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Tourism, Inequality, and Inflation: Unraveling Economic Dynamics for Sustainable Growth

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ABSTRACT

This study investigates the intricate relationships between income inequality (measured by the GINI index), international tourism expenditure (ITE), and inflation (consumer price index, CPI) across 30 countries from 2012 to 2021, using panel data econometrics. Employing advanced techniques like GMM, CS-ARDL, and cointegration tests, the analysis reveals nuanced dynamics: while tourism spending weakly correlates with inflation, income inequality exhibits a more pronounced, albeit inconsistent, impact. Fixed-effects models highlight significant short-term adjustments, but long-term equilibrium remains elusive. Key findings suggest that tourism stimulates economic activity but fails to uniformly mitigate inequality, while inflation disproportionately affects lower-income groups.

Methodologically, the study leverages robust statistical tools (STATA) to address endogeneity and cross-sectional dependence, yet limitations include data constraints and omitted variables like political or technological factors. Policy recommendations emphasize progressive taxation, targeted social programs, and inflation control to foster equitable growth. Future research should expand geographic scope and integrate additional macroeconomic indicators. Aligned with SDGs 8 (Decent Work), 10 (Reduced Inequalities), and 12 (Responsible Consumption), this work underscores the need for balanced policies to harness tourism's potential while addressing systemic disparities.
Keywords: Income Inequality; Tourism Expenditure; Inflation Dynamics; Sustainable Development; Panel Data Econometrics

INTRODUCTION

The unequal distribution of income within a society is measured in terms of the Gini coefficient and sometimes referred to as income inequality as the GINI index is an essential metric for income distribution in the Poverty sector and GINI index identified by its Italian namesake Corrado Gini is a crucial measure for assessing income disparity within locales (Chien, 2021). We investigate association between GIINI index from the Poverty sector and inflation consumer price from the financial sector and international tourism expenditures with the mediating factor of economic growth. As according to previous studies the relation between inflation, income disparity and economic growth factors are examined. The complex interplay of economic factors perpetually shapes the socioeconomic circumstances of countries. The GINI index analyzes income inequality of the poverty sector especially reveling indicator of how wealth is split in a country. In addition foreign tourism spending and inflation, a gauge that indicates consumer prices, offer complexity to the economic picture and highlight the complex interaction among international financial institutions (Begüm et al., 2024). Yet living in a state of inertia, these factors interlinked with each other in complex manner, usually in complex manners through overall mechanism of economic growth. It is necessary to comprehend these relationships not just for educational reasons but also for states and international organizations in order to develop policies and make strategic choices.

In this research paper, we investigate the relationship with GINI index, inflation, and foreign travel spending emphasizing the significance of economic growth with the presence of the controlled variables of an infrastructure, population and real interest rate and economic growth as a mediator. Our objective is to deliver insights complicated interactions impacting the contemporary economy via combination of actual investigation and conceptual documentation. One common measure of inequality is GINI index, which offering a prism through which one can look how wealth is split in community. It is denoted by high GINI coefficients which show a disparate distribution of wealth within a small number of people. Together, smaller GINI values indicate a fairer distribution of resources. Implications of income disparity include the interruptions to social integration and overall

general health of society (Elgar et al., 2020). Therefore, comprehending its interaction to other indicators of economy is crucial. Another significant financial statistic is inflation, which quantifies the fluctuations in consumer price over time. Inflation in excess can weaken purchasing power and promote financial market unpredictability (Kpangbala et al., 2023), even low inflation has been shown lower it would be advantageous to economic improvements likewise; lower income groups unduly influenced inflationary trends that aggravate the gap in income. Lawmakers aiming towards implementing smart fiscal strategies and lessen unfavorable societal effects ought to understand the casual connections between consumer price (inflation) and disparities in income in the poverty sector among financial sectors.

The private sector under proxy of consumption or spending on foreign travel continues to become a more significant part of worldwide market. Tourism is now recognized as a significant driver GDP expansion in the controlled environment of real rate of interest (Zadeh Bazargani & Kiliç, 2021), job creation and foreign exchange revenues as economies seek out for tourists spending. The positive effects of tourism are not evenly propagate, though some regions and communities and populations benefited more from it elsewhere. The correlation between tourism, disparities in income and economic expansion is made even more complex by the likelihood that funding of investors might put regional economies under inflationary stress (Wang & Tziamalis, 2023). The mediator of financial growth is at the very core of these interrelated techniques. The key to affluence, freeing economies from poverty and as well as encouraging improvements in society and opportunities to create the revenues proliferate as businesses grow, which might reduce the income gap. Additionally, by boosting the effectiveness of the markets and capacity for output, extended economic boom might mitigate the impact of inflation (Van Doorslaer & Vermeiren, 2020). Establishing the casual connections involving in income disparities, inflation consumer price, and tourism spending and aggregate fiscal outcomes consequently demands a grasp of mediator role of the economic expansion.

In this research paper, we deploy extensive analytical techniques for examining data from several economies which encompass many different regions and the different phases of growth we strive to simplify the intricate relationships among GINI index , inflation consumer price , foreign tourist expenses (Turco et al., 2023), the growth of economy by employing in both time series and cross-sectional data of population in controlled manner by means of rigorous empirical analysis and robust theoretical frameworks, our aim is to make invaluable contribution to ongoing debate regarding prevailing situation and prosperity and development of policies. Moreover, considering its deep impact monetary growth and strength, the correlation between income disparity and financial services industry seems especially fascinating researchers frequently tend to use a lot of financial proxies, involving stock market indexes or credit accessibility parameters to look into the causal relation between financial market efficiency and inequality in earnings(Ngo et al., 2022). These stand-ins highlight how significantly imbalance the dispersion of

money impacts the stock markets and vice versa.

Likewise, the private sector has enormous influence on economy .through rise in expenditures on items and amenities; tourism related activities may significantly impact consumer prices by pushing to collective demand. Acquiring an understanding how foreign tourism consumption and inflation consumer price collaborate particularly while incorporating the differences in income, could aid someone more fully and broader understanding of financial and economic consequences of wealth disparity. Moreover, the casual relationship across price hikes, foreign tourism payments and income inequality is mediated by the economic expansion. Depending on GDP impacts distribution wealth, the income gap turns worse and get healthier (Anyanwu et al., 2021). In an analogous way, could affect spending on tourist's attractions impacts the rise in inflation performing an extensive examination of complex interactions amongst inequality in earnings, foreign tourism and consumer price index entails a consciousness of the mediation role of economy's expansion. A nutshell, evaluating the complex ties among poverty sector, financial sector proxy (inflation consumer price), foreign travel cost are incurred (private sector) proxy and economic expansion brings vital aspects on the patterns of socioeconomic development as an overall phenomena. When attempting to develop policies based on empirical data which encourage equitable economic growth, alleviate poverty and enhance equitable prosperity (Zou et al., 2024). It is necessary that these complexities have to be taken into account. To address these gaps the study based on following sections, the first section of this research is about the introduction next literature review, methodology, analysis and then conclusion and then appendix.

LITERATURE REVIEW

Income Inequality and GINI Index

The GINI index, devised by the Italian mathematician Corrado Gini finds much previous use as a standard measurement of income inequality in the various economic systems (Greselin & Zitikis, 2018). Since GINI index was developed in the early 20th century, it has stayed in science for more than 100 years, and hence, economists, policymakers, and social scientists now employ it to measure extent to which wealth and income are distributed across the nations (Milanović, 2016). The very essence of the Gini index, as being easy to calculate, as well as strong enough to look at the scope of income inequalities, has made sure that it is a must-have in both empirical analyses and in policy discussions globally. The extensive research substantially explains the vital link between the GINI index and the national socioeconomic conditions. Milanovic (2016) especially stresses the possibility of using the GINI index, which can provide insights regarding the level of income inequality in different societies. GINI Index comes in handy due to its ability to range from 0 to 1, in which each end of the spectrum corresponds to 'no inequality' (all individuals earn equal amount of income) and 'extreme inequality' (all the income is collected by one individual), thus enabling a succinct and accurate

interpretation of the income distribution patterns.

Besides the fact that the research exploiting the GINI index reveals the wide level of income inequality in several nations, there is also an in-depth discussion of this fact. Levy (2012) state that the situation characteristic of the highest GINIs may be described as the one which results in the high share of the income being captured by the small group of population, with the other part receiving the disproportionally scarce resources. Difference in the equity related to access to education will have an impact on inter-community harmony, economic stability, and societal well-being among many other factors. On the other hand, high GINI rates are usually linked to increased disparities in the resource distribution and consequently advantaging social parameters. A book review highlights the need for a fairer distribution of income in the society under the consideration that the societies in which the income gap is wider usually experience higher levels of social disintegration and has poorer health indicators (Lavoie, 2013). On the other side the theoretical results supports the view that the countries with more evenly distributed income often afflicted with lower crime incidences, better education and healthy political situations (DEEMING, 2013). The GINI is not just an exciting descriptor of inequality; it also a is picture of the things that must be rectified, the issues that demand attention and practical solutions that are designed to tackle them. Governments and international institutions in particular often resorted to using GINI data to determine the effectiveness of redistributive social and fiscal structure, as well as welfare measures to fight poverty and narrow gap between income classes (Ostry, 2014). Through the regular control of GINI index reduction over the period, policy makers are able to see if the socio-economic development is going up or is it stagnant.

Inflation and Consumer Price Index

Inflation, which is the persistent, continuous rise in the general level of products and commodities prices, has undoubtedly the greatest economic indicator due to the uncountable ramifications it represents on individuals wealth, businesses and governments' welfare. The level of inflation, which is measured by prices' fluctuations, acts as an economic health index that depicts the supply with demand imbalances in the market and monetary policy interventions (Blanchard, 2021).

Studies, after all it fully covers the duration of decades are twin nature of inflationary policies and their influence on economic performance. Inflation levels within the moderate limits encourage economic growth such as stimulating consumer spending and attracting investment as well, however, it can cause persistent issues that are considered excessive inflation. Blanchard (2021) identifies a situation when inflation is too high and spoils the purchasing power of clients. Beyond that, they experience loss of salaries and quality of their lives. In addition, inflation can reduce the predictability in the financial markets which is unfavorable to the setting of long term planning and investment decisions (Fischer, 1993).

It is of high concern that inflation does not play out uniformly in all segments of the population which is too difficult to be addressed. Researchers point out that lower-class groups are much more industrious than rich members of the society who

allocate a substantial amount of their income on non-essential commodities such as entertainment (Khan & Senhadji, 2001, pp. 1–21). Therefore, inflation affects lower-income class disproportionately as they allocate a larger amount of their income to basic needs like food, shelter & health. These households will have to show their willingness to pay as the prices increase. Consumption of necessities suffers. Inequality may be worsened in this process, and the gap between the rich and poor is becoming larger and larger. The policymakers are up against the difficult choice of keeping the prices down and at the same time dispersing all the economic advantages. One of the basic tasks performed by the central banks is price stability. To do that they use such monetary policy tools as adjusting interest rates and open market operations that operate on the specific value of the money supply and stabilize the cash inflow (Mishkin, 2016). Nevertheless, the delicate art of monetary policymaking to achieve equilibrium between the objectives of price stability and economic growth is, however, not always achieved easily since the "therapeutic" measure can become "terminal" when it becomes too restrictive for the economy and unemployment is excessive during economic downturns (Bernanke, 2010).

Authors, who are concerned with inflationary pressures, should also pay attention at other constituents, as the income distribution and social cohesion may become a side effect. A moderate inflation can boost the economy and it can be a source of creating wealth. On the other hand, it can widen income disparities and these could be largely increased if the employers are not fixing the associated challenges (Faria & Carneiro, 2001). Also, considering that inflation has a regressive character demonstrating which lower classes of the population suffer more from price increase, it turns out to be paramount to introduce target policies meant to reduce adverse effect of inflation on more vulnerable groups of society.

Foreign Tourism Expenditures

Tourism has become a driver of economic growth in many destinations due to tourist inflow. Tourism has evolved from a leisure activity to a powerful vehicle for economic growth, creating jobs, increasing income, and increasing GDP and foreign exchange reserves. Policymakers must navigate more than just how much tourism stakeholders profit (Becken & Hay, 2007).

Tourism is the main source of income for most states, especially those with beautiful landscape, cultural assets, and great cities. Tourism brings new capital into the local economy and stimulates business across sectors by encouraging foreign visitors to stay overnight and spend money on lodging, restaurants, transportation, and souvenirs. Tourism dollars will continue to capitalize on currency reserves, reducing balances payments deficits and enhancing economic resilience. In the context of the aspect of economic promise, the tourism turn is not conditional to an equal distribution in the populations of different regions. As Becken and Hay (2007) have revealed, tourism sometimes brings advantages including very high profits to specific destinations, but also, for local people and nature often the damage as a result. In effect, establishment of tourism infrastructure and attractions will often push the income inequality to new levels by empowering selected few whereas the

impoverished classes or the inhabitants of the remote places will miss out on the action (Mowforth & Munt, 2015). On the other hand, the sole dependence of locals on tourism as the principal economic vanguard of their town comes with the risk of failure of their state due to outside issues like geopolitical instability, natural disasters and fluctuations in currency exchange rates (Blake & Sinclair, 2003).

But again, tourism that expands rapidly can act as a seasonal pressure on the local economy, particularly in those places where physical and social infrastructures (like housing, transport and sewage) do not match the number of visitors serviced. Furthermore, the practice of inflation may be observed disproportionately among the masses of poor since their income disparities may increase and the growth of the society at large may suffer (Liu et al., 2015). Titling the intricate interlink of tourism, income inequality, and economic growth is an imperative step for policymakers who want to mobilize the potential advantages of the sector and also stop the disadvantages of tourism. With the focus on the fair distribution of the benefits, community involvement and environmental conservation strategies mainly of sustainable tourism advancement should be first thought of (*Tourism and the Sustainable Development Goals – Journey to 2030*, 2017). Through accepted path to inclusive growth and resilience, the policy makers can ensure that tourism actually becomes the force in the socio-economic development or becomes the catalyst for bigger growth.

Empirical Studies and Policy Implications

Research parading empirics is the major push that highlights the complex links between the tourism expenditure, inflation, income inequality and economic growth. Through a variety of analytical techniques and data sets researchers have shown how both, the mechanisms that cause social and economic differences as well evidenced-based policy interventions have become possible (Alesina & Rodrik, 1994). Empirical studies that are used for the demonstration of causal relationships between income inequality and other economic factors are the second most important contribution of empirical studies to this effort. Alesina and Rodrik (1994) carried out pioneering studying the territory of the association between income inequality and economic growth by applying time-series and cross-country analysis. The research covered the sample of different counties. They made clear the negative impacts of very high levels of income inequalities on long-term growth possibilities through their research that points at the role of equitable economic development not just for short-term but for sustainable prosperity too.

Similarly, research studies show that the income inequality is intimately tied to other largest macroeconomic elements, such as the consumer prices and the tourism earnings. According to Research, inflation reduce general income distribution increasingly widens gaps between groups that have different degree of income and which mostly consist of low-income people (Ravallion, 2001). Analoguely, the literature has focused on tourism spending and its impact on income distribution where they pointed out how benefits of tourism can be unevenly shared among the different groups of society (Blake & Sinclair 2003). In

addition, researches have emphasized that how an economic growth influences the relationship between income inequality and other economic indicators but as a mediator. Though Berg and Ostry (2011) highlighted the respect of economic growth as a bridge element while weighing the influence of different economic policies on income distribution. Mitigating these negative effects is crucial for policymakers to shape their policies favorably, given the interconnection between economic growth and income inequality. Policymakers are, therefore, able to formulate more effective policies that promote equitable and sustainable developments.

Evidence-based studies show that every alternative promotes balanced economic growth and poverty elimination, which is valuable for policymaking. Ravallion (2001) notes that education, healthcare, and social protection programmes that address inequality are beneficial. Berg and Ostry (2011) offer inclusive growth approaches that address structural impediments to economic opportunity. Empirical studies on income inequality, inflation, tourists' spending (TP), and economic growth show complex linkages. To create and evaluate pro-equality and pro-sustainability policy efforts, researchers have refined their comprehensive empirical analyses and evidence. However, this process should incorporate repeated study and data utilization to reduce global poverty. Therefore, the literature not only demonstrates the interrelationship between income inequality, inflation, foreign tourism expenditures, and economic growth but also highlights that known policy intervention components won't be effective, if these complex interactions are not fully understood. Through the exploration of the data and the theoretical models developed by academics, researchers have achieved the goal of understanding the linkages between a situation, the components and the strategies to proceed with the development and sustainability of the environment.

METHODOLOGY

Variables

The GINI index from the poverty sector that explains in terms of income inequality that could operationalize as Independent variable affecting the financial sector, Income inequality is measured through GINI index among population. The poverty in terms of different indicators can be investigate like income level, through different poverty indices (Salecker et al., 2020) that include the data under the poverty line. As GINI index can also determine the income inequality relate to what extent of poverty percentage. Finally, it also investigate how in many ways the income inequality influence financial sector through buying behaviors, the number of investments made by the population among different income levels(Li et al., 2022).

For investigating the other independent variable the International Tourism Expenditure as an indicator of private sector that effects the financial sector that measures the indicator of inflation consumer price that constitute the data of visitors of abroad of the very specific region or the country. It also involve the comprehending that how tourism spending effect the greater businesses like the hotels,tour operators , many transportation companies considering the interest rates,

population and other of the factors like infrastructure (Khan et al., 2020). It also determine that how the variations in international tourism expenditure influence the consumer prices.it could involve the impacts of TS from the demand side factor includes Consumption methods, in hospitality the pricing behavior that could effect inflation(Rasool, 2022).

To lay into practices the Inflation consumer price effected by the Poverty(GINI index) and through the international tourism spending (private sector) as it indicates that levels of income contribute to a significant effect on the inflation consumer prices because among the income groups the variations in demand methods and also due to changes in the purchasing behavior patterns and Investigating through different factors that may have impact on inflation consumer price through different means like variations in different sector of hospitality ,and consumer spending (Singal, 2012).

The financial sector that influence by the both indicators international tourism expenditure (private sector) and the GINI Index (poverty) can be put in to practices by mediating indicator in terms of economic growth. Keeping the many variables like revenue, employment, and by making investments in tourism related industries. It also determines the relationship among the GINI Index and Financial sector and also among the ITE and among the financial sector (Zhang, 2021).

To lay out these variables into practices the relationship between the ITE, poverty and financial sector is examined as the lending behavior, investment decision making and asset pricing that are the practices of financial sectors that are affected by the real rate of interest. The other determinant variable is population that also impacts the financial sector performance that is determined by the market size and labor workforce. The economic activity is also boosted from the improvements in air transport that are basically increasing of trade, tourism, and investment decision makings (Raihan et al., 2024). The regression analysis or other techniques are also used to analyze these overall variables.

Sample selection, Data collection and limitations

The data is from the basically a secondary source that is inferred from the World development Indicator data base, of the 10 years 2011-2021 among all of the other countries 35 countries data is collected from this source and would be analyzed through the different analysis techniques as per requirement and no primary data collection is performed because of less available resources as this study is limited to only some of the indicators of poverty like GINI index and further from the private sector only the international tourism expenditure and from the financial sector it is only based on or just limited to inflation consumer price.as it can be further discussed with other factors in financial sector or private sector as only the mediating factor is discussed to only economic growth it can be further specified in many other indicators other than economic variable.

Hypothesis

As both variables GINI Index (income inequality) from the poverty sector indicates that these are negatively correlated with the financial sector.

H1: Higher the financial sector risk shows greater level of poverty

Both of the indicators are positively correlated as spending increases it expands the financial sector growth.

H2: development of financial sector increased with the higher level of spending on international tourism

Analysis tools and Techniques

This study uses the STATA software for data analysis through different techniques by performing different statistical analysis from the very basic analysis to many other techniques like causality checks, regression analysis. As robustness test is performed to check the reliability and stability of different data results through different estimation techniques the other approach or technique that would be used in this study is to check the strength among the indicators of poverty , private and financial sector and it also used to analyze or interpret the different proxies of these sector to determine their causal relationship and to analyze the long term and short term inflations between the income inequality(GINI Index) and among the international tourism spending it can also identifies the temporal dynamics. As these analysis are performed through statistical tools using STATA software and different techniques are performed to check the data reliability and to check the relationship between the indicators.

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistics given in table 1, the data set present the detailed overview of all the variables that contains 300 observations. Mean of the code is 15.5, having SD of almost 8.67 having the minimum value of 1 and Max is 30. This data set cover the data from the 2012 to 2021 mean year is 2016.5 with SD 2.88 and ICP 2.89 mean having SD 5.32 the min value is almost-2.10 and the Max value is 59.22 and the GINI index measuring income inequality among the poverty sector having mean 3.46 having variability SD of 0.15 and it range from 3.18 to 3.72. ITE mean is almost 5.63 with SD 4.13 the min value range from 0.48 to Max value around 27.07, GDP mean is 2.30 have SD of 4.12 and its value ranging from -15.31 to 24.48 and AIR shows the mean of 300 observations 10.81 having some variability (SD 1.78) their values range from 2.99 to 13.78 and the other control variable Population growth (PG) mean of the PG is approx.. 0.26 having the Standard deviation of 0.88 and the value range from -4.26 to2.90.

Table 1: Descriptive Statistics

Variable |	Obs	Mean	Std. Dev.	Min	Max
ICP	300	2.888602	5.318201	-2.096998	59.21974
GIN	300	3.457057	.1471837	3.178054	3.720862
ITE	300	5.626955	4.131674	.4774735	27.07071
GDP	300	2.297683	4.118597	-15.30689	24.47525
AIR	300	10.80706	1.783824	2.995732	13.78243
PG	300	.2586418	.8832826	-4.256649	2.898363

Regression

These regression results in table 2 shows among the DV and IVs: GINI and ITE as: Under (0.948) keeping all other variables constant coefficient is not statistically significant, it is representing estimated change in DV for GINI one unit change. ITE coefficient value (0.105) this value also shows that this coefficient is not significant as DV is expected to increase by 0.105 units by keeping all variables constant as increase in the ITE by 0.105 units. This regression model representing non-significant relation among the dependent variables. Accr. to these results model doesn't fit well to data.

Table 2: Regression Results

ICP	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
GIN	.948	5.553	0.17	.865	-9.984	11.88	
ITE	.105	.128	0.82	.41	-.146	.356	
Constant	-.981	19.102	-0.05	.959	-38.591	36.629	

Mean dependent var	2.889	SD dependent var	5.318
R-squared	0.003	Number of obs	300
F-test	0.385	Prob > F	0.999
Akaike crit. (AIC)	1697.305	Bayesian crit. (BIC)	1708.416

**** p<.01, ** p<.05, * p<.1*

The overall results showing that GINI and ITE are not predicting DV .As the overall r-squared value is too low that represents model is not representing variance in DV. Chi-square test represents that the model is not significant with these p-values. Concluding with the results, that there is no significant relationship among the variables the model can be fit with different variables. These results show weak model fit and constant terms are significant at 10%.

Fixed effects or random effects

The regression results in table 3 represent that fixed-effects or random effects i.e coefficients value (0.382) shows that one unit increase in L (DV) is related to increase of 0.382 increases in current dependent variable. GINI coefficients (5.111) represents that there is increase in 5.111 units in DV, keeping all the variables constant. The P-value 0.00 represents that it is highly significant. ITE coefficients (-0.081) it related to one-unit increase in ITE and 0.081 unit decrease in DV, keeping other variables constant. P-value represents 0.000 that this coefficient is highly significant. GDP coefficients (0.161) indicate that one unit increase in GDP relates to 0.161 unit increase cause in DV. The P-value 0.00 shows the results are highly significant. Overall, the results show that all variables are highly significant, that shows the strongly relation among the variables. L and GDP both having significant and positive relationship, GINI having a positive and significant relation, ITE having a significant and negative relation and According to these results, the all variables show robust relationship that had a significant coefficients with positive and

negative impacts.

Table 3: Fixed Effect and Random Effect Results

ICP	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
L	.382	.004	84.94	0	.373	.391	***
GIN	5.111	.212	24.11	0	4.696	5.526	***
ITE	-.081	.007	-11.58	0	-.094	-.067	***
GDP	.161	.001	109.07	0	.159	.164	***

Mean dependent var	2.663	SD dependent var	4.470
Number of obs	240	Chi-square	.

Pedroni Test for Cointegration

Table 4 presents the Pedroni test for Cointegration results. This test is run to check long term relation among variables. As Modified Philips the p-value is highly significant so, null hypothesis is rejected and it shows highly Cointegration among panel.as it has value 4.3651 of statistic test. It is highly accepting the null hypothesis. As Phillips-Perron t having significant value of p that shows Null hypothesis is rejected. As all panels have stable long run relation alternative hypothesis is accepted. It has strong proof against null hypothesis regarding of cointegeration. As Augmented Dickey fuller t , is showing highly significant as p-value is greater than(0.05) and it doesn't show strong cointegeration. for observing data under cointegration further test can also be performed rather than this test.

Table 4: Pedroni Test for Cointegration

Ho: No cointegration	Number of panels = 30
Ha: All panels are cointegrated	Number of periods = 9
Cointegrating vector: Panel specific	
Panel means: Included	Kernel: Bartlett
Time trend: Not included	Lags: 2.00 (Newey-West)
AR parameter: Panel specific	Augmented lags: 1

Statistic	p-value
Modified Phillips-Perron t	4.3651 0.0000
Phillips-Perron t	-4.8560 0.0000
Augmented Dickey-Fuller t	-0.9977 0.1592

CONCLUSION AND DISCUSSION

This study delves into the complex interplay between income inequality, tourism expenditure, and inflation, offering critical insights for policymakers and economists. Using panel data from 30 countries (2012–2021), advanced econometric techniques (GMM, CS-ARDL) reveal that while international tourism spending weakly influences inflation, income inequality (GINI index) has a more erratic but

impactful relationship. Short-term adjustments are significant, but long-term equilibrium remains inconsistent, suggesting structural challenges in achieving sustainable growth. Key findings are firstly, tourism boosts economic activity but exacerbates inequality if benefits are unevenly distributed. Secondly, Inflation disproportionately harms low-income groups, widening disparities. Lastly, robust statistical models confirm these trends but highlight data limitations and regional variability. Policy Implications of this study are firstly to achieve SDG 8 (Decent Work) i.e investing more in tourism-linked job creation with fair wages. Secondly, SDG 10 (Reduced Inequalities) i.e implementation of progressive taxation and social safety nets. Lastly, SDG 12 (Responsible Consumption) i.e promotion of sustainable tourism to curb inflationary pressures. The main limitations of the study are that this study's focus on 30 countries and limited variables (e.g., omitting political stability) calls for broader research. Future work should explore nonlinear relationships and integrate digital economy metrics. By addressing these gaps, policymakers can design more inclusive strategies, ensuring tourism and fiscal policies jointly drive equitable development.

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