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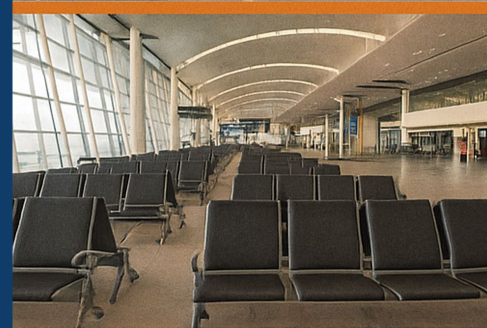
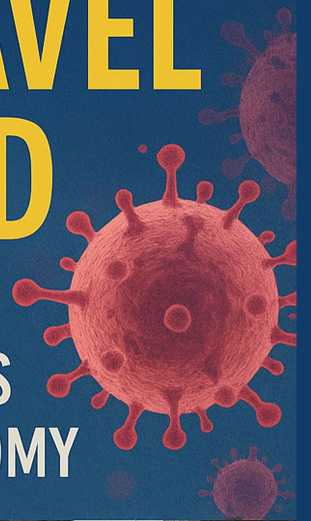


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WHEN TRAVEL STOPPED

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THE COVID-19
SHOCK TO INDIA'S
TOURISM AND ECONOMY



Dr Boby Thomas, Jissa James

**When Travel Stopped: The COVID-19 Shock to India's
Tourism and Economy**

By

Jissa James and Dr Bobby Thomas

A book based on the Post Graduate Dissertation titled ““The Impact of
Covid Pandemic on the
FTA – GDP Relationship.” published by Proquest LLC

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**When Travel Stopped: The COVID-19
Shock to India's Tourism and Economy**

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PREFACE

This book is an extension of a postgraduate dissertation originally titled “*The Impact of the COVID Pandemic on the FTA–GDP Relationship*,” which I had the privilege of guiding and now co-authoring. The study draws on 28 years of data (1995–2022) from the World Bank to analyse the evolving relationship between foreign tourist arrivals (FTA), GDP, and GDP per capita—particularly before and after the COVID-19 pandemic.

The COVID-19 pandemic brought global travel to an unprecedented halt, exposing the fragility of economies heavily reliant on tourism. In India, a country rich in cultural heritage and natural diversity, the sudden collapse in international mobility in 2020 sharply impacted economic growth and highlighted the vulnerability of tourism-dependent sectors.

Using statistical tools such as trend analysis, correlation, and regression, this study identifies a strong and positive association between FTA and GDP during the pre-pandemic period. However, the post-2020 data reflects a stark departure: a dramatic fall in FTAs and a weakened correlation with GDP, underscoring the far-reaching economic disruptions caused by the pandemic.

We are honoured to note that the original dissertation was selected and published by ProQuest LLC—an uncommon distinction for postgraduate research—affirming the academic relevance and methodological rigour of the study. The current book builds on that foundation, integrating updated insights and presenting them in a more accessible format.

This work also embraces the responsible use of emerging technologies in academic research. Artificial Intelligence tools were judiciously employed to enhance language clarity, refine analytical presentation, and structure findings—without compromising the authenticity or scholarly integrity of the original research.

In the wake of global disruptions, this book offers critical insights for researchers, policymakers, tourism professionals, and others invested in building resilient, adaptive economies. It contributes meaningfully to ongoing discussions on tourism, economic interdependence, and crisis preparedness.

We are also pleased to clarify that while the original thesis showed a 0% similarity on Turnitin, the current book registers a 9% similarity—entirely attributable to content derived from the ProQuest-published version of the thesis. This overlap reflects continuity and coherence in the evolution of the research.

We extend our sincere gratitude to ProQuest LLC for publishing the original dissertation and for supporting the dissemination of high-quality academic work. We hope this book adds value to the global discourse on sustainable economic recovery and the future of tourism in a post-pandemic world.

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ABSTRACT

This study investigates the impact of the COVID-19 pandemic on the relationship between foreign tourist arrivals (FTA) and gross domestic product (GDP). Secondary data is used for this study. The period of study is 1995–2022. For the purpose of examining the relationship between FTA and GDP, trend, correlation, and regression analyses were used. FTA and GDP had a favourable association prior to the COVID-19 pandemic, suggesting that they work together to promote economic growth. But after the pandemic struck, there were notable hiccups in GDP and FTA, which underscored how much the crisis affected the travel and tourism industry and how it affected the economy. This study sheds light on the dynamics of the FTA-GDP relationship amidst the COVID-19 pandemic and provides insights into the economic ramifications of global crises on tourism-dependent economies. GDP, GDP per capita, and FTA show a gradual increase during 1995–2000. After that, a rapid increase could be observed until the pandemic. There was a similar pattern of growth for all the economic indicators until the pandemic. There was a significant correlation between GDP, GDP per capita, and FTA. There was a positive influence of FTA on GDP and GDP per capita before the COVID pandemic. But after the pandemic, there was a sharp decline in FTA, and the pattern of movement was quite different from that of GDP and GDP per capita. There was neither a significant correlation nor a significant impact after the COVID pandemic.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Foreign tourist arrivals (FTA) play a significant role in the Indian economy. FTA means the number of arrivals of tourists or visitors. "Visitors bring hard currency and spend money contributing to a monetary economic boom that can positively and negatively impact the society and territory" (Pelliciardi, 2021). Hence, Foreign tourists spend money on a wide range of goods and services when visiting a country. By early 2020, COVID-19 had spread to numerous countries across continents, leading to widespread transmission and significant global public health and socio-economic impacts. This study examines the influence of FTA on GDP before and after the pandemic. GDP per capita is also part of this study. This study deals with the relationship between FTA and GDP and shows the impact of FTA on GDP through COVID-19. "GDP measures the monetary value of final goods and services—those bought by the final user produced in a country in a given period (say a quarter or a year). It counts all the output generated within the borders of a country. GDP is important because it gives information about the size of the economy and how an economy is performing "(Callen, 2008).

1.2 Significance of study

Studying the impact of FTA on GDP Before and after the Covid pandemic.it is important because it helps to understand how the COVID-19 pandemic has affected the relationship between foreign tourist arrivals and GDP, which is crucial for assessing the economic consequences of the pandemic.it is important because it helps us understand how much money tourists bring into a country and how this money affects the country's overall wealth. Analysing the

relationship between foreign tourist arrivals and GDP during the pandemic sheds light on economies' interconnectedness and specific sectors' vulnerability to global disruptions. This study aims to study the strong relationship between FTA and GDP. This study significantly contributes to the research gap as this is an unexplored area. This study talks about the importance of Foreign Tourists Arrivals on economic growth. Tourism is a significant contributor to India's economy. It generates foreign exchange earnings, creates jobs, and promotes economic growth. This information is crucial for governments to make decisions about tourism policies, create jobs, and ensure that tourist money benefits the country in the best way.

1.3 Statement of the Problem

Tourism is a vital sector in numerous economies, and foreign tourist arrivals are considered a major driver of economic growth. GDP is used to assess the overall economic performance of a country over time. Increases in GDP generally indicate economic growth, while decreases may suggest economic contraction. GDP serves as a key economic indicator, providing a snapshot of a country's economic health and size. India experienced a sharp contraction in its GDP growth rate due to the pandemic. This result helps detect the relationship between foreign tourist arrivals and GDP. This study deals with the relationship between FTA and GDP and shows the impact of the pandemic on economic growth. Studying the relationship between FTA and GDP is crucial for policymakers to maximise making policies. This research aims to provide insights and policy recommendations for governments and stakeholders in the tourism industry.

1.4 Objective of study

The following objectives were formulated for the study.

1. To analyse the influence of foreign tourist arrivals on GDP:
 - (a) before Covid Pandemic.
 - (b) after Covid Pandemic
2. To analyse the influence of foreign tourist arrivals on GDP per capita:
 - (a) before Covid Pandemic.
 - (b) after Covid Pandemic

1.5 Methodology of the Study

The study uses secondary data collected from publications by the World Bank. The nature and source of data, analysis tools and period of study described the study's methodology. The present study assesses the impact of Foreign Tourist Arrivals (FTA) on the Gross Domestic Product (GDP) before and after the Covid pandemic.

1.5.1 Nature and Source of Data

The researcher used secondary data collected from the World Bank's published records. We used data from 28 years from 1995 to 2022, and about no FTA, GDP, and GDP per capita were collected and used for analysis.

1.5.2 Tools of Analysis

Statistical tools like Time series trend, Correlation analysis, and regression analysis are used in this analysis.

1.5.3 Period of study

We use the data from 1995 – 2022.

1.5.3 Sample selection

The researcher selected the entire time series data published by the World Bank, which is readily accessible and convenient for the study. Therefore, the sampling method is convenience sampling

1.6 Hypothesis

- H₀₁ The Foreign Tourist Arrivals and GDP are not significantly correlated before the Covid pandemic.
- H₀₂ The Foreign Tourist Arrivals and GDP per capita are not significantly correlated before the Covid pandemic.
- H₀₃ The Foreign Tourist Arrivals did not significantly influence the GDP before the COVID-19 pandemic.
- H₀₄ Foreign Tourist Arrivals did not significantly influence the GDP per capita before the COVID-19 pandemic.
- H₀₅ The Foreign Tourist Arrivals and GDP are not significantly correlated after the Covid pandemic.
- H₀₆ The Foreign Tourist Arrivals and GDP per capita are not significantly correlated after the Covid pandemic.
- H₀₇ The Foreign Tourist Arrivals have not significantly influenced the GDP since the COVID-19 pandemic.
- H₀₈ Foreign Tourist Arrivals do not significantly influence the GDP per capita after the COVID-19 pandemic.

1.7 Limitations of the Study

1. The period of study was limited to 28 years, from 1995 to 2022.

2. Inherent secondary data and statistical tool limitations may have affected the study to a certain extent.
3. If the World Bank data does not fully represent the diversity of FTA-GDP relationships, that may influence the result.

1.8 Chapter scheme

The report is presented in five chapters.

Chapter -1 Introduction

This introduction chapter deals with topics like the impact of FTA on GDP, the study's objective, problem statement, data collection, analysis tools, period of study, hypothesis, and chapter scheme.

Chapter -2 Literature Review

This chapter contains a literature review related to foreign tourist arrivals. The review finds important variables that affect this relationship, such as exchange rates, policy interventions, infrastructure for tourism, and economic diversification.

Chapter- 3 Theoretical Framework

This chapter describes the various theories related to GDP and FTA. This framework includes established theories, concepts, and assumptions related to FTA and GDP that guide the research process; it was helpful for collecting and drawing meaningful conclusions.

Chapter- 4 Data Analysis

Introduction of data analysis, nature of data, summary statistics. Data analysis mainly consists of three parts: trend analysis, correlation analysis, and regression analysis.

Chapter- 5 Findings, Conclusions, Suggestions

This chapter deals with the introduction, findings, suggestions, and conclusions about the relationship between Foreign Tourist Arrivals and GDP before and after the Covid pandemic.

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Chapter 2

LITERATURE REVIEW

2.1 Introduction

Foreign Tourist Arrivals play a significant role in the Indian economy. Foreign Tourist arrivals means the number of arrivals of tourists or visitors. The study aims to identify the previous studies related to Foreign Tourist arrivals, GDP, GDP per capita and COVID-19. It is an evaluation of current studies related to Foreign Tourist arrivals. The purpose of the review of the literature is to collect relevant information related to Foreign Tourist Arrivals. The literature review provides a general overview, information, evidence, and ideas related to Foreign Tourist Arrivals. The literature review helps to avoid repetition or redundancy.

2.2 Impact of FTA on the Growth of Foreign Exchange Earnings

Dr D. Suresh Kumar, Dr . Rajesh Sharma, and Dr Pradeep Kautish are Examining how the tourism industry is contributing to the development of the Indian economy. The role of the industry has improved and contributed to generating the needed foreign reserves. Hence, it is vital to study the growth rate of tourist arrivals in India. Further seasonal variation, which is a significant factor in terms of tourism, has to be studied. The seasonal analysis may help propose an appropriate policy framework, which may further enhance the scope of tourism in India. The objectives of the study were to assess the rate of growth of tourist arrival in India, measure the seasonal variation in tourist arrivals in India and also assess the change in foreign exchange earnings driven by the burgeoning tourism industry (Suresh Kumar et al., 2018).

2.3 Impact of FTA on Employment

Dr Mohad motasim Ali Khan, Dr. Mohammad Athar Noor and DR. Mohad. Asif Khan analyses the contribution of travel and tourism to employment in India. The quantitative data was analysed using simple graphics analysis, and the Compound Annual Growth Rate (CAGR) was also calculated. The tourism industry acts as a powerful agent of both economic and social changes. It stimulates employment investment, alters the structure of an economy, contributes to foreign exchange earnings and maintains a favourable balance of payment. In developing countries such as India, tourism has become one of the major sectors of the economy, contributing to a large proportion of the National Income and generating substantial employment opportunities. Tourism has become the fastest-growing service industry in India, with great potential for further expansion and diversification (Khan et al., 2017).

2.4 Impact of FTA on Exchange Rate

“Le Thanh Tung examined the impact of the exchange rate policy on the number of foreign tourist arrivals (Tung, 2019) in Vietnam. He found that the exchange rate maintained a positive impact on the demand of foreign tourists and indicated that the domestic currency devaluation also had a positive effect on the number of foreign tourists to Vietnam. The number of foreign tourist arrivals in the early periods had a positive impact on itself in the current period. A one-way causal relationship exists between the exchange rate and the number of foreign tourist arrivals.” (Tung, 2019). He used the Granger causality test for this analysis.

“S. Nisthar and AAM. Nufile study prominently aimed to find the relationship between tourist arrivals and the exchange rates in the Sri Lankan context using the quantitative approach method. The time

series data for the period of 1950 to 2014 were collected from the annual report of the Central Bank of Sri Lanka. The tourist arrivals were the dependent variable, and Exchange rate of French Franc, Exchange rate of Indian Rupee, Exchange rate of Japanese Yen, Exchange rate of Pound Sterling, Exchange rate of US dollar, and Dummy (D) were the independent variables in this study. The dependent variable was influenced by the independent variables influenced by external determinants. All the variables used in this study were stationary at their first difference" (Nisthar & Nufile, 2019).

2.5 Impact of FTA on Economic Growth

"Ramphul Ohlan's study investigates the relationship between tourism and economic growth in India by considering the relative importance of financial development from 1960–2014. The results of the newly developed Bayer and Hanck combined test indicate that tourism, economic growth and financial development are cointegrated. It is shown that inbound tourism spurs economic growth in India both in the long-run and short-run. In addition, the analysis indicates the presence of a long-run one-way Granger-causation running from tourism to economic growth. It is suggested that policies for attracting more international tourists should be promoted." (Ohlan, 2017).

"Pooja Rathore and Mansi Jain examined the long-run association of factors such as economic growth, exchange rate, terrorism and damage from natural disasters with the foreign tourists' arrival in India using yearly data covering the period 1980-2017. To examine the long-run relationship, this study uses an autoregressive distributed lag model" (Rathore & Jain, 2020).

“Scarlett Bank examined the economic impact of tourism on economic growth and other macroeconomic variables in a panel of 46 countries. It was found that tourism has a statistically significant positive effect on economic growth. In the linear model, the positive effect on growth is 50 per cent higher if tourism receipts relative to GDP are used as the tourism measure instead of tourist arrivals per capita. When the non-linear specification is considered, it is found that tourism specialisation at higher levels dampens the positive effect on growth. However, increased tourist receipts have a positive effect on growth at all levels. Regardless of the measure of tourism, an increase in tourism augurs well for the services and agriculture value-added shares of GDP as well as the labour prospect in the service and industry sectors and among the vulnerable employed. An increase in the tourism receipts relative to GDP is expected to positively impact the net FDI inflows to GDP ratio.” (Scarlett, 2021).

2.6 Time series models of FTA

“Kriti Kumari's study of three-time series models is used for forecasting monthly foreign tourist arrivals (FTAs) in India from January 2000 to October 2015. This paper compares the forecasting accuracy of seasonal autoregressive integrated moving average (SARIMA), Holt-Winters (HW) and Grey model (GM) using the mean absolute percentage error (MAPE) criterion. Moreover, turning point analysis (TPA), U statistics, and posterior variance ratio test (PVRT) have also been carried out to strengthen decisions and check the accuracy of various forecasting models. Based on the forecasting performance of all three models, SARIMA and HW are found to be the best models as compared to the Grey model.” (Kumari, 2016)

“Shalini Chandra and Kriti Kumari compare various time series models to forecast monthly foreign tourist arrivals to India. The models that are considered here include Naive I & Naive II, seasonal autoregressive integrated moving average (SARIMA) and Grey models. SARIMA is found to be a better model than other models according to the TPA criterion.” (Chandra & Kumari, 2018).

Navoneel Chakrabarty observed that "There is a strong inter-dependency between Gross Domestic Product and Foreign Tourism Demand in India. It has been found that the Distribution and Trend Analysis have been almost similar to the Original Distribution and Trends of Foreign Tourists in the four quarters of 2012. This similarity in Distribution Analysis has been shown using visualisations like Pie Charts and that in Trend Analysis has been shown using Line Plots." (Chakrabarty, 2020).

“E Purnaningrum S Cahyaningtias and Akusumawardhan focuses on Indonesia's development in the tourism sector. The prediction of visiting foreign tourists is one form of alertness in preparing future tourism projections. The fluctuation of data for foreign tourists affects the effectiveness of the model in making predictions. Kalman filter is a stochastic deterministic model that can solve this problem. This study combines the time series model with the Kalman filter to determine the prediction of the number of foreign tourists visiting East Java.(Purnaningrum et al., 2021).

“Alexander Culiuc estimates the impact of macroeconomic supply- and demand-side determinants of tourism, one of the largest components of services exports globally, and the backbone of many smaller economies. It applies the gravity model to a large dataset comprising the full universe of bilateral tourism flows spanning over a decade. The results show that the gravity model explains tourism

flows better than goods trade for equivalent specifications” (Culiuc, 2014).

2.7 Impact of FTA on Quality of Life

Steve Yaw Sarpong, Murad A. Bein, Bright Akwasi Gyamfi, and Samuel Asumadu Sarkodiestudie contribute to the debate and examine the influence of international tourism arrival (TA), real international tourism receipts (TR) and renewable energy consumption (REC) on quality of life (QoL) by using a panel of 8 Southern African countries spanning 1995–2017. The results found a significant positive and long-run relationship between TA, TR, and QoL. A significant negative effect was found between REC, trade openness (TO), and QoL, while urbanisation (Urb) had an insignificant negative impact on QoL. A unidirectional causal relationship was found running from QoL to TR, and bidirectional causality was found between QoL and REC. Feedback causality was found between QoL and Urb, and unidirectional causality was found between QoL and TO. The results imply that tourism is an effective economic tool for improving human development in Southern Africa” (Sarpong et al., 2020).

2.8 Impact of FTA on GDP (Gross Domestic Product)

“Aman Mishra examined how the tourism industry plays a crucial role in India's economic development. It contributes a larger share in employment generation. Tourism augments the country's foreign exchange reserve. It plays a sustainable role in a country's economic growth. The tourism industry plays a crucial role in India's economic development. Rich cultural and natural heritage, as well as historical and religious places, attract international tourist arrivals (ITAs) to

India. Travel and tourism have immense potential to create huge jobs and contribute to the world's GDP in a sustainable manner. There are significant relationships between time and foreign tourist arrivals (FTAs), employment generation, GDP and Foreign Exchange Earnings (FEEs)” (Mishra, 2018).

“Sri Sulasmiyati says that the tourism sector is one of the potential contributors to Indonesia's GDP. So, the number of foreign tourists visiting Indonesia is considered to have a major influence on Indonesia's economic growth. that economic growth is not affected by inflation." (Sulasmiyati, 2019).

2.9 Impact of FTA on Balance of Payment (BOP)

“Pallabi Bharali analysed 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" (Bharali, 2020).

2.10 Impact of COVID-19 on FTA

“DR Piyush Kumar found out the impact of COVID-19 on Foreign Tourist Arrivals (FTAs) in India from the top 15 Source Countries during 2019 and 2020 to assess the impact of the COVID-19 pandemic era (2020 as discussed above) by comparing it with the pre-pandemic era of 2019. Tourism is one of India's significant resources for generating foreign revenue. The COVID-19 pandemic era has affected the tourism sector negatively, and this novel research study revealed that the national and international FTAs and revenue income are adversely affected and detrimental to the Tourism industry".(Kumar, 2022).

2.11 Impact of Air Quality on FTA

“Yan Su and Chien and Chiang Lee examine a spatial econometric model to analyse the impact of air quality on international tourism

arrivals. Evidence shows that Moran's I values are significantly positive, indicating a strong positive spatial dependence in each country and that poor air quality negatively impacts the number of tourist arrivals. Countries with higher R&D intensity have better air quality and thus attract more tourists. Therefore, countries with poor air quality should improve the environment through international cooperation and undertake technology transfer, thus ultimately increasing the number of tourists".(Su & Lee, 2022).

2.12 Impact of GDP per Capita

"International tourism plays a huge role for many countries in the world. The significance of tourism differs between countries. However, an increase in tourism tends to lead to gross domestic product growth. This paper aims to measure the general effects of tourism on gross domestic product per capita. The theory part is focused on determinants of economic growth and GDP, and the literature review examines the general effects of tourism as well as the effect of tourism on specific countries and regions. The data is cross-sectional and was gathered from 111 countries provided by the World Bank. The results of this thesis show that international tourism seems to have a positive relation with the level of gross domestic product per capita. However, the study also found that tourism specialisation tends to affect the gross domestic product per capita negatively and that countries that are most specialised in tourism are quite small states, usually located in the Caribbean Sea" (Pedak, 2012).

2.13 Impact of covid 19 on GDP per capita

COVID-19 has affected all countries globally. We explore associations between the change in new COVID-19 registered cases per million population and various macroeconomic and well-being

indicators in 38 European countries over a 2-month period (1st April-31st May 2020). A statistically significant ($p = 0.002$) negative association was estimated between the change in new COVID-19 cases and GDP per capita after controlling for key health determinants, including public expenditure on health, life expectancy, smoking tobacco and sanitation. The country with the highest GDP per capita in Europe (i.e., Luxemburg) was found to experience the lowest change in new COVID-19 cases within the time period, whilst the opposite was found for countries with lower GDP per capita (i.e., Ukraine, Bulgaria, and Romania). The outcomes of this study indicate that in the first wave of the pandemic in Europe, a country's GDP per capita might be associated with a lower rate of new COVID-19 cases. The study concludes by suggesting that in European regions, a country's economic performance should be a critical health priority for policymakers. (Pardhan & Drydak, 2021)

2.14 Conclusion

This review provides valuable information related to foreign tourist arrivals and the influence of foreign tourist arrivals on various areas such as BOP, exchange rate, economic growth, employment, and growth of foreign exchange earnings. The review highlights the positive impact of FTAs on revenue generation, job creation and foreign exchange earnings. Foreign tourist arrivals play a major role in the country's economic growth. The literature review helps to understand the current studies related to Foreign Tourist Arrivals and possibilities for further research.

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CHAPTER 3

THEORETICAL FRAMEWORK

3.1 Introduction

This study examines the relationship between foreign tourist arrivals and GDP. Tourism has emerged as a significant driver of economic growth worldwide, with the movement of foreign tourists playing a pivotal role in shaping the economic landscape of destination countries. This theoretical framework seeks to provide a comprehensive understanding of the intricate relationship between foreign tourist arrivals and Gross Domestic Product (GDP).

3.2 Tourism Area Life Cycle (TALC) model

The TALC model also reflects the nature of tourism in the 1970s, when the rapid expansion of destinations was underway following the technological innovation of jet aircraft, along with increased levels of affluence in Western countries (based in part on the economic innovation of credit cards), decreased restrictions on travel, and rapid increases in mobility. Travel abroad was no longer the privilege of a small elite, and mass tourism in its modern form (or perhaps nearly post-modern form) was well established. Thus, fundamental changes were occurring in markets, tastes, destination locations, and modes of travel for large numbers of potential tourists in the Western world, and not surprisingly, those changes were increasingly visible in tourist resorts, particularly those which had been established a century or so earlier, based on limited, restricted markets and the railways (Anthony di Benedetto & Bojanic, 1993).

3.3 Tourism Satellite Account (TSA)

The Tourism Satellite Account is an economic framework that systematically accounts for the direct and indirect contributions of tourism to a country's GDP. It breaks down the economic impact into various components, including direct contributions from tourism-related activities and indirect contributions from related industries. “The Tourism Satellite Account (TSA) is a unique tool now available to policymakers in many countries to document the direct Gross Domestic Product (GDP) and employment contributions of tourism to national economies. Tourism Satellite Accounting is the international (UNWTO, PATA) standard for measuring the contribution of tourism to an economy. A complete TSA contains detailed production accounts of the tourism industry and their linkages to other industries, employment, capital formation and additional non-monetary information on tourism. Measuring tourism is difficult. While most industries are measured by counting what is produced, tourism is defined by what visitors buy. As such, tourism is a demanding activity that touches many industries, including accommodations, transportation, food and beverage, and entertainment, to name a few. The information reported in a set of satellite accounts also enables better and more efficient policy development and planning. Tourism Satellite Accounts (TSAs) extract from the National Accounts the contribution that tourism makes to each other sector of the economy, allowing measurement of the true contribution of tourism to Gross Domestic Product (GDP) or Gross State Product (GSP) and permitting comparison with other economic sectors listed in the national accounts. The TSA is a method of measuring the direct economic contributions of tourism consumption to a national economy. Countries in which TSA have been implemented can gain a much clearer picture of tourism's position within their economy and thus evaluate the benefits it offers

more accurately. Such information is the prerequisite to efficient and effective policy decisions to guide the future development of tourism. Tourism's total economic contribution (both direct and indirect) measures the size and overall significance of the tourism industry within an economy. TSA provide the basic information required for the development of models of the economic impact of tourism” (Baker, 2013).

3.4 Input-Output models

The Input-Output Model is an economic tool that analyses inter-industry relationships within an economy. Applied to tourism, this model helps to understand how spending by foreign tourists in various sectors leads to direct and indirect effects on GDP. “Input-output models describe both the transactions between the region and the rest of the world among activities within the region. These models produce a multiplier index that measures the total effect or impact of an increase in demand on employment or income. They can be used to predict and forecast the impacts of the potential future performance of a regional economy and changes in inter-industry transactions (Zamora, 2008). Input-output analysis, known as a useful, efficient, and trustworthy instrument, measures tourism contribution. The input-output model synthesises the intersectoral relationships existing between hotels, restaurants, travel agencies, and other economic sectors and might also predict the effects of different changes that could take place in an economy. Backwards and forward linkages are used to describe how the increase in the production of the tourism sector generates an increase in the demand for inputs from other sectors in the economy and, respectively, in the supply to other economic sectors. These linkages provide a general

image of how the tourism sector might sustain the economic growth” (Surugiu et al., 2009).

3.5 multiplier effect

The Multiplier Effect is based on the idea that initial spending in a sector leads to a chain reaction of additional spending in the economy in the context of foreign tourist arrivals; the initial spending by tourists has a multiplier effect as it circulates through the economy, contributing to GDP through various sectors. “The multiplier effect refers to the effect on national income and product of an exogenous increase in demand. The multiplier effects occur when tourism generates income with a guaranteed expansion and development of new economic sectors, especially those linked to tourism. The multiplier effects would be felt more if there was a good pool of skilled human resources and well-established and strong linkages between tourism and other sectors of the economy in the area. The multiplier effect occurs in different ways in a tourism-dependent economy. The common ways are direct, indirect, and induced multipliers. The way the indigenous communities could feel the "multiplier effects" of tourism is through the linkage of tourism business to other sectors of the economy. Linkages provide opportunities for community participation and income generation”.(Kessy et al., 2018).

3.6 CONCLUSION

This theoretical framework serves as a foundational tool for academics, policymakers, and industry practitioners to systematically explore and comprehend the intricate dynamics

between foreign tourist arrivals and GDP. The theories state that there is a positive relationship between FTA and GDP. It is useful for the economic growth of the country.

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Chapter 4

DATA ANALYSIS

4.1 Introduction

Foreign tourist arrivals and GDP are fundamental indicators reflecting the economic health and vitality of a country. The primary objective of this data analysis is to examine the correlation between foreign tourist arrivals and GDP. By analysing historical data, we aim to uncover patterns, trends, and potential causal relationships between these two variables. GDP, on the other hand, measures the total monetary value of all goods and services produced within a country's borders in a specific time period, serving as a barometer of economic activity and prosperity. Foreign tourist arrivals" refers to the number of visitors travelling to a country who are not residents of that country. The Present analysis examines the relationship between foreign tourist arrivals, GDP, and GDP per capita income. Time series data analysis with the help of Gretl, an open-source time series data analysis software, is used for this purpose. The study has three main parts: Trend analysis, correlation analysis, and regression analysis.

The study was conducted with the following Objectives:

1. To analyse the influence of foreign tourist arrivals on GDP:
 - (a) before Covid Pandemic.
 - (b) after Covid Pandemic
2. To analyse the influence of foreign tourist arrivals on GDP per capita:
 - (a) before Covid Pandemic.
 - (b) after Covid Pandemic

4.2 Nature of Data

In this study, the researcher analyses 44 years of time-series data collected from the World Bank depository for analysis. Time series data Analysis with the help of Gretl, an open-source time series data analysis software, is used for this purpose.

4.3 Summary statistics

Summary statistics are provided here to provide a concise and simplified representation of the dataset. This helps to analyse the main characteristics of the secondary data used in this analysis. Table 4.1 shows a summary of FTA and GDP.

Table 4.1

Summary Statistics

Statistics	FTA	GDP	GDP P/c
Mean	614.54	1478.6	1152.8
Median	418.3	1279.3	1059.7
Std. Dev	518.67	969.43	657.79
C.V	0.844	0.656	0.571
Skewness	1.196	0.417	0.307
Ex kurtosis	-0.016	-1.136	-1.262
IQ Range	446.20	1754.20	1228.60

Source: Gretl output

Foreign Tourist Arrival (FTA): The mean FTA over the 27-year period is 61.45 lakh. This means that the average number of foreign tourists arriving in India over 27 years is approximately 61.45 lakhs. The median value indicates that half of the years had foreign tourist arrival numbers below 41.83 lakhs, and the other half had numbers above this value. The higher standard deviation and C.V. indicate higher variability in annual FTA numbers. The positive skewness indicates that the data is skewed to the right. A negative value of the excess kurtosis (-0.016037) suggests that the distribution has thinner tails than a normal distribution. It's slightly platykurtic. The interquartile range provides a measure of the spread of the central portion, of 446.20 represents the range of the middle 50% of the data.

GDP: The mean of 147860 crores represents the average GDP in India over the 27-year period. The median of 127936 crores is the middle value when the data is arranged in ascending order). The median value indicates that half of the years had foreign tourist arrival numbers below 41830 crores, and the other half had numbers above this value. The standard deviation of 969.43 quantifies the amount of variability or dispersion in the GDP data. It shows less variability in GDP. C.V (Coefficient of Variation) of 0.65562 % indicates a moderate degree of variability compared to the mean. A positive skewness (1.1955) indicates a longer right tail, suggesting that the data is skewed to the right. A negative value of the excess kurtosis (-1.136) suggests that the distribution has thinner tails than a normal distribution. It's slightly platykurtic. The interquartile range of 1754.20 represents the range of the middle 50% of the data. It provides a measure of the spread of the central portion of the distribution.

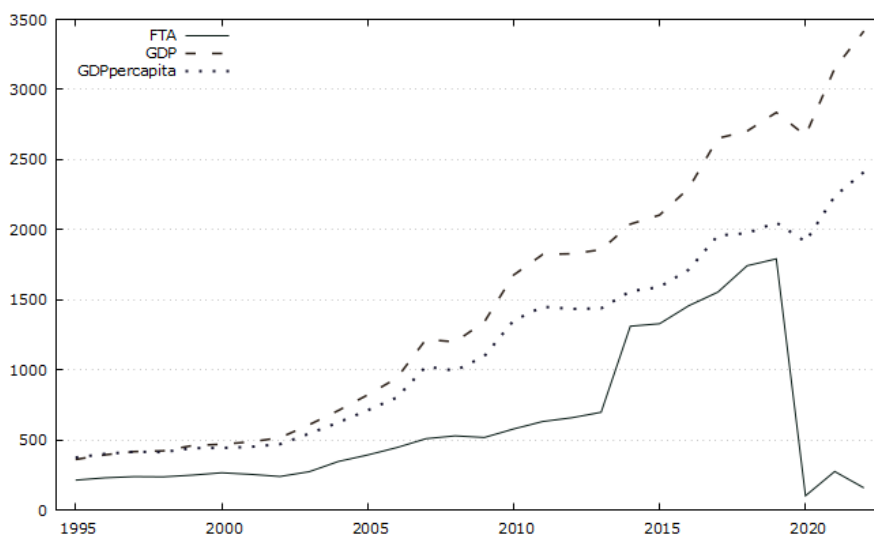
GDP per capita Income: The mean of 1152.8 represents the average GDP in India over the 27 years. The median of 1059.7 is the middle value when the data is arranged in ascending order. The median value indicates that half of the years had foreign tourist arrival numbers below 1059.7, and the other half had numbers above this value. The standard deviation of 657.79 quantifies the amount of variability or dispersion in the GDP data. It shows less variability in GDP. C.V (Coefficient of Variation) of 0.57063 % indicates a moderate degree of variability compared to the mean. A positive skewness (0.30653) indicates a longer right tail, suggesting that the data is skewed to the right. A negative value of the excess kurtosis (-1.2624) suggests that the distribution has thinner tails than a normal distribution. It's slightly platykurtic. The interquartile range of 1228.60 represents the range of the middle 50% of the data. It provides a measure of the spread of the central portion of the distribution.

4.4 Correlation between FTA and GDP

The first objective of the study was to find out the correlation between FTA and GDP. For this analysis, time trend and correlation analysis were made:

4.4.1 Time series plot of FTA, GDP, and GDP Per capita

The time series plot is a graphical representation of data points in a time-ordered sequence. In the below diagram, of plot, the x-axis time, the year from 1995 to 2022. The y-axis represents the values of foreign tourist arrival, GDP, and GDP per capita income in the corresponding period. The figure shows the plot of the time series of FTA, GDP, and GDP per capita.

Figure 4.1**Time series plot of FTA, GDP, and GDP per capita**

Source: Gretl Output

The number of foreign tourists appears to have gradually increased from 1995 to 2000, with moderate growth each year. From 2001 to 2003, there is some fluctuation in the growth rate during these years. During 2004-2007, significant growth was observed during these years, with the number of foreign tourist arrivals increasing substantially each year. Despite economic uncertainties globally from 2008 to 2009, some growth was observed. There is an upward trend in foreign tourist arrivals during the 2010 to 2019 period, with consistent growth each year; accelerated growth can be seen in 2014. This suggests a healthy and growing tourism industry. During 2020, there was a significant drop in foreign tourist arrivals, which is likely due to the COVID-19 pandemic and the resulting travel restrictions and lockdowns worldwide. Then, slowly increase foreign tourist arrivals. In the case of GDP from 1995 to 2006, GDP shows a steady increase during this period, indicating economic growth over the

years. The growth rate appears to be moderate but consistent, and it shows the continued upward trend in GDP. In 2007-2009, Despite the global financial crisis occurring during these years, there was still some growth observed in GDP, although it might be at a slower rate compared to previous years. In 2010-2019, there was a noticeable upward trend in GDP during this period, with consistent growth each year. During 2020, there was a slight decrease in GDP, which is likely due to the COVID-19 pandemic and the resulting economic downturn globally. In 2021-2022, The data shows a rebound in GDP compared to 2020, with GDP surpassing pre-pandemic levels. This could indicate a recovery in economic activity. In the case of GDP per capita income, there was a steady increase in GDP per capita income from 1995 to 2006, indicating positive economic growth and an increasing trend. Accelerated growth can be seen in 2007. During 2008, there was a slower growth rate than in previous years. There is a noticeable upward trend in GDP per capita income from 2009 to 2019, with consistent growth each year. During the period of 2020, there's a slight decrease in GDP per capita income, likely due to the COVID-19 pandemic and the resulting economic downturn globally. 2021-2022 The data shows a rebound in GDP per capita income compared to 2020.

4.3.2 FTA-GDP Relationship Before Pandemic

The relationship between foreign tourist arrivals and GDP before to the COVID pandemic is examined using regression and correlation analysis.

4.3.2.1 Correlation Analysis: Before Pandemic

The correlation between the growth of foreign tourist arrivals and GDP growth reflects the significant economic contribution of

tourism to a country's economy. The following null hypothesis was formulated:

H_{01} The Foreign Tourist Arrivals and GDP are not significantly correlated before the Covid pandemic.

H_{02} The Foreign Tourist Arrivals and GDP per capita are not significantly correlated before the Covid pandemic.

Kendall's tau is used to test the hypothesis. Test results are given in Table.

Table 4.2

Test Results: Correlation Analysis

Correlation: FTA and GDP, GDP per capita				
	Kendall's tau	z-score	p-value	Decision
FTA-GDP	0.61904762	4.60327	0.0001	Reject
FTA- GDP Per Capita	0.61904762	4.60327	0.0001	Reject

Source: Gretl Output

In the case of FTA and GDP, after conducting a correlation, the p-value is less than 0.05. The null hypothesis is rejected. It is concluded that the growth of foreign tourist arrivals is correlated with the growth of GDP before the Covid pandemic. At the same time, the correlation between the FTA and GDP per capita income has a p-value of less than 0.05. The null hypothesis is rejected. It is concluded that foreign tourist arrivals are correlated with the growth of GDP per capita Before the Covid pandemic.

4.3.2.2 Regression analysis: Before Pandemic

Regression analysis is a statistical technique used to model the relationship between a dependent variable and one or more independent variables. The goal is to understand how the independent variables affect the dependent variable and to make predictions based on that relationship. It assumes a linear relationship between the independent variables and the dependent variable. OLS is the most common method for regression analysis. Linearity, independence of errors, homoscedasticity, no perfect multicollinearity, normality of errors, no autocorrelation, and exogeneity are the assumptions of OLS analysis.

A regression analysis was conducted after the trend and correlation analyses. After the trend and correlation analysis, satisfied with the result of trend and correlation analysis. Now, let's begin the regression analysis procedure.

The following hypotheses are formed.

H₀₃ The Foreign Tourist Arrivals did not significantly influence the GDP before the COVID-19 pandemic.

H₀₄ Foreign Tourist Arrivals did not significantly influence the GDP per capita before the COVID-19 pandemic.

Ordinarily, least square regression analysis is used to test the above hypothesis. The following OLS regression model is formulated.

$$Y = \beta_0 + \beta_1 X + \varepsilon$$

Y is the dependent variable for foreign tourist arrival

X is the independent variable GDP or GDP per capita income

β_0 is the intercept (the value of Y when X=0)

β_1 is the slope (the change in Y for a one-unit change in X)

ε is the error term (the difference between the observed and predicted values of Y)

Table 4.3 shows the result of the regression analysis.

No of observations 1995-2019 (T = 25)

Dependent variable: GDP

Table 4.3

Model 1: Influence of FTA on GDP before COVID-19 pandemic

	coefficient	std. error	t-ratio	p-value	Decision
const	294.389	121.884	2.415	0.0241	**
FTA	1.48748	0.09419	15.79	7.74e-014	***
Mean dependent var	1286.542	S.D. dependent var			828.6105
Sum squared resid	1862845	S.E. of regression			284.5931
R-squared	0.886952	Adjusted R-squared			0.882036
F (1, 23)	249.4137	P-value(F)			7.74e-14
Log-likelihood	-175.7077	Akaike criterion			355.4154
Schwarz criterion	357.8532	Hannan-Quinn			356.0915
rho	0.778014	Durbin-Watson			0.414957

Source: Gretl Output

The R-squared value is 88.7% of the variation in GDP, which can be explained by the variation in Foreign Tourist Arrivals. The coefficient of FTA is 1.48748, which means that, on average, for each additional unit increase in Foreign Tourist Arrivals, we can expect the GDP to increase by approximately 1.48748 units. The

Durbin-Watson statistic is (0.415). This indicates strong positive autocorrelation in the residuals. The null hypothesis was Rejected. It is concluded that there was a significant positive influence on GDP before the COVID-19 pandemic.

This result supports Aman Mishra's findings. "India's tourism industry plays a crucial role in the country's economic development. There are significant relationships between time and foreign tourist arrivals (FTAs), employment generation, GDP and Foreign Exchange Earnings (FEEs)".(Mishra, 2018). Arrivals of foreign tourists have the potential to directly impact the GDP through their spending on lodging, travel, food, entertainment, and retail. Usually, this expenditure is included in the GDP of the nation, especially in the retail, hospitality, and tourism sectors. Spending by foreign visitors has the potential to have a multiplier effect, whereby the original amount spent by visitors travels throughout the economy and generates other rounds of spending and revenue. This can significantly affect GDP growth, particularly in nations where tourism is a major industry.

No of observations 1995-2019 (T = 25)

Dependent variable: GDP per capita

Table: 4.4

Model 2: Influence of FTA on GDP per capita before Covid Pandemic

	coefficient	std. error	t-ratio	p-value	Decision
const	349.217	95.7957	3.645	0.0014	***
FTA	1.01855	0.07489	13.60	1.75e-012	***

Mean dependent var	1028.594	S.D. dependent var	575.8331
Sum squared resid	1105074	S.E. of regression	219.1956
R-squared	0.861137	Adjusted R-squared	0.855099
F(1, 23)	184.9713	P-value(F)	1.75e-12
Log-likelihood	-169.1803	Akaike criterion	342.3606
Schwarz criterion	344.7984	Hannan-Quinn	343.0367
rho	0.809003	Durbin-Watson	0.357215

Source: Gretl Output

The coefficient of FTA is 1.01855, which indicates that for each additional unit increase in Foreign Tourist Arrivals, GDP per capita is expected to increase by approximately 1.01855 units. The R-squared value of 86.1% of the variation in GDP per capita can be explained by the variation in Foreign Tourist Arrivals. The Durbin-Watson statistic is 0.357215, indicating the presence of autocorrelation in the residuals. The null hypothesis was Rejected. It is concluded that there was a significant positive influence on GDP per capita before the COVID-19 pandemic.

This result supports the findings of Martin Oliver Pedak. "Tourist arrivals have a positive relation on GDP per capita. Hence, an increasing amount of international tourists will increase the economic level in the country" (Pedak, 2012).

Regression analysis models the relationship between one dependent variable and one independent variable. It estimates the effects of the independent variables on the dependent variable based on the values of the independent variable. Unlike correlation, regression allows for the prediction of one variable based on the values of others. The equation of the models is:

Model 1:

$$\text{GDP} = 294 + 1.49 \cdot \text{FTA}$$

$$(93.2) (0.111)$$

$$T = 25, R\text{-squared} = 0.887$$

(standard errors in parentheses)

Model 2:

$$\text{GDPpercapita} = 349 + 1.02 \cdot \text{FTA}$$

$$(71.8) (0.0853)$$

$$T = 25, R\text{-squared} = 0.861$$

(standard errors in parentheses)

4.3.3 FTA-GDP Relationship after the Pandemic

The relationship between foreign tourist arrivals and GDP after the COVID-19 pandemic is examined using regression and correlation analysis.

4.3.3.1 Correlation after the Covid Pandemic

The correlation between FTA and GDP after the COVID pandemic is conducted to determine the effect of the COVID pandemic on GDP. The following null hypothesis was formulated:

$H_{0.5}$ The Foreign Tourist Arrivals and GDP are not significantly correlated after the Covid pandemic.

H₀₆ The Foreign Tourist Arrivals and GDP per capita are not significantly correlated after the Covid pandemic.

Table 4.5

Correlation between FTA, GDP, GDP Per capita

	Kendall's tau	z- score	p-value	Decision
FTA -GDP	0.333333	0	1.0000	Accept
FTA- GDP Per capita	0.333333	0	1.0000	Accept

Source: Gretl Output

In the case of FTA and GDP, after conducting a correlation after COVID-19, the p-value is Greater than 0.05. The null hypothesis is Accepted. It is concluded that the growth of foreign tourist arrivals is not correlated with the growth of GDP. At the same time, the correlation between the FTA and GDP per capita income has a p-value Greater than 0.05. It is concluded that foreign tourist arrivals are not correlated with the growth of GDP per capita income.

4.3.4 Regression after Covid Pandemic

Regression analysis was conducted after correlation analysis. After the correlation analysis, it is concluded that foreign tourist arrivals are not correlated with the growth of GDP per capita income. Now, let's begin the regression analysis procedure.

The following hypotheses are formed.

H₀₇ Foreign Tourist Arrivals have not significantly influenced the GDP since the Covid pandemic.

H₀₈ Foreign Tourist Arrivals have not significantly influenced the GDP per capita since the Covid pandemic.

No of observations 2020-2022 (T = 3)

Dependent variable: GDP

Table 4.6

Influence of FTA on GDP After Covid Pandemic

	coefficient	std. error	t-ratio	p-value
const	2725.31	723.520	3.767	0.1652
FTA	1.99769	3.77998	0.5285	0.6905
Mean dependent var	3079.516	S.D. dependent var	377.5361	
Sum squared resid	222829.9	S.E. of regression	472.0486	
R-squared	0.21 8325	Adjusted R-squared	-0.563351	
F (1, 1)	0.279304	P-value (F)	0.690488	
Log-likelihood	-21.08014	Akaike criterion	46.16029	
Schwarz criterion	44.35751	Hannan-Quinn	42.53648	
rho	-0.186768	Durbin-Watson	1.201589	

Source: Gretl Output

A higher R-squared indicates a better fit of the model to the data. The R-squared value is 21.83%. A low R-squared value suggests that the variation in the dependent variable (GDP) is not well explained by the independent variable(s) (such as Foreign Tourist Arrivals). The

null hypothesis is accepted. It is concluded that there has been no significant influence on GDP per capita Since the Covid pandemic.

No of observations 2020-2022 (T = 3)

Dependent variable: GDP per capita

Table 4.7

Influence of FTA on GDP per capita After the Covid Pandemic

	coefficient	std. error	t-ratio	p-value
const	1945.16	481.243	4.042	0.1544
FTA	1.36628	2.51422	0.5434	0.6831
Mean dependent var	2187.412	S.D. dependent var	252.6806	
Sum squared resid	98582.69	S.E. of regression	313.9788	
R-squared	0.227983	Adjusted R-squared	-0.544034	
F(1, 1)	0.295308	P-value(F)	0.683104	
Log-likelihood	-19.85687	Akaike criterion	43.71375	
Schwarz criterion	41.91097	Hannan-Quinn	40.08994	
rho	-0.186768	Durbin-Watson	1.201589	

Source: Gretl Output

A higher R-squared indicates a better fit of the model to the data. The R-squared value is 21.83. A low R-squared value suggests that the variation in the dependent variable (GDP) is not well explained by the independent variable(s) (such as Foreign Tourist Arrivals) included in the model. The null hypothesis is accepted. It is concluded that there is no significant influence on GDP per capita, After Covid Pandemic

4.4 Conclusion

According to correlation and trend research, there is a correlation between foreign visitor arrivals and GDP, as well as a correlation between foreign tourist arrivals and GDP per capita. The correlation between the growth of foreign tourist arrivals and GDP growth reflects the significant economic contribution of tourism to a country's economy. Both the GDP and GDP per capita are trending upward. However, the impact of foreign visitor arrivals affects the GDP since the fluctuations in foreign tourist visitor arrivals reflect the GDP and GDP per capita. Regression analysis revealed a positive outcome, which generally indicates that the independent and dependent variables in the model have a positive association.

CHAPTER 5

FINDINGS AND CONCLUSION

5.1 Introduction

The tourism industry is a vital contributor to the economic growth of countries, providing a substantial amount of income, jobs, and foreign exchange profits. In order to determine the degree to which foreign tourism boosts a nation's economic development, we examine the impact of FTA on GDP before and after the pandemic. This study examines the contribution of foreign visitors to economic growth before and after the Covid pandemic. Data from 1995 to 2022 is available here to understand the relationship between FTA and GDP before and after covid pandemic.

The following objectives are formulated for this purpose:

1. To analyse the influence of foreign tourist arrivals on GDP:
 - (a) before Covid Pandemic.
 - (b) after Covid Pandemic
2. To analyse the influence of foreign tourist arrivals on GDP per capita:
 - (a) before Covid Pandemic.
 - (b) after Covid Pandemic

5.2 Findings

There exists a relationship between the foreign tourist arrivals and the GDP Before covid pandemic. And a relationship between GDP per capita. The following are the findings of the relationship between foreign tourist arrivals and GDP or GDP per capita.

5.2.1 Summary statistics

1. The mean FTA over the 27-year period is 61.45 lakh. This means that the average number of foreign tourists arriving in India over a 27-year period is approximately 61.45 lakhs.
2. The median value indicates that half of the years had foreign tourist arrival numbers below 41.83 lakhs, and the other half had numbers above this value.
3. The higher standard deviation and C.V. indicate higher variability in annual FTA numbers.
4. The positive skewness indicates that the data is skewed to the right.
5. A negative value of the excess kurtosis (-0.016037) suggests that the distribution has thinner tails than a normal distribution. It's slightly platykurtic.
6. The interquartile range provides a measure of the spread of the central portion, of 446.20 represents the range of the middle 50% of the data.

5.2.2 Influence of FTA on GDP: Before Covid Pandemic

7. The tourism sector did not expand between 1995 and 2000, and the GDP and the number of foreign visitors decreased during that period.
8. Later, in the early 2000s, foreign visitor arrivals began to increase progressively, and during that same period, the GDP also showed a trend toward expansion.
9. Foreign tourists to the nation fluctuated little between 2005 and 2010, with a subsequent decrease that affected the GDP.

10. The number of foreign visitors who arrived in 2014 rose dramatically. As a result, the GDP is perceived as being higher.
11. The Foreign Tourist Arrivals and GDP are significantly correlated before the Covid pandemic.
12. Foreign Tourist Arrivals significantly influence the GDP before the COVID-19 pandemic.
13. The R-squared value is 88.7% of the variation in GDP, which can be explained by the variation in Foreign Tourist Arrivals.
14. The coefficient of FTA is 1.48748, which means that, on average, for each additional unit increase in Foreign Tourist Arrivals, we can expect the GDP to increase by approximately 1.48748 units.
15. Aman Mishra says that there is a significant relationship between time and foreign tourist arrivals (FTAs), employment generation, GDP and Foreign Exchange Earnings (FEEs". (Mishra, 2018)

5.2.3 Influence of FTA on GDP per capita: Before Covid Pandemic

16. During the period of 1995 to 2000, the FTA and GDP per capita show the same trend.
17. Later, in the early 2000s, foreign visitor arrivals began to progressively increase, and at that same period, the GDP per capita also showed a trend toward expansion.
18. The number of foreign tourists to the nation fluctuated little between 2005 and 2010, with a subsequent decrease that affected the GDP per capita.

19. The number of foreign visitors who arrived in 2014 rose dramatically. As a result, the GDP per capita is perceived as being higher.
20. COVID-19 produced a severe decline in FTA in 2020, which had an impact on GDP per capita as it showed a decline.
21. In 2021-2022, The data shows a rebound in FTA and GDP compared to 2020, with GDP per capita surpassing pre-pandemic levels.
22. The Foreign Tourist Arrivals and GDP per capita are significantly correlated before the Covid pandemic.
23. Foreign tourist arrivals significantly influenced the GDP per capita before the Covid pandemic.
24. The R-squared value of 86.1% of the variation in GDP per capita can be explained by the variation in Foreign Tourist Arrivals.
25. The coefficient of FTA is 1.01855, which indicates that for each additional unit increase in Foreign Tourist Arrivals, GDP per capita is expected to increase by approximately 1.01855 units.
26. "Martin Oliver Pedak says that tourism, especially tourist arrivals, positively affects GDP per capita. Hence, an increasing amount of international tourists will increase the economic level of the country" (Pedak, 2012).

5.2.4 Influence of FTA on GDP: After Covid Pandemic

27. During 2020, there was a significant drop in foreign tourist arrivals, likely due to the COVID-19 pandemic and the resulting travel restrictions and lockdowns worldwide.

28. In 2020- 21, there was little increase in foreign tourists arriving. But declined again in 2022.
29. COVID-19 produced a severe decline in FTA in 2020
30. The Foreign Tourist Arrivals and GDP are not significantly correlated after the Covid pandemic.
31. After the Covid pandemic, foreign tourist arrivals have not significantly influenced the GDP.
32. A higher R-squared indicates a better fit of the model to the data. The R-squared value is 21.83%, which is a low R-squared value.
33. "Tourism is one of the significant resources to generate foreign revenue for India. COVID-19 pandemic has affected the tourism sector negatively, and this novel research study revealed that the national and international FTAs and revenue income are adversely affected and detrimental to the Tourism industry".(Kumar, 2022)

5.2.5 Influence of FTA on GDP per capita: After Covid Pandemic

34. During 2020, there was a significant drop in foreign tourist arrivals, likely due to the COVID-19 pandemic and the resulting travel restrictions and lockdowns worldwide.
35. In 2020- 21, there was little increase in the number of foreign tourists arriving. But declined again in 2022.
36. COVID-19 produced a severe decline in FTA in 2020
37. The Foreign Tourist Arrivals and GDP per capita are not significantly correlated after the Covid pandemic.

38. Foreign tourist arrivals have not significantly influenced the GDP per capita since the COVID-19 pandemic.
39. The R- R-squared value indicates that 32.22 % of the changes in the dependent variable are included in the regression model.
40. "The country with the highest GDP per capita in Europe (i.e., Luxemburg) was found to experience the lowest change in new COVID-19 cases within the time period whilst the opposite was found for countries with lower GDP per capita (i.e., Ukraine, Bulgaria, and Romania)" (Pardhan & Drydakakis, 2021)

5.2.6 Comparison before and after Covid Pandemic

1. In 2021-2022, The data shows a rebound in FTA and GDP compared to 2020, with GDP surpassing pre-pandemic levels.
2. The impact of FTA on GDP can be understood by looking at the situation before and after the Covid pandemic.
3. As we found that there was a correlation and influence of FTA on GDP before the pandemic, how much was the impact of FTA on GDP?
4. The findings of no correlation between GDP and FTA post covid illustrate how foreign inflows affect GDP. Because there was no influx of foreigners during that period. The absence of correlation is the influence of covid-19.

5.3 Discussion and Suggestions

The findings highlight the significant relationship between foreign tourist arrivals (FTA) and GDP and GDP per capita before the COVID-19 pandemic. During the pre-pandemic period, a clear

correlation existed between FTA increases and expansions in GDP and GDP per capita. This relationship suggests that the tourism sector played a crucial role in driving economic growth and prosperity in India. However, the onset of the COVID-19 pandemic brought about significant disruptions to the tourism industry, leading to a sharp decline in FTA in 2020. This decline adversely affected GDP and GDP per capita, indicating the economy's vulnerability to external shocks such as global pandemics. The rebound in FTA and GDP observed in 2021-2022 suggests some recovery from the initial impact of the pandemic, with GDP surpassing pre-pandemic levels. This recovery underscores the resilience of the tourism sector and its importance in driving economic recovery.

Suggestions:

1. The arrival of foreigners from outside the country causes economic growth. Therefore, if the investment in tourism is increased, it will influence the country's overall growth, and the country will be able to achieve more benefits.
2. Further research is also suggested to compare tourism with other economic indicators.
3. Collaboration among government agencies, private enterprises, NGOs, and local communities fosters a holistic approach to tourism development. By aligning their interests and pooling resources, stakeholders can implement initiatives more effectively and address common challenges collaboratively.

5.4 Conclusion

According to correlation and trend analysis, foreign tourist arrivals and GDP correlate. The COVID-19 pandemic serves as a valuable case study for understanding the relationship between foreign tourist

arrivals and GDP, highlighting the interconnectedness of tourism with broader economic indicators and providing insights into the sector's role in driving economic growth and recovery. FTA can significantly boost local economies by generating revenue from accommodation, dining, transportation, and attractions. It creates jobs directly in the tourism sector and indirectly in related industries. Tourism tax revenues can contribute to government budgets, enabling investments in public services, infrastructure, and community development.

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APPENDIX

Data Collected from The World Bank

Year	International tourism, number of arrivals	GDP (current US\$)	GDP per capita (current US\$)
1995	2124000	360281909643.49	373.63
1996	2288000	392896866204.52	399.58
1997	2374000	415867563592.83	414.90
1998	2359000	421351317224.94	412.51
1999	2482000	458820417337.81	440.96
2000	2649000	468394937255.80	442.03
2001	2537000	485441014538.64	449.91
2002	2384000	514937948874.21	468.84
2003	2726000	607699285436.05	543.84
2004	3457000	709148514815.79	624.11
2005	3919000	820381595510.64	710.51
2006	4447000	940259888794.35	802.01
2007	5082000	1216736438842.41	1022.73
2008	5283000	1198895139014.62	993.50
2009	5168000	1341888016984.36	1096.64

2010	5776000	1675615519489.35	1350.63
2011	6309000	1823051829900.81	1449.60
2012	6578000	1827637590787.19	1434.02
2013	6968000	1856721507681.08	1438.06
2014	13107000	2039126479228.11	1559.86
2015	13284000	2103588360066.32	1590.17
2016	14570000	2294796885682.55	1714.28
2017	15543000	2651474262735.28	1957.97
2018	17423000	2702929641707.38	1974.38
2019	17914000	2835606256616.03	2050.16
2020	1009300	2671595405986.86	1913.22
2021	2740000	3150306839142.13	2238.13
2022	1570000	3416645826052.87	2410.89

Source:

<https://data.worldbank.org/indicator/ST.INT.ARVL>

<https://data.worldbank.org/indicator/NY.GDP.MKTP.CD>

<https://data.worldbank.org/indicator/NY.GDP.PCAP.CD>