

Regression Analysis on Share of Employment of Tourism Industries to Total Employment

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Abstract: *This study, based on data accessed from the Philippine Tourism Satellite Account of the Department of Tourism of the Philippines spanning from 2000 to 2022, reveals the dynamic nature of the tourism sector's contribution to employment in the Philippines over two decades. It demonstrates steady growth from 2000 to 2019, with a peak at 13.6% in 2019, reflecting the increasing significance of tourism-related industries in job creation. However, a subsequent decline in 2020 and 2021, likely due to the adverse impacts of the COVID-19 pandemic on the global tourism industry, highlights the sector's vulnerability to external shocks. The slight recovery in 2022 suggests resilience and adaptability within the industry. Utilizing Linear Regression Analysis, the research identifies a statistically significant and positive relationship between the year and the share of employment in tourism industries, with an average annual increase of approximately 0.167%. The high R Square value of 0.678 indicates that a substantial portion of the variability in the employment share can be explained by the linear relationship with the year. These findings underscore the gradual but consistent growth of the tourism sector in providing employment opportunities, emphasizing its enduring significance in the Philippines' labor market while recognizing the challenges it faces in an ever-changing global landscape.*

Keywords: Philippine Tourism, Employment, Trend Analysis

I. INTRODUCTION

The Philippines' tourism industry has long been a cornerstone of its economic and cultural landscape, contributing significantly to employment, revenue generation, and national identity. As a dynamic sector susceptible to both domestic and global influences, understanding the trends in employment within the tourism industry holds paramount importance. Tourism, often touted as a driver of economic growth and development, stands as a multi-faceted sector encompassing hospitality, travel, and entertainment. The Philippines, known for its breathtaking landscapes, rich cultural heritage, and warm hospitality, has seen its tourism industry flourish over the years. By conducting a meticulous trend analysis of employment within this sector, we endeavor to illuminate the intricate relationship between tourism's evolution and the job market's dynamics. This analysis is particularly timely in the wake of global events such as the COVID-19 pandemic, which has drastically altered the tourism landscape, emphasizing the need to comprehend historical trends and anticipate future shifts.

In this research, we employ a longitudinal approach, examining the employment data from the year 2000 to 2022. This extensive timeframe allows us to trace the industry's growth trajectory across various phases and unveil potential turning points. By deploying both descriptive analysis and advanced statistical techniques such as linear regression, we aim to extract valuable insights into the correlation between time and employment. Moreover, the study ventures beyond mere numerical analysis, seeking to decode the underlying narratives behind the numbers. Economic policies, technological advancements, socio-political changes, and global trends all contribute to the complex tapestry of the tourism industry, and by extension, its employment patterns.

The Philippines' rich cultural diversity and natural beauty have continually attracted visitors, fostering a vibrant tourism industry. However, this industry is not immune to challenges and uncertainties. The research endeavors to shed light on the resilience of the sector in the face of adversity, evident in its ability to rebound from setbacks and adapt to changing circumstances. As the Philippines positions itself on the global stage, understanding the dynamics of its tourism workforce provides insights not only into economic fluctuations but also social and policy implications. This research

embarks on a journey to unravel the story of the "Employment of Tourism Industries in the Philippines," unearthing the narrative threads that weave together the industry's past, present, and future.

II. LITERATURE REVIEW

Tourism's Economic Significance

Tourism has evolved into a formidable global economic sector, as emphasized by the United Nations' World Tourism Organization (UNWTO, 2013). In 2012, it contributed approximately 9 percent of the world's GDP, generated around 6 percent of global exports, and played a crucial role in job creation, accounting for one in every eleven jobs. This economic growth correlated strongly with the increase in international tourist visits, revealing their interdependence. Recent data (United Nations World Tourism Organization, 2017) underscores tourism's expanding impact, with its contribution now reaching 10 percent of global GDP, 7 percent of global exports, and employing one out of every ten individuals.

Tourism as a Catalyst for Economic Growth and Employment

The promotion of tourism through public policy, as highlighted by Castillo et al. (2017), isn't solely aimed at tourism itself but also at the economic benefits it brings. These include income from foreign currency, economic growth, and the generation of employment, with effects observed directly, indirectly, or induced. The sector's accessibility, with relatively low entry barriers, facilitates the creation of small businesses and self-employment opportunities, which can empower marginalized groups like women, youth, and adults.

Neves and Campos (2005) delve into the causal relationship between tourism and economic growth. Their analysis, conducted using panel data from countries where tourism significantly contributes to economic activity, reveals that higher per capita tourist flows correlate with increased growth in low and medium-income nations. However, this effect isn't evident in wealthier economies, suggesting that the impact of tourism is conditionally significant. In certain sub-samples, unexpected negative impacts emerge, reinforcing the findings across the entire sample.

Employment and Tourism

Tourism is inherently people-oriented, rooted in hospitality and involving the local population in the visitor experience (Heerschap, 2018). Socioeconomically, employment within the sector holds great importance, contributing to individuals' income, personal development, self-esteem, and regional development. The quality of the tourism workforce stands as a critical indicator for industry functioning. Approximately 10 percent of the world's workforce is directly or indirectly linked to tourism, as indicated by the World Tourism Organization (UNWTO, 2018). However, despite its significance, the focus on tourism-related employment has diminished over the past two decades, particularly regarding the profound effects of advancing digitalization on employment. Consequently, this paper aims to reignite attention toward tourism-related employment, recognizing its underestimated impact and the evolving landscape of the industry.

III. METHODOLOGY

The research methodology employed in this study involved data collection from the Philippine Tourism Satellite Account of the Department of Tourism of the Philippines, spanning a comprehensive period from 2000 to 2022. This data source is highly relevant as it directly relates to tourism, making it suitable for the analysis of the share of employment in tourism industries. The use of official data from a government department adds credibility and reliability to the research. The primary analytical tool employed in this study was Linear Regression Analysis. Linear regression is a statistical technique that helps establish relationships between variables. In this case, it was used to examine the relationship between the year (as an independent variable) and the share of employment in tourism industries (the dependent variable). This analysis allows researchers to quantify the impact of each year on changes in employment within the tourism sector. The decision to use Linear Regression Analysis is appropriate for this research because it provides a quantitative assessment of how the share of employment in tourism has changed over time. The results, as seen in the earlier discussion, revealed a statistically significant and positive relationship between the year and the share of employment, indicating a consistent upward trend.

IV. RESULTS AND DISCUSSION

Figure 1 presents a line graph depicting the share of employment in tourism industries as a percentage of total employment in the Philippines from 2000 to 2022. Over this 23-year period, several notable trends and changes can be observed.

From 2000 to 2009, the data shows a consistent, albeit gradual, increase in the share of employment in tourism industries. Starting at 9.3% in 2000, it steadily rose to 11.2% by 2009. This suggests that the tourism sector was becoming an increasingly significant contributor to employment in the country during this decade. The period from 2010 to 2015 witnessed a more substantial growth in the share of employment in tourism, peaking at 12.8% in 2015. This rapid expansion indicates a significant boost to the tourism sector during this time, possibly due to increased tourism initiatives, investments, or other factors.

However, the years 2016 to 2019 saw a plateau in this growth, with the percentage of employment in tourism remaining relatively stable. In 2019, it reached 13.6%, which marked the highest point in the dataset. Notably, from 2020 onwards, there was a noticeable decline in the share of employment in tourism industries, dropping to 11.1% in 2021 and then rising slightly to 11.4% in 2022. This decline could be attributed to the disruptions caused by the COVID-19 pandemic, which severely impacted the global tourism industry.

Figure 1 illustrates a general upward trend in the share of employment in tourism industries in the Philippines from 2000 to 2019, with fluctuations in more recent years, likely due to the pandemic's influence on the tourism sector. This graph provides valuable insights into the evolving role of tourism in the country's employment landscape over the years.

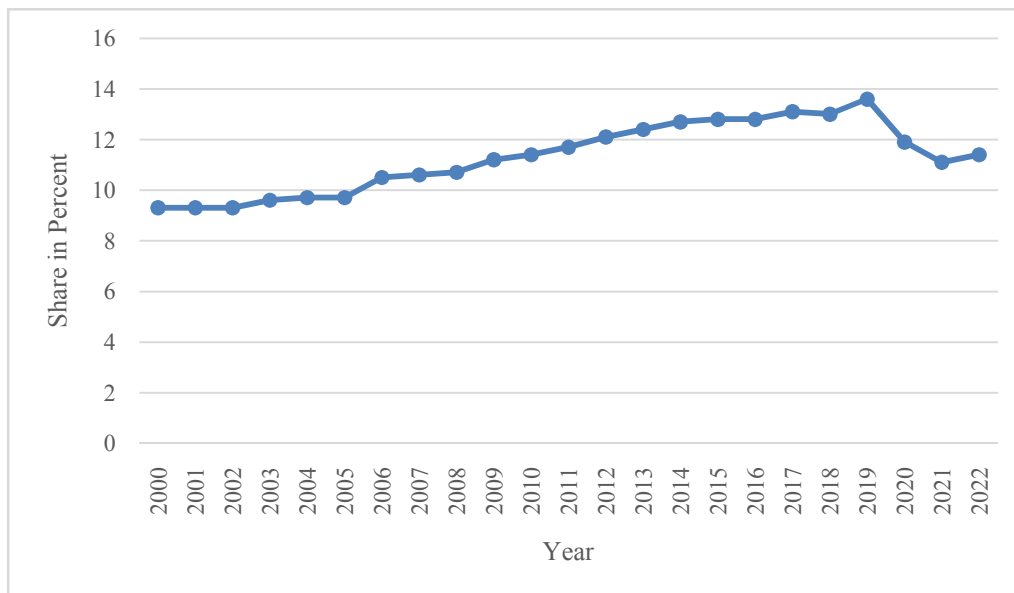


FIGURE 1. SHARE OF EMPLOYMENT OF TOURISM INDUSTRIES TO TOTAL EMPLOYMENT IN THE PHILIPPINES 2000-2022

Table 1 presents the results of a linear regression analysis conducted on the dataset related to the share of employment in tourism industries as a percentage of total employment in the Philippines. This analysis aims to identify any significant relationships or trends over time. The table provides essential statistical information for the linear regression model, including coefficients, standard errors, the coefficient of determination (R Square), t-values, and the associated significance levels (Sig.).

The "Constant" term in the model, with a coefficient of -325.324 and a standard error of 50.617, represents the intercept or the estimated starting point for the relationship between the year and the share of employment in tourism. The negative coefficient suggests that if the year were zero, the share of employment in tourism would be -325.324%, which is not practically meaningful in this context. The coefficient for the "Year" variable is 0.167, with a standard error of 0.025. This coefficient represents the estimated change in the share of employment in tourism for each unit increase in the year. In this case, a one-year increase is associated with an estimated increase of 0.167% in the share of employment in tourism.

The R Square value, which is 0.678, indicates that approximately 67.8% of the variability in the share of employment in tourism can be explained by the linear relationship with the year. This suggests that the year is a significant predictor of changes in the employment share within the tourism industry.

Both t-values for the "Constant" and "Year" coefficients are associated with very low p-values (below 0.001), indicating that these coefficients are statistically significant. In other words, the year is a strong predictor of changes in the share of employment in tourism industries in the Philippines.

Table 1's linear regression analysis reveals a statistically significant positive relationship between the year and the share of employment in tourism industries, indicating that over the years, there has been a consistent, albeit modest, increase in the share of employment in this sector, as supported by the significant coefficients and high R Square value.

TABLE 1. LINEAR REGRESSION ANALYSIS ON THE SHARE OF EMPLOYMENT OF TOURISM INDUSTRIES TO TOTAL EMPLOYMENT IN THE PHILIPPINES

Model	Unstandardized Coefficients		R Square	t	Sig.
	B	Std. Error			
(Constant)	-325.324	50.617	0.678	-6.427	.000002
Year	.167	.025		6.650	.000001

V. CONCLUSION

The study reveals the dynamic nature of the tourism sector's contribution to employment in the Philippines over the past two decades. The steady growth observed from 2000 to 2019, with a peak at 13.6% in 2019, reflects the increasing importance of tourism-related industries in providing job opportunities. However, the subsequent decline in 2020 and 2021, likely due to the adverse impacts of the COVID-19 pandemic on the global tourism industry, highlights the sector's vulnerability to external shocks. The slight recovery in 2022 suggests resilience and adaptability within the industry. This dataset underscores the need for continued efforts to support and sustain the tourism sector, acknowledging its significance as a driver of employment and economic growth in the Philippines while recognizing the challenges it faces in an ever-changing global landscape.

The linear regression analysis demonstrates a statistically significant and positive relationship between the year and the share of employment in tourism industries in the Philippines. The model's coefficients reveal that, on average, the share of employment in this sector has been increasing by approximately 0.167% each year. The high R Square value of 0.678 indicates that a substantial portion of the variability in the employment share can be explained by the linear relationship with the year. This suggests that year-to-year changes in the employment landscape within the tourism industry are well-captured by the model. Overall, these findings underscore the gradual but consistent growth of the tourism sector in providing employment opportunities over the years, emphasizing its enduring significance in the Philippines' labor market.

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