In Nepal 2014-2015, highest forex earning was Rs. 46,370.90 million. In 2015-2016, vast decrease in forex exchange, Tourism has provided employment to local people in 2015. Even though it provided 9,45,000 jobs in 2016 in Nepal. Similar effect of tourism can be observed on trade and local development. So, the tourism sector is playing the role to improve the economic status of Nepal.

Subedi (2018) examines the affecting factors of tourism sector and contribution of the tourism to the economy of Nepal. This article is based on secondary data from the period of 1985 to 2016. T-test is used for testing the significance of differences. Different line and table are also employed for the data analysis. There is an improvement in the tourist inflow after 2000 than before which is shown by the significant difference of the t-test. According to this study, there is not satisfactory earnings through due to many reasons of nation like weak managerial capacity, reconstruction after earthquake etc. But Nepal has huge potential to become suitable destination for tourists.

Bhandari (2019) explores the role of tourism for employment generation in Nepal. This study is based on secondary data sources from the time period of 2008/09 to 2017/18, Descriptive research design, quantitative research method and average sampling have been applied in this research for proper analysis. Using the guidance of economic growth model, development theory connections with Adam Smith, David Ricardo, Malthus, Karl Marx, and Rostow, has been applied. This study has moreover shown that the trend of employment in tourism sector has been increasing drastically during a decade however this study finds that some major

barriers faced by tourism to grow fast are in adequate infrastructure, inadequate promoting activities and regularity mechanism, political unrest, lack of skilled human resources and unhealthy competition among tourism establishments.

Bhattarai et al. (2021) analyzes the role of tourism on employment generation and foreign exchange earnings in Nepal. This study has employed the secondary data from 2010 -2019 with descriptive design for analyzing the data. It concludes that according to results there is no more significant role of tourism sector even if there is in increment on tourist for the foreign exchange earnings and employment generation.

2.3 Research Gap

The previous researches had studied on the tourism contribution, its trend, ratio of pilgrimage and regular tourist on Nepalese economy but This Research will explore the trend and relationship between the tourism and foreign exchange earnings of Nepal and this research will analyze the significance of tourism in economic growth through foreign exchange earnings. This research is used a time series data of 45 years. This research has used the determining factor of tourism for obtaining foreign exchange earnings and its effect on economic activities. The contribution of tourism sector for generation of revenue is really effective or not in Nepal. This study will help to fill this gap also.

CHAPTER-III

RESEARCH METHODOLOGY

This chapter explains the details methodology used in this study. It consists of research design, conceptual framework, nature and sources of data, data collection, organizing and processing, specifications of tools and method of data analysis, Granger causality test, diagnosis test and definition of variables.

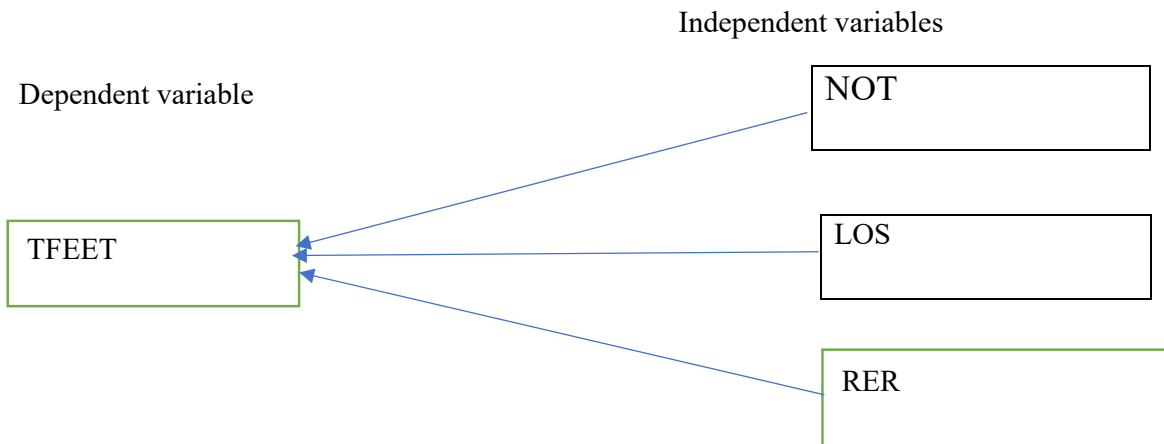
3.1 Research Design

This study is focused on the foreign exchange earnings through tourism sector of Nepal based on descriptive as well as analytical research design. Under the descriptive analysis, various tools such as ratios, percentages, tables, graphs etc. are applied. Moreover, summary statistics of all the variables including mean, median, standard deviation, skewness kurtosis etc. are also applied. Similarly, for the analytical research, econometric tools and techniques are used, they are graphical representation, stationary test, Johansen co-integration test, causality test, and various diagnostic tests such as LM test for serial autocorrelation etc.

3.2 Conceptual framework of the model

In this study, foreign exchange earnings through tourism is as dependent variable whereas the independent variables are number of tourists arrival, average length of stay of the tourists, real exchange rate with US \$ against NPR. The relationship between mentioned variables can be expressed as below.

Figure-3.2.1: Relationship between TFEET and other explanatory variables



Where,

NOT=Total Number of Tourist

LOS= Total Average length of stay of Tourist

RER=Real Exchange Rate

TFEET=Total foreign exchange earnings through tourism

In this study, we have taken above specified variables to examine the effect on total foreign exchange earnings caused by the fluctuation of its affecting factor which are taken as explanatory variables because while NOT, LOS and RER increases, it helps to increase the earnings which means it positively effects the economic growth through huge amount of foreign exchange earnings also. That's why there is relationship among them.

3.3 Nature and Sources of Data

This study is based on secondary data. Data and information are collected from tourism statistics reports of tourism statistics the Nepal tourism statistic of ministry of culture, tourism and civil aviation and annual reports of NRB.

3.4 Data Collection, Organizing and Processing

The available concerned information is collected and data are divided into various groups and sub-groups for the analysis of nature, mean, SD etc. The available data is transformed into log form for reducing the variation in this model. Data and information for this study were used from the period 1975 to 2020. This period is taken due to unavailability of data for all variables before this period.

3.5 Model Specification

With the purpose of examining the functional relationship between the total foreign exchange earnings and average length of stay, number of tourist arrival, and remittance in Nepal of 45 years from 1975 to 2020, the following OLS based model is specified:

$$TFEET = f(NOT, LOS, ER) \dots \dots \dots (1)$$

Where,

TFEET= Total Real Foreign exchange earnings through tourism,

NOT= Total Number of international tourist arrival,

LOS= Total Average length of stay,

RER=Real Exchange Rate

Now, simplifying the above equation (i) as,

$$TFEET = \beta_0 + \beta_1 NOT + \beta_2 LOS + \beta_3 ER + U_T \dots (2)$$

Here, β_0 is intercept, $\beta_1, \beta_2, \& \beta_3$ are respective coefficients. And U_t is the error term.

In the natural logarithm form above equation can be expressed as,

$$LNTFEET = \beta_0 + \beta_1 LNNOT + \beta_2 LNLOS + \beta_3 LNER + U_t \dots (3)$$

Using this equation, we can examine the relationship between the variables.

3.6 Specification of Tools and Method of Data Analysis

Various tools and techniques are applied for data analysis. Under the descriptive analysis, various tools such as ratios, percentages, tables, graphs etc. are applied. Moreover, summary statistics of all the variables including mean, median, standard deviation, skewness kurtosis etc. are also applied. Similarly,

For the analytical research, various econometric tools and techniques are used, they are graphical representation, ADF test for stationary test, Johansen co-integration test, Vector Error Correction Model (VECM), Granger causality test, and various diagnostic tests such as LM test for serial autocorrelation, Breusch-Pagan-Godfrey test of heteroscedasticity, Jarque-Bera (J-B) test for normality.

3.6.1 Unit root test:

A time series data is said to be stationary if its mean and variance are constant over time and the value of the covariance between the two time periods depends only on the distance or gap or lag between the two time periods and not the actual time at which the covariance is computed. Unit roots should check because they are: not predictable, spurious relationship and violated standard OLS assumption. The following test is used for unit root test:

Augmented Dickey Fuller (ADF) Test:

The test is as follows, where the number of lagged dependent variable is determined by information criteria.

The equation for no intercept and no trend is,

$$\Delta Y_t = \gamma Y_{t-1} + \sum_{i=1}^k c_i \Delta Y_{t-1} + U_t \dots \dots \dots (4)$$

The equation for only intercept and no trend is,

$$\Delta Y_t = \alpha_1 + \gamma Y_{t-1} + \sum_{i=1}^k c_i \Delta Y_{t-1} + U_t \dots \dots \dots (5)$$

The equation for both intercept and trend is,

$$\Delta Y_t = \alpha_1 + \gamma Y_{t-1} + \alpha_2 t + \sum_{i=1}^k c_i \Delta Y_{t-1} + U_t \dots \dots \dots (6)$$

Hypothesis for ADF test:

H0: there is unit root. (Non-stationary data)

H1: there is no unit root. (Stationary data).

If ADF test statistics is found less than 5 % (0.05) level of significance we can reject null hypothesis (H0) against the alternative hypothesis.

3.6.2 Johansen Cointegration Test

If all the variables are stationary at the first difference then we can use Johansen co-integration test. If variables under study are integrated with different order, we use ARDL bound test for co-integration. Johansen (1991) suggested a co-integration test where the variables are co-integrated or not is found with the help of trace statistic or the Max-Eigen value statistic. Existence of Co-integration will conclude a long term equilibrium relationship between the variables. This test allows more than one co-integrating relationship so it is more generally applicable than the Engle-Granger test.

3.6.3 Vector Error Correction Model:

After completing test for co-integration among the variables, the long run coefficients of the variables are estimated. The benefits of using vector error correction (VECM) modeling framework in testing for causality is that it permits for the testing of short-run causality through the lagged-difference explanatory variables using Wald-test and for long run causality through the lagged ECM term. A statistically significant ECM term represents the long run causality running from the explanatory variables to the dependent variable. The equation (ii) as:

$$\ln(\text{LNRTFEET}) = \beta_0 + \beta_1 \ln(\text{LNNOT}_t) + \beta_2 (\text{LNLOS}_t) + \beta_3 (\text{LNER}_t) + e_t \dots \dots \dots (7)$$

Where, LNNOT_t = Total number of international tourists

LNLOS_t = Average length of stay of international tourists.

LNER_t = Real exchange rate

The above equation (iii) can be further compressed as follows:

$$\ln(y_t) = \beta_0 + \beta_1 \ln(x_t) + \phi(s_t) + \alpha(r_t) + vt \dots \dots \dots (8)$$

3.7 Granger Casualty Test

Granger causality test establish the causal links between variables. We treat the each variable as single dependent variable in the model. While testing Granger-causality, we can get three possible outcomes which are unidirectional causality, bidirectional causality and reverse causality. To analyze the casual relation between the variables, following equations are used below;

To perform the Granger-causality between trade RTFEET and NOT, the following models are used.

$$\text{LNRTFEET} = \alpha_0 + \sum_{i=1}^n \beta_{1i} \text{LNNOT}_{t-i} + \sum_{j=1}^n \gamma_{1j} \text{LNRTFEE}_{t-j} + \mu_{1t} \dots \dots \dots (9)$$

And,

$$\text{LNNOT} = \alpha_0 + \sum_{i=1}^n \beta_{2i} \text{LNRTFEET} + \sum_{j=1}^n \gamma_{2j} \text{LNNOT}_{t-j} + \mu_{2t} \dots \dots \dots (10)$$

The following hypotheses has been tested to find the direction of causality between TFEET and NOT,

First hypothesis for Granger-causality test:

Null hypothesis: $\beta_{1i} = 0$ i.e. LNNOT does not Granger cause LNTFEET

Alt. Hypothesis (H_1): $\beta_{1i} \neq 0$, that is, LNNOT does Granger Cause INTFEET.

Second hypothesis for Granger-causality test:

Null Hypothesis (H_0): $\beta_{2i} = 0$, i. e, LNTFEE does not Granger Cause LNNOT.

Alt. Hypothesis (H_1): $\beta_{2i} \neq 0$, that is, LNTFEE does Granger Cause LNNOT.

Similarly, the equation for Granger-causality between TFEET and LOS are as below;

$$LNTFEET = \alpha_0 + \sum_{i=1}^n \beta_{3i} LNLOS_{t-1} + \sum_{j=1}^n \gamma_{3j} LNTFEET_{t-j} + \mu_{3t} \dots \dots \dots (11)$$

And,

$$LNLOS = \alpha_0 + \sum_{i=1}^n \beta_{4i} LNTFEET + \sum_{j=1}^n \gamma_{4j} LNLOS_{t-j} + \mu_{4t} \dots \dots \dots (12)$$

The following hypotheses has been tested to find the direction of causality between TFEET and LOS,

First hypothesis for Granger-causality test:

Null Hypothesis (H_0): $\beta_{3i} = 0$, i. e. LNLOS does not Granger Cause LNTFEET.

Alt. Hypothesis (H_1): $\beta_{3i} \neq 0$, i. e. LNLOS does Granger Cause LNTFEET.

Second hypothesis for Granger-causality test:

Null Hypothesis (H_0): $\beta_{4i} = 0$, i. e. LNTFEET does not Granger Cause LNLOS.

Alt. Hypothesis (H_1): $\beta_{4i} \neq 0$, i. e. LNTFEET does Granger Cause LNLOS

Again, the equation for Granger-causality between TFEET and LOS are as below;

$$LNTFEET = \alpha_0 + \sum_{i=1}^n \beta_{5i} LNER_{t-1} + \sum_{j=1}^n \gamma_{5j} LNTFEET_{t-j} + \mu_{5t} \dots \dots \dots (11)$$

And,

$$\text{LNER} = \alpha_0 + \sum_{i=1}^n \beta_{6i} \text{LNTFEET} + \sum_{j=1}^n \gamma_{6j} \text{LNLOS}_{t-j} + \mu_{6t} \dots \dots \dots (12)$$

The following hypotheses has been tested to find the direction of causality between TFEET and ER,

First hypothesis for Granger-causality test:

Null Hypothesis (H₀): $\beta_{5i} = 0$, i. e. LNER does not Granger Cause LNTFEET.

Alt. Hypothesis (H₁): $\beta_{5i} \neq 0$, i. e. LNER does Granger Cause LNTFEET.

Second hypothesis for Granger-causality test:

Null Hypothesis (H₀): $\beta_{6i} = 0$, i. e. LNTFEET does not Granger Cause LNER.

Alt. Hypothesis (H₁): $\beta_{6i} \neq 0$, i. e. LNTFEET does Granger Cause LNER

3.8 Diagnosis Test

(L-M) test for the test of autocorrelation and stability of the model has been used.

3.9 Definition of the Variables

Included variables: real total foreign exchange earnings through tourism (TFEET) as dependent variables and number of tourist arrival (NOT), Total average length of stay (LOS) and Real exchange rate (RER) are as explanatory variables, these variables are transformed into logarithm form to reduce the variation in the model and amount is expressed in Million NRs. These explanatory variables are important determinants to the foreign exchange earnings through tourism sector of Nepal. After analyzing the different literatures, they have also used these variables in their research as important determinants to affect the foreign exchange earnings through tourism sector. On this note, these studies also use such variables to analyze the foreign exchange earnings through tourism sector in Nepal.

CHAPTER-IV

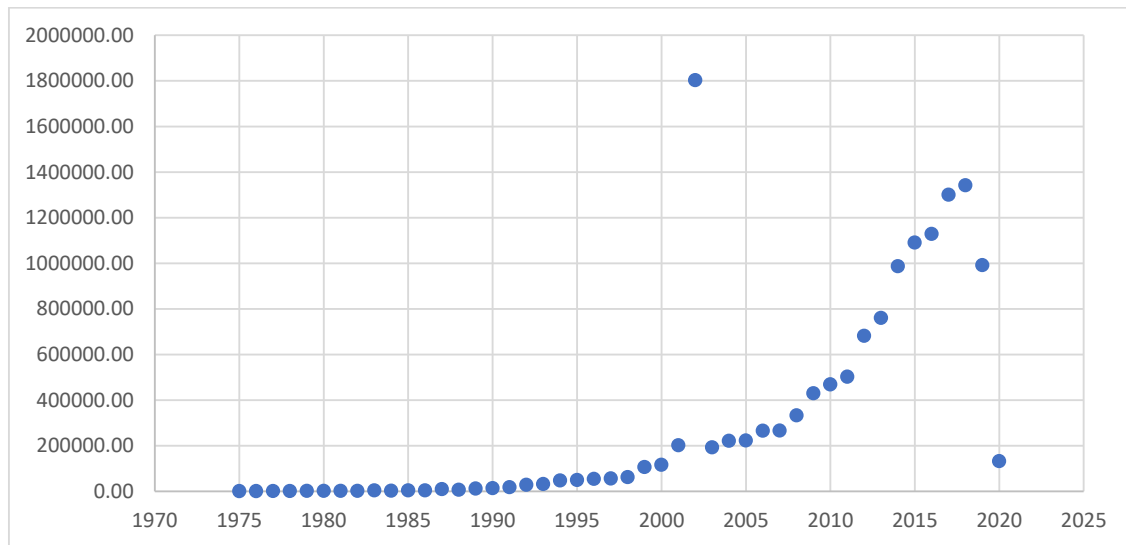
RESULTS AND INTREPRETATION

4.1 Descriptive Analysis of Findings

This chapter examines the patterns of the foreign exchange earnings in Nepal from 1975 to 2020. The major sources of foreign exchange earnings and their contribution for the same period are assessed. This chapter consists of total foreign exchange earnings in Nepal and sources of FOREX earning.

4.1.1 Trend of Total Foreign Exchange Earnings in Nepal

Figure-4.1.1a: Trend of Total foreign exchange earnings(TFEE)



Source: Nepal Tourism Statistics

Author's own calculation

From the above figure, it is observed that foreign exchange earning shows an upward trend during the study period. Total foreign exchange earnings in Nepal increased from 699.18 million in 1975 to 132358.69 million in 2020 but in 2002, highest increment and maximum foreign exchange earnings is 1802979.17 and the trend has fluctuated widely, recording even negative growth rates in some years. The maximum widely fluctuated value of total foreign exchange earnings are 1802979.17 and 132358.69 million. The maximum earning through foreign exchange in 2002 is 1802979.17 million even though there was huge decline in the number of tourist due to the national and international political instability and Nepal

government declared the emergency at that duration because of Maoist movement as well. The reason of total foreign exchange earnings to reach the maximum is because of increase in remittance inflow, export and import also. Since 2001, remittance in flow has started to increase majorly in high amount because at that time Nepal Rasta Bank has changed its methodology and restricted the informal sector transaction using the formal transaction and widely decreases in 2020 due covid-19.

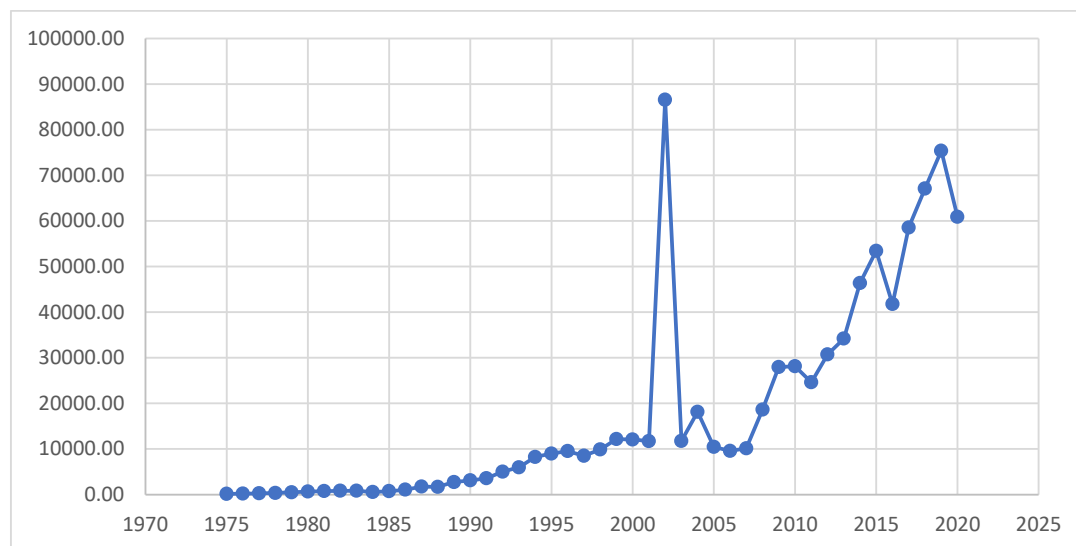
4.1.2 Trend of the major Sources of Foreign Exchange Earnings (FOREX) in Nepal

There are some possible sources like tourism sector, remittance inflow, foreign aid, exports etc. of foreign exchange earnings which can cause to affect the exchange earnings are discussed below:

4.1.3 Contribution of the Major Source tourism on Total Foreign Exchange Earnings

Tourism sector is also key sector as source of foreign exchange earnings. There are some possible determinants of foreign exchange earnings which can cause to fluctuate the exchange earnings are discussed below:

Figure-4.1.3b.: Trend of Total foreign exchange earnings from tourism(TFEET)



Source: Nepal Tourism Statistics

Author's own calculation

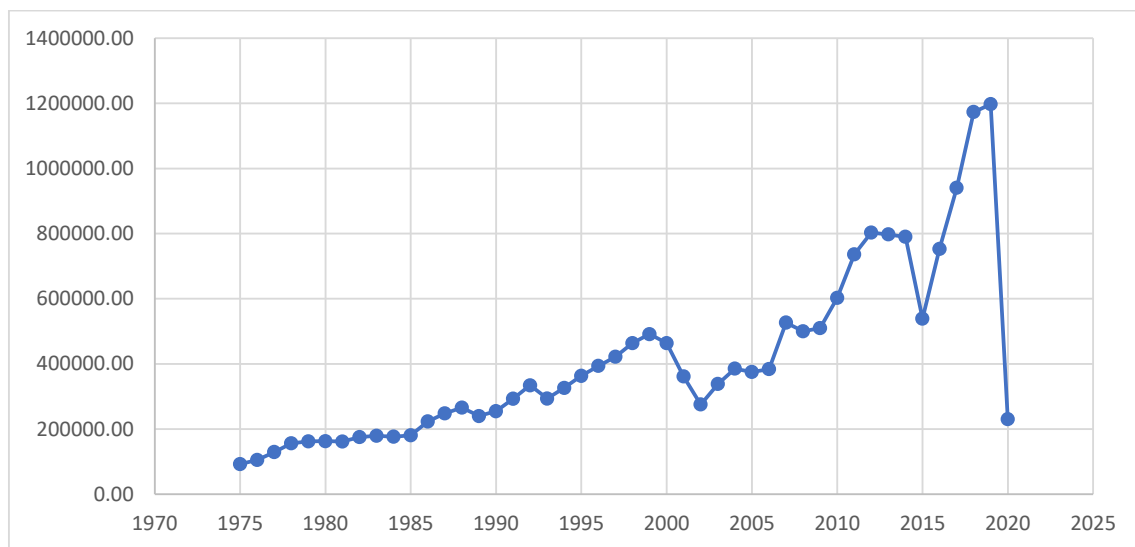
The increment or decrement in number of tourist and length of stay with their activities plays the main role to increase or decrease the forex from this sector. In the context of Nepal, the forex from the tourism sector is in increasing ratio which has been contributing in the GDP

also. The maximum Forex earnings through tourism in 2002 are 86543 million. According to Economic survey (2002/3), "Destination Nepal Campaign will start from December 2002 and end in December 2004 as a two-year program. The International Year of Mountain 2002, International Year of Eco Tourism 2002 and Visit South Asia 2003 are also integrated under this Campaign. Objectives: to promote public awareness among people about tourism, to promote and maintain Nepal as a reliable attractive and secured destination with wide international publicity and target: By the end of 2003, the total number of tourist arrival in Nepal will be 500000. And foreign exchange earnings are estimated to be US \$ 180 million during this period. "The forex through tourism in 2020 is widely decreased 60885 million due to covid-19 pandemic.

4.1.4 Number of International Tourists Arrival

Nepal Tourism Statistics 2020, Data showed that more than 80 percent of the tourist is less than previous year because of worldwide pandemic covid-19 and only three months of 2020 opened for arrivals (230085). Tourists come in Nepal with purpose of holiday celebration and pleasure including trekking & mountaineering, for pilgrimage and remaining for other purpose. The exceptionality of Nepal with its panoramic natural beauty and its rich cultural heritage has attracted many people to this country. The number of tourists visiting in Nepal is increasing in normal scenario.

Fig-4.1.4c: Total number of International Tourist Arrival (NOT)



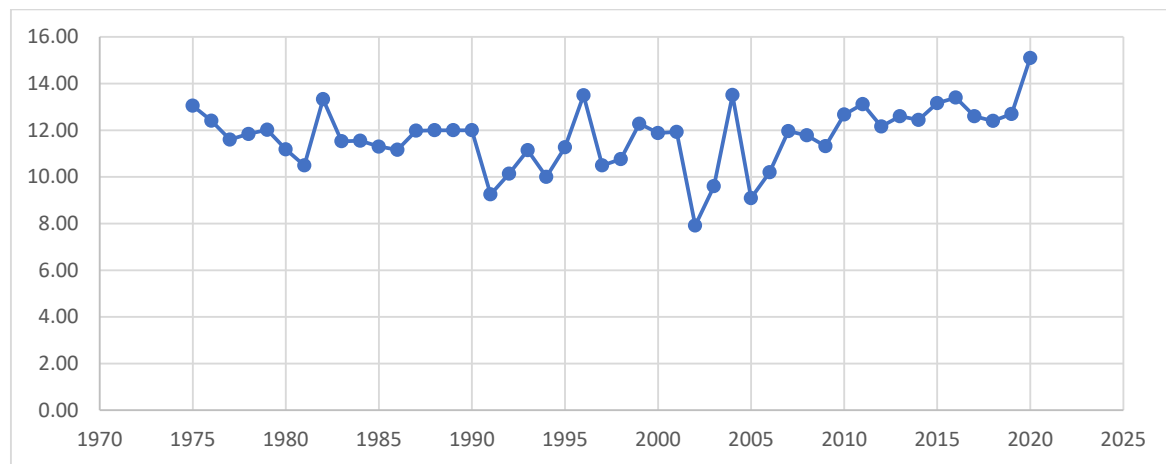
Source: Nepal Tourism Statistics, Author's own calculation

From above figure, the maximum tourists are visited the country in 2019 is 1197191.00 and minimum tourist arrival in 2020 is 230085. As figure, the table shows that the number of tourists visiting Nepal is increasing pattern but, there is a major decline in 2002, 2015 and 2020. This decline is mainly attributed to the world recession and political disturbances in 2002, natural disasters like earthquake in 2015 and worldwide pandemic covid-19 in 2020. The more number of tourist the more earnings in foreign exchange revenue. Tourism sector earnings for 2019 at NRs. 811, 257, 46 thousand (Around 724, 337 thousands). This is almost 16% higher than previous year 2018 in USD. This can contribute total foreign exchange earnings of Nepal.

4.1.5 Average Length of Stay of International Tourists

Length of stay indicate the period of staying or number of days spending of tourist which can make more earnings and earnings does not only depend the length of stay but it also depends quality of spending time. According to Alegre & Pou (2006) a holiday's length, like the actual decision to spend the holiday at a certain destination, can be explained by two types of variables: first variables associated with personal and family characteristics and second economic variables such as level of income or the price of the holiday. Family and personal characteristics that can influence the length of stay can be the tourists' age, gender, family status, number of children, nationality and level of education and profession. These characteristics can have a direct effect on the holiday's length, for example that a couple with kids have limited time to go on holiday and can only go during the school holidays. However, variables like age and gender might have an indirect effect on the length of stay since they influence consumer's preferences and help to define values and motivations.

Figure-4.1.5d: Average length of stay of international tourist(LOS)



Source: Nepal Tourism Statistics

Average length of stay marginally increased in year 2020 with respect to 1975 but the above data shows that it is in decreasing ratio. In year 2020 average length of stay is 15.10 which is maximum and minimum length of stay is 7.92 in 2002. The length of stay varies from tourist to tourist, depending on their main purpose of visit which also affects the foreign exchange earnings also. Tourists who mountaineer and trek stay for many days, while others are here for a short time only. The main cause of decreasing length of stay of tourist can be poor infrastructure, polluted environment, rough or incomplete or poor road network, low quality packages for tourists etc. Due to these cause it may impact negatively in total foreign exchange earnings of Nepal.

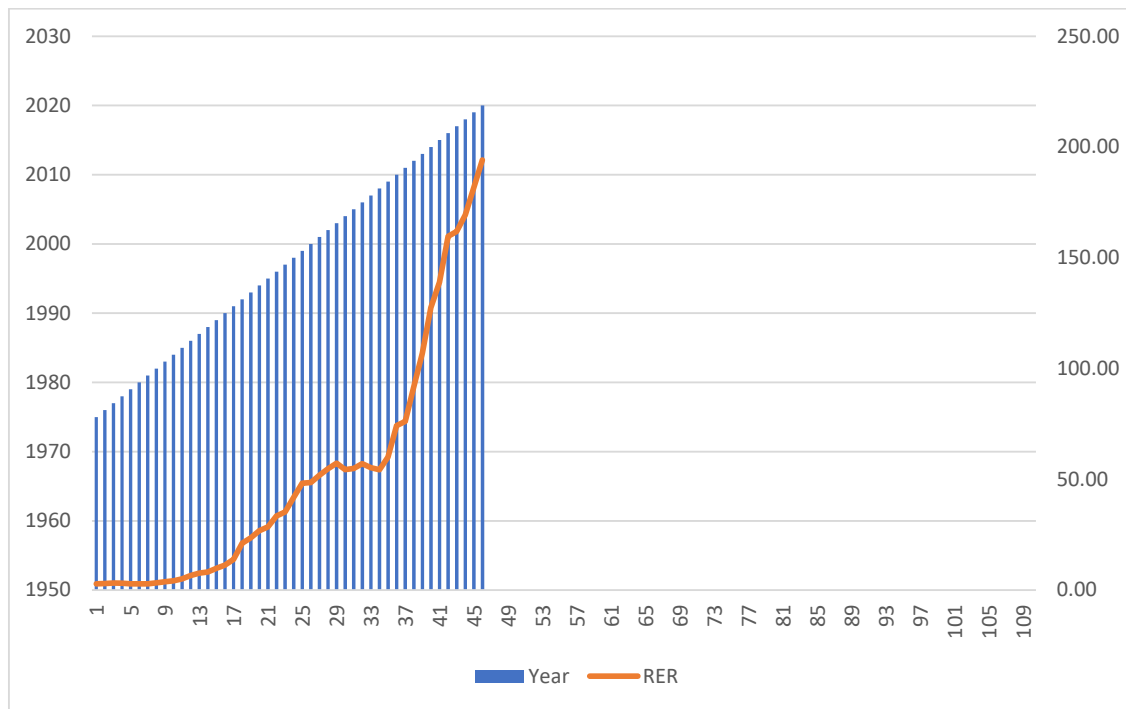
Economic Survey (2019), the per capita spending and average length of stay of foreign tourists are decreased in 2018. Ministry of Finance(2019), the length of tourists are decreased to 12.4 days whereas last year it was 12.6. Similarly, the average daily spending has decreased to US\$ 44 from last year's \$54. This statistics have left economists worrying. Stakeholders have also claimed that this decrease in the length of stay and the spending is due to the pollution and lack of development of infrastructures.

“Polluted and incomplete roads, and poor road network is one of the major reasons behind low average stay of foreign tourists, "Binayak Shah, the first vice-president of Hotel Association of Nepal (HAN).

4.1.6 Real Exchange Rate of USD against NPR.

Exchange rate indicates the price of one currency in terms of another country or value of one country's currency versus the currency of another country or economic zone. Foreign exchange rate also may affect the total foreign exchange earnings of nation because the source of foreign exchange earnings is also the conversion of currencies due to the difference in exchange rates.

Fig-4.1.6e: Trend of real exchange rate of USD against NPR(RER)



Source: Nepal Rastra Bank

The minimum real exchange rate in 1975 is 2.82 and maximum exchange rate is 194.13. Data shows the real exchange rate is in upward sloping it means our value of currency is to be devaluated with US Currency. This may affect the total foreign exchange earnings.

4.1.7 Descriptive Statistics of the Variables

The descriptive statistics of real total foreign exchange earnings (LNRTFEE), total number of tourist (LNNOT), Average length of stay of tourist (LNLOS) and Real exchange rate (LNRER) contain mean, median, maximum, minimum, standard deviation, skewness, kurtosis and Jarque-Bera statistics.

Table-4.1.7f: Descriptive statistics of variables (1975-2020)

	LNTEET	LNNOT	LNLOS	LNRER
Mean	9.080574	12.52913	2.455764	3.203876
Median	9.309864	12.52623	2.480312	3.646774
Maximum	11.32980	13.99549	2.710000	5.270000
Minimum	7.293263	11.43432	2.069391	1.031617
Std. Dev.	0.766511	0.514334	0.118926	1.411102
Skewness	-0.166319	0.826531	-0.913563	-0.302929
Kurtosis	3.575061	4.771722	4.378802	1.724065
Jarque-Bera	0.845908	11.25393	10.04234	3.823889
Probability	0.655109	0.003599	0.006597	0.147793
Sum	417.7064	576.3402	112.9651	147.3783
Sum Sq. Dev.	26.43927	11.90426	0.636450	89.60442
Observations	46	46	46	46

Source: Author's computation using data from Appendix-I

Table 4.1.7f shows that the mean value of total foreign exchange earnings in log form is Rs. 9.080574 million with standard deviation 0.766511. Its maximum and minimum values are Rs. 11.32980 and Rs. 7.293263 million respectively. Similarly, the mean value of total number of tourist is 12.52913 with standard deviation 0.514334. Its maximum and minimum numbers are 13.99549 and 11.43432 respectively, the mean value of average length of stay is 2.455764 with standard deviation 0.118926. Its maximum and minimum days are 2.710000 and 2.069391 respectively. Similarly, the mean value of exchange rate is 3.203876 with standard deviation 0.1411102. Its maximum and minimum rate is 5.270000 and 1.031617 respectively. The values of standard deviation indicate that three variables are volatile during the study periods of 46 years. Skewness of the variables shows that LNNOT is positively skewed and LNRTFEET, LNLOS and LNRER are negatively skewed.

4.2 Results from Empirical Findings

This chapter presents the empirical analysis of this study. The first part of the chapter presents and analyzes the empirical results of the study.

4.2.1. Unit Root Test

Table-4.2.1a: ADF Test for Unit Root Test

Variables		Level	First Difference	Result
		Intercept	Intercept	
LNRFEET	t-stat	-2.3401	-11.124*	I(1)
	p-value	0.1444	0.0000	
LNNOT	t-stat	-1.9244	-7.0465*	I(1)
	p-value	0.3183	0.0000	
LNLOS	t-stat	-1.7599	-10.1880*	I(1)
	p-value	0.3948	0.0000	
LNRER	t-stat	-0.4716	-4.11745	I(1)
	p-value	0.8872	0.0023	

*Note: * shows that stationary at 1 percent level of significance.*

The table 4.2.1a shows that the result of ADF test statistics of concerned variables used in this study. If the variables are stationary in level then that variables are known as I (0) and if variables are only stationary at first difference then it is called I (1). The result of ADF test shows that all variables are non-stationary at level but they are stationary at first difference. So, these variables are called I (1). Since all the variables are stationary at first difference, so this study applies Johansen approach to test the long run co-integration of the variables.

4.2.2. Johansen Cointegration Test

As Johansen cointegration test, the variables are co-integrated or not shall be determined with the help of trace statistic and max eigen-value statistic. The trace statistic and the max Eigen-value statistic have been expressed in the following tables 4.2.2b and 4.2.2c respectively. Tables- indicate long run model and coefficients are called long run coefficient.

Table-4.2.2b: Trace Statistic

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.421861	54.65091	47.85613	0.0101
At most 1 *	0.323489	30.54149	29.79707	0.0410
At most 2	0.254180	13.34603	15.49471	0.1027
At most 3	0.009997	0.442084	3.841466	0.5061

Trace test indicates 2 Cointegrating equations at the 0.05 level

**denotes the rejection of the hypothesis at the 0.05 level*

***Mackinnon-Haug-Michelis (1999)p values*

The tables 4.2.2b show the result of test of cointegration using trace statistic. The table shows that the null hypothesis of all 2 equations are cointegrated has been denied since the corresponding probability value 0.0101 and 0.0410 are less than 5%. On the other hand, the value for trace- statistic is greater than the critical value for the hypothesis of two equations. So, the result of trace statistic confirms that there exists cointegrating equation at the 0.05 level.

Table -4.2.2c: Max- Eigen Statistic

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.421861	24.10942	27.58434	0.1310
At most 1	0.323489	17.19546	21.13162	0.1630
At most 2	0.254180	12.90395	14.26460	0.0811
At most 3	0.009997	0.442084	3.841466	0.5061

Source: Author's own calculation from E-views

**denotes the rejection of null hypothesis at 5%*

Similarly, the table 4.2.2c indicates the result for cointegration test with Max-Eigen Statistic. This table also shows that all of the equations are not cointegrated at 5 % level. Then again, the max- Eigen statistic and critical value also proves the same thing that there is no cointegrating

equation But in trace, the existence of cointegration among the variables implies that, no matter the fluctuation in the short run, these variables have the tendency to return to the equilibrium path in the long run. The normalized co-integrating coefficients estimated are reported in the table 5.4.3 below.

Table:4.2.2d: Normalized Cointegrating Coefficients

<i>LNTFEET</i>	<i>LNNOT</i>	<i>LNLOS</i>	<i>LNER</i>
1.000000	-1.549371	-0.829995	-0.068094
<i>Standard Error</i>	0.30489	1.10368	0.10595

Source: Author’s own calculation from E-views

The table 4.2.2d is the result for the cointegrating coefficients normalized on the LNRFEET. However, the signs are reversed due to the normalization process and thus, we can write the normalized equation as follows:

$$LNTFEET = 1.549371LNNOT + 0.829995LNLOS + 0.068094LNER \dots\dots\dots (13)$$

The above normalized equation shows that there is the long run positive effect of LNNOT, LNLOS and LNER on LNTFEET. Most importantly, the central focus of the study is on the significance and the sign of the LNNOT, LNOS and LNER.

4.2.3 Vector Error-Correction Model (VECM)

The vector error-correction model is used to capture the long-run equilibrium dynamics in the time series given that the variables are cointegrated. Since, the above tables 4.4.2c and 4.4.2d provide the evidence of cointegration, the dynamic relationships between the cointegrated variables can be studied by using an error-correction model. The system equation for VECM is calculated as follows:

$$D(LNRFEET)=C(1)*(LNRFEET(-1)-1.54937071938*LNNOT(-1)-0.829994957687* LNLOS(-1)-0.0680939616728*LNRER(-1)+12.5987721846)+C(2)*D(LNRFEET(-1)) +C(3) *D(LNOT(-1))+C(4)*D(LNLOS(-1))+C(5)*D(LNRER(-1))+C(6).....(14)$$

The estimation of equation (14) is expressed below in the table-4.2.3e

Table-4.2.3e: Estimation of System of Equation of VECM

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.308429	0.129558	-2.380618	0.0224
C(2)	-0.348429	0.145823	-2.389394	0.0219
C(3)	-0.393141	0.367885	-1.068652	0.2920
C(4)	0.167261	0.475334	0.351882	0.7269
C(5)	0.083288	0.675642	0.123272	0.9025
C(6)	0.085424	0.092224	0.926267	0.3602
R-squared	0.354187	Mean dependent var		0.049364
Adjusted R-squared	0.269211	S.D. dependent var		0.487714
S.E. of regression	0.416928	Akaike info criterion		1.214317
Sum squared resid	6.605500	Schwarz criterion		1.457616
Log likelihood	-20.71498	Hannan-Quinn criter.		1.304544
F-statistic	4.168104	Durbin-Watson stat		1.936125
Prob(F-statistic)	0.004070			

Source: Author's calculation from E-views

In the equation (14), the entire first term is the error correction term, and, thus the term C (1) is the coefficient of co-integrated model which refers to the speed of adjustment towards the long run equilibrium. Here, the coefficient C (1) is negative which means the model is converging in the long-run and the coefficient of error correction term seems to be significant because its probability value is less than 5%. It means there is long-run causality running from independent variables to D (LNTFEET).

The other coefficients C (2) and C (3) are the short-run coefficients for LNTFEET and LNNOT at the lag of one period. Both of these coefficients seem to be negative and C2 is significant but C3 is insignificant to determine the independent variable LNTFEET. On the other hand, C (4) is the coefficient which seems to be positive and insignificant since the probability value

for this coefficient is greater than 5%.C (5) is the coefficient which seems to be positive and insignificant since the probability value for this coefficient is greater than 5%.

Finally, the term C (6) is the constant term which is found to be positive and statistically insignificant.

4.2.4 Serial Correlation Test

To test the serial correlation, Breusch-Godfrey Serial Correlation LM test has been used by setting following hypothesis.

Null Hypothesis (H₀): There is no serial correlation

Alternative Hypothesis (H₁): There is serial correlation.

The result of Breusch-Godfrey Serial Correlation LM test is presented in following table 4.2.4f

Table-4.2.4f: Serial Correlation LM Test

F-statistic	0.214790	Prob. F(1,37)	0.6458
Obs*R-squared	0.253952	Prob. Chi-Square(1)	0.6143

Table 4.2.4f shows that the observed R-squared value is 0.253952with probability Chi-Square value 0.6143.This probability value is more than 5 percent so we cannot reject the null hypothesis that there is no serial correlation. Hence, to conclude, the model is free from autocorrelation.

4.2.5. Heteroscedasticity Test

To test the heteroscedasticity, Breusch-Pagan-Godfrey Test has been employed. The result of heteroscedasticity test is presented in following table.

Table 4.2.5g: Heteroscedasticity Test (Breusch-Pagan-G Test)

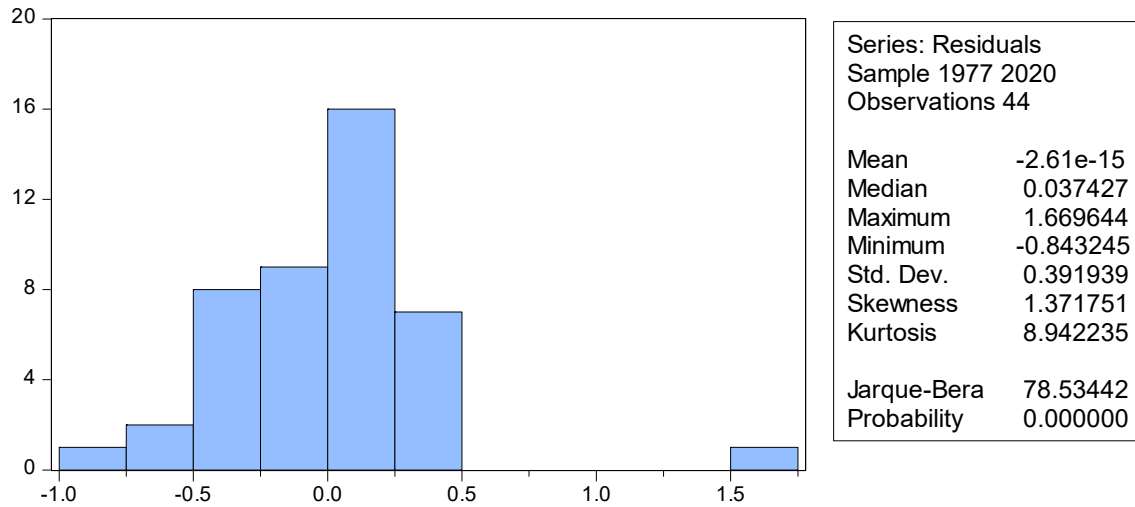
F-statistic	1.031548	Prob. F(8,35)	0.4316
Obs*R-squared	8.395027	Prob. Chi-Square(8)	0.3959
Scaled explained SS	24.86547	Prob. Chi-Square(8)	0.0016

Source: Author's calculation through E-views.

Table 4.2.5g shows that the observed R-squared statistics equals 8.395027 and corresponding probability are 0.3959 percent. Here, the probability value of observed R-squared is greater than 5 percent so we cannot reject the null hypothesis that there is homoscedasticity. Therefore the model is free from heteroscedasticity.

4.2.6. Normality Test:

Fig.4.2.6h: Normality Test



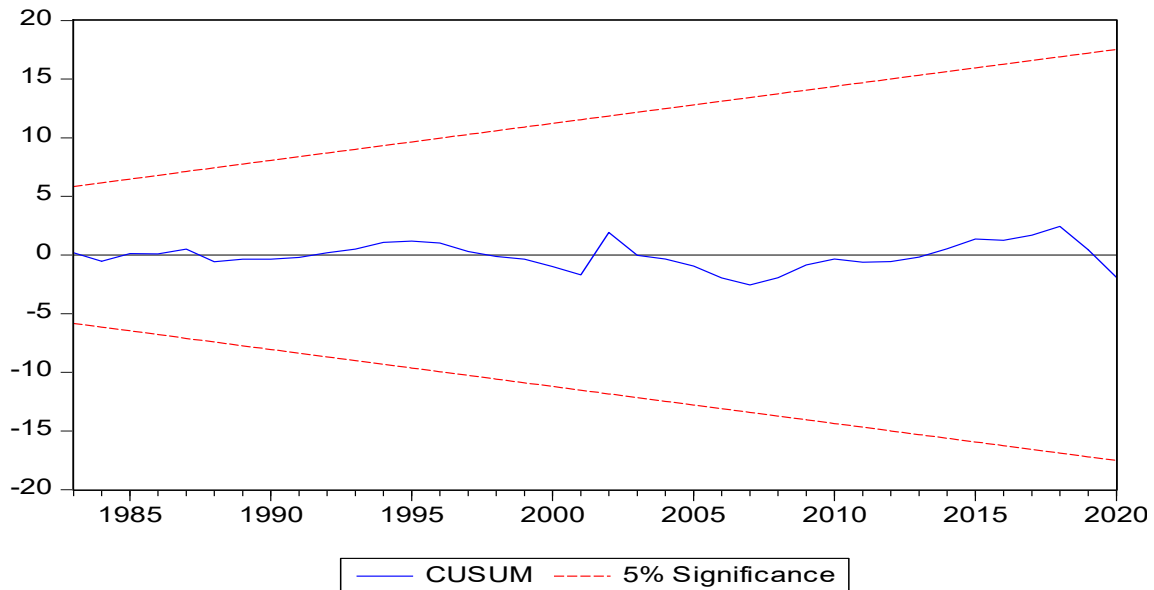
Source: Author's Calculation through E-views

Figure 4.2.6h shows that Jarque-Bera statistic is 78.53442 having probability value of zero percent. Here, the probability value 0.0000 is less than 5 percent so the null hypothesis that residuals are normally distributed cannot be rejected. Hence, the residuals are not normally distributed.

4.2.7. Stability Test

The cumulative sum (CUSUM) graph and cumulative sum of squares (CUSUM of squares) graph have been employed to test the stability of the short run coefficient. It is shown in the figure 4.2.7i and figure 4.2.7j.

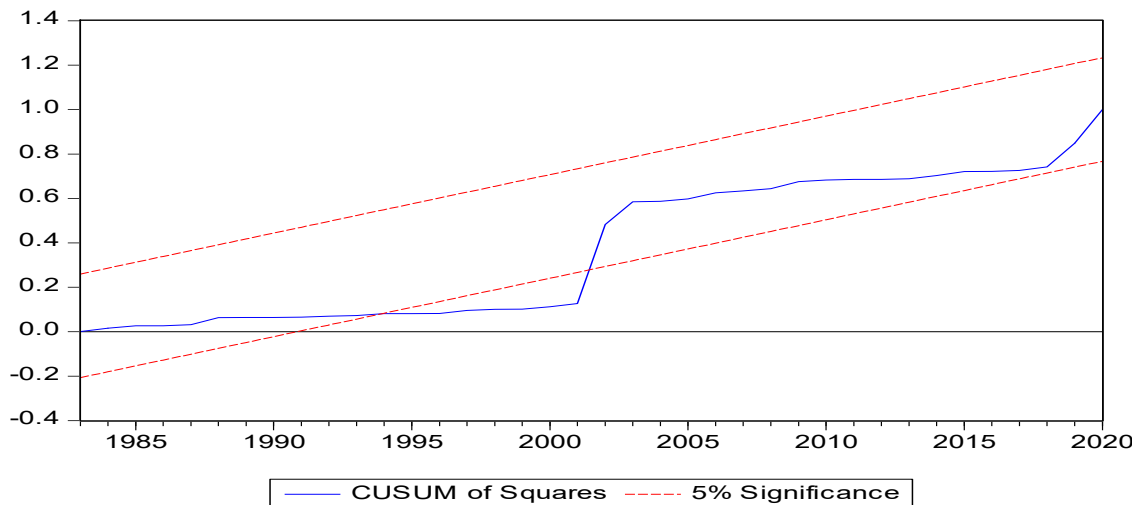
Fig.no.4.2.7i: Plot of cumulative sum of squares of recursive residuals



Source: Author's calculation through E-views.

For the stability of the short run coefficients, the CUSUM curve must lie within the critical value bounds. Figure no.4.2.7i shows that the plots of CUSUM statistic do not cross the critical bounds at 5 percent level of significance level, indicating that the short run coefficients are stable.

Fig.no.4.2.7j: Plot of cumulative sum of squares of recursive residuals



Source: Author's calculation through E-views.

In the above figure 8, the plots of CUSUM of squares have crossed the critical lines at 5 percent level of significance level, indicating that the short run coefficients are not stable.

4.2.8 Granger-Causality Test

Granger causality test helps to provide the information of the causal direction between the variables. The result of casual direction helps for long –run and short run analysis between the variables. The result of pairwise Granger- causality between LNNOT and LNTFEET is in table 4.2.8k

Table-4.2.8k Pairwise Granger Causality between LNNOT and LNTFEET

Pairwise Granger Causality Tests Sample: 1975 2020 Lags: 1			
Null Hypothesis:	Obs.	F-Statistic	Prob.
LNNOT does not Granger Cause LNTFEET	45	6.17893	0.0170
LNTFEET does not Granger Cause LNNOT		1.26677	0.2668

Source: Author’s computation through EViews-9

The result of Granger causality suggest that there is only one way causal relationship between the TFEET and NOT, that is, NOT Granger causes LNTFEET. However, the null hypothesis that “LNTFEET does not cause LNNOT” cannot be rejected at 5 percent level of significance. Therefore, there exists one way causal relationship running from LNNOT to LNTFEET.

Table-4.2.8l Pairwise Granger Causality between LNLOS and LNTFEET

Pairwise Granger Causality Tests Sample: 1975 2020 Lags: 1			
Null Hypothesis:	Obs.	F-Statistic	Prob.
LNLOS does not Granger Cause LNTFEET	45	2.33778	0.1338
LNTFEET does not Granger Cause LNLOS		0.09192	0.7632

Source: Author’s computation through EViews-9

The result of Granger causality suggest that there is not causal relationship between the TFEET and LOS, that is, LNLOS Granger does not causes LNTFEET. And, the null hypothesis that “LNTFEET does not cause LNLOS” cannot be rejected at 5 percent level of significance. Therefore, there is not exist causal relationship.

Table-4.2.8m Pairwise Granger Causality between LNER and LNTFEET

Pairwise Granger Causality Tests			
Sample: 1975 2020			
Lags: 1			
Null Hypothesis:	Obs.	F-Statistic	Prob.
LNER does not Granger Cause LNTFEET	45	15.4350	0.0003
LNTFEET does not Granger Cause LNLOS		0.88476	0.3523

Source: Author's computation through EViews-9

The result of Granger causality suggest that there is one way causal relationship between the TFEET and ER, that is, LNER Granger causes LNTFEET. And, the null hypothesis that “LNTFEE does not cause LNER” cannot be rejected at 5 percent level of significance. . Therefore, there exists one way causal relationship running from LNER to LNTFEET.

CHAPTER-V

MAJOR FINDINGS, CONCLUSION AND DISCUSSIONS

5.1 Major Findings

The main objective of this study is to examine the effects of tourism on foreign exchange earnings of Nepal. This study used the dataset of 46 years over the period of 1975-2020 to fulfill the objective of this study. To analyze the trend of tourism and total foreign exchange earnings, this study used the trend line, table and histogram. The ADF test is applied to test the stationarity of time series and Johansson co-integration test is performed to test co-integration among the variables. The long-run model is estimated using Normalized equation. Similarly, VECM model is applied for the short-run dynamics of the model. Likewise, Granger causality is carried out to test directional causality between tourism and foreign exchange earnings. During the period of finding the best empirical result finding, Other explanatory variables like per-capita expenditure of international tourist, Remittance ,exports etc. also involved but we get the best empirical result from the above applied explanatory variables only. So, the major findings of the study are listed as given below:

1. The trend analysis of total foreign exchange earnings is upward trending. The trend has fluctuated widely, recording even negative growth rates in some years. The maximum and minimum value of total foreign exchange earnings is 1802979.17 million in 2002AD and 699.18 million in 1975AD. Similarly, The maximum and minimum value of total foreign exchange earnings through tourism is 86543.00 million in 2002AD and 170.60 million in 1975AD. Similarly, the total number of tourist is in increasing trend with some fluctuations. The maximum tourists are visited the country is 11,97,191.00 in 2019AD and minimum tourist arrival is 92,440 in 1975AD. As per data, the number of tourists visiting Nepal is increasing pattern but, there is a major decline in 2002AD and 2015AD. The maximum and minimum contribution of foreign exchange earnings through tourism on total foreign exchange earnings of country is 46% in 2020AD and 3.60% in 2006AD respectively.
2. Average length of stay marginally increased in year 2020AD with respect to 1975AD but the data shows that it is in decreasing ratio and minimum length of stay is 7.92 in 2002 and maximum length of stay is 15.10 in 2020AD.

3. The minimum real exchange rate in 1975AD is 2.82 and maximum exchange rate is 194.13 in 2020AD. Data shows the real exchange rate is in upward sloping it means our value of currency is to be devaluated with US Currency. This may affect the total foreign exchange earnings.
4. Result of ADF test shows that all the variables are stationary after first difference, that is, all the variables used in this study are of I (1).
5. The Johansen co-integration test indicates that variables are co-integrated and long-run model is free from spurious regression.
6. The long-run model, normalized equation shows that there is the long run positive effect of LNNOT, LNLOS and LNER on LNTFEET. For instance, one percent increase in total number of tourist leads to 1.54 percent increase in total foreign exchange earnings. Average length of stay has significant positive effect on total foreign exchange earnings in long run. When one percent increase in average length of stay leads to increase the total foreign exchange earnings by 0.82 percent and the real exchange rate has significant positive effect on total foreign exchange earnings in long run. When one percent increase in real exchange rate leads to increase the total foreign exchange earnings by 0.06 percent.
7. The result of VECM indicates that in short run, total number of tourist has negative and insignificant effect on total foreign exchange earnings through tourism but average length of stay and real exchange rate of tourist has positive and insignificant effect on total foreign exchange earnings through tourism. The coefficient of the speed of adjustment C (-2) is 0.3484 with t-statistic -2.3893 and corresponding probability 0.0219. This coefficient implies that 34.85 percent of error is being corrected every year. The coefficient is found to have negative and statistically significant at 1 percent level of significance.
8. There is no autocorrelation and heteroscedasticity, short run coefficients are stable.
9. The result of Granger causality suggests that there exists unidirectional causality relationship between LNNOT, LNER and LNTFEET, However, reverse causality is not true. But, there is not causal relationship between the LOS and LNTFEET.

5.2 Conclusion and Discussion

From the past few decades, tourism has seen a steady expansion all over the world. Tourism is the sum total of operations mainly of economic in nature. It is directly related to the entry, stay,

movement of foreigners inside and outside a certain territory. The general theme of this thesis is to present the trend and relationship between total foreign exchange earnings of Nepal and tourism. Tourism is a part of good source to earn the foreign exchange earnings of country. From the results of this study, it can be inferred that the total number of tourist causes the total foreign exchange earnings of Nepal. The main points of the study are:

At first, Johansson co-integration test for the existence of long run-run relationship between the variables is established. The long-run model shows that number of tourist have positive and significant effect on total foreign exchange earnings in the long-run. It means the more entry of number of tourist the more earnings through foreign exchange. However, average length of stay has significant positive effect on total foreign exchange earnings in long run which indicates that when the length of stay of tourist increases, Foreign exchange earnings also increases and real exchange rate has positive effect on total foreign exchange earnings in long run which indicates that when real exchange rate increases, Foreign exchange earnings also increases.

The result of VECM indicates that in short run, total number of tourist has negative and insignificant effect on total foreign exchange earnings but average length of stay of tourist and real exchange rate has positive and insignificant effect on total foreign exchange earnings which shows that number of tourist is decreased due to the seasonal fluctuation, political and environmental instability, poor infrastructure, polluted environment, rough or incomplete or poor road network, low quality packages for tourists etc. which negatively affects to the total foreign exchange earnings. The result of Granger causality suggest that there exists unidirectional causality relationship between number of tourist, real exchange rate and total foreign exchange earnings, However, reverse causality is not true. It means only the fluctuation of all the explanatory variable can affect the total foreign exchange earnings but not reverse and there seems that there is not causal relationship between average length of stay of international tourist and total foreign exchange earnings.

Focusing on foreign exchange earnings from tourism activities in Nepal, this study suggests that more efforts should be focused on upgrading in quality development and management of tourism related facilities such as hotel and restaurants, tourist resorts, entertainment centers, transportation services, sales outlet of curios, handicraft, amusement parks, cultural activities etc. for growing number of international tourists and their length of stay which helps to increase the revenue of country through the foreign exchange earnings.

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APPENDICES

Appendix-I

Data Sheet (1975-2020)

Year	LNTFEET	LNNOT	LNLOS	LNRER
1975	7.29	11.43	2.57	1.04
1976	7.49	11.56	2.52	1.09
1977	7.82	11.77	2.45	1.15
1978	7.95	11.96	2.47	1.13
1979	8.01	12.00	2.49	1.03
1980	8.35	12.00	2.41	1.04
1981	8.48	11.99	2.35	1.05
1982	8.48	12.08	2.59	1.18
1983	8.40	12.10	2.44	1.33
1984	7.93	12.08	2.45	1.43
1985	8.08	12.11	2.42	1.62
1986	8.32	12.32	2.41	1.88
1987	8.69	12.42	2.48	1.03
1988	8.54	12.49	2.48	2.10
1989	8.92	12.39	2.48	2.28
1990	8.95	12.45	2.48	2.42
1991	9.00	12.59	2.22	2.63
1992	9.16	12.72	2.32	3.05
1993	9.24	12.59	2.41	3.16
1994	9.49	12.70	2.30	3.29
1995	9.51	12.80	2.42	3.35
1996	9.50	12.88	2.60	3.51
1997	9.32	12.95	2.35	3.56
1998	9.42	13.05	2.38	3.73
1999	9.55	13.11	2.51	3.88
2000	9.50	13.05	2.47	3.88
2001	9.37	12.80	2.48	3.95
2002	11.33	12.53	2.07	4.00
2003	9.30	12.53	2.26	4.05
2004	9.70	12.53	2.60	4.00
2005	9.09	12.53	2.21	4.01
2006	8.92	12.53	2.32	4.04
2007	8.91	12.53	2.48	4.01
2008	9.47	12.53	2.47	3.99
2009	9.72	12.53	2.43	4.10
2010	9.59	12.53	2.54	4.31
2011	9.35	12.53	2.57	4.33
2012	9.51	12.53	2.50	4.52

2013	9.55	12.53	2.53	4.67
2014	9.77	12.53	2.52	4.85
2015	9.86	12.53	2.58	4.93
2016	9.56	12.53	2.60	5.07
2017	9.81	13.75	2.53	5.09
2018	9.88	13.98	2.52	5.13
2019	9.94	14.00	2.54	5.20
2020	9.66	12.35	2.71	5.27

Source: Ministry of Culture, Tourism and Civil aviation and Nepal Rastra Bank