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TESTING THE STABILITY OF TOURISM-LED GROWTH HYPOTHESIS FOR ETHIOPIA

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Abstract

Tourism-Led Growth (TLG) hypothesis demonstrates the profound contribution of tourism industry to the growth of real income. This study examines the long-term impact of international tourism on economic growth in Ethiopia, using a series of annual data spanning from 1995 to 2018. We contribute to the existing empirical literature on Tourism-Led Growth hypothesis, by adopting the conventional least squares framework and the Engle-Granger cointegration test between tourism receipts, trade openness, expenditures on physical capital, expenditures on tertiary education and economic growth in Ethiopia. The Engle-Granger (1987) tested stable long-term relation between the variables considered. This partly guarantees the TLG hypothesis. However, contrary to the predictions of TLG, we have estimated insignificant impact of tourism receipts on the long-run growth of Ethiopian economy, while challenging trustworthiness of the hypothesis in the context of Ethiopia. Our results revealed that the theory itself is incomplete. Besides, the foreign direct investment and domestic investments in physical capital were found significant contributor of long-run real income growth in Ethiopia. It is recommended that the government of Ethiopia should encourage private sector participation to develop the necessary infrastructures in order to achieve higher room tenancy.

Keywords: *Cointegration; Economic growth; Ethiopia; International tourism, TLG hypothesis*

1. Introduction

Modeling the long-run relations between tourism and economic growth has thoughtful attention in academia and policy zones; more notably the past decade/or so periods. Though the share of developing countries in tourism literatures is petite, it has grown substantially since recently. Tourism, being labor-intensive industry, is argued exceptionally relevant for least developed economies. This sort of quarrel has been linked to its potential of generating employment to tremendous employment demands across LDCs. Globally; tourism industry absorbs a significant portion of labor, either directly or indirectly. The World Tourism Organization report indicates that; of the global employment, more than 2.5 per cent is accommodated by activities related to tourism. The share is projected to reach 3.5 per cent by the end of 2025 (World Bank, 2017). This projection offers incredible lesson to LDCs, where unemployment is trending up unswervingly. Since tourism industry is labour-intensive, it has profound implication to reducing unemployment and fostering productivity. Besides, tourism sector offers several other effects; from micro perspective, direct spending by tourists nurtures local sales, business income and tax revenues to local government. National aggregate of these gains from tourism sector has intense contribution to economic growth and developments. Through its 'multiplier effect', tourism sector is argued positively affect other sectors of the economy. Multipliers signify economic interdependencies between sectors constituting the general economy (Bouzahzah & Menyari, 2013; Croes & Vanegas, 2008; Massidda & Mattana, 2013).

In this paper, we give especial emphasis to the international aspect of tourism marketing due to its peculiarity, compared to domestic tourism. International tourism possesses unique features; while redistributing wealth from developed to underdeveloped nations and generating foreign currency to host country. Basing on this, Croes and Vanegas (2008) described the wealth transfer "Democratization of the Dollar" to signify world claims over dollar, embodying global wealth. The transfer of wealth, in turn, leads to generation of employment prospects and production enhancement across all sectors within an economy. All this fosters income growth as well as living

standards of developing nations. According to the World Development Indicator published by the World Bank, receipts from international tourism could include direct receipts on foreign touring carriers and expenditures on the purchase of domestic products (World Bank, 2017). The later subsidiary expenditures in the host country should be regarded as tourism receipts as they were basically initiated by touring intents. International tourism market has remained the main source of FOREX in least developed countries, where manufacturing base is yet fragile to serve the international currency needs. Besides, tourism sector is associated with domestic service sector (both in volume as well as quality), widespread capital investments with farther incentive to growing employment opportunities, rising production, increasing sales; hence, improved tax revenue to the government (Lean & Tang, 2010; Kibara et al., 2012; Agboola, 2018). Indeed, raising international tourism receipt is with direct implication to the host country's importing capability.

Of the remarkable challenges LDCs' are facing is inadequate foreign exchange. Since greater of their export constitute mainly of primary commodities whose demand is highly elastic, their current account balance is usually weakened (Berentsen et al., 2017; Nwosa, 2014). On the other hand, foreign currency is vital to import intermediate goods requisite in the development of manufacturing base and economic transformation in developing countries. That's why developed international tourism market has been accredited to fill international currency gaps in most LDCs. For targets of foreign currency in least developed country, maintaining international tourism is relatively an excellent scheme than to export millions of tons of primary commodities. Besides to that, because production in LDCs is inefficient compared to developed counterparts, LDCs exports are usually costly; unable to take competitive advantages in the global market. More importantly, capital requirement for tourism industry is much less compared to other sectors. Once established tourism destinations may not need routine investments. From economic perspective, the rate of return from tourism is much higher compared to others necessitating routine as well as sophisticated technologies (Dritsakis, 2012; Du et al., 2017; Chen & Devereux, 1999; Brida & Risso, 2010). Consequently, particular emphasis to the international aspect of tourism operation in a country like Ethiopia has a paramount significance.

Recognizing its manifold gains, Ethiopia has devoted to developing tourism, since the past ten to fifteen years. However, the GDP share of tourism sector though showing some improvements didn't contribute at potential. This is associated to different inadequacies as political instabilities (Sisay, 2013; UNESCO, 2008; Kidane-Mariam, 2015), underdevelopment of the industry (UNECA, 2015), poor provision of infrastructure (Nafbek, 2018; MoCT, 2016). Empirically, the relationship between tourism development and economic growth has been extensively examined. However, particular focus to international tourism receipts has not, if any only rarely, given in previous empirical works. Especially to Ethiopia the topic has been overlooked. Therefore, the present study is motivated to model the long-run relations between international tourism receipts and economic growth in Ethiopia using time series data spanning from 1995 to 2018.

We examine the following null hypothesis in line with our research objectives;

- Receipt from international tourism has no significant impact on economic growth;
- There is no significant association between FDI and economic growth in Ethiopia.

2. Literature Review

A notable insight on the relations between economic growth and tourism industry is what has been known to be Tourism-Led Growth Hypothesis. The theory emphasizes the relevance of foreign currency in boosting LDCs economy. Tourism-Led Growth extends the traditional Solow Growth model, constituting only physical and human capital, by incorporating the export sector. Thus TLG theory hypothesizes that, an income growth is not only explained by the level of investments in labor and capital, but also expanding export capacity is essential approach for achieving persistent growth (Akama and Kieti, 2007; Honey and Gilpin, 2009). The theoretical justification for tourism industry is that, they are feasible alternatives to LDCs compared to other sectors, to gain competitive advantage from the international markets. These gains are achieved through foreign receipts, having profound implication to LDCs' economy. The relevance of tourism industry to small economy is exceptionally accredited, due to LDCs possessing less opportunity cost of developing tourism industry compared to investments in manufacturing industry, basically linked to technical and economic reasons.

This theory comforts our argument in this study, associating tourism to the foreign exchange receipts. We value more foreign currency receipts than the quantity of income earned. This development gives extra economic

relevance to international tourism industry due to its profound implication in the determination of Ethiopia's international competitive advantages.

Another conceptual perspective on the economic role of tourism industry comes from the so called Theory of Tourism Consumption. This theory considers the production and consumption advantages in the goods manufacturing industry, which are primarily induced by tourism activities. The theory maintains that, activities in tourism industry have potentials of influencing production, employment and consumption decisions in the rest of the economy. Therefore, the economic effect of tourism activities multiply to other sectors of the economy, and that the overall economy improves with the level of tourism developments. The theory of tourism consumption postulates that, as tourism activities influence the decisions and behaviors of tourists in related activities, these patterns induce the use and purchase of products in the domestic markets, providing farther incentives to host country (Woodside and Roberta, 1994). This theory links tourism to the general economy through more of secondary effects from tourism, with least emphasis to its direct implication. However, the theory is recognized in literatures for bolding out the multiplier effects. Still it is also criticized for being incomplete as it provides no detail on the specific channels between tourism industry and the rest of the economy. Irrespective of these criticisms, theory remained influential in studies linking tourism and economic growth.

Though theories favor international tourism as a source of economic growth, its practical impact has remained controversial. Chen and Devereux (1999) argued for the likely negative welfare impact of international tourism in countries with high trade restriction (in form of export taxes and import subsidies). Basing on the framework of international trade, they claimed that direct investments in tourism development causes significant social benefits, but with collapsing production and growth.

Empirically, the relationship between tourism development and economic growth has been extensively examined. However, particular focus to international tourism receipts has not, or only rarely, given in previous empirical works. Especially to Ethiopia, the topic is missing in the collection of empirical works. But, relatively sufficient number of works exists linking Ethiopian general tourism to economic growth.

A recent empirical consideration is a study by Mohamed and Younesse (2013), where they have examined the relationship between international tourism and economic growth employing time series data with temporal coverage ranging from 1980-2010. Their causality analysis has confirmed a positive effect of international tourism receipts on economic growth only in the short run to both countries. In contrast to Tourism-Led Growth Hypothesis, only uni-directional causality from economic growth to international tourism was revealed. Their analysis was, however, limited to only two regressors (international tourism and exchange rate), where impossible to control impacts of extraneous variables on the economic growth. Besides, there is no theoretical guideline suggesting such a growth model; in this sense, the model specified was incomplete.

Kibara et al. (2012), in turn, examined the dynamic relationship between tourism development and economic growth using annual time series data to Kenya. This study found a positive significant influence of international tourism receipts on Kenya's economic growth. In their study, the positive impulse transmits via its positive effect of international trade. Erick (2016) has analyzed the relationship between international tourism receipts and economic growth using a time series data ranging from 1980-2013 from Kenya. In his study, he found insignificant impact of international tourism receipts on Kenya's economic growth, in contrast to the hypothesis of Tourism-Led Growth. The justification for the estimated insignificant impact of international tourism on Kenya's economic growth was that, tourism industry in Kenya mostly belongs to foreigners; hence they could repatriate an important part gains to their foreign country. Moreover, Erick (2016) has estimated insignificant growth impact of expenditures on education, as the marginal benefits from education are not growing as high as the growth marginal benefits of providing education. He also associated to poor quality education and lack of institutions to administer the growing labor. Gross fixed capital formation was suggested to contribute positively to the growth of Kenya's economy.

Du et al. (2017) has gone through extensive analysis on the relationship between international tourism and economic growth by employing a cross-section of 109 countries. Their result has shown that, tourism receipts alone is not sufficient to foster economic growth in the long term, it would be most effective when it is integrated into a broad development strategy that has a primary focus on the development of standard income determinants. The implication follows that, international tourism receipts could make important contribution to economic growth only if those receipts are reinvested with the objective of enhancing physical as well as human capital developments. However, their analysis is limited only to two regressors, which could likely suffer from the omitted variables bias.

Fayissa et al. (2007) has estimated a robust association between tourism development and economic growth for 42 African countries. Their findings proved that receipts from the tourism industry significantly contribute both to current GDP and the economic growth of Sub-Saharan African countries, while giving empirical support to TLGH. Besides to this, there exist empirical studies consistent to Tourism-Led Growth Hypothesis (Odhiambo, 2011; Payne and Mervar, 2010; Katircioglu, 2009; and Lee, 2008). A problem in referring to these studies is that, they are mostly outdated, which might not fit into current economic environment. Moreover, Akinboade and Braimoh (2010); Brida and Risso (2010); Belloumi (2010); Lean and Tang (2010) and Narayan et al. (2010) confirmed a robust impact of international tourism receipts on the growth rate of real GDP, while validating the hypothesis of Tourism-Led Growth Model. Of the recent evidences, a positive impact of international tourism on economic growth was also confirmed for Italy (Massidda and Mattana, 2013); the four Pacific Island countries (Narayan et al., 2010); and sample Mediterranean states (Dritsakis, 2012).

3. Research Methodology

3.1. The Data

The World Bank data base was our exclusive reference. The study employs a series of annual observation spanning from 1995 to 2018. Therefore, the sample coverage with the study is 23 years, which is fairly sufficient for cointegration analysis.

3.2. Data Analysis

The data were analyzed descriptively and using regression framework. Individual development in Ethiopia's international tourism receipts and joint trends with RGDP and tourism receipts were assessed by descriptive tools as standard deviation, mean, maximum as well as minimum values. The course of descriptive analysis has been subjected to relevant graphical aspects where necessary. Besides, the inferential aspect was examined using conventional least squares method. Sections below provide details of the inferential analysis.

3.2.1. Model Specification and Variable Measurement

We measure the elasticity of Ethiopia's economic growth with respect to changes in international tourism receipt. In due course, we need to consider the conventional growth model, incorporating important theoretical variables. The variables reflected are mainly those suggested in traditional growth theories, mainly by Solow and New Growth Theory (Snowdon and Vane, 2005; Mankiw, 2010). These include; investments in physical as well as human capital, country's exposure to international trade, foreign direct investment. Since we aim to determine how income growth bounces with tourism earnings, international tourism receipts entered the growth model as a principal regressor. We first specify the following log-linear Cobb-Douglas production function;

$$lnRGDP_t = \beta_0 + \beta_1 lnTEDU_t + \beta_2 lnOPP_t + \beta_3 lnTRM_t + \beta_4 GCF_t + \beta_5 FDI_t + \varepsilon_t \ldots\ldots\ldots (1)$$

Where β1 – β5 measure the responsiveness of corresponding regressors to changes in RGDP; β0 is an intercept. RGDP is real gross domestic product; TEDU represents government expenditure on tertiary education; OPP measures the degree of Ethiopia's exposure to international markets, which is ratio of the sum of current imports and exports to GDP; TRM is Ethiopia's international tourism receipt; FDI indicates the flow of foreign direct investment; and GCF is gross capital formation. While ln is natural log of each term, ε is white noise error; and t is the time trend.

We expect positive response of economic growth to changes in international tourism receipts due to Tourism-Led Growth Hypothesis. That is, we presume β3 to be positive in equation (1) above. The relationship between economic growth and investment in physical as well as human capital is obvious; hence, we expect β1 and β4 to be positive. Likewise, as explained by international trade and theories, we expect to estimate positive coefficient for β2, associated to OPP notation in equation (1). In the context of LDC like Ethiopia, where domestic investment is fragile yet, we expect positive association between economic growth and the FDI flows.

To estimate β parameters in equation (1), we employed the conventional least squares regression framework due to (Ali and Abdull, 2014; Mbongo et al., 2014). A major improvement rests on the extension of the size of observations as well as number of regressors.

3.2.2. Stationarity Test

A priori with time series is examination of unit root properties of each series under consideration. The requirement with predictive model is that, all series should be stationary; i.e., must not contain a unit root. An important condition with forecasting models is that, all variables used in the analysis should have time invariant mean and variance (Gujarati, 2004; Wooldridge, 2013). A serious emphasis also requires stable covariance of each variable.
Stationarity conditions were examined via Augmented Dickey-Fuller (ADF) test (Dickey and Fuller, 1979). ADF is based on regression of the first difference of Y (ΔYt) on a constant, time trend (Yt-1) and various lags of Y, specified as follows;

$$\Delta Y_t = \alpha_0 + \gamma t + \delta Y_{t-1} + \sum_{i=1}^{k} \lambda_i \Delta Y_{t-i} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where Δ is first difference operator; α0 is a constant; γ represents trend coefficient; t stands for time trend; and k represents lag length. Null hypothesis is, H0: □ = 0.Rejection of the null indicates the presence of unit root problem in Y. ADF is based on the t-ratio of Yt-1. If it exceeds ADF critical at any one of the three benchmarks (reported at 1%, 5% or 10%), the null hypothesis will be rejected. Nevertheless, if Yt is tested non-stationary, the first difference ΔYt should then be tested for Stationarity using the same procedure; and the procedure will continue until it is stationary. But, in most of the cases economic and financial data are stationary at first differences.
The length of time lag in regressions of ECM and ADF models is often determined empirically; to take sufficient size so that the error term is indeed serially uncorrelated. The suitable lag (k) is set, for instance, based on minimizing Akaike Information Criterion (see Gujarati, 2004; Wooldridge, 2013; Maddala, 1992). In this paper k was determined based on AIC due to (Gujarati, 2004).

3.2.3. The Cointegration Test

As long as the monetarists' demonstration focuses on the long-term, we first need to examine whether the variables exhibit long-run equilibrium stable relationship. If no cointegration is tested in advance, the analysis must break with no need of moving ahead. For cointegration purpose, the Engle-Granger (1987) method was employed to test a null of no cointegration, against the alternative. The null hypothesis depicts that, the OLS residual obtained from level form regression contains a unit root, examined through ADF test. If the null hypothesis is true, then the variables couldn't exhibit common long-run path. Thus, we conclude the series are not cointegrated. Engle-Granger examines if residuals of the equilibrium relationship are stationary. Details for this approach can be understood using the below static model;

$$Y_t = \beta_0 + \beta_1 X_t + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.. (3)$$

A primary requirement with EG method is all variables integrated of order one; Yt, Xt□ I(1). Given this condition is satisfied, we run OLS regression using equation (3) to obtain OLS residuals. We, then, run ADF regression on the residual at level to determine if it is stationary. If the residual is non-stationary, conclude that there is no cointegration between the dependent and independent variables (Engle-Granger, 1987; Gujarati, 2004). Note that, Stata statistical software package version 14 was used for every regression analysis throughout this study.

4. Results and Discussions

4.1. Descriptive Results

4.1.1. Trend Analysis for Ethiopia's International Tourism Receipts

Since receipts from international tourism are associated to foreign currency (all denominated to USD), we put the trend analysis on the development of international tourism in Ethiopia in terms of Unite State's Dollar. The series of our data set begins from 1995 and ends 2018. The temporal coverage in our analysis ranges between 1995/96 and 2018/19
The base year (1995/96) has registered about 177,000.000 USD receipts from international tourism, but immediately fell to 170,000.000 USD the next fiscal year. The receipts declined by 3.95 per cent in 1996/97 fiscal year compared to the base year. Between 1996/97 to 1998/99, Ethiopia's receipt from international tourism has persisted declining. It is evident from figure (1) negative growth in Ethiopia's international receipt for three consecutive years.

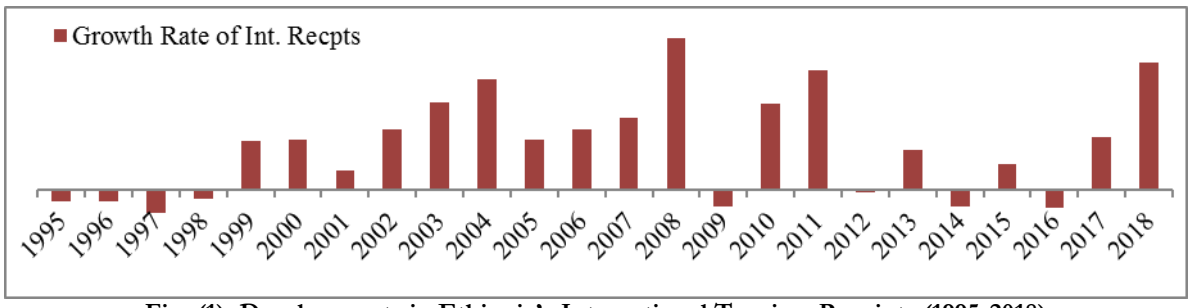

Fig. (1): Developments in Ethiopia's International Tourism Receipts (1995-2018)
Source: Own Computation based on the WB (2020)

Ethiopia's international tourism receipt has shown remarkable improvement between 1999 and 2008 (figure 1). The country's receipt from international tourism has been rising tremendously for ten successive years, with ever higher rate of 49.87 per cent in 2008/09 fiscal year. The period was pronounced as an era of revolution in the international tourism industry. This remarkable achievement was mainly linked to the then Ethiopian Millennium festivity and allied international as well as regional clouds. Moreover, period between 1999/2000 and 2008/09 is featured by relative political stability as well as the country's mass recovery. However, the year 2008/09 was followed by the worst episode in the international tourism. During 2009/10, Ethiopia's receipt from international tourism fell by 5.49 per cent from previous year, associated basically to the then parliamentary election. It gives clear relevance to peace and internal stability in consideration to country's economy. As with most developing countries, national elections in Africa have usually been followed by mass demonstrations, chaos and multifaceted destructions. Fearing these and related life risks, tourists usually lose confidence to travel, both before and after the election schedule. This time lag has clear implication to the host country's tourism industry. More importantly, the year 2008/09 marked the worst global financial crises. As the effect usually holdups, the 2009 tourism downturn in Ethiopia could likely result from the then global crisis. As with other sectors, tourism has greatly affected of the crisis whereby restricting international movements and cross country trade. Thus, collapse in Ethiopia's international tourism receipt would be primarily subjected to the then global incidence.

The next two consecutive years revealed upsurge in Ethiopia's international tourism receipts, with 28.15 per cent in 2010/11 and 39.33 per cent in 2011/12. In turn, the country's receipt has fallen by 0.90 per cent during 2012. The lost revenue in absolute terms was 18,000,000 USD. Between 2013/14-2018/19 period, Ethiopia's receipt from international tourism has been oscillating, with considerable improvements in the latter two years. While 2017/18 has recorded a growth rate of 17.17 per cent, the year 2018/19 has exhibited about 41.64 per cent growth rate, which is the second largest achievement in the history of Ethiopian international tourism. This could be associated with profound political as well as economic reforms undertaken in the country for the past two years. Part of these reforms involved creating conducive environment to enhance tourism industry. Concurrent developments in the sector, including the launch of Unity Park and other tourism oriented projects in Addis, provide farther opportunities to Ethiopian tourism industry. Moreover, the years 2014/15 and 2016/17 have revealed negative growth in Ethiopia's international receipts from tourism operation, mainly due to frequent internal instabilities and political tensions during these periods.

Generally, though Ethiopia's international tourism receipts show improvements, the growth has been not persistent. There has not been continuity in the growth of international tourism receipts. Periods of negative growth were associated with various international and internal inadequacies, which have considerably limited international movements. Most of the growth breaks were either during international incidents (like the financial crisis of 2008/09) or country specific challenges such as political turmoil and related tension. These imply the role of globally interconnectedness in determination of individual economy. We also noticed the relevance of internal solidity to intensifying the development of international tourism, and fostering economic growth at the same time.

4.1.2. Relations of Tourism Receipts and Economic Growth: Joint Trend Analysis

Common trend analysis is intended to initiate visions for inferential analysis (to be addressed in subsequent sections), as it helps understand if both series exhibit long-term common path. Besides, the pattern of movements among both series reveals the nature of relationships between them. As tourism industry makes part of GDP, we expect positive correlation; but we aim to examine how strong such relationship will be in the context of Ethiopian economy.

Inspection into the history of Ethiopian economy since 1995/96 evidenced negative growth rates only twice; with 3.46 per cent in 1998/99 and 2.16 per cent decline in 2003/04. During 1998/99 period, Ethiopia's international tourism receipt has also declined by 3.18 per cent. Here we that, both variables revealed negative growth in the same year. More importantly, they both declined almost in equal rates in that year, demonstrating strong positive correlation. But in 2003/04, tourism receipt registered positive growth of 28.74 percent, while the RGDP contracted by 2.16 per cent from previous year. This demonstrates the dropped GDP share of other sectors, more importantly of agriculture, despite considerable improvements from international tourism. This economic collapse has been associated with the then national parliamentary election in the country, which had likely diverted resources towards election campaign. As with the case in most developing countries, little attention has been paid to production sector during periods of election campaign in the country. Figure below reveals growth trends in international tourism receipt and economic growth of Ethiopia, since 1995/96 onwards.

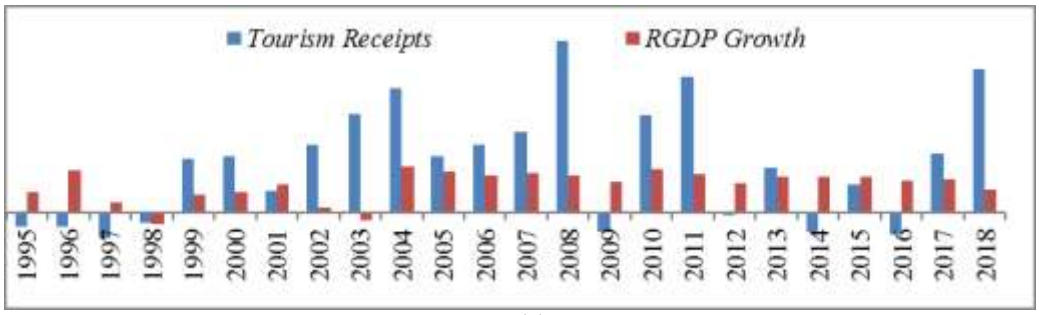

Fig. (2): Relationship between international Tourism and Economic Growth (1995-2018)
Source: Own Manipulation based on the World Bank (2020)

The first three years marked negative growth in Ethiopia's international tourism, while RGDP has been improving slightly. For example, Ethiopia's economy has been growing continuously during 1995-1997, while tourism receipt persisted declining during the same period. This shows the minimal role of international tourism in determination of the general economy.

One possible observation from figure 2 is a much higher growth in tourisms receipts compared to real GDP growth. Irrespective of enormous improvements in tourism receipt, RGDP responded only moderately; most considerably after 1999/2000. In most of our observation period, both series seem to trend in common, but with weak association. Irrespective of substantial swings in tourism receipts, the RGDP growth exhibited stable rate, demonstrating insignificance of international tourism development on economic growth; at least, during those periods. For example; for consecutive years from 2002/3-2004/5, tourism revenue has been improving substantially, while the economic growth during those periods was near to zero. A notable year can be 2003/04; during which tourism receipt has grown at a rate of 28.74 per cent, while the economy has declined by 2.16 per cent. This demonstrates that, receipts from international tourism have not been contributing to the economic growth of Ethiopia. A caution should be noticed here not to undermine the profound role foreign exchange has in determination of LDC's economy, like Ethiopia. The irregular trend may be justified in various ways in the context of Ethiopian economy. One possibility may be that, those international receipts were likely utilized in non-productively. Besides, these receipts might most probably be kept at foreign reserves account without letting them go in the production sector.

Between the years 2004-2008, tourism receipt has shown substantial improvement, while the growth rate in RGDP was stable. Tourism revenue has registered an ever largest growth rate of 49.87 per cent in 2008, with 10.79 per cent growth from RGDP. Prior to this year, growth rates of tourism receipts and RGDP were 23.63 and 11.46 per cents.

Between 2004/05-2018/19, Ethiopian economy revealed positive and persistent growth, with slight fluctuation. During these periods, tourism receipts have been fluctuating, even with four times downturn. In the final year of our observation period, tourism receipt has grown by 41.64 per cent, while the economy registering only 6.82 per cent. It signifies less responsiveness of economic growth to developments from international tourism revenue.

The joint trend analysis for Ethiopia's international tourism receipt and economic growth posits two important implications. Firstly, tourism revenue has been growing in much higher rate of economic growth in Ethiopia during our sample period. Secondly, irrespective of large fluctuations in the growth of Ethiopia's tourism receipt, RGDP has been growing at average stable rate. This indicates that, the responsiveness of RGDP to changes in tourism revenue was law. Therefore, we expect a positive and insignificant impact of international tourism on Ethiopia's economic growth, later in our inferential analysis.

4.2.Inferential Analysis

4.2.1. Stationarity Condition

The series were all subjected to Augmented Dickey Fuller (ADF) Stationarity test and all were found to contain a unit root problem without differencing. But, all were tested stationary at their first differences. The maximum number of lag suggested for stationary examination each case was one. Table below reports ADF test statistics:

Table (1): The ADF Stationarity Test Results: Temporal coverage (1995-2018)

ADF Statistic at First Difference, ΔY_t				
		Critical at:		
Variables	t-stat.	1%	5%	10%
$\Delta ln\mathbf{InRGDP}_{t-1}$	-3.679**	-3.750	-3.000	-2.630
$\Delta ln\mathbf{TRSM}_{t-1}$	-2.828*	-3.750	-3.000	-2.630
$\Delta ln\mathbf{GCF}_{t-1}$	-2.822*	-3.750	-3.000	-2.630
$\Delta ln\mathbf{OPP}_{t-1}$	-3.885***	-3.750	-3.000	-2.630
$\Delta ln\mathbf{FDI}_{t-1}$	-4.381***	-3.750	-3.000	-2.630
$\Delta ln\mathbf{TEDU}_{t-1}$	-4.941***	-3.750	-3.000	-2.630

***, ** and *, respectively, reject the null hypothesis at 1%, 5% and 10% significance level.
Source: Own Computation using Stata 14 (2020)

Table (1) evidences that, all variables entered the regression model are integrated of first order, though significance level varies. The ADF statistics for OPP, FDI and TEDU tested significant at 1 per cent, while tourism receipt and gross capital formation were stationary at 10 per cent. ADF statistic for RGDP was tested significant at 5 per cent. The appropriate lag length used for Stationarity test was one; therefore, the subsequent analyses also uses a 1 period lagged terms of each series of interest.

4.2.2. Cointegration Analysis

Stationarity with all variables allows us forecast the long run dynamics of the growth model in a relation to regressors considered in this study. According to (Gujarati, 2004; Wooldridge, 2013) with non-stationary variables it is impossible to make inferences, but only to the sample period covered. On the other hand, a linear transformation of non-stationary variables can be stationary. This joint Stationarity among a set of time series variables is known as Cointegration. Testing for Cointegration is a precondition for analyzing the long-run behaviors of economic and financial variables.

Engle-Granger (1987) Cointegration test was employed to determine if the variables possess long-term equilibrium relations. The E-G(1981) method examines the null hypothesis that, the variables are not cointegrated. The procedure of E-G(1987) Cointegration is based ADF regression on the predicted residuals from the conventional least squares model. The ADF test was again employed to examine the unit root property of residuals obtained from regression of conventional least squares model in level form. If ADF reports Stationarity in the residuals, the E-

G(1987) test rejects the null of no Cointegration. Table (2) reports the ADF regression results for the predicted residuals:

Table (2): The Cointegration Test for OLS Residuals

	ADF Critical:				
	t-stat.	0.01	0.05	0.1	Decision
ΔECT_{t-1}	-3.538**	-3.750	-3.000	-2.630	*Reject the null hypothesis*

Dependent variable: ΔECT_{t-1}
Null hypothesis: ECT is non-stationary

*** Rejection of the null at 5 % significance level
Source: Own Computation using Stata 14

Table (2) reveals significant ADF statistic of the predicted residuals at 5 per cent, while rejecting the null hypothesis of no cointegration with E-G (1987) test. Therefore, the variables entered the growth model possess stable long-term equilibrium. Once the existence of long-term relationship is confirmed, the next task is to estimate how strong such relationship is for individual variables. This is achieved by modeling the suggested long-run relationships and estimating the coefficients using the data collected.

4.2.3. The Long-Run Relationship Analyses

We examined the long-run dynamics employing the conventional least squares regression. OLS was specified by differencing all variables once as Stationarity was suggested at first orders of each series. Methodological prerequisites with OLS framework were all tested robust. Residual normality, homoscedasticity, residual independence, omitted variables bias and multicollinearity issues were all examined and none has failed corresponding validity test. Then, OLS model was directly estimated with all variables differenced once. The below table presents the long-run coefficients:

Table (3): The Long-Run Model Regression Results

Regressors	Coef.	Std. Err.	t-ratio
$\Delta lnTRSM_{t-1}$	0.1079	0.0633	1.70
$\Delta lnGCF_{t-1}$	0.2754***	0.0377	7.30
$\Delta lnFDI_{t-1}$	0.1563**	0.0622	2.51
$\Delta lnOPP_{t-1}$	0.1664	0.3968	0.42
$\Delta lnTEDU_{t-1}$	0.3862**	0.2689	1.44
ECT_{t-1}	-0.6235	0.2779	-2.24
Constant, β_0			

***&**, respectively, indicate rejection of the null at 1 and 5 per cent level of significance
Source: Own Computation using Stata 14

A preliminary analysis to global significance has been verified through F-test and the adjusted coefficient of determination. With $R\bar{}\hat{}2=0.85$, we see the regressors jointly account for about 85% of Ethiopia's economic growth, demonstrating the robustness of our specification. Moreover, the significant F-statistic also authorizes the universal significance of the long-run model.

From table (3) we observe that, the coefficient of the error correction term (ECT) is appropriate and in sign and significant too, demonstrating the presence of long-term equilibrium relations among the variables in the model. Hence, the Engle-Granger Cointegration methodology rejects the null hypothesis of no Cointegration, permitting modeling the long-run relationships between variables of interest. The Cointegration equation for the variables entered the growth model in the present study is, therefore, specified as;

$$\Delta lnRGDP_t=\beta_0+\beta_i\sum_{i=1}^{n}\Delta lnTRSM_{t-i}+\beta_j\sum_{j=1}^{n}\Delta lnGCF_{t-j}+\beta_k\sum_{j=1}^{n}\Delta lnFDI_{t-j}+\beta_l\sum_{j=1}^{n}\Delta lnOPP_{t-j}+\beta_m\sum_{j=1}^{n}\Delta lnTEDU_{t-j}+\beta_6 ECT_{t-1}+\varepsilon_t \quad \ldots\ldots (4)$$

ECT represents error correction term; ɛt is the residual. The inclusion of ECT into equation (4) is to indicate the presence of cointegrating relations among the series in the specification.

Evident from table (3) above is a positive, but insignificant coefficient of tourism receipts, rejecting hypothesis of TLG to Ethiopian context. So far in our descriptive analysis, we made similar conclusion based on observed trends between tourism receipts and real GDP for the sample period. A result from inferential analysis is consistent to descriptive marks demonstrating the worthlessness of international tourism receipts on the long-run growth processes of Ethiopian economy. A caution is here not to undermine the profound implication with foreign exchanges in the development of, exceptionally to the least developed countries' economy, like those of sub-Saharan Africa. The insinuation with the appraised outcome might be that; those receipts were not productively utilized as justified by (He and Zheng, 2011; Oh, 2005; Mohamed and Youness, 2013; Kibara et al., 2012; Katircioglu, 2010; Erick, 2016). Besides, those tourism receipts may contribute insignificantly if inadequate (Du et al., 2017; Fayissa et al., 2008; Belloumi, 2010); and when they are rather misused and embezzled by those government agents close to them. According to (Chen and Devereux, 1999; Belloumi, 2010) it would be possible to meaningfully interpret those receipts from international tourism if policy schemes are directed towards the efficient utilization of these resources in productive manner.

The FDI has been important in the long-run growth process of Ethiopian economy. Evident from table (3) shows that, FDI has been the most important contributor of economic growth in the long-run. The estimated coefficient being 0.1563(0.022) was positive and significant at 5 per cent, entailing its persistent economic relevance. Theoretical justification on the positive role of foreign direct investment is forward. FDI is acknowledged to foster the recipient's productive capacity via enhanced technological innovation and skill transfer With its implication to refining domestic employment, effective resource utilization, increasing exports (and imports of intermediate goods) as well as increasing manufacturing capability, the foreign direct investment inflows are highly favored. Our finding is consistent to most previous research outputs such as those of (Berentsen et al., 2017; Ayesha, 2013; Minyahil et al., 2016; Banda, 2016; Labonte, 2016; Tenzin, 2019).

Gross capital formation has been found effective in fostering the long-run economic growth of Ethiopia. This is indicated by the positive and significant coefficient for the variable GCF in the table above. That means the country's effort in increasing investments in physical capital for the past periods was successful in maintaining economic growth. Investments in physical capital are not only meant to boosting productivity of existing labor, but also absorption of idle capacity into the productive sector is also likely. Thus, the significant impact of expenditures on physical capital is also expected to foster employment, and reduce inflation rate via the output channel. The estimated positive impact of investments in physical capital is straight forward gives empirical support to growth theories such as those of (Samuelson and Solow, 1960; Gordon, 2011). According to New Growth Theory, expansions in physical capital are effective in boosting output via increasing economy's productive potential and productivity of the labor force. The present finding is also the same to most previous findings, of which some include (Zoran, 2015; Mohseni and Jouzaryan, 2015; Agboola et al., 2018; Attahir, 2016; Nwosa, 2014).

The long-term economic contribution of public spending on tertiary education was suggested insignificant. The finding looks controversial to arguments in favor of education to be passionate in actualizing dependable growth via its influence on human capital development. Education is argued to foster workers' technical, analytical, communication as well as managerial skills; and finally contribute to labor productivity (Mankiw, 2010; Romer, 1996). At the national level, expenditures in tertiary education are adopted as schemes to enhance development of human capital. Theoretical perspective on the multifaceted relevance of investments in human capital development is straight. Of the competing rationales with human capital development is to foster labor productivity and production (Romer, 1996; Snowdon and Vane, 2005). The history of Asian Tigers has been importantly associated with their profound devotion to human capital development through expansion of education in science and technology. Unfortunately, we estimated the insignificant coefficient of investments in tertiary education on Ethiopia's economy, though positive. Possible explanations have been forwarded for the insignificant association between education and economic growth; some associate to the quality of education (Hanushek, 2004; Wolf, 2004), while others relate to the

institutional inadequacy (Soares, 2003; Pirim et al., 2014). A large body of growing literature also affirms that it is challenging to evaluate the impact and measure the returns from investing in education as education is a very long-term investment that needs commitment and patience to realize the benefits (Ventelou and Xavier 2006; Hanushek and Woessmann 2008; Pirim et al., 2014; Hanushek 2004; Owings and Kaplan, 2013).

5. Conclusion and Some Policy Implications

Ethiopia's international tourism receipt has been found insignificant contributor to the country's long-term economic growth. A possible explanation follows that, tourism receipts have not been productively utilized in the production sector. Besides, the receipts from international tourism may be insufficient to profoundly contribute to national income, which is mostly related to policy directive of enhancing tourism industry in the country. Hence, an effective scheme for international tourism development should be evaluated in terms of its contribution in the development objectives of the country. In this regard, it is recommended that the government of Ethiopia should encourage private sector participation to develop the necessary infrastructures in order to achieve higher room tenancy. Besides, diplomatic relations to improve the country's image together with inside efforts of restoring political stability should be reinforced. It would be suitable to allocate part of the gains generated from tourism activities in local development through the realization of new infrastructures.

Net flows from foreign direct investments have been essential in driving long-term economic growth of Ethiopia. Thus, FDI helped Ethiopian economy in line with hypothetical channels of technological innovation, skill and knowledge flows as well as direct contribution to domestic employment. Therefore, it would be appropriate to enhance the flow of more FDI to actualize the multifaceted gains from around the global environment. This could be achieved by extensive effort towards improving the country's image and; above all through ensuring domestic stability.

Finally, investments in physical capital have also significant long-term contribution to Ethiopia's economic growth. It implies that, expansion of capital have long been fostering the country's productive capacity. Thus, it would be appropriate to encourage both private and public investments through identification of key investment corridors in domestic economy. Enhancing the growth of FDI could also be essential strategy to this end.

Limitations and Suggestions for Future Studies

This study focuses only on the long-term economic benefits of international tourism receipts in Ethiopia. Therefore, it would be better to also examine the short-run economic gains from international tourism. Besides, as long as tourism plays a profound role in reducing unemployment, any future study should also consider analyzing the role international tourism plays in the domestic effort to reduce unemployment rate overtime.

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