Tourism and Economic Growth in Latin American Countries (LAC): Further Empirical Evidence

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Abstract

From 1995-2007, worldwide tourist arrivals increased about 68.2 percent (or an average annual growth rate of about 5.2 percent) from 534 million to 898 million (UNWTO, 2008). Over the same period, Latin America countries (Central and South America) have experienced a rise in tourist arrivals from 14.3 million to 27.9 million (about 49 % growth) and tourist receipts growth from $2.3 billion to $3.7 billion (about 61 % growth), respectively. The tourism industry in Latin American countries (LAC) has also experienced a sizable increase in annual market share growth rate of 8.7 percent in 2004. Despite this fact, there are only few empirical studies that investigate the contributions of tourism to economic growth and development for Latin American economies. Using a panel data of 17 Latin American countries for the years that span from 1995 to 2004, this study investigates the impact of the tourism industry on the economic growth and development Latin American countries within the framework of the conventional neoclassical growth model. The empirical results show that revenues from the tourism industry positively contribute to both the current level of gross domestic product and the economic growth of LACs as do investments in physical and human capital. Our findings imply that Latin American economies may enhance their economic growth by strategically strengthening the tourism industry while not neglecting the other sectors which also promote growth.

Keywords: *Tourism, Economic Growth, Latin American Countries, Dynamic Panel Data, Fixed Effects, Random Effects, and Arellano-Bond Models*

JEL Classifications: C33, F14, L83, O40, O54

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I. Introduction

There has been a phenomenal growth in the worldwide tourism industry from 534 million arrivals in 1950 to 808 million in 2005, with an average annual growth rate of 6.5 percent (UNWTO, 2006). In 2005, tourist arrivals in Latin American countries posted 133 million (16 percent) as compared to 444 million (55 percent) arrivals in Europe, 156 million (19 percent) in Asia/ Pacific, 38 million (5 percent) in the Middle East, and only 37 million (or 5 percent of the world) in Africa. During the same period , tourism receipts were $676 billion (100%) for the world, $348.8 billion for Europe (51.6%), $134.5 billion for Asia and the Pacific (19.9%), $26.3 billion (3.9%) for the Middle East, $21.7 billion (3.1%) for Africa, and $17.0 billion (2.5%) for Latin American countries (See, Tables 1.1 & 1.2).

<<Insert Tables 1.1 and 1.2 here>>

In spite of its major contributions to the economic growth and development of emerging economies as a source of foreign exchange earnings, only few empirical studies exist that address the macroeconomic impact of tourism on economic growth and development (Sinclair, 1998; Tosun, 1999; Chen and Devereux, 1999; Dritsakis, 2004). This assertion is even more pronounced relative to the limited empirical studies of the relationship between tourism and economic growth in developing countries in general, and Latin American countries with some exceptions (Eugenio-Martin and Morales, 2004; Fayissa, et al., 2008), Among Latin American countries, figure 2 shows that Mexico (51%), Brazil (12%), Argentina (8%), Chile (4%), Uruguay (4%), Costa Rica (3%), and Peru (3%) draw the largest share of the world's tourist arrivals (WTO, 2005). In terms of the

international tourist receipts per capita, the top five tourist destinations in Latin America are: Costa

Rica, Uruguay, Guatemala, El Salvador, and Honduras, (See Fig.3).[1]

<< Insert Figure 3 here>>

The World Tourism Organization (WTO) reports that tourism accounts for 40 percent of global

trade in services, making it one of the largest categories of international trade (UNWTO, 2006;

Ferguson, 2007). In 20005 alone, 3 to 10 percent of the GDP of developing countries was derived

from the tourism industry (WTO, 2005). In Latin America, tourism is expected to generate

US$133.4 billion in economic activity in 2005 and to surge further to US$228.4 billion by 2015

(World Tourist Travel Council -WTTC, 2005). As a result, it is not far fetched to imagine that

tourism can be a viable export-oriented economic growth strategy for creating jobs and

accelerating development to lift people up from the pit of abject poverty.

Despite its increasing importance in Latin American economies, however, tourism has attracted

relatively limited attention in the empirical literature on economic development with few

exceptions (Eugenio-Martin et al., 2004; Croes and Vanegas, 2008; Lee and Chang, 2008).[1]

Studies exploring cross-country rates of growth and development have largely focused on the

contributions of exports from the agricultural and manufacturing sectors, rather than those of the

service industry. Even those which have specifically studied the tourism sector in developing

economies have mainly focused on the estimation and forecasting of tourism demand and income

generation via the multiplier effect (Sinclair, 1999; Bezmen, 2006).

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[1] In terms of tourist arrivals per capita, the top five Latin American countries include Argentina, Bolivia, Brazil, Chile, and Columbia, whiles the lowest countries include Venezuela, Uruguay, Peru, Panama, and Nicaragua.

The main objective of this paper is to investigate the contribution of tourism to the economic growth of Latin American countries with largely heterogeneous tourism sectors using panel data of 17 Latin American countries that span over the period 1995-2004. We also consider the impact of the traditional sources of economic growth using panel analytic estimation methods based on fixed-effects and random-effects models as well as the Arellano-Bond (2002) general method of moments (GMM) estimator. The former specifications allow us to account for the heterogeneity of the countries and the variations in the traditional sources of the economic growth of Latin American economies. The Arellano-Bond (2002) method allows us to obtain efficient and unbiased estimates of the sources of growth including tourism (our variable of interest) and to detect the possible presence of AR(1) residual errors as well as the pre-determined (e.g., schooling) and endogenous (e.g., foreign direct investment) nature of some of the traditional growth factors without an explicit use of the instrumental variable estimation technique. Our study contributes to the empirical literature in two distinct avenues by providing the evidence of the extent to which the tourism sector promotes the economic growth of Latin American countries in tandem with the conventional sources of economic growth within the neoclassical growth theory framework. The findings of our empirical model reveal that the per capita receipts from the tourism sector significantly contribute both to the current level of gross domestic product and the economic growth rate of Latin American economies as do investments in physical and human capital. One conclusion we can draw from the study is that the short-term economic growth of Latin American countries could be augmented by strategically investing in their tourism sector.

The rest of the paper is organized as follows. Section 2 provides a review of selected literature. In section 3, we specify a conventional neoclassical growth model which incorporates tourism as one of the sources of growth. The fixed and random effects regression results accounting for both the

country and time effects and the Arellano-Bond (2002) dynamic panel data estimates accounting

for the dynamic nature of the data and endogeneity of some of the conventional growth sources are

reported in section 4. The last section summarizes the results, draws conclusions, and makes some

policy recommendations for promoting tourism as a growth and development strategy.

II. A Review of Selected Literature

The contributions of tourism as service/export-led economic growth strategy in developing

countries have recently been documented in the empirical literature. For instance, the Dritsakis

(2004) study shows that tourism has had a long-run economic growth effect in Greece. Balaguer

and Cantavella-Jorda (2002) also confirm the validity of the tourism-led growth hypothesis for

long-run economic performance using Spanish economic data. Oh (2005) for Korea, Tosun

(1999), and Guduz and Hatemi (2005) for Turkey have also found empirical support for the

tourism-led growth hypothesis. Similarly, employing the convergence approach based on Barro

and Sala-i-Martin (1992a) type analysis, Proenca and Soukiazis (2008) examine the impact of

tourism on the per capita income growth of Portuguese regions and draw the conclusion that

tourism can be considered as an alternative solution for enhancing regional growth in Portugal, if

the supply characteristics of this sector are improved.   While Cunado and Garcia (2006) also find

some evidence of conditional convergence toward the African regional average (for Benin,

Cameroon, Cape Verde, Djibouti, Egypt, Ghana, Kenya, Mali, Uganda, and Zimbabwe) and the

U.S. (for Cape Verde, Egypt, Mauritius, Seychelles, and Tunisia), the coverage given to the

contribution of tourism has been scant.

Comparing the relative growth performance of 14 "tourism countries" within a sample of 143 countries, Brau, Lanza, and Pigliaru (2003) and Lee and Chang (2008) document that, on the average, tourism enhances the economic growth process; i.e. tourism countries tend to grow faster than all the other sub-groups (OECD, Oil Exporting, LDC, Small). Many developing countries have thus started to regard tourism as an integral part of their economic growth and development strategies since it serves as a source of scarce financial resources, job creation, foreign exchange earnings, and technical assistance (Sinclair, 1998; Dieke, 2004).

Casting some doubt on the preponderance of the above studies, however, Chen and Devereux (1999) argue that tourism may actually reduce welfare for trade regimes dominated by export taxes, or import subsidies. Using a theoretical framework, they demonstrate that foreign direct investment in the form of tourism is, for the most part, beneficial while tourist immiserization is also possible in Sub-Saharan Africa. Consequently, we cannot, *a priori*, forecast the magnitude or direction of the impact of tourism receipts on the economic growth performance of Latin American economies based on the above observations.

III. The Economic Growth Model with Tourism

Many researchers in the economic development field have recently focused their attention on the rate at which countries close the gap between their current positions and their desired long-run growth path. To investigate the responsiveness of income growth rate to revenues generated from tourism and the typical sources of economic growth such as investment in physical and human capital, openness of the economy as often measured by the terms of trade (or typically by ratio of

the sum of imports and exports to the GDP), a measure of an institutional factor represented by the economic freedom index, foreign direct investment , and household consumption expenditures, we specify a double log-linear Cobb-Douglass production function as:

$$\ln PCI_{it} = \beta_0 + \beta_1 \ln TRP_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln EFI_{it} + \beta_4 \ln SCH_{it} + \beta_5 \ln FDI_{it} + \beta_6 \ln TOT_{it} + \beta_7 \ln HHC_{it} + \varepsilon_{it} \quad (1)$$

Where $lnPCI_{it}$ is the natural log of real GDP per capita and TRP_{it} is log of tourist receipts per capita in US$; GCF_{it} is the log of gross fixed capital formation as a percent of real GDP used as a proxy for investment in physical capital. [2] EFI_{it} is log of a measure of the economic freedom index. Owen (1987) and Sen (1999) argue that freedom (political, economic, social, transparency and security) is a necessary condition for economic growth and development. EFI_{it} is computed as a weighted average of fifty economic variables covering various economic, social, and governance characteristics such as stable monetary policy, market regulations and rigidities, and property rights and is used to capture the effect of this institutional factor (Heritage Foundation, 2005). EFI_{it} is an ordinal measure ranging in value from 1 to 5, where scores between 1.00 and 1.99 reflect 'free countries', scores of 2.00 – 2.99 and 3.00-3.99 are classified as 'mostly free' and 'mostly unfree,' respectively. Scores between 4.00 and 5.00 describe nations categorized as "repressed economies." [3]

Since nations that have a lower Heritage score (higher level of freedom) have higher levels of national income, we expect the sign of the coefficient of the economic freedom index to be negative.

SCH_{it} is log of secondary and tertiary school enrollment used as measure of investment in human capital; FDI_{it} is the log of foreign direct investment to capture the effect of external sources of investment on growth; TOT_{it} is the log of terms of trade for each country under consideration and it is measured by the ratio of the export to import prices indices to capture the impact of trade, or openness of the economy on economic growth (See, Table 1.3 for detailed definitions).

<<Insert Table 1.3 here >>

Investment in physical capital (GCF_{it}) and human capital (SCH_{it}), a measure of the openness of the economy (TOT_{it}), and foreign direct investment (FDI_{it}) are the conventional sources of economic growth and are expected to have a positive relation with the per capita income levels (PCI_{it}) , except foreign direct investment (FDI_{it}) . Since the effect of foreign direct investment (FDI_{it}) on economic growth has been mixed, the expected relation may be positive, or negative.

The impact of household consumption expenditures (HHC_{it}) on economic growth is also controversial. Neoclassical economic theory posits (Solow, 1956; Kuznets, 1966; Todaro, 2005) that higher household consumption expenditures tend to lower economic growth by lowering investment because of reduced savings. On the other hand, Myrdal (1969) has argued that increased household expenditures on health, nutrition, and education are actually economic growth-enhancing rather than growth-retarding, as healthy and educated households are more productive, contributing to economic growth. In a recent study, Ranis (2004) argues that an individual and household consumption can be important in increasing human development and may respond more closely with the real needs of the population than do government programs at the micro level. Individual consumption may not, however, always go towards goods which

maximally contribute to human development through income growth. Consequently, the effect of household consumption expenditures (HHC_{it}) on economic growth cannot be determined *a priori*. To estimate the parameters corresponding to variables of interest from the data under consideration, we employ a panel data estimation, an empirical exposition of which is provided in equation (2) below.

$$Y_{it} = \delta_i + \Gamma_t + \left(X_{it}\right)\Phi + \varepsilon_{it} \tag{2}$$

where Y_{it} is the natural logarithm of real GDP per capita in country i at year t, and X_{it} is a vector of the explanatory variables (tourism receipts per capita, investment in physical and human capital, openness, economic freedom index, and household consumption expenditures) for country $i = 1$, $2\ldots$, m and at time t= 1, 2, …,T, Φ a scalar vector of parameters of $\beta_1\ldots, \beta_7$; ψ_{it} is a classical stochastic disturbance term with $E[\varepsilon_{it}] = 0$ and var $[\varepsilon_{it}] = \sigma_{\varepsilon}^2$, δ_i and Γ_t are country and time specific effects, respectively. Instead of *a priori* decision on the behavior of $\delta_i + \Gamma_t$, different types of assumptions are separately imposed on the model and the one that gives robust estimates is chosen.

If we assume the country specific effects to be constant across countries and the time specific effects are not present [i.e. $\delta_i = \lambda$ and $\Gamma_t = 0$)], then model (2) is estimated by the Ordinary Least Squares (OLS) method, or restricted OLS method. The second estimation technique assumes that the country specific effects are constant, but not equal (i.e. $\delta_i = \lambda_i$ and $\Gamma_t = 0$ which yields a one-way fixed effects model. The third assumption is a situation where the country effects are not constants, but rather are disturbances; the time effects are not present [i.e. $\delta_i = \lambda + w_i$ and $\Gamma_t = 0$]

where E [w $_i$]=0 and var[w$_i$]= σ_w^2 and cov[ε_i, w$_i$] =0. In this case, model (2) is estimated by the generalized least squares (GLS) which yields random-effects model.

Given that some of the traditional growth explaining factors are either pre-determined, or endogenous, or both, and current period growth could depend on its values in the past, a dynamic variant of the fixed and random effects provided in Equation (2) above, known as the Arellano-Bond estimation (1991) is specified as follows:

$$\Delta Y_{it} = \alpha' \Delta Y_{it-1} + \beta' \Delta X_{it-1} + \gamma' Z_{it} + \upsilon_i + \varepsilon_{it} \tag{3}$$

where ΔY_{it} is first difference of the natural log of per capita income growth in country i during time t; ΔY_{it-1} is lagged difference of the dependent variable, ΔX_{it-1} is a vector of lagged level and differenced predetermined and endogenous variables, z_{it} is a vector of exogenous variables, and α, β, and γ are parameters to be estimated. υ_i and ε_{it} are assumed to be independent over all time periods in country i. The term υ_i represents country specific effects which are independently and identically distributed over the countries while ε_{it} noise stochastic disturbance term and is also assumed to be independently distributed. We derive the coefficients using the Arellano-Bond (1991) Generalized Method of Moments (GMM) estimator to evaluate the joint effects of tourism receipts and the other explanatory variables on the economic growth of Latin American countries while controlling for the potential bias due to the endogeneity of some of the regressors. All data, except for the economic freedom index which is taken from the Heritage Foundation, are from the World Bank Development Indicators (WDI, 2006) CDROM. The definitions and descriptive statistics of each variable included in the model are provided in Table 1.3.

IV. Empirical Results and Interpretations

Our results of the both the fixed-effects and random-effects estimates reported in Tables 2 broadly reveal the expected relationship between the GDP per capita income (PCI_{it}) and the explanatory variables. In both models, the variables representing the sources of growth have the expected signs. Because we estimated a double-logarithmic model, all the coefficients represent elasticities.

<< Insert Table 2 here>>

Comparison of the consistent fixed-effects model with the efficient random-effects model using the Hausman specification test reject the random effects in favor of the fixed effects estimates at *p<0.01*. The results from our model of choice indicate that tourism (*TRP*) has a positive and statistically significant effect on the GDP per capita of Latin American countries (at $p < .01$). From our results, we can assert that a 10 percent increase in the tourism receipts of a typical Latin American country would result in a 0.4 percent increase in the average per capita income. Consistent with the findings of Barro (1990), Sinclair (1998), Temple (1999), Dritsakis (2004), and Durbarry (2004), we also find that investment in physical capital (*GCF*) as measured by the gross fixed capital formation as a percent of GDP and household per capita consumption expenditures (*HHC*) have a positive and statistically significant impact on the real GDP of the sample Latin American countries i.e., we observe that a 10 percent increase in the household per capita consumption expenditures will lead to a 5.21 percent increase in the GDP per capita of a typical Latin American economy, certainly a huge impact relative to the other sources of growth. Similarly, a 10 percent increase in investment in human capital (*SCH*) through increases in

secondary and tertiary level school enrollment will increase GDP per capita by 0.32 percent. Consistent with the findings of Barro (1990), Sinclair (1998), Temple (1999), Dritsakis (2004), and Durbarry (2004), we also find that investment in physical capital (*GCF*) as measured by the gross fixed capital formation as a percent of GDP and household per capita have a positive and statistically significant impact on the real GDP of the sample Latin American economies i.e., we observe that a 10 percent increase in the gross fixed capital formation as a percent of GDP will lead to a 0.75 percent increase in the GDP per capita of a typical Latin American countries economy.

Both the terms of trade (*TOT*) and the foreign direct investment (*FDI*) are found to be negatively related with the real per capita GDP growth rate contrary to the hypothesized relation, but both variables are not statistically significant. On the other hand, the institutional variable (*EFI*) used to capture the effect of economic and political freedom shows that poor governance is an important bottleneck to the observed economic growth performances of Latin American countries i.e. a 10 percent increase in the EFI has the result of reducing the GDP growth rate in the order of 0.7 percent decrease in the real GDP growth rate. In other words, consistent with arguments made by Sen (1990) and Owen (1987) that the absence of both economic and political freedom is a recipe for the observed poor economic growth performance in many emerging economies such as those of Latin American countries.

While results based on the fixed and random effects models in which we simultaneously account for the heterogeneity across countries and the overtime fluctuations in the economic performance of Latin American countries are appealing, we note that several of the traditional growth explanatory variables we include in the regression either pre-determined or endogenous, thus

confounding the results. For example, while FDI and investment in human capital (*SCH*) have

often been credited for their role in the economic growth of a country, there is also ample evidence

(Hansen and Rand, 2006; de Mello, 1999) that the level of GDP and its growth rate have feedback

effects on the amount of FDI a country receives and the rate of investment in human capital

formation. Given that we are mainly interested in analyzing the effect of tourism receipts on Latin

American economic growth while accounting for the traditional growth explanatory factors that

are either pre-determined (e.g., schooling) or endogenous (e.g., *FDI*), or both, we employ the

Arellano-Bond dynamic panel General Method of Moments (GMM) estimator to obtain robust

estimates. One period lagged levels and first difference of the variables serve as instruments for the

endogenous variables. The Arellano-Bond dynamic GMM estimates are reported in Table 3.

<< Insert Table 3 here>>

Column 2 reports results based on one lag and Column 3 reports results that incorporate two lags

of the dependent variable (growth in GDP per capita). In both models, the Sargan test fails to

reject the null hypothesis that the over-identifying restrictions are valid. While the Arellano-Bond

test rejects the null hypothesis of no-first autocorrelation in the differenced residuals AR(1), it fails

to reject the null hypothesis of no second order autocorrelation in the differenced residuals.

Consequently, the estimated coefficients reflect the true (efficient and unbiased) relationship

between growth in Latin American per capita GDP and tourism (our variable of interests) and the

traditional growth determinants that are either pre-determined, or endogenous, or both.

Based on the results from the model, we observe that the lagged values of GDP per capita (*PCI*)

and changes in tourism receipts (*TRP*) have a significant and positive impact on the per capita

income growth rate of Latin American countries. Accordingly, a 10 percent increase in tourism receipts would lead to a 0.3 percent growth in the GDP pre capita of African economies. Accounting for the endogenous nature of the traditional growth explaining factors, we find that the investment in human capital (SCH), investment in physical capital (GCF), and the terms of trade (*TOT*) are positively and significantly related with economic growth, while foreign direct investment (*FDI*) and the institutional variable proxied by the economic freedom index (*EFI*) were not significant. Investment in physical (*GCF*), and human capital (*SCH*), household per capita expenditures (*HHC*) have significant growth enhancing roles.

V. Conclusion

The main goal of this study is to investigate the effect of international tourism on the economic growth and development of Latin American countries. The results show that the spending of international tourists positively impacts the economic growth of Latin American countries. We have found that a 10 percent increase in the spending of international tourists leads to a 0.4 percent increase in the GDP per capita income. According to the World Tourism Organization (WTO), Latin American countries offer a considerable potential, not only for seaside tourism, but also for the environmental and ecotourism, cultural tourism, sports tourism, and discovery tourism. This potential, however, is still yet to be fully harnessed.

In addition, the results show that the conventional sources of growth such as investment in physical and human capital and the ability of households to have the wherewithal of spending on health, housing, nutrition, and other household items can enhance their productivity and spur their economic growth. A policy implication which may be drawn from this study is that Latin

American countries can improve their economic growth performance, not only by investing on the traditional sources of growth such as investment in physical and human capital and trade, but also by strategically harnessing the contribution the tourism industry and improving their governance performance.

Notes

[1] We note that the Lee and Chang (2008) study is simply a comparative analysis of the impact of tourism on economic growth in OECD countries and non-OECD countries which include Latin American counties while the Croes and Vanegas (2008) study only focuses on Nicaragua.

[2] Our specification in Eq (1) is based on the growth empirics of Lucas (1988), Barro (1991) Benhabib and Spiegel (1994), Grossman and Helpman (1991), Barro and Sala-i-Martin (1992b), Barro and Lee (1994), and Temple (1999).

[3] The sample average for the EFI for the 17 countries in the sample is 2.98 with the lowest being 1.86 in Chile and the largest being 4.23 in Venezuela.

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Table 1.1: International Tourist Arrivals and Market Share by Regions

Regions	2000	2001	2002	2003	2004	2005	Share(%) (2000)	Share(%) (2005)
World	689	688	709	697	766	808	100	100
Europe	396.2	395.8	407.4	408.6	425.6	443.9	57.5	54.9
Mid/East	140.8	143.7	147.6	147.7	149.5	158.8	20.4	19.8
Asia/Pacific	111.4	116.6	126.1	114.2	145.4	156.2	16.2	19.3
Americas	128.2	122.2	116.7	113.1	125.8	133.1	18.6	16.5
Africa	28.2	28.9	29.5	30.7	33.3	36.7	4.1	4.5
Sub-Saharan Africa	18	18.2	19.1	19.6	20.5	23.1	2.6	2.9
North-Africa	10.2	10.7	10.4	11.1	12.8	13.6	1.5	1.7
Latin America	39.8	38.4	36.7	37.0	42.1	44.5	5.8	5.5

Source: World Tourism Organization, January 2006.

Table 1.2: International Tourism Receipts by Regions of the World

	2003 (US$bill.)	2004 (US$bill.	Share (%)	Receipts/ Arrival-2004
World	524	626	100%	820
Europe	282.7	326.7	52.5	780
Americas	114.1	131.7	21.1	1.05
Asia/ Pacific	94.9	125	20.1	820
Middle East	16.8	21	3.4	590
Africa	15.5	18.3	2.9	550
Latin America	24.1	28.5	4.6	1.5

Source: UNWTO, 2005.

Table 1.3: Data Description and Summary Statistics

Variable	Description	Mean	Std. Dev.	Min	Max
PCI	GDP per capita (constant 2000 US$)	3153.91	2014.47	688.16	8212.90
TRP	International tourism, receipts (current US$) Per Capita	78.07	86.68	4.54	416.90
GCF	Gross fixed capital formation (% of GDP)	19.26	4.08	9.44	33.32
EFI	Economic Freedom Index	2.98	0.47	1.86	4.23
SCH	School enrollment, secondary + tertiary (% gross)	71.21	17.27	31.35	109.52
FDI	Foreign direct investment, net inflows (% of GDP)	3.56	2.53	-2.96	12.89
TOT	Net barter terms of trade (2000 = 100)	99.95	11.70	50.98	135.58
HHC	Household final consumption expenditure per capita (constant 2000 US$)	2141.31	1326.34	584.09	5754.20

Note: Number of countries = 17, the values of the variables used are two year averages from 1995 through 2004; All variables are log transformed for the regression estimation. All data are from World Bank's World Development Indicators CDROM, 2007, except for the economic freedom index, which is from the Heritage Foundation.

Table 2: Fixed Effects and Random Effects Results

| Variable	Description	Fixed-Effects Coefficients	Random-Effects Coefficients
TRP	International tourism, receipts (current US$) Per Capita	0.042 ***	0.021 **
		(0.0082)	(0.0103)
GCF	Gross fixed capital formation (% of GDP)	0.075 ***	0.053 **
		(0.0172)	(0.0223)
EFI	Economic Freedom Index	-0.066 **	-0.022
		(0.0313)	(0.0406)
SCH	School enrollment, secondary + tertiary (% gross)	0.032	0.059 *
		(0.0276)	(0.0349)
FDI	Foreign direct investment, net inflows (% of GDP)	-0.004	-0.003
		(0.0039)	(0.0053)
TOT	Net barter terms of trade (2000 = 100)	-0.018	-0.012
		(0.0227)	(0.0297)
HHC	Household final consumption expenditure per capita (constant 2000 US$)	0.521 ***	0.780 ***
		(0.0370)	(0.0363)
Constant	Intercept	3.570 ***	1.579 ***
		(0.3094)	(0.3245)
Observations		167	167
R-Squared		0.79	0.77
Hausman Specification Test		126.3 ***	

Standard errors in parentheses;*** $p<0.01$, ** $p<0.05$, * $p<0.1$. All Variables are log Transformed

Table 3: Arellano-Bond Dynamic Panel-Data Estimation-Results

| Variables	(1) Coefficient Estimates (One-Step and One-Year Lag)	(2) Coefficient Estimates (One-Step and Two-Years Lag)
PCI (LD)	0.2466***	0.2916***
	(0.0485)	(0.0608)
PCI (L2D)		-0.1419***
		(0.0546)
TRP (D(1))	0.0243***	0.0266***
	(0.0071)	(0.0082)
GCF (D(1))	0.0757***	0.0551**
	(0.0124)	(0.0153)
EFI (D(1))	0.0239	-0.0221
	(0.0241)	(0.0279)
SCH (D(1))	-0.1179***	-0.0986**
	(0.0453)	(0.0468)
SCH (LD)	0.2043***	0.1782***
	(0.0515)	(0.0530)
FDI (D(1))	-0.0025	-0.0004
	(0.0029)	(0.0031)
FDI (LD)	0.0057**	.0054*
	(0.0027)	(0.0030)
TOT (D(1))	0.0337**	0.0428**
	(0.0158)	(0.0173)
HHC (D(1))	0.5470***	0.5579***
	(0.0343)	(0.0370)
Constant	0.9286***	1.6914***
	(0.3679)	(0.4224)
Number of Observations	132	116
Number of Countries	17	17
Wald Chi-Square	1070.13***	849.49***
Arellano-Bond Test of the null of No AR(1) Residual Errors	-2.63***	-2.41**
Arellano-Bond test of the null of No AR(2) Residual Errors	-0.21	-1.19
Sargan Test of the Validity of the null of over-identifying Restrictions	67.84	66.41

Standard Errors In Parenthesis; ***, **, and * indicate significance at $p<0.01$, $p<0.05$, and $p<0.1$ levels, respectively. While the suffix D(1) after each variable denotes the number of times the specific variable was differenced. LD denotes the lagged difference. The variable SCH is treated as pre-Determined, while FDI is treated as an endogenous variable

Figure 1: Top Five Latin American Countries, International Tourist Receipts Per Capita
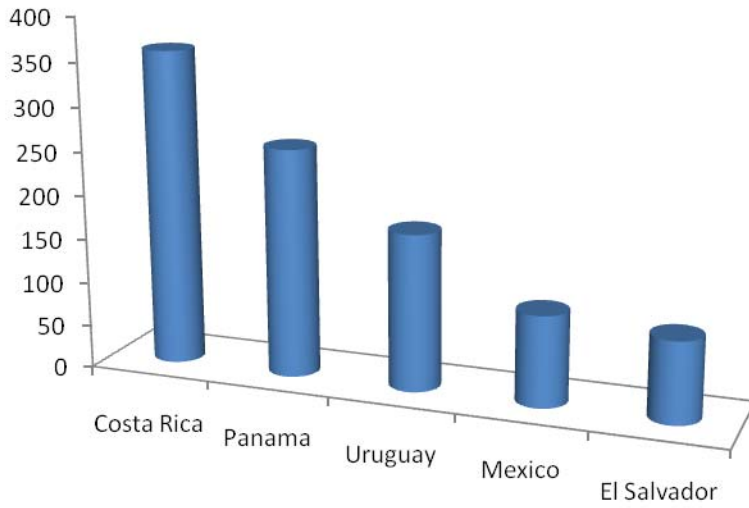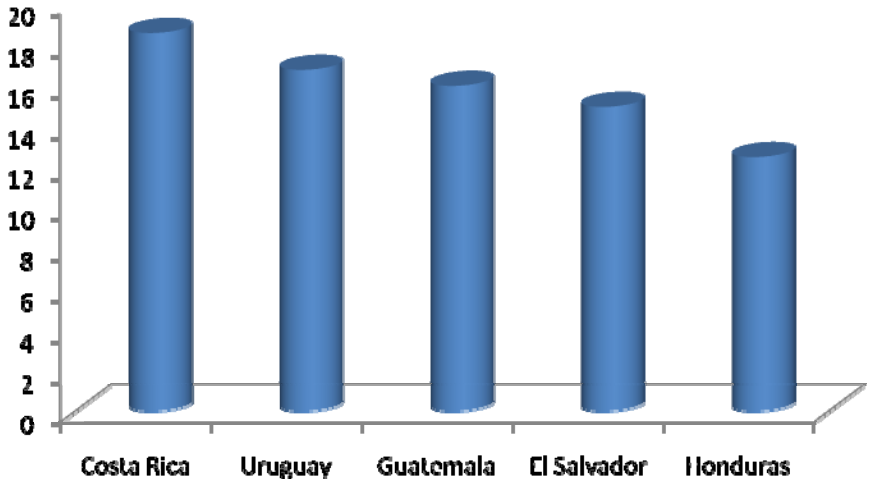

Source: World Development Indicators CD, 2007

Figure 2: Latin American Countries, International Tourist Receipts Per Capita
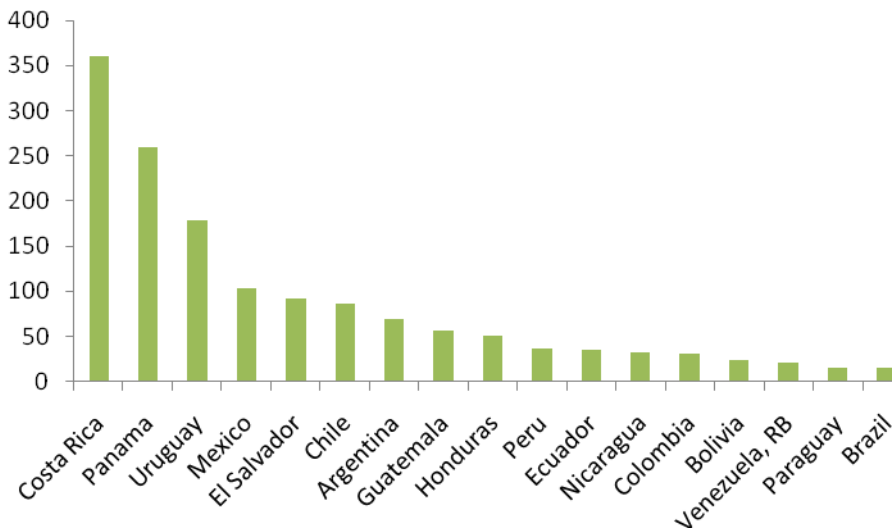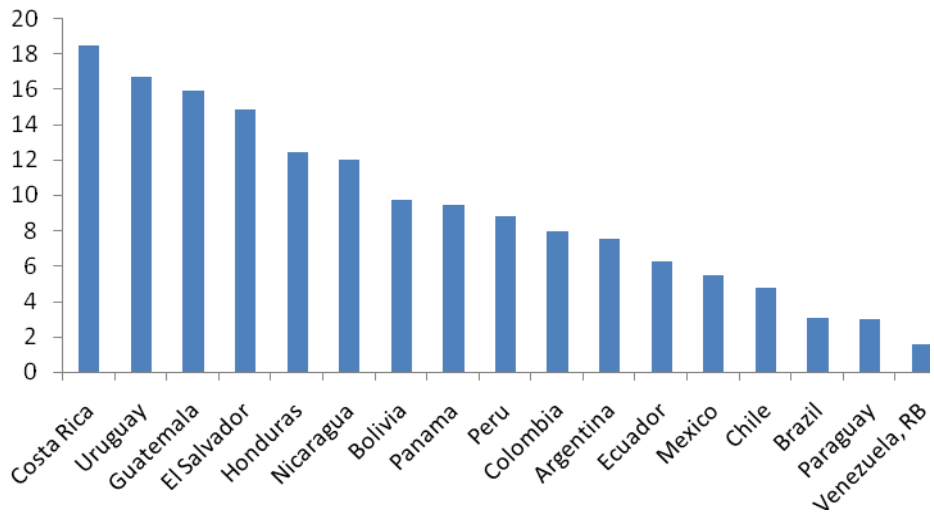

Source: World Development Indicators CD, 2007

Figure 3: Top 5 Latin American Countries, International tourism, receipts (% of total exports)
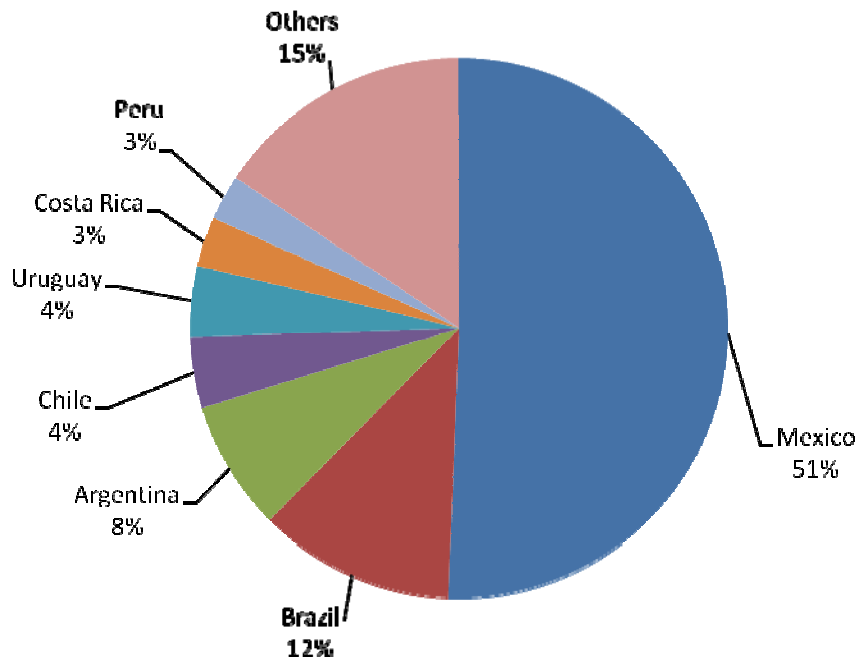

Source: World Development Indicators CD, 2007

Figure 2: Latin American Countries, International tourism, receipts (% of total exports)

Source: World Development Indicators CD, 2007

Figure 3: Percent of Tourist Arrivals to the Latin American Area by Country.

Source: World Development Indicators CD, 2007

Appendix 1:List of Latin American Countries in the Sample

Argentina
Bolivia
Brazil
Chile
Colombia
Costa Rica
Ecuador
El Salvador
Guatemala
Honduras
Mexico
Nicaragua
Panama
Paraguay
Peru
Uruguay
Venezuela, RB