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# EMPOWERING RURAL COMMUNITIES THROUGH TOURISM: A CASE STUDY OF POVERTY ALLEVIATION EFFORTS IN CHINA

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**Abstract:** The global pursuit of poverty eradication remains a paramount concern, with the United Nations setting ambitious targets in 2000 to halve the numbers of the extremely impoverished and hungry by 2015. The tourism industry, characterized by labor intensity, geographic dispersion across impoverished regions, strong industrial connections, and low entry barriers, emerges as a potential catalyst for poverty alleviation. The concept of pro-poor tourism, initially proposed by the British International Development Bureau in 1999, specifically targets poverty reduction through tourism-related initiatives. Diverse pro-poor tourism programs, such as the World Tourism Organization's Sustainable Tourism–Eliminating Poverty Initiative (ST-EP program), have since surfaced, garnering attention from academia and government institutions alike. The theoretical framework that underpins the relationship between tourism and poverty alleviation has traversed four distinct phases: liberalism/neo-liberalism, criticism, alternative development, and post-structuralism. The prevailing viewpoint asserts that tourism can be a potent instrument for poverty reduction in developing nations, as emphasized by Scheyvens (2008). Nevertheless, the academic discourse remains nuanced, with reservations regarding the impact of tourism on poverty. Some scholars argue that while tourism stimulates economic growth, it may do so at the expense of environmental sustainability, as posited by Woodward et al. (2016). Additionally, concerns persist that tourism income predominantly benefits foreign investors, leading to revenue leakage that fails to reach the impoverished segments of the population, as noted by Gascón (2015). These complexities suggest a multifaceted relationship between tourism and poverty. While foreign research has extensively explored the effects of tourism on poverty alleviation, particularly in theoretical contexts, the majority of studies on this subject in China have remained qualitative in nature. Consequently, there exists a gap in the Chinese literature with respect to systematic, quantitative, and standardized research in this domain (Li et al., 2009).

**Keywords:** Poverty Eradication, Tourism Industry, Pro-Poor Tourism, Poverty-Alleviation Programs, Theoretical Framework.

## 1. Introduction

The topic of poverty eradication is highly valued by many countries in the world. In 2000, the United Nations announced that the number of both the

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extremely poor people and hungry people should be halved by 2015.The tourism industry possesses the potential to alleviate poverty because of its own characteristics, including labour-intensive, geographical distribution of tourism resources that greatly overlap poor areas, high industrial linkages and low industry thresholds. In 1999, the British International Development Bureau proposed the concept of pro-poor tourism that is targeted to alleviate poverty. Various PPT programs have emerged such as the World Tourism Organization's Sustainable Tourism–Eliminating Poverty Initiative (ST-EP program).Research on the relationship between tourism and poverty alleviation has gained the attention of academics and the government.

The theoretical relationship between tourism and poverty has gone through four stages, including liberalism/neo-liberalism, criticism, alternative development and post-structuralism. The mainstream view is that tourism is an effective tool for developing countries to reduce poverty(Scheyvens,2008).However, in academic circles, there are still some doubts about tourism and its ability to alleviate poverty. For example, tourism promotes economic development and alleviates poverty at the expense of the environment(Woodward et al.,2016).Meanwhile, tourism income mostly benefits foreign investors, and the leakage of revenue often means that the poor have not benefited(Gascón,2015).This suggests that there is a complex relationship between tourism and poverty. Foreign theory research on tourism's effects on poverty alleviation is mature and extensive (Li et al., 2015), while most studies of the impact of tourism on poverty have been qualitative, and theoretical research has lacked systemization, quantification and standardization in China (Li et al., 2009).

Significant differences exist in the effect of tourism on poverty alleviation when economic growth is at a different level(Kim et al.,2016).And there is little empirical evidence of the impact of tourism on poverty(Ashley and Mitchell,2009).Thus this paper–based on threshold panel data from 30 provinces in China from 2002 to 2016–confirms that tourism has different impacts on poverty reduction at different stages of tourism development. Moreover, we introduce the variable, tourism fluctuation into the paper. It is important to fully recognize the impact of tourism fluctuations on poverty.

## 2. Literature review

Scholars have three different views of the relationship between tourism and poverty (Li and Guo, 2017):

(1)Tourism development decreases poverty;

(2)Tourism development increases poverty;

(3)There is no necessary connection between tourism development and poverty.

Tourism is a labor-intensive and low-threshold industry. It provides employment opportunities for local residents, as tourism revenue will benefit them directly(or indirectly).It is also beneficial to protect the natural environment and upgrade the local infrastructure(Denman,2004).In addition, studies of the Enkata Bay area of Malawi have shown that employees engaged in the tourism industry have higher labor incomes and health levels(Gartner and Cukier,2012)There are three ways in which tourism can alleviate poverty: directly, indirectly and dynamically. The direct effect is mainly caused by the fact that tourism development creates quantities of jobs for residents in poverty-stricken areas. The direct effect is mainly caused by the fact that tourism development creates quantities of jobs for residents in poverty-stricken areas(Ashley et al.,2000)and improves the income of poor people and their living standards(Job and Paesler,2013),thereby reducing poverty. A study, based on the Hainan region, concluded that tourism investment decreased the unemployment rate from 26%to 23%and the poverty rate by 1.6%(Banerjee et al.,2015).Tourism creates indirect effect due to the multiplier effect as it correlates with other industries and redistributes tourism revenue. A study of tourism in Africa showed that one dollar spent on tourism would indirectly produce an effect of 60%to 120%, meaning that local residents could get$1.60 to$2.20 USD. The tourism multiplier effect also can extend to other fields through the industrial chain(Ashley and Mitchell,2009)Using industry chain tracking for six poor districts in Northeast China, Guo(2015)found that tourism reduced poverty by 6.21%to 13.74%.The dynamic effect included two aspects: One is that continuous tourism development has raised local awareness and attracted a large amount of outside investment, and the other is that tourism consumption and the multiplier effect stimulate sustainable economic growth(Li and Guo,2017).

However, some scholars believe that tourism development exacerbates absolute and relative poverty. In some extremely poor countries, impoverished people have become worse-off due to declines in per capita income when tourism develops(Sharpley,2009).The income of tourism workers in Honduras is unstable and lower than average due to the seasonality of tourism(;Walpole and Goodwin,2000).In addition, because of weak economic foundations in the poor areas, the tourism industry is likely to be controlled by foreign capital. Therefore, tourism leakage is a serious problem-especially when the leakage ratio reaches 40%to 50% (Plüss and Backes,2002).Community elites get most of the benefits of tourism, leading to extremely uneven income distribution(Gascón,2015).Blake et al.(2008)used the general equilibrium research model to classify residents in Brazil into four groups based on income levels and found that the lowest income group could benefit from tourism development. However, the degree of benefit was lower than that of the high-income groups, increasing the gap between the rich and the poor.

But some think that there is no necessary connection between tourism development and poverty. Wattanakuljarus and Coxhead (2008) suggested that different types of tourism activities have different effects on poverty. Using the least squares method and a geographically weighted regression model, Deller(2010)studied the relationship between leisure and rural poverty in the United States and concluded that tourism had little explanatory power for changes in poverty rates. The benefits to the poor in terms of income distribution were not obvious. As Ashley (2006) noted, extremely poor people have little or no capital to participate in tourism development and investment. Scholars' research has come to various conclusions about the impact of tourism on poverty for many reasons. The first is the selection of poverty metrics. Thomas (2014), selecting three different poverty lines for the same case, tested the effects of tourism on poverty, and the conclusions were quite different. The second is the choice of geographical regions. Muchapondwa and Stage (2013) selected three countries at different consumption levels– Botswana, Namibia and South Africa-to conduct research on the impact of tourism on poverty. Their study showed that residents from different countries had different benefits from tourism development. Zhao (2011) found that tourism development exerted a significant positive effect on rural per capita income, but it had no significant relationship with urban per capita income. The third is the selection of research methods. Li and Guo (2017) noted that macro and micro research mainly uses the general equilibrium model, panel data model or others methods in which the data comes from the national or local statistical bureau. Methods, such as interview and observation, are applied in micro studies, and researchers typically collect their own data. The divergences in data sources and methods may be the reason for differing results.

## 3. Model, Data and Methodology

### 3.1 Variable selection

#### 3.1.1 Explained variable

According to the literature, indicators of poverty that are commonly used include Engel's coefficient, poverty incidence, poverty index and the income of poor people. To simplify our methods and to minimize the limitations of the data collection, we used Engel's coefficient as a poverty indicator, which was represented by Pov in our model. In 2015, the Engel's coefficient of rural residents was 33%, while that of urban areas was 29.7%.Thus it seemed that rural poverty was a larger problem and needed more attention than urban poverty. Therefore, we focused on the relationship between tourism development and rural poverty alleviation.

#### 3.1.2 Explanatory variable and threshold variable

Our study had two explanatory and threshold variables:

*Tourism development*-primarily measured by tourism income–was the main explanatory variable of our study. It also was a threshold variable. To facilitate our observation of the impact of tourism fluctuations, tourism revenue was subdivided into inbound and domestic tourism revenue to distinguish the performance of different tourism markets. *LTI* meant the natural logarithm of tourism income while *LTN* indicated the naturallogarithm of the number of tourists.

*Travel fluctuations.* Tourism income and tourist data were identified through a time-series filtering program in Stata 14.Using the original panel data, we obtained the fluctuation sequence data by means of Hodrick-Prescott

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filtering. When introducing the tourism fluctuation variables, we distinguished between domestic and international market fluctuations, aiming to get more comprehensive results. The tourism income fluctuation in the model was

*HTI*, represented by *HTID*and *HTIF* in China and abroad, and the fluctuation of tourist arrival is *HTN*, represented by *HTND* and *HTNF* in China and abroad.

**3.1.3 Control variable**

*International trade.* Since tourism demand and poor people's income growth caused by various international trade transactions should not be neglected, we introduced the natural logarithm of international trade income into the empirical model, which was represented by *LBI.*

*Industrial structure.* The industrial structure can reflect the economic development pattern of the whole society. We used the secondary industry's output value to the total industry ratio and the tertiary industry's output value to the total industry ratio. The economic growth sector can alleviate poverty, while the effects of different industries are different. The poverty alleviation effect of the service industry in rural areas is greater than that of urban areas

(Shan 2012).The variables*SEC* and*TER*represented the proportion of the second and tertiary industries, respectively.

*Economic growth.* We measured economic growth by taking the natural logarithm of GDP. Economically developed regions tend to signify higher disposable income, a reasonable industrial structure and institutional system. At the same time, economic development has a trickle-down effect on poverty reduction, so economic growth may be linked to poverty alleviation. In light of previous studies, the mitigation effect of economic growth on poverty may be heterogeneous. Therefore, the first step after establishing the model was to test the introduction form of economic growth. In the empirical process, we introduced the linear term (LEG1) and quadratic term (LEG2), respectively. The model used LEG1 and LEG2 to represent the linear term and quadratic term of economic growth.

**3.2 Empirical model**

According to the studies we reviewed, there may be a nonlinear threshold effect of tourism development on poverty alleviation for local residents. Therefore, we drew on the panel threshold regression model proposed by Hansen (1999) to construct our model:

$$Pov_{it} = \alpha_i + \beta_1 X_{it} I(Tourism_{it} \le \gamma_1) + \beta_2 X_{it} I(\gamma_1 < Tourism_{it} \le \gamma_2) + \beta_3 X_{it} I(\gamma_2 < Tourism_{it}) + \lambda Cov_{it} + \varepsilon_{it}$$

*Pov*, expressed by the urban and rural Engel's coefficient, represented the level of poverty; Tourism represented the development of tourism, denoted by tourism income; X equaled the k-dimension vector composed of explanatory variables; I (.) was an explicit function and a random disturbance term, it~iid(0,σ2); Cov referred to the control variables, including economic growth, industrial structure and international trade; and subscript i referred to the sample and subscript t represented the certain point in time. The numbersβ1, β2, β3, λ equaled the parametric estimated value of related variables, respectively.

*3.3 Data source*

The data used in this study included tourism and rural poverty indicators of 30 provinces (excluding the Ningxia Hui Autonomous Region) from 2002 to 2016.The data came from the official website of the national and provincial statistical bureaus, the yearbook of Chinese National Knowledge Infrastructure, the Statistical Communique of National Economic and Social Development and the Bulletin of Tourism Development.

**Table 1** Descriptive Statistics of Variables

| Variable | Minimum value | Maximum value | Mean | Standard deviation |
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| | | | | |
|---|---|---|---|---|
| *Povv* | 0.269 | 0.688 | 0.413 | 0.078 |
| *Povc* | 0.211 | 0.512 | 0.36 | 0.049 |
| *LTI* | 20.713 | 27.293 | 24.97 | 1.279 |
| *LTN* | 13.671 | 20.381 | 18.394 | 1.194 |
| *LEC1* | 8.056 | 11.68 | 10.095 | 0.764 |
| *LEC2* | 64.901 | 136.425 | 102.486 | 15.315 |
| *LDI* | 23.102 | 31.538 | 27.828 | 1.721 |
| *SEC* | 0.193 | 0.615 | 0.463 | 0.084 |
| *TER* | 0.286 | 0.802 | 0.415 | 0.087 |

## 4. Results

### 4.1Test of the form of introduction of economic growth variable

Economic growth and poverty reduction are the priorities for regions and countries as they formulate development strategies. Scholars have different views on the relationship between these variables. One is that economic growth can automatically reduce poverty. The other is that economic growth does not automatically alleviate poverty and that income distribution influences the effect of poverty reduction. Therefore, whether economic growth has a linear or curved relationship with poverty alleviation requires further research.

In this paper, the linear term of economic development is introduced in models 1 and 3, while the linear and quadratic terms of economic development are introduced in models 2 and 4, to test whether there was a curved effect. The explanatory variable of models 1 and 2 was rural poverty, while that of models 3 and 4 was urban poverty. For the robustness test, we introduced urban poverty in the first round of empirical analysis. After that, urban poverty would not be considered.

As shown in table 2, the parameter estimates of linear and quadratic terms of economic growth in models 1, 3 and 4 were statistically significant at the 1%level, while that in model 2 was not significant. The data in table 2 also show that the R-squared of the urban poverty model was about 0.4, which is much lower than that of the rural poverty model. Therefore, we focused our analysis on rural poverty. Economic development variables were later introduced into the model, but we only considered the linear term.

**Table 2** Test of the form of introduction of economic growth variable

| Explanatory Variable | Rural poverty Model 1 | Model 2 | Urban poverty Model 3 | Model 4 |
|---|---|---|---|---|
| *LTI* | -0.020*** (-5.32) | -0.020*** (-5.31) | -0.018*** (-6.13) | -0.018*** (-6.35) |

| | | | | |
|---|---|---|---|---|
| | (-10.65) | (-0.45) | (-3.10) | (5.12) |
| *LEG*2 | | -0.001 | | -0.016*** |
| | | (-0.31) | | (-5.36) |
| *LBI* | 0.016*** | 0.017*** | -0.010*** | 0.011*** |
| | (6.24) | (6.24) | (4.75) | (5.24) |
| *SEC* | -0.366*** | -0.365*** | -0.255*** | -0.242*** |
| | (-6.56) | (-6.52) | (-5.83) | (-5.71) |
| *TER* | -0.202*** | -0.197*** | -0.218*** | -0.148*** |
| | (-3.39) | (-3.16) | (-4.67) | (-3.13) |
| *Cons* | 1.312*** | 1.187*** | 0.878*** | -0.765** |
| | (27.05) | (2.92) | (23.10) | (-2.48) |
| *R*2 | 0.587 | 0.587 | 0.364 | 0.403 |
| *LEG*1 | -0.061*** -0.036 | | - 0.010*** | |
| | | | 0.014*** | |

Data source: Calculated by the author. The figures in parentheses equal t-statistic of the estimated values of each parameter.*, **, ***respectively denote significance at the level of 10%, 5%, and 1%.Cons indicates a constant term and denotes goodness of fit.

**4.2 Test of threshold effect**

In analyzing the impact of tourism development on poverty, we introduced the tourism development variables in model 5 to verify whether there was a threshold effect. For the robustness test, models 6 and 7 separately added two variables–tourism income fluctuation and the fluctuation in the number of tourists–at the same time as the tourism development variables were introduced. The panel threshold regression program of Stata 14 was used to test for the existence of–and number of–threshold values; we then selected according to F statistics and goodness of fit. The results are shown in table 3.It appears that all three models can reject the assumption that there was no threshold effect, which means there was a threshold effect regarding the impact of tourism on poverty reduction. Furthermore, the statistic and the goodness of fit were slightly different among these models. Judging from the threshold values, we observed that the triple threshold made the results of the two thresholds more detailed, but the parameter estimates did not differ greatly. Therefore, the benchmark model we adopted had two thresholds.

**Table 3** Research on Threshold Effect of Tourism Poverty Reduction Effect

| Model | Threshold test | F statistic | Threshold | *R*2 |
|---|---|---|---|---|
| Model 5 | Single threshold | 37.63*** | 25.46 | 0.7637 |
| | Double threshold | 38.25*** | 21.38 | 0.7737 |
| | Triple threshold | 39.01*** | 22.83 | 0.7774 |
| Model 6 | Single threshold | 39.88*** | 25.46 | 0.7750 |
| | Double threshold | 40.70*** | 21.38 | 0.7858 |
| | Triple threshold | 42.51*** | 22.83 | 0.7933 |
| Model 7 | Single threshold | 38.26*** | 25.46 | 0.7684 |
| | Double threshold | 39.14*** | 21.38 | 0.7801 |

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|---|---|---|---|
| Triple threshold | 40.28*** | 22.83 | 0.7854 |

**Notes**: Data source: calculated by author, ***indicates statistically significant at 1%significance level

### 4.3 The implication of empirical results

#### 4.3.1The threshold effect of tourism development on poverty alleviation

Through the empirical test of the threshold effect of tourism development, we preliminarily determined that there were two thresholds. Therefore, our research was based on the double threshold panel model. As shown in table 4-2, the two thresholds were 21.38 and 25.46, respectively. Since we introduced the natural logarithm of the original data into the model, the actual tourism revenue was 1.928 billion Yuan and 114 billion Yuan, respectively. According to the results of model 6, when the real tourism income was less than 1.928 billion Yuan, the estimated value of tourism development was-0.0370.

Thus the poverty level dropped by 0.37 percentage points for every 10 percentage point increase in actual $p<$ 0.01 tourism income ( ).When the real tourism income was 1.928 billion Yuan and 114 billion Yuan, the poverty reduction effect of tourism development showed a certain increase. The estimated parameter value was0.0396 and was highly significant; this means that as real tourism income increased by 10 percentage points, poverty dropped by about 0.4 percentage points. When the income reached or exceeded 114 billion Yuan, the poverty reduction effect was again slightly enhanced. The parameter estimate became-0.0405, which was statistically significant. Although it was almost the same as the impact of the second phase, the small amount of growth cannot be ignored.

Although the poverty reduction effect gradually increased with tourism development, there were still subtle differences in the three stages. In the first stage, tourism development had a significant effect on income growth of the local poor. Thus tourism development has promoted poverty alleviation. Entering the second stage, when tourism development exceeded the first threshold, it reduced poverty and maintained a positive influence in the first stage. Thus tourism development has been relatively perfect. In the final stage, tourism income became considerable, and the effect of poverty alleviation was just rise up to a small extent. Therefore, we conclude that tourism development had a threshold effect on poverty alleviation. In different stages of tourism development, there were slightly divergent effects on poverty alleviation. Nonetheless, tourism appears to have reduced poverty, but to different extents (based on the threshold).

According to the two thresholds, we can identify the stage of tourism development in different regions. Among the 450 samples studied in the article, there were eight samples in the first stage of tourism development, 256 in the second and 186 in the third. At the beginning of the study period in 2002, Tibet and Qinghai Province were in the first stage of tourism development. Twenty-five, like Hebei, were in the second stage, and Beijing, Shanghai and Guangdong Province were in the third stage of tourism development. In 2002, a considerable number of provinces were at a steady growth stage, and China's first-tier cities had taken the lead to enter the third phase. Using 2016 cross-sectional data from the provinces, we found the natural logarithm of real tourism income in all regions reached or exceeded the first threshold, as tourism development had already taken shape. There were six samples of tourism development between the two thresholds, including Heilongjiang Province and Hainan Province. The poverty reduction effect of tourism development at this stage was obviously enhancing. The other 24 regions were already in the third stage. Therefore, when formulating relevant policies in light of local tourism development, it is necessary to consider that tourism development itself is a variable with its own changing trends. In 2016, tourism development in most provinces was rapidly developing. And there is evidence that the poverty reduction effect of tourism development enhances and stabilizes the economy of the region. Therefore, the government should realize that in this context, the poverty alleviation policy at this stage should be positive and stable. At the same time, by means of the intervention for domestic tourism fluctuations and policy support, the intensity of poverty alleviation should be enhanced. And the company should improve the efficiency of tourism operations and improve the internal structure.

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### 4.3.2 The relationship between tourism fluctuation and poverty alleviation

For the poverty alleviation effect of tourism volatility, we subdivided the fluctuation into tourism income and tourist arrivals in international and domestic markets. The results of table 4 showed that the parameter estimation of domestic tourism income fluctuation was highly significant, but that of inbound tourism income fluctuation was not significant. The parameter estimation value of the domestic tourism arrival fluctuation variable was significant ($p<0.05$), yet that of international tourism arrival fluctuation was not significant. It can be concluded that domestic tourism fluctuations had a greater impact on poverty mitigation than inbound tourism volatility. As shown in table 4, tourism volatility had a positive correlation with poverty. This signifies that the greater the tourism volatility, the more serious the impact on poverty. This is consistent with theoretical expectations. Tourism develops erratically. Tourism fluctuations caused by seasonality and industry cycles would lead to idle resources and reduced employment opportunities in a certain period of time, which is not conducive to increasing income in rural areas, thus leading to a reduced impact on poverty reduction.

In short, tourism volatility negatively influenced local efforts of poverty alleviation. And it is necessary to distinguish between the impacts of domestic–vs. International–tourism volatility on poverty reduction. The research results suggest that the tourism industry should pay attention to reducing the negative impact of domestic tourism fluctuations while vigorously exploring foreign tourist markets.

### 4.3.3 The relationship between control variables and poverty alleviation

The empirical results of model 7 showed that there was a linear relationship between economic growth and poverty alleviation. The estimated parameter of the economic growth level was-0.0190, which was significant ($p<0.05$).

When economic growth increased by 10 percentage points, the poverty level decreased by 0.19 percentage points. This was consistent with theoretical expectations, which predicted that economic development would increase the income of the poor and alleviate poverty. In general, the effect of international trade on poverty alleviation was positive, but it can only be approximated due to its non-significant parameter estimates. There are two reasons for this phenomenon. One is that the external influence of international trade makes the economy of a country or region unstable. The other is that the Chinese Household Registration System has hindered labour mobility to some extent, resulting in a widening income gap and a deepening of poverty (Guo and Li 2016).The estimated value of the proportion of the secondary and tertiary industry was negative, which means that the improvement of the social industrial structure was conducive to poverty reduction. As the country attaches importance to the service industry, the poor have an increased probability of obtaining more income for low employment thresholds and more employment opportunities. Meanwhile, the income structure was more diversified.

**Table 4**The impact of tourism development and fluctuations on poverty alleviation

| Explanatory variables | Model 5 | Model 6 | Model 7 |
|---|---|---|---|
| *LEG* | -0.023** | -0.003 | -0.019** |
| | (-2.56) | (-0.32) | (-2.09) |
| *LBI* | 0.004 | 0.003 | 0.004 |
| | (0.83) | (0.58) | (0.87) |
| *SEC* | -0.149* | -0.143* | -0.149** |
| | (-1.71) | (-1.68) | (-1.74) |
| *TER* | -0.356*** | -0.333*** | -0.351*** |
| | (-3.56) | (-3.41) | (-3.55) |

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|---|---|---|---|
| *HTID* | | 0.055*** (4.13) | |
| *HTIF* | | 0.009 (1.26) | |
| *HTND* | | | 0.032** (2.25) |
| *HTNF* | | | 0.011 (1.52) |
| *LTI*(1) | -0.022*** | -0.037*** | -0.025*** |
| | (-3.64) | (-5.49) | (-4.17) |
| *LTI*(2) | -0.025*** | -0.040*** | -0.027*** |
| | (-4.18) | (-6.01) | (-4.75) |
| *LTI*(3) | -0.025*** | -0.041*** | -0.029*** |
| | (-4.38) | (-6.20) | (-4.96) |

**Notes**: Data source: Calculated by the author, the t-statistics for each parameter value in parentheses,*,**,***indicate respectively significant at the 10%,5%,and 1%significance levels, and represent respectively the first, second, and third stages of tourism development.

## 5. Conclusion

A method that is useful for alleviating poverty continuously is important to build a society that is generally well off. In 2016, the National Rural Tourism Poverty Alleviation Observation Report issued by the National Tourism Administration showed that China's rural tourism in 2015 brought in 487.36 million Yuan to local farmers. Through the development of tourism, the per capita income of farmers increased by 2,793 Yuan, accounting for 39.4%of the per capita annual income of local farmers. The development of rural tourism has become the main reason for an increase in income in rural communities (Huang and Kuang 2018).

However, at the current stage of research, the correlation mechanism between tourism development and poverty alleviation is still controversial. And empirical results have been inconsistent. In order to combine theoretical analysis with empirical research, we unified the prior model from the perspective of tourism volatility. We used a threshold panel model to study the effect of tourism development on poverty. The empirical function included the economic growth, a test of the threshold effect and a parameter estimate of all variables. After careful analysis, we have reached several conclusions:

First, there was a threshold effect between tourism development and poverty reduction, which resulted in a double threshold panel model. From the first stage to the third, the poverty reduction effect of tourism development was gradually enhanced. Therefore, tourism can become an industrial tool for poverty-stricken areas to overcome deprivation and promote development. At the same time, all parties in the society need to understand the stage of tourism development for the region so more specific strategies can be formulated accordingly. When tourism is in its initial stage, the effects of tourism on poverty alleviation have a positive effect. At this stage, it is necessary to exploit potentialities of tourism development, vigorously promote the growth of tourism and link with other industries. With the development of tourism entering the second stage, the effects of tourism on poverty reduction increase slightly. At that time, we should continue to promote the further development of tourism and the diversified models of poverty reduction. As reducing absolute poverty, we should also decrease relative poverty.

When entering the third stage, it is necessary to perfect the tourism industry structure and push the transformation from factor-dependent to innovation-driven. What's more, we should promote the vitality of tourism, improve the targeted poverty alleviation mechanism inherent in tourism and realize its shared value chain. At the same time, when formulating relevant policies for different provinces, we should observe the development trends of different provinces from a dynamic perspective and dialectical attitude to implement more specific and special methods of poverty alleviation according to the characteristics of local tourism resources.

Secondly, tourism volatility is a valuable explanatory variable. There are differences in divergent tourism markets, so the impact of domestic and inbound tourism volatility on poverty mitigation is distinct. Compared with inbound tourism, domestic tourism fluctuations have a greater impact on poverty alleviation in terms of the dimensions of income and arrivals. The main reason is that the domestic tourism market has matured. The revenue of domestic tourism accounts for a considerable proportion of tourism income. But the foreign tourist market is still in its infancy. According to our research results, the fluctuation of inbound tourism and domestic tourism should be treated differently. There are many factors influencing tourism volatility, including economics, weather, and supply and demand factors. In view of the negative impact of tourism fluctuations, it is necessary for the government, tourism developers and tourism-related industries to work together to decentralize the tourist source market to form complementary tourism patterns, coordinate cooperation among various industries and raise awareness to prevent and handle emergencies such as disasters and wars more effectively. This can promote the healthy development of tourism and help alleviate poverty. The inbound tourism market should be promoted as well since it also plays an important role in reducing poverty.

According to our results, tourism appears to be a sustainable method for decreasing poverty. Although we assumed that the development of the entire tourism industry is dynamic, whether tourism development and fluctuations are strict exogenous variables is still a debatable proposition. There may be internal linkages between the two variables and local economic development in various provinces. Different tourism development models can lead to diversity in tourism development and poverty reduction. Therefore, our research can distinguish different tourism development models more precisely and establish more accurate models according to the economic situation. By focusing on tourism development in typical regions, we can try to introduce the value chain method to study the effects of tourism on poverty alleviation from the microcosmic perspective to realize the unity of the micro and macro levels.

**References**

Ashley C. (2006) Participation by the poor in Luang Prabang tourism economy:Current earnings and opportunities for expansion London:Overseas Development Institute.

Ashley C, Boyd C and Goodwin H. (2000) Pro-Poor Tourism: Putting Poverty at the Heart of the Tourism Agenda. Overseas Development Institute. London, 1-6.

Ashley C and Mitchell J. (2009) Tourism and Poverty Reduction: Pathways to Prosperity. Routledge. London, 3343.

Banerjee O, Cicowiez M and Gachot S. (2015) A quantitative framework for assessing public investment in tourism–An application to Haiti.Tourism Management 51:157-173.

Blake A,Arbache JS,Sinclair MT,et al.(2008)Tourism and poverty relief.Annals of Tourism Research 35:107-126.

Deller S.(2010)Rural poverty,tourism and spatial heterogeneity.Annals of Tourism Research 37:180-205.

**Original Article**

Denman R. (2004) Tourism and Poverty Alleviation: Recommendations for Action. Madrid: World Tourism Organization, 33-43.

Ferguson L. (2010) Interrogating 'Gender' in Development Policy and Practice.International Feminist Journal of Politics 12:3-24.

Gartner C and Cukier J. (2012) Is tourism employment a sufficient mechanism for poverty reduction? A case study from Nkhata Bay, Malawi. Current Issues in Tourism 15:545-562.

Gascón J.(2015)Pro-Poor Tourism as a Strategy to Fight Rural Poverty:A Critique.Journal of Agrarian Change 15:499-518.

Guo S.(2015)Industrial chain tracing method for assessing pro-poor tourism impact.Tourism Tribune 30:31-39.

Job H and Paesler F.(2013)Links between nature-based tourism,protected areas,poverty alleviation and crises—The example of Wasini Island(Kenya).Journal of Outdoor Recreation and Tourism 1-2:18-28.

Kim N,Song H and Pyun JH.(2016)The relationship among tourism,poverty,and economic development in developing countries.Tourism Economics 22:1174-1190.

Li H,Hou L,Yang S,et al.(2015)Review of overseas research on pro-poor tourism.Human Geography 30:26-32.

Li J, Zhong L and Cheng S. (2009) Research progress on poverty elimination by tourism in China.China Population,Resources and Environmen 19:156-162.

Li R and Guo L. (2017)The Debate on the Effect of Tourism Poverty Reduction:A Literature Review.Tourism Tribune 32:28-37.

Muchapondwa E and Stage J.(2013)The economic impacts of tourism in Botswana,Namibia and South Africa:Is poverty subsiding?.Natural Resources Forum 37:80-89.

Plüss C and Backes M.(2002)Red Card for Tourism?:10 Principles and Challenges for a Sustainable Tourism Development in the 21st Century.Basel:Working Group on Tourism and Development.

Scheyvens R.(2008)Exploring the Tourism-Poverty Nexus.Current Issues in Tourism 10:231-254.

Sharpley R. (2009) Tourism and development challenges in the least developed countries:the case of The Gambia.Current Issues in Tourism 12:337-358.

Thomas F. (2014) Addressing the Measurement of Tourism in Terms of Poverty Reduction:Tourism Value Chain Analysis in Lao PDR and Mali.International Journal of Tourism Research 16:368-376.

Walpole MJ and Goodwin HJ.(2000)Local Economic Impacts of Dragon Tourism in Indonesia.Annals of Tourism Research 27:559-576.

Wattanakuljarus A and Coxhead I.(2008)Is tourism-based development good for the poor?Journal of Policy Modeling 30:929-955.

**Original Article**

Woodward D, Simms A and Murphy M.(2016)Growth isn't working:the unbalanced distribution of benefits and costs from economic growth New Economics Foundation.London,32.

Zhao L. (2011) Can tourism development reduce the income gap between urban and rural areas:Evidence from China.Tourism Tribune 26:15-25.