RELATIONSHIP BETWEEN TOURISM AND ECONOMIC GROWTH IN NEPAL

A Thesis

Submitted to the Central Department of Economics,

Faculty of Humanities and Social Sciences,

Tribhuvan University, Nepal,

In Partial Fulfillment of the Requirements

for the Degree of

MASTER OF ARTS

In

ECONOMICS

By

DILLI BAHADUR BASNET

Roll No. 22/ 2074

TU Regd. No.: 6-3-28-113-2017

Central Department of Economics

Kirtipur, Kathmandu, Nepal

June 2023

DECLARATION

I, Dilli Bahadur Basnet, author of this proposed thesis declare that this thesis entitled "***Relationship Between Tourism and Economic Growth in Nepal"*** submitted to the Central Department of Economics is my own original work unless otherwise indicated or acknowledged in the thesis. The thesis does not contain materials that have been accepted or submitted for any other degree at the University or other institution. All sources of information have been specifically acknowledged by reference to the author(s) or institution(s).

……

Dilli Bahadur Basnet
Roll no: 22/2074
TU Regd. No.: 6-3-28-113-2017
Central Department of Economics
Tribhuvan University
Kirtipur.

Tribhuvan University
Faculty of Humanities and Social Sciences
University Campus
Central Department of Economics
Office of the Head of the Department
Kirtipur, Kathmandu, Nepal

RECOMMENDATION

This is to certify that the thesis entitled "***Relationship Between Tourism and Economic Growth in Nepal",*** submitted by Dilli Bahadur Basnet as a partial fulfillment for the degree of Master of Arts in Economics, is based on the investigation carried out under my guidance. This thesis is a genuine work and has not been published or submitted elsewhere for any degree.

……..

Associate Professor Dr. Resham Thapa

Thesis Supervisor

Central Department of Economics

Date: 16 June, 2023

G.P.O.: 3821, Ph.:++977-1-**14330950, 4333616, 4333539**
Email: cedecon@mail.com.np **Web:http//www.cedecontu.edu.np**

Tribhuvan University
Faculty of Humanities and Social Sciences
University Campus
Central Department of Economics
Office of the Head of the Department
Kirtipur, Kathmandu, Nepal

APPROVAL SHEET

We clarify that this thesis entitled ***Relationship Between Tourism and Economic Growth in Nepal,*** submitted by Mr. Dilli Bahadur Basnet to the Central Department of Economics, Faculty of Humanities and Social Science, 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.

Thesis Committee:

……
Prof. Dr. Shiva Raj Adhikari
Head of the Department

……
Prof. Dr. Arjun Kumar Baral
External Examiner

……
Associate Professor Dr. Resham Thapa
Thesis Supervisor

Date: 30 June, 2023

G.P.O.: 3821, Ph.:++977-1-**14330950, 4333616, 4333539**
Email: cedecon@mail.com.np **Web:http//www.cedecontu.edu.np**

ACKNOWLEDGEMENTS

I take this opportunity to thank the entire faculty member and staff at Central Department of Economics (CEDECON), Tribhuvan University (TU). The series of seminars, student discussions, and research engagements offered by the department, followed by rigorous classes, were instrumental to us thinking out of the box. The CEDECON taught me to think like an economist.

I express the most profound gratitude towards my supervisor Associate Prof. Dr. Resham Thapa for his guidance and input while writing this thesis. Similarly, I am grateful to Prof. Dr. Shiva Raj Adhikari, Head of the Department, for his suggestions and encouragement.

I am equally grateful and gratitude to all teachers of the department. Their support, encouragement and constructive suggestion remained very fruitful in coming up with the final version of this thesis. I am also grateful to the administrative staff for their kind cooperation, creating a conducive environment from inception to the end of this work.

I am greatly indebted towards my family members, who have continuously supported me during this pursuit. Similarly, I am also thankful towards my friends Ashok Poudel and Shreezal G.C. for kind cooperation.

Dilli Bahadur Basnet

Kirtipur

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

ADF	:	Augmented Dickey- Fuller
AVLS	:	Average Length of Stay
DCP	:	Domestic Credit to Private Sector
ELGH	:	Export-Led Growth Hypothesis
FOREX	:	Foreign Exchange Earning
GDP	:	Gross Domestic Product
GDPPC	:	Gross Domestic Product Per Capita
MOCTCA	:	Ministry of Culture Tourism and Civil Aviation
NRB	:	Nepal Rastra Bank
REER	:	Real Effective Exchange Rate
TA	:	Tourist Arrival
TE	:	Tourism Earning
TLGH	:	Tourism-Led Growth Hypothesis
UNWTO	:	United Nation World Tourism Organization
VAR	:	Vector Autoregression
VECM	:	Vector Error Correction Model
WTTC	:	World Travel and Tourism Council

CHAPTER I

INTRODUCTION

1.1 Background

The 'export-led growth hypothesis' (ELGH), first put forward by Balassa (1985) and Bhagwati (1988), considers international tourism as invisible export. The idea further develops, and the tourism sector is an integral part of service trade in the trade economics literature. Balaguer and Cantavella-Jordá (2002) further extend ELGH idea to 'tourism-led growth hypothesis' (TLGH); one of the established concepts in tourism economics research. The TLGH claims tourism as one of the main determinants of long-run economic growth' (Balaguer and Cantavella-Jordá, 2002).

Literature gives various arguments for the TLGH. Among them, four points arguments from Brida, Cortes-Jimenez and Pulina (2016) are convincing. First, tourism is a prime source of foreign exchange earnings. Second, tourism stimulates investment in infrastructure and human capital, and also promotes a competitive market. Third, tourism stimulates the other economic industries through direct, indirect and induced effects. Fourth, the tourism sector being labour-intensive sector, contributes to employment generation and increasing income. These positive effects help GDP improvement and cater to economic growth.

The tourism industry is one of the world's largest sectors in the world and it is growing rapidly over the decades. Worldwide tourist arrival grew by 4% in 2019 to reach 1.5 billion visitors (UNWTO, 2020). Travel and Tourism contributed 10.3% of the global GDP (WTTC, 2020). The total contribution of travel and tourism in world GDP is $8.9 trillion. Top three countries with highest travel and tourism contribution to GDP are America ($1839 billion), China ($1584.9 billion), and Japan ($359.4 billion) respectively while travel and tourism contribution in Nepal GDP is 6.7% that is $2051.4 million (WTTC, 2020). Nepal received $83.8 million from international visitor spending, which is 30.8% of total export (WTTC, 2020). Total tourist arrival in Nepal was 1197191 in 2019 and receipt from tourism was $670.6 million in 2018/19(MOCTCA, 2021). The sector provides employment to 1034000 that is 6.9% of total employment (WTTC, 2020).

As the covid-19 pandemic began in 2020 the tourism sector was severely affected. The travel and tourism contribution in the global GDP decreased to 5.5% in 2020 as compared to 10.4% in 2019 (WTTC, 2021). Travel & Tourism GDP declined by 49.1%, $4,498 billion in 2020.

Covid-19 pandemic also seriously affected the tourism sector of Nepal. Travel and tourism contribution to GDP decreased by 44% and reached $1382.3 million in 2020 (WTTC,2021). The international visitor spent in 2020 was also reduced massively. In 2020 visitor spend was $251.3 million which is 10.6% of total exports, the change in percentage term is negative 70.7%(WTTC,2020). In 2020 the GDP of Nepal also decreased by 2.12% (MOF,2021), it shows that tourism sector has also huge contribution in economic growth. In 2021 also tourism sector was affected by covid-19 pandemic. Tourism sector didn't recover as expected in 2021, the global GDP contribution was 6.1% which is still lower than the pre covid-19 period (WTTC,2022). The travel and tourism contribution to GDP in Nepal was 4.3% and get to $1366.7 million (WTTC,2022). International visitor spent in 2021 was $131.3 million (WTTC,2022). This shows that covid-19 pandemic critically affected tourism sector in both 2020 and 2021. WHO has stated that the pandemic is over and the tourism sector is expected to grow as in the pre covid-19 era.

Tourism sector share in the employment sector is also huge. In 2020 out of 12 jobs 1 was from the tourism sector, in 2020 the travel and tourism sector provided 271 million jobs globally which decrease from 333 million in 2019 (WTTC,2022). In 2021 the contribution to employment sector increased slightly and reached 289 million which is still less than pre covid-19 year (WTTC,2022). Travel and tourism sector gave jobs to 1.03 million people in 2020 and 1.06 million people in 2021 in Nepal, which is 6.9% of total jobs in 2020 and 2021 (WTTC,2022). This shows tourism sector contribute greatly in the employment in the Nepal.

Tourism can be the major source of foreign exchange earnings. (Durbarry, 2004) point out that tourism is the leading source of foreign exchange earning in at least one of three developing countries. (Mihalic, 2002) mention tourism has a several advantages as a development strategy over the export of goods and services, namely (a) natural and sociocultural attractiveness, which normally cannot be exchanged, and thus can be valorized at a premium through tourism; (b) products produced locally can command a higher price sold locally to tourists than when exported, and have lower costs because of no or lower transportation costs or insurance costs; and (c) some perishable goods can only be sold to tourists in the domestic market because of insufficient export capability and international marketing expertise. Countries like Nepal rely on the foreign exchange earnings from tourism sector. The foreign exchange earnings from tourism in FY 2019/2020 was NRS60885 million which is 4.6% of total foreign exchange

earnings and in FY 2020/2021 the foreign exchange earnings was NRS 72663 million (NRB, 2022).

Tourism in Nepal is mostly demand side. Most of the tourism sight in Nepal has been created by nature. Tourist love the natural beauty over the artificial beauty. All the mountains, wild animals, lake are made by nature. These are not made by using money unlike many other countries who has mostly artificial attractions for the tourist. So, Nepal has competitive and comparative advantage in the tourism sector.

Tourism is one of the economic sectors that can grow at a high rate and can ensure substantial development of the infrastructure of the destinations. It can capitalize on the country's success in the service sector and generates a multiplier effect on the economy. Tourism stimulates other economic sectors through its backward and forward linkages and cross-sectoral synergies with sectors like agriculture, horticulture, poultry, handicrafts, transport, construction, etc. As a result, additional income and employment opportunities are generated through such linkages (Sharma, 2018). Tourist arrival will benefit if tourists purchase local commodities and goods. Therefore, the use of local goods for tourist is desirable than the supply of imported goods (Paudyal, 2012).

Tourism development can also have negative effects. If the country is very dependent on this sector, it also becomes more susceptible to negative demand-side shocks. An inflow of foreign capital is likely to increase land and housing prices, causing a crowding-out effect on local business. Besides, the tourism booming sector may attract labor forces from the lagging sectors leading to an overall loss of welfare. Therefore, analyzing the degree and direction of association among tourism earnings, GDPPC might contribute to tourism economics literature in Nepal.

1.2 Some stylized facts on tourism in Nepal

According to (MOCTCA, 2021) the official tourists arrival statistics was recorded from 1964 to till now.

Table 1.1 shows the tourist arrival, foreign exchange earnings (FOREX), average length of stay and employment of tourism over last ten years, it also includes the mean and the standard deviation. At the start of the decade the forex is increasing rapidly and reached NRS 53429000000 in FY 2014/2015. In FY 2015/2016 the forex decreased by 21.8% due to the massive earthquake. In next year there was sharp increase in forex by 40.1% and up to FY

2018/2019 forex increased. In 2020 the world suffered from the covid-19 pandemic and there was no movement of the people. So, the forex decreased in the FY 2019/2020. In 2021 there was again increment in the forex from the tourism sector and was NRS 72663000000. The average of the forex in the last ten year is NRS 54245500000 and the standard deviation is 15726157291.8 which is not far from the average.

TABLE 1.1: Earnings, Arrival, Length of stay and Employment in Nepal (10 year)

Year	Foreign exchange earnings (10 million)	Tourist arrival (In 00,000)	Average length of stay (days)	Employment (In 000)
2012	3070.40	80.3092	12.87	396.41
	(24.7)	(9.08)	(-1.9)	(-8.7)
2013	3421.10	79.7616	12.51	419.85
	(11.4)	(-0.7)	(-2.8)	(5.91)
2014	4637.50	79.0118	12.4	435.44
	(35.5)	(-0.9)	(-0.9)	(3.71)
2015	5342.50	53.897	12.8	424.94
	(15.2)	(-31.8)	(3.2)	(-2.42)
2016	4176.50	75.3002	13.4	442.78
	(-21.8)	(39.7)	(4.7)	(4.20)
2017	5852.70	94.0218	12.6	497.65
	(40.1)	(24.9)	(-5.8)	(12.39)
2018	6852.20	117.3072	12.4	517.18
	(17.07)	(24.8)	(-1.6)	(3.92)
2019	7537.40	119.7191	12.7	531.92*
	(9.9)	(2.1)	(2.41)	(2.85)
2020	6885.00	23.0085	15.1	543.23*
	(-19.2)	(-80.7)	(18.9)	(2.13)
2021	7266.30	15.0962	15.5	555.69*
	(19.3)	(-34.3)	(2.65)	(2.29)
Mean	5504.2	73.74326	13.228	476.50
SD	1629.13	34.86433	1.1	58.69

* Projected employment growth; ** Figures in parenthesis are change in growth rate;
Source: NRB (2022): Nepalese database

Tourist arrival increased in the start of the decade and there after it started to decrease up to 2015. After that increased sharply in the next three year and reached maximum number in 2019 which is 1197191. Due to the covid-19 pandemic there is decrease in the number of tourist arrival in 2020 and 2021. In the 2020 the tourist arrival plummeted by 80.7% and in 2021 the decreasing trend continued by having -34.3 growth rate. The average of tourist arrival in the last decade is 737432 and standard deviation is 348643.

Average length of stay (AVLS) was 12.87 days in 2012 and had negative growth rate until 2014. The avls is between 12 to 13 days from 2012 to 2019. However, in 2020 and 2021 the avls reached 15 days. The reason for the increment is covid-19 pandemic. Tourist stayed in Nepal for longer period in covid-19 period because the airport was closed and the tourist thought Nepal was safe from covid-19 than their home country. The mean of average length of stay is 13 days and the standard deviation is 1.1. Employment from tourism sector had negative growth in 2012 and over the next two years the growth rate was positive. The employment from tourism sector was 435540 in 2014. Again, it decreased in 2015 and after that again it started to increase and was 517180 in 2018.

The table shows even the tourist arrival was very low in 2021 there was high forex earning in the year. The tourist arrival was lowest in 2021 over the last decade but the forex earning was second highest in the decade. The reason for this is the high average length of stay and high average spending per day. The average spending per visitor per day is $48 in 2019 and reached to $65 in 2020 (MOTCA, 2021). It shows that even there is low tourist arrival, if the average length of stay and average spending per visitor per day is high the tourism earnings can be high.

TABLE 1.2: Top 10 Tourist Arrival by Nationalities (%)

Nationality	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	2.7	2.7	3.5	3.1	2.7	3.39	3.55	3.28	3.3	3.0
China	8.4	8.9	12.4	15.7	12	13.81	11.1	13.1	14.2	8.4
France	3.6	3.6	3.5	3	2	2.27	2.8	2.71	2.6	2.0
Germany	3.7	3.8	3.5	2.3	2.3	3.16	3.2	3.17	3.1	2.6
India	20.3	20.6	23.2	17.1	13.9	15.7	17.1	16.57	21.2	17.5
Japan	3.6	3.6	3.3	3.3	2.7	3.05	2.9	2.54	2.6	2.4
Sri Lanka	8.1	8.7	4.1	4.8	8	7.64	4.8	5.94	4.7	5.8
Thailand	NA	NA	5.1	4.2	6	3.55	4.2	4.47	3.5	9.0
USA	5.8	6.1	5.9	6.3	10	7.12	8.4	7.83	7.8	7.7
U.K.	5.3	5.1	4.5	4.7	3.8	6.15	5.4	5.41	5.1	5.1
others	61.5	63.1	69	64.5	63.4	65.84	63.45	65.02	68.1	63.5

Source: NRB (2022): Nepalese database;

Tourist from different countries come to visit Nepal among them we get more tourist from our neighboring countries India and Chin Table 4.2 shows that from 2011 to 2020, Nepal got maximum number of tourists from the neighboring countries India and China. Nepal got

maximum tourist from India from 2011 to 2020 and China was second from 2011 to 2019. However, in 2020 Nepal got less Chinese tourist compared to other year. Sri Lanka, U.K. and U.S.A also share not less than 4% share in the total tourist arrival from 2011 to 2020. The table shows Indian tourist share the highest number of tourist arrival in Nepal.

TABLE 1.3: Tourists Arrival by Month (Number)

Month Year	2018	2019	2020	2021
January	73187	81273	79702	8874
February	89507	102423	98190	9146
March	124686	127351	42776	14977
April	98650	109399	14	22450
May	68825	78329	31	1468
June	65159	74883	102	1143
July	73281	70916	196	2991
August	87679	94749	267	5917
September	91874	92604	584	9898
October	130745	134096	2025	23284
November	147859	130302	1956	26135
December	121620	100866	4242	23550
Average	97756	99765	19173	12486

Source: NRB (2022): Nepalese database

Table 1.3 shows tourist arrival by month from 2018 to 2021. In 2018 the maximum number of tourists came in the month of November and the minimum number of tourists came in June. In 2019 the highest tourist arrival was in month of October and second highest was in November. The lowest arrival of tourist was in month of July in 2019. In 2020 the covid started and from April the tourist arrival stated to shrink. From 2021 tourists started to came in Nepal but the tourist arrival number has not reached like pre period. The table shows that maximum number of tourists visit in the Month of October and November and in the month of June and July there is low tourist arrival. The low arrival of tourist in June and July is due to the monsoon season in Nepal. Average tourist arrival per month is highest in 2019 and lowest in 2021.

TABLE 1.4: Tourist Arrival by Air and Land

Year	AIR	LAND
2017	760577(80.89%)	179641(19.11%)
2018	969278(82.62%)	203785(17.38%)
2019	995884(83.18%)	201307(16.82%)
2020	183130(79.59%)	46955(20.40%)
2021	150625(99.77%)	337(0.23%)

Source: NRB (2022): Nepalese database; Note: Data does not include of Indian tourist arrival from land route

Table 4.4 shows the arrival of tourist by air and land. Majority of tourist comes from the air. This means tourist mainly comes from airplanes. Over 80 percent of tourist came in Nepal by air from 2017 to 2021. Nepal government runs the airline company as Nepal Airlines Corporation. It has two narrow body and two wide body airplanes to travel abroad. Himalaya airlines also has four airplane and is a joint venture of Chinese company. This shows Nepal government has to increase the airplanes to bring more tourist from different countries.

Tourism was the major affected areas from the covid-19 pandemic. Nepal was ready to host visit Nepal 2020 campaign when the covid-19 outbreak began. Due to the covid-19 pandemic many people involve in the tourism sector had to look for other sector for jobs. The industry linked with tourism sector like hotels, trekking agency, homestay, airlines was severly affected. In recent months the outbreak has slowed down the just like previous time the tourists are beginning to visit Nepal and the different industry linked to tourism are starting to flourish.

1.3 Statement of the problem

Nepal is blessed with rich and diverse natural and cultural attraction. Located between the two fastest growing country China and India, tourism in Nepal is a sector of competitive advantages which can be influential in spreading the benefits and providing economic opportunities to the people of Nepal. Tourism has been the primary sources of foreign currency earnings of Nepal. Tourism development has been regarded not only as a catalyst for economic growth, but also as an effective means of alleviating poverty (Medina-Munoz et al.,2016). Since economic growth reduces poverty and tourism spurs economic growth, tourism can also alleviate poverty (Croes & Vanegas, 2008). Tourism sector also helps to restore the balance of payment in Nepal by exporting the services and earning foreign currency. However too much dependency on tourism sector will increase the price of the commodities due too high demand from the tourist (Yao et al, 2021).

Despite the contribution of tourism sector in the economic growth. There has been few research done in the field of tourism and economic growth in the context of Nepal. The study in tourism sector of Nepal mainly is tourism earnings oriented. There is dearth of literature where the generalized method of moments model is used. The main methodological use in tourism sector is Johansen cointegration test. This study used the annual time series data of GDP, tourism earning, exchange rate and domestic credit to private (% of GDP) which has not been done in the past in the context of Nepal.

Previous researcher had mainly focus on the GDP and the tourism earnings. The other variables in tourism like exchange rate has been neglected. To know the tourism sector on the economic growth these variables should be included in the study then only we can find the true impact of tourism on the economic growth of Nepal. By including the variables like tourism earning, exchange rate their impact on the economic growth can be known. Policy makers should know about whether the tourism earnings has relation with the economic growth. Knowing the relationship policy maker can make the better laws and policies for the betterment of the country's tourism sector and economic growth. So, this study will identify the correlation between the tourism and economic growth which, will help the policy makers improve tourism sector and economic growth in Nepal.

In the field of tourism sector in Nepal, these questions seem still unanswered. Is there relation between tourism earnings, exchange rate and GDP per capita.

1.4 Objectives of the study

The general objectives of this study are to find out nexus between economic growth and tourism. The specific objectives are as follows:

1. To examine about the trend and pattern of GDP per capita, tourism earning, and tourist arrival.

2. To examine the relationship among economic growth, tourism earning, domestic credit to private sector, and exchange rate.

1.5 Hypothesis of the study

The proposed study will test the Null hypothesis (H_0) and Alternate hypothesis (H_1) to examine the relationship between GDP per capita and tourism in Nepal.

Null Hypothesis H_0: There is no relationship between GDP per capita, and tourism earnings.

Alternate Hypothesis H_1: There is relationship between GDP per capita and tourism earnings.

1.6 Significance of the study

This study is focus on the main tourism related variable. The study will have great contribution in the literature of the tourism. There is lack of literature in the area of tourism of Nepal. The study will answer the questions related to the tourism sector. After this study there will be knowledge on the tourism sector variable like tourism earning, exchange rate. These mentioned

variables together have never been put in the study. Many studies of tourism is found of foreign countries. The previous studies have mainly focus on the foreign exchange earnings of Nepal. So, this study has included tourism earning, exchange rate.

The study focuses on the Generalized Method of Moments (GMM) model which is less followed in the tourism sector in Nepal. The main methodology used in the previous study are Johansen cointegration test, Keynesian macroeconomic model. This methodology is not appropriate when the there is endogeneity in the model. The study uses the annual time series data of the tourism sector in the context of Nepal.

The relationship between tourism development and growth in Nepal is a relevant topic for several reasons. First, tourism development is a priority policy to promote economic growth in Nepal. Second, although the Nepalese economy has been growing in recent years, it has been highly dependent on remittance from abroad which will not sustain economic growth in the long run. Therefore, tourism might be an alternative engine of economic growth in Nepal. The study may be useful for the policymakers for the formulation of the tourism policy: If the relationship between economic growth and tourism then a progress in both sectors would benefit economic growth and tourism respectively. Finally, if there is no relation between tourism and economic growth, then tourism led growth hypothesis would be invalid and needs further assessment.

1.7 Limitation of the study

The study was based on only two independent variables. The quarterly data of all tourism variable is not available in the country. The study did not follow the input-output model which gives the detail explanation of tourism sector relationship in all the sector of the economy.

1.8 Organization of the study

This study has been carried out in five chapters. First chapter includes the introduction chapter. There are six sub-sections within first chapter as background of the study, statement of the problem, objectives of the study, significance of the study, and organization of the study. Second chapter includes the literature review and it consists of subsections as theoretical literature review, empirical literature review, and research gap, under the section of empirical review there are two subsections they are international context and Nepalese context.

Research methodology is in the third chapter, which contains a conceptual framework, research design and study period covered, source of data, data analysis technique and model specification, and variable specification. Data presentation and analysis are presented in chapter four. Finally, chapter five presents the conclusions, and recommendations as well as policy recommendations based on the results.

CHAPTER II

REVIEW OF LITERATURE

This chapter presents the review of the studies that have taken place in the past to examine the relationship between tourism and the economic growth. Starting with theoretical review, this chapter reviews the empirical research discussing the literatures in tourism sector, this chapter reviews the empirical research discussing the literatures of both global and national contexts. The chapter concludes identifying the research gap in the field.

2.1 Theoretical review

Balaguer and Cantavella-Jorda` (2002), was the first one to formally refer to the tourism led growth hypothesis (TLGH), hence offering a theoretical and empirical link between inbound tourism and economic growth. TLGH was developed from the export-led growth hypothesis (ELGH) that postulates that economic growth can also be generated by the expanding the export. International tourism is regarded as a non-standard type of export, since it implies a source of receipts and consumption.

Several literatures postulated that the expansion of tourism contributes positively to economic growth, giving origin to tourism-led growth hypothesis (TLGH), (Bassil et al., 2015) say that the development of the tourism sector is a potential strategy to leverage the economy. The TLGH explore the possible relationship between the tourism and economic growth. In short run and long run. The query of the TLGH is whether the tourism expansion causes the economic growth or, economic development pushs the tourism growth, or there is bi-directional relationship between tourism and economic growth. The TLGH holds true when tourism causes the economic growth.

Even though majority of the studies have found significant relationship between tourism and economic growth and hence validated the TLGH, however some of the studies have found opposite result. Oh (2005) found that there is no bi-directional relation between tourism receipts and GDP while studying the case of Korean economy. It shows the rejection of TLGH in Korea.

Many studies have form different line of Tourism-led growth hypothesis. Among them, (Ozturk, 2010) have given four hypothesis as in the energy-growth nexus. First, the growth hypothesis refers to a situation in which tourism plays a vital role in the economic growth process either directly and/or as a complement to other production factors. The growth

hypothesis is supported if unidirectional causality is found from tourism to economic growth. Second, the conservation hypothesis means that economic growth is the dynamic that strengthens the tourism sector. The validity of the conservation hypothesis is proven if there is unidirectional causality from economic growth to tourism. Third, the feedback hypothesis denotes a reciprocal relationship between tourism and growth. The feedback hypothesis is supported if there exists bi-directional causality between tourism and economic growth. Fourth, the neutrality hypothesis indicates that tourism has no effect on economic growth. The absence of causality between tourism and economic growth provides evidence for the presence of the neutrality hypothesis.

The main hypotheses to be tested in TLGH are the following: does tourism affect economic growth? Are tourism and economic growth temporally related? That is, does tourism activity lead to economic growth or does economic growth lead to tourism activity, or does a bi-directional temporal causality exist? To test the TLGH, the standard production function framework is commonly employed as theoretical background model. In many studies three variable are included GDP, tourism income/tourism arrival, exchange rate, where the real exchange rate is often included as a proxy variable to encounter the problem of omitted variable.

2.2 Review of international studies

There is a large number of literatures related to tourism development and economic growth in developed country. There has not been many studied between tourism and economic development for developing countries. Despite the importance of tourism in economic growth in Nepal, there is few studied to analysis the causal relation between tourism earnings and economic growth. The relation between tourism and economic growth can be find by different method like VAR, VECM, Input-Output model, SAM CGE model, Multiplier model. Some of the analysis done by researcher are given below.

Balaguer and Cantavella-Jorda (2002) examined the role of tourism in the Spanish long-run economic development. The study used the quarterly data from first quarter of 1975 to first quarter of 1997. The variable used in the study was real gross domestic products, tourism earnings and real effective exchange rate (REER). The tourism led- growth hypothesis is confirmed through johansen's co-integration methodology and granger causality test. The results indicate that, at least, during the last three decades, economic growth in Spain has been sensible to persistent expansion of international tourism. The increase of this activity has

produced multiplier effects over time. External competitivity has also been proved in the model to be a fundamental variable for Spanish economic growth. From the empirical analysis it can be inferred the positive effects on income that government policy, in the adequacy of supply as well as in the promotion of tourist activity, may bring about.

Oh (2005) point out that hypothesis of tourism-led economic growth is not held in the Korean economy. The study is based on the quarterly data of 1975 to 2001. The model variables were derived from real aggregate tourism receipts (Tour) adjusted by the consumer price index as a proxy of tourism growth and real GDP for economic expansion. This study investigated the causal relations between tourism growth and economic expansion for the Korean economy by using Engle and Granger two-stage approach and a bivariate Vector Autoregression (VAR) model. Two principles results emerge from the study was first, the results of a cointegration test indicate that there is no long-run equilibrium relation between two series. Second, the outcomes of Granger causality test imply the one-way causal relationship of economic-driven tourism growth.

Katircioglu (2009) revisited and investigated the tourism-led-growth (TLG) hypothesis in the case of Turkey by employing the bounds test and Johansen approach for cointegration using annual data from 1960–2006. The variable used in the study was real gross domestic product, international tourist arrivals and real exchange rates. The study didn't find any cointegration between international tourism and economic growth in Turkey. Therefore, the study rejected the TLG hypothesis for the Turkish economy since no cointegration was found and error correction mechanisms plus causality tests cannot be run for further steps in the long term.

Payne and Mervar (2010) analyzed the tourism-growth nexus in Croatia. The study examined the tourism-led growth hypothesis for Croatia using quarterly data from 2000:1 to 2008:3. The variable used in the study was Real GDP, Real tourism revenue, and real effective exchange rate. Methodology used for the analysis was Toda–Yamamoto causality tests. The study found positive unidirectional causality from real GDP to international tourism revenues, as well as positive unidirectional causality from real GDP to the real effective exchange rate. Thus, the results lend support for the economic-driven tourism growth hypothesis.

Brida and Guiliani (2013) examined the tourism-led growth hypothesis (TLGH) in in sub-national transfrontier economies, taking as its case the three administrative areas forming the region known as 'Tirol–Südtirol–Trentino Europaregion. The data applied in the study was

annual time series, from 1980 to 2009, of regional real gross domestic product (GDP), number of international tourists visiting the regions (T) and the relative price index (RP) between the regions and Germany. The study used the granger causality test to check relation between tourism and economic growth. And Vector Error Correction Model (VECM) was used. The study found the unidirectional relationship between tourism and GDP. So, finding of the study validated the well- known assumption of the TLGH for Trentino, South Tyrol and Tyrol.

Jayathilake (2013) analyzed the role of international tourism on economic growth of Sri Lanka. He used a trivariate model of real gross domestic product, international tourist arrivals and real effective exchange rate to investigate the long-run and short-run dynamics of the relationship between tourism and economic growth. Annual time series data from 1967 to 2011 was applied in the model and the result confirms the tourism-led economic growth hypothesis; tourism has a positive impact of economic growth in the developing countries. However, Granger causality test reveals evidence of unidirectional causality running from tourist arrivals to economic growth but not vice versa.

Tang and Tan (2014) studied about Tourism-led hypothesis of Malaysia using annual time series data from 1975 to 2011, multivariate model derived from the Solow growth theory was used. The variable used for the analysis were gross domestic product (GDP), tourism receipts, gross national saving (GNS), population growth rate and growth rate of technical progress. The conclusion of the study was economic growth, tourism and other determinants are co-integrated. Specifically, tourism has a positive impact on Malaysia's economic growth both in the short-run and in the long-run. The Granger causality test indicated that tourism Granger-causes economic growth. The inference of the research was there is evidence of tourism-led growth hypothesis in Malaysia.

Hatemi-J (2015) investigated the tourism-led growth hypothesis in the UAE by using bootstrapped causality tests with leverage adjustments. The data set from 1995 to 2014 was used in the study. The variable used for the study was GDP and total tourist arrivals. The tourism-led growth hypothesis was tested by using the Granger causality methodology. The vector autoregressive model of lag order p was used. The findings of the study supported the tourism-led growth hypothesis in the UAE.

Zuo and Huang (2018) studied the relationship between the level of tourism specialization (TS) and economic growth using a panel dataset covering 31 provinces in mainland China from

1995 to 2013. The research used tourist arrivals as a percentage of host population (TA) and tourism receipts as a share of real GDP (TR) as the indicators of TS which represent respectively the level/size and the quality/structure dimension of TS. The system generalized method of moments (SYSGMM) regression was applied and the results suggest that a meaningful inverted-U- or an N-shaped relationship exists between tourism specialization and economic growth.

Sharma (2018) examined the causal relationships between GDP and receipts from tourism sector in India. Augmented Dickey-Fuller (ADF) for unit root, Johansen for co-integration and Granger causality test to examine the causal relation have been employed between GDP and Receipts from tourism sector in India by using the data over the period of 1991-2017. The findings of the study showed the presence of unidirectional causality from tourism earnings to economic growth.

Riberio and Wang (2020) analyzed the relationship between tourism and economic growth in the case of Sao Tome and Principe (STP) employing the Tourism-led growth hypothesis over the period of 1997-2018, using time-series data of the following variables: gross domestic product (GDP), tourism receipts (TR), real exchange rate (EX), and foreign direct investment (FDI). Augmented Dickey-Fuller (ADF) for unit root, Johansen for co-integration were used. The Granger causality approach was employed to enlighten the direction of causality between the variables. A unidirectional relationship was found between TR and GDP, also between FDI and all the other variables (GDP, TR, EX).

Adeleye et al. (2022) brought the novelty in tourism literature by re-examining the role of exchange rate in the tourism-growth nexus. Using a moderation modelling framework, instrumental variables general method of moments (IV-GMM) and quantile regression techniques in addition to real per capita GDP, tourism receipts and exchange rate, the study engages data on 44 Asian countries from 2010 to 2019. Results from the IV-GMM show that: (1) tourism exerts a positive effect on growth; (2) exchange rate depreciation hampers growth; (3) the interaction effect is positive but statistically not significant; and (4) results from EAP and SA samples are mixed. For the most part, constructive evidence from the quantile regression techniques reveals that the impact of tourism and exchange is significant at lower quantiles of 0.25 and 0.50 while the interaction effect is negative and statistically significant only for the SA sample.

2.3 Review of national studies

Paudyal (2012) conducted the study of Nepal to explore the impact of tourism and other related macroeconomic variables on the economic growth of Nepal by deriving tourism income multiplier from the Keynesian macroeconomic model. The three stage least square and seemingly unrelated regressions were the techniques employed for estimating the value of multiplier. The estimated value of multiplier based on regression results was from 1975 to 2010 was 1.21. Granger causality tests was used to confirm the direction of the impact of one variable on another variable, which revealed that there exists bi-directional impact in the case of tourism receipts and GDP. In addition, tourism receipts was found to have bi-directional relationship with some other variables such as GNI, exports, private consumption, imports.

Gautam (2014) show the role of tourism development on economic growth in Nepal. The study was 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. It examined the causality and long-run relationships between economic growth and tourism development in Nepal using co-integration techniques and a Vector Error Correction Model (VECM). The evidence confirms that tourism development causes economic growth in short run in Nepal. The result also indicates the causality runs from both sides that is tourism development to economic growth and economic expansion to tourism growth implying for the greater efforts to encourage both the activities in the economy.

Parajuli and Paudel (2018) investigated the tourism sector employment elasticity in Nepal. The paper combined the annual data from the World Travel and Tourism Council (WTTC) on direct and indirect contribution to employment and GDP with the total tourist arrival and the average length of stay data from Nepal Tourism Statistics to estimate a simple double log- linear equation-based individual coefficients. The result of the paper shows Travel & Tourism Direct Contribution to GDP, Travel & Tourism Total Contribution to GDP, visitor exports, internal travel and tourism consumption, leisure travel and tourism spending, business travel and tourism spending, total arrival of tourist, average length of stay has positive elasticities. Among them the average length of stay has the most substantial and positive employment elasticity.

Bhattarai and Karmacharya (2021) analyzed the impact of tourism on economic growth of Nepal by using time series data of 1976-2020 and applying autoregressive distributed lag (ARDL) approach. Real GDP was used as proxy measure of economic growth, which was the outcome variable whereas the variable of interest was tourism receipts, foreign aid, total

volume of trade and ratio of government consumption expenditure to GDP were taken as control variables. The result of ARDL model showed that tourism has no significant impact on economic growth of Nepal in both short-run and long-run. However, total volume of trade has positive and significant effect on economic growth in short-run whereas foreign aid, total volume of trade and ratio of government consumption expenditure to GDP have positive and significant effect on economic growth in the long-run. In such context of tourism and growth relationship, tourism-led growth hypothesis is rejected for Nepal.

From the above literatures, it is clear that either the residual-based cointegration test associated with the maximum likelihood test based on Johansen (1988) is used in the study. Yet it is now well known that these cointegration techniques may not be appropriate when the sample size is too small (Narayan and Smyth, 2005 and Odhiambo, 2009). The present study attempts to investigate the impact of tourism on economic growth in Nepal using the two stage least square regression.

2.4 Research gap and methodological options

The tourism and economic growth nexus have attracted a reasonable attention from academics as well as policymakers and is occupied a major macroeconomic concern in every economy. There is lack of research in the area of tourism of our country. There are few previous studies that have found the relationship between tourism and economic growth using tourism income as an independent variable. The conclusion of past studied have found conflicting results. Some of the studies showed there is positive relationship between gdp and tourism both in long-run and short- run. However, there is also recent study which is no relationship between tourism and economic growth. Many studies have used johansen co-integration technique. So, this study uses the generalized method of moments for obtaining the relationship between GDP per capita, tourism earning. The systematic analysis of tourism-economic growth nexus in Nepal has not been done rigorously yet, for which this thesis aims to contributes. The motivation for the study was found because of dearth of literature on the tourism and economic growth of Nepal. That is why the aim of this paper is to fill that literature gap as well.

There is different methodology used in the tourism related studies like ARDL, co-integration test, SAM, CGE model, input-output model. This paper focus on regression analysis. The detail of the methodology follows in subsequent chapter.

CHAPTER III

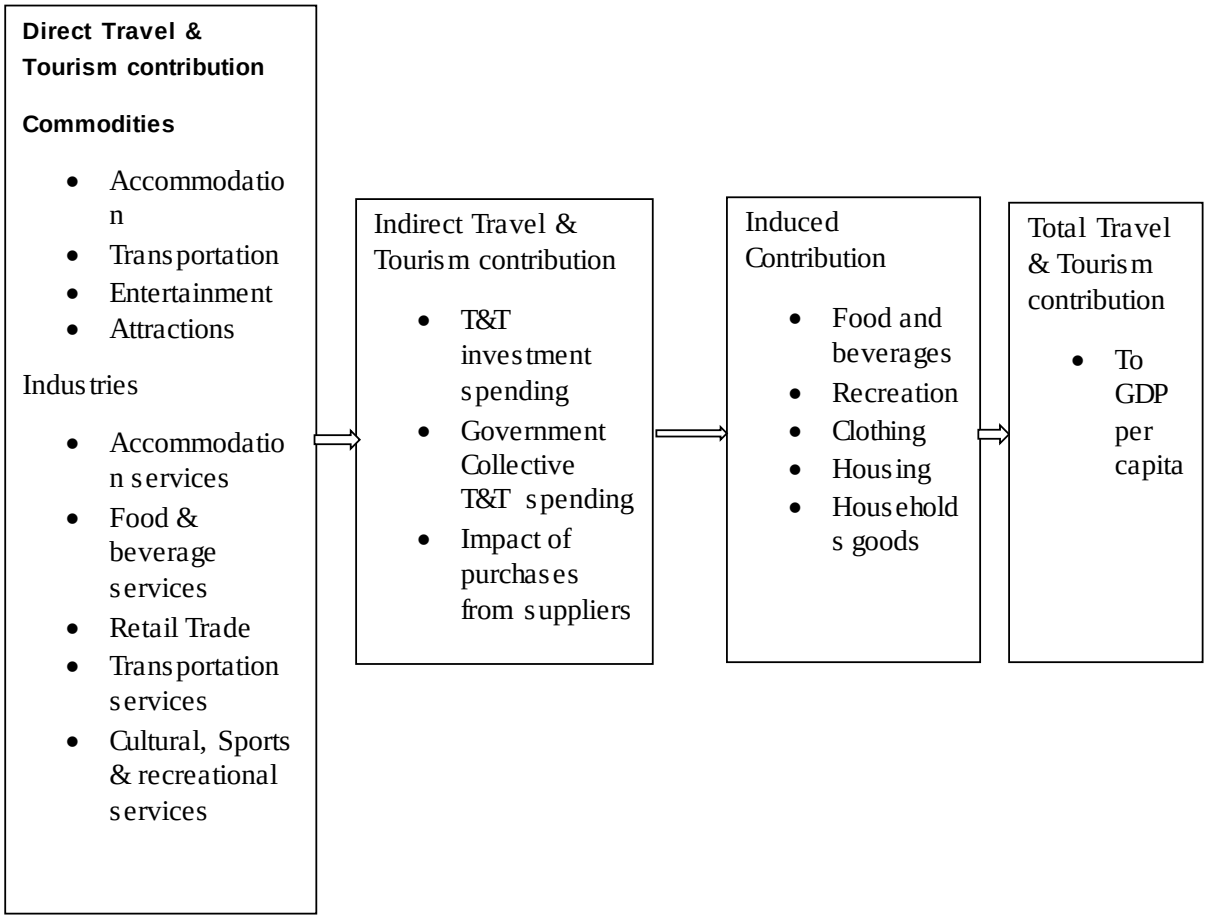
RESEARCH METHODOLOGY

This chapter is about tools and methods used in this thesis work. It includes the conceptual framework, research design, nature and source of data, data analysis technique, and model specification.

3.1 Conceptual framework

Based on the Brida, Cortes-Jimenez and Pulina (2016) and available information, we developed the conceptual framework of this research (See Figure 1). The schematic flowchart tells that the tourism through direct and indirect effects, changes the GDP per capita of the country.

Figure 3.1: Linkages between tourism and GDP per capita

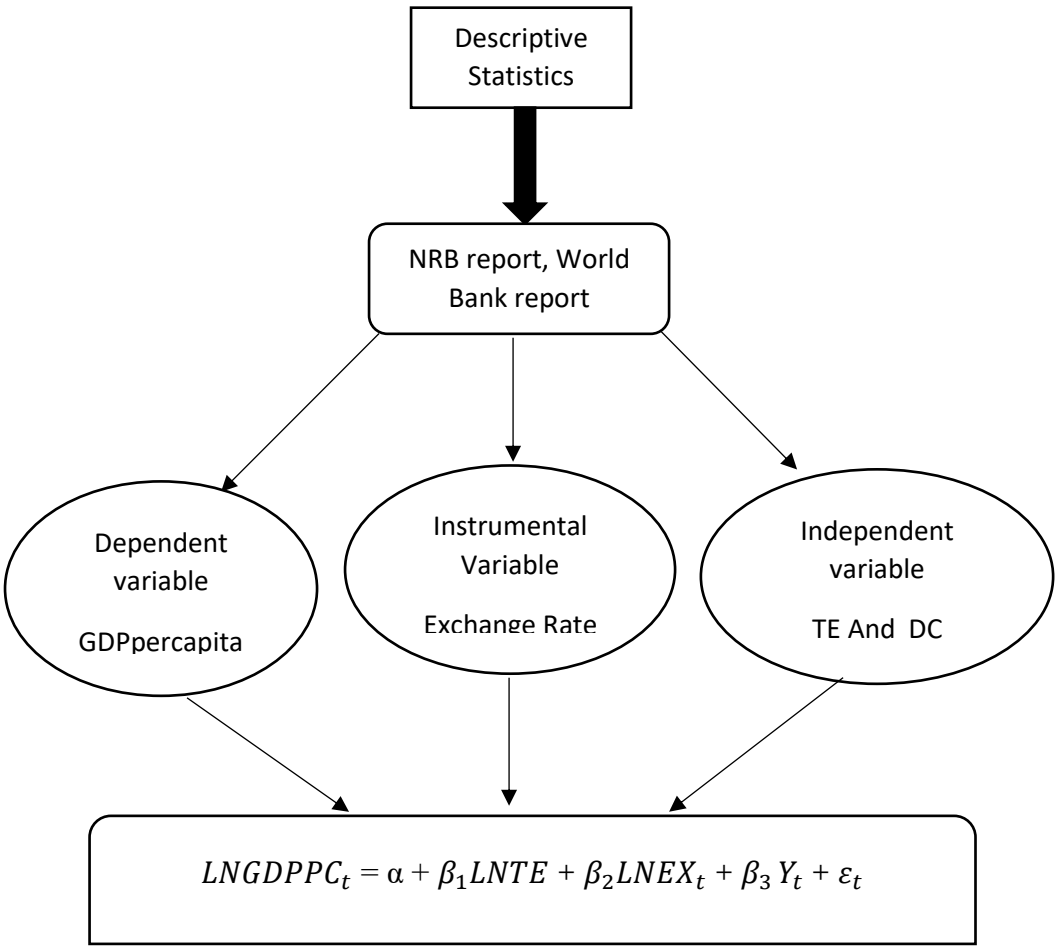


Source: UNWTO (2020)

3.2 Research design

The study is associated with the relationship between tourism and economic growth. Hence, this study is based on the descriptive as well as the analytical research design. The table and graphs, summary statistics and correlation will be used to analysis trend and pattern of the variables. Augmented Dickey Fuller (ADF) test is used for the unit root test of the variables. Generalized method of moments regression is used to obtain the relationship between GDP per capita, tourism earning. A doable research design is prepared in the following section, which clarifies the possible transmission channels. This schematic flowchart helps to envisage the empirical analysis, availability of information, time and resources.

Figure 3.2: Framework schematic for the research design



3.3 Nature and source of data

This study used annual time series data from the fiscal year 1974/1975 to 2020/2021 comprising observations. The reason for selecting this period is for consistency check of the variables which are used in this study and the variables data are available from that period only. The study is primarily based on secondary sources of data. In reviewing the theoretical and empirical concepts, the information is collected form the various journals, working papers, study reports, case studies, peer-reviewed articles, among others, published by various national and international academic institutions. The data used in this study are collected from the NRB(Nepalese Database), World Bank Development Indicator.

Table 3.1: Description of Variables

SN	Variables	Unit	Sources
1	GDP Per Capita	In RS Millions	NRB, Nepalese database
2	Tourism Earnings	In RS Millions	NRB, Nepalese database
3	Exchange Rate	In RS	NRB, Nepalese database
4	Domestic Credit to Private Sector (% of GDP)	In Percentage	World Bank Development Indicator

3.4 Tools and methods of data collection

The study is based on the time series data. So, secondary source is used. The data and information required for this study are collected from the World Bank Indicator and various published documents such as the quarterly Economic Bulletin (QEB) and the current macroeconomic and financial situation which is based on annual data set.

3.5 Data organization and processing

After collecting raw data from different secondary sources researcher arrange raw data in table by using Microsoft excel. After that data are arranged in chronological order. Data are arranged in one table for applying different mathematical test and method. Recheck of data entry is done twice for avoiding typing error. By using excel, all data are converted in to natural logarithm form. This prepared table of data is saved for further process. For analysis of the first objective i.e the trend and nature of GDP per capita and tourism earnings, and tourist arrival simply the figures are drawn in terms rupees and year. The Microsoft Excel and EViews9.5 software is used to draw the figures for GDP and tourism earnings, and tourist arrival. But the study of

second objective is based on econometric analysis which required the data (time series) must be stationary hence the data are converted into logarithm form. The Augmented Dickey Fuller (ADF) Unit Root Test is done for checking the stationary of time series data. After checking for stationary relationship between GDP per capita, tourism earnings, exchange rate, and domestic credit to private sector (% of GDP). At last different residual and fitness of model is checked as per needed.

3.6 Model specification

There are number of variables which can be used to calculate the tourism impact on economic growth. Some of them are foreign exchange earnings from tourism, total tourist arrival, average length of stay. Gross Domestic Product per capita represents the economic growth of the country.. Thus, the following the paper of Adeleye (2022) this research uses these variables.

$$\mathrm{GDPPC_t} = \mathrm{f}\ (\mathrm{TE_t}, \mathrm{EX_t}, DC\_P_t) \quad (1)$$

Where GDP per capita represents the gross domestic product as a dependent variable. TE represents the tourism earning, EX represents Exchange rate, DC_P represents the domestic credit to private sector(% of GDP) both are independent variables.

$$GDPPC_t = \alpha + \beta_1 TE_t + \beta_2 EX_t + \beta_3 DC\_P_t + \varepsilon_t \quad (2)$$

Taking natural logarithm on both sides at the time t.The log transformation is shown in the following equation:

$$LNGDPPC_t = \alpha + \beta_1 LNTE + \beta_2 LNEX_t + \beta_3 LNDCP_t + \varepsilon_t \quad (3)$$

Where,

$LNGDPPC_t$= GDP per capita of Nepal expressed in logarithm.

$LNTE_t$= Tourism earning expressed in logarithm.

$LNEX_t$ = Exchange rate expressed in logarithm.

$LNDCP_t$ = Domestic credit to private sector (% of GDP)

α = Intercept term.

β_1 = Coefficient of tourism earnings.

β_2 = Coefficient of exchange rate

β_3 = Coefficient of domestic credit to private sector.

ε_t = Error term

The generalized method of moments regression is done to obtain the relationship between GDP per capita and tourism earnings

3.6.1 Test of stationary

The unit root testing is done for the time series data to obtain the robust regression result. The stationary test is the important property of time series data which shows the ability of the data series to explain the long term and short-term information. A stationary time series is one whose properties do not depend on the time at which the series is observed and it's mean, variance and covariance are all constant over time. Thus, time series with trends, or with seasonality, are not stationary, the trend and seasonality will affect the value of the time series at different times. If we apply the regression model in nonstationary data it gives a spurious relationship which makes hypothetical test results spurious. Hence, to avoid a spurious relationship, detecting the stationary or nonstationary of the time series is crucial. For the stationary test, there are several methods such as graphical analysis, the correlogram test, and the unit root test. However, this study will use a unit root test. Under the unit root test there also so many methods we use the following test:

- **Augmented Dickey-Fuller (ADF) test**

Augmented Dickey Fuller test (ADF Test) is most common and popular statistical test used to test whether a given time series is stationary or not. The null and alternative hypothesis for the ADF can be written as follows:

Null Hypothesis (H_0) = The series is non-stationary (Has unit root).

Alternative Hypothesis (H_1) = The series is stationary (Has not stationary).

If the series is stationary without any differencing, it is said to be integrated of order 0 and denoted by I(0). Similarly, if the series is stationary after a first difference is said to be integrated of order I and written as I(1).

3.6.2 Model of the study

The model of the study is given below. The study uses exchange rate as instrument variable. An instrumental variable (sometimes called an "instrument" variable) is a third variable, Z, used in regression analysis when there is endogeneous variables—variables that are influenced by other variables in the model. In other words, it is used to account for unexpected behavior between variables. Using an instrumental variable to identify the hidden (unobserved) correlation allows to see the true correlation between the explanatory variable and dependent variable.

The econometric strategy consists of a following procedure to examine linear impact of tourism on economic growth. The analysis is done using following techniques: the instrumental variables two step generalized method of moments (IV-GMM) techniques. According to Baum, Schaffer, Stillman (2003) and Bowden & Turkington (1984) the IV-GMM technique is used to correct for endogeneity, autocorrelation and heteroscedasticity in the data. (GMM). Hence, the GMM variant which implements the GMM estimation (that is, gmm option) is adopted to ensure that our results are devoid of endogeneity, heteroscedasticity and autocorrelation. We specify baseline linear model following the Adeleye (2022) that expresses economic growth as a function of tourism earnings, exchange rate and a control variable which satisfies the second objective:

$$LNGDPPC_t = \alpha + \beta_1 LNTE + \beta_2 LNEX_t + \beta_3 Y_t + \varepsilon_t \quad (4)$$

Where,

$LNGDP_t$= GDP per capita of Nepal expressed in logarithm.

$LNTE_t$= Tourism earning expressed in logarithm.

$LNEX_t$ = Exchange rate expressed in logarithm.

Y_T = Control variable

The above equation is analysis using the generalized method of moments and the result of the analysis is given the table(4.5).

3.7 Variable specification

The study focused on basic four variables; GDP per capita, tourism earning, exchange rate, and domestic credit to private sector (% of GDP). These variables are briefly described below.

Dependent variable: This study considers GDP per capita as dependent variable. GDP per capita is the sum of gross value added by all resident producers in the economy plus any product taxes (less subsidies) not included in the valuation of output, divided by mid-year population. Growth is calculated from constant price GDP data in local currency. Sustained economic growth increases average incomes and is strongly linked to poverty reduction. GDP per capita provides a basic measure of the value of output per person, which is an indirect indicator of per capita income. Growth in GDP and GDP per capita are considered broad measures of economic growth. Governments can use GDP per capita to understand how the economy is growing with its population. GDP per capita analysis on a national level can provide insights into a country's domestic population influence.

Independent Variables: Tourism Earnings: Tourism earnings is the total foreign exchange earnings from the tourist. International tourism earnings are expenditures by international inbound visitors, including payments to national carriers for international transport. These incomes include any other prepayment made for goods or services received in the destination country. They also may include income from same-day visitors, except when these are important enough to justify separate classification.

Instrumental variable: Exchange Rate: An exchange rate is a rate at which one currency will be exchanged for another currency. While most exchange rates are floating and will rise or fall based on the supply and demand in the market, some exchange rates are pegged or fixed to the value of a specific country's currency. Exchange rate changes affect businesses and the cost of supplies and demand for their products in the international marketplace. Nepalese Rs to United State USD is used in the study.

Control Variable: Domestic Credit to Private(% of GDP): Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment. It is expressed in the percentage of GDP.

3.8 Specification of tools and method of data analysis

To analyze the trend and nature of GDP per capita, tourism earnings, and tourist arrival in Nepal, descriptive method is used for this purpose table, graph, are created, which is drawn by using Microsoft excel and EViews9.5. The study used different statistical test such as mean, median, standard deviation etc to analyze the descriptive statistic of the variable. To find the relationship between GDP, tourism earning in Nepal different econometrics tools are used**.**

CHAPTER IV

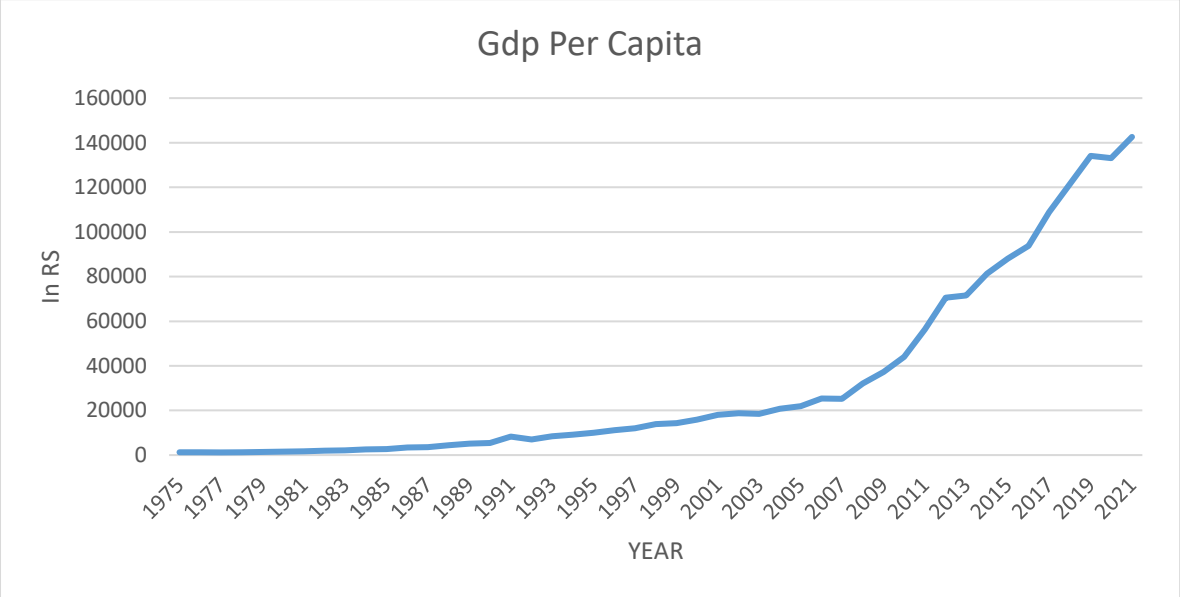
DATA ANALYSIS

This chapter presents in-depth results that are obtained by operationalizing the methods that have been discussed in the previous section. This chapter provides descriptive and inferential statistics and graphs that help to discuss relationship of tourism and economic growth in Nepal.

4.1 Some stylized facts on tourism

The trend of GDP in Nepal from 1975 to 2021 is shown in following figure.

Figure 4.1: Trend of GDPPC



Source: Author's own calculation

Figure 4.1 shows the trend of GDP per capita from 1975 to 2021. The trend of GDP per capita gradually increasing over the time period. The highest GDP per capita is in year 2021 and lowest is in 1977. The lowest is RS 1187 and highest is RS142606. After 1977 the GDP per capita is increasing slowly and steadily and is 25370 in 2006. After 2006 the maoist insurgency ended and from 2008 the GDP per capita started to increase rapidly and reached 134114 in 2019 and thereafter the covid-19 pandemic struck the world in 2020. The covid-19 pandemic caused the slight decrease in the GDP per capita in 2020 and became RS133089. After 2020 the GDP per capita again rises and became highest in the time period in 2021. So, there was no major impact of covid-19 in terms of GDP per capita.

The trend of tourism earnings in Nepal from 1975 to 2021 is shown in following figure.

Figure 4.2: **Trend of Tourism Earning**

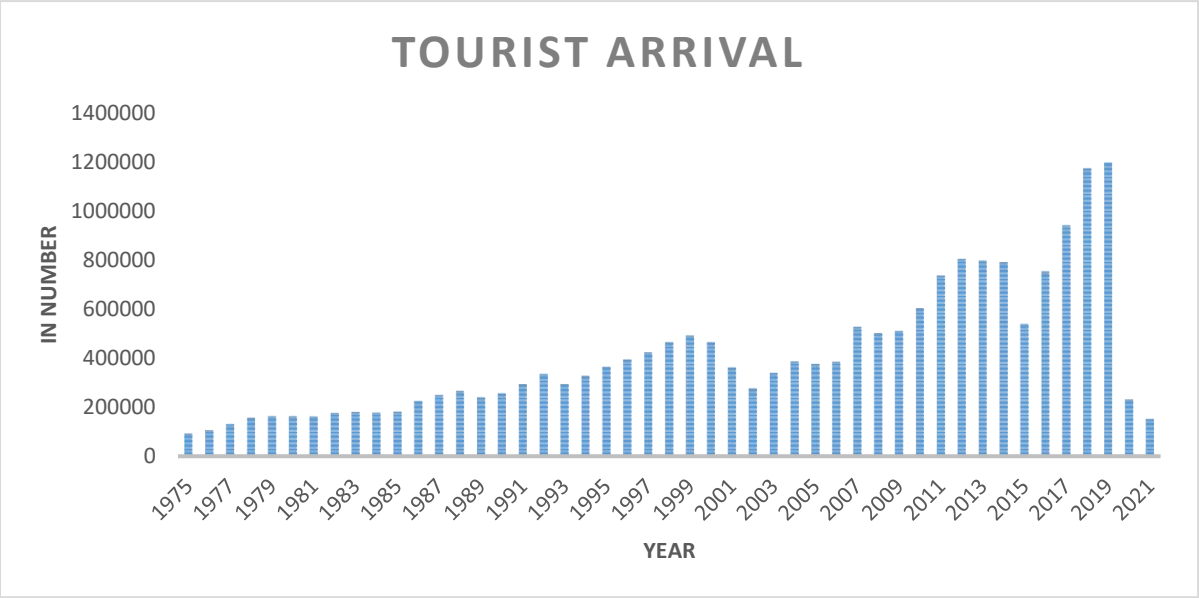
Source: Author's own calculation

Figure 4.2 shows the tourism earnings from 1975 to 2021. The trend of tourism earnings is fluctuating over the time period. The highest tourism earning is in the year 2019 and lowest is in the year 1975. The highest amount is RS 72663 million and lowest is RS170.6 million. The difference between highest and lowest point is huge. In 1986 tourism earnings crossed the mark of 1000 million and reached 1071 million and following year in 1987 it reached 1740.5 million. In one year from 1986 to 1987 the tourism earning made a huge jump of RS669.5 million. In the year 1991 the tourism earning reached 3587.6 million and the next year it crossed the 5000 million mark and reached 5016.9 million with the increment of 1429.6 million from the previous year. In the year 1998 the tourism earning is 9881.6 million which was the visit Nepal Year. After that, in the next year 1999 the tourism earning increases and reached 12167.8 million. There is increment in year 2003 to 2004 but the after 2004 the tourism earning decrease in reached 10464 million. At 2006 the tourism earning is 9556 million and after that the tourism earnings starts to increase due to the end of moist insurgency in 2006. In year 2007 it reached 10125 million and within the year 2012 the tourism earnings have tripled and reached 30704 million which is the huge leap in the tourism earnings. In year 2015 it crosses the 50,000 million and made 53429 million. After that it decreases due to the earthquake that struck Nepal. Again

in 2017 it increased and reached 58527 million. In 2019 the tourism earning reached the point of the chart. After that it decreases in 2020 because of covid-19 pandemic. Again, in 2021 tourism earnings increased and get to 72663 million.

The trend of tourist arrival in Nepal from 1975 to 2021 is shown in following figure.

Figure 4.3: **Trend of Tourist Arrival**



Source: Author's own calculation

Figure 4.3 shows the trend of the tourist arrival from the year 1975 to 2021. The highest tourist arrival is in year 2019 and lowest is in 1975. The highest tourist arrival is 1197191 in 2019 and lowest is in 92440. After 1975 the tourist arrival crosses 1 lakh mark and reaches 105108 in 1976. The chart gradually increases from 1975 to 1999 and get to 491404 in 1999 after that the tourist arrival starts to decrease and reach 383926 in 2006. After the year 2006 the tourist arrival starts to increase again crossed 5 lakh mark in 2007. This may be because of end of maoist insurgency in 2006. In 2015 the tourist arrival again decreased reached 538970 in 2015. This is because of massive earthquake in Nepal. In 2018 the tourist arrival crosses 10 mark and in 2019 it reaches highest point in chart. Nepal was about to celebrate the visit Nepal 2020 when the covid-19 pandemic struck the world which impacted the tourist arrival number in the next year. In 2020 the total arrival was 230085 and in 2021 also it decreased and reach 150962 which the same number of visitor as in 1978. This shows that tourist arrival has not been able to increase due to the covid-19 pandemic. There was huge restriction in the travel industry for the visitor in the world.

4.2 Descriptive statistics of the variables

Summary statistics is a part of descriptive statistics that summarizes and provides the gist of information about the sample data. The descriptive statistics of Gross Domestic Product Per Capita(GDPPC), Tourism Earnings (TE), Domestic Credit to Private Sector(DC_P), Exchange Rate (EX) includes mean, median, maximum, minimum, standard deviation, skewness, kurtosis, and range. The descriptive statistics of variables are tabulated below.

Table 4.1: Descriptive Statistics

Variables	GDPPC	TE(Million)	EX	DC_P
Mean	32225.02	17668.55	56.82	31.25
Standard Error	6055.14	3213.61	4.97	3.70
Median	13916.23	9521.20	65.14	23.88
Standard Deviation	41511.99	22031.41	34.13	25.38
Kurtosis	1.02	1.07	-1.20	0.46
Skewness	1.49	1.48	0.08	1.07
Range	141418.43	75203.40	107.48	101.84
Minimum	1187.59	170.60	10.55	3.62
Maximum	142606.03	75374.00	118.03	105.47
Count	47.00	47.00	47.00	47.00

Source: Author's calculation in excel

Table 5.1 shows the description of statistics of the variable. Sample mean of GDP per capita is 3225.02 and median is 13916.23. GDPPC has maximum value of 142606.03 and the minimum value of 1187.59. Standard deviation is 41511.99 which shows the deviation from its sample mean. Kurtosis is a measure of whether the data are heavy-tailed or light-tailed relative to a normal distribution and it also tells the peakness and flatness of the series. Positive kurtosis indicates a "heavy-tailed" distribution and negative kurtosis indicates a "light-tailed" distribution. Kurtosis value is 1.02 which shows GDPPC has short tails. Skewness is a measure of the asymmetry of the probability distribution of a real-valued random variable about its mean. The skewness value can be positive, zero, negative, or undefined. Skewness of GDPPC is 1.49 which means the tail on the right side is more pronounced then left hand side.

The sample mean of tourism earnings is 17668.5 and median is 9521.2. Tourism earning standard deviation is 22031.41 which show the deviation from sample mean. The maximum and minimum value of tourism earnings is 170.6 and 75374 respectively. Tourism earning has positive skewness and kurtosis.

The sample mean of exchange rate is 56.82 and median is 65.14. Exchange rate standard deviation is 34.13 which show the deviation from sample mean. The maximum and minimum value of exchange rate is 118.03 and 10.55 respectively. Exchange rate has positive skewness and negative kurtosis.

The sample mean of domestic credit to private sector is 31.25 and median is 23.88. Domestic credit to private sector standard deviation is 25.38 which show the deviation from sample mean. The maximum and minimum value of Domestic credit to private sector is 105.47 and 3.62 respectively. Domestic credit to private sector has positive skewness and positive kurtosis and has platykurtic curve.

4.3 Correlation analysis

Correlation analysis is used to measure the strength of the linear relationship between variables and compute their association. Simply put correlation analysis calculates the level of change in one variable due to the change in the other. A high correlation points to a strong relationship between the two variables, while a low correlation means that the variables are weakly related. The value of correlation coefficients lies between +1 to -1. Near to positive 1 indicates higher degree of association between variables and near to -1 indicates the higher degree of negative relationship. Coefficient near to zero indicates that less association between the variables. Coefficient zero means no association between variables.

Table 4.2: Correlation Matrix

Variables	GDPPC	TE	EX	DCP
GDP	1.00			
TE	0.97	1.00	0.97	0.97
EX	0.95	0.97	1.00	0.94
DCP	0.98	0.97	0.94	1.00

Source: Author's calculation

The correlation coefficient between GDP per capita and tourism earning is 0.97 which is higher degree positive correlation between variables. This shows that if GDP per capita increases then

tourism earning also increases and vice versa. GDP per capita and exchange rate also have positive correlation with correlation coefficient 0.95.

4.4 Unit root test

To avoid the phenomenon of spurious regression individual time series data must be stationary. If data is not stationary at level I (0), generally it becomes stationary after first order difference and becomes I (1).

H_0: Variable has unit root (Nonstationary)

H_1: Variable has no unit root (Stationary)

For this propose, a decision is made based on the calculated statistic and McKinnon's value; this is, if the computed statistic is higher than McKinnon's critical value then H0 is not rejected, and the selected variable is non-stationary and vice versa. Table 4.3 shows the result of Augmented Dickey-Fuller (ADF) tests tests of the variables considered in the models.

Table 4.3: Augmented Dickey-Fuller Test

Variables	Unit root test at levels	Unit root test at first difference	Order of integration	Includes	Critical values at 5%
LNGDPPC	0.9609	0.0000*	I (1)	Intercept	-2.92
LNTE	0.4079	0.0000*	I (1)	Intercept	-2.92
LNEX	0.6081	0.0000*	I (1)	Intercept	-2.92
LNDCP	0.8739	0.0000*	I (1)	Intercept	-2.92

Source: Authors' estimation in Eviews 9.5

Note: * indicates the statistics are significant at 1% level of significance at first difference and ** indicates significant at 5% level of significance. The p-values are based on MacKinnon (1996) one-sided p-values.

From table 4.3 the ADF test shows all the variables are integrated at order 1 I(1).

4.5 Generalized method of moments regression

The next step is to do the two generalized method of moments regression to find out the relationship between the dependent and independent variables. In this part the instrumental variable EX is introduced in the regression. Stata automatically does the generalized method of moments regression and shows the final result of the analysis**.**

Table 4.4: Generalized Method of Moments Regression

Dependent Variable: LNGDPPC

Variable	OLS Regression	GMM Regression
LNTE	0.17 (0.16)	0.52*** (0.13)
LNDCP	1.02*** (0.21)	0.64** (0.28)
LNEX	0.35 (0.22)	
C	0.94 (2.47)	-4.41* (2.29)
R-squared	0.97	0.96
Adjusted R-squared	0.97	
Wald chi(2)		1098.60
Prob>chi(2)		0.00
F-statistic	505.02	
Prob>F	0.00	

Source: Author's own Calculation in Stata

Note: *** shows significance of coefficients at 1% level of significance, ** shows significance of coefficients at 5% level of significance, * shows significance of coefficients at 10% level of significance respectively. Standard errors in parenthesis.

Table 4.4 shows the result of generalized method of moments regression and ordinary least square regression. The dependent variable was GDPPC and the independent variables were tourism earning and domestic credit to private sector. Instrument variable was exchange rate. The OLS regression coefficient of tourism earning is 0.17 but the probability is greater than 0.1 shows the result is not significant. The OLS regression coefficient of exchange rate is also not significant. Domestic credit to private sector has positive and significant relationship with GDPPC. The R-squared and adjusted R-square is also high. The F-statistic is 505.02 which shows the regression analysis is good.

In the table tourism earning has the positive relationship with the GDPPC when GMM regression is run. The coefficient of tourism earning is 0.52. It means 1% increase in tourism earning leads to 0.52% increase in GDPPC of the country annually. This is due to the foreign

exchange earnings spent by the tourist in the country which leads to increase in income of the people, which helps GDPPC to grow. Tourism have direct and indirect effect in the economy. This leads to the increase in the GDPPC of the country. Many tourists spent their money in the remote area of Nepal while doing trekking expedition. This leads to increase in the income of the people in the area which in turns leads to GDPPC of the country. Tourism industry have forward linkeage and backward linkeage this leads to the increase in GDPPC. Tourist when coming to Nepal spent their money in different ways. Some of them book their hotel from their country, purchase ticket from different country of different airlines. So, the money doesn't come in our country. But some tourist book hotels, purchase ticket of airline of our country which leads to the increase in income of the country. The probability value is 0.0000 this shows the result is significant at 1% level of Significance.

Domestic credit to private sector also has the positive relationship with the GDPPC. The result is significant at 5% level of significance. The Coefficient of domestic credit to private sector is 0.64. It indicates that 1% increase in domestic credit to private sector leads to 0.64 increase in GDPPC.

The R-squared of the regression is 0.96. It shows the model is good. This shows the result of the regression analysis is free from the problem.

4.6 Diagnostic test

A diagnostic test is performed to make sure that there is no problem with model. The GMM model is devoid from autocorrelation, heteroscedasticity. The test of endogeineity is done in the post estimation. The probability of the test should be greater than 0.05 to be free from endogeineity problem. The result of the test is given below.

Table 4.5: Test of Endogeneity (orthogonality conditions)

Ho: Variables are Exogenous

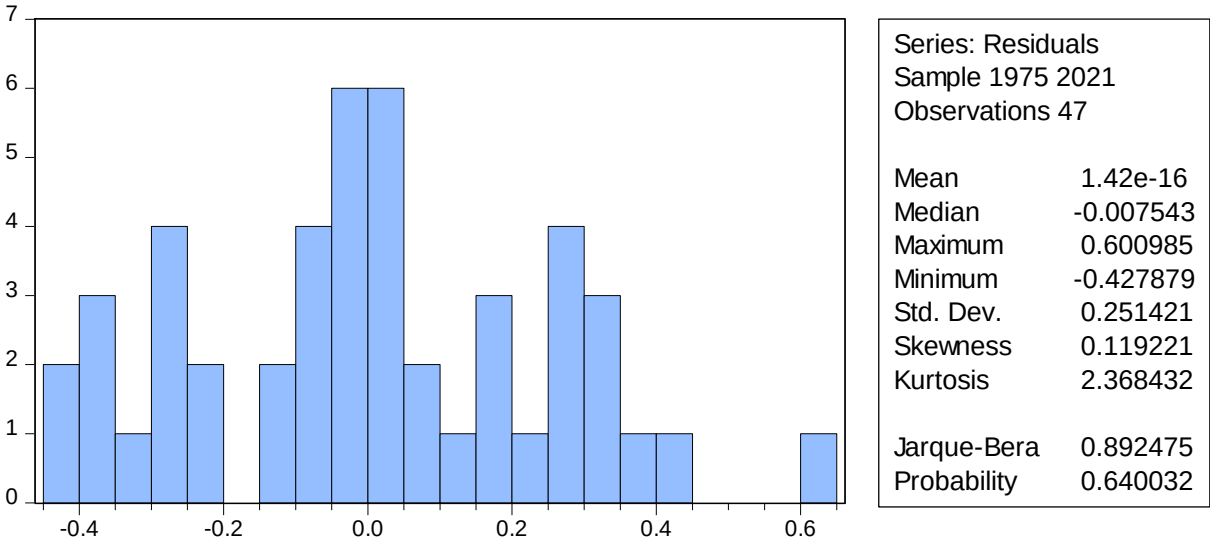
	Statistics	Probability
GMM C statistic chi2(1)	2.35	0.12

Source: Author's own calculation in Stata

The table shows the probability greater than 0.05 so the null hypothesis cannot be rejected which means the model is exogeneous.

In the nest step of diagonostics test, normality test is done to find out whether the normality condition is satisfied or not.

Table 4.6: **Normality Test**



Source: Authors' estimation in Eviews 9.5

Table 4.6 shows that probability value of Jarque-Bera test is 0.64, which means null hypothesis of normality cannot be rejected. Hence, the residual of the OLS estimate is normal.

4.7Findings

The main objective of this study was to examine the relationship between tourism and economic growth. To fulfill this objective, this study used the dataset of annual time periods of 1975 to 2021. To examine the relationship of GDPPC with macroeconomic variables the study used trend line, table and graphs. The ADF test was applied to test the stationary of the time series data and to obtain the relationship between GDPPC, tourism earning and domestic credit to private sector, generalized method of moments regression was done. Finally, to test the reliability of the model, various diagnostic tests including test of endogeneity test, normality test has been applied. The result obtained from the trend shows that the GDPPC is maximum in the 2021. Tourism earning was highest in 2019. Tourist arrival was also maximum in the same year of 2019.The summary statistics shows that the variables frequency curves are pecked and positive skewed and correlation shows that there is higher degree correlation between the variables... The value of R-squared exhibited that there is a strong fit in the model to explain the relationship between dependent and independent variables. The generalized method of moment regression analysis shows positive relationship between GDPPC and the independent

variable. The coefficient of tourism earning is 0.52 and the coefficient of domestic credit to private sector is 0.64. The residual test shows the result that there is no endogeineity problem. There is also no problem of normality in the model.

CHAPTER V

SUMMARY CONCLUSION AND RECOMMENDATIONS

This chapter presents conclusions based on the results from the previous chapter. Based on those findings, this chapter also recommends policies for the policymaker.

5.1 Summary

The study found positive relationship between tourism earnings and per capita GDP. Tourism earnings coefficient is 0.52 and significant. Domestic credit to private sector coefficient is 0.64 and significant. The residual shows no problem in model. Tourism earning was highest in 2019 i.e. 72663 million. GDPPC is maximum in 2021i.e. Rs142606. Tourism arrival was maximum in 2019 i.e.1197191. Tourist arrival was affected by covid-19 whereas tourism earnings was less affected by covid-19. GDPPC is increasing despite the covid-19 pandemic.

5.2 Conclusion

This study analyzed the impact of tourism on economic growth of Nepal. GDPPC was used as proxy measure of economic growth, which was the outcome variable whereas the variable of interest was tourism earning. Domestic credit to private sector was taken as control variables. Exchange rate was used as the instrumental variable. Generalized method of moments regression was employed. Study was based on time series data from 1975 to 2021. The study has found that there is existence relationship between dependent and independent variables. There is relationship between GDPPC, tourism earning, and domestic credit to private sector. Tourism earning has positive relation with GDPPC 1% increase in tourism earning leads to 0.52% increase in GDPPC. Similarly, domestic credit to private sector also has positive relation with GDPPC. 1% increase in tourist arrival leads to 0.64 increment in the GDPPC..

Nepal has limitless tourism prospective for the development of tourism through geographical situation, bio-diversity, religious harmony, mountain range, cultural and historical. There is also possible economic growth through tourism. However, there are some pertinent issues and challenges, for example, infrastructure financing, climate changes, competitiveness of tourism, diversification of tourism activities. Major problems of Nepalese tourism are low level of tourist arrival and low daily spending per tourist Nepal will have to focus in increasing the tourist arrival and visitors spending per tourist, this will help to create significant role of tourism in the country’s economic growth.

5.3 Recommendations

The study gives following recommendations derived from the findings.

- The results suggest that there is a positive relationship between the GDPPC and tourism earning referring that the increase in tourism earning increases the GDPPC of the country. Therefore, the Government should focus on the policy related for increasing the tourism earning of the country.

- Government should make policy like advertising the beauty of Nepal in the different countries and different global events.
- The maximum number of tourists comes from neighboring countries India and China. So, government should focus on attracting more Indian and Chinese tourist by showing the beauty of Nepal in their country and making the celebrity of their country the ambassador for the tourism.
- Government should focus in developing tourist friendly infrastructure, increase competitiveness of tourism, diversification of tourism activities to increase the tourist spending in the country.
- The tourist spending per day is very low. Majority of tourist money goes to the booking of plane ticket and Nepal has two airlines company. Nepal's government airlines company has four aircraft to fly abroad. Himalaya airlines also has four aircraft and it is the joint venture company of China. So, Nepal government has to increase the aircraft to capture the market of tourist and bring more foreign currency in the nation.
- Tourism satellite account should be maintained by the tourism ministry for the detail influence of the tourism sector in the economy.

5.4 Scope for further study

The study was based on only three independent variables, more variable of tourism sector can be added in the future study. The input-output model can be followed which gives the detail information about contribution of tourism in each sector. The quarterly data can be used for the further study.

REFERENCES

Adeleye, N., Ogede, J. S., Rabbani, M. R., Adam, L., & Mazhar, M. (2022b). Moderation analysis of exchange rate, tourism and economic growth in Asia. *PLOS ONE*, *17*(12), e0279937. https://doi.org/10.1371/journal.pone.0279937

Balaguer, J., Cantavella-Jordà, M. (2002), Tourism as a long-run economic growth factor: The Spanish case. *Applied Economics, 34*(7), 877-884.

Balassa, B. (1985), Exports, policy choices, and economic growth in developing countries after the 1973 oil crisis. *Journal of Development Economics*, *18*(1), 23–25.

Bassil, C., Hamadeh, M., Samara, N. (2015). The tourism led growth hypothesis: The Lebanese case. *Tourism Review, 70*(1), 43-55.

Baum, C. F., Schaffer, M. E., & Stillman, S. (2003b). Instrumental Variables and GMM: Estimation and Testing. *Stata Journal*, *3*(1), 1–31. https://doi.org/10.1177/1536867x0300300101

Bhagwati, J. (1988), Export-promoting trade strategy: issues and evidence. *World Bank Research Observer*, *3*(1), 27–57.

Bhattarai, K., & Karmacharya, R. (2021). Impact of Tourism on Economic Growth of Nepal: Is Tourism-Led Growth Hypothesis Valid for Nepal? *The Gaze: Journal of Tourism and Hospitality*, 13(1), 93–110. https://doi.org/10.3126/gaze.v13i1.42081

Bowden R. J., & Turkington D. A. (1984). Instrumental Variables. Cambridge: Cambridge University Press.

Brida J, Cortes-Jimenez I and Pulina M (2016). Has the tourism-led growth hypothesis been validated? A literature review. *Current Issues in Tourism 19*(5), 394–430.

Brida J., Giuliani, D. (2013). Empirical assessment of the tourism-led growth hypothesis: the case of the Tirol–Südtirol–Trentino Europaregion. *Tourism Economics*, *19*(4), 745-760.

Croes, R., & M. Vanegas. 2008. “Cointegration and Causality Between Tourism and Poverty Reduction.” *Journal of Travel Research, 47* (1): 94–103

Durbarry, R. (2004). Tourism and economic growth: the case of Mauritius. *Tourism Economics, 10*(4), 389-401.

Gautam, B.P. (2014). Economic Dynamics of Tourism in Nepal: A VECM Approach. *Nepalese Economic Review, 5*(4), 1-17.

Hatemi-J, A. (2015). On the tourism-led growth hypothesis in the UAE: a bootstrap approach with leveraged adjustments. Applied Economics Letter, DOI: 10.1080/13504851.2015.1078440

Jayathilake, B. (2013). Tourism & Economic Growth in Sri Lanka: Evidence from Cointregration and Causality Analysis. *International Journal of Business, Economics and Law, 2*(2).

Johansen, S. (1988). Statistical analysis of cointegration vectors. *Journal of Economic Dynamics and Control, 12*, 231–254.

Katircioglu, S. T. (2009). Revisiting the tourism-led-growth hypothesis for Turkey using the bounds test and Johansen approach for cointegration. *Tourism Management, 30*(1), 17–20. https://doi.org/10.1016/j.tourman.2008.04.004

Medina-Muñoz, D. R., Medina-Muñoz, R. D., & Gutiérrez-Pérez, F. J. (2015). The impacts of tourism on poverty alleviation: an integrated research framework. *Journal of Sustainable Tourism, 24*(2), 270–298. https://doi.org/10.1080/09669582.2015.1049611

Mihalic, T. (2002). Tourism and economic development issues. *Tourism and development: Concepts and issues*, (81-111).

MOCTA, (2021). Nepal Tourism Statistics.

Narayan, P.K., & Smyth, R. (2005). Electricity consumption, employment and real income in Australia, evidence from multivariate granger causality tests. *Energy Policy*, *33*(9), 1109–1116.

NRB, (2022). Nepalese Database.

Odhiambo, N.M. (2009). Energy consumption and economic growth in Tanzania, an ARDL bounds testing approach. *Energy Policy*, *37*(2), 617–622.

Oh, C.O. (2005). The contribution of tourism development to economic growth in the Korean economy. *Tourism Management*, *26*(1), 39-44.

Ozturk, I. (2010). A literature survey on energy-growth nexus. *Energy Policy*, *38*(1), 340-349.

Parajuli, R. T., & Paudel, R.c. (2018) Tourism Sector Employment Elasticity in Nepal: An Analysis. *The Economic Journal of Nepal*, *41*(3&4).

Paudyal, B. S. (2012). Does Tourism Really Matter for Economic Growth? Evidence from Nepal. *NRB Economic Review*, *24*(1).

Payne, J. E., & Mervar, A. (2010, December). Research Note: The Tourism–Growth Nexus in Croatia. *Tourism Economics*, *16*(4), 1089–1094. https://doi.org/10.5367/te.2010.0014

Sharma, N. (2018). Tourism led growth hypothesis: empirical evidence from India. *African Journal of Hospitality, Tourism and Leisure*, 7(2)

Ribeiro, E.D.C., & Wang, B. (2020). TOURISM LED GROWTH HYPOTHESIS: Has the Tourism industry an impact on The Economic Growth of Sao Tome and Principe?. *International Journal of Economics and Financial issues*, *10*(1), 180-185.

Tang, C. F., & Tan, E. C. (2014). Does tourism effectively stimulate Malaysia's economic growth?. *Tourism Management*, *46*, 158-163.

UNTWO, (2020). World Tourism Barometer.

WORLD BANK, (2023). World Development Indicators.

WTTC, (2020). Global Economic Impact and Trends.

.

WTTC, (2022). Global Economic Impact and Trends.

Yao, Y., Liu, X., & Yang, Y. (2021). How does tourism industry dependence affect economic growth in western China? --Based on the inspection and interpretation of the Resource Curse transmission mechanism. *Travel and Tourism Research Association: Advancing Tourism Research Globally*, *12*

Zuo, B., Huang, S. (2018) Revisiting the Tourism-Led Growth Hypothesis: The Case of China. *Journal of Travel Research, 57*(2), 151-163.

ANNEX

Generalized Method of Moments Regression

```
. ivregress gmm lngdppercapita lnD_c (lntouearning = lnexchrate)

Instrumental variables (GMM) regression              Number of obs =      47
                                                     Wald chi2(2)  = 1098.60
                                                     Prob > chi2   =  0.0000
                                                     R-squared     =  0.9694
GMM weight matrix: Robust                            Root MSE      =  .26205
```

lngdpperca~a	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
lntouearning	.5256065	.1397256	3.76	0.000	.2517494	.7994637
lnD_c	.6490257	.2818268	2.30	0.021	.0966552	1.201396
_cons	-4.41315	2.293561	-1.92	0.054	-8.908446	.0821461

```
Instrumented:  lntouearning
Instruments:   lnD_c lnexchrate
```

Ordinary Least Square Regression

```
. regress lngdppercapita lntouearning lnexchrate lnD_c
```

Source	SS	df	MS		
Model	102.452773	3	34.1509242	Number of obs	= 47
Residual	2.90776713	43	.067622491	F(3, 43)	= 505.02
				Prob > F	= 0.0000
				R-squared	= 0.9724
				Adj R-squared	= 0.9705
Total	105.36054	46	2.29044652	Root MSE	= .26004

lngdpperca~a	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lntouearning	.1764631	.1605472	1.10	0.278	-.1473111	.5002374
lnexchrate	.3581963	.2213914	1.62	0.113	-.088282	.8046746
lnD_c	1.020796	.2162508	4.72	0.000	.584685	1.456908
_cons	.9495562	2.475852	0.38	0.703	-4.043475	5.942588