



EXPLORING THE DYNAMIC RELATIONSHIPS AMONG TOURISM INVESTMENT,
TOURISM RECEIPTS, EXCHANGE RATE, AND ECONOMIC GROWTH:
EVIDENCE FROM PAKISTAN

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Abstract

This study examined the role of tourism in economic growth in Pakistan by focusing on tourism receipts, tourism investment, and the mediating role of exchange rate. The study was based on annual time-series data from 1995 to 2023, covering 29 yearly observations. The study followed a quantitative research approach and applied descriptive statistics, trend analysis, normality analysis, correlation analysis, regression analysis, mediation analysis, and diagnostic tests using SPSS. The descriptive and trend results showed that economic growth in Pakistan remained unstable during the study period, while tourism receipts fluctuated but generally showed improvement over time. Tourism investment, measured through the FDI proxy, showed high variation, especially during the mid-2000s, while exchange rate showed a strong upward trend, indicating depreciation of the local currency against the US dollar. The correlation results showed weak and statistically insignificant relationships between tourism receipts and economic growth, tourism investment and economic growth, and exchange rate and economic growth. However, tourism receipts had a significant positive relationship with exchange rate. The regression results showed that tourism receipts, tourism investment, and exchange rate jointly explained 11.9% of the variation in economic growth, but the overall regression model was statistically insignificant. Individually, tourism receipts and tourism investment did not have significant direct effects on economic growth. Exchange rate also had a negative but statistically insignificant effect on economic growth. The study concluded that tourism has economic relevance for Pakistan, especially through its connection with exchange rate movement, but its direct contribution to economic growth was not strongly supported by the selected model. The findings suggest that tourism may become more growth-supportive if backed by targeted investment, improved tourism infrastructure, better destination management, and stable macroeconomic conditions.

Keywords: Tourism Receipts, Tourism Investment, Exchange Rate, Economic Growth, Pakistan, Mediation Analysis.

1. Introduction

Tourism is treated in this study as an economic activity that connects visitors' movement with income generation, foreign exchange earnings, investment demand, employment, and services-sector expansion. Tourism in tourism-led growth literature is not restricted to a mere travel and recreation industry, but rather perceived as a productive service sector which can be leveraged to boost economic activity in the related sectors of accommodation, transport, food and beverages, retail markets and cultural attractions along with



supply chains (Khalil et al., 2007; Azam et al., 2022). Tourism receipts are particularly significant as they also serve as export income and external revenues coming into the domestic economy from foreign tourists (Adeleye et al., 2022). It is well established from the previous literature that tourism receipts and tourism earnings can have positive links with economic growth, but the magnitude of the effect may vary from nation to nation and under different economic conditions (Jayaraman & Makun, 2022; Rasool et al., 2021). In Pakistan, tourism has also been considered as a potential area where it can help in the economic performance of the country as it has the potential of contributing to the country's foreign exchange earnings, income and employment (Khalil et al., 2007; Imran & Ali, 2024).

Economic growth is the dependent variable of this study because it reflects the overall expansion of national economic activity. Economic growth is generally proxied by GDP, GDP growth or real GDP per capita in tourism-growth studies, as these measure in absolute numbers, changes in output and income over time (Adeleye et al., 2022; Jayaraman & Makun, 2022). The relationship between tourism and economic growth is built on the understanding that increased tourism income and investment can lead to increased consumption and tourism services sector growth and greater business activity (Kyara et al., 2021; Xia et al., 2021). Moreover, investment in tourism is a key factor, as tourism alone will not grow if there are no hotels, no transport network, no infrastructure and no facilities in the destination, and without the involvement of the private sector and the creation of digital systems (Castilho & Fuinhas, 2024; Bajrami et al., 2024). Hence, this paper is based on both tourism receipts and tourism investment to account for the income side of tourism's economic contribution as well as the capacity building side.

Exchange rate is included as the mediating variable because tourism receipts and tourism investment are closely linked with foreign currency inflows and external competitiveness. The exchange rate influences the cost of visiting a country by foreign visitors and the purchasing power of domestic visitors of foreign countries, as well as the value of international tourism receipts in domestic countries (Adeleye et al., 2022). Tourism that generates foreign exchange can bring impact to exchange rate conditions and vice versa to economic growth through trade, importation, investment confidence as well as external balance (Obi et al., 2025). The base paper by Jayaraman and Makun (2022) demonstrated that the relationship between tourism earning and economic growth might not necessarily be linear and that negative shocks that affect tourism can cause more damage than positive shocks that tourism can cause on the economy. The present study takes the notion one step further and hypothesizes that tourism could also affect the economic growth indirectly by impacting exchange rate, thus an empirical investigation of the Tourism–Exchange Rate–Growth Mediation Model is appropriate.

1.1. Background of the Study

Tourism is now widely understood as more than a leisure activity because it contributes to production, income generation, employment, investment, and foreign exchange earnings. Tourism as a service-export sector is a common classification in the world of tourism studies, as one of the characteristics of international visitors is that they consume the services of the host country and they also bring foreign currency to the host country's economy (Adeleye et al., 2022). This makes tourism particularly relevant in economies that are developing and where diversification of exports, foreign exchange reserves and employment creation are policy issues (Khalil et al., 2007). Additionally, tourism also generates demand for various related industries such as transport, accommodation and food, the retail market, cultural tourism and local production, thus reinforcing its contribution to the overall economy (Azam et al., 2022).

Economic growth refers to the increase in national output and income over time, usually measured through GDP, GDP growth, or real GDP per capita. Economic growth is frequently employed as the dependent variable in tourism-growth studies as researchers tend to focus on whether tourism activities should lead to growth in the broader economy (Adeleye et al., 2022; Jayaraman & Makun, 2022). It is believed that tourism can facilitate economic growth through foreign exchange earnings, demand for local products, tourism investment and employment opportunity (Rasool et al., 2021). This argument is important as it places tourism on the same economic logic as exports and services trade.



There are a few empirical studies which support the tourism-led growth argument, while the strength of the relationship varies from country to country. The study by Khalil et al. (2007) revealed that tourism and economic growth have a long run relationship in the case of Pakistan and Azam et al. (2022) detected a positive association of tourism and economic growth of Pakistan economy. Likewise, Kyara et al. (2021) discovered that tourism expansion assisted in economic growth in Tanzania while also Xia et al. (2021) posited the tourism-led growth hypothesis in European countries. These findings indicate that whilst tourism has the potential to provide a positive contribution to growth, it depends on the characteristics of the economy, investment climate, exchange rate fluctuations and capacity of the tourism industry.

Tourism receipts are one of the main indicators used to measure the economic contribution of tourism. They are defined as the earnings generated by tourists from abroad, in the form of traveller expenditure on services, such as traveller accommodation, transport, food, entertainment, shopping and other forms of tourism services. These revenues, when demanded by the economy, should enhance the country's external earnings while also helping to sustain economic activity (Adeleye et al., 2022). Jayaraman and Makun (2022) showed that tourism earnings were significantly related to economic growth in the Maldives, but that the impact of a decrease in earnings on growth was higher compared to the impact of a corresponding increase on growth. This reveals that although tourism receipts can be of economic significance, their impact can be conditioned on the stability of the tourism market, and on macroeconomic conditions, as well.

Tourism investment is also vital since tourism does not only thrive based on natural beauty, cultural heritage or interest of the visitors. What the sector is missing are hotels, roads, transport systems, airports, digital platforms, recreational facilities, as well as security arrangements and destination management. Castilho and Fuinhas (2024) demonstrated that tourism investment can have broader economic significance and Bajrami et al. (2024) demonstrated that foreign direct investment can be used to stimulate tourism through the capacity building and attractiveness to visitors. Likewise, Zheng et al. (2023) stated that the tourism resources are more economically useful if it is backed by the investment. Therefore, both tourism receipts and tourism investments are taken as important explanatory variables related to tourism in the present study.

In this study, the exchange rate is employed as a mediating variable because tourism can have an impact on the economic growth factor both directly and indirectly by the foreign exchange conditions. Tourism receipts can boost external inflow of foreign currency and tourism investment can raise confidence in the tourism sector and boost its external earning capacity. The changes might impact exchange rate conditions which in turn might impact the economy through effects on trade competitiveness, cost of imports, investment confidence, and external balance (Adeleye et al., 2022; Obi et al., 2025). Thus, exchange rate acts as a good indicator of the potential link between tourism receipts and investment and their contribution to economic growth.

1.2 Problem Statement

The long-standing belief that tourism is a sector which promotes growth to all economies has empirically been problematic given its sensitivity to country context and macroeconomic conditions along with the channels through which tourism income enters the economy. In the Maldives, a preliminary study carried out using the method of Jayaraman and Makun (2022) revealed an asymmetric impact relationship between tourism earnings and economic growth namely, a decline in the former would adversely affect growth more than an equally sized increase in the latter brings about it. They also noted that their study found a gap in the existing literature on tourism-growth relationships, arguing that most previous studies used linear models which might not reflect these asymmetrical effects of tourism shocks on growth. However, while this base study added ICT as a supporting factor, it did not examine exchange rate as a mediating mechanism between tourism activity and economic growth. Therefore, the present study addresses this gap by examining whether tourism receipts and tourism investment influence economic growth through the mediating role of exchange rate.

1.3 Research Objectives



1. To analyze the impact of tourism investment on economic growth by considering the role of investment in strengthening tourism-related economic activity.
2. To assess the relationship between tourism receipts and exchange rate, especially in terms of tourism receipts as a source of foreign exchange earnings.
3. To examine the relationship between tourism investment and exchange rate by analyzing whether tourism-related investment is associated with changes in exchange rate conditions.

1.4 Research Questions

RQ2: What is the impact of tourism investment on economic growth?

RQ3: What is the relationship between tourism receipts and exchange rate?

RQ4: What is the relationship between tourism investment and exchange rate?

1.5 Significance of the Study

The study could give valuable information to policymakers to build tourism and economic policies related to the growth goals. The results can be used in educating government institutions on the potential role of tourism vis-vis economic growth and external-sector stability. Academics and researchers can benefit from the study by taking the debate and literature on tourism-led growth beyond the direct link between tourism and economic growth. The study examining the role of tourism on GDP/economic development exists in abundance, but few works have reviewed the mediation of exchange rate. The result of this study could draw the attention of tourism industry to the need for better promotion of tourism and increase the number of tourists to improve the tourism receipt and investment in tourists' industry. There is potential for both the tourism industry and investors/planners who invest in the tourism sector in terms of hotels, transport, infrastructure, and services to understand how tourism-related investment can benefit for wider economic activity. This study can also provide an insight into the tourism stakeholders and make them aware of exchange rate conditions as an important determinant to the competitiveness of the destination, tourist expenditure and economic value of tourism.

2. Literature Review

Tourism functions as an export of services and this helps us to understand the economic role of tourism in the context of Trade Theory. Unlike normal trade, in tourism, the foreign exchanges are to be earned by selling local products and services to foreign tourists. Tourism receipts, in this way, can be considered as export earnings since they are foreign currency that is imported in the domestic economy without goods being sent. As stated by Khalil et al. (2007), the reason for this is that tourism could have a positive effect on foreign exchange earnings, thus improving the external sector's balance of payments, especially when other export sectors are not sufficiently robust to maintain external-sector stability. As such, tourism is relevant to developing economies as it has the potential to generate income, employment and foreign exchange in the services sector.

Trade Theory can also be used to account for why tourism receipts can be growth enhancing. The spending of foreign tourists in the host's economy leads to an increase in the host economy's need for services and goods, and thereby in the income of several related sectors. Adeleye et al., 2022 also considered tourism receipts as one of the most significant foreign exchange variables (Dex) and associated it with economic growth in the Asian economies. In their study, they uphold the notion that tourism must not only be analysed from the perspective of a social phenomenon, but also with respect to international economic exchange. It is therefore appropriate that the present study is supported by Trade Theory which explains how receipts and investment in tourism can boost foreign exchange inflows and services trade thereby contributing to the enhancement of the external-sector performance and the economy.

According to the Tourism-Led Growth Theory, tourism has the potential to serve as economic growth when it contributes to growth in the national income, employment, investment, tourism infrastructure and foreign exchange earnings. In this perspective, tourism is not simply an economic opportunity for the hotel sector or the travel industry but has broad-based economic impacts on transport and transportation companies, food and food services, retail markets, cultural industry, construction, communication, and local companies. Khalil et al. (2007) for the first time offered evidence from Pakistan which suggested that there exists a long



run relationship between tourism and economic growth. In the same context, tourism's positive relationship with economic growth was also identified by Azam et al. (2022) in Pakistan, thus, tourism can act as an economic growth factor through implementation of appropriate policies and stable macroeconomic environment.

Studies in other countries also validate the Tourism-Led Growth Theory. Rasool et al. (2021) revealed a correlation between tourism and economic growth of BRICS countries, Kyara et al. (2021) also revealed that expansion of tourism is related to economic growth in Tanzania. As per the base article by Jayaraman and Makun (2022), tourism earnings have a significant impact on economic growth in Maldives but with asymmetric impacts. Of significance, their findings indicate that while tourism can contribute to growth, when the earnings from tourism fall, the economy loses more than it does when the earnings from tourism increase by that same amount. Thus, this theory is directly applicable to the present study as tourism receipts and tourism investment are considered key determinants of the impact of tourism to economic growth.

Exchange rate is one of the key external-sector indicators as it influences export competitiveness, foreign exchange earnings, import prices, foreign direct investments (FDI) and the value of external transactions. The exchange rate is significant in tourism because tourists price shop and exchange rate can either make a country cheaper or more expensive destination for tourists. According to Adeleye et al. (2022), exchange rate is closely related with tourism as an exchange rate of a country can affect tourism receipts, tourist decision and economic growth. While a depreciation may make it easier for foreign visitors to afford a trip, it can also make imported goods more expensive and put pressure on the broader economy. Thus, exchange rate can have positive as well as negative impacts, depending on the economic conditions.

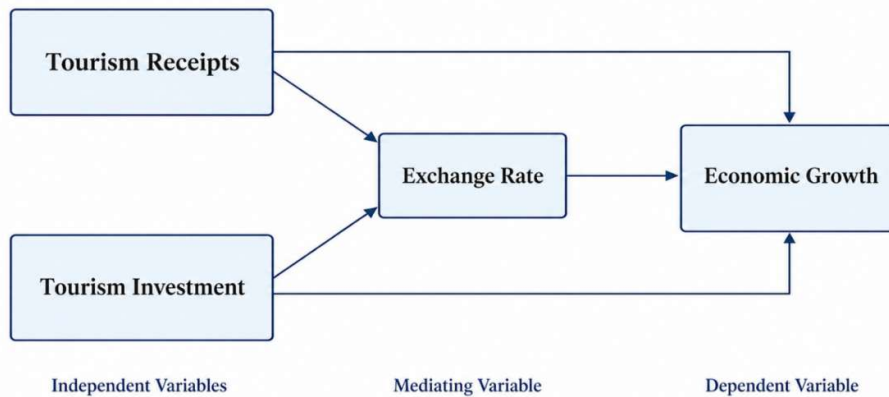
External Sector Theory can also be used to provide an explanation for exchange rate as a mediating variable between tourism and growth. Tourism receipts can inflow foreign currency into the economy and investments in the tourism sector can increase the country's tourism carrying capacity and external earnings. Such inflows could have an impact on exchange rates, with exchange rate in turn impacting economic growth through the trade balance, import costs, foreign reserves and investor confidence. Additionally, Obi et al. (2025) pointed out that the exchange rate and financial development can influence the relationship between tourism and growth. Hence, the exchange rate variable is not only a control variable in this study but also is assumed to be a mediator linking tourism investment with the effects on tourism receipts and economic growth.

2.1 Conceptual Framework

The conceptual framework of the present study is based on the Tourism–Exchange Rate–Growth Mediation Model. The model assumes that tourism contributes to economic growth through two main indicators: tourism receipts and tourism investment. Tourism receipts refer to income earned from international tourist spending, while tourism investment refers to investment made in tourism-related infrastructure, facilities, services, and sectoral development. Tourism receipts have been widely used in tourism-growth studies because they represent the monetary value of international tourism activity and foreign income entering the host economy (Adeleye et al., 2022). Tourism investment is also relevant because tourism growth depends on the availability of infrastructure, accommodation, transport facilities, digital systems, and destination capacity (Castilho & Fuinhas, 2024). Economic growth is used as the dependent variable because earlier tourism-growth studies commonly examine whether tourism-related activity contributes to GDP, GDP growth, or real GDP per capita (Jayaraman & Makun, 2022). Exchange rate is used as the mediating variable because tourism receipts are closely connected with foreign exchange earnings, international payments, and destination competitiveness (Obi et al., 2025).



Figure 1
Conceptual Framework



3. Methodology

This chapter explains the methodological procedure adopted to examine the role of tourism in economic growth. The study focused on tourism receipts and tourism investment as independent variables, exchange rate as the mediating variable, and economic growth as the dependent variable. The purpose of the chapter was to explain how the research problem was investigated through a systematic empirical design. Since the study was based on measurable macroeconomic variables, it followed a quantitative direction and relied on secondary annual time-series data. The selected period of the study was 1995 to 2023, making the final sample 29 annual observations.

3.1 Research Design

The study used quantitative and explanatory research design. The type of quantitative design was suitable since all variables selected were numerical. Official macroeconomic indicators for tourism receipts, tourism investment, exchange rate and economic growth were used. The study wanted to explore the strengths, directions and importance of the relationships among variables so quantitative analysis was appropriate rather than a qualitative investigation. Research design employed was explanatory since the research was not just describing the trends of tourism or economic conditions.

3.2 Research Strategy

An econometric research strategy was used. The econometric approach was appropriate since it involved analysing data for the period of one year and testing the relationships between macroeconomic variables. The study was not merely a descriptive discussion, but formal model estimation was required. This was primarily a test for any direct effects of tourism receipts and tourism investment on economic growth and the transmission of such effects through exchange rate. Econometric approach was logical.

3.3 Time Horizon

Longitudinal time horizon was used in the study. Examining the data that was collected annually over a period of 29 years (1995-2023) justified the use of a longitudinal design. The time of this study enabled the researchers to see the variations of tourism receipts, tourism investments, exchange rate, and economic growth for a longer period. A cross-sectional design or a single-year design would have been inappropriate as the relationship between tourism and growth takes place over a period and long-term economic trend may also impact the relationship.

3.4 Population of the Study

The population was comprised of macroeconomic observations for the selected country context on an annual basis, as related to tourism and economic growth. The relevant population was the country-level data on economic growth, tourism receipts, tourism investment and exchange rate as economic growth is an attribute of tourism. These observations reflected the general behaviour of the tourism economy, and the



overall impact of the tourism sector on the national economy. The subject population in this study was not of human beings; thus, it did not have a human population.

3.5 Sampling Technique and Sample Size

The study employed purposive sampling technique. The years were purposively selected, as only those in which complete and reliable data was available for all the variables selected were included. It may be noted here that the selection of years is not random in macroeconomic time-series research as is the case in the selection of the respondents of a survey. The researcher then chooses a chronological period that is pertinent to the research and that has sufficient data for that time. Annual data was collected over the period 1995 to 2023. Hence, 29 yearly observations were selected as the final sample.

3.6 Data Sources and Data Collection Method

This study was a secondary data study. The secondary data was used as all the variables selected were macroeconomic indicators already recorded by national and international institutions. Data were drawn from various official sources including the World Development Indicators (WDI) from the World Bank, tourism statistical reports, official reports on economic surveys and other official sources on tourism-related and macroeconomic performance. By using official data sources, the credibility of the study was increased since official data sources use standardized definitions and systematic reporting procedures.

3.7 Measurement and Operationalization of Variables

The study included four variables: economic growth, tourism receipts, tourism investment, and exchange rate. Economic growth was the dependent variable, measured through GDP growth or real GDP per capita. Tourism receipts and tourism investment were independent variables, representing international tourism earnings and tourism-related capital development. Exchange rate was used as the mediating variable because tourism income and investment are linked with foreign exchange inflows and international competitiveness. The direct model tested the effects of tourism receipts and investment on economic growth, while the mediation model examined whether exchange rate explained this relationship. Mediation was supported only if exchange rate significantly affected economic growth.

3.8 Data Analysis Techniques

The study used appropriate econometric techniques for time-series data analysis. First, descriptive statistics were applied to explain the basic features of economic growth, tourism receipts, tourism investment, and exchange rate. Correlation analysis was then used to examine the initial association among the variables, although correlation was treated only as a preliminary test and not as evidence of causation. Unit root tests, including the Augmented Dickey-Fuller and Phillips-Perron tests, were applied to check whether the variables were stationary at level or first difference. Based on the stationarity results, a suitable econometric model was selected. If the variables were integrated at mixed order $I(0)$ and $I(1)$, the ARDL bounds testing approach was used to examine short-run and long-run relationships. Mediation analysis was conducted to test the indirect role of exchange rate. Finally, diagnostic tests were applied to check serial correlation, heteroscedasticity, normality, and model stability.

4. Results and Analysis

Table 1

Combined Descriptive Statistics of the Study Variables, 1995–2023

Variable	Unit	N	Min	Max	Mean	SD	Skewness	Kurtosis
Economic Growth	Percentage	29	-1.27	7.83	3.91	2.13	-0.438	0.317
Tourism Receipts	US\$ million	29	492.00	1,127.00	822.16	194.88	-0.328	-1.328
Tourism Investment (FDI Proxy)	US\$ million	29	308.00	5,590.00	1,802.06	1,347.76	1.577	2.568
Exchange Rate	PKR per US\$	29	31.64	280.36	92.75	55.35	1.774	3.752

Note. Tourism investment was measured through foreign direct investment net inflows because a complete tourism-specific investment series was unavailable. Tourism receipts and investment values are reported in millions of US dollars.



Table 1 gives the descriptive statistics of the four variables for 29 annual observations from 1995 to 2023. The value of economic growth varied from -1.27% to 7.83% and the average growth rate was 3.91% per year. The value of the standard deviation is 2.13 which shows that there is significant variation of Pakistan's economic performance during the time of the research. The skewness value of -0.438 indicates that the distribution is somewhat skewed to the left and the kurtosis value of 0.317 indicates that observations were normal. The amount of money received from tourism was between 492 million and 1.127 billion USD with an average of 822.16 million USD. The moderate variation in international tourism earnings from year-to-year is reflected in the standard deviation of US\$194.88 million. The skewness value of -0.328 indicates that this distribution is slightly negatively skewed while the kurtosis value of -1.328 indicates that this distribution is flatter than the normal distribution with less extreme data points. The FDI proxy for tourism investment displays significantly higher variations. This was from a minimum of US\$308 million to a maximum of US\$5.59 billion and averaged at US\$1.80 billion per year. The high value of the standard deviation of US\$1.35 billion suggests significant investment inflow volatility. It is positively skewed (1.577) and has a kurtosis of 2.568, which means that a few years have an investment value that is well above the average for the period. It was seen that the exchange rate too saw significant fluctuations from PKR31.64 to PKR280.36 per US dollar. The mean exchange rate was PKR92.75 with SD of PKR55.35. It shows a positive skewness of 1.774 and kurtosis of 3.752 which confirms that higher exchange-rate values are concentrated towards later years. Turismo investment, exchange rate, economic growth and tourism receipts were moderately variable, and tourism investment and exchange rate were more variable and had larger deviations from normal values.

Table 2*Correlation Analysis*

Variables	GDP Growth	Tourism Receipts	Tourism Investment	Exchange Rate
GDP Growth	1			
Tourism Receipts	-0.072	1		
Tourism Investment	0.028	0.522**	1	
Exchange Rate	-0.311	0.613**	0.132	1

The correlation results showed that GDP growth had weak relationships with tourism receipts ($r = -0.072$) and tourism investment ($r = 0.028$), while its relationship with exchange rate was moderately negative ($r = -0.311$); however, none of these relationships was statistically significant. Tourism receipts had a moderate positive and significant relationship with tourism investment ($r = 0.522$, $p < .01$) and a stronger positive and significant relationship with exchange rate ($r = 0.613$, $p < .01$). Tourism investment showed only a weak positive relationship with exchange rate ($r = 0.132$), which was statistically insignificant. Overall, tourism receipts were significantly associated with both investment inflows and exchange-rate movements, but the tourism variables did not show a significant direct association with economic growth.

Table 3*Regression Results Predicting Economic Growth*

Model/Predictor	B/Model Value	β	t/F	p
Overall model	$R = .346$; $R^2 = .119$; Adjusted $R^2 = .014$	—	$F(3, 25) = 1.131$	.356
Constant	3.676	—	1.956	.062
Tourism Receipts	2.241×10^{-9}	.205	.712	.483
Tourism Investment (FDI Proxy)	-3.367×10^{-11}	-.021	-.093	.927
Exchange Rate	-.017	-.434	-1.753	.092

Note. Dependent variable = GDP growth. $N = 29$. Model $F(3,25) = 1.131$, $p = .356$. Standard error of the estimate = 2.118; Durbin–Watson = 1.429.

The multiple regression analysis examined whether tourism receipts, tourism investment measured through FDI net inflows, and exchange rate predicted GDP growth. The model showed a weak overall



relationship between the predictors and economic growth ($R = .346$) and explained 11.9% of the variation in GDP growth ($R^2 = .119$). However, the adjusted R^2 was only .014, indicating very limited explanatory power after accounting for the number of predictors. The overall model was statistically insignificant, $F(3, 25) = 1.131$, $p = .356$, which means that tourism receipts, tourism investment, and exchange rate did not jointly predict economic growth during the study period. Tourism receipts had a positive but insignificant effect on GDP growth ($B = 2.241 \times 10^{-9}$, $\beta = .205$, $t = .712$, $p = .483$), while tourism investment had a very small negative and insignificant effect ($B = -3.367 \times 10^{-11}$, $\beta = -.021$, $t = -.093$, $p = .927$). Exchange rate also showed a negative effect on economic growth ($B = -.017$, $\beta = -.434$, $t = -1.753$, $p = .092$), suggesting that currency depreciation was associated with lower GDP growth, although the relationship was not significant at the 5% level. The Durbin–Watson value of 1.429 did not indicate a severe autocorrelation problem, while VIF values ranging from 1.491 to 2.349 confirmed that multicollinearity was not problematic. Overall, the findings show that the selected tourism and exchange-rate variables had limited ability to explain changes in Pakistan's economic growth.

The correlation between tourism receipts and economic growth was negative and weak, with a Pearson correlation value of $r = -0.072$. The significance value was $p = .709$ and is therefore greater than .05. This means that the intercorrelation between tourism receipt and economic growth was not statistically significant. The coefficient was negative, however very weak, which indicated that there was not a strong direct association between GDP growth and tourism receipts during the selected period. The correlation analysis between the variables of Tourism Investment and Economic growth was positive but very weak with the Pearson correlation value ($r = 0.028$). The significance value of this was found to be $p = .884$, which is not below .05. This indicates no significant difference between tourism investments and the development of the economy statistically. The positive sign shows that tourism investment followed a slight trend towards economic growth, while at the correlation level, though not particularly strong, it does not suggest a significant association.

Table 4*Regression Coefficients*

Predictor	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
Constant	3.676	1.879	—	1.956	.062	—	—
Tourism Receipts	2.241E-9	.000	.205	.712	.483	.426	2.349
Tourism Investment	-3.367E-11	.000	-.021	-.093	.927	.671	1.491
Exchange Rate	-.017	.010	-.434	-1.753	.092	.575	1.739

The individual effect of each independent variable on economic growth is presented in the following table: coefficients. There was a positive coefficient for tourism receipts, $B = 2.241E-9$, at a significance of $p = .483$. The p value was not significant, and greater than .05, and therefore, tourism receipts had no statistically significant effect on economic growth. Tourism investment with proxy using FDI net inflows had a negative coefficient $B = -3.367E-11$ with a significance value of $p = .927$. This was likewise not statistically significant. The B for exchange rate was negative, and the value for p was .092. The result of the relationship between Exchange rate and Economic growth indicated a negative relationship, but it wasn't significant at 0.05 level.

5. Discussion

The descriptive and correlation results reveal that the tourism activity grew in an unstable macroeconomic environment instead of a regular growth path. The real GDP of Pakistan experienced an annual average growth of 3.91% in the time interval 1995-2023, which included both multiple expansions and contraction of the economy. Tourism receipts averaged US\$822.16 million (ranging from US\$492 million to US\$1.127 billion); the standard deviation of US\$194.88 million indicates that there was some variability in the receipts over time, but not to the extent experienced in the case of investment flows. The average tourism investment, based on the FDI net inflows, was US\$1.80 billion, but a range of US\$308 million to US\$5.59 billion, along with a standard deviation of US\$1.35 billion, indicates that capital inflows were concentrated in a few years when investments were high. The official exchange rate was in the range of PKR31.64 to



PKR280.36 per US\$1 and had been witnessing a substantially rising trend, pointing towards consistent depreciation of the local currency during the period. Tourism receipts were only weakly negatively related to GDP growth ($r = -.072$); tourism investment showed an almost null positive relationship with GDP growth ($r = .028$); and exchange rate showed a moderate negative association with GDP growth ($r = -.311$), however none of this relationship was statistically significant. They are found to be different than previously found in Pakistan which showed long run relationship between tourism activity and national output (Khalil et al., 2007). They also differ from the findings of the researchers who found a positive contribution of tourism to the economic performance of Pakistan in the presence of favourable macroeconomic and policy conditions in tourism development (Azam et al., 2022).

The figures may differ because the annual GDP growth reflects the short-term fluctuations in the total volume of output, while the impact of the income from tourism is spread out over employment, services, regional business activity or foreign exchange earnings and therefore are not immediately reflected in the GDP growth rate. A study of the Maldives suggests that the impact of the relationship between tourism and growth is sensitive to the nature of the economy and the level of reliance on tourism expenditure: Adverse tourism shocks have greater impact than similar positive shocks on the base equation (Jayaraman & Makun, 2022). Notably, no significant linkages were found between tourism income and annual GDP growth; however, the substantial relationships between tourism receipts and tourism investment ($r = .522$, $p < .01$) and between tourism receipts and exchange rate ($r = .613$, $p < .01$) suggest that tourism income was more correlated to investment and external-sector variables. This is in line with the presumption that tourism receipts are mainly an income from services-export and the immediate macro-economic significance of this is foreign currency flows as opposed to any automatic output expansion (Adeleye et al., 2022). That is not to say that tourism wasn't economically valuable, but it did seem to be more evident in external finance conditions rather than in growth performance in the selected periods.

The mediation analysis provides further explanation as to why a statistically significant relationship between tourism and growth was not found. The model accounted for 42.5% of the variance in exchange rate ($R^2 = .425$; adjusted $R^2 = .381$), and the model was significant, $F = 9.606$, $p = .001$. Tourism receipts had a strong positive association with the official exchange rate ($B = 2.126 \times 10^{-7}$, $\beta = .748$, $p < .001$), whereas tourism investment had a negative but insignificant effect ($B = -1.062 \times 10^{-8}$, $\beta = -.259$, $p = .150$). It should be noted that the exchange-rate is shown in rupees per unit of US dollar, so the positive coefficient reflects a higher exchange-rate value in years with higher recorded receipts but does not necessarily imply that the depreciation of the rupee resulted directly in the increase in recorded tourism receptions. The relation may simply mimic common trends related to inflation, balance-of-payments pressures, foreign currency valuation, and domestic value changes of dollar denominated receipts for both series.

Asian evidence, showing that the currency conditions are strongly linked to tourism receipts and can influence the tourism-economic performance relationship (Adeleye et al., 2022), is consistent with the significant receipts-exchange-rate path. Exchange-rate failed to meet the final mediation condition as it exerted a negative (but statistically non-significant) effect on GDP growth after accounting for the tourism variables ($B = -.017$, $\beta = -.434$, $p = .092$). As a result, the indirect effects via exchange rate were -3.614×10^{-9} and 1.805×10^{-10} for tourism receipts and investment, respectively, and the corresponding indirect effects were not supported by mediation. This finding serves as a valuable qualification in studies integrating exchange rate as one of the key variables in the tourism-growth nexus because, relevance in the tourism context as a macroeconomic factor does not make for a statistically significant transmission process (Obi et al., 2025). While foreign tourist prices may fall due to currency depreciation, so may the prices of inputs from outside the location that are needed to provide tourism services, introduce inflationary pressures, dampen investment confidence and diminish the domestic purchasing power necessary to support tourism services. In such cases, potential benefits of price competitiveness can be annulled prior to their realization in GDP growth.

It is also understandable in the context of an economy where tourism really is not as dominant as the Maldives' is, with foreign exchange reserves, government finances and production heavily reliant on



fluctuations in tourist revenue (Jayaraman & Makun, 2022). The results of the diagnostics supported this interpretation: VIF between 1.491 and 2.349 did not indicate any serious multicollinearity; the range of standardized residuals was from -1.837 to 1.630 , and the mean of the residuals was $.000$. The Durbin–Watson statistic is 1.429 , which, with annual time-series data, should be interpreted with some care, though there does not appear to have been an extreme violation. Hence, the unsupported indirect paths are better understood as evidence of a weak economic transmission structure, limited sample size, proxy measurement, and competing macroeconomic influences rather than as a simple statistical artefact.

6. Conclusion

The study concluded that tourism receipts, tourism investment, and exchange rate had limited explanatory power for Pakistan's economic growth during 1995–2023. Tourism receipts averaged US\$822.16 million and tourism investment (FDI net inflows) averaged US\$1.80 billion, respectively, but the direct impacts on GDP growth were not found to be statistically significant. The variation in economic growth was found to be explained by only 11.9% of the regression model and the model was found to be statistically insignificant, suggesting that the broader economic factors in the country had a greater impact on the national-growth performance figures. Tourism receipts however had positive and strong relations with the movements of exchange rate, indicating that tourism earnings had closer relationship with the external sector performance than to annual change of GDP.

The results by no means indicate that tourism is not economic to Pakistan; it merely implies that it was not robust enough or passed through the variables and period analysed. Additionally, using FDI as an aggregate measure of investment in the tourism industry may have clouded the extent of the relationship, since capital may have flowed into other sectors that are not related to tourism. Further development of tourism is needed, and Pakistan needs to focus on investing in the different sectors of tourism including local tourism supply chain, security, digital services in tourism, transport and accommodation to achieve more economic benefits from the tourism industry. Stable exchange-rate conditions and policies that keep a greater share of tourism income in the domestic economy could also be beneficial in achieving more tangible and lasting economic growth from tourism.

7. Recommendations for Future Research

In future studies, tourism-specific investment data should be used, if available.

- Future research can be carried out based on capital investment in travel and tourism, investment in the hotel sector, investment in tourism infrastructure, or sector-specific FDI. This would enhance the quantifying of tourism investment and might yield more meaningful results.
- In further research, other macroeconomic indicators like inflation, trade openness, foreign reserves, tourism jobs, infrastructure investments, political stability and security situation should also be added. These variables can provide a better understanding of the relationship between tourism growth and the variables mentioned.
- ARSL, VAR, VECM, cointegration analysis, and causality testing are some of the advanced time series techniques that can be used in future research. These techniques may be used to explore if the impact of tourism on economic growth is immediate, ongoing or delayed.
- In future research, a comparative study can also be conducted by adding other countries from South Asia or Asia. A panel data study would help to determine if the findings in Pakistan are country-specific or if there are the same trends in other countries with developing economies.

Contribution of Authors

All the authors participated in the ideation, development, and final approval of the manuscript, making significant contributions to the work reported.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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Data Availability

The datasets generated during and analysed during the current study are available from the corresponding author on reasonable request.

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