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The Nexus between Tourism Industry and Unemployment Rate: The Case of South Asian Countries

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Abstract
The study's main aim is to investigate the effects of the tourism industry and the unemployment rate in South Asian Countries. This study utilized the data from 2000-2022 of South Asian Countries namely; Pakistan, Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka, based on the availability of data and employed the PMG, and D-H Granger Causality techniques for estimation. This study found that tourism receipts have no effect on the unemployment rate in the long run, while, an increase in tourism receipts will reduce the unemployment rate in the short run. Moreover, the causality analysis shows that no casualty exists between tourism receipt and the unemployment rate, therefore, this study concluded that the tourism industry is more bifacial to influence the employment rate in the short run. This study recommended that the government focus on tourism to overcome the problem of unemployment.

Keywords: *Tourism, Unemployment, Remittances, South Asia*

JEL Classification: *L83, J64, O53, C33. R11*

1. Introduction
The tourist industry is becoming a major driver of economic growth in emerging nations, bringing in national revenue and producing a large number of job opportunities. Both skilled and unskilled individuals can profit from the direct and indirect jobs that the tourist sector can create (Dayananda, 2014). There are several positive economic developments that might result from the expansion of tourist trends in the nation, especially when it comes to GDP, employment, national revenue, and international commerce. Apart from the direct impacts in the travel and tourist industry, there is a knock-on effect that creates job chances in other tourism-related industries because of their indirect and induced consequences (Pavlić et al., 2013). The tourism industry is defined by the World Tourism Organization as a group of production facilities from several sectors that offer goods and services that travelers especially want. These sectors, sometimes known as the tourism industries, serve the particular needs of travelers and are crucial in providing goods and services that are uncommon in other places. This demonstrates that there are a significant number of these products and services because of the unique needs and tastes of travelers. It is commonly acknowledged that tourism significantly boosts employment and national economies by generating employment opportunities and visitor expenditure. In many areas, especially those where conventional economic activity are dwindling, it is recognized that the tourist industry creates jobs. Tourism also plays a significant role in giving disadvantaged groups like women, low skilled workers, and young people job possibilities. With its varied skill requirements and labor intensive character, the sector also helps to reduce poverty. Additionally, the tourist industry sources a significant number of jobs from local markets, opening doors for small and micro-entrepreneurs in both the official and informal sectors. (UNWTO, 2020), and (Liu et al., 2018).

According to Fauzel (2016), tourism significantly boosts local economies by having an influence on a number of economic sectors. This is demonstrated by the fact that, both directly via direct spending and indirectly through

multiplier effects, tourists' visits to a given nation raise demand for domestic products and services. In addition to stimulating growth in the primary and secondary sectors, the tourist industry also generates jobs in the tertiary sector. This illustrates how tourist spending ripples across the nation's economy and is referred to as the multiplier effect. For instance, when visitors spend money at a hotel, it not only directly produces jobs there but also indirectly creates jobs elsewhere in the economy (Rusu, 2011). In tourism, the term "multiplier effect" describes the general rise in economic production that results from the initial shift in visitor spending. Five types of tourism multipliers are commonly recognized: The following are multipliers: income, transactions, government revenue, production, and employment (Ennew, 2003). In the tourist industry, the multiplier impact is a domino effect that goes beyond certain vendors or tour operators where money is spent directly. It includes everything a traveler consumes while there, such as lodging, transportation, attractions, and other conveniences. Therefore, the money spent by tourists in a certain tourist destination affects several sectors of the economy through the spending process (Koutoulas, 2004).

Income and employment multipliers are crucial in developing countries as they offer opportunities to reduce unemployment and improve the well-being of the population. Increased tourism expenditure generates more revenue, which can be obtained as profits, interest, rent, wages, or salaries. This additional revenue is known as the tourism income multiplier. Accordingly, the tourist employment multiplier aims to increase the number of job opportunities created by additional tourism spending (Ganeshamoorthy, 2019). According to Carstensen and Mcmillen (2003), there are three levels of observation about the influence of tourism on the creation of money and jobs: the direct effect, the indirect effect, and the induced effect. Businesses that provide goods and services to tourists profit directly from tourism by creating employment and income. Primary or direct effects are the terms used to describe these outcomes. The money made from direct impacts can also be used to purchase supplies and resources in the tourist sector, enabling production and satisfying demand. We call this the indirect impact of tourism.

Furthermore, the income generated in the tourism industry also has induced effects, as it is used by households to purchase goods and services unrelated to tourism. These induced effects are considered secondary effects of tourism, in addition to the primary and indirect effects (Sugiyarto et al., 2003). As mentioned before, Tourist spending in hotels creates direct job opportunities within the hotel and also indirectly generates employment in other sectors. For instance, hotels buy food from farmers and other local suppliers, who may then use some of the money they get to buy other things. Additionally, as tourists frequently purchase mementos, there is a greater demand for local goods, creating jobs. This multiplier effect keeps on until funds are spent on foreign goods, which may cause the local economy to suffer (Rusu, 2011). As previously said, the tourist business is distinct from other industries due to the large number of providers that offer goods and services. Important contributions are also made to various businesses, including retail, fishing, handicrafts, agriculture, and the cultural sector. The demand for unskilled labor is frequently accompanied by the greater young employment rate in the tourist industry when compared to other industries. Countries like Canada, Austria, and France are observing this trend. Similar to this, a higher percentage of women work in the tourist industry, frequently in low-skilled positions. Nevertheless, seasonal unemployment and erratic job prospects may result from the tourism industry's seasonality. Demand may also fluctuate for part-time tourist employment, with stronger demand on weekends and reduced demand throughout the week. Some tourism businesses may offer full-time employment opportunities to their part-time employees to address these fluctuations. It is noteworthy that employment legislation and licensing requirements may have an impact on employment prospects related to tourism in various nations (Ganeshamoorthy, 2019).

For 2017, jobs in the tourist industry accounted for 49,931,500. That accounted for 7.5% of all jobs. 2018 is expected to experience a 3.0% increase, or 51,436,500 jobs accounting for 7.6% of the entire work market. Tourism is expected to provide 7.8% of all jobs in the labor market by the year 2028, or 63,006,000 jobs (Hwang & Lee, 2019). In 2006, WTTC has estimated that the industry would generate 11.8 % of the world exports and contribute 10.3 % to GDP. The estimates of the tourist jobs in 2006 are 234,305,000 or 8.7 % of the total employment. According to World Tourism Council, the tourism industry provides about 330 m jobs globally in 2019 approximately 10% of all employment. That means that it was a massive contributor to employment. The

tourism industries in the Americas alone contributed 45.3 million jobs both directly and indirectly and approximately $2.5 trillion toward the GDP. In Africa, it contributed a whopping $168.5 billion to the GDP and supported about 24.6 million jobs. Tourism also had a high stake in the Asia-Pacific economy, supporting about 182 million jobs and contributing $3.0 trillion toward the GDP. The tourism sector in the Middle East developed well to support about 6.7 million jobs and contribute $245.5 billion to the GDP of the region. Europe remained the largest region in international visitor spending, accounting for about 37.2 million jobs and $2.0 trillion in GDP (WTTC, 2023).

The motivation for this research came from the critical role that tourism plays in reducing unemployment in South Asia, where creating jobs is an important challenge. Significant growth and job opportunities in a variety of industries might be fueled by the region's natural and cultural attractions. The second reason is to comprehend the relationship between tourism and unemployment, with the goal of measuring its effects and investigating its advantages for marginalized populations, such as young people and low-skilled laborers. Third reason is to fill in the gaps in regional data and policy frameworks by offering perspectives that will enable stakeholders to maximize the benefits of tourism for South Asia's social and economic development. Moreover, the literature shows that tourism and employment are generally positively correlated although results vary. Research by Aguayo et al. (2006), Pavlić et al. (2013), and Guisan and Aguayo (2002) emphasizes how tourism increases employment in a variety of areas, industries, and economies, especially in service sectors. Not with standing some complex findings, such as the tenuous connections between technological advancements and employment in China, other research, such those by Georgiou (2015) and Wei et al. (2009, 2013), also highlight the role that tourism plays in boosting growth and lowering unemployment. In contrast, there was no statistically significant correlation between employment and tourism, according to Thompson (2007) and Vázquez et al. (2021). Despite evidence of selection bias favoring optimistic findings, Georgios's (2022) meta-analysis indicates a largely beneficial influence. Although this corpus of research recognizes differences between methodology, regions, and timeframes, it highlights tourism's potential as a major source of employment and regional development.

2. Literature Review

The literature on the relationship between employment and tourism offers a wide variety of approaches, locations, and time periods. Studies that empirically investigate how tourism affects employment and unemployment rates using econometric methods like regression analysis, cointegration models, and causality tests are included in this review. The sources were chosen because they addressed a wide range of geographical areas, such as Europe, Asia, and the Americas, were pertinent to the main topic of how tourism affects employment, and their methodology were strong. Excluded to preserve focus and rigor were studies that concentrated on non-economic effects of tourism or that lacked adequate methodological detail. In order to lay the groundwork for the current study, this section summarizes the results of earlier research, identifies areas of agreement and disagreement, and points out any gaps, especially with regard to South Asian contexts.

Guisan and Aguayo (2002) conducted a study to investigate the influence of tourist activity on regional employment across 12 European Union countries. The researcher utilized least squares models to analyze data from 1995 to 2000. Additionally, the study examined various econometric models that considered the positive impact of tourism on non-agrarian employment in different regions. Aguayo et al. (2006) conducted a study to assess the influence of tourism on employment in 50 regions of transition countries. The researcher utilized Least Squares techniques to analyze data from 1990 to 2002. The findings demonstrate a positive impact of tourism on employment in the Service Sector. It was observed that tourism has the potential to stimulate both employment growth and regional economies by fostering linkages within the region's sectors. Thompson (2007) conducted a study to investigate the correlation between changes in total county employment and changes in tourism-related lodging sales in Nebraska. The researcher utilized regression analysis and bivariate relationship assessments to analyze data spanning from 1993 to 2004. However, the regression results, across various specifications, did not reveal a statistically significant relationship between the changes in tourism-related lodging sales and the changes in total employment in Nebraska counties. Onder and Durgun (2008) conducted a study to examine the impact of tourism on unemployment in Turkey. They utilized the Engle-Granger causality test, Johansen co-integration approach, and error correction model from 1980 to 2006. The empirical results of the VAR analysis show that

tourism has a positive impact on employment. The co-integration test also demonstrates a long-term relationship between the two variables.

According to Wei et al. (2009), research was done to look at how the tourism economy affects jobs in the industry. The researcher analyzed data from 1988 to 2004 using the Augmented Dickey-Fuller (ADF), Ordinary Least Squares (OLS), and Vector Auto-Regression (VAR) techniques. The results show that more jobs related to tourism do not always follow economic expansion in the tourism sector. Furthermore, the research findings indicate that the growth of industries associated to tourism is the primary driver of employment in China. Moreover, the findings suggested that technical progress has a marginally adverse effect on employment related to tourism in China. Aliqah and Al-rfou (2010) examined a study that was carried out to evaluate the effect of Jordan's tourism sector (TS) on the country's economy between 1990 and 2008. The data collected throughout this time period were analyzed using a descriptive statistical method in the study. The results showed a considerable increase in a variety of TS factors, such as infrastructure, laws, institutional framework, tourism services, and visitor arrivals. Additionally, the analysis showed that the TS contributed significantly to GDP, with percentages ranging from 12.3% to 14.6%. Furthermore, there was a rise in job openings in the TS, which employed 2.5% of the workforce overall.

Aguayo (2011) conducted research to examine how tourism affects the economy of Central and Eastern European countries (CEEB) on a regional level. Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, Romania, and Bulgaria (which joined in 2007) were among the nations that were examined. The data from 2000 to 2007 were analyzed by the researcher using a regression model. The results show that there is a positive association between employment in market services and tourism, indicating that employment in these countries' market service sectors benefits from tourism. Pavlić et al. (2013) examined a study to investigate the influence of tourism on employment in Croatia. Data from 2000 to 2015 were analyzed by the researcher using the Johansen co-integration technique and the Granger causality test. The findings show that tourism has a major role in the growth of jobs, both directly and indirectly. The empirical investigation supports the notion that tourism increases employment, and the co-integration test demonstrates a long-term link between the two variables.

Alegre et al. (2013) conducted a study was to investigate household decisions regarding tourism participation and tourism expenditure in Spain, particularly in relation to the business cycle. The researcher utilized the Heckman model to analyze data spanning from 2006 to 2010. The results showed that unemployment-related factors were found to have a considerable explanatory power. This implies that data on unemployment contributes to the explanation of variations in tourism spending throughout the course of the business cycle. Similarly, Kadiyali and Kosová (2013) a study was conducted to assess the influence of tourism inflows, represented by the number of hotel rooms sold, on employment in 22 non-hotel industries in the United States. The researcher employed a dynamic labor demand model that accounted for inter-industry spillover effects. Various estimators, including GMM-based dynamic panel methods, were used to analyze data spanning from 1987 to 2006. The findings reveal both statistically and economically significant effects. Specifically, it was determined that an additional 100 rooms sold per day in a given Metropolitan Statistical Area (MSA) leads to the creation of 2-5 new jobs per non-hotel industry in that area. Wei et al. (2013) conducted a study to examine the relationship between the tourism economy and tourism employment in China. The researcher employed the Augmented Dickey-Fuller (ADF), Ordinary Least Squares (OLS), and Vector Auto-Regression (VAR) methods to analyze data from 1988 to 2004.The results indicate that factors such as tourism technology level, employment correlation between the tourism industry and related industries, and environmental pressure caused by tourist arrivals are significant determinants of tourism employment growth in China. The study also found that there is no causal relationship between tourism economy and tourism employment, but rather, tourism's ability to push other related industries plays a crucial role in driving tourism employment. Additionally, technology has a weak, negative effect on China's tourism employment. The research shows the significance of protecting tourism resources and the environment while promoting tourism growth. It suggests encouraging cooperation between the tourism industry and its related industries to maximize employment opportunities.

Georgiou (2015) conducted a study to analyze the effects of tourism on growth and unemployment in Greece. The researcher employed unit root tests, serial correlation analysis, and least squares regression for the

period spanning from 1983 to 2008. The results of the study indicate that tourism plays a significant role in reducing unemployment and stimulating economic growth in Greece. Andraz et al. (2015) investigate a study that looks at how Portugal's tourist industry affects both national and regional economic performance. Unit root and cointegration analysis was employed by the researcher for the 1980–2011 timeframe. The results show that tourism has a substantial impact on output, employment, and investment, and that the benefits of tourism in one region differ from those in other parts of the nation. Additionally, the data show a regional pattern: spillover effects are more substantial in the northern and southern areas, especially in the latter, which is known as one of the country's primary touristic locations, while direct impacts are more prevalent in the center regions. Similarly, Beneki et al. (2015) conducted an analysis of a research that looked at how tourism affected the growth of jobs in the Greek hotel sector. Data from 2008 to 2010 were analyzed using a generalized linear mixed model. The results underscore the importance of tourism as the only industry that can create jobs, hence highlighting its role in government initiatives. A study examining the connection between Romanian unemployment and tourism was analyzed by Condratov (2017). Panel data analysis was utilized by the researcher to compute coefficients for the years 1990–2015 utilizing fixed effect and random effect models. This is backed by the regression results, which show that tourism lowers unemployment. Marčetić and Mušikić (2017) conducted a research to ascertain the total impact of tourism on employment in Serbia. The researcher used techniques including linear regression, correlation coefficient, and coefficient of determination to examine the data from 2008 to 2015. The findings of the study demonstrate that an increase in tourism leads to an increase in employment in Serbia overall, particularly in the hospitality and food service sectors. There are moderately strong positive linear relationships between the number of jobs in the lodging and food service activities sector and overall employment in Serbia, as indicated by the correlation coefficients of 0.564 and 0.76 in addition to the coefficients of determination of 0.318 and 0.578.

A study by Manzoor et al. (2019) looked into how Pakistani unemployment was affected by tourism. The augmented Dickey-Fuller and Phillips-Perron unit root tests were utilized by the researchers to evaluate the variables' stationarity. The data from 1990 to 2015 were analyzed using regression analysis and the Johansen cointegration technique. The results show that tourism has a positive and significant effect on Pakistan's employment and economic growth. The study also demonstrates a long-term link between the variables examined. These findings imply that, given tourism's enormous potential across the nation, governments ought to give policies that encourage it top priority. Furthermore, Matijová et al. (2019) study sought to quantify how tourism affected many capacity metrics, such as the quantity of room accommodations, beds, tourists, overnight stays, average lodging cost, and income. The influence of tourism on the socioeconomic growth of the national economy, as measured by the registered unemployment rate in the Slovak Republic, was also investigated in this study. In order to do basic regression analysis, the researcher used regression models and data from 2008 to 2017. The findings of regression analysis show that when the unemployment rate declines, the average cost of housing increases.

Yaşar et al. (2019) conducted a research to discover the connection among tourism and employment in Turkey. The researcher employed cointegration and causality tests to analyze data from the years 2014 to 2018. The results revealed the presence of a long-term cointegration relationship between tourism and employment. Following the identification of this cointegration relationship, a causality test was conducted on the series. The causality analysis indicated that tourism and employment were found to be Granger causes of each other. Moreover, Gómez and Barrón (2019) examined the connection between employment, tourism, and economic variables in the 32 Mexican states from 1999 to 2014. Techniques for panel data and cointegration panel data analysis were employed by the authors. Both approaches corroborate the results, which show that domestic travel has a major impact on the number of direct jobs generated in the tourism industry. Economic growth, as measured by the state gross domestic product, has a direct effect on job creation. Additionally, the panels' cointegration points to a long-term balance between the states and specific factors. Furthermore, Ganeshamoorthy (2019) investigated the relationship between employment creation and tourism in Sri Lanka. The Granger-causality test, Vector Auto Regressive (VAR) analysis, and Johansen cointegration test were employed by the researcher to analyze data spanning 1977 to 2017. According to the findings, there may soon be job opportunities in Sri Lanka's tourism industry.

Dogru et al. (2020) looked into how employment in the hospitality, traveller, and leisureliness sectors was affected by Airbnb supply. Using data from July 2008 to February 2018, the researcher performed robustness analysis and panel data fixed effect regression analysis. The findings show a positive correlation between Airbnb listings and hotel industry employment, indicating that more Airbnb listings translate into more hotel industry jobs. A research by Vázquez et al. (2021) looked into how tourism affected employment and economic growth along Spain's wine trail. The researcher analyzed data from 2008 to 2018 using panel data methodologies. The findings imply that economic growth is positively impacted by tourism along these wine routes. The study could not, however, discover final evidence of the positive effect on the creation of jobs. Furthermore, Oguchi and Luo (2021) examined how tourism, economic growth, and job creation are related in Nigeria. Through the use of the Granger causality tests, the Autoregressive Distributed Lag (ARDL) limits test of cointegration, and the Error Correction model, the researcher empirically examined the impacts of tourism on employment and economic growth in Nigeria's LACKET states between 1999 and 2019. The results show a strong correlation between tourism and economic growth and employment rates in Nigeria, both in the short and long term. Similarly, Kirca and Özer (2021) examined the effects of local, international, and overall tourist demand on sectoral employment in several Turkish areas. The Random Coefficients Regression model was used by the researcher to examine data from 2004 to 2013. The study's conclusions show that demand for tourism can be a useful instrument for lowering gaps in regional development and raising sectoral and regional employment contributions. Moreover, Georgios (2022) conducted a study to study the effect of tourism on employment, utilizing meta-analysis techniques. The findings of the study reveal a predominantly positive relationship, as indicated by the majority of the 36 studies included in the meta-sample. The mean effect, determined through Partial Correlations, was found to be 0.129. Furthermore, regression results also demonstrated a positive and statistically noteworthy effect, with an approximate value of 0.9. These results clearly indicate that tourism plays a significant role in job creation and provides employment opportunities. The research also found indications of selection bias favoring papers with favorable estimates.

Guisan and Aguayo (2002) discovered that tourism has positive impacts on non-agrarian employment in several geographical areas. Likewise, Aguayo et al. (2006) show that tourism has a positive impact on jobs in the service sector. Additionally, studies by Onder and Durgun (2008) shown that tourism boosts employment. Wei et al. (2009) point out that employment in the tourist industry does not necessarily rise in tandem with the expansion of the tourism sector. Similarly, Aliqah and Al-rfou (2010) reported a rise in job possibilities and tourism services. According to Aguayo (2011), employment in these nations' market service industries benefits from tourism. Additionally, it was discovered by Pavlić et al. (2013) that tourism contributes significantly to the growth of employment, both directly and indirectly; Kadiyali and Kosová (2013) and Wei et al. (2013) that tourist arrivals are important factors in the growth of tourism employment; Georgiou (2015) that tourism contributes significantly to the reduction of unemployment and the stimulation of economic growth; Beneki et al. (2015) that tourism is the only sector that can increase employment; Condratov (2017) that tourism helps to reduce unemployment; and Marčetić and Mušikić (2017) that an increase in tourist visits in Serbia results in a corresponding increase in total employment, especially in the sector of lodging and food service activities. According to Manzoor et al. (2019), tourism has a positive and noteworthy effect on Pakistan's employment and economic growth. According to Gómez and Barrón (2019), domestic travel has the most impact on the creation of direct jobs in the travel industry. According to Ganeshamoorthy (2019), Sri Lanka's tourist sector has the capacity to create jobs. According to Oguchi and Luo (2021), there is a positive association between tourism and both economic growth and employment rates. Additionally, selection bias favoring papers with favorable estimations was found by Georgios (2022). However, Thompson (2007) found no statistically significant correlation between changes in total employment in Nebraska counties and changes in hotel revenues attributable to tourism. Likewise, Vázquez et al. (2021) failed to discover any conclusive proof of positive effects on job creation.

The effect of the tourism industry on unemployment is still controversial and ambiguous. Some scholars insist that tourism industries reduce unemployment rates hugely, like Guisan and Aguayo (2002), Aguayo et al. (2006), Onder and Durgun (2008), Wei et al. (2009), Aliqah and Al-rfou (2010), Aguayo (2011), Pavlić et al. (2013), Kadiyali and Kosová (2013), Wei et al. (2013), Georgiou (2015), Beneki et al. (2015), Condratov (2017), Marčetić and Mušikić (2017), The studies conducted by Manzoor et al. (2019), Gómez and Barrón (2019), Ganeshamoorthy

(2019), Oguchi and Luo (2021), and Georgios (2022) have, In contrast,, assumed that a association among unemployment rate and the tourism industry does exist. Some scholars argue that the tourism industry has no effect on unemployment rates, such as Thompson (2007) and Alegre et al. (2019). Very few studies are available to investigate the relation between the tourism industry and unemployment rate. The researchers gave very little attention to the South Asian countries in whole, thus, using the panel data with updated data and methodology. Hence, this study is different from other studies in two ways: *First*, the updated methodology and data set were used. *Second*, unique combination of variables that was not used by prior studies was used in the present study. *Thirdly*, this study used all the countries of the South Asian Region except Afghanistan due to the non availability of target variables. This study significantly contributes to the existing literature and opens new ways to the future researchers. Moreover, this study will be more beneficial for the sample countries and all developing countries to overcome the problem of unemployment. It was in this regard that this study was done to analyze the effect of the tourism industry and unemployment rate in South Asian Countries.

The literature study emphasizes how important tourism is for creating jobs in different areas and economies. Research shows that employment in businesses like hospitality, food services, and related fields is positively impacted by tourism. As demonstrated by research conducted in Europe, Asia, North America, and Africa, these results hold true across a variety of geographic locations, methodology, and historical periods. The literature does, however, also draw attention to complex processes, such as the part played by sectoral connections, geographical differences, and technological advancement. Even while tourism and employment are often positively correlated, some studies show unclear or non-significant associations, like Thompson's (2007) findings in Nebraska or Vázquez et al.'s (2021) lack of conclusive evidence for job creation along Spain's wine trail. The research gap is caused by a number of important factors. First off, a lot of research has shown that tourism has a direct and indirect impact on jobs, but little is known about the mediating elements like environmental sustainability, technology improvements, and policy interventions. Secondly, the sectoral and regional spillover effects of tourism necessitate more detailed research to determine how advantages might be shared fairly. Last but not least, little thought has been devoted to comprehending how emergencies, like pandemics or economic downturns, affect the relationship between tourism and jobs. These gaps point to the need for more comprehensive research methods that incorporate technological, economic, and environmental aspects in order to offer useful information to stakeholders and policymakers in the travel and tourism sector.

3. Methodology and Model

This study uses a quantitative methodology to examine the connection between South Asian countries' unemployment rates and the tourism sector between 2000 and 2022. Due to the availability of reliable data and the importance of tourism as a major economic driver in these countries, this time period and region were chosen. The study uses a panel data econometric model, a methodology that is well-suited for evaluating cross-sectional and time-series data, in order to accomplish the research purpose. In order to ensure methodological rigor and compatibility with known research in the field, the revised model definition draws on earlier work by Huseynli (2022), Rehman et al. (2020), Maqbool et al. (2013), and Rehman et al. (2018).

3.1 Estimation Technique

Panel data analysis is the recommended option for this study since it provides a number of benefits. This strategy addresses variation among nations and throughout time by merging cross-sectional and time-series data, improving the results' robustness. It makes it possible to compensate for unobservable individual-specific effects that might skew results in time-series or cross-sectional analyses alone. Additionally, panel data offers higher degrees of freedom, more variability, and more meaningful data, which improves the estimates' efficiency and dependability. To account for possible unobserved heterogeneity, the study employs a fixed effects or random effects strategy based on statistical testing. To further guarantee the model's validity, sophisticated econometric techniques are used, including diagnostic tests for stationarity, multicollinearity, and endogeneity. This methodology's main benefit is its capacity to recognize and measure the dynamic interactions between variables throughout time and across nations, providing information on both immediate and long-term impacts. This is especially important in South Asia, where structural and policy variations among countries can have a big impact on the relationship between unemployment and tourism. Nevertheless, the strategy has drawbacks as well. If important unemployment factors are left out of the model, panel data models are vulnerable to omitted variable

bias. The accuracy and completeness of the data are also critical to the dependability of the results, which can be problematic in developing nations with uneven reporting standards. Nevertheless, the methodology that was adopted offers a strong foundation for comprehending how the tourism sector affects unemployment in the chosen area.

This study utilized the data from 2000-2022 of South Asian Countries namely; Pakistan, Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka, based on the availability of data to achieve the objective of the research to study the effect of the tourism industry on unemployment rate.

3.2 Model Specification

This research utilize the following amended model, which also utilize by Huseynli (2022), Rehman et al. (2020), Maqbool et al. (2013), and Rehman et al. (2018) etc.

$$UEM_{it} = \beta_o + \beta_1 ToR_{it} + \beta_2 GGDP_{it} + \beta_3 POP_{it} + \beta_4 OER_{it} + \beta_5 IFDI_{it} + \beta_6 PREM_{it} + \beta_7 GEE_{it} + \mu_{it} \quad (1)$$

Where $\boldsymbol{\beta}, \boldsymbol{s}$ represent the parameters, i= 0,1,2,…..n, represent section and t represent time period. Furthermore, μ_{it} is the error term.

Table 1: Variables Description

S. No	Variable Description	Marks
1.	Unemployment, total (% of total labor force)	UEM_{it}
2.	GDP growth (annual %)	$GGDP_{it}$
3.	Population ages 15-64 (% of total population)	POP_{it}
4.	Official exchange rate (LCU per US$, period average)	OER_{it}
5.	International tourism, receipts (% of total exports)	TOR_{it}
6.	Foreign direct investment, net inflows (% of GDP)	$IFDI_{it}$
7.	Government expenditure on education, total (% of GDP)	GEE_{it}
8.	Personal remittances, received (% of GDP)	$PREM_{it}$

3.3 Operational Definitions of Key Terms and Variables

Unemployment Rate (UEM): The proportion of the labor force that is unemployed and actively looking for work over a given time frame.
Tourism Revenue (ToR): The total amount of money made in a nation over a given period of time from both local and foreign tourism.
Gross Domestic Product Growth (GGDP): The GDP growth rate each year, which is a measure of a country's total economic performance.
Population Growth (POP): The yearly percentage growth in a nation's overall population.
Exchange Rate (ER): The average annual value of the exchange rate between a South Asian nation's capital and the US dollar.
Foreign Direct Investment (FDI): Net inflows of capital made by a company domiciled in one nation to obtain a long-term stake in or efficient management control of a commercial entity in another.
Political Risk and Economic Management (PREM): A combined index that measures a nation's economic and political stability.
Government Expenditure on Education (GEE): The portion of overall government spending that goes toward education in a particular year.

3.4 Estimation Strategy

This study used the PMG techniques, initiated by Pesaran et al. (1997) for estimating dynamic panel data. The PMG approaches also include an error correction term that describes the amount of modification in each period. We also utilized the panel Cointegration Test designed by Kao (1999) and Westerlund test to analyzed the long run association and D-H Granger Causality Tests to estimate the causality among the variables.

$$\Delta UEM_{it} = \beta_{0i} + \emptyset_i UEM_{i,t-1} + \beta_1 GGDP_{it} + \beta_2 TOR_{it} + \beta_3 POP_{it} + \beta_4 OER_{it} + \beta_5 GEE_{it} + \beta_6 IFDI_{it} + \beta_7 PREM_{it} + \sum_{i=1}^{n} \gamma_{ij} \Delta UEM_{it} + \sum_{i=0}^{n} \vartheta_{1i} \Delta GGDP_{it} + \sum_{i=0}^{n} \vartheta_{2i} \Delta TOR_{it} + \sum_{i=0}^{n} \vartheta_{3i} \Delta POP_{it} + \sum_{i=0}^{n} \vartheta_{4i} \Delta OER_{it} + \sum_{i=1}^{n} \vartheta_{5i} \Delta GEE_{it} + \sum_{i=1}^{n} \vartheta_{6i} \Delta IFDI_{it} + \sum_{i=1}^{n} \vartheta_{7i} \Delta PREM_{it} + \omega_{it} \quad . (2)$$

Where

$$\emptyset_i = -\left(1 - \sum_{j=1}^{p} \gamma_{ij}\right), \beta_i = \sum_{j=1}^{q} \vartheta_{ij},$$

$$\gamma_{ij} = -\sum_{m=j+1}^{p} \gamma_{im}, j = 1,2,\dots,p-1 \; and \; \vartheta_{ij} = -\sum_{m=j+1}^{q} \vartheta_{im}, j = 1,2,\dots,q-1, i = 1,2,\dots,n$$

Where i= 0,1,2,…..n, $\emptyset_i$ is the error correction term.

4. Results and Discussions

Table 2 presents the summary of descriptive statistics, which show that the GDP growth, tourism, government education expenditure, FDI inflow and remittances are negatively, while, population growth, exchange rate are positively correlated with unemployment Rate.

Table 2: Summary of Descriptive Statistics

	UEM_{it}	$GGDP_{it}$	ToR_{it}	POP_{it}	OER_{it}	$IFDI_{it}$	GEE_{it}	$PREM_{it}$
Mean	5.903	5.222	19.690	63.343	73.244	2.037	3.438	6.141
Median	5.205	5.878	8.312	63.824	69.400	0.972	3.361	3.833
Maximum	13.078	37.687	85.562	73.855	204.867	16.783	7.287	27.626
Minimum	0.400	-32.909	0.359	53.619	11.770	-0.639	1.200	0.000
Std. Dev.	3.170	5.704	26.831	4.908	41.083	3.064	1.375	6.716
Skewness	0.172	-0.953	1.731	0.116	0.820	2.651	0.609	1.679
Kurtosis	2.025	21.912	4.413	2.343	3.967	9.880	2.627	5.207
UEM_{it}	1							
$GGDP_{it}$	-0.054	1						
ToR_{it}	-0.218	0.024	1					
POP_{it}	0.168	0.055	0.408	1				
OER_{it}	0.006	-0.180	-0.516	-0.136	1			
$IFDI_{it}$	-0.089	0.113	0.778	0.567	-0.531	1		
GEE_{it}	-0.064	0.006	0.411	0.237	-0.563	0.226	1	
$PREM_{it}$	-0.510	0.095	0.216	0.241	0.491	-0.389	0.278	1

Table 3, presents the cross-sectional dependency test results, which shows that all CD tests indicated that there exist the cross dependency among the sections of all variables except government expenditure on education.

Table 3: CD Tests Results

Tests	UEM_{it}	$GGDP_{it}$	ToR_{it}	POP_{it}	OER_{it}	$IFDI_{it}$	GEE_{it}	$PREM_{it}$
Breusch-Pagan	84.008*	92.563*	109.83*	385.7*	395.2*	49.87*	25.417	96.86*
LM	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.000)	(0.000)	(0.230)	(0.000)
Pesaran scaled LM	9.722*	11.042*	13.71*	56.274*	57.74*	4.454*	0.682	11.71*
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.000)	(0.000)	(0.495)	(0.000)
Bias-corrected	9.563*	10.883*	13.55*	56.115*	57.58*	4.295*	0.522	11.55*
scaled LM	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.000)	(0.000)	(0.601)	(0.000)
Pesaran CD	3.334*	8.900*	6.021*	11.054*	19.83*	3.058*	0.184	2.05**
	(0.0009)	(0.0000)	(0.0000)	(0.0000)	(0.000)	(0.002)	(0.854)	(0.041)

Note: *, ** and *** indicate the significant level at 1%, 5%, and 10% respectively.

Table 4 presents the panel unit root test results, which shows that all the tests indicated that the series GDP growth, population growth, government expenditure on education and FDI inflow has zero degree order of integration,

while the rest of the series has 1st degree of order of integration. Consequently due to the mixed order of integration the PMG technique is more appropriate and suitable for estimation.

Table 4: Unit Root Test Results

Variables	Levin, Lin & Chu t*		Im, Pesaran & Shin		ADF-Fisher		CIPS		Decision
	Level	1st Dif	Level	1st Dif	Level	1st Dif	Level	1st Dif	
UEM$_{it}$	-0.654	-2.720*	-0.949	-6.019*	22.764***	64.72*	-1.822	-4.025*	1(1)
	(0.2566)	(0.0033)	(0.1713)	(0.0000)	(0.0642)	(0.0000)			
GGDP$_{it}$	-4.901*	---	-4.770*	---	53.952*	---	-2.909*		1(0)
	(0.0000)		(0.0000)		(0.0000)				
ToR$_{it}$	-0.876	-5.985*	-1.256	-5.454*	18.005	55.684*	-1.726	-4.585*	1(1)
	(0.1904)	(0.0000)	(0.1046)	(0.0000)	(0.2066)	(0.0000)			
POP$_{it}$	-3.899*	---	0.1307	---	21.480***	---	-2.38**		1(0)
	(0.0000)		(0.5520)		(0.0899)				
OER$_{it}$	4.198	-4.746*	6.283	-4.015*	1.228	41.602*	-1.339	-3.504*	1(1)
	(1.0000)	(0.0000)	(1.0000)	(0.0000)	(1.0000)	(0.0000)			
IFDI$_{it}$	-2.178**	---	-2.323**	---	28.217**	---	-2.719*		1(0)
	(0.0147)		(0.0101)		(0.0133)				
GEE$_{it}$	-1.756**	---	-2.432*	---	27.556**	---	-2.761*		1(0)
	(0.0395)		(0.0075)		(0.0163)				
PREM$_{it}$	-0.359	-5.371*	0.671	-5.482*	19.014	57.709*	-1.688	-4.208*	1(1)
	(0.3600)	(0.0000)	(0.749)	(0.0000)	(0.1644)	(0.0000)			

Note: *, ** and *** indicate the significant level at 1%, 5%, and 10% respectively. Critical values of CIPS test is -2.51, -2.25 and -2.12 at 1%, 5%, and 10% respectively.

Table 5 present the PMG results, in the long run, the GDP growth has negative and significant effect on unemployment rate. A one percent rise in GDP growth will result in a 0.08 percent decrease in the unemployment rate. Our results were consistent with results of Soylu et al. (2018), Chand et al. (2017), Abbas (2014), Akeju and Olanipekun (2014) and Tumanoska (2020), while, inconsistent with the results of Kreishan (2011) and Sadiku et al. (2015). Similarly, the government expenditure on education has negative and significant effect but weak on unemployment rate. A percent increase in the government expenditure on education will reduce the unemployment rate by 0.29 percent.

Our results were consistent with the results of Pirim et al. (2014), and Mehmetaj and Xhindi (2022), while, inconsistent with the results of Singh and Shastri (2020) and Nepram et al. (2021). However, The unemployment rate is positively and significantly impacted by the currency rate. The unemployment rate will rise by 0.02 percent for every unit increase in the exchange rate. Our results were consistent with the results of Frenkel and Ros (2006) and Ani et al., (2019),while, inconsistent with the results of Bakhshi and Ebrahimi (2016) and Golinelli and Orsi (1998). However, the tourism receipts have negative but insignificant effect on unemployment rate. Our results were consistent with the results of Alegre et al. (2019), Vázquez et al. (2021) and Thompson (2007),while, inconsistent with the results of Beneki et al. (2015), Condratov (2017), and Gómez and Barrón (2019). Similarly, the population growth, FDI inflow, and remittances have negative but insignificant effect on unemployment rate.

The tourism receipts significantly and negatively affect the unemployment rate in the short run. A one percent rise in the tourism receipts will decline the rate of unemployment by 0.32 percent. Our findings are consistent with the findings of Schubert, (2016), Matijová et al. (2019), Ganeshamoorthy (2019), and Tang (2011) but inconsistent with Manzoor et al. (2019). However, the variables, which include population growth FDI inflow, government expenditure on education, remittances, exchange rate, and GDP growth have a negative but insignificant impact on the rate of unemployment. Further, the speed of adjustment from short run to the long run equilibrium is 50%.

Table 5: Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	p-value

Long Run Results				
$GGDP_{it}$	-0.0828**	0.0393	-2.1063	0.0383
ToR_{it}	-0.0172	0.0175	-0.9786	0.3307
POP_{it}	-0.0626	0.0420	-1.4877	0.1407
OER_{it}	0.0214*	0.0069	3.1126	0.0026
$IFDI_{it}$	-0.1170	0.0870	-1.3439	0.1827
GEE_{it}	-0.2923***	0.1707	-1.7123	0.0907
$PREM_{it}$	-0.0168	0.0179	-0.9348	0.3527
Short Run Results				
ECM_{it}	-0.5047**	0.1951	-2.5874	0.0115
$D(GGDP_{it})$	0.0099	0.0243	0.4067	0.6853
$D(ToR_{it})$	-0.3210**	0.1433	-2.2398	0.0278
$D(POP_{it})$	3.7649	3.1944	1.1786	0.2420
$D(OER_{it})$	-0.0116	0.0217	-0.5359	0.5935
$D(IFDI_{it})$	0.0889	0.1100	0.8083	0.4213
$D(GEE_{it})$	-0.1079	0.1253	-0.8611	0.3917
$D(PREM_{it})$	0.1401	0.1089	1.2863	0.2020
C	4.1030**	1.6602	2.4713	0.0156

Note: *, ** and *** indicate the significant level at 1%, 5%, and 10% respectively.

Table 6: Cointegration Tests

1. Kao Residual Cointegration Test		
	t-Statistic	p-value
ADF	-2.1590**	0.0154
2. Westerlund test for Cointegration		
	Statistics	p-value
Variance ratio	2.4651*	0.0068

Note: *, ** and *** indicate the significant level at 1%, 5%, and 10% respectively.

Table 7: Casual Analysis

Variables	**UEM**	**GGDP**	**ToR**	**POP**	**OER**	**IFDI**	**GEE**	**PREM**
UEM_{it}	---	4.8159**	2.0702	6.0861*	4.5607**	2.1828	3.8875	3.2995
		(0.0112)	(0.8290)	(0.0001)	(0.0226)	(0.9179)	(0.1122)	(0.3125)
GGDP	2.8939	---	2.7821	2.2128	3.4201	3.3104	2.3531	3.7798
	(0.5421)		(0.6187)	(0.9417)	(0.2555)	(0.3043)	(0.9519)	(0.1362)
ToR	2.5536	2.0968	---	5.2492*	3.0322	2.5365	1.7092	3.6325
	(0.7883)	(0.8498)		(0.0030)	(0.4543)	(0.8015)	(0.5614)	(0.1793)
POP	7.0631*	4.155***	3.3181	---	7.4392*	3.6894	3.3562	5.2173*
	(0.0000)	(0.0610)	(0.3007)		(0.0000)	(0.1594)	(0.2895)	(0.0034)
OER	4.6161**	6.8405*	2.4480	5.9039*	---	3.5032	3.5840	9.816*
	(0.0195)	(0.0000)	(0.8707)	(0.0003)		(0.2223)	(0.1984)	(0.0000)
IFDI	1.8027	1.5667	2.1482	4.2635**	4.2556**	---	2.0229	1.4287
	(0.6283)	(0.4711)	(0.8904)	(0.0474)	(0.0483)		(0.7883)	(0.3900)
GEE	3.1626	0.502***	1.1855	2.5330	2.5589	3.6972	---	2.1350
	(0.3863)	(0.0747)	(0.2703)	(0.8107)	(0.7908)	(0.1619)		(0.8733)
$PREM_i$	2.9048	6.2766	7.6356	7.7931*	3.974***	4.065***	1.7273	---
	(0.5381)	(0.0000)	(0.0000)	(0.0000)	(0.0921)	(0.0759)	(0.5726)	

Note: *, ** and *** indicate the significant level at 1%, 5%, and 10% respectively.

Table 6 indicated the cointegration results; both the tests confirmed that long rum cointegration among the variables. Table 7 reports the granger causality results among the variables. The causality analysis shows that there are bidirectional causality between population and unemployment rate, exchange rate and unemployment rate, exchange rate and population growth and remittances and population growth. However, there is one-way

causality running from FDI to exchange rate, remittances to FDI, GDP growth to unemployment rate, population growth to GDP growth, Government expenditure on education to GDP growth, remittances to GDP growth, tourism receipt to population growth, remittances to tourism receipt, and FDI to population. However, the no casualty exist between tourism receipt and unemployment rate, FDI and Unemployment rate, Government expenditure on education and unemployment rate, remittances and unemployment rate, tourism receipts and GDP growth, FDI and GDP growth, exchange rate and tourism receipts, FDI and tourism receipts, Government expenditure on education and tourism receipts, Government expenditure on education and population growth, Government expenditure on education and exchange rate, remittances and Government expenditure on education.

5. Conclusion and Policy Implications

The main aim of the study to examine the relationship between the tourism industry and the unemployment rate in South Asian countries, specifically Pakistan, Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka. Based on the data available, the study used the PMG to estimate the coefficient of the variables, the Kao panel Cointegration Test, the Westerlund test to analyze the long-term association, and the D-H Granger Causality Tests to estimate the causality among the variables. The study concluded that, over the long term, government spending on education has a negative and significant impact on the unemployment rate; an increase in both government spending on education and GDP growth will lower the unemployment rate.

Although the exchange rate has a positive and significant impact on the unemployment rate, an increase in the exchange rate will result in a higher unemployment rate; on the other hand, tourism receipts have a negative but insignificant effect on the unemployment rate; on the other hand, population growth, foreign direct investment, and remittances have negative but insignificant effects on the unemployment rate; and, in the short term, tourism receipts have a negative and significant impact on the unemployment rate; on the other hand, population growth, FDI inflow, government spending on education, remittances, the exchange rate, and GDP growth have negative but insignificant effects on the unemployment rate.

Additionally, this analysis discovered a long-term cointegration between the variables. Moreover, the causality analysis demonstrates that the population and the unemployment rate, the exchange rate and the unemployment rate, the exchange rate and the population growth, and the remittances and the population growth are all bidirectionally related. FDI to the exchange rate, remittances to FDI, GDP growth to the unemployment rate, population growth to GDP growth, government spending on education to GDP growth, remittances to GDP growth, tourism receipt to population growth, remittances to tourism receipt, and FDI to population, however, are all associated with one-way causality.

However, no casualty exists between tourism receipt and unemployment rate, FDI and Unemployment rate, Government expenditure on education and unemployment rate, remittances and unemployment rate, tourism receipts and GDP growth, FDI and GDP growth, exchange rate and tourism receipts, FDI and tourism receipts, Government expenditure on education and tourism receipts, Government expenditure on education and population growth, Government expenditure on education and exchange rate, remittances and Government expenditure on education. The tourism industry is more bifacial; hence, this study concluded that it influences the employment rate in the short run while having no contribution to employment opportunities in the long run. Based on the empirical results, this study recommended that the government focus on tourism to overcome the problem of unemployment. It had also opined that the policymakers must focus on industry growth in tourism to make it beneficial in terms of employment generation

The study's limitations stem from the lack of reliable and thorough data for South Asian nations between 2000 and 2022. Although the study takes into account important variables like GDP growth, unemployment rates, and tourism receipts, it leaves out other potentially significant elements including global economic conditions, technological improvements, and geopolitical stability. The analysis does not take seasonality into account, which may have particular effects on employment, or distinguish between different sub-sectors of tourism (such as eco-tourism and medical tourism). The findings may not be immediately applicable to other areas with distinct socioeconomic and cultural circumstances because they are specific to South Asian nations. Despite the

identification of causality linkages, the research is unable to conclusively determine the strength or direction of causation beyond statistical association.

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References

Abbas, S. (2014). Long term effect of economic growth on unemployment level: In case of Pakistan. *Journal of Economics and Sustainable Development, 5*(11), 103-108.

Aguayo, E. (2011). Impact of tourism on employment: an econometric model of 50 CEEB Regions. *Regional and Sectoral Economic Studies, 11*(1), 37-46.

Aguayo, E., Expósito, P., & Vázquez, E. (2006). *Potential Tourism Market in Transition Countries: A Regional Analysis*. Paper presented at the 46th Congress Of The European Regional Science Association "Enlargement, Southern Europe & the Mediterranean ", Faculty of Economics, University of Santiago de Compostela, Spain, Retrived from https://www.econstor.eu/bitstream/10419/118497/1/ERSA2006_743.pdf.

Akeju, K. F., & Olanipekun, D. B. (2014). Unemployment and economic growth in Nigeria. *Journal of Economics and Sustainable Development, 5*(4), 138-144.

Alegre, J., Mateo, S., & Pou, L. (2013). Tourism participation and expenditure by Spanish households: The effects of the economic crisis and unemployment. *Tourism Management, 39*, 37-49. doi: https://doi.org/10.1016/j.tourman.2013.04.002

Alegre, J., Pou, L., & Sard, M. (2019). High unemployment and tourism participation*. *Current Issues in Tourism, 22*(10), 1138-1149. doi: 10.1080/13683500.2018.1464550

Aliqah, K. M. A., & Al-rfou, A. N. (2010). The role of tourism sector on economic development in Jordan during the period 1990-2008. *European Journal of Economics, Finance and Administrative Sciences, 18*, 173-180.

Andraz, J. M., Norte, N. M., & Gonçalves, H. S. (2015). Do tourism spillovers matter in regional economic analysis? An application to Portugal. *Tourism Economics, 22*(5), 939-963.

Ani, E., Joel, E., & Baajon, M. (2019). Exchange rate and unemployment in Nigeria: An analysis. *International Journal of Family Business and Management, 3*(2), 1-7.

Bakhshi, Z., & Ebrahimi, M. (2016). The effect of real exchange rate on unemployment. *Marketing and Branding Research, 3*, 4-13. doi: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3340395

Beneki, C. C., Rerres, K., Chionis, D. P., & Hassani, H. (2015). How to stimulate employment growth in the Greek hotel industry. *Tourism Economics, 22*(5), 865-883. doi: 10.5367/te.2015.0458

Carstensen, F., & Mcmillen, S. (2003). The 2001 Economic Impact of Connecticut's travel and tourism industry. *Connecticut Center for Economic analysis, University of Connecticut, 1240*, 1-06.

Chand, K., Tiwari, R., & Phuyal, M. (2017). Economic growth and unemployment rate: An empirical study of Indian economy. *Pragati: Journal of Indian Economy, 4*(2), 130-137.

Condratov, I. (2017). The relation between tourism and unemployment: A panel data approach. *Revista de turism-studii si cercetari in turism*(23), 1-6.

Dayananda, K. (2014). Tourism and employment: Opportunities and challenges in Karnataka-special reference to Kodagu District. *Journal of Humanities and Social Science, 19*(2), 1-11.

Dogru, T., Mody, M., Suess, C., McGinley, S., & Line, N. D. (2020). The Airbnb paradox: Positive employment effects in the hospitality industry. *Tourism Management, 77*, 104001.

Ennew, C. (2003). Understanding the economic impact of tourism *Som Nath Chib Memorial Lecture* (Vol. 477, pp. 463-466.

Fauzel, S. (2016). Tourism and employment spillovers in a small island developing state: A dynamic investigation. *Theoretical Economics Letters, 6*, 138-144.

Frenkel, R., & Ros, J. (2006). Unemployment and the real exchange rate in Latin America. *World Development, 34*(4), 631-646.

Ganeshamoorthy, K. (2019). The employment effect of tourism: A dynamic analysis. *American Journal of Humanities and Social Sciences Research, 3*(10), 119-126.

Georgios, G. (2022). Preliminary Results on the Employment Effect of Tourism. A meta-analysis. *arXiv preprint arXiv:2206.00174*.

Georgiou, M. N. (2015). Does Tourism Sector Increase Employment in Tertiary Sector in Greece? *Social Science Research Network, 4*(135), 1-11.

Golinelli, R., & Orsi, R. (1998). Exchange rate, inflation and unemployment in East European economies: the case of Poland and Hungary*. *Economics of Planning, 31*(1), 29-55.

Gómez, L. C. S., & Barrón, A. K. S. (2019). Impacts of tourism and the generation of employment in Mexico. *Journal of Tourism Analysis: Revista de Análisis Turístico, 26*(2), 94-114.

Guisan, M. C., & Aguayo, E. (2002). Employment and regional tourism in European countries, 1995-2000. *Regional and Sectoral Economic Studies, 2*(2), 53-70.

Huseynli, B. (2022). A Research on Econometric Analysis of Tourism Sector, Economic Growth and Unemployment Indicators in Turkey. *Journal of Environmental Management and Tourism (JEMT), 13*(6 (62)),

Hwang, J., & Lee, J. (2019). Antecedents and consequences of brand prestige of package tour in the senior tourism industry. *Asia Pacific Journal of Tourism Research, 24*(7), 679-695.

Kadiyali, V., & Kosová, R. (2013). Inter-industry employment spillovers from tourism inflows. *Regional Science and Urban Economics, 43*(2), 272-281. doi: https://doi.org/10.1016/j.regsciurbeco.2012.07.006

Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of econometrics, 90*(1), 1-44.

Kirca, M., & Özer, M. (2021). The effects of tourism demand on regional sectoral employment in Turkey. *Regional Statistics, 11*(1), 78-109.

Koutoulas, D. (2004). Understanding the tourist product. *Understanding Tourism-Theoretical Advances,* (pp. 1-22): Interim Symposium Of The Research Committee On International Tourism (Rc 50) of The International Sociological Association (ISA), Retrieved from https://www.academia.edu/1861406/Understanding_the_Tourism_Product.

Kreishan, F. M. (2011). Economic growth and unemployment: An empirical analysis. *Journal of social sciences, 7*(2), 228-231.

Liu, C., Zhang, R., Wang, M., & Xu, J. (2018). Measurement and Prediction of Regional Tourism Sustainability: An Analysis of the Yangtze River Economic Zone, China. *Sustainability, 10*(5).

Manzoor, F., Wei, L., Asif, M., Haq, M. Z. u., & Rehman, H. u. (2019). The Contribution of Sustainable Tourism to Economic Growth and Employment in Pakistan. *International Journal of Environmental Research and Public Health, 16*(19).

Maqbool, M. S., Mahmood, T., Sattar, A., & Bhalli, M. N. (2013). Determinants Of Unemployment: Empirical Evidences From Pakistan. *Pakistan Economic and Social Review, 51*(2), 191-208.

Marčetić, M., & Mušikić, S. (2017). *The impact of tourism on the employment in Serbia.* Paper presented at the Tourism International Scientific Conference Vrnjačka Banja-TISC, Retrieved from https://www.tisc.rs/proceedings/index.php/hitmc/article/view/93/90.

Matijová, M., Onuferová, E., Rigelský, M., & Stanko, V. (2019). Impact of Selected Indicators of Tourism Capacity and Performance in the Context of the Unemployment Rate in Slovakia. *Journal of Tourism and Services, 10*(19), 1-23. doi: 10.29036/jots.v10i19.95

Mehmetaj, N., & Xhindi, N. (2022). Public Expenses in Education and Youth Unemployment Rates—A Vector Error Correction Model Approach. *Economies, 10*(12), 1-14. doi: https://doi.org/10.3390/economies10120293

Nepram, D., Singh, S. P., & Jaman, S. (2021). The effect of government expenditure on unemployment in India: A state level analysis. *The Journal of Asian Finance, Economics and Business, 8*(3), 763-769.

Oguchi, N. H., & Luo, F. (2021). Estimating the Nexus of Tourism on Sustainable Development Goals in Nigeria. *Technium Social Sciences Journal, 20*, 751-771. doi: https://heinonline.org/HOL/LandingPage?handle=hein.journals/techssj20&div=71&id=&page=

Onder, K., & Durgun, A. (2008). *Effects of tourism sector on the employment in Turkey: An Econometric Application*. Paper presented at the ICME (International Conference on Management and Economics), Epoka University, Retrived from http://dspace.epoka.edu.al/handle/1/114.

Pavlić, I., Tolić, M. Š., & Svilokos, T. (2013). Impact of tourism on the employment in Croatia. *Recent advances in business management and marketing:, 1*(1), 219-224.

Pesaran, M., Shin, Y., & Smith, R. (1997). Pooled estimation of long-run relationships in dynamic heterogeneous panels: University of Cambridge. *Department of Applied Economics*.

Pirim, Z., Owings, W. A., & Kaplan, L. S. (2014). The long-term impact of educational and health spending on unemployment rates. *European Journal of Economic and Political Studies, 7*(1), 49-69. doi: https://digitalcommons.odu.edu/efl_fac_pubs/16/

Rehman, Z. U., Khan, M. A., & Tariq, M. (2020). Indirect taxation and economic growth relationship: empirical evidence from Asian countries. *Pa istan Journal of Humanities & Social Sciences Research, 3*(1), 131-144.

Rehman, Z. U., Tariq, M., & Khan, M. A. (2018). The Role of Human Capital in Economic Development in the Selected Central Asian Countries. *Dialogue (Pakistan), 13*(3), 235-244. doi: https://www.qurtuba.edu.pk/thedialogue/The%20Dialogue/13_3/01-235-244,ZiaMarwat.pdf

Rusu, S. (2011). Tourism multiplier effect. *Journal of Economics and Business Research, 17*(1), 70-76.

Sadiku, M., Ibraimi, A., & Sadiku, L. (2015). Econometric Estimation of the Relationship between Unemployment Rate and Economic Growth of FYR of Macedonia. *Procedia Economics and Finance, 19*, 69-81.

Schubert, S. F. (2016). A short-run model of a two-sector economy with tourism and unemployment. *Tourism Economics, 22*(4), 763-778.

Singh, D., & Shastri, S. (2020). Public expenditure on education, educational attainment and unemployment nexus in India: an empirical investigation. *International Journal of Social Economics, 47*(5), 663-674.

Soylu, Ö. B., Çakmak, İ., & Okur, F. (2018). Economic growth and unemployment issue: Panel data analysis in Eastern European Countries. *Journal of International Studies, 11*(1), 93-107.

Sugiyarto, G., Blake, A., & Sinclair, M. T. (2003). Tourism and globalization: Economic Impact in Indonesia. *Annals of Tourism Research, 30*(3), 683-701. doi: https://doi.org/10.1016/S0160-7383(03)00048-3

Tang, F. C. (2011). An exploration of dynamic relationship between tourist arrivals, inflation, unemployment and crime rates in Malaysia. *International Journal of Social Economics, 38*(1), 50-69.

Thompson, E. C. (2007). Measuring the impact of tourism on rural development: An econometric approach. *Journal of Regional Analysis and Policy, 32*(2), 147-154.

Tumanoska, D. (2020). The relationship between economic growth and unemployment rates: validation of Okun's law in panel context. *Research in Applied Economics, 12*(1), 33-55.

UNWTO. (2020). International Tourism and Covid-19. *United Nation World Tourism Organization.* from https://www.unwto.org/tourism-data/international-tourism-and-covid-19

Vázquez, V. G., Martín Barroso, V., & Blanco Jiménez, F. J. (2021). Sustainable Tourism, Economic Growth and Employment—The Case of the Wine Routes of Spain. *Sustainability, 13*(13), 1-17.

Wei, X., Qu, H., & Ma, E. (2013). Modelling Tourism Employment in China. *Tourism Economics, 19*(5), 1123-1138. doi: 10.5367/te.2013.0249

Wei, X., Qu, H., & Ma, J. E. (2009). *Modeling Tourism Employment Growth-An Application in China*. Paper presented at the International CHRIE Conference-Refereed Track, Event, University of Massachusetts

Amherst, Retrived from https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1044&context=refereed.

WTTC. (2023). Economic Impact Research: World Travel and Tourism Council, Retrieved from https://wttc.org/research/economic-impact.

Yaşar, S., Oguz, Y., & Özdemir, C. (2019). An econometric analysis on determining the relationship between employment and tourism: the case of Turkey. *City Tourism, 95*, 1-9.