
Tourism, Exports and FDI as a Means of Growth: Evidence from four Asian Countries

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This study examines the impact of tourism receipts, exports and foreign direct investment on economic growth on four ASIAN countries namely India, China, Pakistan and Russia. By employing Panel ordinary least squares estimation technique in log linear model, study finds that the tourism has positive impact and FDI has negative impact on economic growth in four ASIAN while impact of exports of goods and services on economic growth is inconclusive. In addition to that, we find that human capital and physical capital have positive impact on economic growth of these countries.

Key words: *Tourism, FDI, Exports, Economic Growth, ASIAN countries.*

JEL classification: *C33, L83, O150, O49.*

1. Introduction

In recent years, there has been an upsurge of interest of researchers as well as policy makers in the role of tourism for the economic growth (normally measured by Gross Domestic Product (GDP) and its variants). Policy makers of developing countries focus on economic

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policies to promote international tourism as a potential source of economic growth and development as well. Recently, tourism sector has witnessed the prominent increase all over the world. For example, the tourism receipts in 2009 reached to 852 billion US dollar vis-à-vis 2 billion US dollar in 1950 and international tourist arrivals increased to 880 million in 2009 vis-à-vis 25 million in 1950 (UNWTO 2010). Further, tourism is responsible for 300 million direct and indirect jobs and represents 13% of the world's GDP (UNWTO 2009). In the Asia and the Pacific region, the tourist arrival is reached to 181.2 million in 2009 vis-à-vis 55.8 million in 1990. Interestingly, these figures do not include domestic tourism and if it is included, these figures will increase remarkably. There are important multiplier effects of tourism sector in the other economic sectors. Similar to the Export-Led Growth (ELG) hypothesis, a Tourism-Led Growth (TLG) hypothesis postulates the existence of various arguments for which tourism would become a main determinant of overall long-run economic growth.¹ For instance, tourism brings in foreign exchange, which can be used to import capital goods in order to produce goods and services leading in turn to economic growth (Mckinnon, 1964). On the other hand, international tourism would contribute to an increase in the income as the EGL hypothesis postulates, by enhancing efficiency through competition between local firms with the ones corresponding to the

¹ As an export activity, international tourism is a source of long-run growth through several channels. Firstly, small open economies benefit from tourism specialisation, enhancing faster growth with respect to other types of economies (Lanza and Pigliaru 1994). This implies a higher level of income generated by the existence of comparative advantage. Secondly, an increase of tourism receipts will relieve foreign exchange constraints. These extra resources can be employed to increase imports of capital goods that might further boost domestic investment and consumption (Nowak, Sahli, and Cortés-Jiménez, 2007). The increase in competition at an international level, given by the unique supply of certain characteristics of a destination (e.g. natural amenities, art and history, climatic conditions) will enhance economic growth via better management, higher levels of accumulation and efficiency of tourism resources as well as higher levels of investment and human capital accumulation in tourism activities. In fact, multiplier effects are likely to be produced both in export and non-export sectors. 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).

other international tourist destinations (Bhagwati and Srinivasan, 1979; Krueger, 1980) and facilitating the exploitation of scale economies in local level (Helpman and Krugman, 1985). Balaguer and Cantavella-Jorda (2002) argued that, foreign exchange brought by international tourism could well be used to import capital goods in order to produce other goods and services, leading in turn to economic growth. Further, they argued that, “if those imports are capital goods or basic inputs for producing goods in any area of the economy, then, it can be said that earnings from tourism are playing a fundamental role in economic development” (p. 878). Taking into account that a large proportion of tourist expenditures are spent on the consumption of non-traded goods and services in the host country, there exist factors, which can have either a positive role or an unfavorable impact on economic growth as their price is not determined in the international market, but in the local market (Balaguer and Cantavella-Jorda, 2002). Further, Hazari and Ng (1993) by examining the relationship between tourism and welfare showed that tourism may be welfare reducing, while Hazari and Kaur (1995) argued that tourism is always welfare improving using a Komiya (1967) type first-best model. The role of tourism to the economic growth and to the progress of modern societies has become a common awareness in political authorities worldwide. For this reason, many attempts are being made in order to develop tourism, being amongst the most important sectors of economic activity, to the benefit of their economies as quickly and as effectively as possible.

However, there is still debate on whether or not countries should promote their tourism sector to achieve long-run economic growth and development is a novel issue. The TLG hypothesis postulates that international tourism is considered as a potential strategic factor for economic growth. There are several empirical studies analyzing the tourism industry’s contribution to a country’s economic growth. Some of the most remarkable works on this topic are Balaguer and Cantavella Jordà (2002) for Spain, Dritsakis (2004) for Greece,

Gunduz and Hatemi-J (2005) for Turkey, Louca (2006), Noriko and Motosugu (2007), Oh (2005) for Korea, Kim, Chen and Jan (2006) for Taiwan, Proença and Soukiazis (2008) for Portuguese regions and Gani (1998) for small islands. Most of them have found that in the long-run economic growth is determined by tourism sector thereby they suggested that tourism sector should be promoted. Considering the great contribution of the tourism industry to the world economy, the research in this field may be of significant importance. In particular, the investigation of the relationship between tourism and economic growth can provide crucial information for policy formulations and strategic planning by the government, as well as tourism businesses.

Therefore, the main objective of this study is to consider the role of exports, FDI and tourism on economic growth. India, China, Pakistan, and Russia have been taken as a case study. These are the countries focusing on rapid development of tourism sector and in these countries the expenditure on the international tourism has increased considerably in recent years. In this study we have preferred panel data analysis technique as it has an advantage of containing “the information necessary to deal with both the intertemporal dynamics and the individuality of the entities being investigated” (Dielman, 1989). Additionally, this paper extends the existing literature by building on a production function derived theoretically from Feder (1982) and applied in the economics literature by Ukpolo (1994) and Ghatak, Milner and Utkulu (1997) but by adding tourism and FDI as additional sources of growth. Further, we use two-way error component model contrast to one-way error component model as used by most of studies in this are in the panel framework.

The reminder of the paper is organized as follows. Section 2 discusses brief review of literature followed by econometric methodology, data source, and variables description in the section 3. Section 4 reports the data analysis and the empirical findings. Concluding remarks are provided in the fifth section.

2. A brief literature review

There are number of studies examining the potential link between exports and economic growth however, their findings are rather mixed (Giles and Williams' 2000). Nevertheless, it can be argued on the basis of theory that exports contribute positively to the economic growth by relieving the foreign exchange constraint (McKinnon 1964) or by enhancing efficiency through increased competition (Krueger 1980), among others. Importantly, the argument concerning the role of exports as one of the main deterministic factors of economic growth is not new. It goes back to the classical economic theories by Adam Smith and David Ricardo, who argued that international trade plays an important role in economic growth, and that there are economic gains from specialization. It was also recognized that exports provide the economy with foreign exchange needed for imports that cannot be produced domestically. The basic idea regarding ELG paradigm is that exports increase total factor productivity because of their impact on economics of scale and other externalities such as technology transfer, improving skills of workers, improving managerial skills, and increasing productive capacity of the economy. Another advantage of ELG is that it allows for a better utilization of resources, which reflects the true opportunity cost of limited resources and does not discriminate against the domestic market. There are many studies in the context of developing countries which have conclude that there is a positive relationship between exports and economic growth for example, Balassa (1978, 1985), Jung and Marshall (1985), Ram (1985, 1987), Bahmani-Oskoe, Mohtadi and Shabsigh (1991), Bahmani-Oskoe and Alse (1993), Levin and Raut (1997), and Khalifa Al-Youssif (1997). However, most of these studies are either country specific or in the framework of cross-country.

As for as FDI is concerned, Gorg and Greenaway (2004) have pointed out that foreign direct investment has negative rather than positive spillovers in transition economies. In similar line Findlay (1978) also postulates that FDI increases the rate of technological progress in the

host country through a “contagion” effect from the more advanced technology, management practices etc. used by the foreign firms. UNCTD (1999) finds that the FDI has either a positive or a negative impact on output depending on the variables that are entered alongside it in the test equation. Anwara and Nguyen (2010) identify several determinants of the link between FDI and economic growth. Some of these determinants are, for example, human capital, learning by doing, exports, macroeconomic stability, and level of financial development, public investment. Neuhauser (2006), based on these determinants, shows that there are three main channels through which FDI can influence the technological change, improve the capital stocks and generate economic growth: (a) direct transmission (through “Greenfield Investments”), (b) indirect transmission (through “Ownership Participation”), and (c) second-round transmission (through “Technology Spillover”). In a recent study Tiwari and Mihai (2011) by comparing the growth performance of exports and FDI for Asian countries for the period 1986-2008 show that both foreign direct investment and exports enhance the growth process. However, they suggest to follow an export-led growth path particularly at the initial stage of growth and in the later period, dependence on FDI might be a feasible option.

Recently interest of researchers is growing on the link between tourism and economic growth currently known as the TLG hypothesis however, the extensive literature to test for TLG hypothesis is still scarce (Cortés-Jiménez and Pulina 2009). Balaguer and Cantavella-Jordá's (2002) tested this hypothesis for the first time on the context of Spain within a bivariate framework. If we consider the case of developing countries, the contributions of tourism as TLG hypothesis have recently been documented in the empirical literature. For instance, the Dritsakis (2004) find that tourism has had a long-run economic growth effect in Greece and hence confirming the TLG hypothesis. Balaguer and Cantavella-Jorda (2002) also confirm the validity of the TLG hypothesis for long-run economic performance of

Span. Oh (2005) for Korea, Tosun (1999), and Guduz and Hatemi (2005) for Turkey have also found empirical support for the TLG hypothesis. Similarly, following Barro and Sala-i-Martin (1992), Proenca and Soukiazis (2008) examine the impact of tourism on the per capita income growth of Portuguese regions and concluded that tourism can be considered as an alternative solution for enhancing regional growth in Portugal provided supply characteristics of this sector are improved over years. 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). On the other hand, 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, Chen and Devereux (1999) demonstrated that FDI in the form of tourism is, for the most part, beneficial while tourist immiserization is also possible in Sub-Saharan Africa. Therefore, we cannot not, *a priori*, forecast the magnitude or direction of the impact of tourism receipts on the economic growth performance economies.

To this respect, in the tourism literature, there are two main streams of thought stemming from the so-called E-LG hypothesis. On the one side, Nowak, Sahli, and Cortés-Jiménez (2007) argue that economic growth can be achieved via increases in the volume of imports of inputs. This economic relationship is known as Tourism Capital Imports to Growth (T-CIG). The T-CIG hypothesis has been empirically supported for the case of Spain (Nowak Sahli, and Cortés-Jiménez, 2007) which confirms that economic development and industrialization in Spain were achieved since the early Sixties through imports of capital goods mainly financed by tourism receipts (Sinclair and Bote Gómez, 1996). On the other side, the TLG hypothesis postulates that the economic growth of countries can be generated by

expanding international tourism as a non-traditional export. Interestingly, despite the fact that the TLG hypothesis is directly derived from the ELG hypothesis, the existing literature on this topic is still scarce. Cortés-Jiménez and Pulina (2006) claim the narrow relationship between the TLG and ELG hypotheses and empirically test them separately for the case study of Spain and Italy. Nevertheless, Durbarry (2004) for the case of Mauritius attempts to evaluate the impact of different types of exports including international tourism on economic growth.

3. Econometric analysis of tourism, exports and fdi as a means of growth

3.1 Economic model, Data source and Variables definition

For the analysis, we have adopted Cobb-Douglas production function within the neoclassical framework,

$$Y_t = K_t^\alpha H_t^\beta A_t \quad (1)$$

where the quantity of output (Y) is a function of physical capital (K), human capital (H), and production technology (A) and t denotes a time/year. This production function is expanded according to the new growth theory by following Barro and Sala-i-Martin (1995).¹ To this respect, international trade affects economic growth and can indeed be regarded as a type of technology in that it converts non-specialized production into specialized production (Mankiw, 2004). Hence, according to the new growth theory, export expansion improves economy-wide efficiency in the allocation of inputs and leads to total factor productivity growth. From a demand-side point of view, an inward-oriented policy is not sustainable since domestic demand is

¹ There are several channels for promoting economic growth such as encouraging domestic saving and investment, foreign investment, education, R&D and free trade.

limited and domestic resources may remain idle; hence, domestic economic growth cannot be enhanced. In an outward-oriented country with free trade, exports are the engine of growth through the expansion of external demand, as a component of the aggregate demand function (Agosin, 1999; Boriss and Herzer, 2006). On the supply-side, exports can positively contribute to economic growth through different means, such as facilitating the exploitation of economies of scale, or promoting the diffusion of technical knowledge (Grossman and Helpman, 1991). Therefore, the Cobb-Douglas production function can be expanded by adding exports as an extra variable:

$$Y_t = K_t^\alpha H_t^\beta X_t^\gamma A_t \quad (2)$$

Following Durbarry's (2004) exports (X) can be further decomposed into two separate components, namely XGS (exports of goods and services) and XT (tourism exports). Additionally, we have added FDI also in the production function to analysis its impact on economic growth. Therefore, the Cobb-Douglas production function adopted in this study is:

$$Y_t = K_t^\alpha H_t^\beta XGS_t^\gamma XT_t^\delta XF_t^\theta A_t \quad (3)$$

The equation (3) in a linear logarithmic form can be written as

$$Y_t = \pi + \alpha K_t + \beta H_t + \gamma XGS_t + \delta XT_t + \theta XF_t + \varepsilon_t \quad (4)$$

where ε is a disturbance term with zero mean and constant variance. The equation (4) in the representation form of panel can be written as follows:

$$Y_{it} = \pi + \alpha K_{it} + \beta H_{it} + \gamma XGS_{it} + \delta XT_{it} + \theta XF_{it} + \varepsilon_{it} \quad (5)$$

where i represents country.

This study focuses on economic growth among four ASIAN countries for the period 1995-2008. Y_{it} is measure of economic growth

(measured by log of the PPP-adjusted real (at constant 2005 international \$) GDP, K_{it} is measured by gross fixed capital formation (at constant prices of 2000), H_{it} is measured by the percentage of the population having age between 15 to 65, XGS_{it} is measured by exports of goods and services as percentage of gross domestic product, XT_{it} is measured by international tourism receipts, XF_{it} measured by net inflow of foreign direct investment as a percentage of investment and π is an overall constant. Data of all these variables has been accessed from the official websites of World Bank on March 12th, 2010. This study utilizes the panel data estimation technique for analysis. There are three types of panel-data models namely, a pooled Ordinary Least Square (OLS) regression, panel model with random effects and panel model with fixed effects. However, while using a pooled OLS regression, countries' unobservable individual effects are therefore not controlled. According to Bevan and Danbolt (2004), heterogeneity of the countries under consideration for analysis can influence measurements of the estimated parameters. Further, using a panel-data model with incorporation of individual effects, has a number of benefits, for example, among others, it allows us to account for individual heterogeneity. Indeed, Serrasqueiro and Nunes (2008) and Tiwari and Kalita (2011) mentioned that developing countries differ in terms of their colonial history, their political regimes, their ideologies and religious affiliations, their geographical locations and climatic conditions, not to mention a wide range of other country-specific variables. And, if this heterogeneity is not taken into account, it will inevitably bias the results, no matter how large the sample is. Therefore, by incorporating countries' unobservable individual effects in equation (3) the model to be estimated is as follows:

$$Y_{it} = \pi + \alpha K_{it} + \beta H_{it} + \gamma XGS_{it} + \delta XT_{it} + \theta XF_{it} + w_{it} \quad (6)$$

where $w_{it} = \mu_i + \varepsilon_{it}$, with μ_i being countries' unobservable individual effects. The difference between a pooled OLS regression and a model considering unobservable individual effects, lies precisely in μ_i . When

we consider the random-effect model, equation (6) will be same. However, in that case, μ_i is presumed have the property of zero mean, independent of individual observation error term ε_{it} , has constant variances σ_ε^2 , and is independent of the explanatory variables.

However, there may be a correlation between countries' unobservable individual effects and growth determinants. If there is no correlation between countries' unobservable individual effects and growth determinants, the most appropriate way of carrying out the analysis is using a panel model of random effects. On the contrary, if there is a correlation between countries' individual effects and growth determinants, the most appropriate way of carrying out the analysis is to use a panel model of fixed effects.

To test for the possible existence of a correlation we use the Hausman test. This test tests the null hypothesis of non-existence of a correlation between unobservable individual effects and the growth determinants, against the alternative hypothesis of an existence of a correlation. Further, unlike previous studies which have analyzed the impact of tourism, exports and FDI on economic growth by using only the one-way error component model (i.e., either fixed effect or random effect is present in the model), we have analyzed the model in which two-way error components are present. Therefore, by expanding equation (4) to incorporate the two-way error component model, the equation becomes as follows:

$$Y_{it} = \pi + \alpha K_{it} + \beta H_{it} + \gamma XGS_{it} + \delta XT_{it} + \theta XF_{it} + u_{it} \quad (7)$$

where $u_{it} = w_{it} + \lambda_t = \mu_i + \lambda_t + \varepsilon_{it}$, μ_i denotes the unobservable individual effect, λ_t denotes the unobservable time effect, and ε_{it} is the remainder stochastic disturbance term. Note that λ_t is individual-invariant and it accounts for any time-specific effect that is not included in the regression. If μ_i and λ_t are assumed to be fixed

parameters to be estimated, and the remainder disturbance is stochastic with $\varepsilon_{it} \sim IID(0, \sigma_\varepsilon^2)$, then equation (6) represents a two-way fixed effect error component model.¹

4. Data analysis and results interpretation

Regression results of estimated equations (6) and (7) have been presented in table 1. We have carried out regression analysis in three different cases. In first case, we have analyzed the model by taking into account cross-country fixed effects, in the second model we have analyzed the case of cross-country random effect and in the third case we have analyzed the model by taking into account cross-country random effect and cross-country fixed effects. To decide upon which model is better i.e., random effect or fixed effect we have performed Hausman test. Finally, normality check analysis of model 1, model 2 and model 3 has been carried out by using Jarque-Bera (JB) test as if residuals do not follow normality assumptions; this will imply misspecification of the model.

¹ In the case of a time-fixed effect model, λ_t is a time-varying intercept that captures all of the variables that affect the dependent variable and vary over time but are constant cross-sectionally, and the opposite holds in case of a time random-effect model.

Table 1

Regression Results

Panel data Models: Dependent variable GDP (in parenthesis standard errors)			
Independent variables	Model 1	Model 2	Model 3
	FE-CS	RE-CS [Swamy and Arora estimator of component variances]	RE-CS & CS- FE [Swamy and Arora estimator of component variances]
EGS	0.060772* (0.031069)	-0.240832*** (0.074162)	0.060772* (0.032369)
FDI	-0.054634*** (0.010923)	-0.157121*** (0.025266)	-0.054634*** (0.011380)
POPULATION	4.126278*** (0.308188)	3.206509*** (0.573293)	4.126278 *** (0.321083)
GFCF	0.394711*** (0.043034)	0.503961*** (0.049272)	0.394711*** (0.044834)
TOURISM RECEI	0.091310*** (0.028945)	0.138560* (0.075810)	0.091310*** (0.030157)
C	-1.332536 (1.015398)	-0.340461 (1.735738)	-1.332536 (1.057886)
Model summary			
Adjusted R-squared	0.998776	0.987234	0.998776
S.E. of regression	0.035007	0.113067	0.035007
Breusch and Pagan LM test for	-----	chi ² (1) = 59.62***	-----

random effects			
Hausman test	-----	chi ² (5)= 5.79	-----
Fixed effect(F-test)	F _(3,47) = 158.20***	-----	-----
Jarque-Bera (J-B)	1.380411	1.656740	1.380411
Cross-sections included	4	4	4
Total panel observations	56	56	56
Note: (1) ***, **, and *denote significance at 1, 5 and 10 % level of significance. (2) EF, CS, LM, SD denotes fixed-effect, cross-section, Lagrange multiplier, and standard deviation respectively. (3) [---] denotes results are not computed.			

It is evident from the table that Hausman test is not significant implying that it does not reject the null hypothesis of “difference in the coefficients of fixed effect and random effect is not systematic”. Thus, Hausman test says that random effect model is better for analysis. If we compare the results obtained from the model 1 (fixed effect model) and model 2 (random effect model) we will find that both results are same except the case of Exports of Goods and services (EGS). In this case, when we use fixed-effect model we find that impact of EGS is positive on economic growth i.e., GDP and when we use random-effect model, we find that impact of EGS on GDP is negative. Further, F-test of fixed effect is highly significant implying that country specific factors are also playing crucial role. Therefore, in the model 3 we have estimated a model that takes in to account the role of country specific effects while estimating under the

framework of random effect. Results reported by the model 3 are similar to the results of model 1. Additionally, results of J-B test reveals that residuals of all model follow property of the normal distribution. Model 1, 2 and 3 reveals that effect of FDI on economic growth is negative, tourism, population and Gross Fixed capital Formation (GFCG) is positive. While for exports sector, model 1 and model 3 says that it has positive impact on the economic growth and model 2 says that it has negative impact on the economic growth; this leads us in inconclusive zone.

5. Conclusions

This study has focused to examine the impact of tourism, exports and foreign direct investment on economic growth that to test E-LG, T-LG and FDI-LG hypothesis on four ASIAN countries namely India, China, Pakistan and Russia. Study period of the analysis is 1995 to 2008. For the analysis, we have panel ordinary least squares estimation technique in log linear model for estimation in the framework of fixed and random effect. For the empirical analysis we have used production function that is derived from Feder (1982) and Durbarray (2004) and was modified by inclusion of FDI and then the relationship amongst traditional exports of goods and services, tourism receipts, FDI and economic growth is tested by considering physical and human capital as other relevant factors.

We find that, as expected, physical capital and human capital are also key factors in the long-run growth in four ASIAN countries. Additionally, economic growth in four ASIAN countries is positively impacted by tourism receipts and FDI has shown negative impact on economic growth while impact of exports of goods and services on economic growth is inconclusive. Therefore, we can say that tourism sector is working as a complementary sector and so its role should be taken into account in the strategic and promotional policies adopted by governments and policy makers.

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