

Economic Growth and Development in Egypt

By

ERAKY, Ahmed Elsayed Mohamed Morsy

THESIS

Submitted to

KDI School of Public Policy and Management

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Committee in charge:

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**ECONOMIC GROWTH AND
DEVELOPMENT IN EGYPT**

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MASTER OF PUBLIC POLICY

**KDI SCHOOL OF PUBLIC POLICY AND
MANAGEMENT**

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Acknowledgement ...

“Try not to become a man of success. Rather become a man of value”

-Albert Einstein-

I am grateful to Allah for the aid and good health that were necessary for making this work done.

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ABSTRACT

This research is to measure the degree of significance of different aspects of the economy to determine what factors affect the economic growth performance in Egypt. Time series analysis will be used to identify the impact of different economic factors on economic development performance in Egypt over the period 1985-2015. Ordinary Least Square technique will be applied in this paper. The first step was testing the stationarity of data using Augmented Dickey-Fuller unit root test to avoid spurious regression results. The results of the analysis showed that all factors are stationary at first difference. After that, the regression model was tested, and the results revealed that foreign direct investment has an insignificant effect on GDP per capita in Egypt while government consumption expenditures, contributing family workers and secondary school enrollment rate can affect GDP per capita positively and significantly. The results also showed a negative and significant Impact of conditions of trade and household consumption expenditures on economic evolution and dilation in Egypt. The policy implications based on the results of the test suggest more focus on the allocation and quality of foreign direct investment in different sections in Egypt. Additionally, government consumption expenditures would be beneficial for economic growth in particular spending on national defense and security. Moreover, promoting exports is a necessity to enhance trade conditions and reduce its adverse effect on economic boom or prosperity. Households consumption expenditure is required to be reduced to save more money for long-term investment. The study also suggested that government could facilitate the regulations to operate the family business. Finally, enhancing education quality is essential for economic development through providing better technologies and teaching methods.

Table of Contents

| | |
|--|------|
| ABSTRACT..... | i |
| Table of Contents..... | iv |
| LIST OF FIGURES..... | v |
| LIST OF TABLES..... | vi |
| TABLE OF APPENDECES..... | vii |
| LIST OF ABBREVIATIONS..... | viii |
| CHAPTER I: INTRODUCTION..... | 1 |
| Chapter II: LITERATURE REVIEW..... | 4 |
| 2.1 Studies on development and economic growth determinants in general and especially in Egypt:..... | 4 |
| 2.2 Role of FDI in enhancing economic growth:..... | 8 |
| 2.2.1: <i>Studies found significant relationship between FDI and GDP:</i> | 8 |
| 2.2.2: <i>Studies found insignificant relationship between FDI and GDP:</i> | 9 |
| Chapter III: HISTORICAL OVERVIEW OF EGYPTIAN ECONOMIC GROWTH..... | 11 |
| Chapter IV: QUANTITATIVE ANALYSIS..... | 17 |
| 4.1 THE MODEL..... | 17 |
| 4.2 DATA DESCRIPTION..... | 17 |
| 4.3 THE EMPIRICAL RESULTS..... | 21 |
| Chapter V: POLICY IMPLICATIONS AND RECOMMENDATIONS..... | 26 |
| Chapter VI: Conclusion..... | 30 |
| Appendices..... | 32 |
| Bibliography..... | 38 |

LIST OF FIGURES

| | |
|--|----|
| Figure 1: Annual real GDP growth rate | 11 |
| Figure 2: FDI behavior since 1985 | 14 |
| Figure 3: Current account balance (BoP, Current US\$)..... | 16 |

LIST OF TABLES

| | |
|---|----|
| Table 1: The unit root test results..... | 20 |
| Table 2: Regression results..... | 21 |
| Table 3: Statistics Summary..... | 22 |
| Table 4: FDI inflows by countries and industry..... | 27 |

TABLE OF APPENDECES

| | |
|---|----|
| Appendix 1: Multicollinearity test..... | 32 |
| Appendix 2: Regression models..... | 33 |
| Appendix 3: Egypt's annual main exported and imported commodities (2009 / 2010) | 35 |
| Appendix 4: Auunal current account balance, trade deficit and net services during 1991 – 2010 | 36 |
| Appendix 5: FDI inflows by sector (2009 / 2010) | 37 |

LIST OF ABBREVIATIONS

| | |
|---------------|--|
| BoP | Balance of Payment |
| CBE | Central Bank of Egypt |
| FDI | Foreign Direct Investment |
| GDP | Gross Domestic Product |
| OEC | the Observatory of Economic Complexity |
| OECD | The Organisation for Economic Co-operation and Development |
| SDGs | Sustainable Development Goals |
| UNCTAD | United Nations Conference on Trade and Development |
| UNESCO | The United Nations Educational, Scientific and Cultural Organization |
| WTO | World Trade Organization |

CHAPTER I: INTRODUCTION

All countries are living now in a globalized world that makes all nations opened to each other making the whole world integrated and related economically. That can put burdens on all countries or governments to keep the economic outgrowth pace with global community.

Both developing and developed countries are interested in economic development. The development process and economic growth are necessary for developing countries to achieve better life standards and prosperity for its citizens. On the other hand, developed countries are trying to keep or accelerate the economic development levels through achieving higher and faster levels of economic growth to provide a better quality of life. In short words, economic growth accentuates the country's economic performance and its ability for development.

To accomplish higher economic growth levels, each country should determine what factors can influence economic growth depending on its circumstances. Identifying the main factors affecting the Egyptian economic growth is a critical issue because most of the studies related to Egypt's economic growth deals with Egypt in panel data, ignoring unique characteristics and events that may cause inaccurate results. Providing mixed results may be misleading for policy-makers.

Over time, on any host country on the different areas of the economic development which have been controlled by the Foreign Direct Investment due to the effects possibilities. Those effects including transfer technology, spillovers effects, and capital inflow. The current government in Egypt -after 30th June 2013 Revolution- is paying too much attention to attract more foreign direct

investments¹, increasing salaries and compensation for employees -which was a requirement of 25th January 2011 Revolution-. However, still, Egypt is not showing enormous and different progress in economic development compared to previous years. That can lead to two important questions:

- 1- Does Egypt need the focus on attracting FDI at this moment?
- 2- And more importantly, what does Egypt need to enhance its economic outgrowth performance?

Several studies have focused solely on how FDI affect the development and economic Evolution, trade openness or other economic aspects, which is, affect the economic growth in Egypt. Rather than covering FDI impact only, there are more important factors including spending of the government and its economic boom implications, the country's terms of trade and the human capital which will be examined in this research. It is important to determine; what are the problems that may cause slowness of economic growth and as a result, policymakers will be able to make proper policies to enhance Egypt's economic performance, and that is the aim of this study. Further, the study may help future researchers to test how to improve the most significant factors affecting the economic growth.

This research seeks to examine the degree of significance for different factors and its relation to the performance of the economic growth in Egypt and to have integrated view on all the variables together including FDI. The time series used in this research covers the period 1985~2015.

¹ Egypt is among the highest FDI recipients' countries in Africa in 2014 with \$4.8 billion. For more details, please refer to UNCTAD, World Investment Report 2015.

This study is divided into six chapters. Chapter II presents literature review into two main parts. On the first part, this study will focus on economic prosperity determinants through covering Egypt and different countries. The second part outlines the FDI impact on development and economic Evolution. Chapter III presents the historical overview of the Egyptian economy for better understanding after discussing previous studies done on the area of economic growth. Chapter IV presents the quantitative analysis including data description, the model that has been used and the empirical results. Chapter V presents policy implications, and recommendations for policy-makers, and finally Chapter VI presents the conclusion.

Chapter II: LITERATURE REVIEW

Recent economic growth theories started after Solow model (1956). Solow built his model based on the production function of Cobb Douglas and assumed that, the marginal production would decline as the capital input increases. Sengupta (2011) criticized Solow model by mentioning those endogenous growth models, which are recently, confirmed the importance of other factors such as human capital. Romer, Mankiw and Weil (1992) developed Solow model by emphasising the impact of human capital, they found that by adding human capital to Solow model; it provides perfect description about cross-country data.

Thus, it is important when studying economic growth to include more factors covering different aspects of the economy as well as human capital. This chapter is divided as follows: the first part presents some studies done on economic boom determinants in general and especially in Egypt. The second part outlines the FDI effect on economic prosperity-in addition to the relevance between FDI and GDP. To test the different influences that FDI can exert on the host countries, the second part contain two main areas; studies that found a significant relationship between FDI and GDP and studies that found an insignificant relationship between FDI and GDP.

2.1 Studies on development and economic growth determinants in general and especially in Egypt:

So what factors can determine the economic growth?. This part will include the literature about different variables deemed essential for economic growth in Egypt and other countries. Barro (1991) investigated determinants of GDP per capita, the data which is Barro used was from Ninety-Eight countries

during the period of 1960-1985 including Egypt. Barro found GDP per capita is positively affected by both primary school enrollment and secondary school enrollment rate, negatively affected by government consumption, positively connected to measures of political instability and negatively linked to purchasing power parity. Barro (1996) expanded the sample of data with five years to cover the period 1960-1990 and include hundred countries instead of Ninety-Eight countries. The results showed that better maintenance of the rule of law, higher initial schooling and life expectancy, lower government consumption, lower fertility, could enhance per capita GDP growth rate.

Havi, et al. (2013) found that in the long run and through using a data for the period 1970-2011, foreign direct investment, consumer price index, physical capital, labor force, government expenditure, and military rule are the significant factors of the real GDP per capita growth rate in Ghana. Also, in the short run, government expenditure and foreign direct investment are important factors of growth in real gross domestic product per capita.

Final consumption of services and goods used for needs satisfactions is a key factor for development and economic growth. Viet (2011) argued that this consumption could be divided into final consumption expenditure of non-profit institutions serving households, household consumption expenditure and general government consumption expenditure. This research will focus on government and household consumption expenditures.

Government spending represents another controversial issue regarding economic growth. It is always problematic for the government whether to cut down the government spending or not. Keynesian Economics suggests that by increasing government spending and lowering taxes, aggregate demand will be

stimulated and economic growth will be achieved. Keynesian mentioned that “government outlay is divided into 2 main parts government consumption expenditure and government investment expenditures”. This research focuses only on government consumption expenditure. Due to the possible correlation between government investments spending represented by gross fixed capital formation and foreign direct investment, government investment expenditure was excluded.

Devarajan, Swaroop and Zou (1996) “broke down the government expenditures into capital investment and current consumption expenditures and used data from 43 countries. The results reported a positive and significant impact of government current consumption expenditure on per-capita growth and an adverse effect of investment expenditures on economic development. They argued that the negative impact of investment spending could be due to the excess of expenditure that makes it unproductive which is not the case of current consumption expenditures”.

On the other hand, Fouladi (2010) concluded that government consumption not only reduces employment and investment, but it also reduces overall production. Same results reported by Dobronogov and Iqbal (2005) when they investigated factors and constraints of the Egyptian economic growth. The result established that government consumption expenditures and credit to the private sector have been significant determinants of Egyptian economic growth in the past while the inefficiency of financial intermediation is a major current constraint on growth. The results showed that “the government consumption expenditure exerts a negative and significant effect on GDP in Egypt”.

On the other hand, scholars consider **household final consumption** expenditure as a major player in determining the GDP. Vitez n.d. mentioned that

consumer spending increases the demand and pushes businesses and enterprises to respond to consumers' needs and produce more and increase productivity which is very beneficial for economic growth.

The classical economists believed that **conditions of trade** of primary products can have a positive long-run improvement which is in contrast with the Prebisch-Singer hypothesis (1949) which states that, conditions of trade for primary goods will deteriorate relative to manufactured goods. Fatima (2010) investigated the behavior of terms of trade on gross domestic product in Pakistan which exports primary and light products in the first place using data for 17 years covering the period 1990-2008. "The research found that worsening of terms of trade has an adverse impact on economic growth of Pakistan due to the final reduction in gross domestic product".

Employment is highly related to economic growth. Employment can be formal (i.e., regular paid employees) or informal employment which is more vulnerable (i.e., self-employed people). **Contributing family workers** fall under the informal employment -self-employment- category because those who work in family businesses are not paid from the government and not covered by existing regulations (social protection and other benefits) (UNECE Statistical Division).

In the light of the theories of economic growth, financial capital was not the most important element, but it was also found that human capital is one of the pillars and foundations of development, which may be expressed in the form of the available education system. Education role in determining economic growth in any country can not be ignored. Barro (1991) used enrollment rates at the secondary and primary schools to represent human capital. He found a positive and statistically significant relation between school enrollment rates and per capita

GDP. The same results reported by Seebens and Wobst (2003). Hanushek and Wößmann (2007) suggested that for an economy, education can increase the human capital in the form of the labor force, which in return will increase labor productivity and thus it can promote higher levels of output.

2.2 Role of FDI in enhancing economic growth:

Many studies focus on exploring the FDI impact to increase economic growth, but its rule is still ambiguous. While one strand of studies supports the role of FDI in improving economic growth performance due to the spillover effects, another strand of studies suggests that the Relevance between FDI and economic growth does not exist.

Most of developing countries suffer from low income. Due to the shortage of income, families in developing countries tend to save less for future investments. Small investment rate means low per capita income. To rescue from the low investment rate, governments try to attract foreign capital from other countries or foreign direct investment to cover the shortage of domestic investments.

2.2.1: Studies found significant relationship between FDI and GDP:

several studies done on the determinants of economic growth included FDI as one of the main pillars of the economic evolution and boom. Mun, Lin and Man (2008) used annual data on FDI and economy growth in Malaysia over the period 1970-2005 and found a direct positive effect of FDI on GDP in Malaysia by attracting the capital investment, technology, and management knowledge necessary for economic growth.

Hassen and Anis (2012) when tested the correlation between economic boom and FDI, they found that FDI could help accelerating economic growth

performance in Tunisia. The results are supported by research done on a group of countries examining the previous studies done on FDI-economic growth relationship by Almfrajia and Almsafir (2013). They found in most of the cases; that FDI has a presumed positive effect impact on economic development and in some cases, it is either negative or null.

Several factors were examined, and found to have sufficient levels of human capital, developed financial markets and open trade, which could play a crucial role in the relationship of direct foreign investment and economic growth.

Mohamed (2010) used annual data over the period 1978-2009 and tested for the causality link between FDI and GDP in Egypt. He found substantial evidence that FDI is causing GDP in the short run but not the reverse while in the long term, there is a bidirectional causal relation.

2.2.2: Studies found insignificant relationship between FDI and GDP:

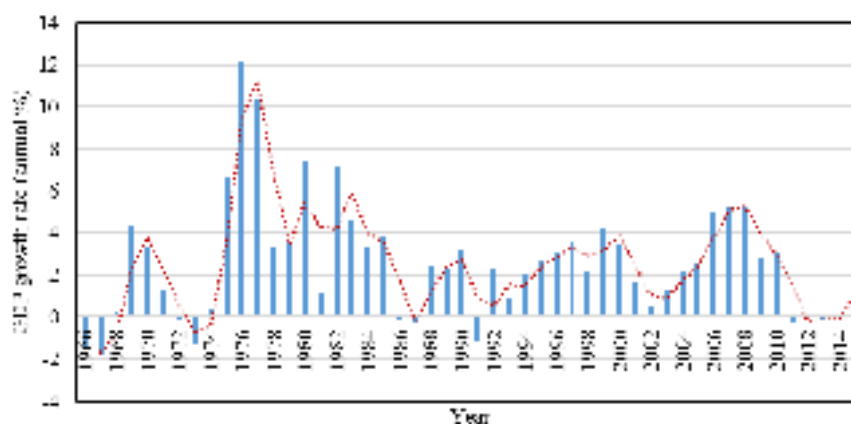
Kundan and Gu (2010) examined the FDI-GDP growth relationship in Nepal over the period 1980-2006. The Empirical results suggested that there is a weak positive correlation between FDI and GDP and concluded that GDP growth rate does not depend on FDI in Nepal. El-Wassal (2012) investigated the role of FDI in promoting economic growth boom using data on FDI flows for 16 countries in Arab rejoin during the period from 1970 to 2008, and reported that FDI inflows had no or a very limited role in promoting economic growth in Arab countries. Masry (2015) in his research on Egypt's FDI-GDP relationship using annual data covering the period 1961-2012 found the connection is weak and insignificant. Hussein (2009) used data for six Gulf Cooperation Council countries (KSA, Qatar, Kuwait, Oman, UAE and Bahrain) and analyzed the relationship between economic growth and foreign direct investments. Hussein

found a weakened relationship between the two variables. Due to the ambiguous views about FDI, this research will investigate the role of FDI inflow to Egypt along with other economic factors.

Chapter III: HISTORICAL OVERVIEW OF EGYPTIAN ECONOMIC GROWTH

Egyptian economic growth has been fluctuating for many years. As shown from Figure 1, Real per capita GDP growth accelerated by reaching 4.2 percent in 1999 and 5.2 percent after eight years in 2007 before it sharply declines again to record -0.014 percent in 2014 (World Development Indicators Online). For a better understanding of Egyptian economic performance, the period under investigation is divided into different periods. The aim is to present different events and actions occurred and had an impact on the economic growth for Egypt.

Figure 1: Annual real GDP growth rate



Source: The World Bank, World Development Indicators, various issues.

Phase 1: Economic growth during the 70s

It was ex-president Anwar El-Sadat who started Egyptian economy change during the 1970s. He began with what is known as the Corrective Revolution in

1971 to strengthen his position. That led to the introduction of *Infitah* policy or the opening to the rest of the world in 1974 with an aim to recover from October 1973 war. As analyzed by McLaughlin (1978), foreign investors were worried about investing in Egypt and the Egyptian economic future due to many reasons. Political instability and much spending on the army were the main source of fear for investors. The fear increased due to the lack of foreign exchange needed for operations and importing raw materials. To solve those problems and for attracting foreign investors to Egypt, ex-president Anwar El-Sadat initiated the Open Door policy. This policy included giving rights for investors to own more than 50% of the joint venture.

Moreover, to feel more secure, approved projects may not be nationalized or confiscated under Law No. 43. Also, the policy gave the foreign companies some incentives that were not accorded to Egyptian companies like importing materials needed for operations without the need for a license. This system succeeded to some extent to enhance the Egyptian economic situation during the 70s. "In general, one can say that Egypt has experienced a growth rate of 8% - 10% since the beginning of the Open Door Policy" Bruton (1983, 684).

Phase 2: Economic growth during 80s-90s

Unlike the 1970s, Egyptian economy during 1980s started to be in a new stage with lower level of the economic growth and a huge fallen rates of GDP during the period (1983-1986) to reach almost 2.9% on average (World Development Indicators Online). The situation continued till the beginning of the 1990s when the Government of Egypt adapted different Economic Reform plans (ERSAP) in 1990. ERSAP had the aim of achieving economic stability through controlling high inflation rates and transfer public expenditure from service

sectors into productive areas. Kamaly (2011) attributed that the main reason for FDI small flow was due to the adoption of ERSAP during the first half of 1990.

Phase 3: Economic growth during 2000

Economic situation did not change during the late 1990s and the beginnings of 2000 as a result of many reasons. Those reasons including the deterioration of the country's foreign exchange resources in the wake of slowing global growth, the collapse of world prices for oil, which is the base pillar and engine of prosperity in the Egyptian economy (OECD 2003). During the late 1990s, Egypt adopted reform in the petroleum sector included a reduction in price controls, and the private sector was given the permission to participate in the distribution activities (WTO 1999).

Additionally, recently the financial sector has been witnessed several reforms and progress which led to attract FDI. Although all those government reforms and measures, economic growth has also shaken due to lower income from tourism as a result of some security issues. Security accidents caused huge impacts in the last five years of 1990 such as Luxor butchery, which was happened in 1997 in addition to the East Asian economic crisis in 1997-1998, which also led to a low rate of inward FDI to Egypt as reported by Masry (2015).

With the beginning of the 2000s, Egypt continued its fluctuations in economic growth affecting by global and local events. With terrorist attacks in Sharm Al-Sheikh in July 2005 and Dahab “Red Sea” in 2006 (BBC News 2016), terrorism sector lost a lot due to the cancellation of reservations from both foreigners and local people. Many workers lost their jobs. Terrorist attacks were not the only reasons for poor performance of economic growth.

Phase 4: Economic growth after 2005

Egypt witnessed a sharp drop in the FDI in 2008 as an impact of the global financial crisis. According to World Development Indicators, FDI reached its peak during 2005-2007 recording 5.9%, 9.3% and 8.8% of GDP in 2005, 2006 and 2007 respectively. FDI inflows dropped in 2008 to record only 5.8 percent, and that was followed by a continuous decline in the following years. Figure 2 shows the inward FDI to Egypt during (1985 – 2015)².

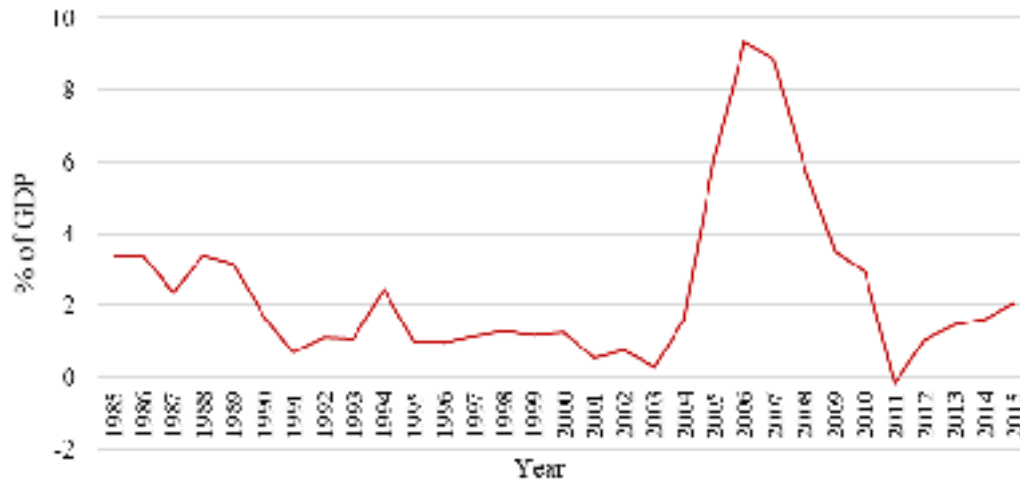


Figure 2: FDI inflow (1985 – 2015)

Source: The World Bank, World Development Indicators, various issues.

Not only FDI inflow to Egypt was affected because of the financial crisis. According to Egyptian Ministry of Finance in its Economic Monitoring Report – September 2010, Ghanem (2010), the economy of Egypt has been negatively affected by the financial world crisis, but the impact has been controlled due to

² Refer to Appendix for more information about the major investing sectors after the financial crisis.

the reform plan during (2004 - 2008) by the Central Bank of Egypt (CBE). Improvement programs aimed to encourage small financial entities to merge and form a sound financial institution. However, the financial crisis had some backlashes on the banking system. According to the Central Bank of Egypt, the backlashes occurred due to;

- The strong desire of many foreign investors to liquidate their assets in the Egyptian stock as well as transfer liquidity abroad.
- Sharp decline in the value of Egyptian bank shares recorded in both the Egyptian market and the international stock markets
- The shares of many Egyptian companies in which Egyptian banks own shares have been affected.
- In terms of trading, Egyptian banks' investments in securities have declined.
- Credit portfolios were highly affected as a result of the advances which had been given to customers against securities which witnessed huge losses in their prices.

These backlashes affected the economic performance until 2010. After recovering from global financial crisis, the economic situation evolved to be affected by different factors.

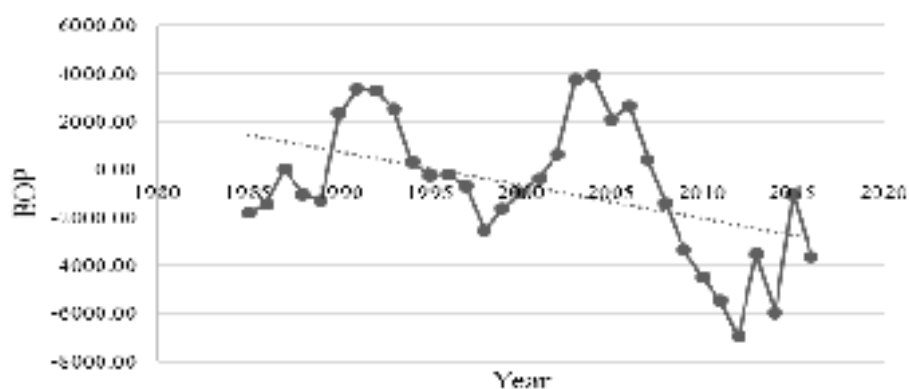
Phase 5: Economic growth since January 2011

After 2010, the whole scene shifted to politics. With the beginning of Arab Spring and inspiring from Tunisian Revolution on January 2011, Egypt started anti-government protesters against ex-president Mubarak on 25th January 2011 directly after global financial crisis leading to the following period of instability and regime changes. Although the political situation was not stable, the

percentage inward FDI was improved significantly as it was expected to reach 31 percent in 2012, compared to 6.9 percent in 2011 but that did not contribute to the GDP very much as GDP growth rate decreased sharply since 2011. The economic situation also worsened due to the decline in the Egyptian export sales by 6.5 percent. In general, merchandise imports rose by 7.4 percent compared to 2011.

The rate of export import coverage remains largely contradictory. Egypt's share fell by 44 percent in 2012, compared with 49 percent in 2011. Trade balances remained negative. The deficit in relative values increased by 17.7 per cent compared to 2011 as reported by United Nations Economic Commission for Africa (2013). Figure 3 shows the Balance of Payment (BOP) performance during the period 1980 – 2015.

Figure 3: Current account balance (BoP, Current US\$)



Sources: The World Bank, World Development Indicators, various issues
Central Bank of Egypt.

Chapter IV: QUANTITATIVE ANALYSIS

After revising different studies on economic development, it will be important to cover on different economic factors integration and focus only on Egypt. This chapter is contained from three main parts. Firstly, the model, Secondly, the data are described and finally the empirical results are presented in the third part.

4.1 THE MODEL

Due to the limited number of the previous studies on the field of the Egyptian economic growth that have been mentioned earlier in addition to the data limitations, annual time series analysis will be used analysis to emphasize the effect of particular factors on Egyptian economic growth during the period 1985-2015.

The model applied in this work is based on the model of Barro (1991) and Barro (1996) about determinants of economic growth. Barro's model has been modified to fit time series analysis to focus only on Egypt rather than cross section regression with some modification in the explanatory variables.

4.2 DATA DESCRIPTION

All variables are used in the form of the logarithm. Economic growth will represent the dependent variable which has been measured by real GDP per capita growth rate (*IGDP*). The independent variables are physical capital measured by Foreign Direct investment net inflows (*IFDI*). Government expenditures expressed by general government final consumption expenditure annual growth rate (*lgov*). Terms of trade adjustment (*ltot*) as a proxy for trade openness.

Household final consumption expenditure (annual % growth) (*lhh*) as a proxy for household spending. Human capital measured Contributing family workers, total (% of total employed) (*lcont*) and secondary school enrollment rate as a proxy for educational level (*lsec*).

The World Development Indicators (World Bank 2009) defined the dependent variable and the independent variables as follows:

Dependent variable:

GDP per capita growth: “GDP per capita is the gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the outputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources”.

Independent variables:

Foreign direct investment, net inflows: “it is defined as the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments”.

General government final consumption expenditure: “Annual percentage growth of general government final consumption expenditure based on constant local currency. General government final consumption expenditure (also known as general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees). It

also includes most expenditures on national defense and security but excludes government military expenditures that are part of government capital formation”.

Terms of trade adjustment: “The terms of trade effect equals capacity to import less export of goods and services in constant prices”.

Household final consumption expenditure: “Refers to the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. It also includes payments and fees to governments to obtain permits and licenses. Here, household consumption expenditure includes the expenditures of nonprofit institutions serving households, even when reported separately by the country”.

Contributing family workers: “Contributing family workers are those workers who hold (self-employment jobs) as own-account workers in a market-oriented establishment operated by a related person living in the same household. The worker cannot be regarded as a partner because of the degree of his or her commitment to the operation of the establishment, regarding the working time or other factors to be determined by national circumstances, is not at a level comparable with that of the head of the establishment” (OECD 2001).

School enrollment, secondary: “Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown”.

The source of the data for the gross domestic product growth rate, foreign direct investment inflow, general government final consumption expenditure, terms of trade and household final consumption expenditure is World Bank

national accounts data. The source for data of contributing family workers is International Labour Organization and the source for data on secondary school enrollment rate is United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Unit root test is to test for the stationarity of the variables. Unit root test was conducted to evade the biased regression results. The unit root test was done using Augmented Dickey Fuller (ADF) model to test the stationarity of both dependent and independent variables separately.

Table 1: The unit root test results

| variable | ADF test statistics | Interpolated Dickey-Fuller critical value | | |
|---------------|---------------------|---|--------|--------|
| | | 1% | 5% | 10% |
| <i>dlGDP</i> | -4.735 | -2.660 | -1.950 | -1.600 |
| <i>dlFDI</i> | -4.906 | -2.658 | -1.950 | -1.600 |
| <i>dlgov</i> | -7.317 | -2.660 | -1.950 | -1.600 |
| <i>dltot</i> | -2.733 | -2.660 | -1.950 | -1.600 |
| <i>dlhh</i> | -11.820 | -2.654 | -1.950 | -1.602 |
| <i>dlcont</i> | -4.727 | -2.655 | -1.950 | -1.601 |
| <i>dlsec</i> | -3.922 | -2.660 | -1.950 | -1.600 |

As shown from Table 1, all variables are stationary at first difference. The next step is to estimate the Ordinary Least Square equation (OLS). Consequently, the model to be tested is:

$$lGDP = \beta_0 + \beta_1 lFDI + \beta_2 lgov + \beta_3 ltot + \beta_4 lhh + \beta_5 lcont + \beta_5 lsec + \varepsilon$$

The dependent and independent variables are as described before while ε is consider as an error term. The results from this model should give a guideline to

help to determine the most factors affecting the economic growth in Egypt and to help policy makers in the decision-making process.

4.3 THE EMPIRICAL RESULTS

After collecting data for different variables, the regression equation was tested. The results from the test presented in Table 2 and Table 3.

Table 2: Regression results

| <i>IGDP</i> | Coefficient | Standard Error | t-value | p-value |
|--------------|-------------|----------------|---------|---------|
| <i>IFDI</i> | 0.364742 | 0.2525809 | 1.44 | 0.199 |
| <i>Lgov</i> | 3.62235 | 0.9590981 | 3.78 | 0.009 |
| <i>Ltot</i> | -3.020771 | 0.7731478 | -3.91 | 0.008 |
| <i>Lhh</i> | -2.293449 | 1.08281 | -2.12 | 0.078 |
| <i>Lcont</i> | 6.790746 | 1.524503 | 4.45 | 0.004 |
| <i>Lsec</i> | 12.97255 | 3.199545 | 4.05 | 0.007 |

| | | | | | |
|----------|-------------|----|-------------|----------------------|---------|
| Source | SS | df | MS | Number of obs= | 13 |
| Model | 3.98142898 | 6 | 0.663571497 | F (6, 6) = | 7.55 |
| Residual | 0.527242516 | 6 | 0.087873753 | Prob > F = | 0.0133 |
| Total | 4.5086715 | 12 | 0.375722625 | R-squared = | 0.8831 |
| | | | | Adjusted R-squared = | 0.7661 |
| | | | | Root MSE = | 0.29644 |

Table 3: Statistics Summary

| Variable | Obs | Mean | Standard deviation | Min | Max |
|-----------------|------------|-------------|---------------------------|------------|------------|
| <i>Lgdp</i> | 24 | 0.914808 | 0.553169 | -0.73182 | 1.66623 |
| <i>lfdi</i> | 30 | 0.589228 | 0.819859 | -1.25077 | 2.23468 |
| <i>lgov</i> | 29 | 1.088975 | 0.716716 | -1.36512 | 1.95154 |
| <i>ltot</i> | 28 | 23.3343 | 1.032796 | 20.093 | 24.5245 |
| <i>lhh</i> | 31 | 1.356757 | 0.488671 | -0.50922 | 1.922875 |
| <i>lcom</i> | 30 | 2.509022 | 0.104909 | 2.230014 | 2.653242 |
| <i>lsec</i> | 26 | 4.308547 | 0.112655 | 4.069827 | 4.494945 |

It is evident from Table 3; all variables are statistically significant (government expenditure, terms of trade, household consumption, contributing family workers and secondary school enrollment rate) except foreign direct investment which is not significant as emphasized by t-statistics values and p-values. Another observation is the value of R-squared and Adjusted R-squared, which are quite high. R-squared value means the variables used in the model could explain 88.3 percent of Egyptian economic growth performance.

Foreign direct investment (*IFDI*) showed an insignificant positive impact on economic boom. Although FDI effect is weak, it is still important to Egyptian economy since the t-value is not very low- so policymakers cannot ignore this relevance between FDI and GDP. The results showed that when FDI goes up by 1 percent, this will drive the rate of growth to increase by 0.364 percent. The positive favorable effect can be explained by the fact that, FDI is acting as a motivating factor by injecting finance in different sectors which in return

increases the productivity. Besides being a huge source of capital to the host country, FDI is also a source for technology transfer as emphasized by Mohamed (2010). The possible explanation for the insignificance of FDI is due to misallocation for FDI to imperfectly matched economic sectors. The insignificance supported by Masry (2015) findings who found the FDI has an ineffectual and insignificant effect on GDP growth in Egypt. This result refers to that the FDI does not contribute share in the economy development for Egypt.

For general government final consumption expenditure (*lgov*), where the computed t-statistics is greater than critical value, we conclude that there are enough indicators for the confirmation of the significant relevance between government consumption expenditures and economic growth. The results showed that when government consumption expenditures increase by 1 percent, this will lead the growth rate to increase by 3.6 percent which is clear from the coefficient value. Gisore, et al. (2014) found expenditures on health to promote productive labor and human capital and defense to be a positive and statistically significant effect on growth.

Terms of trade (*ltot*) has a significant negative impact on the gross domestic product per capita. The results from the regression test showed that when terms of trade go up by 1 percent, this would lead the growth rate to decrease by 3.02 percent. For terms of trade to be beneficial for economic development, exports price should exceed imports price. The possible explanation could be the gap between export and import prices. In the case of worsening terms of trade, the country should export more to cover the price of imports needed. The Prebisch-Singer hypothesis (1949) states that, over time, the conditions of trade particularly for commodities and primary products deteriorates relevance to manufactured goods. Which means that developing countries -including Egypt-

are in a disadvantage position since the developing countries mainly export primary commodities with almost no value added and pay more money to import manufactured goods. Since the main exports in Egypt are primary commodities³, the price of exports is much lower than the price of manufactured goods needed to be imported. With declining terms of trade, the overall effect on the country is negative because the country is spending more money on imports than the money coming in from exports.

Household final consumption expenditure (*lhh*) has a negative impact on Egyptian economic growth. The results showed that when household consumption expenditure increase by 1 percent, this would lead the growth rate to decrease by 2.29 percent. As mentioned before, household consumption expenditure by definition is the market value of all goods and services, including durable products, purchased by households (World Bank 2009). This may lead to booming/expanding market to a particular level, but excess spending on consumption can lead to fewer savings and investments in the future. Many citizens tend to buy more products due to the uncertainty of market price of goods and services and/or expected increase in imported goods prices due to currency depreciation with no need for all of those goods. This can cause a sharp decline in purchases when the market becomes stable. Furthermore, more household consumption expenditure may cause a domino effect.

Domino effect results from the fact that more money spending can lead to more demand with the same amount of supply produced by businesses and enterprises. This means higher prices, which lead to inflation and as a result adverse effect on the economy.

³ Exports led by Crude Petroleum which accounted for \$6.84 billion in 2014 - OEC

Contributing family workers (*lcont*) has presented extremely considerable impact on the Egyptian economic booming. The results showed that when contributing family workers rate increase by 1 percent, this will lead the growth rate to increase by 6.79 percent which is quite high. USAID (2016) published that almost over 800,000 job seekers enter the Egyptian labor market annually, but businesses have not been able to keep pace with the number of jobs needed. Although it lacks from job security and always at risk due to the non-existence of contracts, contributing family businesses absorb some of those job seekers. It is a challenge for women in rural areas to have a job because it is not easy for them to go out to work. So, women who belong to families in the countryside can benefit from family businesses, and as a result, those workers participate in the country's output.

The regression results for secondary school enrollment rate (*lsec*) positively contribute to economic growth with significant level. The results showed that when secondary education enrollment rate increases by 1 percent, this would lead the growth rate to increase by 12.97 percent. These results are supported by findings by Barro (1991). Education, in general, helps to build competitive labor. Believing in the role of education in the Sustainable Development Goals (SDGs), we cannot ignore the role of education in building well-educated workers and provide prosperity of life. Education contributes to productivity by offering skilled and knowledgeable works. It can boost productivity and open doors to jobs. Figures showed that one extra year of schooling increases an individual's earnings by up to 10 percent (UNESCO 2011).

Chapter V: POLICY IMPLICATIONS AND RECOMMENDATIONS

After obtaining results about what factors can impact the economic growth performance in Egypt, this section is presenting some possible policy recommendations to help policymakers in the decision-making process. It is important to include the role of FDI in economic growth regardless its degree of significance. Policy makers should attract more FDI in Egypt but what is better than attracting FDI is the quality of FDI.

Policy makers in the Egyptian government should apply some improvements on factors that facilitate the **FDI** inflow (i.e., infrastructure, demographic distribution and national security) into Egypt. Further studies can be done on the determinants of FDI and the sectoral distribution of FDI to ensure the efficiency of economic growth. Focusing on one sector will lead of course to some degree of development in that area, but the overall effect will be greater when the FDI resources are allocated to sectors that are more productive. Table 4 shows the major investing countries and major invested sectors in Egypt.

Accordingly, Egyptian government should not cut down **consumption expenditures** in particular spending on national defense and security not only because of its positive effect on stability and economic growth but also due to its ability to create a friendly environment for investors, which means more FDI inflows.

Table 4: FDI inflows by countries and industry

| Major investing countries | 2014/2015 | Main invested sectors | 2014/2015 |
|---------------------------|-----------|-----------------------|-----------|
| UK | 41.5% | Oil sector | 71.7% |
| USA | 16.4% | construction | 2.2% |
| UAE | 10.7% | Manufacturing | 2.0% |
| Belgium | 5.1% | Real estate | 1.4% |
| Saudi Arabia | 5.0% | Finance | 1.1% |
| Kuwait | 1.8% | Agriculture | 0.2% |
| France | 1.7% | Tourism | 0.1% |
| Germany | 1.5% | | |
| Netherlands | 1.4% | | |

Source: Egyptian Ministry of Investment - 2016⁴

Terms of trade showed negative effect on GDP which requires quick measures to enhance the exports value and reduce imports value. To do that, it is important for the Egyptian government to provide some incentives for both private and public businesses through reduction of taxes on exports. Another solution could be encouraging producing substitute good with different names but same functions and introduce it to both domestic and foreign markets with the various prices so that exporters can provide higher prices for exports. Additionally, the Egyptian government and General Authority for Investments and Free Zones, in particular, should keep hosting regular trade shows for Egyptian products in different countries based on studies to determine the potential markets. But the most important policy should be encouraging manufacturing goods and the value-added products to increase the exports' prices.

⁴ For more details about investment map in Egypt by sector and governorate, please refer to Egyptian Ministry of Investment website <http://www.gafi.gov.eg/english/InvestmentMap/Pages/wizard.aspx#/Sector>

On the other hand, the government should forbid imports unnecessary products and try to find substitutions for a lower price. Applying higher tariffs could also work. As Krugman (1984) proved that import protection could work as an export promotion by increasing economies of scale. Krugman theory states that by imposing import tariffs, domestic firms will produce more and enhance their sales because the marginal (fixed cost) cost will decrease with the increase of production. At the same time, the foreign firm's marginal cost is high. In this situation, the domestic companies will be able to expand its sales and exports to other markets. It is also important to mention that improving terms of trade is not the government duty only, but it is society's responsibility as well. Consumers can improve terms of trade by reducing consumption -in particular the imported goods-.

The increase in the **household consumption expenditure** means a decrease in GDP per capita, which means a decline in economic growth as shown by the results. More equality in income distribution is required in Egypt. It is known that income can go to either consumption side or savings for future investment. Low and middle-income level earners tend to spend more on consumption than savings. Therefore, reducing the gap between poor and rich is necessary. Another policy could be increasing sales taxes to reduce the consumption. This system should be adopted for expensive products only without touching essential goods and services. Although this procedure would be painful for poor people, it could drive all society segments to save more.

Contributing family workers are contributing positively to GDP. In that essence, it is recommended that the Egyptian government should facilitate procedures and regulations to open family businesses. Furthermore, giving loans

to families would encourage unemployed people to open their businesses so that they can earn some income and employ more family members.

level Education level is one of the main pillars to determine and identify economic development and prosperity in any country. Accordingly, it is recommended to promote the quality of education represented by **secondary school enrollment rate**. The government should keep the spending on secondary schools to enhance the educational process by providing more advanced technologies that encourage students to continue their study and join the secondary level of education.

Another policy that can be adopted is building a greater number of schools. This can be done by the government and by encouraging businesspeople and corporate social responsibility in big corporates to invest in education and build private schools to take in the increasing number of students. The private schools also should be under the supervision of Egyptian government represented by Ministry of Education.

Chapter VI: Conclusion

Egyptian economic growth or economic growth in any country is a debatable issue. Many governments tried to provide better life standards and prosperity of life through enhancing economic growth performance by applying different policies. However, foreign direct investment remained the focus of attention for any policy maker because of the significant amount of money it can provide to the country.

After revising the previous studies done on Egyptian economic growth and other countries as well, there were some limitations due to including Egypt in panel analysis and including few numbers of variables. Thus, this study was done to cover those limitations by expanding the variables of interest. This research should help policy makers in Egypt to adopt proper economic policies to enhance economic situation in Egypt. This study was conducted using time series data from 1985 to 2015. The research was done after checking for stationarity of data using Augmented Dickey Fuller model for unit root test. The results showed stationarity at first difference. After applying unit root test, the model to be estimated used Ordinary Least Square technique.

The results of the analysis showed insignificant effect of FDI on GDP in Egypt. The focus on FDI may not be desirable for Egyptian economic growth at this moment. On the other hand, general government final consumption expenditure, secondary school enrollment rate and contributing family workers showed a positive and highly considerable impact on GDP. On the contrary, both terms of trade and household final consumption expenditure showed a negative and meaningful impact on GDP.

The empirical results suggest the insignificance of FDI in motivating economic growth. The role of FDI is insignificant due to the ignorance of misallocation problem of FDI on economic sectors in Egypt. On the other side, significant positive results of government expenditure as a main pillars for improving the economic performance.

Moreover, the insignificance of terms of trade reflects a defect in demand and supply system. More imports price with no domestic substitutes or exports to cover imports price leads to lower terms of trade and weak economic growth. Further, more household consumption means less domestic savings and less investment in the future. Contributing family workers exert a decisive role in the productivity (regardless of whether those workers are directly paid or not). Finally, education plays a significant role in accelerating economic performance as an important factor for building human capital.

We conclude that policymakers should focus more on enhancing the quality of government consumption expenditure, exporting more manufactured products to increase the price (value added) of the exported goods. Also, encouraging people to save more and buy only necessary products, reduce and ease the procedures to open family businesses and improve the quality of education in secondary schools. Policymakers should not ignore the role of FDI in economic growth. Instead, the government should attract FDI to different manufacturing sectors depending on their productivity.

Appendices

Appendix 1: Multicollinearity test

| | <i>IGDP</i> | <i>IFDI</i> | <i>lgov</i> | <i>ltot</i> | <i>Lhh</i> | <i>lcont</i> | <i>lsec</i> |
|--------------|-------------|-------------|-------------|-------------|------------|--------------|-------------|
| <i>Lgdp</i> | 1.0000 | | | | | | |
| <i>Lfdi</i> | 0.3622 | 1.0000 | | | | | |
| <i>Lgov</i> | 0.0364 | -0.3356 | 1.0000 | | | | |
| <i>Ltot</i> | -0.3907 | -0.4612 | 0.7236 | 1.0000 | | | |
| <i>Lhh</i> | 0.6860 | 0.4332 | 0.0197 | -0.5932 | 1.0000 | | |
| <i>Lcont</i> | 0.1801 | 0.4414 | 0.0825 | 0.2363 | -0.1262 | 1.0000 | |
| <i>Lsec</i> | -0.1916 | -0.5384 | -0.0582 | 0.3000 | -0.3017 | -0.4889 | 1.0000 |

Source: Author's calculations based on data collected from World Development Indicators.

Correlation analysis between dependent variable and independent variables was conducted for checking if the variables are highly correlated. The results did not show any correlation between the variables. The highest value recorded between terms of trade and government consumption expenditures (0.7236) but it is small enough to run the regression.

Appendix 2: Regression results from Stata

| | lgdp | lgdp | lgdp |
|----------|-------------------|-------------------|---------------------|
| Lfdi | 0.439** (0.16) | 0.139 (0.18) | 0.365 (0.25) |
| Lgov | 0.052 (0.21) | 0.049 (0.18) | 3.622*** (0.96) |
| ltot | -0.104 (0.17) | -0.06 (0.14) | -3.021*** (0.77) |
| lhh | | 1.039** (0.40) | -2.293* (1.08) |
| lcont | | | 6.791*** (1.52) |
| lsec | | | 12.973*** (3.20) |
| constant | 3.065 (3.90) | 0.791 (3.44) | -3.403 (8.16) |
| R-sqr | 0.399 | 0.593 | 0.883 |
| dfres | 15 | 14 | 6 |
| BIC | 36.7 | 32.2 | 13.2 |

*Significant at the 10% level

** Significant at the 5% level

*** Significant at the 1% level

| Source | SS | df | MS | Number of obs = 13 | | |
|----------|------------|----|------------|--------------------|--------|--|
| Model | 3.98144523 | 6 | .663574205 | F(6, 6) = | 7.55 | |
| Residual | .527226266 | 6 | .087871044 | Prob > F = | 0.0133 | |
| Total | 4.5086715 | 12 | .375722625 | R-squared = | 0.8831 | |
| | | | | Adj R-squared = | 0.7661 | |
| | | | | Root MSE = | .29643 | |

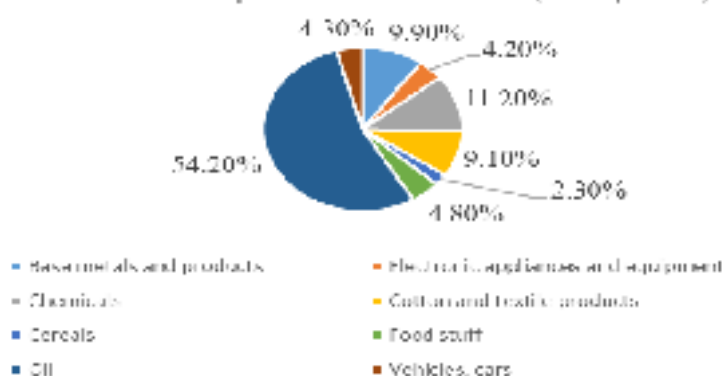
| _lgdp | Coef. | Std. Err. | t | P> t | [95% conf. interval] | |
|--------|-----------|-----------|-------|-------|----------------------|-----------|
| _lfdi | .3647393 | .2525841 | 1.44 | 0.199 | -.2533118 | .9827904 |
| _lgov | 3.622351 | .959121 | 3.78 | 0.009 | 1.275466 | 5.969235 |
| _ltot | -3.020769 | .7731652 | -3.91 | 0.008 | -4.912636 | -1.128902 |
| _lhh | -2.293448 | 1.082836 | -2.12 | 0.079 | -4.943053 | .3561571 |
| _lcont | 6.790738 | 1.524525 | 4.45 | 0.004 | 3.060386 | 10.52112 |
| _lsec | 12.97253 | 3.199602 | 4.05 | 0.007 | 5.143388 | 20.80168 |
| _cons | -3.402585 | 8.163955 | -0.42 | 0.691 | -23.37906 | 16.57389 |

Source: author's calculations using Stata.

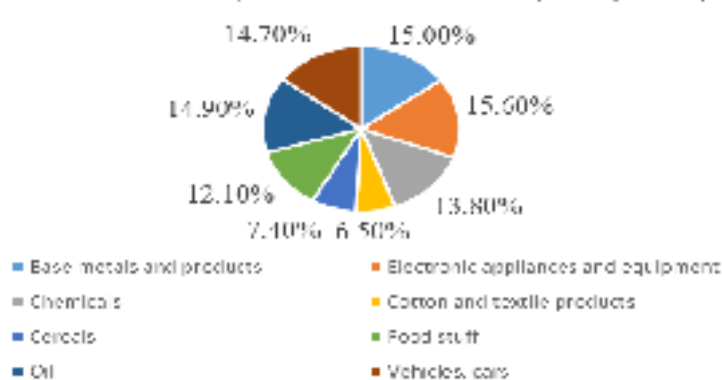
To have better results, it is important to include more variables in the regression test. When running the regression starting by examining the effect of FDI, government expenditures and terms of trade, the results showed that only FDI is significant at 95% level of confidence. Then, household consumption expenditure was added to the model. Household consumption expenditure found to exert considerable impact on GDP per capita. Contributing family workers and secondary school enrollment rate were added to the model. The results showed an insignificant effect of FDI on GDP. Additionally, a positive significant effect of government expenditures, contributing family workers and secondary school enrollment rate. Moreover, terms of trade and household expenditures showed negative and a significant effect on GDP per capita.

Appendix 3: Egypt's annual main exported and imported commodities (2009/2010)

Annual Main Exported Commodities (2009/2010)



Annual Main Imported Commodities (2009/2010)

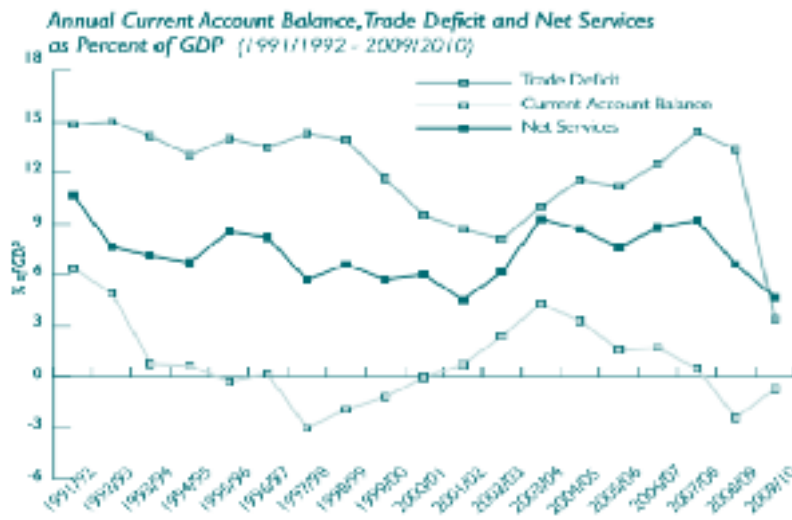


Source: CBE (2009/2010)

Egyptian exports led by oil representing 54.2% of total exports. Egypt's exports vary to include cotton and textile products, food stuff, cereals, chemicals, and base metal products.

In 2014, Egypt exported \$33.2B and imported \$82.4B, resulting in a negative trade balance of \$49.2B (OEC).

Appendix 4: Annual current account balance, trade deficit and net services during 1991-2010



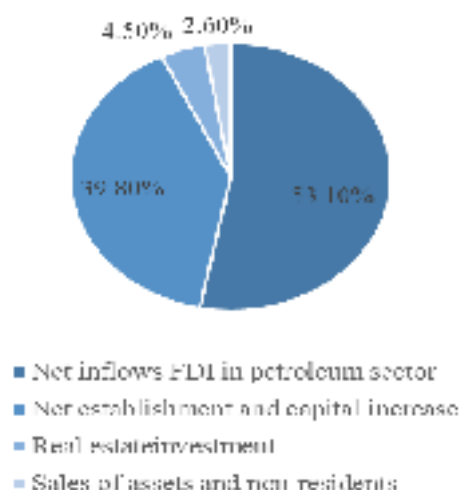
Source:

CBE
(1991/1992 – 2009/2010)

After the global financial crisis, Egypt's trade deficit shifted from almost 15 percent to only 3 percent. This improvement is due to the Central Bank of Egypt measures adopted between 2004-2008.

Appendix 5: FDI inflows by sector (2009/2010):

Annual Investment in Petroleum and Non petroleum Sectors in FDI (2009/2010)



Source: CBE (2009/2010)

Foreign direct investment inflows into Egypt is dominating by petroleum sector which accounts for 53.1 percent of total FDI inflows in Egypt in FY 2009/2010 followed by foreign investment in new structure and capital increase.

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