

**WHAT IS THE IMPACT OF SAVINGS ON
GROWTH?
The Case of a Small Open Economy (Albania)**

By

Olesia Gjergji, BA

**Thesis submitted for the degree Master of Science in Banking and
Finance
Department of Banking and Finance**

Epoka University

January 2015

Approval Page

Thesis Title Thesis Guide For Master of Science
Author Olesia Gjergji, BA,
Qualification : Bachelor of Arts
Program : Banking and Finance
Department : Banking and Finance
Faculty Economics and Administrative Sciences
Thesis Date 26 January 2015

I certify that this thesis satisfies all the legal requirements as a thesis for the degree of Master of Science in Banking and Finance.

(Assist. Prof. Dr. Urmat Ryskulov)

Head of Department

I certify that I have read this study that is fully adequate, in scope and quality, as a thesis for the degree of Master of Science in Banking and Finance.

(Assist. Prof. Dr. Urmat Ryskulov)

Supervisor

Approval Sheet

The wordings on the page should read as follows:

I certify that an Examination Committee has met on January 26, 2015, at 10:00 a' clock, at the meeting room, to conduct the final examination for Olesia Gjergji student of Master of Science in Banking and Finance thesis entitled **“What is the Impact of Savings on Growth? The Case of a Small Open Economy (Albania)”** in accordance with *Epoka University (Higher Degree) Regulation “On second cycle study programs”*. The Committee recommends that the candidate be awarded the relevant degree. Members of the Examination Committee are as follows:

Chairman, PhD

Professor: Assist. Prof. Dr. Urmat RYSKULOV

Faculty of Economics and Administrative Science

Epoka University

Examiner 1, PhD

Professor: Prof. Dr. GÛ ngö r TURAN

Faculty of Economics and Administrative Science

Epoka University

Examiner 2, PhD

Professor: Assist. Prof. Dr. Eglantina HYSA

Faculty of Economics and Administrative Science

Epoka University

Abstract

Does economic growth come as a result of increasing the saving rate of a country? Savings and Economic Growth are closely related to each other and this is why this relationship has been subject of studies for various economists through time. The aim of this study is to indicate the causal relationship that exists between savings and economic growth in Albania between the years 1992 and 2012 (after the fall of communism, during the long transition period of the country) by implementing the Johansen Co-integration Test. According to the empirical results is revealed that savings and economic growth are co-integrated, therefore showing the existence of a stable long-run equilibrium relationship. Moreover results of the study suggest that a positive relationship between savings and economic growth and the complementary role of FDI in growth. This implies that the government must pay special attention toward FDI policies in order to positively affect Economic Growth of the country.

Keywords: Co-integration, Savings, Economic Growth, FDI (Foreign Direct Investment), Albania

Abstrakt

A vjen rritja ekonomike si rezultat i rritjes së normës së kursimit të një vendi? Kursimet dhe Rritja Ekonomike janë ngushtësisht të lidhura me njëra tjetrën dhe është pikërisht kjo arsyeja pse kjo marrëdhënie ka qenë shpesh subjekt i studimeve të shumta gjatë periudhave të ndryshme kohore. Qëllimi i këtij studimi është të tregojë lidhjen shkakësore që ekziston midis Kursimeve dhe Rritjes Ekonomike në Shqipëri për periudhën 1992- 2012 duke përdorur Testin e Kointegrimit Johansen. Rezultatet empirike të këtij studimi tregojnë se kursimet dhe rritja ekonomike janë të kointeguara me njëra-tjetrën, duke konfirmuar kështu edhe ekzistencën e një marrëdhënie afatgjatë e të qëndrueshme. Gjithashtu rezultatet e studimit sugjerojnë se ekziston një marrëdhënie pozitive mes kursimeve, rritjes ekonomike dhe rolit plotësues të IHD-ve në rritjen ekonomike. Kjo nënkupton se qeveria duhet t'i kushtojë një vëmendje të veç antë politikave mbi investimet e huaja në Shqipëri, në mënyrë që të ndikojë pozitivisht në rritjen ekonomike të vendit.

Fjalë kyce: Kointegrim, Kursime, Rritje Ekonomike, IHD (Investimet e Huaja Direkte), Shqipëria.

Dedication

This thesis is dedicated to my family for their endless love and support.

Thank you!!!

Acknowledgements

First and foremost I would like to express my sincere gratitude to my advisor Prof. Urmat Ryskulov for his support, encouragement and continuous patience throughout my thesis preparation. Without his effort and help this thesis could not have been completed. Thank you for the interesting suggestions and interpretations. One, simpler could not wish for a better, understandable and friendlier supervisor.

Secondly I would like to thank all the professors of Epoka University, who have contributed to the economist I am today. Thank you for your help whenever I needed it, for the continuous motivation, for making me love what I was studying

Thank you God for always showing me the right way!

Declaration Statement

1. The material included in this thesis has not been submitted wholly or in part for any academic award or qualification other than that for which it is now submitted.
2. The program of advanced study of which this thesis is part has consisted of:
 - i) Research Methods course during the graduate study.
 - ii) Examination of several thesis guides of particular universities both in Albania and abroad as well as a professional book on this subject.

Olesia Gjergji

26 January 2015

Table of contents

APPROVAL PAGE.....	II
DEDICATION.....	VI
ACKNOWLEDGEMENTS.....	VII
DECLARATION STATEMENT	VIII
LIST OF TABLES	X
LIST OF FIGURES	XI
LIST OF APPENDICES.....	XIII
INTRODUCTION	1
CHAPTER ONE: SAVINGS AND ITS IMPACT ON GROWTH.....	4
1.1 BACKGROUND OF THE STUDY. CASE OF ALBANIA	4
1.2 .OVERVIEW OF GDP, SAVINGS AND FDI IN ALBANIA.....	6
1.3. ECONOMIC GROWTH THEORY	9
1.3.1 <i>Classical economic growth model</i>	9
1.3.2. <i>Neoclassical economic growth model</i>	11
CHAPTER TWO: LITERATURE REVIEW	13
CHAPTER THREE: DATA, METHODOLOGY AND ANALYSIS	22
3.1. DATA DESCRIPTION:	22
3.2. VARIABLE DEFINITION.....	22
3.3 METHODOLOGY	23
ANALYSIS:	26
CONCLUSION	32
BIBLIOGRAPHY	34
APPENDICES	38
APPENDIX A. PRODUCTION FUNCTION AND OUTPUT GROWTH ACCORDING TO SMITH:	38
APPENDIX B. RICARDO'S PRODUCTION FUNCTION:	38
APPENDIX C. MALTHUSIAN PRODUCTION FUNCTION:	39
APPENDIX D. HARROD - DOMAR	39
APPENDIX E. THE SOLOW MODEL:	40

List of Tables

Table 1. Group Statistics..... 26

Table 2. ADF Tests for GDP, Savings and FDI 28

Table 3. ADF Test after taking the first difference for GDP, Savings and FDI 29

Table 4. Johansen Cointegration Test..... 30

List of Figures

Figure 1. National Savings and Accounts Balance in Albania (1990-2014)	5
Figure 2. Savings and Investment in Albania (1990-2014)	6
Figure 3. Trend of GDP in Albania (1990-2014)	7
Figure 4. Trend of Gross Domestic Savings in Albania (1990-2014)	8
Figure 5. Trend of Foreign Direct Investment in Albania (1990-2014)	8
Figure 6. Scatter plot representing GDP, Savings and Growth in Albania.....	25
Figure 7. Line graph representing GDP, Savings and FDI in Albania	25
Figure 8. GDP	27
Figure 9. Savings	27
Figure 10. FDI.....	28
Figure 11. Solow Growth Model	42
Figure 12. Increase in Saving Rate	43
Figure 13. Population Growth.....	44
Figure 14. Productivity Growth (Technology Progress).....	45

List of Abbreviations

EU:	Epoka University
MSc:	Master of Science
BA:	Bachelor of Arts
GDP:	Gross Domestic Product
GDS:	Gross Domestic Saving
FDI:	Foreign Direct Investment
IHD:	Investimet e Huaja Direkte
ADF Test:	Augmented Dickey-Fuller Test

List of Appendices

Appendix: Final Format Checklist

INTRODUCTION

The main objective of this thesis is to discover and to study the relationship that exists between Savings and Economic Growth in Albania in the long run, and the complementary role that FDI plays in this relationship. Does the direction of causality run from domestic savings to economic growth or not?

The literature regarding this topic is vast and it gives a huge contribution into explaining the savings and growth relationship. Nevertheless, sometimes putting together in cross section equations countries with different specifics, experiences and different policies might sometimes result in misleading results (Demetriades & Hussien, 1996). Another problem with many other studies might also be the omission of the role that Foreign Direct Investment inflow plays in the saving and growth relationship.

The starting point of this study is to know whether the time series data of GDP, Domestic Savings and Foreign Direct Investment are stationary or non-stationary. Mishkin noted that economic series that had the presence of unit roots (non-stationary) in the dependent and independent variables, resulted in no meaningful regression referred as spurious regression. (Mishkin, 1992). So the Augmented Dickey-Fuller (ADF) tests were initially performed in order to find out whether the time series were stationary or not. After making sure to have stationary time series, the second step was that of employing the Johansen Co-integration Test. The thesis investigates the causal relationship that exists between savings and growth in a small open economy like that of Albania, and the complementary role that FDI plays on this relationship.

In order to avoid the mistakes made in some of the previous studies, the Foreign Direct Investment inflow was included in this study due to its growing importance and role in the economy of the country. The thesis intends to uncover the impact that FDI has on the relationship between savings and growth in the case of Albania. This complementary role of FDI is studied as it can give an importance and some suggestions to the policies that the Government should take toward the developing strategies in the country.

As mentioned above, the main objective of this thesis is to discover the relationship that exists between savings and growth in the long run in Albania.

The two main objectives that this research study covers are:

- I. The relationship that exists between Savings and Growth.

II. The complementary role of FDI on this relationship.

Various sources were used in order to provide the data needed for this research study. The data used were provided from: International Monetary Fund (IMF); World Bank (WB), Bank of Albania (BoA); Index Mundi.

In order to be able to implement the Johansen Co-integration Test and to discover the relationship that exists between GDP, Domestic Savings and FDI, in this study were observed annual data for the period of time 1992 - 2012 in Albania.

Hypothesis Testing

Hypothesis:

Ho: Domestic Savings and FDI have a positive effect on Economic Growth in the long run.

H1: Domestic Savings and FDI don't have a positive effect on Economic Growth in the long run.

The structure of this thesis is organized as follows: Introduction part and three main chapters. The first part of the study covers the introduction part where arises the fundamental question whether by saving more a country will be able to grow faster or not. Moreover in this part are also specified the main objectives of this thesis and what is the methodology being used in order to achieve the desired results from the study.

Chapter one "Savings and its impact on growth" gives an overview of the situation of GDP, Domestic Savings and Foreign Direct Investment in Albania in the last 24 years, and at the same time it gives a general summary of the theories on which this study is based on. In this section is explained the economic growth theory, the catching up effect and the convergence hypothesis.

Chapter two is reserved to the vast literature review regarding the relationship of Savings, Foreign Direct Investment and Economic Growth. The relevant literature review is chronologically organized in order to show some of the studies made over time by specialists of economy and researchers, regarding the relation between savings and growth in their countries, and also representing some of the methodologies used by them to study this relationship.

Chapter three presents Data, Methodology and Analysis of the study, which indicates the concept of the model that is being used in the empirical test. Also in this part of the study can be found the definition of the variables used and the econometric model. In this part is included as

well the econometric regression and the results coming out, that gives the answer to the main question and object of the study, whether there exists a relationship between savings and economic growth in Albania and to the role that the Foreign Direct Investment plays on this relationship.

Lastly the Conclusion part specifies whether the test results have answered our question, and which is the main finding coming out from this study. Also in this part are included some recommendations regarding the study.

CHAPTER ONE: SAVINGS AND ITS IMPACT ON GROWTH.

1.1 Background of the Study. Case of Albania

Can a country grow faster by saving more? Actually this is the main question arising in this study. The Solow Model shows that higher savings leads to higher growth, but only temporarily, until the economy reaches the new steady-state. Maintaining high savings rate in an economy will cause the maintenance of a high level of capital stock and high level of output, but anyway it will not maintain forever a high growth rate. By contrast a higher saving is said to have a level effect. Only the level of income per person is influenced by the saving rate in the steady state, not its growth rate. (Mankiw G. N., 2012)

The World Bank developed a survey regarding the effect that savings had on economic development which revealed that countries with higher saving rates had had a faster economic growth than the ones with lower saving rates. So according to the World Bank in the developing countries, policies that encourage savings will also contribute to higher economic growth (WorldBank, 1993). However other studies results not always have supported the World Bank's results that, causality goes in the opposite direction in the case of Mexico, so the theory that higher savings cause higher growth does not hold in this case. (Sinha & Sinha, 1998)

Every country's aim is to reach a high level of economic growth as this would lead to better living standards, better welfare and a more comfortable life for people. Reducing poverty and increasing the national income is the goal of every Government. In order to achieve an economic growth, governments apply different kind of policies in their countries like increasing savings, investment and production.

As investment is one of the main factors that affects growth, the only way for it to increase is by expanding the saving rate of a country. Savings play a significant role in contributing to the ability of investment and production, which in their turn will positively influence the possibility of economic growth.

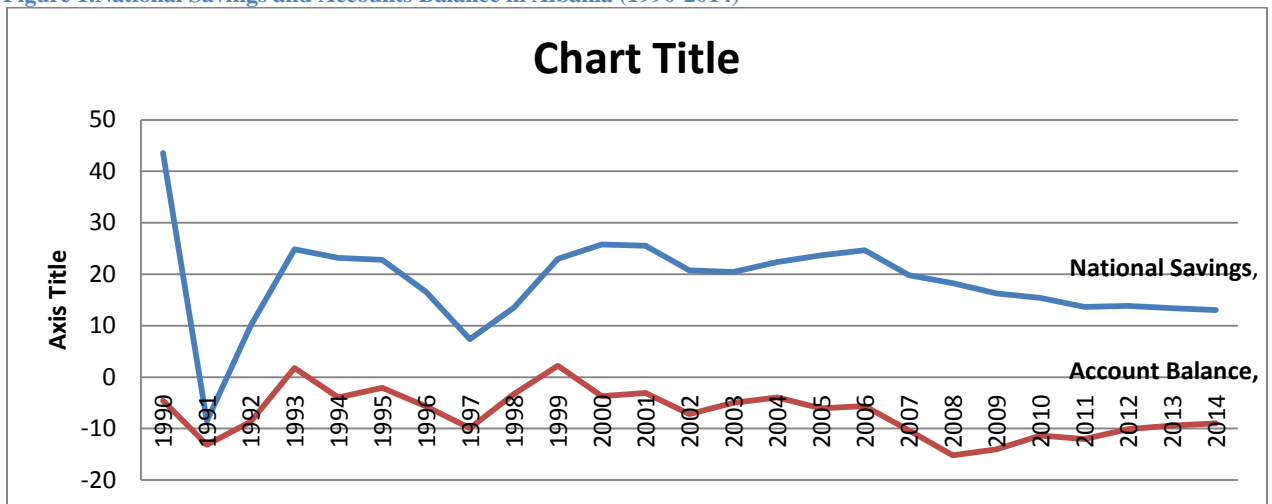
The general impression is that the boost of aggregate savings will grant greater investments accompanied by higher GDP growth in the short run. Therefore, as a result, higher savings rate decreases consumption rate, increases the capital amount and leading so to a higher economic growth rate.

Anyway, other empirical studies show that economic growth causes an increase in the personal income and in per capita consumption expenditure. Based on the theory of marginal propensity to save, increasing income leads to enlargement of savings rate. In other words, the amount of savings increases when there is an economic growth.

When talking about the relationship that exists between savings and economic growth, it cannot be denied that if the aggregate savings increases, this boosts investments and provokes economic growth.

Albania is a developing country and as such, capital is an important factor for economic growth. The biggest source of capital derives from savings. Experience shows that low saving rates have caused an account deficit in the country. From 1990 -1992 the sharp decrease in savings has lead to an increase of the account deficit of Albania. Also if we refer to Figure 1, it is easily noticed that as Saving decrease the account deficit decreases, while as Savings increase also the account deficit increases. In the graph the lines representing National Savings and Account Balance go together, by following each others ups and down in different periods of time.

Figure 1. National Savings and Accounts Balance in Albania (1990-2014)

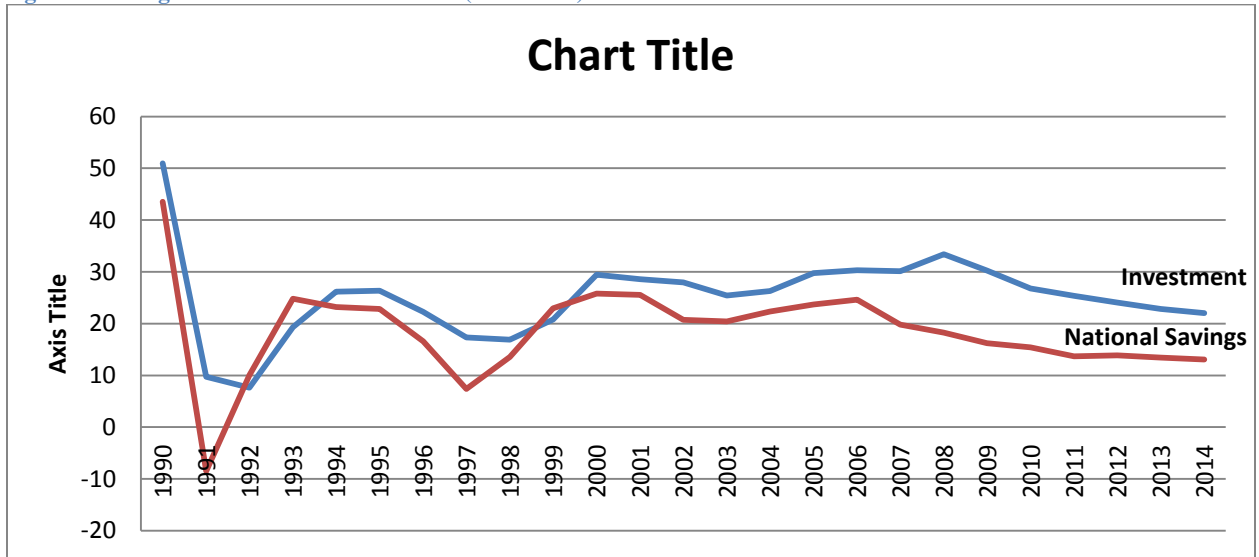


Source: By Author

In Figure 2, it can be seen that most of the time Savings and Investment in Albania go on the same direction, which means that when one of them increases, so does the other one. Anyway, referring to the graph below it can be noticed a gap between savings and investment during the years 1994-1998. Seems like during this period Savings could not meet the demand of investment, so the country borrowed money to absorb the scarcity of internal saving. (Figure 2.)

Goit back to Figure 1 above, for the same period of time, an increase in the account deficit results for Albania. During this period it can also be remarked the crisis in the country and the collpase of the economy during year 1997 in Albania because of the Pyramid Scheme System of the time which caused a huge shock in the economic situation of the country.

Figure 2. Savings and Investment in Albania (1990-2014)



Source: By Author

The fact that the absence of savings accumulation can result in an economic crisis, reinforces the importance of savings. Savings must be considered an important source of capital that enhances economic progress and protects the financial stability of a country.

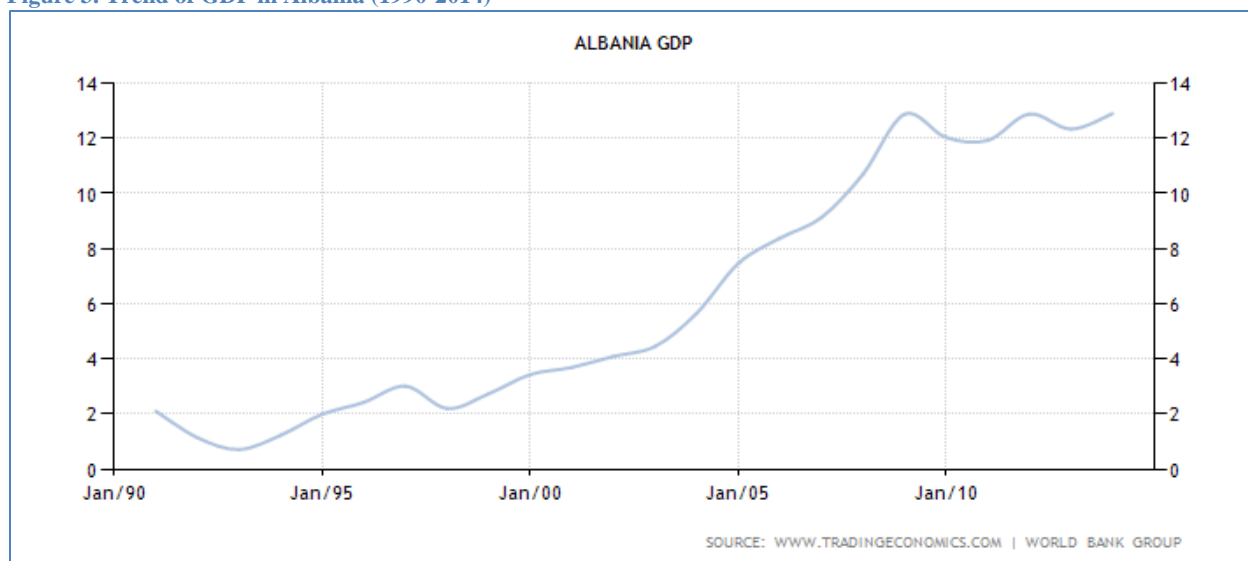
In Albania (Figure 2.) higher savings spurs higher investments in the country, which on the other hand leads to higher economic growth of the country.

1.2 .Overview of GDP, Savings and FDI in Albania

The GDP of Albania has been increasing since the year 1990 when the communist regime fell in the country. During the year 1997 it can be noticed (Figure 3. below) a decrease in the GDP due to the collapse that occurred in the economy of Albania because of the Pyramid Schemes System. Also it can be observed from that, that after the year 2009 (corresponding this time with the world economic crisis of this period) the GDP has started to decrease and to fluctuate a lot until the year 2013, when it finally recorded its highest value equally to 12.9 Billion of US Dollars (it can be converted to only 0.02% of the World Economy). On the other

hand the lowest value of GDP was registered in year 1992, which was calculated to be as 0.71 Billion of US Dollars.

Figure 3. Trend of GDP in Albania (1990-2014)



Source: WWW.TRADINGECONOMIES.COM

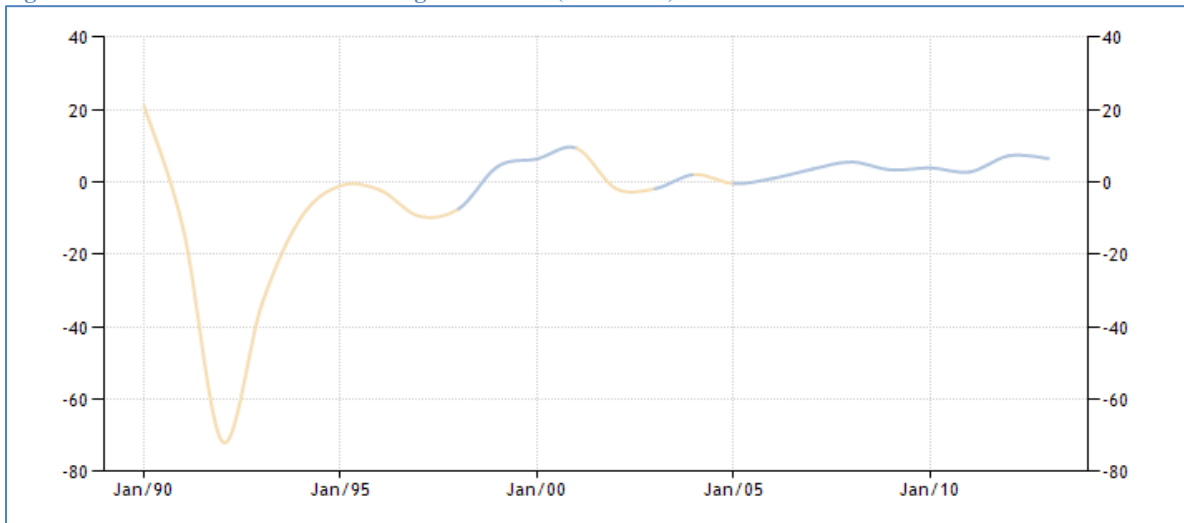
Gross Domestic Savings here is calculated as a percentage of the GDP of the country. For the last time it has been measured in the year 2012 and it resulted to be 6.92 % of the GDP according to the World Bank reports.

$$\text{Gross Domestic Savings} = \text{GDP} - \text{Total Consumption}$$

Referring to Figure.4, from year 1990 until 1993 it can be noticed a sharp decrease of the Domestic Savings in Albania and then from 1993 to 1995 an immediate increase. Generally the Domestic Savings of the country have been increasing but from time to time there have also been some fluctuations on the domestic savings level. The highest Domestic Saving level for Albania, according to the graph corresponds to the period 2001.

The last measurement of the FDI in Albania dates on the year of 2012. It is the total sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as it is shown in the balance of payments. If we refer to Figure 5. since the year 1992 until year 2010 the FDI in Albania shows an overall and continuous increase.

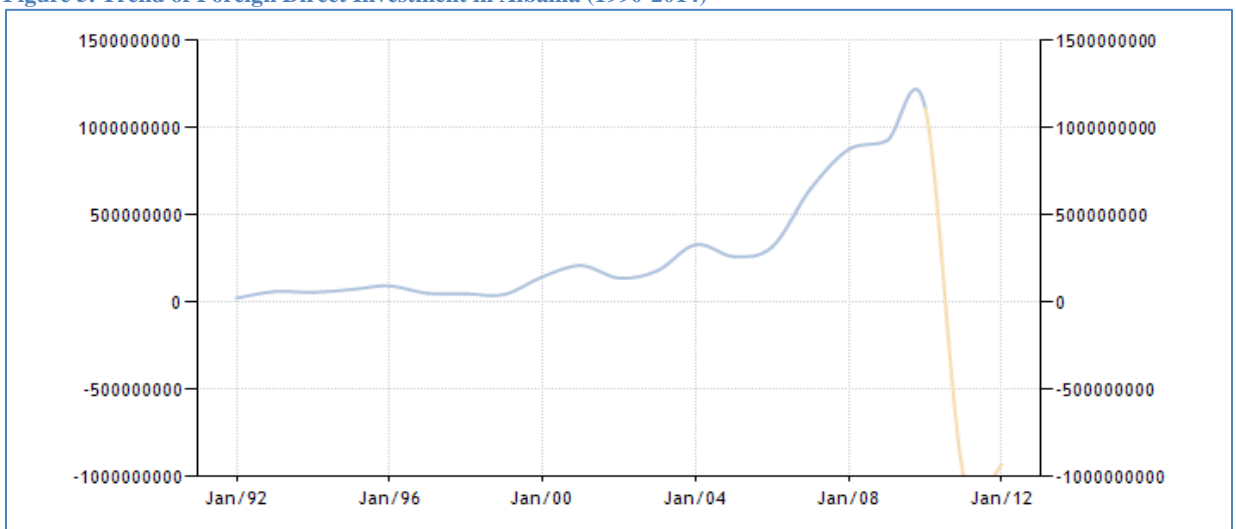
Figure 4. Trend of Gross Domestic Savings in Albania (1990-2014)



Source: WWW.TRADINGECONOMIES.COM

But since year 2010 the decrease on the level of FDIs in the country is terribly sharp which indicates that something is not going on well in the economy of the country, or as well the problem might derive as the result of problems in the World Economy, which effects have fallen directly in the FDIs level in Albania. Most probably it is related to the Economic Crisis of this period, causing a decrease of investments due to lack of liquidity or due to higher investment risks implied in this period.

Figure 5. Trend of Foreign Direct Investment in Albania (1990-2014)



Source: WWW.TRADINGECONOMIES.COM

Generally we can observe clearly that all the variables of GDP, Domestic Savings and FDI in Albania show an increase during these twenty years of democracy. The most problematic periods of time regarding these indexes are the year 1997 which is related to the collapse of the pyramide schemes in Albania, and the year 2009 which is the year when the World Economic Crisis started.

1.3. Economic Growth theory

Economic Growth Theory studies and compares the most important theories starting from Adam Smith who is considered as the father of the Economy up to the present. For the purposes of this thesis, two theories have taken into consideration, which are helpful to better understand the concept of economic growth and the factors that can impact it:

- a) The Classical economic growth model;
- b) Neoclassical economic growth model.

This models are only explained in general as the information and data about Albania are not enough so that these models to be applied.

1.3.1 Classical economic growth model

When talking about the Classical Economic Growth Model, immediately we think about the work of Adam Smith, Thomas Malthus and David Ricardo. They are considered as the forerunners of the modern growth theory. The highest level of the research was reached through the work of David Ricardo. Their work started as a need of the time due to the economic and social conditions taking place in the English society of the time. They were living in the eighteenth and nineteenth centuries, when the industrial revolution happened, and such developments and changes awoke their interest and impressed them.

The interest in the economic growth was a result not only of the changes that took place at the time and the long-run tendencies that would result from these changes, but also it derived from the chances of progress on the material bases of the society. Which were the forces that promoted or impeded the development of the society? What policies could be implemented in order to influence these forces? These were some of the questions that the three Classical economists wanted to give an answer.

They gave importance to the productive investment and capital accumulation as the principal of the growth model. Other factors taken into consideration were: the technological

progress, labor division and the changes in the production methods. *These economists sustained the idea that progress is seen from the point of view of the growth of the national wealth.*

According to Smith's (1776) explanation of economic growth, division of labor is the core of society's ability to increase productivity. But in order for this to happen, the prior accumulation of capital is needed, which will be used to pay the wages of the additional workers or to buy the needed machines. Smith supports the supply-side driven growth model.

Smith actually identified three main sources of growth:

- a. Growth in the labor force and stock of capital.
- b. Increase of capital efficiency due to labor division and technological progress
- c. promotion of foreign trade

The savings in capitalist system promotes investment and as a result there is economic growth. Division of labor is useful only in big markets, while it can be useless in small markets.

Ricardo (1817) similar to Adam Smith was more interested in his theory of value and distribution rather than in economic growth. The production function of Ricardo considers three factors of production just like Adam Smith: Land, Labor and Capital, but in this case the production function is subject to the restriction of diminishing marginal productivity. Unless it is monitored by technological progress, the marginal productivity of all the factors decreases. According to Ricardo "*although then it is probable that, under most favorable circumstances, the power of production is still greater than that of population, it will not long continue so; for the land being limited in quantity, and differing in quality, with every increased portion of capital employed on it there will be decreased rate of production, whilst the power of population continues always the same.*"¹ (Ricardo, 1817) As a result the views of Ricardo regarding the pace of economic development are different from Adam Smith. As Smith's system develops at an accelerate rate, Ricardo's system grows at a decreasing rate.

The third economist of the time, Malthuse, differently from Smith and Ricardo, gave importance to economic growth and population. Population growth is limited by society's riches. He wrote "*an increase in population cannot take place without a proportionate or nearly proportionate increase of wealth*"² (Malthuse, 1798). Malthuse did not support the idea that

¹ Ricardo, David (1817). *The Principles of Political Economy and Taxation*. London. p. 56.

² Malthus, Robert. T. (1798). *Principles of Political Economics*. New York. p. 317.

savings always equals investment but he states that savings leads to decrease of effective demand by reducing people's ability to consume and thus causing a decrease in profits and investment.

1.3.2. Neoclassical economic growth model

According to the economists who have studied the neoclassical growth mode, an economic growth in the long-run need an increase in labor supply and as well an increase in labor productivity or in capital productivity.

This theory identifies the necessary factors that would help the growth of an economy. The factors that would influence this economic growth include capital, land, labor and technology in order to achieve the steady state growth. This means that all variables would increase at a constant proportional rate of growth. Based on this theory, temporary equilibrium is different from long-term equilibrium where these factors are not included. The Neoclassical theory is explained by two different models as below:

a. Harrod- Domar growth model

The Harrod-Domar model is used in order to explain the growth rate of the economy deriving from the level of saving and productivity of capital. This model was named after the English economist Roy Harrod and from the American Professor Evesey Domar. According to the model aggregate savings aim is to be used for investment. Moreover the model states that the growth rate of an economy depends on savings level as well as the capital-output ration of the economy. Also it suggests that there are no natural reasons why the economy should have a balanced growth. There are three kinds of growths according to this model: warranted growth, actual growth and natural rate of growth. This model is the precursor of the exogenous growth model.

Regarding the economic growth of Harrod-Domar model are taken into consideration three conditions:

- Investment = Savings
- Capital stock is totally used
- Full employment

According to the Harrod-Domar model by increasing the savings rate, increasing the marginal product of capital or decreasing the depreciation rate will cause the increase of the output growth rate. More investment leads to capital accumulation which generates growth.

b. Solow Growth Model

The Solow model is an exogenous growth model related to long-run economic growth. This model takes into consideration capital accumulation, labor, population growth and technological progress in order to explain the economic growth in the long-run. According to the Solow model an increase in saving rate and technology progress affects positively the per capita income level. (Solow, 1956)

Solow assumes that economic growth is not depending from the size of the economy but on labor, capital and technology.

*These theories have been included in this study just for inspirational purposes because the implementation of these theories for the case of Albania could be very difficult for not saying impossible due to the lack of data needed. Anyway by mentioning in general the main theories of economic growth helps in order to deepen the understanding of the economic growth process of a country and of the potential factors that could be used in order to study their impact on the economic growth.

CHAPTER TWO: LITERATURE REVIEW

There are many studies which study the relationship between savings and economic growth.

Solow in 1956 emphasized the importance of saving in the Economic Growth.

Modigliani in 1970 on the other hand supported the fact that higher growth increases the lifetime wealth of young savers relative to retired non savers, by causing so the increase of total saving in an economy. Higher savings as a result causes higher investment and increase in output.

Other authors followed Solow's hypothesis. McKinnon in 1973 and Shaw in 1973 reinforced the idea that the role of savings on economic development of a country is very important due to the fact that by increasing the investment level, economic growth will be accelerated (Sinha & Sinha, 1998).

Carroll and Weil in 1994 found that growth Granger causes saving, but saving does not Granger cause growth. Using house - hold data they found that households with predictably higher income growth save more than households with predictably low growth. They argue that standard permanent income models of consumption cannot explain these findings, but, a model of consumption with habit formation may. The positive effect of growth on saving implies that previous estimates of the effect of saving on growth may be overstated.

Bisat, El-Erian and Helbling in 1997 made a detailed analysis of growth, investment and saving for the Arab Economies, which showed that improvements in investment and savings needed to be done in order to achieve a significant increase in the long-run economic growth. From their study three factors emerged: Firstly the investment process was not accompanied by enough improvement in total factor productivity. Secondly the disappointing evolution of total productivity was compound in the second half of the period by decreasing the rates of investment. And thirdly, the investment activities funding depended more than necessary on non stable external sources. Private sector investment was considered as the engine of the economic growth while the role of the public sector was mostly a complementary one which provided the right basis for addressing these aspects. The country needed to make deep-rooted-structural reforms for promoting investment and savings, and as well for strengthening the institutions. In this way the Arab countries will have the possibility to efficiently use the economic potential it has and to improve the living standard of the people in a sustainable way.

Sinha and Sinha in 1998 showed that the conventionally accepted view that higher saving rate causes higher economic growth does not hold for Mexico. In fact, the causality goes in the opposite direction. The conventional wisdom that higher saving rate leads to higher economic growth does not seem to bear out when careful econometric tests are performed.

According to Andersson in 1999, the causal chains linking saving and output differs across countries, and also that causality associated with adjustments to long-run relations might go in different directions than causality associated with short-term disturbances.

Saltz in 1999 explores an alternative hypothesis: that higher growth rates of GDP cause increased savings. Higher growth rates of income boost the rate of savings and attract more foreign savings. The findings support the latter hypothesis in more cases.

Sajid and Sarfraz in 1999 used the Co-integration and Vector Error Correction technique to explore the causal relationship between savings and economic growth and results showed a mutual long run relationship between savings and output level. Anyway the results suggested unidirectional long run causality from public savings to output and private savings to gross national product. Savings precede the level of output in Pakistan related to long run overall results. The short run causality runs only from national savings to gross domestic product which favors the Keynesian point of view on which savings depend on level of output.

Attanasio and Scorcu in 2000 showed that although the evidences on the relationship that exists between growth and investment is quite relevant regarding that literature, it must be stressed that the relation with the debate on relative convergence is only marginal. The reason behind this is that the convergence regressions are identified by Deaton, A., "Growth and Saving: What Do We Know, What Do We Need to Know and What Might We Learn," manuscript, World Bank (March 1995) cross-sectional variation which, in the regressions that focuses mostly on the time series dynamic is, to a considerable extent, absorbed by the fixed effects. Economic Growth seems to be positive (Granger causing) to saving, in a lot of specifications and data sets, but often the effect is very weak. Some evidence of a positive relationship between lagged saving rates and current growth rates exists, but still it is interesting to specify that a significant negative effect results in the trivariate system when additional controls exist. It is necessary to control for several determinants of heterogeneity across countries in order to be able to identify such a considerable effect as the "saving for a rainy day" implication of the lifecycle model.

Carroll, Overland and Weil in 2000 argument that habit formation seems even stronger when is taken into consideration the dynamic evidence. This indicates that when an increase in growth happens, there is a tendency for that to be followed by an increase in the saving rate. In their study they showed that habit formation might lead to a positive response in the short run of the savings to a favorable shock, even though there will be no effect in the long run of this shock on saving. Considering that all countries have the same tastes in technology and as a result the same steady state growth rate, the study shows that habit formation in consumption creates a positive correlation between saving and growth along transition paths toward the steady state; the lack of habit formation in the endogenous growth model does not create the transition effect (countries are always at their steady states), so countries would have all the same saving and growth rate.

Claus, Haugh, Scobie and Törnquist in 2001 investigate the link between saving, investment and growth. In particular, it focuses on issues potentially important in an open economy such as New Zealand. Results showed that diversified portfolios, large inflows of foreign investment into New Zealand and investment rates comparable to those in other OECD countries suggest that New Zealand has been able to access foreign saving to meet investment demands while domestic saving does not appear to have constrained investment and hence growth.

Anoruo and Ahmad in 2001 utilized Co-integration and VECM to explore the causal relationship between economic growth and rate of domestic savings for some African Countries. They used three types of analysis: Augmented Dickey–Fuller unit root procedure, Johansen and Juselius framework and finally Granger-causality test. Results of Co-integration test suggested the existence of a long-run relationship between economic growth and growth rate of saving while results of Granger Causality test showed the contrary to conventional wisdom, economic growth causes growth rate of domestic savings for most of the countries.

Agrawal in 2001 in his study found that in most cases for some Asian countries, the direction of causality runs primarily from growth to savings, even though in some countries, there is as well evidence of a feedback effect from savings to growth. That is why; development policy should focus more on promoting high growth rates and less on promoting high savings rates. High savings rates in Asia are found to be due to the high rate of growth of income per capita, declining shares of dependent population, and some special institutional features, such as

the high central provident fund rates in Singapore. Interest rates are found to have little impact on savings.

Baharumshaha, Thanooa and Rashidb in 2002 investigated empirically the factors that have affected the behavior of savings in the fast economic growth of the Asian countries (Singapore, South Korea, Malaysia, Thailand and the Philippines). The analysis based in time series data ended with these results: a) Both in short and long run the domestic savings were restrained by the foreign savings; b) Singapore exempt, economic growth is not Granger caused by savings.; c) the effect of interest rate of savings reflects the extent of financial liberalization of the Asian Countries, so it is inconclusive; d) in the long run causality goes from foreign savings toward domestic savings.

According to A. P. Thirlwall in 2002, the challenge of boosting savings is very important to Egypt in order to keep the achieved growth rate and to increase investment rate. Thirlwall studied the role of financial liberalization in order to stimulate savings and investment, and as a result growth in Egypt. From the study was concluded the if Egypt would keep growing more than 5% annually without relying on foreign borrowing, it would be a real challenge for the country to increase the level of saving rate. While in terms of involuntary savings which depended mainly on tax effort, it resulted to be good according to international standards showing that it could be possible for the country to have achieved its taxable capacity in relation to its current development level. Anyway, the study has reservations on forced savings coming from inflation by monetary expansion. Regarding the foreign saving, it doubled the growth rate compared to how it would have been if investment would have been constrained to the level of domestic saving.

Romm in 2003 examined the aggregate private saving rate and its interaction with investment and growth through Johansen VECM and results suggested that private saving rate has both a direct and indirect (through private investment rate) effect on growth while growth has a positive effect on private saving rate. Growth enhances savings which in turn further enhances growth.

Alguicil, Cuadros and Orts in 2004 presented evidences in favor of Solow's model prediction that higher savings lead to higher economic growth as opposition to the reverse causation between national savings and domestic income found in recent empirical studies. The

inclusion of Foreign Direct Investment in the model confirms the saving-growth nexus and it enhances economic growth and reinforces the connection between savings and growth.

Lasky in 2004 explained that based on the finding of Mankiw, Romer and Weil (Mankiw, Romer, & Weil) by including human capital in order to modify the Solow growth model, would substantially increase the impact of a change in the saving rate for physical capital. This happens due to the fact that increased output would create a greater investment in human capital. The cost of new human capital is proportional to the price of the output. But if the cost of new human capital would be proportional to the labor cost and as well to the labor productivity, the effect on output of a change in the saving rate for physical capital is the same as in the Solow growth model. Moreover, output per worker grows at a rate less than g along the steady-state growth path. While both effective labor and physical capital grow at rate g , there is no growth in human capital per worker in steady state. The fact that output per worker grows at a rate less than g along the steady-state growth path depends on the price of new physical capital which is equal to the price of all output. The ratio of real physical capital to real output increases over time.

Adebiyi in 2005 concluded from his research regarding saving and growth causal relationship for Nigeria that the evidence from impulse response analysis and Granger causality tests show that growth, using per capita income, is sensitive to, and has an inverse effect on savings.

Mohan in 2006 studied relationship between domestic savings and economic growth for various economies with different income levels. The study favors the hypothesis that the causality is from economic growth rate to growth rate of savings. Based on the empirical results, the main conclusion of this study is that income class of a country does play an important role in determining the direction of causality.

Verna in 2007 in his study of the relationship between saving, investment and growth gave two important contributions. Firstly the unit root tests were conducted within the framework of determining an endogenous structural break and secondly by studying the relationship of savings, investment and growth using the autoregressive distributed lag approach to co-integration. Results based on Perron's innovational outlier model showed that GDP was non stationary while GDS and GDI were stationary at the log levels. It was also observed that the most significant structural breaks happening over the last five decades coincided with the wars, regimen changes and nationalization of banks. Regarding the long run relationship of the

variables by employing the ARDL co integration approach, results showed that the null of no co integration cannot be rejected only when GDP is the dependant variable. On relation to the long run and short run elasticity of the relationship between the variables three conclusions came out: Firstly savings did not cause growth but growth did cause savings. Secondly savings drives investment in the short and in the long run. And third there was no evidence that in India since independence, investment had not been the cause of economic growth. Empirical results of the study can be considered as savings and investment are not the factors of economic growth but a derivative of it.

M. Shahbaz in 2008 investigated the relation between economic growth and gross domestic saving by using new techniques. Results from the study showed that a long run relationship exists between economic growth and domestic savings, and their bond is strong enough at least in a very long period of time. Causal results deriving from innovation accounting technique assure that there exists one way causality going from economic growth to gross domestic savings, while it is very weak from the opposite side. Also results from Toda and Yamamoto confirm again that in case of Pakistan economic growth leads to gross domestic savings.

Lean and Song in 2008 examined the relationship between growth and domestic savings and economics in China and found that economic growth in China is found to be co-integrated with two other variables: household saving and enterprise saving growth. In the short run a bilateral causality exists between household saving growth and economic growth, while in long run a unidirectional causality exists from economic growth to the enterprise saving growth.

Aghion, Comin, Howitt and Tecu in 2009 in their theoretical model, growth resulted from innovations that allow sectors to catch up with frontier technology. In poor countries where catching up requires cooperation of a foreign investor and a domestic entrepreneur, domestic savings matter for innovation and therefore growth because it enables the local entrepreneur to put equity into the problem that would otherwise deter the foreign investor from participating. In rich countries domestic saving do not matter for growth as the domestic entrepreneurs are familiar with frontier technology leading to no need to attract foreign investors. According to a cross country regression is shown that remaining savings is positively related to productivity growth in poor countries but not same situation is in rich countries.

According Daniel. L. Thornton study of 2009 it would not be right to state that faster economic growth is a result of higher saving rate because other factors affecting the economic growth are not taken into consideration. He states that a rising saving rate might impede the economic improvement. The fact that in the long run there is a probability that saving and growth are positively related, does not exclude the chance that increasing saving rate in the short term might have a slowing effect in economic growth.

Odhiambo N.M in 2009 gave a fresh look to the direction of causality between saving and economic growth in South Africa, motivated by the declining of the saving rate in the country and the dwindling level of economic growth on the other end. In the study was incorporated foreign capital inflows by creating so a trivariate causality framework. Results from the study suggested that savings arising from growth were predominating in South Africa. Also results showed that foreign capital inflow and savings did Granger-cause each other, while economic growth Granger-caused foreign capital inflow. That's why in the short term, policies of the South African government should lead to the achievement of higher savings and economic growth in order to attract investors and foreign capital inflow. Anyway, in the long run the country should aim to increase economic growth in order to boost domestic savings and achieve a steady flow of foreign capital investment.

AbuAl-Foul studied in 2010 the long run relationship between real gross domestic product and real gross domestic savings for Morocco and Tunisia and results revealed that in case of Morocco there exists a long run relationship between the variables based on Granger Casuality test while there is no evidence of long-run relationship in the case of Tunisia since economic growth is very unequal from country to country due to the fact that some economies grow faster than others.

Joseph Antwi Baafi in 2010 in his study about Ghana's Economic Growth In-Perspective tested the convergence hypothesis for Ghana and the Western European countries, by using time series data. By using the return to scale concept for Ghana's economy, it was determined the speed of the convergence process (how fast or slow did it happen). Results from the study supported the hypothesis that Ghana was catching up with the Western Countries. Also the study revealed that the convergence in Ghana was very slow which in its turn leads to the fact that it is not a sustainable growth. GDP and labor in short run and in long run resulted in a negative relationship, while GDP and Capital, and Agriculture and Industrial Sector resulted to have a

positive relationship. Between GDP and AID and service in long run existed a negative relationship, while in the short run a positive relationship.

Olapido in 2010 used Toda and Yamamoto and Dolado and Lutkepohl - TYDL - methodology to discover the causal relationship between savings and economic growth in Nigeria and results suggested that savings and economic growth are positively co integrated indicating a stable long run equilibrium relationship. Moreover the findings showed a unidirectional causality between savings and economic growth and the complementary role of FDI in growth.

Mitztal in 2010 analyzed the cause and effect relationship between economic and savings in advanced economies and in emerging and developing countries. Results from the study affirmed the presence of one way causal relationship between domestic savings and domestic product. Also it was shown that both in developed economies, and developing economies in transition there was a lack of causal relationship between domestic product and domestic savings.

Abu in 2010 was motivated on the controversy surrounding the causality relation that existed between saving and economic growth in order to make his study. The relationship between saving and growth existing in Nigeria during years 1979-2007, was deducted by using Granger-Causality test and the co-integration techniques. Results of Johansen co-integration tests showed that saving and economic growth were co-integrated to each other and there was a long run equilibrium between them. Moreover the Granger causality test showed that causality was directed from economic growth to savings meaning that economic growth granger causes saving in Nigeria. As a result Solow's hypothesis stating that savings precedes economic growth was rejected, and it was accepted the Keynesian theory stating that economic growth causes higher saving rate. Also the author recommends policies which have the tendency to speed the economic growth and as a consequence the cause the increase in saving.

Rasmidatta in 2011 examined whether did the convergence hypothesis hold for Thailand or not. The study was conducted in pair wise between Thailand-Singapore; Thailand- United Kingdom; Thailand- United States for the period 1970 to 2010 .Thailand had development plans which included savings and investment to boost the economy. Results concluded that for the case of Thailand the convergence hypothesis did not hold. The Economic Growth Rate did not hold in Thailand. The domestic growth saving rate does not help to tighten the range of different

income between Thailand and Singapore. This means that domestic saving and growth rate do not back the convergence hypothesis for Thailand.

Budha in 2012, by using the ARDL (Autoregressive Distribute Lag,) approach, studied the relationship among domestic saving, investment and growth for Nepal, by using annual data from 1974-2010. Empirical results showed the existence of co-integration between domestic saving, investment and gross domestic product, by taking each of them as dependent variables. Between investment and domestic product, it resulted to exist bidirectional causality in the short period. Same result came out for domestic savings and gross domestic product. As a conclusion, by promoting investment through policies will work until some extant for Nepal, since for the long run the investment multiplier resulted less than 1.

Hundie is another economist who has studied in 2014 the causal relationship between saving, investment and economic growth for Ethiopia, by using annual data from 1969-1970 up to 2010-2011. According to the study results, it came out that there was co-integration between gross domestic savings, gross domestic investment, real gross domestic product, labor force and human capital with RGDP as the dependant variable. In the short run and in the long run, investment and labor showed to have a considerable positive effect on economic growth of Ethiopia, while human capital and GDP were statistically insignificant. Also results of the study showed that a bidirectional causality existed among investment and growth and between savings and investment. Despite the unidirectional Granger causality going from economic growth to gross domestic savings, it resulted to be very weak. Savings and Investment in the country needed to increase in order to achieve a greater and more sustainable growth in Ethiopia.

CHAPTER THREE: DATA, METHODOLOGY AND ANALYSIS

3.1. Data Description:

In order to study the impact that domestic savings have in the economic growth of Albania, and as well the complementary role that Foreign Direct Investment plays in this relationship, in the study are employed annual data starting from year 1992 to year 2012, covering a period of twenty years. Data used for the study have been provided from different sources where to be mention are: International Monetary Fund (IMF); World Bank (WB), Bank of Albania (BoA); and Index Mundi. These data coincide with the huge economic and political changes that happened in post communist period of the country, where is included the long transition period that Albania has been through all these years and its way toward achieving a sustainable economic growth.

3.2. Variable Definition

GDP: Gross Domestic Product

Definition of gross domestic product: Gross Domestic Product is considered the market value of all the final goods and services produced within a country in a one year period. In Albania there are three methods of calculating GDP:

- Production Approach
- Expenditure Approach
- Income Approach

INSTAT usually has calculated GDP of Albania by using the production and expenditure approach, but mostly it uses the *production approach* as it is considered e better method for expressing the GDP as long as it includes a great and complex number of indicators.

The assessment of GDP in Albania takes into consideration all the present production and services planned for the marked, and as well the product produced for their own consumption and resident units operating in the country, considered as "economic" in Albania.

According to the production method GDP is calculated as below:

$$\underline{GDP = GVA + TP + CT - SB}$$

where:

GDP - Gross Domestic Product
 GVA - Gross Value Added
 TP - Taxes on products (including VAT)
 CT - Customs Tax
 SB - Subsidies on products and imports. (Source: INSTAT)

GDS: Gross Domestic Savings

Definition of gross domestic saving: Gross domestic savings are calculated as Gross Domestic Product (GDP) minus final consumption expenditure (total consumption). Gross Domestic Savings is represented as a percentage of the GDP of the country. Usually high gross domestic savings results indicate that the country has a high potential for investments. (Source: World Bank)

FDI: Foreign Direct Investment

Definition of foreign direct investment: Foreign direct investments are the net inflows of investment with the aim to achieve a lasting management interest in an enterprise operating in a country other from that of the investor. Foreign direct investment is calculated as the total sum of the equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. Data used in the study is calculated as net inflows (new investment inflows minus less disinvestment) of Albania from foreign investors and it is divided by the countries (Albania) GDP. (Source: World Bank).

3.3 Methodology

In order to study the relationship that exists between the three variables of GDP, Savings and FDI in Albania, will be used the Johansen Co-integration Test. But before, must be proven through the ADF tests that that in this study are being used stationary time series.

Test for stationary of GDP, Gross Domestic Saving and FDI :

In the first stage of the study is applied the Augmented Dickey-Fuller (ADF) test at 1% level of significance in order to make sure that the series used in the model are stationary time series otherwise the results might not hold much meaning.

The regression model performed is:

$$GDP = \alpha + \beta_1 Sav + \beta_2 FDI + e$$

Where: α : is the intercept
 β_1 and β_2 are the estimated regression coefficients
 e : is the error term

GDP: Gross Domestic Product is the dependent variable
Sav: Domestic Savings is the independent variable
FDI: Foreign Direct Investment is the independent variable.

Hypothesis:

Ho: Domestic Savings and FDI are stationary times series.

H1: Domestic Savings and FDI are not stationary time series.

Johansen Co-integration Test:

Moreover in order to determine whether there exists a long run relationship among domestic saving, foreign direct investment and economic growth expressed as % of GDP the Johansen Co-integration Test is performed. Johansen co-integration test is a multivariate co-integration approach used by Johansen and Juselius in 1990 and by Johansen in 1992 to test co-integration. (Johansen & Juselius, 1990), (Johansen, 1992).

In order to have a relationship between the variables the Trace Statistic must be greater than 5% critical value. Also the maximum Eigen-value test must be greater than 5% critical value.

The regression model performed is:

$$GDP = \alpha + \beta_1 Sav + \beta_2 FDI + e$$

Where:

α : is the intercept

β_1 and β_2 are the estimated regression coefficients

e : is the error term

GDP: Gross Domestic Product is the dependent variable

Sav: Domestic Savings is the independent variable

FDI: Foreign Direct Investment is the independent variable.

Hypothesis:

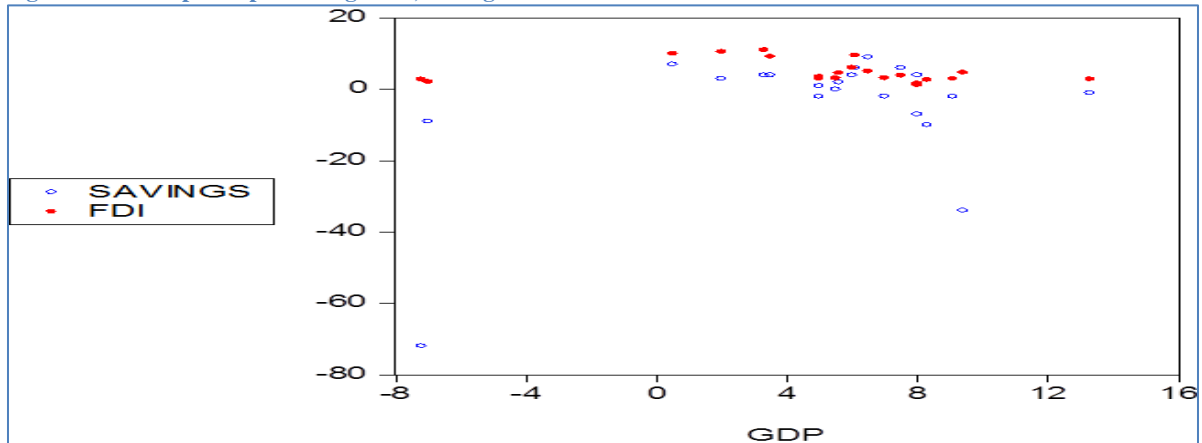
Ho: Domestic Savings and FDI have a positive effect on Economic Growth in the long run.

H1: Domestic Savings and FDI don't have a positive effect on Economic Growth in the long run

*Tests of Granger Causality type have been derived and used in order to be able to test the causality's direction. (Granger, 1969), (Sims, 1972), (Geweke, Meese, & Dent, 1983). These kind of tests are based on the null hypothesis which are formed as zero restrictions on the coefficients of the lags of a subset of the variables.

In Figure 11 it is shown a graphical scatter plot representation of domestic saving and foreign direct investment in relation to Gross Domestic Product (GDP). As the graph shows the relationship is not spurious so it can be understood that a causal relation exists between GDP domestic savings and FDI.

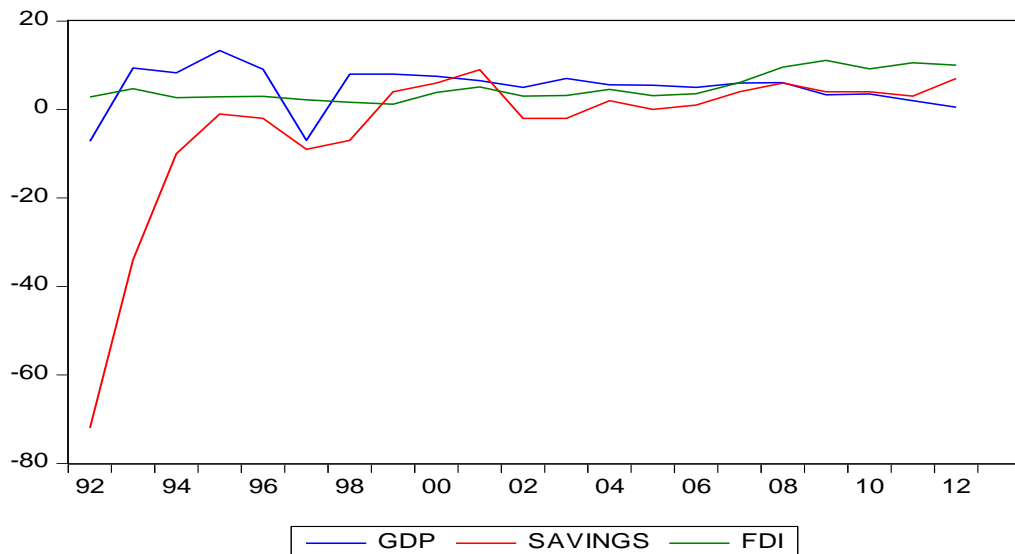
Figure 6. Scatter plot representing GDP, Savings and Growth in Albania



Source: By Author

In Figure 12 on the other hand is shown the line graph where it is noticed that the variables of GDP, Savings and FDI go on together, but from time to time there are some fluctuations. From year 1990 to 1995 there is a sharp increase in the saving rate of Albania. Also from year 1998 to year 2001 there is another increase in the saving rate. GDP and FDI mostly go on the same direction with Savings rate increases and decreases.

Figure 7. Line graph representing GDP, Savings and FDI in Albania



Source: By Author

Analysis:

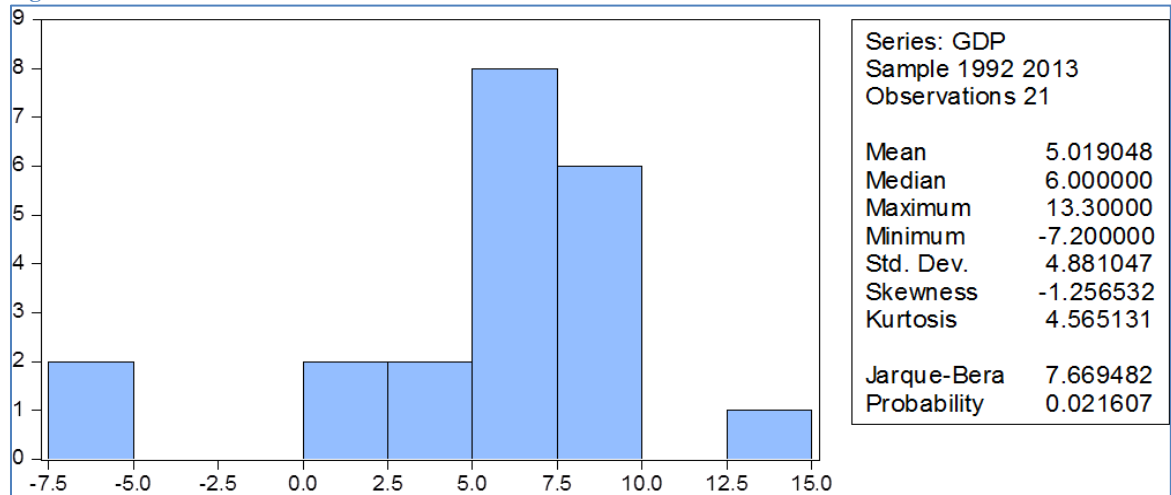
In Table 1 and as well in Figure 13, Figure 14 and Figure 15 are shown the group statistics performed in order to test the distribution of data used in this study. As Table 1 shows, in the study have been included 21 observations. After checking the Skewness and Kurtosis for all the three variables, due to the presence of unit root on the variables the results showed to be asymmetric and not in a bell shaped. By this it can be deducted that the variables are not well distributed. In all the three variables data neither the Skewness was close to zero nor was the Kurtosis near to 3.

Table 1. Group Statistics

	GDP	SAVINGS	FDI
Mean	5.019048	-4.238095	4.951905
Median	6.000000	1.000000	3.560000
Maximum	13.30000	9.000000	11.08000
Minimum	-7.200000	-72.00000	1.200000
Std. Dev.	4.881047	18.00807	3.157293
Skewness	-1.256532	-2.884593	0.880233
Kurtosis	4.565131	10.96401	2.289625
Jarque-Bera	7.669482	84.62031	3.153387
Probability	0.021607	0.000000	0.206657
Sum	105.4000	-89.00000	103.9900
Sum Sq. Dev.	476.4924	6485.810	199.3699
Observations	21	21	21

It is easily visible from Figure 13 that the variables data are not well distributed, nor are they symmetric. Regarding the GDP, Skewness is substantial and far from symmetrical because its result is -1.25 which is less than zero, while the Kurtosis is approximately 4.56 resulting to be greater than 3.

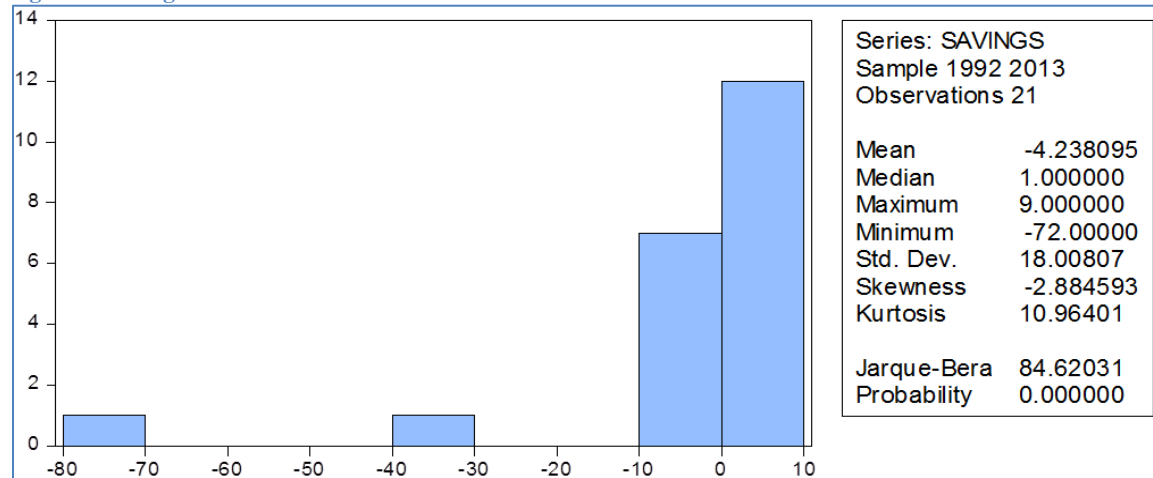
Figure 8. GDP



Source: By Author

Also in the case of Saving, Figure 14 itself shows clearly that no symmetry exists in this case. Skewness for savings results to be -2.88 so quite smaller than zero, and Kurtosis on the other hand is much larger than 3 resulting to be 10.96.

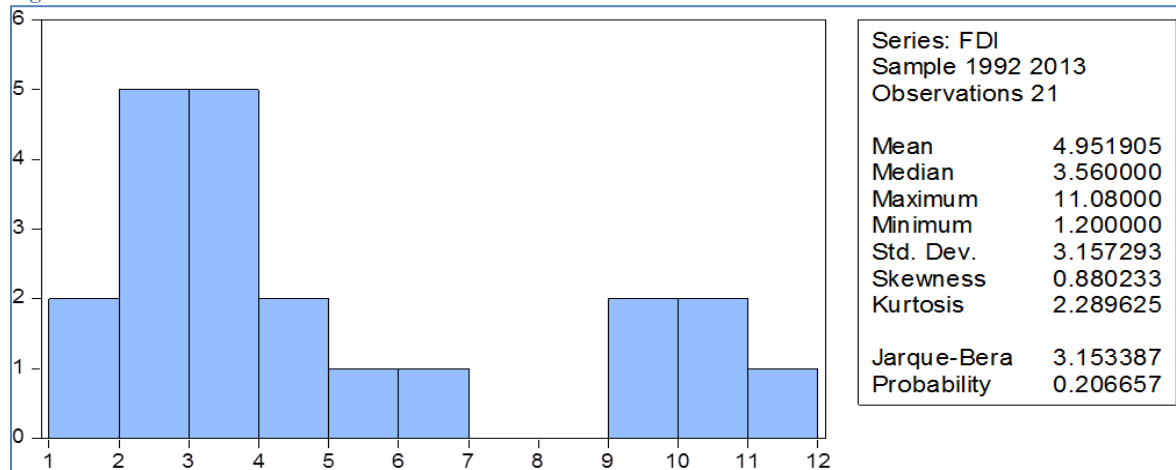
Figure 9. Savings



Source: By Author

Figure 15 referring to the FDI variable is still not a symmetrical one either. Even in this case Skewness is somehow greater than zero, it results to be 0.88, while the Kurtosis is 2.28 which means it is less than 3. Regarding the FDI, Skewness and Kurtosis are somehow closer to the parameters needed, but are still not enough for FDI to have a bell shaped figure and to be symmetrical.

Figure 10. FDI



Source: By Author

The next step after the group statistics table, is the study of the time series. In order to examine whether the series are stationary time series or not, the Augmented Dickey-Fuller (ADF) test was performed. First result showed that for GDP, Domestic Savings or FDI the null hypothesis “GDP, Domestic Savings or FDI have a unit root” was not rejected as at 1% critical values since the calculated t-statistics for the three of them were greater than the 1% of critical value. So according to these results the presence of unit roots in the underlying series points toward the non-stationary of the underlying series. As the dependent and independent variables show the presence of unit roots this means that the results of the regression do not hold much meaning.

Table 2. ADF Tests for GDP, Savings and FDI

Null Hypothesis: GDP has a unit root		
Exogenous: Constant		
Lag Length: 1 (Fixed)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.390511	0.0246
Test critical values:	1% level	-3.831511
	5% level	-3.02997
	10% level	-2.655194
Null Hypothesis: SAVINGS has a unit root		
Exogenous: Constant		
Lag Length: 1 (Fixed)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.726737	0.0124
Test critical values:	1% level	-3.831511
	5% level	-3.02997
	10% level	-2.655194

Null Hypothesis: FDI has a unit root		
Exogenous: Constant		
Lag Length: 1 (Fixed)		
		t-Statistic Prob.*
Augmented Dickey-Fuller test statistic		-0.546258 0.861
Test critical values:	1% level	-3.831511
	5% level	-3.02997
	10% level	-2.655194
*MacKinnon (1996) one-sided p-values.		
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19		

This is why in order to have the indispensable stationary time series needed for the right results of the study, and in order to reject the hypothesis that the variables do have a unit root, another Augmented Dickey-Fuller Unit Root test was made, this time by performing the first difference on the variables needed so that the regression to be meaningful and to give an accurate result.

Table 3. ADF Test after taking the first difference for GDP, Savings and FDI

Null Hypothesis: D(GDP) has a unit root			
Exogenous: None			
Lag Length: 0 (Fixed)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.970467	0.0000
Test critical values:	1% level	-2.692358	
	5% level	-1.960171	
	10% level	-1.607051	
Null Hypothesis: D(SAVINGS) has a unit root			
Exogenous: None			
Lag Length: 0 (Fixed)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.05123	0.0000
Test critical values:	1% level	-2.692358	
	5% level	-1.960171	
	10% level	-1.607051	
Null Hypothesis: D(FDI) has a unit root			
Exogenous: None			
Lag Length: 0 (Fixed)			
		t-Statistic	Prob.*

Augmented Dickey-Fuller test statistic		-4.221336	0.0003
Test critical values:	1% level	-2.692358	
	5% level	-1.960171	
	10% level	-1.607051	
*MacKinnon (1996) one-sided p-values.			
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 19			

The final step after performing the First Difference of the Augmented Dickey-Fuller Unit Root Test and finally having stationary time series was the application of Johansen Co-integration test in order to study whether there is a long term relationship between the variables.

According to the test results it is suggested that there exists a Co-integration relation between variables as long as Trace Statistics (43.759) is greater than 5% Critical Value (29.797). Also by looking at the Maximum Eigen-value test the max Eigen-value statistic (28.951) is greater than 5% Critical Value (21.131).

Table 4. Johansen Cointegration Test

Unrestricted Cointegration Rank Test (Trace)					
Hypothesized No. Of CE(s)	Eigenvalue	Trace Statistic		0.05 Critical Value	Prob.**
None *	0.782109	43.75952	>	29.79707	0.0007
At most 1	0.535121	14.80810		15.49471	0.0633
At most 2	0.013306	0.254520		3.841466	0.6139
Trace test indicates 1 cointegratingeqn(s) at the 0.05 level					
* denotes rejection of the hypothesis at the 0.05 level					
**MacKinnon-Haug-Michelis (1999) p-values					
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)					
Hypothesized No. Of CE(s)	Eigenvalue	Max-Eigen Statistic		0.05 Critical Value	Prob.**
None *	0.782109	28.95142	>	21.13162	0.0032
At most 1 *	0.535121	14.55358		14.26460	0.0450
At most 2	0.013306	0.254520		3.841466	0.6139
Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level					
* denotes rejection of the hypothesis at the 0.05 level					
**MacKinnon-Haug-Michelis (1999) p-values					

In other words a long run stable relationship exists between Domestic Savings, Foreign Direct Investment and Gross Domestic Product and they move together in the long run. So as a conclusion it can be confirmed that a causal relation exists between Domestic Savings, Foreign Direct Investment and Gross Domestic Income. The increase of Savings and Foreign Direct Investment enhances Economic Growth in the case of Albania.

Conclusion

Saving is one of the most important factors that help to achieve the economic growth. This happens due to the fact that savings stimulates investment, production, increases employment level and consequently generates Economic Growth. The study suggests that the countries, whose national saving rate is high, do not highly need nor depend on foreign direct investment or from external saving. Due to this the risk deriving from unstable currency decreases meaningfully.

This study mainly focuses on answering to the question: "What is the impact of Savings on Economic Growth of Albania, and what is the role of Foreign Direct Investment on this relationship? Data used in the study date since year 1992 until 2012 and were used to perform the Augmented Dickey Fuller Tests to find whether there was stationary time series or not and then the Johansen Co-integration tests were finally perform in order to discover the relationship between Gross Domestic Product, Savings and Foreign Direct Investment in the case of Albania.

What the paper concluded was that there did exist a stable relationship between Domestic Savings, Foreign Direct Investment and Economic Growth in Albania, and the three variables move together in the long run. A causal relation exists between Domestic Savings and Foreign Direct Investment toward the Economic Growth, meaning that by increasing Savings and FDIs in Albania the impact in Economic Growth will be positive.

Main findings from the study:

Firstly, based on the empirical results the study confirmed once again the hypothesis that Domestic Saving and Foreign Direct Investment have a positive impact on the Economic Growth of Albania.

Secondly, based on the Augmented Dickey-Fuller test Saving, Foreign Direct Investment and GDP were not stationary data. In order to reject the hypothesis that the variables do have a unit root, another Augmented Dickey-Fuller Unit Root test was performed, this time by applying the first difference on the variables needed so that the regression to be meaningful and to give an accurate result.

So as a general conclusion it can be said that the empirical results showed that a stable long relationship exists between savings and economic growth. In the study was also included the FDI and the complementary role that it played in the economic growth of Albania. As economic growth is one of the main aims of the Economy of Albania, the government must pay

special attention to the formulation of specific policies in order to attract foreign direct investments in the country which would also enhance savings and promote economic growth as well.

Recommendation

- A more detailed research must be made in order to find what are the factors that would enhance the Economic Growth of Albania, by taking into consideration more factors, not only Savings and Foreign Direct Investment.
- It would be better for the data to be used quarterly rather than yearly in order for the results to be much more accurate and meaningful. For this study this quarterly data was impossible to obtain regarding this period of time.
- The role of Foreign Direct Investment in Albania is very important to enhance the Economic Growth of the country, and that is why the Government must give a special importance to the formulation of specific policies in order to attract foreign investors in the country. This would lead to more savings and would promote economic growth in Albania.

Bibliography

Abu, N. (2010). Saving-Economic growth nexus in Nigeria, 1970-2007: Granger Causality and Co-Integration Analysis. *Review of Economic and Business studies* , Vol.3, Issue 1, 93-104.

AbuAl-Foul, B. (2010). Causal Relation between Saving and Economic Growth: Some Evidence from MENA countries. *MEEA Meeting* .

Adebiyi. (2005). Saving-Growth Relationship in Nigeria: An Empirical Evidence. *African review of Money Finance and Banking* , 159-178.

Aghion, P., Comin, D., Howitt, P., & Tecu, I. (2009). When does Economic Saving matter for Economic Growth? *NBER Working Paper* .

Agrawal, P. (2001). The relation between Savings and Growth: Cointegration and Causality Evidence from Asia. *Applied Economics* , 33. 499-513.

Alguacil, M., Cuadros, A., & Orts, V. (2004). Does Saving really matter for Growth? Mexico (1970-2000). *Journal of International Development* , 281-290.

Andersson, B. (1999). On the Causality between Saving and Growth: Long and Short Run Dynamics and Country Heterogeneity. *Department of Economics, Uppsala University, Sweden* .

Anoruo, E., & Ahmad, Y. (2001). *Causal Relationship between Domestic Savings and Economic Growth: Evidence from Seven African Countries*. Oxford: Blackwell Publisher.

Attanasio, O. L., & Scorcu, A. (2000). Saving, Growth and Investment: A Macroeconomic Analysis Using a Panel of Countries. *Review of Economics and Statistics* , 82 (1).

Baafi, J. A. (2010). *Ghana's Economic Growth Inperspective: A time series approach to convergence and determinants*. Sodertorn University: Department of Economics.

Baharumshaha, A. Z., Thanoona, M. A., & Rashidb, S. (2002). Saving Dynamics in the Asian Countries. *Department of Economics* .

Bisat, A., El-Erian, M. A., & Helbling, T. (1997). *Growth, Investment, and Saving in the Arab Economies*. International Monetary Fund.

Budha, B. (2012). A multivariate analysis of savings, investment and growth in Nepal. *Munich Personal RePEc Archive* .

Carroll, C. D., & Weil, D. N. (1994). Saving and Growth: A reinterpretation. *Rochester Conference Series on Public Policy*, (pp. 40, 133-192).

Carroll, C. D., Overland, J., & Weil, D. N. (2000). Saving and Growth with Habit Formation. *American Economic Review* , 341-55.

Claus, I., Haugh, D., Scobie, G., & Tornquist, J. (2001). Saving and Growth in an Open Economy. *Treasury Working Paper* , 01/32.

Deaton, A. (1995). *Growth and Saving: What do we know, What do we need to know and What might we learn*. World Bank.

Demetriades, P., & Hussien, K. (1996). Does Financial Development cause Economic Growth: Time Series Evidence from 16 Countries. *Journal of Development Economics* , vol. 51, No.2, 387-411.

Geweke, J., Meese, R., & Dent, W. T. (1983). Comparing alternative tests of causality in temporal systems: Analytic results and experimental evidence. *Journal of Econometrics* , 21,161-94.

Granger, C. W. (1969). Investigating causal relations by econometric models and cross spectral methods. *Econometrica* , 37, 424-38.

Hundie, S. K. (2014). Savings, Investment and Economic Growth in Ethiopia: Evidence from ARDL approach to co-integration and TYDL Granger-Causality tests. *Journal of Economics and International Finance* .

Johansen, S. (1992). Testing Weak Exogeneity and Order of Cointegration in UK Money Demand Data. *Journal of Policy Modeling* , 14, 313-254.

Johansen, S., & Juselius, K. (1990). Maximum Likelihood Estimation and Inference on Co-Integration with Application to Demand for Money,. *Oxford Bulletin of Economics and Statistics* , Vol. 52, 169-210.

Lasky, M. (2004). The Role of Saving in Economic Growth when the Cost of the New Human Capital Depends on the Cost of Labor. *Congretional Budget Office*. Washington DC.

Lean, H., & Song, Y. (2008). Domestic Saving and Economic Growth in China. *Asian Business and Economics Research Unit* .

Malthuse, R. (1951). *Principles of Political Economies*. New York.

Mankiw, G. D., Romer, D., & Weil, D. (1987, 407-37). A contribution to the empirics of Economic Growth. *The Quarterly Journal of Economics* , 1992.

- Mankiw, G. N. (2012). *Macroeconomics*. Harvard University.
- McKinnon, R. I. (1973). *Money and Capital in Economic Development*. Brookings Institution.
- Mishkin, F. S. (1992). Is the Fisher Effect for Real?: A reexamination of the relationship between inflation and interest rates. *Journal of Monetary Economics* .
- Misztal, P. (2010). The Relationship between Savings and Economic Growth in Countries with Different Level of Economic Development. Vol. 7, Issue 2, 17-29.
- Modigliani, F. (1970). The Life-Cycle Hypothesis of Saving and Inter-Country Differences in the Saving Ration. Oxford Press.
- Mohan, R. (2006). Causal Relationship between Savings and Economic Growth in Countries with different Income Levels. *Economics Bulletin* , Vol. 5, No. 3: 1-12.
- Odhimabo, N. M. (2009). Saving and Economic Growth in South Africa: A multivariate causality test. *Journal of Policy Modeling* , Vol.31, issue 5, 708-718.
- Olapido, O. S. (2010). Does Saving Really Matter for Growth in Developing Countries? The Case of a Small Open Economy. *International Business and Economics Research Journal* , Vol. 9, No. 4.
- Rasmidatta, P. (2011). The Relationship between Domestic Saving and Economic Growth and Convergence Hypothesis: Case Study of Thailand. *Department of Economics* .
- Ricardo, D. (1937). *The Principles of Political Economy and Taxation*. London.
- Romm, A. T. (n.d.). The Relationship between Savings and Growth in a.
- Romm, A. T. (2003). The Relationship between Savings and Growth in Africa: An Empirical Study. *TIPS/DPRU Forum* .
- Sajid, G. M., & Sarfraz, M. (1999). Savings and Economic Growth in Pakistan: An Issue of Causality. *Pakistan Economic and Social Review* . , Vol. 46, No.1, 17-36.
- Saltz, I. S. (1999). An examination of causal relationship between savings and growth in the Third World. *Journal of Economics and Finance* , Vol. 23, No.1, 90-98.
- Shahbaz, M. (2008). Old Wine in New Bottles: Growth-Saving Nexus: An Innovation Accounting Technique in Pakistan. *Economics Bulletin* , Vol. 28, issue 1.
- Shaw, E. S. (1973). *Financial Deepening in Economic Development*. Oxford University Press.

Sims, C. A. (1972). Money, income and causality. *American Economic Review* , 62, 540-52.

Sinha, D., & Sinha, T. (1998). Cart before the Horse? The Saving-Growth Nexus in Mexico. *Economics Letters* , Vol. 61, 43-47.

Smith, A. (1976). An inquiry into the Nature and Causes of the Wealth of Nations. vol.2.

Solow, R. M. (1956). A contribution to the Theory of Economic Growth. *Quarterly Journal of Economics* , 70 (1), 64-94.

Thirlwall, A. P. (2002). The Mobilization of Savings for Growth and Development in Developing Countries. *The IUO Journal of Applied Economics* , Vol. 1, issue 1, 7-30.

Thornton, D. L. (2009). Personal Saving and Economic Growth. *Economic SYNOPSES* , No. 46.

Verma, R. (2007). Savings, Investment and Growth in India: An application of the ARDL.

WorldBank. (1993). *The East Asian Miracle:Economic Growth and Public Policy*. New York: Oxford University Press.

Zhang, Z. (2003). Can the rest of the East Asia catch up with Japan? Some Empirical Evidence. *Japan and the World Economy* , 15 (1): 91-110.

Retrieved from : <http://www.britannica.com/EBchecked/topic/549630/Adam-Smith/24189/Economic-growth>

Retrieved from: http://en.wikipedia.org/wiki/Classical_theory_of_growth_and_stagnation

Retrieved from: http://en.wikipedia.org/wiki/Harrod%E2%80%93Domar_model

Retrieved from : <http://www.instat.gov.al/en/themes/national-accounts/methods/annual-national-accounts.aspx>

Retrieved from: <http://data.worldbank.org/indicator/NY.GDS.TOTL.ZS>

Retrieved from: [http://www.pakinsight.com/pdf-files/3\(1\)%201-15.pdf](http://www.pakinsight.com/pdf-files/3(1)%201-15.pdf)

Retrieved from WWW.TRADINGECONOMIES.COM

APPENDICES

Appendix A. PRODUCTION FUNCTION AND OUTPUT GROWTH ACCORDING TO SMITH:

$$Y = f (L, K, T)$$

where: Y - Output

L - Labor

K - Capital

T - Land

- The increase of output increases the living standards and is represented by:
f(Accumulated Capital).
- Investments is represented as a function of savings. As savings increase, so do the investment level in a country: *f(Savings)*
- Profit is a function of productivity, which means that increase of productivity increases profit : *f(Productivity)*
- Division of labor (synonym to specialization) and is a function on the extent of the market: *f(Extent of Market)* and vice-versa due to the causality relationship between them.

Appendix B. RICARDO's PRODUCTION FUNCTION:

$$Y = f (K, L, T, S)$$

where: Y - Output

L - Labor

K - Capital

T - Land

S - Technology

Appendix C. MALTHUSIAN PRODUCTION FUNCTION:

$$Y = R + W, \dots$$

where: Y = National Income

R = Profit

W = Wages

so the equation can be re-written as :

$R = Y - A$ and means that profit equals income minus wages.

As the total amount of the savings is not invested, the above equation can be substituted to:

$$R = (I + Cc + Cw) - Cw = I + Cc, \dots$$

where: Cc = Capitalistic Consumption

I = Investment

Appendix D. HARROD - DOMAR

Assumptions:

$$Y = f(K)$$

$$\frac{dY}{dK} = c \Rightarrow \frac{dY}{dK} = \frac{Y}{K}$$

$$f(0) = 0$$

$$sY = S = I$$

$$\Delta K = I - \delta K$$

where: Y = Output

K = Capital Stock

S = total Saving

s = Saving rate

I = Investment

δ = Depreciation rate of capital stock

From the above part it is derived the output growth rate :

$$c = \frac{dY}{dK} = \frac{Y(t+1) - Y(t)}{K(t) + sY(t) - \delta K(t) - K(t)}$$

$$c = \frac{Y(t+1) - Y(t)}{sY(t) - \delta \frac{dK}{dY} Y(t)}$$

$$c(sY(t) - \delta \frac{dK}{dY} Y(t)) = Y(t+1) - Y(t)$$

$$c(sY(t) - (s - \delta \frac{dK}{dY})) = Y(t+1) - Y(t)$$

$$cs - c\delta \frac{dK}{dY} = \frac{Y(t+1) - Y(t)}{Y(t)}$$

$$s \frac{dY}{dK} - \delta \frac{dY}{dK} \frac{dK}{dY} = \frac{Y(t+1) - Y(t)}{Y(t)}$$

$$sc - \delta = \frac{\Delta Y}{Y}$$

The assumption (1) - (3) show that capital and output are linearly related, and that is why these assumptions lead to the equal growth rate between the two variable:

$$Y = cK \Rightarrow d \log(Y) = d \log(c) + d \log(K)$$

since Marginal Product of Capital is a constant c then:

$$d \log(Y) = d \log(K) \Rightarrow \frac{dY}{Y} = \frac{dK}{K} \Rightarrow \hat{Y} = \check{K}$$

With assumptions (4) and (5) capital growth rate is:

$$\check{K} = \frac{I}{K} - \delta = s \frac{Y}{K} - \delta \Rightarrow \hat{Y} = sc - \delta$$

Appendix E. THE SOLOW MODEL:

$$Y_t = F(K_t, L_t)$$

where: K = Capita

L = Labor

$$Y_t = F(K_t, L_t)$$

$$Y_t = L * F\left(\frac{K}{L}, 1\right)$$

$$\frac{Y}{L} = F\left(\frac{K}{L}\right)$$

$$y = F(k)$$

Deriving from the assumption, production can be considered as the real income for individuals, which means that y = income or output per capita while k = capital per capita.

Output per capita:

$$y = i + c \dots \quad (1)$$

where: c = consumption per capita

i = investment per capita

$$(i) = (s)$$

where: s = Saving

Consumption is a proportion of income according to the Solow model and $S = MPS$ (marginal propensity to save).

$$c = (1 - s) y \quad (2)$$

from (1) and (2) it's derived:

$$y = i + (1 - s) y$$

$$i = sy$$

k which is the capital stock per capita is a constant rate which has a depreciation d
 n is also a constant rate of population growth

$$\Delta k = i - (n + d) k$$

where: Δk = Change in the capital

d = Depreciation rate

$$\Delta k = sy - (n + d) k$$

$$y = f(k)$$

This means that two models can be derived from Δk :

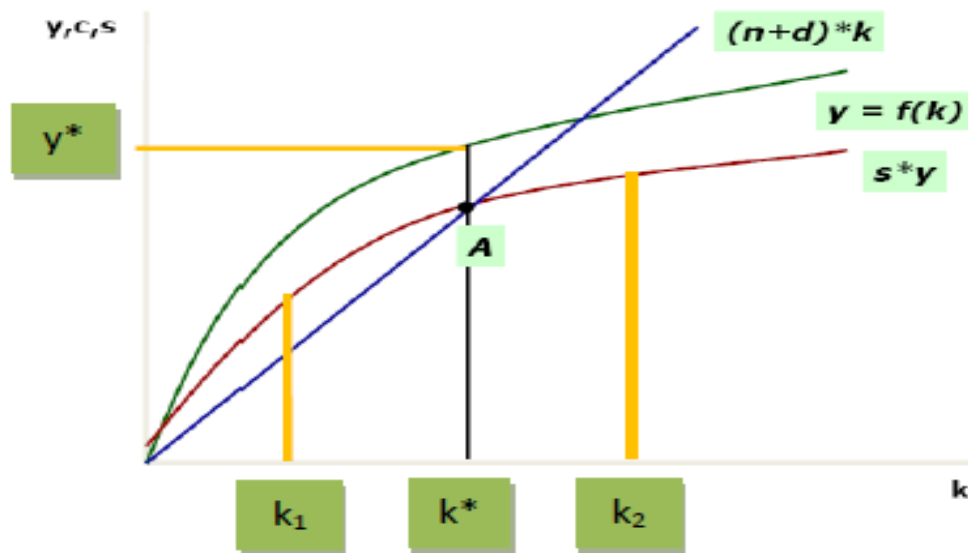
a) $\Delta k = sy - (n + d) k$

b) $\Delta k = s f(k) - (n + d) k$

As per capita capital will not change in the steady state, the level of k will always converge to the steady state level k^* . In the steady state the growth rate per capita capital = 0.

$$s y = (n + d)k^*$$

Figure 11. Solow Growth Model



Source: G. N. Mankiw, *Macroeconomics*. Harvard University.

As the figure above shows graphically, capital stock is depreciated and it must be compensated by saving or by investment, otherwise the capital stock will decrease. (A) is the steady state where saving per capita equals the investment per capita $(n+d)*k$. k^* is the capital per capita at break-even point (A) while y^* is the output per capita..

If at k_1 capital per capita is less than k^* then $s*y$ or saving per capita will be greater than capital per capita, which means that the saving surplus will be changed into capital. As a result of this increase, capital per capita will reach the steady-state at k^* . On the other hand, when capital per capita is greater than k^* , so at k_2 , the opposite will happen, which means that saving per capita will be lower than capital per capita, production per capita will decrease and will reach the steady state k^* .

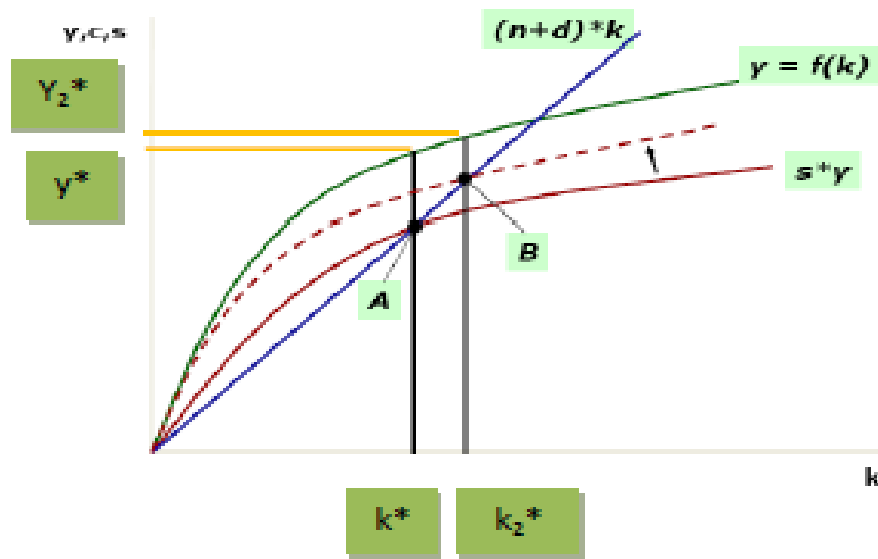
Anyway, the Solow Model takes into consideration only one good, while Government is missing and the economy is closed.

Regarding the long run living standard, Solow took into consideration three variables responsible for affecting the long run: Saving rate, Population growth and Technology.

A. Increase of the Saving Rate:

According to Solow Model's prediction, an increase in the saving rate will affect positively the per capita income. As a result, by increasing savings, living standards will increase as well.

Figure 12. Increase in Saving Rate



Source: G. N. Mankiw, *Macroeconomics*. Harvard University.

(A) is the steady state. By increasing the saving rate, $s \cdot y$ shifts upward and leads to a change of the equilibrium from steady state (A) to point (B). Capital per capita will increase as well and will cause the steady state to move from k^* to k_2^* , while income/output per capita will increase from y^* to y_2^* .

Anyway these results are a little sceptical because:

Firstly, this effect does not impact the growth in the long run, but only in the short run.

Secondly, the increasing of savings causes a very small change in the income/output per capita.

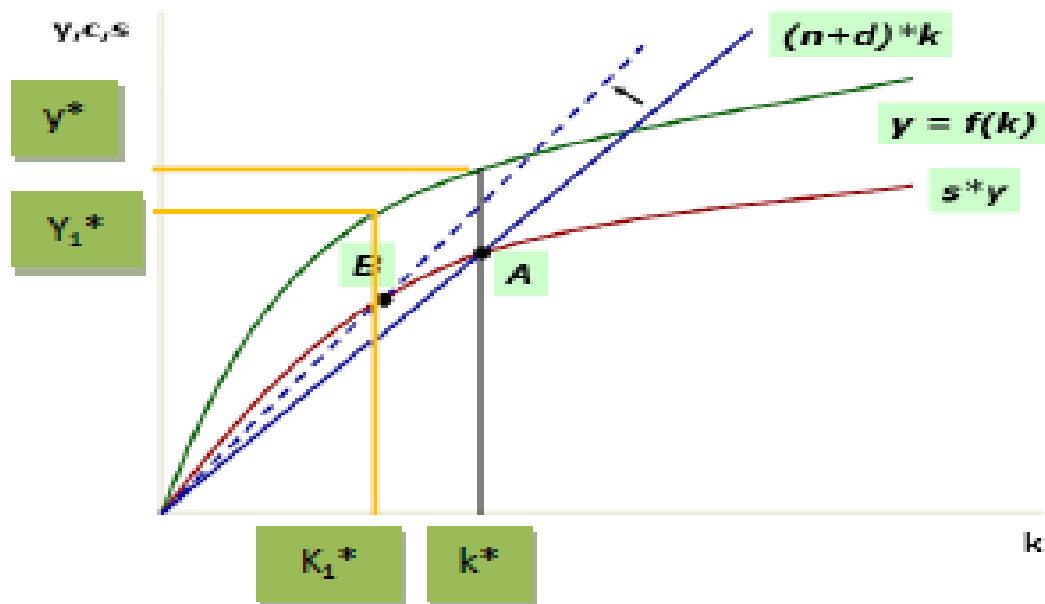
Thirdly, it is hard to know the length of the duration of the transition due to the fact that the transition of increasing the saving rate has an impact on growth rate in different levels of income. That is why it cannot be determined whether the effect will be in the short-term or long-run.

Fourthly, while the saving rate might be very low and the backward of technology is high, reaching the equilibrium is hard. Anyway the growth rate for the output will not increase at the same rate with the increasing of saving,

B. Population Growth

The increase in the population would lead to an increase in the capital stock per capita $(n+d) \cdot k$. Population growth (n) will cause a decrease in the capital per capita and income/output per capita. Population growth effect is similar to the increase of depreciation in the capital.

Figure 13. Population Growth



Source: G. N. Mankiw, *Macroeconomics*. Harvard University.

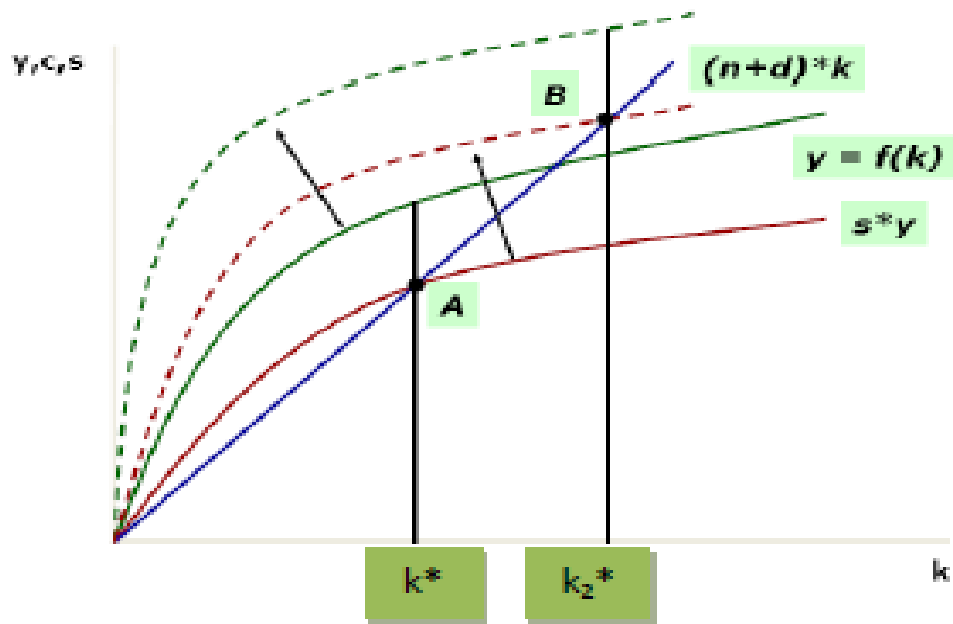
(A) is the steady state equilibrium. With the increase of the population, $(n+d) \cdot k$ line shifts up. This change will cause a movement of the equilibrium from point (A) to the point (B), while the capital per capita will decrease. At the same time the steady state will change from k^* to k_1^* and income/output per capita will decrease from y^* to y_1^* .

Investment must increase at the same level of population growth rate in order to keep a stable output per capita level. Investment should increase in order to compensate the depreciation and to better distribute the output per capita to the population.

C. Increase in Productivity or Technology progress.

Progress of technology and the high potential of labor force causes the productivity growth in a country. Due to this the production function $(f(k))$ will move upward and as a result will create more output by using the same amount of input.

Figure 14. Productivity Growth (Technology Progress)



Source: G. N. Mankiw, *Macroeconomics*. Harvard University.

Productivity growth will cause the production function ($f(k)$) and saving per capita ($s \cdot y$) to move upward. Saving per capita depends on saving (s) and output per capita $f(k)$. Referring to the figure above point (A) is the equilibrium steady state. Due to productivity growth, production function ($f(k)$) and saving per capita ($s \cdot y$) move upward, causing the equilibrium to shift to point (B). Steady state k^* moves to steady state k_2^* and therefore output per capita increases considerably. As a result the increase in productivity will positively impact economic growth and will accelerate achieving the high living standards.