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Tourism's potential to benefit the poor: A social accounting matrix model applied to Ecuador

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Abstract
The study examines the distributional effects of tourism expansion applying a social accounting matrix model to the case of Ecuador. Specifically the study examines what share of tourism expansion benefits poor people. The study finds that tourism has large multiplier effects on the Ecuadorian economy and has the potential for substantial benefits to the poor. The study also found that distributional effects of tourism development are spread across all household incomes in both urban and rural areas benefiting the lowest and low households the most. Tourism has the potential of reducing inequality and is pro-poor in the case of Ecuador. Benefits to the poor seem to hinge on how and where tourists spend their money.

Keywords
Ecuador, income distribution, inequality, pro-poor, social accounting matrix

Introduction

The objective of this study is to examine the distributional effects of tourism on poverty by examining whether tourism is able to reduce income inequality. The study considers the poor as the fundamental unit of analysis. More specifically, it answers the question of who benefits from tourism development. While the flow of international tourism has increased significantly in developing countries during the past two decades (Mitchell and Ashley, 2010), there appears to be

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little understanding regarding the extent of impact that the flow of tourism-generated money has had on poverty in the developing world. In particular, the distributional effects of tourism on the poor are conspicuously lacking in the tourism literature. This study explores whether tourism development and investment are a sensible strategy for developing countries in their pursuit for broader development and inclusive and shared growth.

Conventionally, tourism studies have focused on investigating the contribution of tourism development to economic growth. These studies are premised on the tourism-led growth hypothesis, which assumes that economic benefits will strain to the poor and does not consider the poor as a separate target of interest (Akkemik, 2012; Balaguer and Cantavella-Jorda, 2002; Brau et al., 2007; Dritsakis, 2004; Durbarry, 2004; Ghali, 1976; Hazari and Sgro, 1995; Narayan, 2004; Sequeira and Nunes, 2008; Schubert et al., 2011). More recently, a handful of studies have investigated the relationship between tourism development and poverty (Blake et al., 2008; Croes, 2014; Croes and Vanegas, 2008; Vanegas and Croes, 2007).

Tourism development can help poor households through backward linkages (Blake et al., 2008; Jones, 2010; Mitchell and Ashley, 2010). These backward linkages open the opportunity for tourism to provide income for poor households. While tourism development promotes economic growth, it is not self-evident that poor households will receive income from tourism development. Due to lack of skills to get a job or have little understanding of how to run a tourism business, poor households may be excluded from tourism development activities and hence their benefits (Spenceley and Meyer, 2012). But even if poor households receive income from tourism development, it begs the question whether the income shares accruing to the poor are below, similar to, or higher than other income groups in society or below their overall average national share. The benefits to the poor seem to hinge on contextual conditions (Blake, 2008) requiring careful empirical examination. The study answers to two interrelated questions: First, how widespread are the benefits from tourism, and second, how are these benefits shared among different income groups?

At the heart of the discussion is the notion of pro-poor. For the purpose of this study, poverty will be referenced through income levels following Blake et al. (2008) and Jones (2010). Pro-poor is defined following Kakwani and Pernia (2000) in terms of income growth and the poor capturing more benefits than other groups resulting from an economic activity. In other words, pro-poor is assessed by answering two questions: Do the poor receive more income and is the income captured by the poor higher than the nonpoor in relative terms? The tourism literature, with the exception of a few studies, continues to lag in the larger debate regarding the relationship pertaining to the direct impact of tourism on poverty. This study thus examined the direct link between tourism and poverty by accounting for the distributional effects of tourism on income.

The poverty situation in Ecuador provides an appropriate case study, as nearly half of the population lives in poverty, despite unprecedented growth in the 1970s from the oil boom. The country suffers from a chronic malnutrition rate with reported stunting outcomes among children less than 5 years old comparable to the sub-Saharan countries (World Bank, 2007). From 2011 to 2012, the amount of people deemed as poor, by international standards, has declined from 35.3% to 32.2% and indigence poverty from 13.8% to 12.9%, respectively (ECLAC, 2014). While these achievements are commendable, there are still too many people in Ecuador who remain poor and are suffering and deprived from engaging in economic and social opportunities. A great percentage of the population in Ecuador cannot meet their basic nutritional requirements, even if their entire incomes were spent on food. In addition, there are massive income disparities, such that in 2002 the poorest quintile received only 5.1% of total

income, and the richest quintile received 48.8%; and in 2012, it was 6.4% and 43%, respectively (ECLAC, 2014). Ecuador remains one of the most unequitable countries in South America with a Gini coefficient of nearly 50%.

In developing a social accounting matrix (SAM) (Isard et al., 1998) for Ecuador, which integrates businesses and different types of labor and household accounts, the study will distill how the multiplier effects are distributed across households by type (urban vs. rural) and by income quintiles, so that the equity implications of tourism development can be fully appreciated. The current study follows the convention in developing studies, which typically considered the dual economy feature of developing countries. This feature reveals the urban dimension of this dichotomy as the modern aspect of the country while the rural dimension reveals its backwardness (Blake, 2008; Klytchnikova and Dorosh, 2009).

Very few studies have applied the SAM framework to tourism. For example, Wagner (1997) studied the effects of tourism on households in the region of Guaraquecaba in Brazil, applying a SAM model. The study found that the impact of ecotourism on households was nonnegligible. Valle and Yobesia (2009) also applied a SAM model to Kenya and found that tourism is a significant economic driver in Kenya. Blake et al. (2008), Jones (2010), Muchapondwa and Stage (2013), and Pratt (2011) consider a SAM model more appropriate for developing countries because it more effectively assesses the impact of any economic sector on the factors of production, including poor households.

The reasons for applying this technique are threefold. First, households are regarded as an industry, considering labor as their output. Second, the focus of the study is to determine whether poor households receive income directly from tourism-related activities, and this technique enables the comparison between households based on their incomes. And third, this study assumes that the poor are the best agents to freely decide how to consume any additional income. The focus on other mechanisms, such as price and government transfers, which make choices for the poor and assume that the poor have access to influence government transfers, is common assumption embedded in computable general equilibrium (CGE) studies. This focus should help improve the visibility of policy makers on the effects of tourism expansion, which is particularly relevant in a resource-poor context, such as that of a developing country.

Literature review

Tourism is a long-term source of economic growth for developing countries as revealed by an increasing amount of studies (Balaguer and Cantavella-Jorda, 2002; Blake et al., 2008; Brau et al., 2007; Benkovic and Mejia, 2008; Croes and Vanegas, 2008; Dritsakis, 2004; Durbarry, 2004; Ghali, 1976; Hazari and Sgro, 1995; Jones, 2010; Narayan, 2004; Schubert et al., 2011; Sequeira and Nunes, 2008). These studies have two things in common. First, they focused on economic growth, and second, they embraced the trickle-down premise. The trickle-down framework suggests that economic growth gains, through various benefits of tourism spending at the destination, would inevitably benefit everybody, including the poor (Dritsakis, 2004; Durbarry, 2004; Dwyer et al., 2003; Modeste, 1995; Zhou et al., 1997). Trickle-down theory has not been concerned with how these gains would be shared among income groups and suggests that inequality is not that bad because everybody could be better off compared to a world where there is no inequality. The main premise is that inequality is a natural outcome of the incentives needed for people to work, save, and invest. Trickle-down theory predicts a positive correlation between economic growth and inequality because income disparities motivate people to work harder.

Some studies found that tourism development is not growth enhancing (Capo et al., 2007; Eugenio-Martin et al., 2004; Hazari et al., 2003; Nowak and Sahli, 2007; Oh, 2005). Indeed Copeland (1991), Hazari et al. (2003), and Nowak et al. (2003) suggest that tourism receipts may appreciate the local currency hurting other economic sectors with the net effect that tourism could be immiserizing. Gooroochurn and Blake (2005) indicate, however, that the impact of tourism expansion is an empirical question, demonstrating in the case of Mauritius that tourism expansion may lead to welfare increase as well as improved income distribution. In addition, the income elasticity of tourism products is high, suggesting that an increase in the quantity of tourism products will rise more than the percentage increase of income. Thus, price elasticity of demand seems to matter less than what is expected.

The combination of these two elasticity phenomena add to stable export earnings of tourism products compared to commodity groups spawning benefits from terms of trade of destinations that specialize in tourism. The reasons may be that natural, cultural, and social attractiveness may be fixed at a premium through tourism because these factors cannot be exchanged (Mihalic, 2002), and local products can demand a higher price when sold locally to tourists. This is because the products are not exported and have lower transportation and insurance costs. Durbarry (2004) found that tourism has promoted growth compared to sugar and manufacturing in the case of Mauritius. Maloney and Rojas (2005) state that revenues from tourism are stable and two to five times more reliable as a source of revenue than the sale of goods, such as agricultural and mineral commodities in the Caribbean. Vanegas and Croes (2007) indicate similar findings in the case of Nicaragua where the impact of tourism was higher than agriculture and manufacturing in spawning growth.

The large body of tourism literature asserting that tourism is growth-enhancing seems to have influenced the growing practice of international organizations, such as the World Bank, and an increasing number of developing countries to embrace tourism development as an important development strategy. Hawkins and Mann (2007) and Winters et al. (2013) discuss the increasing prominent role of tourism in development programs run by international organizations. However, two issues remain unsettled in the literature: Does tourism development reduce or increase inequality, and does tourism development benefit the poor?

For example, Mak (2004) and Schilcher (2007) have reservations about the main premise of the trickle-down framework. Mak (2004) argues to distinguish the notion of efficiency from equity: An action that might improve everyone's well-being may enhance some people's welfare more than others. If those who benefited from this efficiency are the richest, then improved efficiency might be entirely consistent with more inequality. This would be unacceptable in light of the persisting poverty in the world. Schilcher (2007) also maintains the need to shift the focus from growth to equity, because empirical evidence suggests that tourism receipts may not reduce poverty but instead may entrench inequality, echoing Hall (2007), Sahli and Nowak (2007), Scheyvens and Momsen (2008), and Sinclair (1998), among others. Pearce (2012) also ascertains that tourism could provoke inequality levels at a destination that would be socially intolerable and reprehensible to tourists.

The tourism–poverty nexus

More tourism receipts will not necessarily benefit the poor. From this acknowledgment emerged the pro-poor approach at the end of the late 1990s. The concept of pro-poor is not about growth, but instead it focuses its efforts on the redistribution of benefits to the poor. It focuses its efforts on

changing the tourism industry's operations and practices to support accessibility of the poor and the redistribution of economic benefits that tourism development brings, such as training, employment, and supply linkages. The concept of pro-poor emerged mainly as a result of the Millennium Development Goals to halve the world's poor population by 2015. The mainstream literature identifies two distinctive strands regarding the concept pro-poor: a growth focus on poverty outcomes and a growth focus on inequality outcomes. The growth focus on poverty outcomes asserts that as long as the poor can share in the benefits of economic growth, economic growth is considered pro-poor. This means that growth is pro-poor if it reduces poverty even if inequality increases (Ravallion and Chen, 2003). If growth does not affect the poverty measure or the income of the poor decline, then growth is not considered pro-poor.

Unlike the narrow definition of pro-poor by Ravallion and Chen (2003), there is a broader definition of pro-poor which is linked to the effects of growth on inequality. This strand addresses the question of who benefits from growth and posits that growth is pro-poor only if the growth rate of the income of the poor is greater than that of the nonpoor (Kakwani and Pernia, 2000; White and Anderson, 2001). In other words, growth benefits the poor if inequality is reduced.

The tourism literature was slow in adopting this discussion from mainstream economics. The tourism–poverty nexus debate has initially centered on strategic considerations and neglected investigating the empirical foundations of tourism being a pro-poor economic activity (Mitchell and Ashley, 2010; Winters et al., 2013). Only recently have a handful of studies empirically investigated the direct relationship between tourism expansion and poverty, and these studies revealed mixed results. For example, Vanegas and Croes (2007) and Croes and Vanegas (2008) analyzed the empirical relationship between tourism growth and poverty reduction in Nicaragua. The former study applied a cointegration technique, while the latter used a vector autoregressive and found that tourism has a significant effect on poverty reduction. The studies estimated a tourism growth elasticity of poverty, that is, the percentage in poverty induced by a 1% change in tourism receipts. Croes (2014) employed an error correction model and confirmed the results for Nicaragua but found inconsistent results in the case of Costa Rica. The implication is that more extreme cases of poverty may be more responsive to growth in average living standards than in more moderately poor settings. Vanegas (2014) found poverty elasticities induced by tourism development vary among the countries in Central America. For example, tourism has strong effects in Costa Rica, Guatemala, and Nicaragua and modest to weak effects in Salvador and Honduras.

Tourism and the inequality issue

Research in tourism studies on the distributional effects on the poor has been limited. Only a few studies in the tourism literature focus specifically on the distributional effects of tourism. Some of these studies apply a SAM model, while others employ a CGE model as well as an econometric model. Only two studies refer to Latin American countries (Brazil and Central American countries), while the remaining studies consider African countries. Blake et al. (2008) applied a CGE model and assessed tourism contribution on poverty reduction in Brazil. The authors conclude that tourism benefits low-income households (not the lowest income households) more from earnings and price effects induced by tourism expansion, thereby reducing income inequality. In this regard, the study reaches the core of the developmental debate on how to eradicate poverty. The authors however caution about generalizing the results because the results seem contextual. Wattanakuljarus and Coxhead (2008) also conducted a CGE analysis of a tourism expansion in Thailand

and reached the opposite conclusion that high-income groups benefited the most from the tourism expansion. Saayman et al. (2012) also employed an applied general equilibrium model (AGE) in the case of South Africa and found that tourism would not benefit the very poor. Similar findings were unearthed in the case of East Africa by Blake (2008) in applying a SAM model. Muchapondwa and Stage (2013) conclude from the SAM analysis in the case of Mozambique that tourism potential for poverty reduction is "discouraging." Vanegas (2014) found that inequality may be a powerful moderator in connecting tourism with the poor. Tourism matters for the poor in all countries, but tourism matters in some countries more than others in poverty reduction. For example, the tourism power in reducing poverty is stronger in Costa Rica (−0.62), Nicaragua (−0.63), and Guatemala (−0.56) compared to El Salvador (−0.29) and Honduras (−0.29). However, inequality has a substantial impact on poverty reduction. In all the countries that Vanegas examined, tourism has increased inequality ranging from 0.86 in Costa Rica followed by Honduras (1.19), Guatemala (1.22), and Nicaragua (1.27) to El Salvador (1.31).

The referenced CGE studies reviewed price and government transfers together with earnings as mechanisms through which tourism impacts the poor. A general critique of the CGE model has been the assumption of constant elasticity of substitution (Croes & Severt, 2007). Three additional observations can be fielded as major challenges of the application of CGE in the context of developing countries. First, the main premise of the price mechanism is that price is the main predictor of purchase behavior. Banerjee and Duflo (2011) indicated that taste could be a greater motivator than price in determining how poor people purchase food. Second, another main premise is that if the market cannot reach to the poor, then the government could. This premise assumes that the government is willing and able to help the poor reach the market, an assumption that is not pervasive in developing countries. And third, the application of the SAM or CGE models seems to hinge on the availability of data according to the studies reviewed. While a CGE model is grounded in a SAM economic structure, CGE model is dynamic in nature allowing for price changes and factor mobility and adjustment. However, a CGE model is computationally demanding and requires a rich information base on tourism activities as well as considerable national accounts expertise. Developing countries in general are resource-poor countries with limited capacity.

Tourism–growth–inequality–poverty

The previous literature review suggests that tourism studies are wanting in investigating the direct relationship between tourism and poverty. The debate regarding the potential trade-off between tourism, growth, inequality, and poverty is conspicuously lacking in the tourism literature. For example, the review of tourism economics research conducted by Song et al. (2012) only focused on the potential nexus of tourism growth but was silent on poverty and equity. Even if studies address tourism and poverty, such as the pro-poor tourism literature, empirical foundations seem wanting (Mitchell and Ashley, 2010). The reason may be that tourism studies explored economic development only partially. Tourism studies have investigated the tourism–growth nexus and seem to assume that in case of the nexus being activated, benefits would trickle down to the poor. Direct effects of tourism in the case of jobs and higher income are viewed as a result of trickle-down economics.

The trickle-down premise is pervasive in all but a handful of studies and has not enhanced our understanding of the relationship between tourism and poverty. The pro-poor debate in tourism studies is stuck at the strategic level, assuming that tourism works for the poor. The handful of empirical studies investigating the relationship between tourism and poverty is still in its infancy

and is inconclusive. The relevance of examining the relationship of tourism, poverty, and inequality is twofold. First, should tourism development reduce inequality, specifically benefiting the poor, tourism development would challenge the main claim of the trickle-down theory. However, validating this proposition is an empirical question. And second, validating this proposition would also demonstrate the relevance of tourism in advancing the Millennium Development Goals in halving global poverty by 2015.

While the poverty rate has dwindled steadily in the last decade, the distribution of global gains has been uneven. For example, while tourism expansion has been forceful in Latin America in the past decade, the region remains one of the most unequal regions in the world, regarding poverty rates (ECLAC, 2010). Inequality may hinder the pace of poverty reduction.

Consequently, this study investigates who benefits from tourism growth in the context of Ecuador. Specifically, the study answers two questions: First, does tourism benefit the lowest income groups? And second, do the lowest income groups benefit the most from tourism expansion? The study employs a SAM simulating a 10% increase in international tourism demand.

Methodology

For the purpose of this study, a SAM was used to measure the economic impact of tourism on incomes by considering quintile groups in urban and rural areas. The researchers obtained a copy of the SAM for Ecuador during a visit to the offices of the Ministerio Coordinador de Desarrollo Social in Quito, Ecuador. The Ecuador SAM was constructed by using the 2008 national accounts, and the household decomposition used the 2010 National Census. This is the first census in Ecuador since 1981. In the SAM, each sector or account has its own row and column. Expenditures are listed in the columns and income in the rows. As each account must balance, the totals for the row and the column are identical. There are six key types of accounts: production activities, factor of production, institutions, government, capital, and the rest of the world (Isard et al., 1998). This concept was first formulated by Pyatt and Thorbecke (1976) as a conceptual and modular framework for government policy and planning.

To better illustrate the composition of the SAM, an overview of the framework for Ecuador is presented in Figure 1, where activities, commodities, household, and factors are considered endogenous, while all others are considered exogenous. By using this framework, we can better estimate the effects of exogenous changes and injections such as an increase in demand for a specific tourism activity on the Ecuadorian economy. According to Isard et al. (1998), the logic underlying the scheme presented in Figure 1 is that exogenous changes determine the income of the endogenous accounts.

The study is interested in examining the distributive consequences of an external shock of tourism revenues on relative incomes through the application of a SAM model. Ecuador's economic and social structure reveals a clear social and geographic divide depicting a stark inequality among income groups as well as between urban and rural areas (World Bank, 2007; Robles and Azevedo, 2008). This study mirrors this divide and follows the development literature in investigating income categories in local urban and rural areas. The household incomes for Ecuador were disaggregated in 10 groups: 5 quintile groups for urban and rural areas, respectively. Unlike the studies of Blake (2008) and Muchapondwa and Stage (2013), where employment skills and location were central in the assessment of the impact of tourism on the poor, this study employs income quintiles and location as a manner in assessing the poor directly. Because 32.2% of the population is counted as poor and 12.9% as living in indigence poverty, according to the poverty

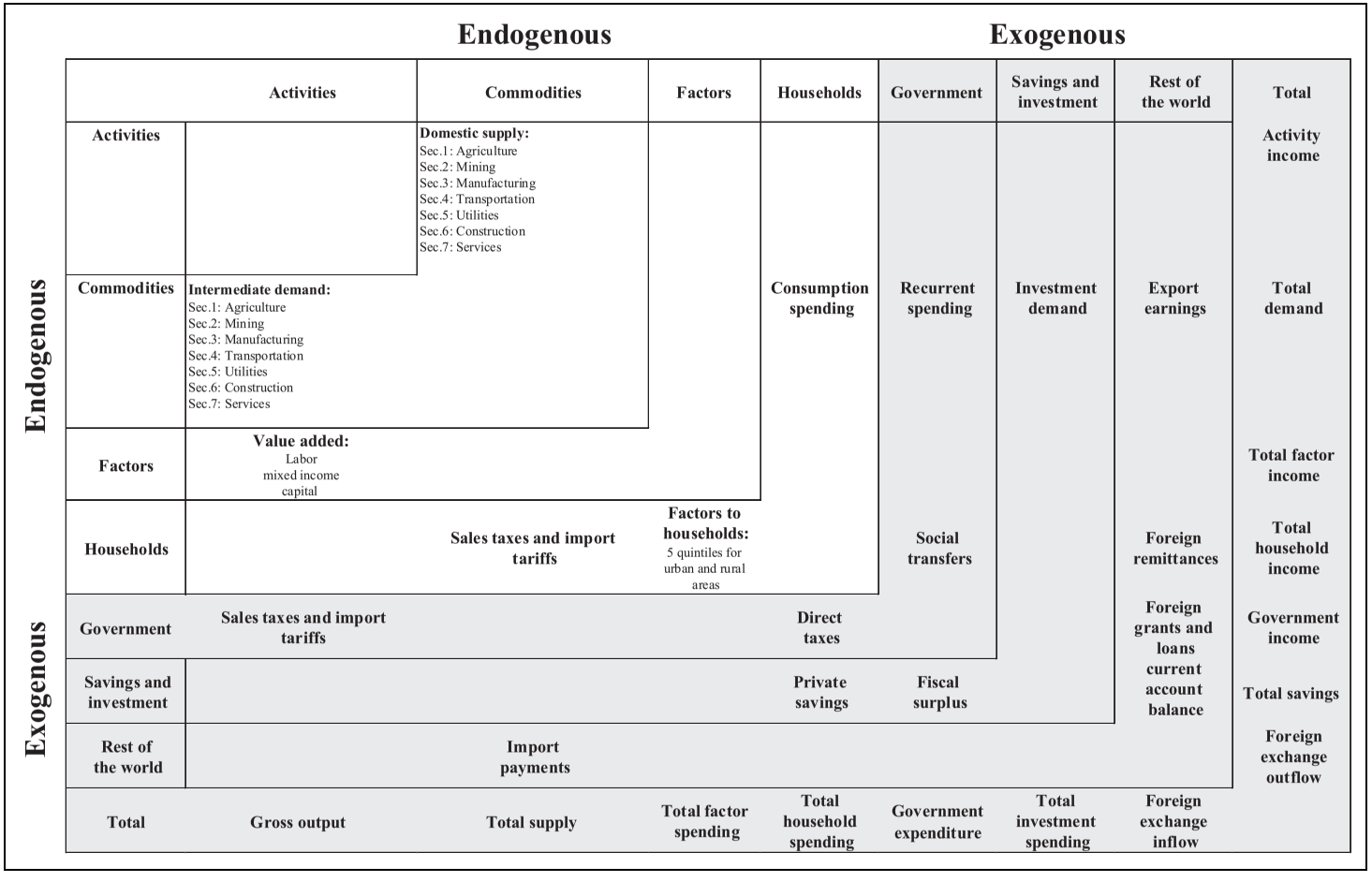

Figure 1. Social accounting matrix framework for Ecuador.

headcount ratio at national poverty lines as percentage of population, this study considers the bottom quintile as representative of poor households in Ecuador. Other studies, such as Jones (2010) in the case of Mozambique, also consider the bottom quintile as representative of poor households, while Rojas (2008) considers the bottom two quintiles as poor in the case of Mexico. The five quintiles in this study range from the wealthiest 20% to the poorest 20% in urban and rural areas. The focus on quintile categories facilitates replicability, easing reference and coherence when comparing developing countries. The income categories follow similar procedures from the United Nations.

Such disaggregation allows assessing the distributional impact from various policy scenarios. For example, Tables 1 and 2 present the income shares within and between the households, respectively. The SAM for Ecuador demonstrates that within the poorest quintiles, in both rural and urban areas, most of the incomes come from unincorporated enterprises or self-employment. More than 90% of such income for the rural and urban poor is generated from labor earnings. On the other hand, the richest quintiles in urban and rural areas both receive the majority of their income from capital rather than remuneration.

When considering the inequality between quintiles, it can be noticed that the urban households capture 85% of the total household income. The richest urban quintile captures 31.35% of the total labor income and 24.67% of mixed income. Moreover, they receive 70% of the capital profits. The rural households only capture 15% of total household income. The fourth and fifth quintiles in rural areas amass the majority of benefits, revealing the extent of inequality in the country.

SAM multiplier model for Ecuador

To move from the information in a SAM transaction table (denoted as z matrix) to a SAM for Ecuador, we must first define the technical coefficients of production. In the model, a z matrix denotes the monetary flows from sector i to sector j. To develop the set of technical coefficients of production or direct input coefficients, we take the observed z_{ij}, which represents the flow from i to j in the transaction table, divided by X_j, the total gross output of j. These coefficients are denoted by a_{ij}, so that $a_{ij} = z_{ij}/X_j$. For the SAM in Ecuador, the capital, trade, taxes, and government income and consumption accounts are excluded from this matrix (considered to be exogenous accounts), thus leaving a 27×27 matrix, see Table 2. As a result, the *A matrix*, takes the form of:

$$A = \begin{bmatrix} a_{1\cdot1} & \ldots & a_{1\cdot27} \\ . & \ldots & . \\ a_{27\cdot1} & \ldots & a_{27\cdot27} \end{bmatrix}.$$

Now that all the coefficients have been calculated for the endogenous accounts, and each of the Z_{ij} can be rewritten as $Z_{ij} = a_{ij}X_j$ and expressed for each of the endogenous sectors as:

$$\begin{aligned} X_1 &= a_{1\cdot1}X_1 + a_{1\cdot2}X_2 + \ldots + a_{1\cdot27}X_{27} + Y_1. \\ X_2 &= a_{2\cdot1}X_1 + a_{2\cdot2}X_2 + \ldots + a_{2\cdot27}X_{27} + Y_2. \\ &\vdots \quad \vdots \qquad \vdots \qquad \vdots \qquad \vdots \\ X_{27} &= a_{27\cdot1}X_1 + a_{27\cdot2}X_2 + \ldots + a_{27\cdot27}X_{27} + Y_{27}. \end{aligned}$$

where Y represents the final demand.

By using these equations, we can make explicit the dependence of interindustry flows on the total output of each activity, and with a matrix notation, the system of equations may be compactly expressed as $X = AX + Y$.

Table 1. Income shares within quintiles.

	Labor (%)	Mixed income (%)	Capital (%)	Total ('000)
Urban				
First quintile	34.3	61.3	4.5	US$2,198,645
Second quintile	41.2	51.6	7.2	US$3,241,371
Third quintile	43.4	43.3	13.3	US$4,003,056
Fourth quintile	43.3	35.8	20.9	US$5,358,952
Fifth quintile	26.2	22.5	51.3	US$13,465,344
Rural				
First quintile	20.0	77.7	2.3	US$420,683
Second quintile	30.7	63.0	6.2	US$609,911
Third quintile	39.6	56.1	4.3	US$780,482
Fourth quintile	42.0	54.7	3.3	US$1,065,368
Fifth quintile	25.7	38.5	35.9	US$2,206,114

Source: Authors' calculations based on 2008 Ecuador social accounting matrix.

Table 2. Income shares between Quintiles.

	Labor (%)	Mixed income (%)	Capital (%)	Total all (%)
Urban				
First quintile	6.68	10.97	1.00	6.59
Second quintile	11.85	13.61	2.38	9.72
Third quintile	15.41	14.11	5.44	12.00
Fourth quintile	20.58	15.62	11.45	16.07
Fifth quintile	31.35	24.67	70.46	40.38
Subtotal	85.87	78.99	90.73	84.76
Rural				
First quintile	0.75	2.66	0.10	1.26
second quintile	1.66	3.13	0.39	1.83
Third quintile	2.74	3.57	0.35	2.34
Fourth quintile	3.97	4.75	0.36	3.19
Fifth quintile	5.02	6.91	8.08	6.62
Subtotal	14.13	21.01	9.27	15.24

Source: Authors' calculations based on 2008 Ecuador social accounting matrix.

$$\text{where } A = \begin{bmatrix} a_{1\cdot1} & a_{1\cdot2} & \ldots & a_{1\cdot27} \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ a_{27\cdot1} & a_{27\cdot2} & \ldots. & a_{27\cdot27} \end{bmatrix}, \; X = \begin{bmatrix} X_1 \\ \cdot \\ \cdot \\ X_{27} \end{bmatrix}, \; Y = \begin{bmatrix} Y_1 \\ \cdot \\ \cdot \\ Y_{27} \end{bmatrix}$$

In order to solve this system for the vector of gross outputs X as a function of the final demand vector Y, we first subtract AX from both sides, which results in $X - AX = [I - A]X = Y$ where I is an $n \times n$ identity matrix.

Table 3. SAM multipliers for Ecuador.

Multipliers	Tourism	Agriculture	Manufacturing
Output	2.331	2.741	2.112
Demand	2.891	3.256	2.777
GDP	1.655	1.797	1.320
Income	1.413	1.553	1.088

Note: GDP: gross domestic product; SAM: social accounting matrix.
Source: Authors' calculations based on 2008 Ecuador SAM.

Provided that the matrix [$I-A$] is nonsingular, the multiplication of X by $(I-A)^{-1}$ yields the desired vector of gross outputs as a function of final demand. This is then expressed as $\mathrm{X} = (\mathrm{I}-\mathrm{A})^{-1}\mathrm{Y}$, which means that total output (X) is provided to meet the final demand (Y) multiplied by the Leontief inverse. Put in the study's context, the expenditures by an increase in tourism (Y) stimulate other inputs from regional industrial sectors (the Leontief multiplier) and result in larger total output (X) in the regional economy.

Based on the previous discussion, the study uses the model to determine the total impact of the increase in demand on the Ecuadorian economy. For example, the increase in tourism-related consumption of local goods and services by tourists will lead to an increase in output, demand, gross domestic product (GDP), and household incomes. The output multiplier reflects all the linkage effects for the increase in output for each sector, while the demand multipliers measure the production and consumption linkage effects derived from exogenous changes. In other words, demand multipliers refer to the amount of purchases realized by productive activities from land, capital, and labor inputs (factor inputs) as well as the intermediate inputs (tourism consumption of businesses) from the commodity markets (Akkemik, 2012; Hara, 2008).

The gross demand from other industries used for production of the original event-related products represents the intragroup effect, and it leads to a greater use of the factors of production, increasing the income of the institutions that own the factors concerned. These movements are the extra-group effect, since the initial change alters the accounts of the groups, except for the one that initially underwent the change. Finally, a higher level of household income modifies the households' original consumption pattern, affecting the production sectors. This is the intergroup effect—the accounts where the exogenous change reacts to the adjustments to the new situation of all the other groups of accounts. The complete aggregate multipliers for the experiment are presented in Table 3.

It is important to be reminded of some structural restrictions of this methodology. For example, SAM only considers functions of production of constant returns of scale and has no supply constraints, price changes do not result in the purchase of substitute goods, and sector output proportions remains the same regardless of the total output. Nevertheless, although these models may have overestimated positive effects in the short run, they provide insightful and meaningful information in the medium run when labor and capacity constraints are adjusted. In the case of a developing country, such as Ecuador, with high unemployment, underemployment, and excess capacity, SAM is useful because of the presence of a condition to increase output without affecting prices.

The simulation

The aggregate impact of tourism in Ecuador has grown over time. Since 2010, international tourism grew by 9.53%, one of the highest growth rates in South America, exceeding 1.2 million

international tourists in 2012 (WTO, 2013). Tourism represents 5.3% of GDP and employed about 302,000 people, equal to 4.8% of the total amount of jobs in 2012. Mitchell and Ashley (2010) claim that tourism has three channels through which it can affect poverty: (1) direct effects, (2) secondary effects, and (3) dynamic effects. Our study assessed the first two aspects of the potential impact of tourism on poverty in Ecuador. The study performed the following simulation: The exogenous injection is derived from the change in demand used for the real growth in international tourism receipts from 2012 to 2013. This estimate stems from the forecast conducted by the World Travel and Tourism Council (WTTC, 2013). The total change in demand for tourism in Ecuador was estimated at US$10,000,000 (approximately a 1% increase from 2012 compared to 2011) for Ecuador.

The distribution for the change in demand for tourism was estimated, based on the tourist's spending profile from the Ecuador Tourism Satellite Accounts (TSA) (Croes et al. 2009; Secretaria General de la Comunidad Andina, 2011). The tourism dollars are assigned to two specific economic sectors. The first sector is services, and the second sector is transportation according to the distribution of the average total expenditures made by tourists. The change in demand (ΔX) for the direct impact of tourism was estimated at US$10,000,000, considering $\Delta X_6 =$ US$7,500,000 (services) and $\Delta X_4 =$ US$2,500,000 (transportation). Two additional scenarios considered a change in demand of the same magnitude in the agriculture and manufacturing sectors.

The results for the indirect and induced impacts are presented in Table 4. The effects of tourism on the economy are significant, exceeding US$23 million. The lion's share of tourism revenues went to service sectors typical of the hospitality industry such as hotels, restaurants, and transportation, as captured by the high incidence (close to 60%) on services and transportation. Tourism effects can be substantial if local goods and services are elastic in supply and can thus expand in the face of increased demand. Tourism revenues also went beyond those typical sectors to benefit manufacturing (12.5%), mining (7.9%), and agriculture (4.9%), suggesting strong backward linkages across the economy. These results are consistent with Blake (2008). The results from Table 4 also indicate that across the three economic sectors (tourism, agriculture, and manufacturing), tourism reveals its economic relevance through the nature of tourists spending on different products.

In addition, the results indicate that 65% of the income accruing to households is derived from remuneration and mixed income. However, mixed income referring to self-employment is much larger than the item of remuneration (jobs), according to Table 4. This is an indication that a large portion of the income accruing to poor households is channeled through the informal economy. An informal economy means that the poor are the most affected due to lack of social security and legal and safety protection; it also means that the government receives less taxes. In Ecuador, more than half of the national economy consists of the informal sector, accounting for 53.3% in 2012.

The distributive effects on poor households

Since many poor citizens in Ecuador do not have direct contact with visiting tourists to the country, the multiplier effects of tourism to other sectors of the economy are important for growing the benefits of tourism to Ecuador's poor households. Indirect effects of tourism may be particularly important in reducing poverty. In fact, the effect of tourism depends on the actual extent of the multiplier effect on the supply of revenues from other sectors in the economy, specifically from increased production to labor and capital factors, which ultimately enhances both poor and non-poor household units. Households acquire 78.35% from the total effects of injected tourism

Table 4. Economic impacts results for Ecuador.

	Tourism impact	Agriculture impact	Manufacturing impact
Activity—agriculture	US$1,139,957	US$9,285,985	US$1,852,061
Activity—mining	US$1,833,997	US$1,669,584	US$1,404,930
Activity—manufacturing	US$2,902,407	US$3,603,156	US$8,070,250
Activity—transportation	US$2,678,237	US$1,748,732	US$1,271,699
Activity—communications	US$636,134	US$700,837	US$509,563
Activity—construction	US$277,669	US$239,473	US$178,785
Activity—services	US$13,840,663	US$10,160,755	US$7,833,381
Total output	US$23,309,064	US$27,408,522	US$21,120,669
Commodity—agriculture	US$1,622,531	US$13,217,639	US$2,636,197
Commodity—mining	US$2,025,023	US$1,970,674	US$1,670,442
Commodity—manufacturing	US$5,137,974	US$6,750,395	US$15,889,556
Commodity—transportation	US$5,939,807	US$3,816,794	US$2,564,901
Commodity—communications	US$760,922	US$838,310	US$609,180
Commodity—construction	US$284,149	US$245,085	US$182,975
Commodity—services	US$13,139,936	US$5,723,010	US$4,219,861
Total demand	US$28,910,343	US$32,561,907	US$27,773,113
Remuneration	US$4,746,479	US$5,280,391	US$3,630,204
Mixed income	US$5,938,988	US$6,571,170	US$4,130,718
Capital	US$3,136,099	US$3,372,093	US$2,793,798
Gov. income	US$2,729,025	US$2,747,066	US$2,646,837
Total GDP	US$16,550,591	US$17,970,720	US$13,201,557

Note: GDP: gross domestic product.
Source: Authors' calculations based on 2008 Ecuador social accounting matrix.

revenues, indicating the prowess of tourism in generating income to households. How this percentage is shared among the households is revealed in Table 6.

The share of the economic benefits accruing to poor households was compared across the three economic sectors. Consequently, the tourism income multiplier for each quintile category was compared with other sectors of the economy. The tourism multiplier was considered the baseline for the analysis. The sign before the percentage reflects the distance (either positive or negative) of the assessed sector compared to tourism. Table 6 reveals the results of the comparison. When compared to the other economic sectors, tourism performed relatively well favoring poor households in both urban and rural areas. Agriculture, transportation, and services did better than tourism for the poor in both urban and rural cases, while construction did better than tourism only in the urban areas.

The simulation reported in this section includes a 10% increase in international tourism demand to Ecuador, leading to effects in the income of the various groups. Table 7 reveals that the distributional effects of tourism development are spread across all household incomes in both urban and rural areas, reviewed in the study. However, the poorest in Ecuador faired significantly better than all other income brackets. The relative increase in aggregate incomes of the lowest quintiles was higher than the highest quintile by nearly 31% in urban and rural areas. The findings from Table 7 also reveal that unlike Blake (2008), Blake et al. (2008), and Muchapondwa and Stage (2013), this study found that the income accruing to poor households (quintiles 1 and 2) actually is larger (8.64%) than their overall share of national income (7.85%). The bottom quintile received

Table 5. Income multipliers for Ecuador.

	Tourism	Agriculture	Mining	Manufacturing	Transportation	Communications	Construction	Services
Urban								
First quintile	0.102	0.116	0.071	0.097	0.114	0.075	0.102	0.124
Second quintile	0.148	0.168	0.111	0.143	0.162	0.118	0.154	0.180
third quintile	0.179	0.203	0.151	0.176	0.194	0.162	0.192	0.218
Fourth quintile	0.234	0.266	0.225	0.237	0.253	0.244	0.258	0.284
Fifth quintile	0.525	0.592	0.756	0.575	0.591	0.838	0.605	0.628
Rural								
First quintile	0.020	0.023	0.013	0.019	0.023	0.013	0.019	0.024
Second quintile	0.028	0.032	0.020	0.027	0.032	0.021	0.028	0.034
Third quintile	0.036	0.041	0.025	0.034	0.040	0.027	0.037	0.044
Fourth quintile	0.049	0.056	0.034	0.047	0.054	0.036	0.050	0.060
Fifth quintile	0.091	0.104	0.106	0.095	0.104	0.116	0.099	0.110

Source: Authors' calculations based on 2008 Ecuador social accounting matrix.

Table 6. Comparing tourism income multipliers with other industry sectors.

	Tourism	Agriculture (%)	Mining (%)	Manufacturing (%)	Transportation (%)	Communications (%)	Construction (%)	Services (%)
Urban								
First quintile	0.102	12.23	−43.99	−5.69	10.80	−36.13	−0.15	17.69
Second quintile	0.148	12.10	−33.58	−3.84	8.70	−25.61	3.69	17.83
Third quintile	0.179	11.92	−18.51	−1.55	7.70	−10.44	6.64	17.74
Fourth quintile	0.234	11.70	−3.99	0.93	7.27	3.94	9.16	17.50
Fifth quintile	0.525	11.21	30.54	8.59	11.04	37.32	13.18	16.28
Rural								
First quintile	0.020	12.37	−56.49	−8.26	14.48	−48.78	−7.23	17.27
Second quintile	0.028	12.26	−40.87	−5.65	11.69	−32.81	−1.06	17.59
Third quintile	0.036	12.22	−42.43	−5.05	9.33	−34.61	2.02	17.90
Fourth quintile	0.049	12.21	−44.22	−5.04	8.69	−36.52	2.66	17.98
Fifth quintile	0.091	11.65	13.46	3.35	11.94	21.13	7.38	16.73

Source: Authors' calculations based on 2008 Ecuador social accounting matrix.

Table 7. Income distribution.

	Tourism		ΔIncome (%)	Agriculture		ΔIncome (%)	Manufacturing		ΔIncome (%)
Urban									
First quintile	US$1,020,111	8.58%	0.0464	US$1,127,528	8.64%	0.0513	US$743,549	8.08%	0.0338
Second quintile	US$1,480,304	12.45%	0.0457	US$1,635,229	12.53%	0.0504	US$1,093,475	11.88%	0.0337
Third quintile	US$1,789,661	15.05%	0.0447	US$1,973,651	15.12%	0.0493	US$1,343,940	14.60%	0.0336
Fourth quintile	US$2,344,593	19.72%	0.0438	US$2,579,314	19.76%	0.0481	US$1,793,923	19.49%	0.0335
Fifth quintile	US$5,253,749	44.19%	0.0390	US$5,734,343	43.94%	0.0426	US$4,228,010	45.94%	0.0314
Total urban	US$11,888,419	100%	0.042	US$13,050,065	100%	0.046	US$9,202,896	100%	0.033
Rural									
First quintile	US$200,801	8.94%	0.0477	US$221,866	8.96%	0.0527	US$143,953	8.58%	0.0342
Second quintile	US$281,350	12.52%	0.0461	US$310,912	12.56%	0.0510	US$204,860	12.21%	0.0336
Third quintile	US$358,751	15.97%	0.0460	US$396,730	16.03%	0.0508	US$262,483	15.65%	0.0336
Fourth quintile	US$490,452	21.83%	0.0460	US$542,505	21.92%	0.0509	US$359,028	21.40%	0.0337
Fifth quintile	US$914,383	40.71%	0.0414	US$1,002,925	40.52%	0.0455	US$706,992	42.15%	0.0320
Total rural	US$2,245,737	100%	0.247	US$2,474,938	100%	0.272	US$1,677,315	100%	0.185

Source: Authors' calculations based on 2008 Ecuador social accounting matrix.

10.7% more than its overall national average share, the largest positive difference in comparison with quintile 2 (+7.9%), quintile 3 (+6%), and quintile 4 (+4.2%). The top quintile only received a 43.64% share of the income of tourism, which is 7.1% less than its overall share of national income, 47%. Therefore, tourism has the potential to reduce income inequality, a similar finding as Blake et al. (2008) in Brazil. Considering the second definition of pro-poor being growth benefiting the poor more than the nonpoor (the relative pro-poor definition), the findings reveal clear results: Tourism development in Ecuador is pro-poor.

In addition, urban areas seem to benefit the most from tourism development at least as revealed in the case of Ecuador. This implies that the location where tourism revenues are being spawned seems to define which households reap tourism benefits the most. Finally, Table 7 indicates that tourism matters most for the urban areas compared to the rural areas. The former captured 84.1% of the income generated by tourism compared to 15.9% accruing to the latter. In other words, the location of tourism activities matters for the poor, as location affects local labor markets, return on capital, and linkages to the agricultural sector and handcraft activities.

Conclusion

This study explored the distributional effects of tourism development in Ecuador and revealed three important findings. First, tourism development does help the poor increase their earnings, including those with the highest incidence of poverty, such as is the case for those in the first quintile. This finding is consistent with the first definition of pro-poor growth being that growth increases income levels of the poor regardless of inequality (the absolute pro-poor definition). Second, the case of Ecuador also reveals that tourism development benefits the poor more than nonpoor (the relative pro-poor definition). And third, tourism development seems an effective strategy in addressing poverty issues in developing countries.

There are some methodological, theoretical, and practical policy implications that warrant recognition from the previous findings. From the methodological point of view, SAM is an appropriate technique to evaluate on the distribution of income from tourism development, particularly to poor households. In data-poor environments such as a developing country, techniques that do not entail demanding data requirements are very valuable. While one limitation of the methodology may be that the SAM model used was constructed in 2008, the proposition that tourism development in Ecuador is pro-poor remains realistic and meaningful. An increase in tourism development may spur more pro-poor benefits to the country, while only a decrease of tourism development in the economic structure may render the proposition implausible. However, the recent intentions of the Government of Ecuador to spend US$660 million over the next 4 years to boost tourism promotion and to expand and upgrade the tourism infrastructure are an indication that tourism may have a larger contribution to the economy.

The theoretical implications are fourfold. First, the nature of tourism spending defines its economic relevance. Tourism may be more than a source of foreign exchange emerging as a potential tool for economic structural change. Tourism potential seems to hinge on the proportion spent on hotels and restaurants, which seems to specify tourism's economic spillover to other sectors. Second, tourism has strong backward linkages, ranking second only after agriculture. Tourism spawns economic effects across economic sectors showing the interdependence between tourism and other sectors.

Third, the poor as a distinct group can benefit from tourism, because tourism development stokes pro-poor effects in terms of income earnings and distribution of said earnings. Sans

agriculture, tourism development has outperformed all other economic sectors in poverty alleviation. And fourth, the effects of tourism development captured by poor households seem to depend on location. Eighty-four percent of income generated from tourism occurs in urban areas, compared to only 16% in rural areas. Where tourism activities take place may matter for the poor because of jobs and self-employment as revealed by the results.

The managerial implications are twofold. First, Ecuador should focus on increasing international tourism demand and promote tourist spending. The findings indicate that the income generated by tourism permeated to different groups, and if tourism is managed with a focus on poverty alleviation, tourism development can directly and indirectly (multiplier effects) benefit the poor. A demand focus will increase visits, length of stay, and spend per person, thereby increasing the size and performance of the tourism sector. Ultimately, this increase will spawn jobs of which many are potentially quite accessible to the poor as they require relatively few skills and little investment. Working together with the private sector is essential to spawn more wealth and distribution. In addition, the spending that reaches the poor should be promoted through actions that increase the direct and indirect participation of the poor in tourism. The demand focus requires that Ecuador as a destination should remain competitive and sustainable. And second, efforts should be undertaken to spread tourism offerings to rural areas in order to facilitate the participation of the poor in the tourism sector. These efforts align with ongoing programs in Latin America promoting greater rural development, aiming at absorbing displaced workers from agriculture and not absorbed by job growth in nonfarm activities. The lack of job opportunities spawns the out-migration to urban areas, thereby generating social problems (Macias, 2006). These efforts should be the results of public and private partnership.

Thus far, we have only assessed the effects of tourism on average incomes, and we provided an economic focus on poverty. Because it is challenging to ascertain the inequality level that will help the poor, a focus on income alone as a yardstick to measure pro-poor policy effectiveness could be problematic. Tackling the constraints the poor face could make a textured and richer debate that is relevant in policy-making dimensions. In other words, focusing on how the poor bring meaning to their life will supplement and enrich the pro-poor debate.

A limitation of this study is the use of a seven-sector aggregated SAM. This measure does not take into consideration the different gradation of poverty within more specific sectors. In other words, this measurement cannot account for how poor are the poor by more detailed industries. The study only assessed the effects of tourism on an aggregate level using quintiles. Future research should assess the effects of tourism expansion on the income gap ratio that takes into account the average income shortfall of the poor. Another limitation of this study is its static analysis. This means that the study only provides a snapshot of tourism development's potential as it relates to income distribution. Nevertheless, the technique employed provides interesting and provocative results and implications, thus enriching the pro-poor debate. Future research should validate the propositions discussed in this study regarding the distributional effects of tourism development in developing countries.

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References

Akkemik K (2012) Assessing the importance of international tourism for the Turkish economy: a social accounting matrix analysis. *Tourism Management* 33: 790–801.

Balaguer J and Cantavella-Jorda M (2002) Tourism as a long-run economic growth factor: the Spanish case. *Applied Economics* 34(7): 877–884.

Banerjee A and Duflo E (2011) *Poor Economics*. New York: Public Affairs.

Benkovic A and Mejia J (2008) Tourism as a driver of economic development: the Colombian experience. Nr. 26/2008. Available at: https://www.uni-hohenheim.de/wi-theorie/globalisierung/dokumente/26_2008.pdf (accessed 2 September 2014).

Blake A (2008) Tourism and income distribution in East Africa. *International Journal of Tourism Research* 10: 511–524.

Blake A, Arbache J, Sinclair M, et al. (2008) Tourism and poverty relief. *Annals of Tourism Research* 35(1): 106–127.

Brau R, Lanza A and Pigliaru F (2007) How fast are small tourism countries growing? Evidence from the data 1980-2003. *Tourism Economics* 13(4): 603–613.

Capo J, Riera-Font A and Nadal J (2007) Dutch disease in tourism economics: evidence from the Balearics and the Canary Islands. *Journal of Sustainable Tourism* 15(6): 615–627.

Copeland B (1991) Tourism, welfare and de-industrialization in a small open economy. *Economica* 58: 515–529.

Croes R (2014) The role of tourism in poverty reduction: an empirical assessment. *Tourism Economics* 20(2): 207–226.

Croes R and Severt D (2007) Evaluating short-term tourism economic effects in confined economies: Conceptual and empirical considerations. *Tourism Economics* 13(2): 289–307.

Croes R and Vanegas M (2008) Tourism and poverty alleviation: a co-integration analysis. *Journal of Travel Research* 47(1): 94–103.

Croes R, Rivera M, Ramirez X, et al. (2009) *Plan Maestro de Desarrollo Turistico: Guayas*. Guayaquil: Gobierno Provincial del Guayas y Camara de Turismo.

Dritsakis N (2004) Tourism as a long-run economic growth factor: an empirical investigation for Greece using causality analysis. *Tourism Economics* 10(3): 305–316.

Durbarry R (2004) Tourism and economic growth: the case of Mauritius. *Tourism Economics* 10(4): 389–401.

Dwyer L, Forsyth P and Spurr R (2003) Inter-industry effects of tourism growth: implications for destination managers. *Tourism Economics* 9(2): 117–132.

ECLAC (2010) *2010 Social Panorama of Latin America*. Santiago de Chile: ECLAC. Available at: http://www.cepal.org/publicaciones/xml/1/41801/PSI-socialpanorama2010.pdf (accessed 13 May 2016).

ECLAC (2014) *Social Panorama of Latin America 2013*. Santiago de Chile: ECLAC.

Eugenio-Martin JL, Morales NM and Scarpa R (2004). *Tourism and Economic Growth in Latin American Countries: A Panel Data Approach*. Milan: Fondazione Eni Enrico Mattei.

Ghali M (1976) Tourism and economic growth: an empirical study. *Economic Development and Cultural Change* 24(3): 527–538.

Gooroochurn N and Blake A (2005) *Tourism Immiserization: Fact or Fiction?* (No. 2005.143). Milan: Fondazione Eni Enrico Mattei.

Hall C (2007) Pro-poor tourism: do tourism exchanges benefit primarily the countries of the South? *Current Issues in Tourism* 10(2–3): 111–117.

Hara T (2008) *Quantitative Tourism Industry Analysis: Introduction to Input-Output, Social Accounting Matrix Modeling and Tourism Satellite Accounts*. Oxford: Elsevier.

Hawkins DE and Mann S (2007) The World Bank's role in tourism development. *Annals of Tourism Research* 9(1): 115–132.

Hazari B, Nowak J and Sahli M (2003) Tourism and regional immiserization. *Pacific Economic Review* 8(3): 269–278.

Hazari BR and Sgro PM (1995) Tourism and growth in a dynamic model of trade. The *Journal of International Trade & Economic Development* 4(2): 43–252.

Isard W, Azis IJ, Drennan MP, et al. (1998) *Methods of Interregional and Regional Analysis*, Vol. 490. Aldershot: Ashgate Publishing Company.

Jones S (2010) The economic contribution of tourism in Mozambique: insights from a social accounting matrix. *Development Southern Africa* 27(5): 679–696.

Kakwani N and Pernia E (2000) What is pro-poor growth? *Asian Development Review* 18: 1–16.

Klytchnikova I and Dorosh P (2009) How tourism can (and does) benefit the poor and the environment—a case study from Panama. *En Breve* 146: 1–4.

Macias J (2006) *New Options for Generating Employment and Income in the Rural Sector*. San Jose: IICA.

Mak J (2004) Tourism and the economy: understanding the economics of tourism. Honolulu: University of Hawaii Press.

Maloney W and Montes Rojas G (2005) How elastic are sea, sand and sun? Dynamic panel estimates of the demand for tourism. *Applied Economics Letters* 12(5): 277–280.

Mihalic T (2002) Tourism and economic development issues. In: Sharpley R and Telfer D (eds) *Tourism and Development, Concepts and Issues*. Clevedon: Channel View Publications.

Mitchell J and Ashley C (2010) *Tourism and Poverty Reduction: Pathways to Prosperity*. London: The Cromwell Press Group.

Modeste N (1995) The impact of growth in the tourism sector on economic development: the experience of selected Caribbean countries. *Economia Internazionale* 48: 375–385.

Muchapondwa E and Stage J (2013) The economic impacts of tourism in Botswana, Namibia and South Africa: is poverty subsiding? *Natural Resources Forum* 37(2): 80–89.

Narayan P (2004) Economic impact of tourism on Fiji's economy: empirical evidence from the computable general equilibrium model. *Tourism Economics* 10(4): 419–433.

Nowak J, Sahli M and Sgro P (2003) Touirsm, trade and domestic welfare. *Pacific Economic Review* 8(3): 245–258.

Nowak J and Sahli M (2007) Coastal tourism and 'Dutch disease' in a small island economy. *Tourism Economics* 13(1): 49–65.

Oh C (2005) The contribution of tourism development to economic growth in the Korean economy. *Tourism Management* 26: 39–44.

Pearce P (2012) Tourists' written reactions to poverty in Southern Africa. *Journal of Travel Research* 51(2): 154–165.

Pratt S (2011) Economic linkages and impacts across the TALC. *Annals of Tourism Research* 38(2): 630–650.

Pyatt G and Thorbecke E (1976) *Planning Techniques for a Better Future: A Summary of a Research Project on Planning for Growth, Redistribution and Employment*. Geneva: International Labour Office.

Ravallion M and Chen S (2003) Measuring pro-poor growth. *Economics Letters* 78(1):93–99.

Robles M and Azevedo V (2008) Rol de la geografia en el comportamiento del bienestar. In: Samaniego P (ed) SIISE (2008). *Informe de Desarrollo Social, 2007, Ecuador*. Quito: Secretaría Técnica del Ministerio de Coordinación de Desarrollo Social.

Rojas M (2008) Experienced poverty and income poverty in Mexico: a subjective well-being approach. *World Development* 6: 1078–1093.

Saayman M, Rossouw R and Krugell W (2012) The impact of tourism on poverty in South Africa. *Development Southern Africa* 29(3): 462–487.

Sahli M and Nowak J (2007) Does inbound tourism benefit developing countries? A trade theoretic approach. *Journal of Travel Research* 45: 426–434.

Scheyvens R and Momsen J (2008) Tourism and poverty reduction: issues for small island states. *Tourism Geographies: An International Journal of Tourism Space, Place and Environment* 10(1): 22–41.

Schilcher (2007) Growth Versus equity: the continuum of pro-poor tourism and neoliberal governance. *Current Issues in Tourism* 10(2–3): 166–193.

Schubert S, Brida J and Risso W (2011) The impacts of international tourism demand on economic growth of small economies dependent on tourism. *Tourism Management* 32(2): 377–385.

Secretaria General de la Comunidad Andina (2011) Cuenta Satelite de Turismo de Ecuador. Comunidad Andina, Lima, Peru. Available at: http://intranet.comunidadandina.org/Documentos/PublicacionesEstadisticas/1605_8.pdf (accessed 2 April 2015).

Sequeira T and Nunes P (2008) Does tourism influence economic growth? A dynamic panel data approach. *Applied Economics* 40(18): 2431–2441.

Sinclair MT (1998) Tourism and economic development: a survey. *The Journal of Development Studies* 34(5): 1–51.

Song H, Dwyer L, Li G, et al. (2012) Tourism economics research: a review and assessment. *Annals of Tourism Research* 39(3): 1653–1682.

Spenceley A and Meyer D (2012) Tourism and poverty reduction: theory and practice in less economically countries. *Journal of Sustainable Tourism* 20(3): 297–317.

Valle E and Yobesia MN (2009) Economic contribution of tourism in Kenya. *Tourism Analysis* 14(3): 401–414.

Vanegas M (2014) The triangle of poverty, economic growth, and inequality in central America: does tourism matter? *Worldwide Hospitality and Tourism Themes Journal* 6(3): 277–292.

Vanegas M and Croes R (2007) Tourism, economic expansion and poverty in Nicaragua: investigating cointegration and causal relations. Staff Paper Series, pp. 7–10. Minneapolis: Department of Applied Economics, University of Minnesota.

Wagner J (1997) Estimating the economic impacts of tourism. *Annals of Tourism Research* 24: 592–608.

Wattanakuljarus A and Coxhead I (2008) Is tourism-based development good for the poor? A general equilibrium analysis for Thailand. *Journal of Policy Modeling* 30(6): 929–955.

White H and Anderson E (2001) Growth vs redistribution: does the pattern of growth matter? *Development Policy Review* 19(3): 167–289.

Winters P, Corral L and Mora A (2013) Assessing the role of tourism in poverty alleviation: research agenda. *Development Policy Review* 31(2): 177–202.

World Bank (2007) *Nutritional Failure in Ecuador. Causes, Consequences and Solutions*. Washington: World Bank.

World Tourism Organization (2013) *UNWTO Annual Report 2012*. Madrid: UNWTO.

WTTC (2013) Economic impact 2013 Ecuador. Available at: http://www.wttc.org/site_media/uploads/downloads/ecuador2013.pdf (accessed 13 May 2016).

Zhou D, Yanagida J, Chakravorty U, et al. (1997) Estimating economic impacts from tourism. *Annals of Tourism Research* 24(1): 76–89.