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**THE IMPACT OF SERVICE TRADE ON THE ECONOMIC GROWTH OF ETHIOPIA:
THE CASE OF TOURISM**

BY

MESERET GETAHUN

JUNE, 2011

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MESERET GETAHUN

**A project submitted to the school of Graduate Studies of Addis Ababa University
in partial fulfillment of the requirements for the Degree of Masters of Arts in
Economics (Applied Trade policy)**

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BY: MESERET GETAHUN

APPROVED BY:

SIGNATURE

WASSIE BERHANU (DR.)

JUNE, 2011

ADDIS ABABA

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LIST OF ACRONYMS AND ABBREVIATIONS

CSA	Central Statistical Agency
ELGH	Export-Led Growth hypothesis
EPRDF	Ethiopian Peoples Republic Democratic Front
ETC	Ethiopian Tourism Commission
ETO	Ethiopian Tourist Organization
ETP	Ethiopian Tourism Paradigm
ETTE	Ethiopian Tourist Trading Enterprise
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
LDCs	Least Developed Countries
MDG	Millennium Development Goals
MoCT	Ministry of Culture and tourism
MoFED	Ministry of Finance and Economic Development
MoT	Ministry of Trade
NBE	National Bank of Ethiopia

ODI	Overseas Development Institute
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary List Square
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PRSP	Poverty Reduction Strategy Program
TKIG	Tourism Capital Imports to Growth
TLGH	Tourism- Led Growth Hypothesis
UNCTAD	United Nation Conference on Trade and Development
UNESCO	United Nation Educational, Scientific and Cultural Organization
UNWTO	United Nation World Tourism Organization
WB	World Bank
WEF	World Economic Forum
WTO	World Trade Organization

ABSTRACT

International tourism is a major foreign exchange earner and a principal export for many low income countries as well as for developed countries. Now a day's many developing countries focus on economic policies for promoting international tourism as a potential source of economic growth of the country. This paper has the objective to assess whether tourism has really promoted growth based on the tourism-led growth hypothesis (TLGH) using annual data covering the period 1981-2009 for Ethiopia. Diagnostic tests, namely Augmented Dickey-Fuller (ADF) for unit root and Johanson and Juselius (JJ) for co integration test are used. The findings of the study showed that there is a positive relationship between tourism and economic growth. The results of this study suggest that government should focus on economic policies to promote international tourism as a potential source of economic growth in Ethiopia.

CHAPTER ONE

1. INTRODUCTION

1.1 BACK GROUND OF THE STUDY

Most traditional international economics text books tend to assume that services are largely non-tradable. However, this thinking was changed since the late 1980s and 1990s when the service trade has emerged to become a dynamic sector whose importance continued to rise in most economies (Konan and Maskus, 2006). Service trade represents the fastest growing sector of the global economy, in high-income countries it constitutes nearly two-third of the GDP on average and among low-and middle income countries it account 54% (*WTO,2008*).

The contribution of service sector in Ethiopia is not much far from the above average. According to the report of NBE, the share of the service sector in GDP has been growing up steadily in recent years reaching 40.8% in 2006/07 from its level of 36% in 1996/97 (NBE,2006/07).

Tourism is one of the major categories in the service sector. Worldwide, it grew from 25 million arrivals in 1950 to 922 million in 2008 and in terms of receipts it grew from 2.1 billion dollars to 944 billion in the respective years. When we compare the international performance of the industry in 2008 with that of 2007, it grew at an average annual rate of 1.9 % in tourist arrivals and by 1.8 % in terms of receipts (UNWTO, 2009).

Ethiopia as emerging destination is enjoying an increase in number of tourist arrivals. The growth of incoming international tourism and receipts to Ethiopia between 2000

and 2008 increased dramatically from 135,954 arrivals with \$68 million receipts to 383,399 arrivals and \$180 million in the respective years (*MOCT, 2009*).

The current focus on the impact of service trade with special emphasis on tourism emanates from the commitment of the government to include tourism in PASDEP in the last 5 year plan and the current Growth and Transformation Plan (GTP) of 2003 – 2007 E.C. This is further supported by the dedication of the government in its decision to issue a tourism policy in August 2009. Therefore, it is time to conduct a study on tourism as an integral part of service trade and look into its impact on the economic growth of Ethiopia.

1.2. STATEMENT OF THE PROBLEM

For Less Developed Countries like Ethiopia the fundamental challenge in their economy is how to achieve a large increase in output over a long period of time and improve the standard of living of their people so that there will be dramatic change in their economic and social conditions. To achieve this target, various tools are considered. Among these tools promoting tourism is the one.

One of the main reasons that governments support and promote tourism throughout the world is that it has a positive impact upon economic growth and development. It can be regarded as a mechanism of generating the employment as well as income in both formal and informal sectors. Tourism supplements the foreign exchange earnings derived from trade in commodities and sometimes finance the import of capital goods necessary for the growth of manufacturing sectors in the economy. According to the World Economic Forum (WEF) competitiveness study on tourism and travel, the tourism industry creates most new jobs in developing

countries. It creates 100,000 new jobs annually which accounts for 11 percent of the global workforce. Therefore, we can say that “Tourism has driven itself on to the radar of developing countries’ policy makers. At the local and international level, it is being seen as a driving force to sustained growth and development. It is included in more than 80% of low income countries Poverty Reduction Strategies” (ODI, 2007).

The contribution of tourism to economic growth is reflected in the form of exports since it represents 40 % of all exports of services (UNWTO, 2006). It is also the major service export for many developing countries and has much potential to provide competitive advantage for them. It makes a greater contribution to foreign earnings (in LDCs Foreign exchange earnings from tourism increase from less than \$50 billion in 1990 to more than \$260 billion in 2007) than such other major exports as textile and clothing or agriculture without encountering the same magnitude of trade barriers (UNCTAD, 2004). Consequently, it is not surprising to imagine that tourism can be a viable export-oriented economic growth strategy for bringing jobs and development to the people and help in the reduction of poverty.

Ethiopia is among the world’s least developed countries, with some 31 million people living below poverty. Over 80% of its population is rural, with agriculturally-based livelihoods and extremely low levels of off farm income (WB, 2006). Therefore, in Ethiopia establishing and measuring links between tourism activity and economic growth is a critical rationale for considering public investment in the sector.

Despite its increasing importance in Ethiopian economy however, tourism has attracted relatively little attention in the empirical literature on economic growth.

Studies examining Ethiopian rate 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 especially tourism. Hence, it would be quite plausible to incorporate tourism in such a study so as to enhance the contribution of the service trade for the economic growth in Ethiopia.

1.3. SIGNIFICANCE OF THE STUDY

Tourism is now recognized as an engine of economic growth for most LDCs and it is becoming an important area of study in recent growth related analysis of economic literature. In Ethiopia, the absence of empirical analysis in this context makes this study vital to show the role of tourism in the economy and to help the policy formulation and incentive provision to the sector.

1.4. OBJECTIVE OF THE STUDY

The general objective of the paper is to examine the contribution of service sector especially tourism to the economic growth of Ethiopia.

The specific objectives of the study are:

- To investigate the contribution of tourism to economic growth of Ethiopia using a time series data that span over the period 1981-2009.
- To drive policy implications from the empirical analysis for the future.

1.5. METHODOLOGY

1.5.1 METHOD OF DATA COLLECTION

The reliability and validity of any research analysis depends among other things on the availability and quality of data employed. Though a multiple of data collection and processing method of the required information could have been employed, the

research only be limited to secondary data. All the data are from World Development Indicators CDROM and the choice of the period of analysis is based on the availability of the data for all the variables incorporated in the model.

1.5.2 METHOD OF DATA ANALYSIS

The annual data for the period 1981 to 2009 is being used for empirical analysis. And all the variables are expressed in natural logarithms so that they may be considered elasticity's of the relevant variables. The analyses carried out using statistical and econometric analysis such as multiple regression analysis using stata and to estimate the parameters corresponding to variables of interest from the secondary data under consideration, the study employ OLS estimation method.

1.6. WORKING HYPOTHESIS

In this study the hypothesis to be tested is that tourism led growth holds true for Ethiopia and tourism contribute positively and significantly to the economic growth of the country. In addition it hypothesizes a positive relationship between investment in physical capital (GCF_{it}) and the openness of the economy (TOT_{it}) with per capita income levels (PCI_{it}). The impact of household consumption expenditures (HHC_{it}) on economic growth is controversial. Neoclassical economic theory shows that higher household consumption expenditures tend to lower economic growth by lowering investment because of reduced savings (Todaro, 2005). On the other hand, Ranis (2004) argues that individual and house hold 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.

1.7 ORGANIZATION OF THE PAPER

The paper is divided in to five chapters. Chapter one deals with the introduction part that includes background, problem statement, study significance, research objective, methodology of the study and working hypothesis. Chapter two overview of Ethiopian tourism, theoretical and empirical literature are reviewed. Following model selection and methods of estimation in chapter three data analysis and discussion of estimation results will be presented in chapter four. Finally, the conclusions and recommendations for policy making presented in chapter five.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. OVERVIEW OF ETHIOPIAN TOURISM SECTOR

Tourism is one of the fastest growing industries in the world. Recent studies indicate that nearly millions of tourists have travelled around the world and the countries they visited have earned billions of dollars from the money they spent. The sector became highly promising as the number of tourists is expected to increase significantly and generating trillions of dollars annually in the fore coming years. (ETTE, 2003)

Ethiopia is one of the largest countries in sub Saharan Africa. The country is endowed with unique combination of natural, wildlife, historical and cultural heritages; that is, impressive scenery, suitable climate, rich flora and fauna and recognized archaeological sites i.e. Axum's obelisks, the monolithic churches of Lalibala, Gondar's castles, the Omo Valley, Hadar, Tia's carved standing stones, the Semien National Park and the city of Harrar. The physical features of the country are remarkable which incorporate high plateau, long mountain ranges, lofty peaks, *deep* gorges, the largest cave in Africa (Sof Omar), the lowest depression on Earth (Dallol), the Great Rift Valley, savannah land, tropical forests, deserts, beautiful lakes including Lake Tana, spectacular waterfalls, and volcanic hot springs. Out of more than 800 species of birds residing in Ethiopia, 23 are endemic to the country, and there are 260 species of mammal, of which seven of the big mammals are unique to the country. And there are ten national parks, 13 wildlife reserves and sanctuaries, and 18 controlled hunting areas have been established in order to protect these

resources of the country. In addition to this, Ethiopia is the home of incredible diversity of more than 80 nations and nationalities. One can observe the rich ethnic diversity by the colorful, smiling and friendly customs of the people (*MoCT, 2006*).

In Ethiopia, modern tourism is said to be started with the formation of a government Body, Known as Ethiopian Tourist Organization (ETO) in 1961. The creation of the Organization marked the first recognition of the importance of the public sector in the development of tourism (ETC, 2005).

In 1965 a plan for tourism development was prepared and publicized, which makes tourism as one of a few key sectors for economic growth in the nation. By that time, the country's socio economic history was pretty well explained in the number of tourist flows to the country. There was a rising trend of tourist flows from 19,215 in 1963 up to 73,662 in 1973; an approximately four folds increase in 10 years and the industry was growing at an average annual rate of 12%. This growth was not sustained during 1974-1992 mainly because of the continued upheavals in Eritrea, Tigray and Hararghe regions, the 'Red terror' in major central towns, recurrent draught and famine. The available data show that in the last four years of the Derg, the country hosted an average of 80,246 tourists and earned 23.2 million dollars per annum, with an average annual growth rate of 2.1 percent in arrivals and 6.1 percent in earnings. The current government (EPRDF) took the power to attract about 81,581 tourists in 1991 that is only around 8,000 more than the 1973 record. This flow increased steadily to 139, 000 in 1997 mainly due to the political stability and the market liberalization that attracted a large number of business, conference and vacation tourists. Unfortunately, the country had another war with Eritrea. This war

led to a fall in the number of tourists by 27, 000 to 112,000 and 115,000 in 1998 and 1999 respectively. From 2000 onwards the county is witnessing a massive inflow of tourists that doubled in six years time. In the four years from 2005-2008, the average annual tourist arrivals were 324,664 while the average annual revenue was 167 million dollars (MoCT, 2009; Yabibal, 2010).

According to UNWTO (2004), in 2002 Ethiopia received 156,000 international tourist arrivals. This amounts only 0.5% of international tourist arrivals for Africa as a whole. Neighboring Kenya received over five times as many visitors in the same year. Even though the average growth rate achieved during the recent years represents an encouraging trend, the fact that, for example, in 2005 Ethiopia's shares of the tourist business among the 17 countries of the East African Region was only 0.7 percent shows how insignificant the country's performance is given the diversity of its historical, cultural and natural attractions. The most important potential is Diaspora Tourism. It is estimated that Ethiopia has a significant number of expatriate communities, primarily, in North America and Europe as well as the Middle East and Africa. Hence, as the Diaspora have a relatively substantial purchasing power and pump more in the local community than vacation tourists, what is needed is a focused program aimed at increasing stay and as well as link with communities for potential markets. Though it requires little investment, the Diaspora Tourism will bring considerable early results. Yet, these will have immediate impacts in (1) improving impression to major opinion former in the international community, cultural linkages between developed countries and Ethiopia, (2) indirect impacts of bringing people with skills experience and funds so as to provide support for social

renewal as well as (3) direct impacts in increasing remittances and significant rise in GDP contribution and employment. (ETC, 2005)

So, to enhance the utilization of the countries tourism potential, the government designs the 'Ethiopian Tourism Paradigm'. Its vision stated in the document as "...government believes an increased focus on tourism can play a more significant role in the war on poverty in Ethiopia and across Africa as a whole." The central aims of this vision statement is to: (1) improve the image of Ethiopia and strengthen the value of Ethiopia's cultural, historical and natural heritages internally and externally; (2) intensify the indirect impacts by leveraging catalytic effects of the sector across the economy and around the country in areas such as small enterprise growth, infrastructure, rural transformation, etc, (3) boost the direct impacts by increasing the foreign exchange, investment and employment from this sector. Similarly, in considering tourism as an integral part of the national strategy it is stressed that: "...it will complement existing national strategies, like food security, capacity building, education and rural development as well as helping to deliver on our poverty Reduction Strategy program (PRSP) and Millennium Development Goals (MDG)." (ETC, 2005)

2.2 REVIEW OF THEORETICAL LITERATURES

The history of ideas on economic growth started from the classical economists like Adam Smith, Robert Malthus, Ricardo and Marx. The 20th century economist Keynes who transformed modern macroeconomics radically has also his own contribution in identifying sources of a nation's economic growth. From this time onwards, various studies were conducted to assess sources of growth.

Economic growth can be defined as the growth rate of per capita GDP over some period. The continuous growth of real GDP trend can be considered as sustainable economic growth, while the short-run fluctuation of growth over the trend can be thought of as business cycles. To achieve a sustainable economic growth, various factors determining economic growth are addressed in various studies. This study refers to tourism led growth hypothesis which is directly derived from export-led growth hypothesis.

The export-led growth hypothesis (ELGH) postulates that the economic growth of countries can be generated not only by increasing the amount of labor and capital within the economy, but also by expanding exports. Actually, exports are generally supposed to contribute positively to economic growth through different means: facilitating the exploitation of economies of scale (Helpman and Krugman, 1985), relieving the foreign exchange constraint (McKinnon, 1964), enhancing efficiency through increased competition (Krueger, 1980), and promoting the diffusion of technical knowledge (Grossman and Helpman, 1991).

Directly derived from the ELGH, the tourism-led growth hypothesis (TLGH) has recently appeared in the literature. Balaguer and Cantavella-Jordà (2002) were the first authors to mention this concept. Since then increasing attention has been paid to this issue. They argued that foreign exchange brought by international tourism should be used to import capital goods in order to produce other goods and services. If so, one can say that earnings from tourism are playing a fundamental role in economic growth. This shows that the degree to which tourism will act as a key

driver of economic growth in a country or region will depend on how efficient these countries are in allocating earnings from tourism.

Nowak (2007) argued that economic growth can be achieved via increases in the volume of inputs. This economic relationship is known as Tourism Capital Imports to Growth (TKIG). The author empirically supported the TKIG hypothesis for the case of Spain, confirming that economic development and industrialization in Spain were achieved since the early sixties through imports of capital goods mainly financed by tourism receipts.

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Over the past decades, the importance of the tourism sector for the economy has been steadily increasing. According to Dritsakis (2004) International tourism is recognized to have a positive effect on the increase of long-run economic growth such as:-

1. Tourism is a significant foreign exchange earner, allowing paying for imported capital goods or basic inputs used in the production process.
2. Tourism plays an important role in stimulating investments in new infrastructure and competition between local firms and firms in other tourist countries.

3. Tourism stimulates other economic industries by direct, indirect and induced effects.
4. Tourism causes positive exploitation of economies of scale in national firms
5. Tourism generates employment. According to ODI (2007), tourism has accounted around 2-6% of jobs in Africa and these include jobs for the women, unskilled and informal sector workers. The growth of tourism has created many jobs because numerous industries directly linked to tourism. “The great advantage of tourism sector is that it tends to be labor intensive, so an increase in production is normally achieved by an increase in employment. This is advantageous for those economies that need to decrease unemployment.” (*Eugenio-Martine, et al, 2004*). It should be noted that more employment is created by the tourism sector than by any other growing industry and Tourism is the leading source of foreign exchange in at least one of three developing countries that have made it a priority sector (*Durbarry, 2004*). The World Trade Organization (1998) claimed that these countries raise 10 to 25 per cent of government revenue from the sector.

The other theory that this study refers to is ‘the *theory of factor endowment*’. It is based on the distribution of factor endowments in each country explaining the comparative advantage which any country may have over its commercial partners. Countries with an abundance of certain resources will benefit from a comparative advantage for the production and export of products requiring these resources. It is true for natural resources which are very important for international tourism. The relative abundance of the natural resources has a decisive influence in explaining a country’s position in international tourism. Therefore, the international tourism

specialization of a country will be directly linked to an abundance of the resource necessary to develop the supply of tourism products to be aimed at the international customers (Vellas, 1995).

Lanza and Pigliaru (2000) developed a model with production in the sector depending on endowments of a natural resource. They show that a country with a relative abundance of natural resource will specialize in tourism and enter the faster growth path. They observed that countries with relatively large tourism sectors have two distinguishing characteristics; they exhibit higher than average rates of growth; and they are small. If small countries are more likely to be relatively resource-rich, as seems likely, then it follows that small countries will specialize in tourism and achieve higher growth rates.

2.3 EMPIRICAL LITERATURE

Tourism is viewed as an engine for economic growth and there are many researchers that focus on the area. There have been several recent empirical studies which explored the relationship between tourism and economic growth conducted in different developed countries. However, little has been done in developing countries. In the following paragraphs some of the major empirical works presented. Balaguer and Cantavella-Jordá (2002) studied the role of tourism in economic growth for the Spanish economy by using an export-led growth approach for the period 1975–1997. The tourism-led economic growth hypothesis is confirmed through co integration and causality testing. The results of these authors indicate that Spain's economic growth has been influenced by the persistent expansion of international tourism. Multiplier effects on growth through the expansion of the tourism sector

have been found. They argue 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. This means that international tourists to a particular destination might contribute significantly towards financing the country's imports.

Eugenio – Martin et al, (2004) consider the relationship between tourism and economic growth in Latin America countries from 1985 to 1998 and employ a dynamic model of economic growth. They based their analysis on panel data approach in which they obtained estimates of the relationship between economic growth and growth in tourist per capita conditional on main macroeconomic variables. They find that tourism growth is associated with higher economic growth in low and medium income countries, but not in high income countries.

Fayissa, Nsiah and Tadasse (2007) examine the impact of tourism on economic growth and development in Africa using a panel data analysis. They discovered that tourism receipts significantly contributed to gross domestic product and the economic growth of sub-Saharan African countries as with investment in physical and human capital. Their findings indicate that African economies could enhance their short-run economic growth by strategically strengthening their tourism industry.

Comparing the relative growth performance of 14 “tourism countries” within a sample of 143 countries, Brau, Lanza, and Pigliaru (2003) document that tourism countries grow faster than all the other sub-groups (OECD, oil exporting, LDC). Many developing countries have thus started to consider tourism as an important and

integral part of their economic growth and development strategies as it serves as a source of scarce financial resources, job creation, foreign exchange earnings, and technical assistance (Sinclair 1998; Dieke, 2004).

World Bank conducted a research for the government of Ethiopia based on a survey on some known locations such as Lalibela, Bahir-Dar, Gonder, Axum, Harar, Arba-Minch, and Addis Ababa (World Bank, 2006). Under the objective of responding to the Government of Ethiopia request to define a strategy for tourism growth that is commensurate with its vision for tourism, the report clearly indicates that the industry is under-performing relative to the tremendous potential value of its cultural heritage as an anchor for a tourism industry. According to the study, this is attributed to weaknesses in Ethiopia's image, market presence and penetration resulting in a demonstratable weak demand for its products, a severely undervalued cultural and natural resources base; uncompetitive supplier and support services (hotels, transporters, activity providers, restaurants, handicraft manufacturers and distributors, banks, and emergency health services); and finally the absence of an efficiently coordinating and communicating governance framework to guide and integrate the many stakeholders at both the national and sub-national levels.

CHAPTER THREE

3. MODEL SELECTION AND METHOD OF ESTIMATION

3.1. MODEL SELECTION AND SPECIFICATION

In the economic growth literature, researchers have been interested in the rate at which countries close the gap between their current positions and their desired long-run growth path. To determine the responsiveness of income growth rate to tourism and the traditional sources of economic growth (such as investment in physical capital and openness of the economy as measured by the ratio of the sum of imports and exports to the GDP, often described as terms of trade), in this paper the following model is considered. The model first specifies a simple double log-linear Cobb-Douglass production function as:

$$\ln PCI_{it} = \beta_0 + \beta_1 \ln TRP_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln TOT_{it} + \beta_4 \ln HHC_{it} + \varepsilon_{it}$$

Where $\ln PCI_{it}$ 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 and TOT_{it} is the log of terms of trade 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.

3.2 VARIABLE DESCRIPTION AND EXPECTED SIGN

To examine the link between tourism and economic growth in Ethiopia, this study utilizes different macro economic variables. The macro economic indicator for measuring output, gross domestic product (GDP), is measured in logarithm and per capita terms. In this study, real GDP per capita income and Household final consumption expenditure per capita and International Tourism receipts per capita

expressed in 2000 US \$ constant prices, TOT expressed as Net barter terms of trade, Gross Fixed Capital Formation and Foreign Direct Investment (net inflows) expressed as % of GDP.

Gross Domestic Product refers to the sum of the gross value added by all resident producers in the economy. Gross Domestic Product divided by population gives us gross domestic producer per capita (PCI).

Tourist receipts per capita (TRP) is calculated by dividing total tourist receipts by total population. International tourism receipts are expenditures by international inbound visitors, including payments to national carriers for international transport. These receipts include any other prepayment made for goods or services received in the destination country. A positive sign is expected.

GCF is a component of the expenditure on GDP, and thus shows something about how much of the new value added in the economy is invested rather than consumed. Gross Fixed Capital Formation (GCF) as a percent of real GDP used as a proxy for investment in physical capital and a positive sign is expected.

TOT stand for terms of trade and it is calculated as export plus import to output ratio (openness). It is used to measure the impact of openness of the economy in its growth performance, and a positive sign is expected.

Household Consumption expenditure (HHC) is a transaction of the national account's use of income account representing consumer spending. It consists of the expenditure incurred by resident households on individual consumption goods and services. The expected sign is controversial.

3.3 ESTIMATION TECHNIQUE

3.3.1 UNIT ROOT TEST

Econometric modeling of time series between economic variables requires time series data of the variables. However, such time series data create several problems. Regressing a time series variable on another time series variable yields high R^2 , even though there is no meaningful relationship between the two variables. This is called spurious or non sense regression (Gujirati, 2007).

On the other hand, the Standard Ordinary Least Square (OLS) assumes that the variables under consideration are stationary. Stationary series has time independent value and, a finite variance. This means that their mean, variance, covariance are time invariant. As a result, shocks to the series are temporary and overtime will dissipate. However most macroeconomic variables are non stationary in perception that the mean and variance depend on time and there are no tendencies for them to hold back to a given value and hence shocks have permanent effect. Non stationary results due to many reasons such as changes and political turmoil. Therefore, in conducting OLS estimates in time series variables, checking for the stationary of the time series variables are necessary.

The test of stationarity that has been widely popular over several years is the unit root test. The presence of unit root indicates that the series is non stationary. The Dicky Fuller and the Augmented Dicky Fuller test are the most popular techniques for testing the presence of unit root in the literature.

Consider Autoregressive model of order one AR (1)

$$Y_t = \beta + \theta Y_{t-1} + e_t$$

Where $\Theta=1$ corresponds to unit root. As shown in Dicky & Fuller (1979) the standard t ratio does not have a t distribution, not even asymptotically. The reason for this is the non stationarity of the process invalidating the standard results on the distribution of the OLS estimator Θ . The null hypothesis, which corresponds to the presence of unit root, is when $\Theta=1$.

On the other hand, Augmented Dicky Fuller test can be used to check for the presence of unit root test. In the Dicky Fuller test, the error terms are assumed to be uncorrelated. But in case the error terms are correlated, Dicky and Fuller have developed a test known as Augmented Dicky Fuller (ADF) test. This test is conducted by “augmenting” the equation by adding the lagged values of dependent variables. This idea is to include enough terms so that the error terms are uncorrelated.

The classical ordinary least square (OLS) assumes that the underlying variables are stationary, thus, the t test and others are statistically significant. However, many macroeconomic variables exhibit stochastic trend and are non stationary. Regressing such variables on another yields what is called spurious regression, where the R^2 is high, though there is no meaningful relationship among the variables. Thus, to take care of the spurious regression and confirm that the long run relationship materializes, the concept of co integration is used.

Subjecting each variable to unit root test may yield that they are integrated of order one i.e. $I(1)$. The linear regression of such variables, however, result an interesting outcome where the stochastic trends cancel each other and the regression becomes reasonable. This is basically the concept of co integration. Economically speaking, two variables are co integrated if they have long run relationship between them. The residual obtained from such regression are used to check whether co integration

prevails. Thus, subjecting the error terms to unit root test and if it is found to be integrated of order zero i.e. $I(0)$, then there exists long run relationship among the variables.

There are two methods of co integration test that has been widely used. The Engle and Granger (1987) method which is based on checking whether a single equation estimates the equilibrium error term appear to be stationary. Application of Dicky fuller (DF) and Augmented Dicky Fuller (ADF) can be used on residuals obtained as the test of co integration. However, since the estimated error terms are based on co integrating parameter, the DF and ADF critical values are not quite appropriate. Thus, Engle and Granger have calculated the values. The present DF and ADF in this context are known as Engle Granger (EG) and Augmented Engle Granger (AEG) test.

There are two steps which are employed in testing for co integration in Engle Granger method. The first step is to determine the order of integration of the variables through the use of unit root test. If the variables are $I(1)$ and the residual obtained from such regression is found to be $I(0)$, then it is argued that there is a long run relationship between the variables.

The Second step is to estimate the Error Correction Mechanism (ECM). The ECM states that if two variables, say X and Y is co integrated, then the relationship between the two can be represented as ECM. In this case, the equilibrium error term is included in the first difference of the variables, which is represented as a short term indicators. This formulation helps to show the variation form the equilibrium position and how the adjustment towards the equilibrium is made.

CHAPTER FOUR

4. DATA ANALYSIS AND DISCUSSION OF ESTIMATION RESULTS

4.1 UNIT ROOT TEST RESULTS

Prior to determining whether all the series are integrated, this study examines the integrating order of all the variables by applying unit-root test (ADF). Unit-root test are classified into series with and without unit roots, according to their null hypothesis, in order to conclude whether each variable is stationary. All the variables are first tested for stationarity with intercept and trend using the Augmented Dickey-Fuller (ADF). The results in Table 3 and 4 shows that both the variables are integrated at $I(1)$.

This test is based upon estimating the following equation:

$$\ln \text{PCI}_{it} = \beta_0 + \beta_1 \ln \text{TRP}_{it} + \beta_2 \ln \text{GCF}_{it} + \beta_3 \text{TOT}_{it} + \beta_4 \text{HHC}_{it} + \varepsilon_{it}$$

Below table 1, shows the unit roots test results. The table shows that per capita income (PCI), tourism receipt per capita (TRP), Gross fixed capital formation (GFC) and house hold final consumption expenditure (HHC) are integrated of order one $[I(1)]$ or non stationary, that is, they are stationary only at their first difference. However, a term of trade (TOT) is $I(0)$; that is, it is stationary at its levels. The ADF test is performed using 95% critical values (in parenthesis after each statistic). This analysis shows that any dynamic specification of the model in the levels of the series is likely to be inappropriate and has problems of spurious regression. Therefore, to avoid this problem an $I(0)$, terms of trade (TOT) will not be included in the co-integration analysis, because $I(0)$ is not expected to have a long run relationship with $I(1)$ series.

TABLE 1:**UNIT-ROOT ESTIMATION (ADF TEST)**

Variables	ADF test	ORDER OF INTEGRATION
ln PCI	-2.434(-2.992)	I(1)
dlnPCI	-9.050(-2.994)	I(0)
lnTRP	0.001(-2.992)	I(1)
dlnTRP	-6.590(-2.994)	I(0)
lnGFC	-2.434(-2.992)	I(1)
dlnGCF	-9.050(-2.994)	I(0)
lnTOT	-3.008 (-2.992)	I(0)
lnHHC	0.201(-2.992)	I(1)
dlnHHC	-5.699(-2.994)	I(0)

4.2 RESULTS OF COINTEGRATION TEST

Several Co integration techniques are available for the time series analysis. These tests include the Engle Granger (1987) test and Johansen's (1988) Co integration test. Their common objective is to determine the most stationary linear combination of the time series variables under consideration. Consequently, Johansen Co integration technique has been employed for the investigation of stable long run relationships between non stationary variable at their level that are per capita income, tourism receipts per capita and house hold consumption per capita. A variable gross capital formation per capita is dropped due to the existence of perfect multi coliniarity problem.

TABLE 2: JOHANSEN'S TEST FOR CO INTEGRATION TEST RESULTS

Ho= rank=p	Max. eigen value	95 % confidence interval	Trace statistics
P=0	-	29.68	16.7651 ^{*1*5}
P=1	0.37354	15.41	4.1382
P=2	0.13978	3.76	0.0729
P=3	0.00269	-	-

The result in table two indicates that there is no long run relationship between variables at both one percent and five percent level of significance.

4.3 RESULT OF OLS REGRESSION

TABLE 3: OLS ESTIMATION

Variable	coefficient	Standard error	t-value
Constant	3.69417	1.860563	1.99
lnTRP	0.1383825	0.360382	3.84
lnTOT	-0.2089633	0.3320119	-0.63
lnHHC	0.0187789	0.2133019	0.09

From the OLS regression result tourism receipt is positively related with per capita income of Ethiopia and it is significant at one percent level of significance. If tourism receipt increased by one then per capita income increased by 0.14. In the case of Terms of trade and house hold consumption expenditure the result shows they are negatively and positively related respectively. But both variables are insignificant at all significance level.

CHAPTER FIVE

5. CONCLUSION AND POLICY IMPLICATION

This study shows the relationship between tourism expansion and economic growth using annual data for the period 1981-2009. The empirical analysis suggests that all variables used in the study present a unit root. On this basis, the Johansen co integration test analysis was used to check the long-run equilibrium relationship among variables. The test shows no long run relationship between the two but the OLS regression result shows tourism receipt has a significant effect. The significant impact of tourism on Ethiopian economy justifies the necessity of Public intervention aimed, on the one hand, at promoting and increasing tourism demand and, on the other hand, providing and fostering the development of tourism supply. Furthermore, the economic expansion in an economy affects the tourism receipts, which is reflected by the development in infrastructure and tourism resorts. In general, the study appears to support the tourism led-growth (TLG) hypothesis for Ethiopia. The results of this study suggest that promoting tourism via developing a tourism strategic plan will contribute to economic growth in Ethiopia.

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DECLARATION

I, the undersigned declare that this project work is my original work and has not been presented, in part or whole, in any other university or college. All sources of the materials used for this project work have been duly acknowledged.

Declared by:

Name: Meseret Getahun

Signature: _____

Date: _____

Confirmed by:

Advisor: Wassie Berhanu (Dr.)

Signature: _____

Date: _____

Place of submission: Addis Ababa University