

Tourism Expenditure of the Philippines: A Regression Analysis

Cheyserr C. Lelis

Faculty, College of Technology, Surigao del Norte State University, Surigao City, Philippines

Abstract: *This research conducts an extensive analysis of tourism expenditure trends in the Philippines, encompassing both inbound and domestic travel. The study relies on secondary data sourced from the Department of Tourism, covering the period from 2000 to 2022. Through the application of statistical tools like mean and standard deviation calculations, as well as linear regression analysis, this investigation reveals intricate patterns inherent in the dataset. The analysis emphasizes the economic significance of domestic tourism, consistently outpacing expenditure on inbound tourism. Notably, there has been a notable upward trajectory in domestic spending, particularly noticeable from around 2010 onwards, indicating a growing interest among Filipinos in exploring their own country. Conversely, inbound expenditure shows fluctuations but experiences substantial growth from 2010 to 2019, signifying an increasing international appeal.*

Keywords: Philippine Tourism, Inbound Tourism, Domestic Tourism, Tourism Expenditures

I. INTRODUCTION

In the dynamic landscape of today's world, the tourism industry stands as a cornerstone, facilitating economic growth, cultural exchange, and societal development. It is a sector where nations leverage their natural beauty, historical significance, and diverse attractions to attract visitors, making it imperative to decipher the intricate patterns that govern tourism expenditures.

Tourism expenditure goes beyond economic calculations; it is shaped by a complex interplay of psychological, emotional, cultural, and social influences (Nayak, Sahoo, & Mahalik, 2022). These underlying motives are powerful drivers that steer consumers, often bypassing rational analysis. Emotions, beliefs, the quest for social recognition, and the desire for individual uniqueness all contribute to the choices travelers make. Economic circumstances meld with social comparisons, molding individual spending decisions. People often mirror others' consumption patterns to validate their choices and seek societal acceptance, be it choosing popular items to convey affluence or unique products as markers of refined taste. In today's fast-evolving market, consumers exhibit adaptability and responsiveness to market shifts.

A compelling illustration emerges from impoverished households in India, where limited budgets force trade-offs in basic nutrition in favor of conspicuous consumption driven by relative deprivation (Sihra & Bellet, 2022). This demonstrates why financially constrained households allocate resources to tourism. Notably, tourism expenditure encompasses a wide array of objectives, spanning business and leisure travel, social interactions like visiting relatives or attending weddings, religious pilgrimages, education, healthcare, and shopping. These objectives entail diverse expenses, including accommodations, meals, transportation, recreation, cultural experiences, and more. It is crucial to acknowledge that while tourism spending can enrich experiences, it can also exert financial strain on households, similar to other discretionary expenses.

The Philippines, celebrated for its breathtaking landscapes, rich cultural heritage, and warm hospitality, showcases a distinctive interplay between domestic and international tourism. To comprehend the financial landscape of this sector, our study scrutinizes two vital dimensions: inbound and domestic tourism expenditures. By juxtaposing these interlinked elements, we unveil a comprehensive perspective of the nation's tourism economy, offering insights into the preferences and behaviors of both local travelers and foreign visitors.

This study embarks on an extensive exploration, analyzing years of data through line graph assessments, statistical models, and regression analysis to discern trends that have sculpted the nation's tourism expenditure patterns. Our

primary aim is to provide a holistic comprehension of the factors propelling the growth of inbound and domestic tourism expenditures. This research contributes not only to the academic dialogue on tourism economics but also imparts valuable insights for policymakers, industry stakeholders, and enthusiasts alike. Armed with these insights, informed decisions can be made to sustainably nurture the Philippines' vibrant tourism sector. Our meticulous exploration seeks to unravel the intricate tapestry of tourism economics in the Philippines.

II. LITERATURE REVIEW

Global Tourism's Resurgence: A Remarkable Recovery

The revival of the global tourism industry has become a prominent focal point, as evidenced by the latest findings in the UNWTO World Tourism Barometer. Over a span of seven months, from January to July 2022, international tourist arrivals experienced a staggering nearly threefold increase of 172%, underscoring the sector's remarkable rebound from the depths of the pandemic. This resurgence is particularly noteworthy as it signifies a robust recovery to almost 60% of pre-pandemic levels. This steady upward trajectory reflects both the pent-up demand for international travel and the gradual relaxation or removal of travel restrictions.

Of note, the report emphasizes that as of September 19, 2022, an encouraging 86 countries had effectively eliminated COVID-19-related travel constraints, creating a conducive environment for the resurgence of tourism. The statistics convey a compelling narrative: during this period, an estimated 474 million global travelers embarked on international journeys, a stark contrast to the 175 million during the same months in 2021. Particularly interesting is the strong surge in international arrivals during June and July 2022, collectively accounting for an impressive 44% of the total arrivals recorded in the first seven months of the year. This resurgence was particularly pronounced in Europe, which welcomed a substantial 309 million arrivals, signifying a significant 65% of the global total.

The Complex Influences on Tourism Expenditure

The intricate web of factors shaping tourism expenditure becomes vividly apparent through existing empirical research. A comprehensive analysis conducted by Park, Woo, and Nicolau (2020) categorizes these influences into a diverse array of socio-economic, demographic, psychological, behavioral, financial, and trip-related determinants.

Socio-demographic and economic factors encompass elements such as age, gender, marital status, education, income, family size, residential location, and occupation. These factors interact with household and tourist characteristics, where travel attributes also play a significant role in shaping spending patterns, as explained by Brida et al. (2018). Factors like the purpose of travel, the size of the travel group, first-time visitor status, mode of transportation, and the length of stay exert considerable influence over spending decisions.

Beyond individual consumption, the profound impact of tourism on income distribution and poverty alleviation takes center stage. The complex dynamics are exemplified by Incera and Fernández (2015), illustrating the dual potential of tourism consumption to both narrow income inequality through redistribution and exacerbate it through earned revenue and taxation effects. Fang et al. (2021) extend this discourse, revealing how tourism development plays a pivotal role in attenuating income inequality gaps in developing economies, while exhibiting comparatively limited influence in developed nations. This intricate interplay between tourism and socio-economic dynamics provides a nuanced perspective on expenditure patterns that shapes the industry's future trajectory.

III. METHODOLOGY

The methodology applied in this research endeavors to provide a thorough analysis of the trends in both inbound and domestic tourism expenditure within the Philippines, spanning the period from 2000 to 2022. This trend analysis delves deeply into secondary data sourced from the Department of Tourism, which serves as a valuable repository of information encapsulating the nuances of the nation's tourism landscape.

The chosen analytical tools, including calculations for mean and standard deviation, coupled with the utilization of linear regression analysis, collectively establish a robust framework for unearthing insights and discerning patterns within the dataset. To initiate the study, meticulous collection and collation of secondary data from the Department of Tourism for the years spanning 2000 to 2022 were undertaken. This dataset serves as the foundational bedrock upon which we build our comprehension of the financial dimensions characterizing both inbound and domestic tourism. The

selected time frame encapsulates a substantial period that encompasses pre-pandemic, pandemic, and post-pandemic phases, enabling an in-depth understanding of how tourism expenditure trends have evolved in response to various socio-economic and global factors.

Within the data analysis process, the mean and standard deviation calculations were executed for both inbound and domestic tourism expenditure. The mean serves as a pivotal measure of central tendency, providing an average expenditure figure that encapsulates the overall spending patterns for each category. Conversely, the standard deviation sheds light on the extent of dispersion or variability around the mean, offering valuable insights into the consistency or fluctuations within expenditure trends. These statistical measures provide a snapshot of the central tendencies and variations within expenditure trends, thereby enriching the comprehension of the data's distribution. Moreover, the research employed linear regression analysis to unearth the relationships between the years and tourism expenditures. This analytical approach permits the quantification of the strength and direction of these relationships. By evaluating coefficients and significance levels, the study identifies whether there exists a significant correlation between the passage of time and tourism expenditures. This facet of the methodology illuminates how time has influenced expenditure patterns, offering a dynamic perspective on the evolving trends.

IV. RESULTS AND DISCUSSION

Over this period (2000-2022), the average inbound tourism expenditure stood at approximately 212,804 Philippine pesos. This value signifies the average spending of foreign tourists visiting the country. It's noteworthy that the standard deviation of around 141,733.49 indicates a moderate level of variability in the spending patterns of inbound tourists. This suggests that there might be some fluctuations in the amounts spent by different groups of foreign visitors, potentially influenced by factors like economic conditions, exchange rates, and travel preferences. On the other hand, the average domestic tourism expenditure was significantly higher at about 969,201.30 Philippine pesos. This figure reflects the average spending of local residents within the country while engaging in tourism activities. The standard deviation of approximately 867,502.67 suggests a substantial degree of variance in the spending behavior of domestic tourists. This variance could be attributed to diverse factors such as travel destinations, socio-economic backgrounds, and vacation purposes among local travellers.

During this timeframe, the average spending by inbound tourists in the Philippines stood at approximately 212,804 Philippine pesos. This figure represents the typical expenditure of foreign visitors exploring the country. Notably, the standard deviation of approximately 141,733.49 indicates a moderate level of variability in the spending patterns of inbound tourists. This implies that there may be fluctuations in spending among different groups of foreign visitors, potentially influenced by factors such as economic conditions, exchange rates, and travel preferences. On the other hand, the average expenditure by domestic tourists was notably higher, averaging around 969,201.30 Philippine pesos. This amount reflects the typical spending of local residents while participating in tourism-related activities within the country. The standard deviation, approximately 867,502.67, signifies a significant degree of variance in the spending behavior of domestic tourists. This variance can be attributed to various factors, including destination choices, socio-economic backgrounds, and the purposes of local travelers.

When examining the expenditure trends over the years, it is essential to consider the factors that might have influenced these patterns. Inbound tourism spending, for instance, could have been impacted by global economic conditions, geopolitical influences, and promotional efforts by the Philippines to attract tourists. Domestic tourism spending, on the other hand, might have been influenced by changes in disposable income, evolving local travel trends, and the development of tourism infrastructure within the country. The findings highlight the divergent patterns between inbound and domestic tourism expenditures in the Philippines. The higher average spending by domestic tourists in comparison to inbound tourists underscores the potential economic importance of local tourism. Moreover, the standard deviations for both types of tourism expenditures indicate varying spending habits within each group, emphasizing the necessity for tailored strategies to cater to these diverse preferences and behaviors.

TABLE 1. AVERAGE INBOUND AND DOMESTIC TOURISM EXPENDITURE IN THE PHILIPPINES 2000-2022

Type	Mean	SD
Inbound	212804.00	141733.49
Domestic	969201.30	867502.67

The line graph in Figure 1 depicting the inbound tourism expenditure showcases both fluctuations and growth patterns. From 2000 to around 2009, the values remained relatively steady, with minor variations. However, a more pronounced upward trend became evident from 2010 onwards. This increase in inbound expenditure suggests that the Philippines attracted more foreign tourists, possibly due to enhanced marketing efforts, improved infrastructure, and favorable economic conditions. A notable surge can be observed from around 2015 to 2017, where the expenditure nearly doubled. This period might have been influenced by factors such as increased international recognition, diversified tourism offerings, and the country's growing reputation as a desirable travel destination.

The line graph illustrating inbound tourism expenditure reveals a combination of fluctuations and growth patterns. Between 2000 and approximately 2009, the values remained relatively stable, with minor fluctuations. However, a more pronounced upward trend began to emerge from 2010 onward. This increase in inbound expenditure suggests that the Philippines attracted a greater number of foreign tourists, possibly due to intensified marketing efforts, enhanced infrastructure, and favorable economic conditions. A significant surge is particularly noticeable from around 2015 to 2017, with expenditure nearly doubling. This period could have been influenced by factors such as heightened international recognition, diversification of tourism offerings, and the country's growing reputation as an appealing travel destination.

In contrast, the line graph depicting domestic tourism expenditure demonstrates a consistent growth trajectory throughout the years. From 2000 to approximately 2010, expenditure steadily increased, albeit with some fluctuations. Significantly, a substantial acceleration in domestic expenditure becomes apparent from around 2010 onward, marked by a steep upward trend that extends until 2022. This indicates an increasing inclination among Filipinos to explore their own country for leisure and travel purposes. The substantial rise in domestic expenditure can be attributed to factors such as rising disposable incomes, improved transportation options, and greater awareness of domestic travel destinations.

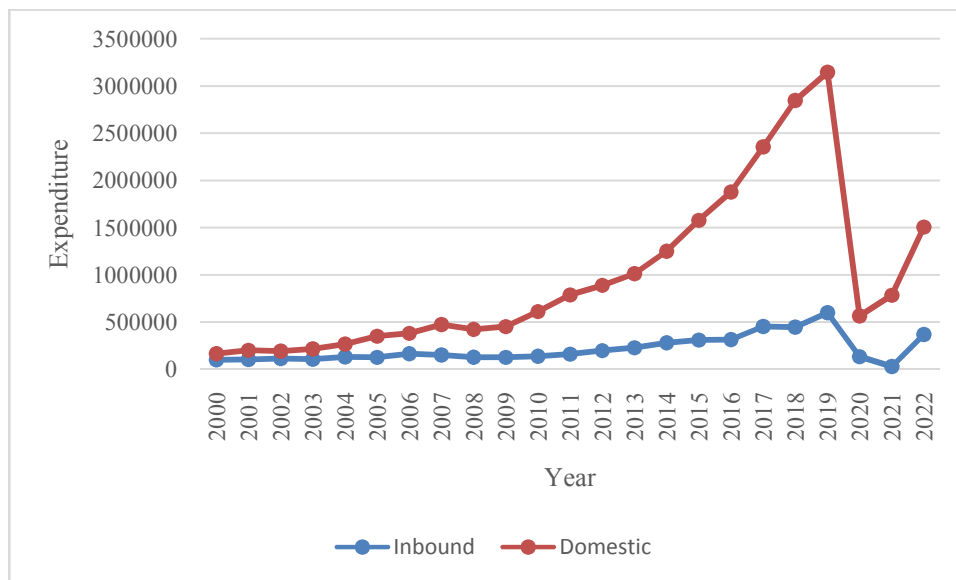


FIGURE 1. INBOUND AND OUTBOUND TOURISM TREND IN THE PHILIPPINES 2000-2022

Comparing these two graphs reveals distinct patterns. Although both inbound and domestic expenditures exhibit upward trends in recent years, the magnitude of growth differs significantly. Domestic expenditure consistently surpasses inbound expenditure, emphasizing the substantial contribution of local tourism to the country's economy. The sharp decline in inbound expenditure in 2020 can be largely attributed to the global impact of the COVID-19 pandemic, which severely restricted international travel. The line graphs illustrate a positive trajectory for both inbound and

domestic tourism expenditure in the Philippines. The substantial increase in domestic spending underscores the potential of the local tourism market. The pronounced fluctuations in inbound expenditure may be influenced by external factors, while the steady rise in domestic expenditure reflects the growing interest of Filipinos in exploring their own country. These trends underscore the importance of continued investment in both domestic and international tourism to support economic growth and development.

The linear regression model for inbound tourism expenditure reveals important insights as shown in Table 2. The intercept, indicated by the "Constant" coefficient, is a negative value, suggesting that the initial expenditure was lower. The coefficient for "Year" is positive, specifically 12473.8, with a relatively small standard error of 3658.7. This coefficient signifies the increase in inbound expenditure per year. The statistically significant t-value of 3.409 and a significance level of 0.003 ($p < 0.05$) imply that the increase in inbound expenditure over the years is not likely due to random chance. The R Square value of 0.356 suggests that the year explains about 35.6% of the variance in inbound expenditure. Overall, this indicates a moderate positive trend in inbound tourism spending, with each passing year contributing to a statistically significant increase.

The linear regression model for inbound tourism expenditure unveils significant insights. The intercept, denoted as the "Constant" coefficient, shows a negative value, indicating a lower initial expenditure level. The "Year" coefficient is positive, specifically 12473.8, with a relatively small standard error of 3658.7. This coefficient signifies the annual increase in inbound expenditure. The statistically significant t-value of 3.409, along with a significance level of 0.003 ($p < 0.05$), suggests that the growth in inbound expenditure over the years is unlikely to be attributed to random chance. The R Square value of 0.356 indicates that the year explains approximately 35.6% of the variance in inbound expenditure. Collectively, these findings point to a moderate positive trend in inbound tourism spending, with each passing year contributing significantly to this growth.

The linear regression model for domestic tourism expenditure reveals similar trends. The "Constant" coefficient is negative, signifying a lower initial expenditure level. The "Year" coefficient is notably larger at 92149.3, with a standard error of 19357.0. This substantial coefficient underscores a substantial yearly increase in domestic tourism expenditure. The highly significant t-value of 4.761 and an extremely low significance level of 0.0001 ($p < 0.001$) underscore strong statistical evidence of a positive relationship. The R Square value of 0.519 suggests that the year accounts for approximately 51.9% of the variance in domestic expenditure. This indicates a robust upward trajectory in domestic tourism spending, with each year making a significant contribution to this observed increase.

The outcomes of the linear regression analysis highlight a clear positive trend in both inbound and domestic tourism expenditures within the Philippines. The coefficients associated with the "Year" variable are statistically significant in both models, implying that the passage of time exerts a meaningful impact on tourism spending. These findings corroborate earlier observations from graphical trends, reinforcing the notion of progressive growth in tourism expenditures. The R Square values signify that the "Year" variable explains a substantial portion of the variance in both inbound and domestic expenditures, emphasizing the importance of time in understanding and predicting these expenditures. The insights derived from this analysis offer valuable information for policymakers, businesses, and stakeholders in the tourism industry, enabling them to make informed decisions and formulate strategies for sustainable tourism growth.

TABLE 2. LINEAR REGRESSION ANALYSIS ON THE INBOUND AND OUTBOUND TOURISM EXPENDITURE IN THE PHILIPPINES

Model		Unstandardized Coefficients		R Square	t	Sig.
		B	Std. Error			
Inbound	(Constant)	-24872042.4	7357686.5	0.356	-3.380	0.003
	Year	12473.8	3658.7		3.409	0.003
Domestic	(Constant)	-184343065.6	38927042.6	0.519	-4.736	0.0001
	Year	92149.3	19357.0		4.761	0.0001

V. CONCLUSION

The comprehensive examination of tourism expenditure provides valuable insights into the dynamic terrain of tourism spending in the Philippines spanning the years 2000 to 2022. One prominent revelation is the consistent dominance of

domestic tourism expenditure over inbound spending, underscoring the economic significance of local travel. The upward trajectory in domestic spending, particularly notable from around 2010 onwards, reflects a growing eagerness among Filipinos to explore their own nation. Conversely, the average inbound expenditure exhibited fluctuations but experienced a pronounced growth surge from 2010 to 2019, indicating the increasing appeal of the Philippines as an international destination. These observations underscore the importance of tailoring strategies to cater to the diverse preferences of both inbound and domestic tourists.

The regression analysis further solidifies the understanding that year by year, tourism expenditure demonstrates a consistent upward trend in the Philippines, irrespective of the type of tourism. These findings carry significant implications for policymakers and industry stakeholders, emphasizing the necessity for targeted initiatives aimed at nurturing sustainable tourism growth, both on the domestic and international fronts. Ultimately, the amalgamation of graphical trends and statistical analyses provides a comprehensive perspective on the ever-evolving tourism landscape, serving as a cornerstone for informed decision-making and strategic planning within the Philippines' vibrant tourism sector.

REFERENCES

- [1]. Brida, J. G., & Scuderi, R. (2013). Determinants of tourist expenditure: A review of microeconomic models. *Tourism Management Perspectives*, 6, 28-40. Retrieved from <https://doi.org/10.1016/j.tmp.2012.10.006>
- [2]. Fang, J., Gozgor, G., Paramati, S. R., & Wu, W. (2021). The impact of tourism growth on income inequality: Evidence from developing and developed economies. *Tourism Economics*, 27(8), 1669–1691. <https://doi.org/10.1177/1354816620934908>
- [3]. Incera, A. C., & Fernández, M. F. (2015). Tourism and income distribution: Evidence from a developed regional economy. *Tourism Management*, 48, 11-20. Retrieved from <https://doi.org/10.1016/j.tourman.2014.10.016>
- [4]. Park, S., Woo, M., & Nicolau, J. L. (2020). Determinant Factors of Tourist Expenses. *Journal of Travel Research*, 59(2), 267–280. <https://doi.org/10.1177/0047287519829257>
- [5]. Sihra, C., & Bellet, C. (2021), Does Inequality Affect the Perception of Needs?. Available at SSRN: <https://ssrn.com/abstract=3270814>
- [6]. United Nations World Tourism Organization (2022). International Tourism Back To 60% of Pre-Pandemic Levels in January-July 2022. Retrieved from <https://www.unwto.org/news/international-tourism-back-to-60-of-pre-pandemic-levels-in-january-july-2022>