
TOURISM, EXCHANGE RATE, AND ECONOMIC GROWTH IN PAKISTAN: A TIME-SERIES ANALYSIS

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Abstract

This study examined the relationship between tourism and economic growth in Pakistan by focusing on tourism receipts, tourism investment, and the mediating role of exchange rate. Annual time-series data covering 1995–2023 were used, providing 29 observations. Economic growth was measured through GDP growth, tourism receipts through international tourism earnings, tourism investment through foreign direct investment net inflows as a proxy, and exchange rate through the official Pakistani rupee–US dollar rate. Descriptive statistics, correlation analysis, multiple regression, mediation analysis, and diagnostic tests were performed using SPSS. The findings showed that GDP growth averaged 3.91%, tourism receipts averaged US\$822.16 million, tourism investment averaged US\$1.80 billion, and the exchange rate averaged PKR92.75 per US dollar during the study period. Tourism receipts had a weak negative relationship with economic growth, while tourism investment had an almost negligible positive relationship. Tourism receipts were significantly associated with tourism investment and exchange rate. The regression model explained 11.9% of the variation in GDP growth but was statistically insignificant, $F(3, 25) = 1.131$, $p = .356$. Tourism receipts, tourism investment, and exchange rate did not significantly predict economic growth. Mediation analysis showed that tourism receipts significantly affected exchange rate, but exchange rate did not significantly affect economic growth. Therefore, exchange rate did not mediate the relationship between the tourism variables and economic growth. The study concludes that

tourism remained economically relevant for Pakistan, particularly through its association with external-sector conditions, but its direct contribution to GDP growth was not statistically supported within the selected model and period.

Keywords: Tourism receipts, Tourism investment, Exchange rate, Economic Growth, Foreign direct investment, Pakistan, Mediation analysis

1. Introduction

Tourism has emerged as an economic activity of significance as it has an impact beyond travel and recreation to income generation, employment, investment, foreign exchange earnings and growth in related service industry (Khalil et al., 2007; Azam et al., 2022). The arrival of foreign visitors in the host country generates demand in various sectors of the host economy including demand for accommodation, transportation, food, entertainment, shopping, and cultural activities (Adeleye et al., 2022). Tourism receipts, therefore, can be seen as a type of service-export income since the foreign visitors pay for services that are produced in the domestic economy and introduce foreign currency into it (Adeleye et al., 2022). Khalil et al. (2007) described that tourism has the potential to facilitate economic growth and improve the country's foreign currency earnings, national income and the balance-of-payments performance. However, the contribution of tourism varies from country to country as it depends on the economic structure, the development of tourism infrastructure, the tourism policies, and the likelihood of local industries to benefit from visitors' spending (Rasool et al., 2021). With Pakistan's natural beauty, historical heritage, religious tourism, cultural diversity, and regional heritage, there is a great potential in this sector. The empirical evidence from Pakistan has also suggested that tourism activity has the potential to sustain long-time relations with the economic growth process in the presence of stable economic conditions and proper development policies (Azam et al., 2022).

The economic impact of tourism is not just a function of what tourists spend, but also on the productive capacity of the sector and on investment, which are essential for its long-term development (Castilho & Fuinhas, 2024). The relevance of tourism investment is also stimulating and not less important, as a place or destination does not get more visitors unless it is prepared with hotel, road, airport, transport facilities, digital facilities, recreational services,

security controls and adequate management for the destination (Bajrami et al., 2024; Zheng et al., 2023). Investing in these areas contributes to increasing the productive capacity of the tourism sector and generates economic impacts in the construction sector, in transportation, trade and financing, as well as supporting industries (Castilho & Fuinhas, 2024). The study of Bajrami et al., (2024), revealed that foreign investment can boost tourism capacity and magnificence. Tourism receipts and tourism investment may thus have differential impacts on the economic growth process. Tourism investment is defined as the ability of the tourism sector to build and upgrade facilities, expand services, and maintain future use of facilities while tourism receipts are foreign exchange earnings derived from international visitors' spending (Adeleye et al., 2022). Both the two variables' economic impact might also be influenced by exchange rate fluctuations, as exchange rate changes will affect destination affordability, tourist purchasing power, as well as the domestic value of foreign earnings and investor confidence (Adeleye et al., 2022). Obi et al. (2025) also stressed that the exchange rate conditions are important components of the tourism-wider economic performance nexus.

Although the literature on tourism led growth has increased, many studies have focused on the relationship between tourism activity and economic growth, which is a direct link. Jayaraman and Makun (2022) did indicate that the impact might not be straightforward and unidirectional – negative tourism earnings shocks can be more impactful than a positive one of similar magnitude. This indicates that tourism also could have macro-economic implications for the economy beyond income generation. One of such channels is an exchange rate since tourism receipts create foreign currency inflows and tourism-related investment can affect capital inflows and external-sector conditions (Adeleye et al., 2022; Obi et al., 2025). The broad aim of the present study was thus to analyse the role of tourism in the economic development of Pakistan in terms of tourism receipts, tourism investment and through the mediator of exchange rate. Specifically, the study evaluated the direct effect of tourism receipts and tourism investment on economic growth, and whether the effects of tourism were tied to exchange rate behavior, as well as if there were indirect effects of tourism on economic growth through exchange rate behavior. The study aimed to explain the tourism–growth relationship in Pakistan

in a broader sense by integrating tourism income, investments, exchange rate and growth in an empirical analysis.

1.1 Research Questions

- What is the impact of tourism receipts and tourism investment on economic growth in Pakistan?
- Does exchange rate mediate the relationship between tourism receipts, tourism investment, and economic growth in Pakistan?

1.2 Hypotheses

- **H1:** Tourism receipts and tourism investment have a significant effect on economic growth in Pakistan.
- **H2:** Exchange rate significantly mediates the relationship between tourism receipts, tourism investment, and economic growth in Pakistan.

2. Literature Review

The findings of previous empirical studies are broadly consistent with the tourism-led growth hypothesis, with the nature and magnitude of the relationship varying by country. Khalil et al. (2007) analysed the interaction between tourism and growth in the case of Pakistan and found a long-run relationship between tourism and the economic output in the country, indicating that tourism revenue can play a significant role in national income generation and foreign exchange earnings. A second study from Pakistan likewise showed that the positive correlation between tourism and economic growth hinges on four factors, including infrastructure, policy influence, investment climate and overall macroeconomic stability (Azam et al., 2022). These are similar trends that have been observed elsewhere in the world, outside Pakistan. There is evidence to illustrate that the expansion of tourism contributed to the growth of the economy in Tanzania, and that the growth of the economy in European countries was bolstered by the tourism-led growth hypothesis (Kyara et al., 2021; Xia et al., 2021). Rasool et al (2021) identified long-run relationship between tourism and growth in BRICS economies, which suggests that tourism can help in enhancing economic performance of the emerging economies. Overall, the studies indicate that tourism can promote growth through

job creation, extension of services, foreign exchange earnings and their demand for local products. There are, however, inconsistencies in the results obtained in different countries and regions, implying that tourism does not have the same economic impact on all nations.

Tourism receipts have been given significant attention, since they reflect international tourists' expenditure in real monetary terms, and not the number of tourists. Adeleye et al. (2022) considered tourism receipts as an income derived from export of tourism service which is a source of foreign currency inflow to the host economy and for external-sector performance. The impact of these revenues can also ripple through accommodation, transport, the restaurant sector, retail sales, shows, entertainment, and other related sectors, boosting income and demand beyond the tourism sector. Jayaraman and Makun (2022), pursuing their study in Maldives, observed that tourism revenue had a significant asymmetric link with economic growth. The drop in tourism revenues did more harm to the economy than the boost in revenue from an equivalent growth in tourism income. They conclude that tourism economies have the potential to benefit from the growth of tourism but have substantial vulnerability to the shocks of the outside world, health threats, and sudden drops in international travel. Similarly, studies on services trade have indicated that tourism earnings can contribute to the growth by external income and sectoral expansion of the economy, but the gains depend on the capacity of the economy to retain and re-distribute tourism money (Bounthone&Kyophilavong, 2023). Thus, the tourist receipts must be looked upon as an important but perhaps unreliable source of economic growth.

Tourism investments literature regards investment as the backbone that transforms tourism potential into economic activity. Economic benefits of tourism investment extend beyond tourism itself, as money for hotels, transport and recreational infrastructure, communication infrastructure, and the development of destinations leads to other types of construction, finance, trade, and service stimulation (Castilho and Fuinhas, 2024). It was concluded that foreign direct investment can enhance the capacities of the destination and draw more tourist visitations by improving the quality of the tourism infrastructure and service. (Bajrami et al., 2024). Likewise, tourism resources bring in higher economic benefits if investment is available for developing, commercializing, and maintaining them (Zheng et al.,

2023). These studies differentiate between tourism investment and tourism receipts: receipts are the income already generated by tourist spending whereas investment addresses the ability of the destination to increase its supply and to generate future income. Nevertheless, many empirical works rely on the use of foreign direct investment as a proxy for tourism investment as this latter information may not be available. This aspect can be a weakness in the measured relationship as total foreign investment also comprises investment in manufacturing, energy, finance, telecommunications, and other areas which have no direct link to tourism.

The ban on the import costs, influence of the price of the visited destinations on the exchange rate, tourist purchasing power and investment conditions has also become an important factor in the tourism – growth relationship, together with foreign exchange receipts. Adeleye et al (2022) revealed that the relationship between the tourism receipts and economic growth is influenced by the movement of exchange rates in Asian economies. While currency depreciation can lead to a reduction in the cost of visiting a country for tourists from abroad and to a higher value for tourism income in domestic currency, it can also cause a rise in prices of imported items such as fuel, equipment, food and construction materials for the tourism sector itself. Hence, Obi et al. (2025) analysed exchange rate and financial conditions as part of the mechanism of tourism's impact on overall economic performance. However, the existing study primarily focuses on exchange rate as an explanatory variable or control variable not as a mediator variable. Within Pakistan, the studies have also focused primarily on the direct link between tourism and economic growth and there has been little evidence of indirect effects on growth from tourism receipts and tourism investments via exchange rate changes. This unresolved issue forms the foundation for discussion on exchange rate as a potential transmission channel between the tourism activity and economic growth in the case of Pakistan.

3. Conceptual Framework

This study's conceptual framework provides the justification for the relationship between Tourism receipts, Tourism investment, exchange rate and economic growth in Pakistan. Tourism receipts and tourism investment are considered as independent variables as they are related to the income generation and capacity building aspects of tourism, respectively. Tourism receipts can impact economic growth via foreign exchange earnings and through

spending by tourists in the community and the requirements of the sectors related to the tourism industry (Adeleye et al., 2022), and investment in tourism can drive economic growth by increasing the capacity of the community's tourism resources, including infrastructure, accommodation, and transport (Castilho & Fuinhas, 2024). The exchange rate is added as a mediating variable only because tourism receipts contribute foreign currency to the economy, and tourism-related investment could impact capital inflows and external-sector conditions. The effect of the exchange rate can then further impact the growth of the economy through destination competitiveness, import costs, investment confidence, and the domestic value of tourism earnings (Obi et al., 2025). The framework thus involves direct effects of tourism receipts and investment, and indirect effects through the exchange channel, enabling the study to test whether the effects of tourism on economic growth are limited to direct effects or additional indirect effects via exchange rate (Jayaraman & Makun, 2022).

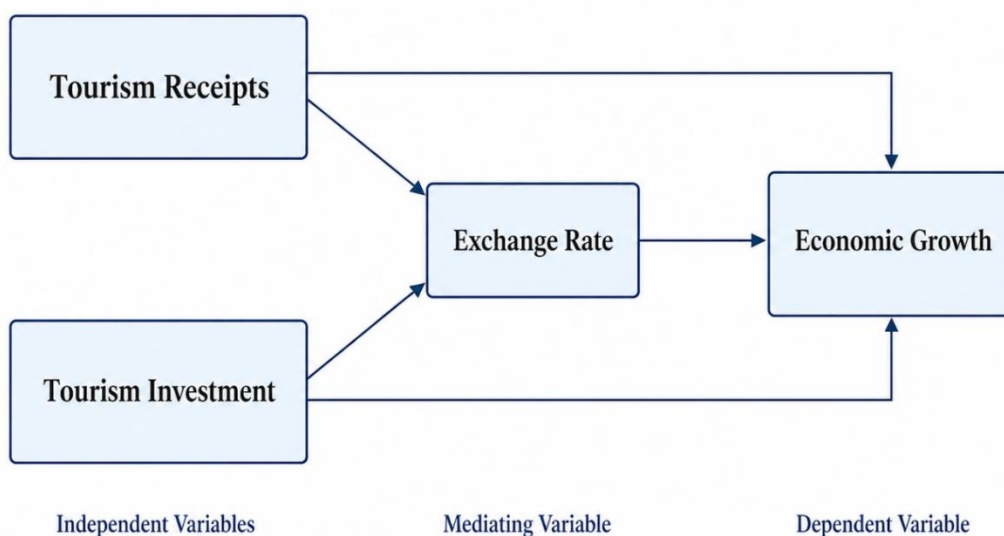


Figure 1: Conceptual Framework of the Study

4. Methodology

4.1 Research Design

The study adopted a quantitative, explanatory, and longitudinal research design to examine the relationship between tourism and economic growth in Pakistan. A positivist philosophy and deductive method was used since it aimed to test relationships which were

theoretically proposed between the measurable macroeconomic variables. The study was guided by the theory of tourism-led growth theory and trade theory which provides explanation on how tourism receipts, investment, and foreign exchange earnings can affect the performance of the national economy. Previous studies have likewise adopted quantitative time-series analysis when investigating the relation between tourism and economic growth, justifying the choice of an econometric approach in this study (Khalil et al., 2007; Jayaraman & Makun, 2022). This was a non-experimental design since the variables weren't manipulated but rather observed through historical records.

4.2 Data Sources and Variables

Secondary data used were annually from the year 1995 up to 2023 with a total of 29 observations per year. Primary data sources included the World Development Indicators provided by the World Bank as well as other official tourism and economic information. The dependent variable was economic growth, which was measured using the annual rate of growth of GDP. Tourism receipts and tourism investment were used as independent variables. International tourism receipts were defined as foreign income generated from the expenditure of visitors, while foreign direct investment net inflows were taken as a proxy indicator of tourism investment, as a full-time series of tourism investment was not available. The third variable, exchange rate, was seen as a mediating variable and it was measured in Pakistani rupees per US Dollar in the official exchange rate. These are measures that are also included in tourism-growth literature and studies (Adeleye et al., 2022).

4.3 Data Analysis

The data were analysed using SPSS. The distribution of each variable was discussed through descriptive statistics such as mean, minimum, maximum, standard deviation, skewness and kurtosis. The trend analysis was done to assess the changes in tourism receipts, investment, change in exchange rate and economic growth for some years. Pearson correlation method was used to test the direction and strength of the correlation between variables. The direct effect of tourism receipts, tourism investment and exchange rate on economic growth were estimated using multiple regression. The mediation analysis was then performed to see the transmission effect of the influence of tourism receipts and tourism investment on economic growth through

the mediation of exchange rate. To check the reliability of the estimated models, multicollinearity, residual normality and the Durbin–Watson statistic were investigated.

5. Results and Analysis

This section presents the empirical findings of the study based on 29 annual observations from 1995 to 2023. The results include descriptive statistics, correlation analysis, regression analysis, mediation analysis, and diagnostic testing.

5.1 Descriptive Statistics and Trend Analysis

Descriptive statistics were performed in order to describe the distribution and variation of economic growth, tourism receipts, tourism investment, exchange rate. Trend analysis was also used to investigate the trend changes in these variables during the time period under consideration.

Table 1: Combined Descriptive Statistics of the Study Variables, 1995–2023

Variable	Unit	N	Minimum	Maximum	Mean	Standard Deviation	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.

5.2 Correlation Analysis

Correlation analysis was conducted to assess the direction and strength of the relationships among economic growth, tourism receipts, tourism investment, and exchange rate.

Table 2: Correlation Analysis

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

5.3 Regression Analysis

Multiple regression analysis was performed to determine whether tourism receipts, tourism investment, and exchange rate significantly predicted economic growth in Pakistan.

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.

5.4 Mediation Analysis

Mediation analysis was used to examine whether exchange rate transmitted the effects of tourism receipts and tourism investment to economic growth.

Table 4: Results of Exchange Rate Mediation Analysis

Stage/Path	Model Fit	B	β	t	p
Direct-effect model	$R^2 = .011$; $F = .148$; $p = .863$				
Tourism Receipts → Economic Growth		-1.312×10^{-9}	-.120	-.524	.604
Tourism Investment → Economic Growth		1.438×10^{-10}	.091	.397	.694
Mediator model	$R^2 = .425$; $F = 9.606$; $p = .001$				
Tourism Receipts → Exchange Rate		2.126×10^{-7}	.748	4.292	<.001
Tourism Investment → Exchange Rate		-1.062×10^{-8}	-.259	-1.483	.150
Final mediation model	$R^2 = .119$; $F = 1.131$; $p = .356$				
Tourism Receipts → Economic Growth		2.241×10^{-9}	.205	.712	.483
Tourism Investment → Economic Growth		-3.367×10^{-11}	-.021	-.093	.927
Exchange Rate → Economic Growth		-.017	-.434	-1.753	.092
Tourism Receipts → Exchange Rate → Economic Growth	Indirect effect = -3.614×10^{-9}	—	—	—	—

Tourism Investment → Indirect effect = — — — —
Exchange Rate → Economic Growth 1.805×10^{-10}

Note. Economic growth was measured through GDP growth. Tourism investment was measured using FDI net inflows as a proxy. $N = 29$.

The mediation analysis showed that tourism receipts and tourism investment jointly explained only 1.1% of the variation in economic growth in the direct-effect model, which was statistically insignificant. Neither tourism receipts nor tourism investment directly predicted economic growth. In the mediator model, the two tourism variables explained 42.5% of the variation in exchange rate, and the overall model was significant. Tourism receipts had a strong positive effect on exchange rate, whereas tourism investment had no significant effect. After exchange rate was added to the final model, the model explained 11.9% of the variation in economic growth but remained statistically insignificant. Exchange rate had a negative coefficient suggesting that higher value of PKR / USD lead to decline in GDP growth but not up to the .05 level. The indirect effect via exchange rate was negative while the indirect effect via tourism investment was positive; however, mediation was not supported because exchange rate did not significantly predict the economic growth. Thus, exchange rate had no effect as a partial or full mediator between the tourism variables and economic growth.

5.5 Diagnostic Tests

Diagnostic tests were performed to evaluate the multicollinearity, autocorrelation and residual normality and to check the regression model against the key statistical assumptions.

Table 5: Diagnostic Test Results

Diagnostic Test	Indicator	Result	Acceptance Criterion
Multicollinearity	Tourism Receipts: Tolerance / VIF	.426 / 2.349	Tolerance > .10; VIF < 5
Multicollinearity	Tourism Investment: Tolerance / VIF	.671 / 1.491	Tolerance > .10; VIF < 5
Multicollinearity	Exchange Rate: Tolerance / VIF	.575 / 1.739	Tolerance > .10; VIF < 5
Autocorrelation	Durbin–Watson	1.429	Value reasonably close to 2
Residual Normality	Standardized residual range	–1.837 to 1.630	Residuals generally within ± 2
Residual	Mean / SD of residuals	.000 / .945	Mean close to zero

Normality Residual Normality	Histogram and P–P plot	Points generally followed diagonal line	Approximate normal pattern
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Note. GDP growth was the dependent variable. Tourism investment was measured through FDI net inflows as a proxy.

The diagnostic results revealed that the model assumptions necessary for interpretation were generally met by the regression. The tolerance values vary between .426 and .671 and the VIF values vary between 1.491 and 2.349 which indicates that there was no multi-collinearity problem between the variables (tourism receipts, tourism investment, and exchange rate). Measures of autocorrelation in the study revealed a Durbin–Watson statistic of 1.429, below the optimal value of 2, but not deemed to be an indicator of serious autocorrelation, due to the model using annual time-series data. The standardized residuals were between -1.837 and 1.630 with a mean of .000 and a standard deviation of .945, which did not show any extreme values. Both the histogram and P–P plot also indicated approximately normal distribution of the residuals. The overall results of the diagnostic tests indicated that the regression estimates were satisfactory for interpretation, but the statistical insignificance of the overall regression model did not change.

6. 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 regression results presented the more stringent test as to whether the movement of the tourism variables (after accounting for the overlapping movement among them) were independently associated with economic growth. In both tourism receipts and tourism investment, the model was statistically insignificant ($F = .148$, $p = .863$) and these two variables accounted for only 1.1% ($R^2 = .011$) of GDP growth. Both tourism receipts and tourism

investment had a negative and positive coefficient that were not significantly different from zero ($\beta = -.120$, $p = .604$ and $\beta = .091$, $p = .694$ respectively). A combination of these two models was also weak with $R = .346$ and 11.9% of the growth variation, the adjusted $R^2 = .014$ and the overall test was insignificant $F(3, 25) = 1.131$, $p = .356$ when exchange rate was added. In this model, the estimate on tourism receipts moved to a positive value ($\beta = .205$, $p = .483$), while the estimate on tourism investment turned slightly negative ($\beta = -.021$, $p = .927$), providing evidence of their instability and low substantive level when exchange-rate conditions were controlled for. This finding contradicts the conventional tourism-led growth, which was reported in the BRICS economies, where there seems to be a meaningful long-run relationship between tourism and economic growth (Rasool et al., 2021). Nonetheless, it contrasts with evidence in Tanzania, where tourism development had a positive impact on the economy (Kyara et al., 2021). Similar cases of tourism-led growth have been found in European nations, however, most of these countries have an already well-developed infrastructure, institutional capacities and the level of tourism–domestic production linkages are generally higher (Xia et al., 2021). The unimportant coefficients for Pakistan may therefore be due to poor transmission and not an absence of economic contribution. This is because of the leakage that can occur from tourist purchases of imported food and fuel, the transport equipment they use, the booking platforms they are on, and foreign-owned services that they use, which means that less of that money spent filters down through the value-chain to domestic businesses. Moreover, the investment outcome should be viewed in the context of measurement: the net investment inflows are of the entire economy and were utilised as a proxy as a full investment series for the tourism sector were not available. Tourism investment is proved to positively affect broader financial and economic activities, especially when it flows directly to investments in tourism assets and services (Castilho & Fuinhas, 2024). Foreign investment has also shown to have a positive correlation with destination capacity and the number of visitors when it is directly linked to the destination development in terms of tourism (Bajrami et al., 2024). Likewise, targeted investment in natural and cultural resources provides for greater economic returns when these are transformed into accessible tourism products (Zheng et al., 2023). However, because the proxy contains capital investments in nonrelated areas, the lack of significance

does not indicate that any of the other items—hotels, transport systems, digital systems, destination facilities, or security improvements—have no growth value. The study finding, instead, indicates that aggregate FDI was not a consistent measure of the productive investment needed to expand via tourism in Pakistan.

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.

7. 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. This mediation analysis shows that exchange rate cannot be considered as a transmission channel since it did not significantly predict economic growth when tourism receipts and investment were added as control variables. Thus, the direct tourism-growth hypothesis or the suggested exchange-rate mediation hypothesis was not confirmed. 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 analyzed. 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.

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