

**GROSS DOMESTIC PRODUCT AND EXPORT EARNINGS**

**IN UGANDA (2000 - 2011)**

**BY**

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### **DECLARATION**

I, **Okello Joel**, bear true allegiance to the information contained in this research report and solemnly affirm that the work is my own and has never been submitted to any academic institution for any award.

.....

30 / 06 / 2016 .....

**Signed**

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### APPROVAL

I hereby certify that this research report by **Okello Joel** titled, "Gross Domestic Product and Export earnings in Uganda 2000-2011" has been prepared under my supervision as a university supervisor and is ready to be submitted for examination with my approval.

.....

30 / 06 / 2016.....

**Signed**

**Date**

**Mr. Franklin Muhereza**  
**(Supervisor)**

## **DEDICATION**

This work is dedicated to my lovely parents Mr. Otanga Tom and Mrs. Mary Immaculate Okuku, to my siblings, Judith and Cecilia, my brothers, Emmanuel, Chris and Xavier and to my friends, Steven, Joe, Isaac, Charles, Julius, James and Immaculate. Special dedication also goes to my lecturers Muhereza Franklin, Mrs Nakawungu Faridah, Mr. Okello Moses, Mr. Luggya Herbert and Mr. Wairindi Daniel whose resources I used to complete this course and may the almighty God bless them abundantly.

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## TABLE OF CONTENTS

DECLARATION.....	i
APPROVAL.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT .....	iv
TABLE OF CONTENTS .....	v
LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
LIST OF ABBREVIATIONS.....	x
ABSTRACT .....	xi
<b>CHAPTER ONE.....</b>	<b>1</b>
<b>PROBLEM AND ITS SCOPE.....</b>	<b>1</b>
1.0 BACKGROUND .....	1
1.2 Problem statement.....	5
1.3 Objectives of the Study .....	6
1.3.1 General Objective.....	6
1.3.2 Specific Objectives .....	6
1.4 Research Questions; .....	6
1.5 Scope of the Study.....	6
1.5.1 Content Scope .....	6
1.5.2 Geographical Scope.....	6
1.5.3 Time Scope.....	7
1.5.4 Theoretical Scope.....	7
1.6 Significance of the Study .....	7
1.7 Operational Definitions .....	8
1.8 Conceptual framework.....	9

<b>CHAPTER TWO .....</b>	<b>10</b>
<b>LITERATURE REVIEW.....</b>	<b>10</b>
2.0 Introduction.....	10
2.1 Conceptual definitions of the variables .....	10
2.2 Theoretical Review.....	12
2.3 Related Studies.....	13
 <b>CHAPTER THREE .....</b>	 <b>17</b>
<b>METHODOLOGY .....</b>	<b>17</b>
3.1 Research Design .....	17
3.2 Research Population.....	17
3.4 Research Instrument.....	17
3.5 Data Gathering Procedure and Source.....	17
3.5.1. Before Data Collection .....	17
3.5.2. During Data Collection.....	17
3.5.3. After Data Collection .....	18
3.6 Data Analysis.....	18
3.6.1 Regression Analysis.....	18
3.6 Limitations of the Study.....	19
 <b>CHAPTER FOUR .....</b>	 <b>20</b>
<b>DATA ANALYSIS AND INTERPRETATION OF RESEARCH FINDINGS .....</b>	<b>20</b>
4.1 Trends of the variables.....	20
4.2 Regression results.....	24
 <b>CHAPTER FIVE .....</b>	 <b>28</b>
<b>DISCUSSION, CONCLUSION AND RECOMMENDATION .....</b>	<b>28</b>
5.0 Introduction.....	28
5.1 Discussion of research finding.....	28
5.2 Conclusion.....	30

5.3 Recommendations.....	30
5.4 Areas for further studies.....	31
<b>REFERENCES.....</b>	<b>32</b>
<b>APPENDICES.....</b>	<b>33</b>
Appendix 1: Annul GDP per capita of Uganda (2000-2011).....	33
Appendix 2: Export Earnings of Uganda from 2000-2011 (Coffee, Cotton, Fish) In Million Dollars .....	34

## **LIST OF TABLES**

Table 1: Regression results of export earnings from cotton GDP in billions of dollars .....	24
Table 2: Regression results of export earnings from coffee on GDP in billions of dollars.....	25
Table 3: Regression results of export earnings from Fish on GDP in billions of dollars.....	26
Table 4: Regression results of export earnings from Cotton, Coffee and Fish on GDP in billions of dollars.....	26

## **LIST OF FIGURES**

Graph 1: A time series plot of exports earning from cotton .....	20
Graph 2: A time series plot of exports earning from coffee .....	21
Graph 3: A time series plot of exports earning from fish .....	21
Graph 4: A time series plot of exports earning from cotton, coffee and fish.....	22
Graph 5: A time series plot of GDP over the years.....	23

## **LIST OF ABBREVIATIONS**

GDP	Gross Domestic Product
WTO	World Trade Organization
UCDA	Uganda Coffee Development Association
IMF	International Monetary Fund
US\$	United States Dollar
UBOS	Uganda Bureau of Statistics
UEPB	Uganda Export Promotion Board
URA	Uganda Revenue Authority
BOU	Bank of Uganda
Ush	Uganda shilling
UFPEA	Uganda Fish Producing and Exporting Association
ICA	International Coffee Agreement
GoU	Government of Uganda
IFS	International Financial Statistics
ICAC	International Cotton Advisory Committee
GDI	Gross Domestic Income
OECD	Organization for Economic Corporation and Development
MTTI	Ministry of Trade Tourism and Industry
SNA	System of National Accounts

## **ABSTRACT**

The study was set to investigate the relationship between GDP and exports earning in Uganda from 2000-2011. It was guided by three research objectives which included assessing the trend of earnings, annual gross domestic product and establishing the relationship between the two variables.

The study adopted a longitudinal research design involving quantitative approach in data collection. A time series analysis was adopted and the use of quantitative techniques to analyze secondary data scientifically from world economic outlook international monetary fund data sheets among others.

The study findings showed that exports earnings from cotton; fish and GDP have each been increasing due to high quality of fish in the international markets and increase in production respectively, though with some fluctuations, while exports earnings from coffee have been unpredictable. This could be due to susceptibility of coffee to natural disasters like floods, drought and other factors such as oil prices, security and international policies affecting exports. A simple linear regression analysis shows a positive relationship between cotton, coffee, fish with the values of ( $R^2=0.857, 0.241, 0.394$ ) and GDP respectively indicating a direct relationship between GDP and exports earning.

Based on the findings, the researcher recommends that government and Policymakers should aim at promoting more quality exports, ensure conducive environment for growth of exports and engage in export promoting strategies, modernization of agriculture and encouraging industrialization.

## CHAPTER ONE

### PROBLEM AND ITS SCOPE

#### 1.0 BACKGROUND

William Petty (1652) came up with a basic concept of GDP to defend landlords against unfair taxation during warfare between the Dutch and the English between 1652 and 1674. Charles Davenant developed the method further in 1695. The modern concept of GDP first came into use in 1937 in a report to the US Congress in response to the Great Depression after Russian economist Simon Kuznets conceived the system of measurement. At the time, the preeminent system of measurement was the Gross National Product (GNP). GNP differs from GDP in that GNP measures the productivity of a nation's citizens regardless of their locales, as opposed to the GDP's measurement of production by geographic location. After the Bretton Woods conference in 1944, GDP was widely adopted as the standard means for measuring national economies.

Beginning in the 1950s, however, some began to question the faith of economists and policy makers in GDP internationally as a gauge of progress. Some observed, for example, a tendency to accept GDP as an absolute indicator of a nation's failure or success, despite GDP's failure to account for health, happiness, and other constituent factors of general welfare. In other words, these critics drew attention to a distinction between economic progress and social progress. Others, like Arthur Okun, an economist for President Kennedy's Council of Economic Advisers, held firm to the belief that GDP is as an absolute indicator of economic success, claiming that for every increase in GDP there would be a corresponding drop in unemployment (**Herman Daly 1989**).

In recent decades, governments have created various nuanced modifications in attempts to increase GDP accuracy and specificity. Means of calculating GDP have also evolved continually since its conception so as to keep up with evolving measurements of industry activity and the generation and consumption of new, emerging forms of intangible assets (**Landefeld, J. Steven 2006**).

The **OECD (2004)** defines GDP as "an aggregate measure of production equal to the sum of the gross values added of all resident, institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs)." GDP is commonly used as an indicator of the economic health of a country, as well as a gauge of a country's standard of living. Since the mode of measuring GDP is uniform from country to country, GDP can be used to compare the productivity of various countries with a high degree of accuracy. Adjusting for inflation from year to year allows for the seamless comparison of current GDP measurements with measurements from previous years or quarters. In this way, a nation's GDP from any period can be measured as a percentage relative to previous years or quarters. When measured in this way, GDP can be tracked over long spans of time and used to measure a nation's economic growth or decline, as well as in determining if an economy is in recession.

GDP's popularity as an economic indicator in part stems from its measuring of value added through economic processes. For example, when a ship is built, GDP does not reflect the total value of the completed ship, but rather the difference in values of the completed ship and of the materials used in its construction. Measuring total value instead of value added would greatly reduce GDP's functionality as an indicator of progress or decline, specifically within individual industries and sectors. Proponents of the use of GDP as an economic measure tout its ability to be broken down in this way and thereby serve as an indicator of the failure or success of economic policy as well **(SNA93)**.

There are, of course, drawbacks to using GDP as an indicator. Critics of GDP add that the statistic does not take into account the underground or unofficial economy: everything from black market activity to under-the-table employment, as well as other transactions that, for various reasons, are not reported to the government. Others criticize the tendency of GDP to be interpreted as a gauge of material wellbeing,

when in reality it serves as a measure of a nation's productivity, which are not necessarily unrelated(**Mark Skousen 1990**).

There are three primary methods by which GDP can be determined. All, when correctly calculated, should yield the same figure. These three approaches are often termed the expenditure approach, the output (or production) approach, and the income approach. The expenditure approach measures the total sum of all products used in developing a finished product for sale. To return to the example of the ship, the finished ship's contribution to a nation's GDP would here be measured by the total costs of materials and services that went into the ship's construction. This approach assumes a relatively fixed value of the completed ship relative to the value of these materials and services in calculating value added(**Angus Maddison 1830**).

The production approach is something like the reverse of the expenditure approach. Instead of exclusively measuring input costs that feed economic activity, the production approach estimates the total value of economic output and deducts costs of intermediate goods that are consumed in the process, like those of materials and services. Whereas the expenditure approach projects forward beyond intermediate costs, the production approach looks backward from the vantage of a state of completed economic activity (**Angus Maddison 1830**).

The third approach, the income approach, is something of an intermediary between the two aforementioned approaches. It measures GDP by way of totaling domestic incomes earned at all levels and by using gross income both as an indicator of implied productivity and of implied expenditure. GDP calculated in this way is sometimes referred to as gross domestic income (GDI), or as gross national income (GNI) when incorporating income received from overseas (**Angus Maddison 1830**).

Exporting is the act of producing goods or services in one country and selling or trading them to another country. The term *export* originates from the Latin words *ex* and *portare*, meaning to carry out. The counterpart to exporting is importing which is the

acquisition and sale of goods from one country to another country and selling them within the country (**Branch 1990**).

The term **export** means shipping in the goods and services out of the jurisdiction of a country. The seller of such goods and services is referred to as an "exporter" and is based in the country of export whereas the overseas based buyer is referred to as an "importer". In international trade, "exports" refers to selling goods and services produced in the home country to other markets. Export of commercial quantities of goods normally requires involvement of the customs authorities in both the country of export and the country of import. The advent of small trades over the internet such as through Amazon and eBay have largely bypassed the involvement of Customs in many countries because of the low individual values of these trades. Nonetheless, these small exports are still subject to legal restrictions applied by the country of export. An export's counterpart is an import.

The theory of international trade and commercial policy is one of the oldest branches of economic thought. Exporting is a major component of international trade, and the macroeconomic risks and benefits of exporting are regularly discussed and disputed by economists and others. Two views concerning international trade present different perspectives. The first recognizes the benefits of international trade. The second concerns itself with the possibility that certain domestic industries (or laborers, or culture) could be harmed by foreign competition(**Douglas A. Irwin 2006**).

Methods of export include a product or good or information being mailed, hand-delivered, shipped by air, shipped by vessel, uploaded to an internet site, or downloaded from an internet site. Exports also include the distribution of information that can be sent in the form of an email, an email attachment, a fax or can be shared during a telephone conversation.

Uganda has substantial natural resources, including fertile soils, regular rainfall, small deposits of copper, gold, and other minerals, and recently discovered oil. Uganda has

never conducted a national minerals survey. Agriculture is the most important export sector of the economy, employing over 80% of the work force. Coffee accounts for the bulk of export revenues. Since 1986, the government - with the support of foreign countries and international agencies - has acted to rehabilitate and stabilize the economy by undertaking currency reform, raising producer prices on export crops, increasing prices of petroleum products, and improving civil service wages.

**Roger Leroy (2004)** defined Gross domestic product as the market value of final goods and services produced in an economy during a year as a flow of production using the available factors of production. Gregory Mankiw (1998), defined GDP growth as the value of all final goods and services produced within a country in a given period and it was measured in billions of USD. This study goes by the definition of the latter.

**UBOS (2012)**, defined Exports as the outward flows comprising of goods and services leaving the economic territory of a country to the rest of the world, Bradley et al (2003) defined exports as goods and services sold to international buyers, and this study is guided by Bradley et al (2003) definition and it was measured in millions of US dollars.

## **1.2 Problem statement**

Uganda's export sector has been characterized by low and fluctuating export growth rates and export earnings from time of independence, coffee has been the leading export accounting for more than 50 percent of the total earnings until recently when it was overtaken by non-traditional exports like maize, electric current, beans and other legumes. Some traditional exports such as copper disappeared in 1997 and commodities like fish, maize that originally were not part of the traditional exports, emerged and presently constitute the largest share of total exports (**Annual report UEPB 2010**).

The government has embarked on promoting the export sector through establishing various bodies to help the exporters by providing them with incentives and necessary

advice but the export growth rate has remained below, consequently, there has been glaring contradictions on the determinant of exports growth rate promoting need for further research in order to identify plausible determinants of export growth rates so that information is provided to concerned authorities hence leading to the formulation of certain policies to address this problem, this research will seek to investigate the relationship between GDP growth and export earnings in Uganda.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objective**

The general objective of the study is to analyze the relationship between growth in GDP and export earnings (mainly cotton, coffee and fish) in Uganda (2000-2011)

#### **1.3.2 Specific Objectives**

The study followed these specific objectives:

- i) To determine the trend of GDP in Uganda from 2000 to 2011.
- ii) To determine the trend of export earnings in Uganda from 2000 to 2011.
- iii) To establish the effect of GDP on export earnings in Uganda from 2000 to 2011.

### **1.4 Research Questions;**

- i) What is the GDP trend of Uganda? (2000-2011)
- ii) What is the trend of export earnings of Uganda? (2000-2011)
- iii) What is the effect of GDP growth on export earnings of Uganda? (2000-2011)

### **1.5 Scope of the Study**

#### **1.5.1 Content Scope**

The study covered export earnings in millions of USD of Uganda and the annual growth of gross domestic product in billions of USD.

#### **1.5.2 Geographical Scope**

The study was carried out in Uganda and Ugandan economy as a whole area of study from 2000-2011

### **1.5.3 Time Scope**

The study was carried out for one month and will capture a period of twelve years from 2000 to 2011 using secondary data from relevant institutions and organizations like Uganda Bureau of Statistics, World Bank, and Bank of Uganda, Uganda Export Promotion Board among others

### **1.5.4 Theoretical Scope**

The study was guided by David Ricardo's (1817) theory of comparative advantage, which states that a country should export the commodity in which its absolute advantage is greater and import the commodity in which its absolute advantage is smaller.

## **1.6 Significance of the Study**

This study will be useful to the following;

**Policy makers:** to help them decide which policies to be implemented for better growth for example export promotion or import substitution strategy.

**Government:** in planning and budgetary processes in terms of allocation of funds to more profitable exports because the results of the study will bring clearly the trend of GDP in Uganda, how the exports of coffee, cotton and fish contribute to GDP growth and economic growth.

The findings of the study may enable Uganda design policies that can help improve economic growth and give priorities to sectors that earn much foreign exchange to the economy.

It may also enable producers, farmers, agribusinesses to identify areas that are profit making hence improving their income levels and production.

The study may also help future researchers to identify areas for further studies and this can equip Uganda and other countries to solve some of their pressing issues especially in relation to economic stability.

## **1.7 Operational Definitions**

### **Exports**

This study defines exports as goods and services sold to other countries and its measurement will be carried out in millions of US dollars.

### **Gross Domestic Product (GDP)**

This study defines GDP as the monetary value of all final goods and services produced within a country in a given period usually one year and will be measured as actuals in billions of US dollars.

### **Economic Growth**

The study defines Economic growth as an increase in the capacity of an economy to produce goods and services compared from one period of time to another.

### **Export Earnings**

The study also defines export earnings as the earnings of a country that are generated through export of goods and services.

## 1.8 Conceptual framework

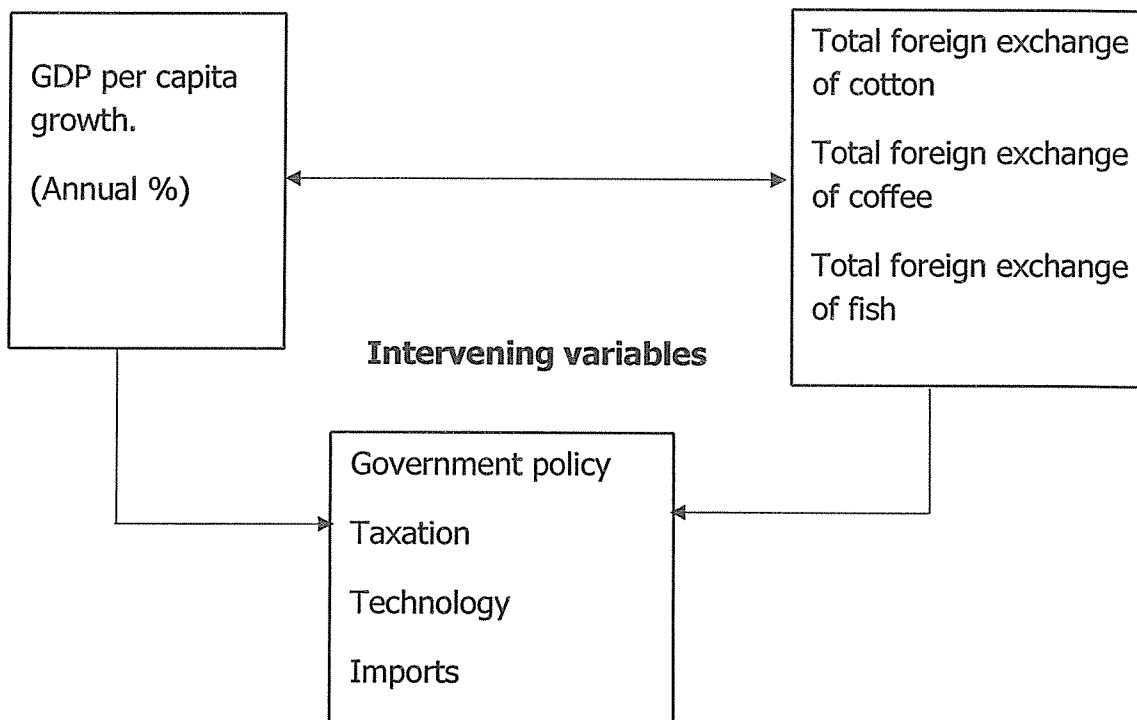
The conceptual framework shows the model of Gross Domestic Product (GDP) and export earnings.

### Independent variable

#### GDP

### Dependent variable

#### Export Earnings



**Source: Researcher (2016)**

The conceptual frame work above shows how GDP contributes to export earnings. In addition the output products are broken down into three that is cotton, coffee, and fish. GDP and Export earnings are measured annually.

**CHAPTER TWO**  
**LITERATURE REVIEW**  
**Concept, Ideas, Opinion from Authors/Experts**

**2.0 Introduction**

This chapter is all about the review of the related literature, scholars' and researchers' views and ideas elsewhere in the world about the problem under study including the theoretical review, conceptual framework and the related studies. The literature review was very vital because it helped in investigating further on how the research attempted to address gaps in the existing knowledge and was mainly taken from other secondary sources of data.

**2.1 Conceptual definitions of the variables**

William J. Baumol (1998) defined GDP as sum of the money values of all final goods and services produced in the domestic economy during a specified period of time usually 1 year whereas, Olivier Blanchard (1997) defined GDP as the market value of all the goods and services produced by labor and property allocated in a country yet according to Robert H. Frank (2009) GDP is defined as the market value of the final goods services produced in a country during a given period.

Roger Leroy Miller (2004) defined GDP as the total market value of all final goods and services produced by factors of production located within a nation's borders while Samuelson Nordhaus (2010) defined GDP as the value, at current market prices of the total final output produced inside a country during a given year but for Lipsey, Courant, and Ragan (1999) GDP is the value of final goods and services produced within the economy.

According to McConnell and Brue (1999) GDP refers to the total market value of all final goods and services produced annually within the boundaries of a country whether by that country or foreign supplied resources whereas Charles I. Jones (2010) defined GDP as the market value of final goods and services produced by an economy during a

period (typically one year). Yet J. V Henderson (1991) defined it as the total value, measured in the country's currency of the final goods and services produced during a certain period such as a year or a calendar quarter of a year.

Robert J. Gordon (2000) defines GDP as the value of all currently produced goods and services sold on the market during a particular time interval while Robert E. Hall (2006) defines it as the total of all final goods and services produced for the market place during a given year within the nation's borders. But according to World Bank (2009) Gross domestic product (GDP) refers to the monetary value of all the finished goods and services produced within a country's borders in a specific time period.

Jones, Ronald W. (1961) defined exports as the movement of goods or selling of services out of a country, area or settlement whereas McKenzie, Lionel W. (1954) defined it as sending of goods and services across national borders for the purpose of selling and realizing foreign exchange but according to Aaron Hill (2003) exports are defined as goods that are produced in your country and shipped to another country for sale. They can also be used for trade with another country if the home country needs a product from the country they are exporting to.

Robert E. Hall (2006) defined Exports as goods and services produced domestically but sold abroad while J. V. Henderson (1991) defined Exports as one country's goods and services that are sold to other countries or the total value of such sales. Yet for McConnell and Brue (1999) Exports refer to goods and services produced in a nation and sold to customers in other nations. On the other hand, Samuelson Nordhaus (2010) also defines Exports as goods or services that are produced in the home country and sold to another country.

Roger Leroy Miller (2004) defined Exports as the goods that foreigners purchase from us and Robert H. Frank (2009) defined Exports as domestically produced final goods and services that are sold abroad while according to Olivier Blanchard (1997) Exports are the purchase of domestic goods and services by foreigners.

Bradley et al (2003) defined exports as goods and services sold to international buyers whereas Kusum Mundra (2006) defined exports as products of local origin sold to other countries and yet according to Samuelson, Paul (2001) exports refer to exchange of capital goods and services across international borders or territories which could involve the activities of the government and individuals.

## **2.2 Theoretical Review**

This study is guided by the theory of comparative advantage stated by David Ricardo (1817) that a country should export the commodity in which its relative advantage is greater and import the commodity in which its relative cost advantage is smaller. This encourages a country to export goods where by the cost advantage is greater domestically and abroad. The implication of this is that these countries will benefit if they produce goods, which need relatively large amount of low skilled labor, and exchange with a capital, and a skilled labor-intensive goods produced by their developed counter parts and as such it is argued that they have a comparative advantage in producing labor-intensive goods and services. Even if a country is less productive than its trading partners in almost everything, there is a possibility of trade by specializing in a commodity in which its productivity disadvantage is smaller and exchange with its trading partner. This process brings development by enabling countries to gain more through importation than could be achieved from domestic production (**Irwin 2006**).

The policy of import substitution affects the export sector in less developing countries like Uganda and this policy has anti-export bias where the industry is import dependent. Even empirically, there is weak evidence that support import substitution strategy. However, formerly there was a support for import substitution strategy, currently the situation is changing. There appears to be an agreement that trade promotes growth by enabling countries to acquire goods that they have no capacity to produce. Thus, liberalization of trade and payments removes anti-export bias, and this promotes the export sector and therefore leads to the improvement of foreign earnings and growth of GDP. Therefore, import liberalization is important to help export sector, given the fact

that a country like Uganda, among the developing countries, is highly dependent on imports from developed countries (**International Trade theory and Policy 2015**).

### **2.3 Related Studies**

Ph.D. Gungor Turan (from the department of Economics, Epoka University, Tirana, Albania) and Bernard Karamanaj (M.Sc. student of Banking and Finance, Epoka University, Tirana, Albania) in Academic journal of Interdisciplinary studies (MCSER publishing Rome-Italy), (June 2014), carried out empirical study on imports, exports and economic growth in Albania. They discussed the relationship between exports, imports and gross domestic product (GDP) in Albania by using annual data for the period between 1984 and 2012. Different empirical researches and macro econometric models indicated that there is equilibrium relationship between exports, imports and GDP in the long-term. The main goal was to find out if imports and exports affected GDP growth in Albania. The relationship between these variables was shown by using econometric views statistical package and the source of data used is World Bank.

SK Kamal Ahmed (lecturer), S.M Jobaer (assistant professor) department of Business Administration, Leading University, Dhaka, Bangladesh and MD Anamul Hoque (senior lecturer) department of business administration, East West University, Dhaka, Bangladesh (July 2013) carried out a study to analyze the effects of export and import on GDP of Bangladeshi using annual data from 1972 to 2006. Relevant data were collected from the reports of World Bank. Data were then analyzed by using econometrics tools. The analysis revealed that both export and import are moderately related to the growth of GDP. Export contributes positively to our GDP whereas imports contribution is unenthusiastic.

Mahmoud Albolpour Mofrad (2012) (faculty of Azad University, Branch of Firoua Abad) carried out a study on the relationship between GDP, Export and Investment in Iran. The study compared the long-term and short-term relationship between GDP, Export and Investment during the years 1991-2008. Results showed that there exists a positive

and significant long-term relationship between GDP, Export and Investment at 95% confidence level. But the relationship between investment and exports is negative. Analysis of the vector error correction model for GDP indicates an error correction coefficient is negative which is due to the high value of the GDP in the short run than long-term equilibrium value. In the short-term, impact of investment and exports on GDP are positive. Effect of domestic production on investment is positive but on export it is negative.

Marisa Olson, Sarah Pilcher and Neil Whitman (2014) carried out empirical analysis of the relationship between Exports and GDP. All data used was taken from the year 2011 and the logistics performance index verifiable was taken from the years 2009-2013. Through the testing of both simple and multiple regression models the study revealed that there was a significant positive correlation between GDP and Exports in the year 2011. These finding supported the export-led growth hypothesis, insinuating that an increase in exported merchandise leads to a subsequent increase in GDP.

Mehmit Erygit of the Abant Izzet Baysel University in Turkey conducted a study in (2012) which discussed the long run relationship between foreign direct investments (FDI), GDP, and exports. FDI, is "establishing a new company or branch of a foreign company by a foreign investor in a host country" (Erygit 71). There are many benefits for the host countries that invest in FDI's, these benefits include better employment levels, improved performance, increasing levels of productivity, more technological improvements, and even better managerial talents. Therefore, it is reasonable to assume that FDI has an effect on export volume and GDP although the degree to the effect is unclear. Additionally, export volume and GDP are most likely related. This study used data from 2000 to 2010 from fifteen countries that invest in Turkey. Turkey is a very popular destination for other countries interested in FDI's, for example Turkey's percentage of FDI inflows is 4.1%, which is the highest share among all developing countries. Part of the purpose of FDI is to "contribute to the host country's exports" (Erygit 81). Erygit states definitively that residual based tests showed that

there is a lasting correlation between FDI and export volume, FDI and GDP, and export volume and GDP.

Yuhong Li, Zhongwen Chen and Changjian San (2010), Junggangshan University Business School in the Academic Journal of Modern Economy examined the relationship between foreign trade and GDP growth in East China. They used data collected between 1981 to 2008. Through use of cointegration analysis with error correction model, data was tested and the results suggested that foreign trade is the long term and short term source of GDP growth.

Mucahit Aydin, Sakarya University, Turkey, (2004), conducted a study on the relationship between GDP and Exports of Turkey. He used Augmented Dickey Fuller (ADF) test and Granger causality test based on Toda-Yamamoto Analysis through E Views 7.1. Quarterly time series data report by OECD was used in the time period 1980-2012. The results revealed that the series were not stationery and these results concluded that there is a unidirectional causal relationship from the GDP to the Exports.

Abdulbaset M. Hamuda, Vladimir Gazda, (2010) (Technical University in Kosice, Slovakia) conducted a study investigating the relationship between export and economic growth in Libya. The annual time series data used for the estimation covered the time period 1980-2007. They developed an econometric model and estimated in order to determine the directional causality in both short and long run. The findings indicated that the income, exports and relative prices are cointegrated. The long run bidirectional causality between the exports and income growth was also proved. The study results indicated that the export promotion policy contributes to the economic growth in Libya.

Fouad Abou Stait, Professor of Economics, Helwan University, in Economic Research working Paper No. 76, July 2005; examined the export-led growth (ELG) paradigm for Egypt. He used historical data from 1977 to 2003. He employed a variety of analytical tools including co-integration analysis, Granger causality tests and unit root tests coupled with vector auto regression (VAR) and Impulse response function (IRF)

analyses. He set three hypotheses for testing the ELG paradigm for Egypt; i) whether GDP, exports and imports are co-integrated, ii) whether exports Granger cause growth, iii) whether exports Granger cause investment. The hypothesis of the study revealed that exports, imports and GDP are not co-integrated and exports Granger cause GDP growth but it does not support the Granger causality between exports and Capital formation.

Ku'Azam Tuan Lonik, Universiti Sains, Malaysia, (2006); conducted a study seeking to establish the export-led growth hypothesis in Malaysia for the period 1978 until 2002. He employed Resaran, Shin and Smith (1986) ARDL co-integration technique to establish the relationship between export and economic growth. The study reveal that the hypothesis held for Malaysia for the period 1978-2002.

Arshia Amiri and Gerdtham, (2008) Lund University, Marseille, France; conducted a study investigating linear and nonlinear Granger causality between exports, imports and economic growth in France over the period 1961-2006. They used geo-statistical models (kiriging and inverse distance weighting). The data used were annual France observations on logarithm of real GDP, logarithm of exports of goods (US\$) and services and logarithm of imports of goods and services (US\$). Annual data on all variables from 1961 to 2006 were collected from World Development Indicators 2008. The analysis of the study revealed that there is a long run unidirectional causality from exports and imports to economic growth.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Research Design**

A time series analysis was adopted and the use of quantitative techniques to analyze secondary data scientifically to critically conclude the research objectives, secondary data was collected from different ministries, some quantification was necessary because of the need to tabulate data and use of statistical techniques to arrive at a dependable conclusion. In addition, inferences were also drawn by fitting the regression model.

#### **3.2 Research Population**

The research took twelve year time series of study that is, from 2000 to 2011 using the data collected through various ministries like the Uganda Export Promotion Board, Uganda Revenue Authority, and Bank of Uganda etc.

#### **3.4 Research Instrument**

The Record sheet was used to collect the yearly data on export earnings and GDP growth rate in Uganda for twelve years that is from 2000 to 2011. This data was collected from various export borders of Uganda which include; Entebbe, Malaba, Busia etc.

#### **3.5 Data Gathering Procedure and Source**

##### **3.5.1. Before Data Collection**

After the proposal had been approved, the researcher got an introductory letter from the Department of Economics and Applied Statistics of Kampala International University that introduced him to the respective ministries. The researcher informed them on area of interest of the data to be collected.

##### **3.5.2. During Data Collection**

The researcher under close supervision of skilled research assistants ensured that all the information required were collected and used in the data analysis.

The domestic sources are the annual and quarterly bulletin of the Bank of Uganda, Uganda Bureau of Statistic, the Ministry of Finance Planning and Economic Development, IMF's, International Financial Statistics, World Bank and United Bank of Africa .

### **3.5.3. After Data Collection**

The data was entered into the record sheet, compiled and used to analyze the relationship between GDP and Exports earning, and the contribution of GDP to increase in Export earnings in Uganda (2000-2011) with the help of computer -statistical package (SPSS).

## **3.6 Data Analysis**

### **Time Series Data Analysis**

This involved time series analysis to test for trend of both annual GDP and annual Export earnings. Testing for stationarity, auto-regression, and partial auto-regression were done to determine the relationship between GDP and Export earnings.

Data collected from a period of twelve years from 2000 - 2011 was entered into the SPSS statistical package, then cleaned and analyzed. Objective (i) and (ii) were analyzed by use of line graphs which showed the trend of GDP and Export earnings, tables were used to summarize data.

### **3.6.1 Regression Analysis**

This was used to analyze objective (iii) of the research study

The researcher used a simple Regression Analysis to determine the strength of the relationship between export earnings and gross domestic product of Uganda.

The significant model was given by;  $\hat{y} = 0.936x$

Where y=total exports earnings from cotton, coffee and fish

X=annual gross domestic product (GDP)

### **3.6 Limitations of the Study**

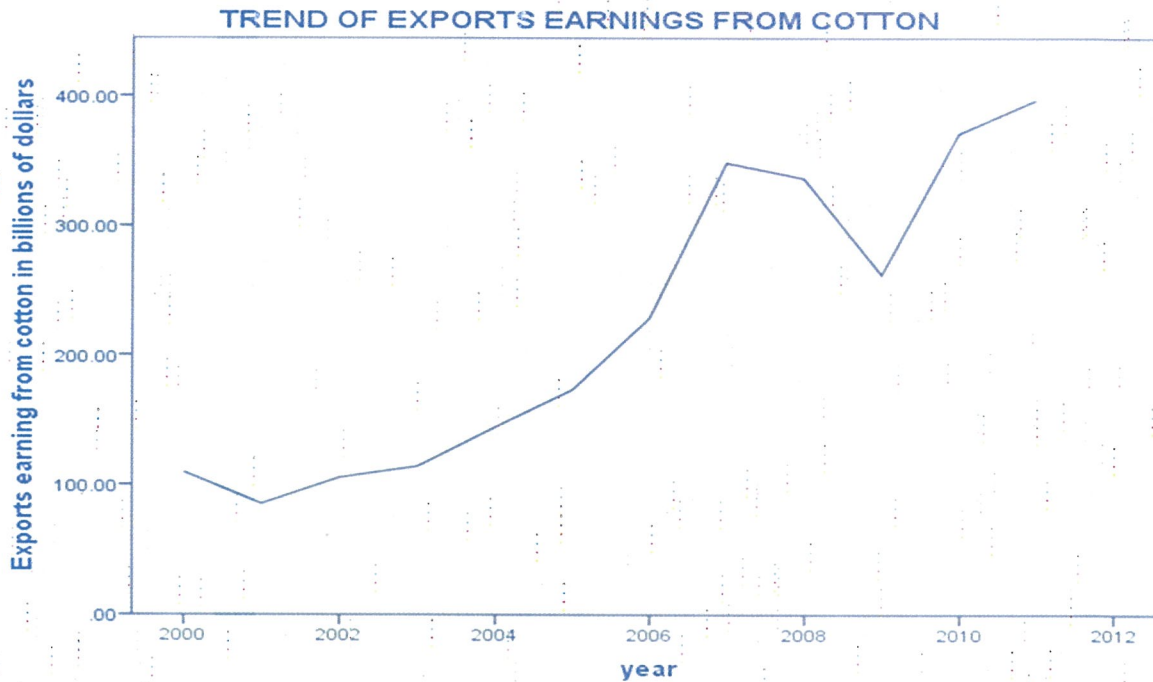
It was difficult to obtain secondary data that would satisfy the topic at hand because most of the ministries with such data tried to withhold due to their own reasons like privacy and protection. However, this was overcome by assuring the authorities that the data was only for study purposes by the researcher.

Existence of extraneous variables (other factors apart from the GDP) that affected the accuracy of the results and could not be controlled that made the study hard. However a few variables were sampled to ease the analysis.

## CHAPTER FOUR

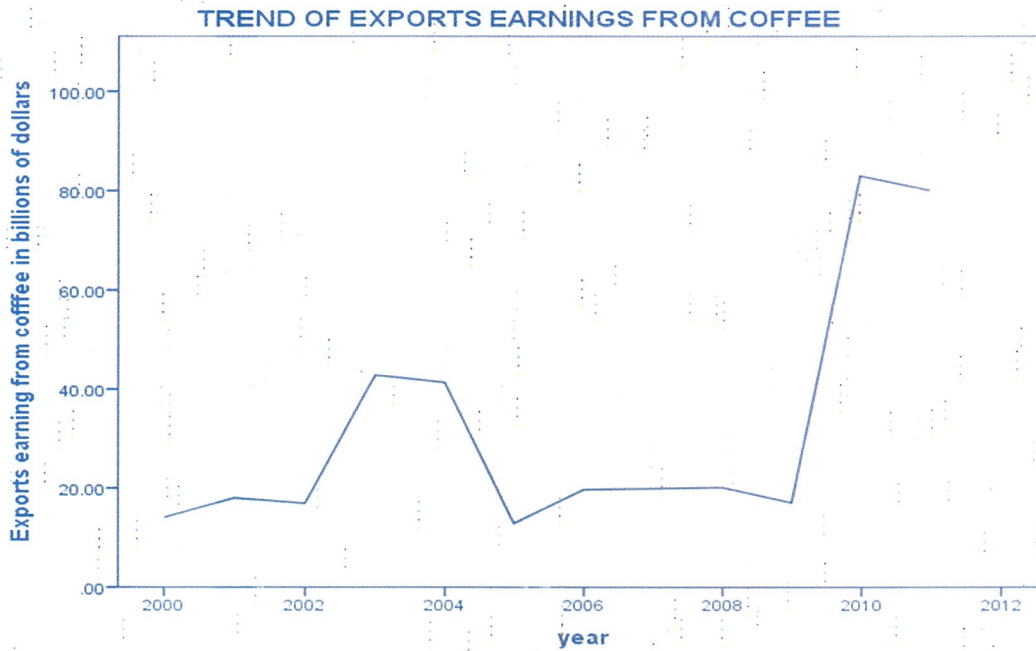
### DATA ANALYSIS AND INTERPRETATION OF RESEARCH FINDINGS

#### 4.1 Trends of the variables



**Graph 1: A time series plot of exports earning from cotton**

The graph above shows a gradual rise in the early 2000's and it later dropped drastically as it maintained steady growth over the years. This clearly shows that the exports earning from cotton has on average a positive trend over the years.



**Graph 2: A time series plot of exports earning from coffee**

The graph above shows unpredictable changes in exports earning from coffee over the years. But on average it seems to indicate a positive trend from the year 2009.

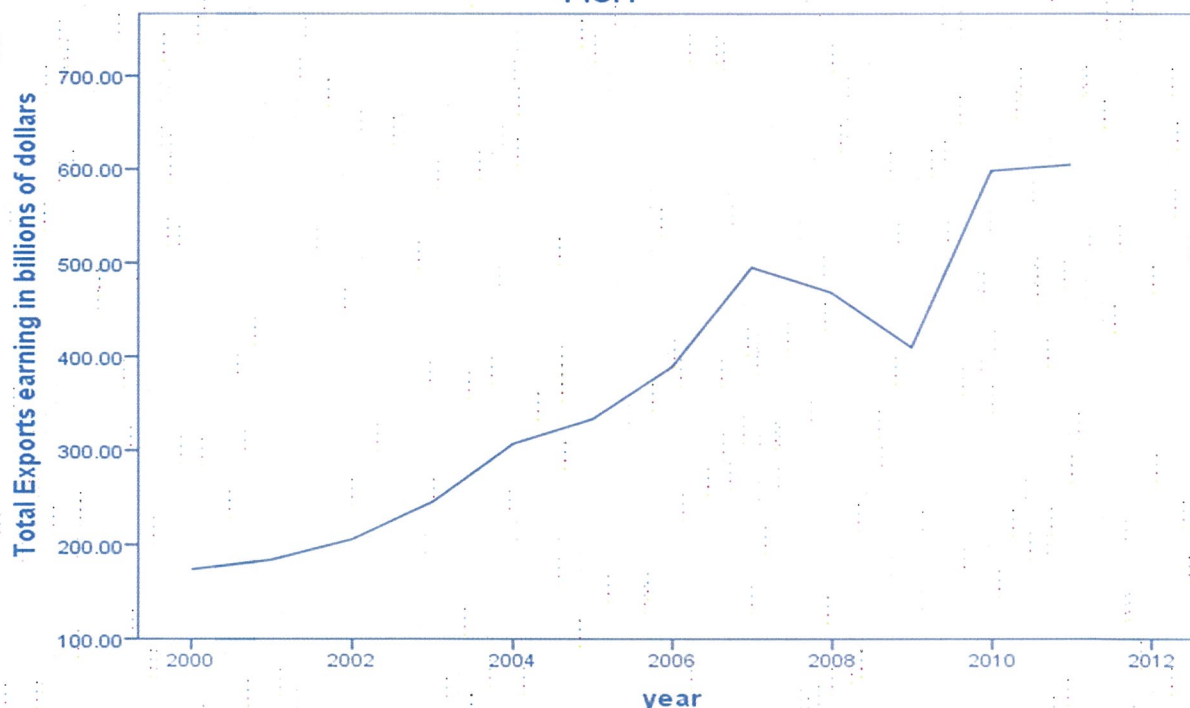


**Graph 3: A time series plot of exports earning from fish**

The graph above shows a gradual rise in the early 2000's and it later dropped drastically between 2005 and 2008 as it maintained steady growth over the years.

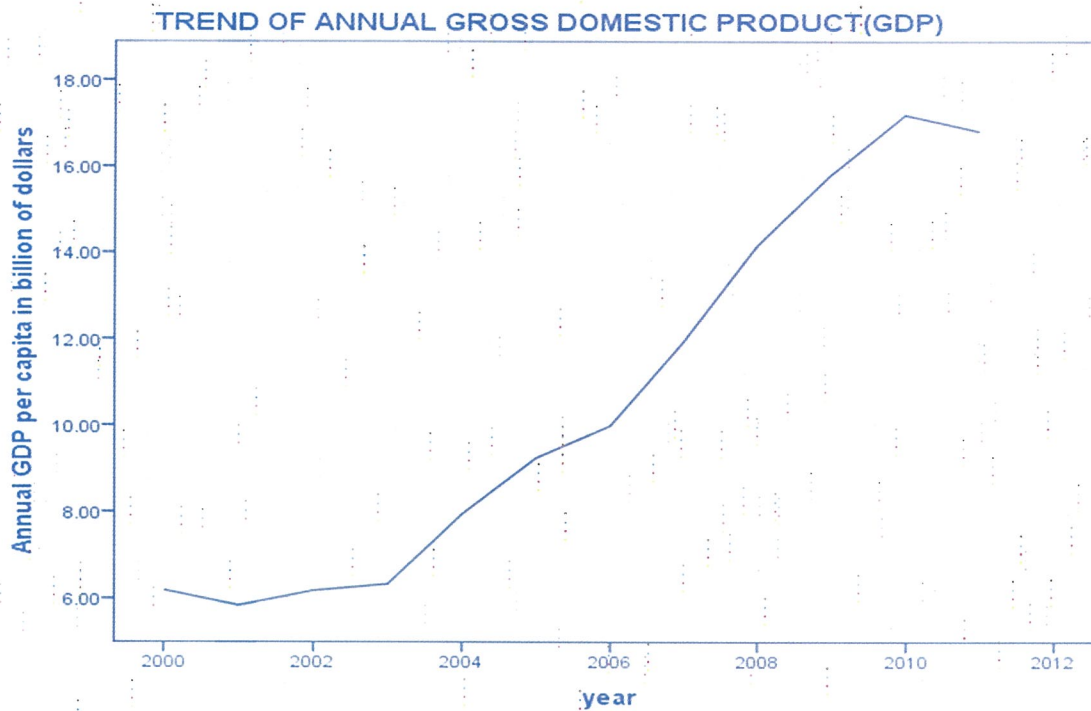
though it dropped in 2011. This clearly shows that the exports earning from fish has on average a positive trend over the years.

**TREND OF THE TOTAL EXPORTS EARNINGS FROM COTTON, COFFEE AND FISH**



**Graph 4: A time series plot of exports earning from cotton, coffee and fish**

The graph above shows a steady growth until around 2007 as it gained a sharp growth in 2009 up to 2011 period. This indicates that the total exports earning from cotton, coffee and fish has on average a positive trend over the years.



**Graph 5: A time series plot of GDP over the years**

The graph above shows a generally gradual rise in the early years and later registered a sharp growth until 2011 as it was observed declining. The trend of the gross domestic product is on average positive trend over the years.

## 4.2 Regression results

**Table 1: Regression results of export earnings from cotton GDP in billions of dollars**

Model	Unstandardize d Coefficients	standardize d coefficients	Adjuste d R <sup>2</sup>	t- value	F-value	p- value
Consta nt	-39.0850	-		-1.134	66.913	0.283
Annual GDP	24.656	0.933	0.857	8.18		0.000

The results in the table above shows that GDP is significant in explaining Exports earning from cotton (p-value i.e.  $0.000 < 0.05$ ) and the coefficient of determination also indicates that about 85.7% changes in Exports earning from cotton is explained by changes in annual gross domestic product(GDP). Both the t-value and F-value indicate significant relationships.

**Table 2: Regression results of export earnings from coffee on GDP in billions of dollars**

Model	Unstandardize d Coefficients	standardize d coefficients	Adjusted R <sup>2</sup>	t- value	F-value	p-value
constant	-1.529	-	0.241	2.118	4.488	0.06
Annual GDP	3.167	0.557				

The results in the table above shows that GDP is insignificant in explaining Exports earning from coffee (p-value i.e.  $0.06 > 0.05$ ) and the coefficient of determination also indicates that only about 24.1% changes in Exports earning from coffee is explained by changes in annual gross domestic product(GDP). Both the t-value and F-value are significantly large indicating insignificant relationships.

**Table 3: Regression results of export earnings from Fish on GDP in billions of dollars**

Model	Unstandardized Coefficients	standardized coefficients	Adjusted R <sup>2</sup>	t-value	F-value	p-value
constant	63.530	-	0.394	2.855	8.153	0.017
Annual GDP	4.633	0.67				

The results in the table above shows that GDP is significant in explaining Exports earning from fish (p-value i.e.  $0.017 < 0.05$ ) and the coefficient of determination also indicates that about 39.4% changes in Exports earning from fish is explained by changes in annual gross domestic product(GDP) although the relationship is weak. Both the t-value and F-value do not indicate otherwise.

**Table 4: Regression results of export earnings from Cotton, Coffee and Fish on GDP in billions of dollars**

Model	Unstandardized Coefficients	standardized coefficients	Adjusted R <sup>2</sup>	t-value	F-value	p-value
constant	22.916	0.936	0.864	0.521	71.108	0.614
Annual GDP	32.456			8.433		0.000

The results in the table above shows that GDP is significant in explaining Total Exports earning from cotton, coffee and fish (p-value i.e.  $0.000 < 0.05$ ) and the coefficient of determination also indicates that about 86.4% changes in the above Exports earnings

is explained by changes in annual gross domestic product(GDP). The constant is insignificant in the model. Therefore the significant model is;  $\hat{y} = 0.936x$

Where y=total exports earnings from cotton, coffee and fish

X=annual gross domestic product (GDP)

## **CHAPTER FIVE**

### **DISCUSSION, CONCLUSION AND RECOMMENDATION**

#### **5.0 Introduction**

This chapter discusses the trends of exports earnings from cotton, coffee, fish and gross domestic product. It also discusses the relationships between export commodity and gross domestic product, conclusion and recommendation.

#### **5.1 Discussion of research finding**

##### **Trend of exports earning from cotton**

According to graph 1, exports earning from cotton gradually rose in the early 2000's and it later dropped drastically as it maintained steady growth over the years. As pointed in (MTTI, 2012) the major determinants of this trend are rising oil (fuel) prices, instability in south Sudan and Kenya which are major markets for Uganda's exports.

##### **Trend of exports earning from coffee**

The graph 2 indicates the unpredictable nature of the export earnings from coffee over the period under study. This irregular trend is due to natural disasters that affect exports such as U.S. hurricane of 2000 and unfavorable exchange rates (UEPB, 2003).

##### **Trend of exports earning from fish**

The graph3 shows a gradual rise in the early 2000's and it later dropped drastically between 2005 and 2008 as it maintained steady growth over the years though it dropped in 2011. This trend could be as result of the economic crisis of 2008 and quality of Uganda's fish at international markets (UBOS, 2011).

### **Trend of gross domestic product**

According to graph4 there was generally gradual rise in the early years and later registered a sharp growth until 2011 as it was observed declining. The trend of the gross domestic product is on average positive trend over the years. Over the years the government of Uganda with support from foreign countries and international agencies undertook currency reform, raising producer prices on export crops, increasing prices of petroleum products, and improving civil service wages. The policy changes are especially aimed at dampening inflation and boosting production and export earnings. This could be the reason for the steady growth in the GDP over the period under study.

### **Relationship between exports earning from cotton, coffee, fish and GDP**

The relationship between export earnings and gross domestic product was analyzed by fitting a simple linear regression model; it was found out that there is a positive relationship between each commodity and the GDP. This finding is supported by findings of researchers such as S.K Kamal and S.M Jobaer(2006)who argued that this positive relationship is accompanied by advanced technology, human and capital development at a certain level.

The results of this study also concur with other researchers like Gungor Turan and Bernard Karamanaj(2014)who used a long-run econometric model and found a positive relationship between exports and gross domestic product. However this study explored the relationship between the GDP and cotton, coffee and fish independently which makes it more detailed and enriching.

Mahmoud Albolpour Mofrad(2008) compared the long run and short run relationship between exports and GDP in Iran and a positive relationship between the two variables which is also in agreement with this study results which fitted a regression model for each commodity.

The results of this study were also supported by Marisa Olson, Sarah Pilcher(2011) who tested both a simple and multiple regression model and concluded a positive relationship between GDP and exports earning.

Much as most researchers found a significant relationship between exports and gross domestic product other researchers like Mucabit Aydin, Sakarya(2004) in turkey, Abdulbaset M. Hamuda, Vladimir Gazda(2010), Fouad Abou Stait(2005) did not give a conclusive relationship between the two variables both in the short run and long run.

## **5.2 Conclusion**

According to the time series graph, exports earnings from cotton and fish showed a tendency of growth, coffee was unpredictable while gross domestic product also indicated growth over the years under study.

Regarding the relationship between exports earning and gross domestic product, the regression results indicate that there is a strong positive relationship between cotton and GDP ( $R^2=0.857$ ), followed by a weak positive relationship between fish and GDP ( $R^2=0.394$ ) and finally also a weak positive relationship between coffee and gross domestic product ( $R^2=.241$ ). Therefore, there is a positive relationship between gross domestic product and export earnings. So growth in gross domestic product leads to growth in the exports earnings.

## **5.3 Recommendations**

- Regarding the stability in the growth of exports earnings, the government of Uganda should have policies that can encourage exports as this can increase inflows and control outflows, increase capital stock and human capital development through talent sourcing, and innovation so as there can be growth in the economy.
- The growth of the economy in terms of GDP is also dependent on exports earning, there is need for the government, ministries and relevant bodies to

increase investments both local and international, political stability, financial growth and technological development. Economic growth is evident in a dynamic economy in terms of development, science, entrepreneurship, and industrialization etc.

- Since there is a positive relationship between GDP growth and exports earning, the country should provide a conducive environment for exports growth, this should be done while protecting the local investment, cash or profit outflows and ensuring capital accumulation.

#### **5.4 Areas for further studies**

Future researchers should carry out studies on the following topics:

- Foreign Direct Investment and Export earnings in Uganda
- Economic Integration and Export earnings in Uganda
- Gross Domestic Product and Imports in Uganda
- Gross Domestic Product and Economic growth in Uganda

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## **APPENDICES**

### **Appendix 1: Annual GDP per capita of Uganda (2000-2011)**

<b>Year</b>	<b>GDP (Billions USD)</b>
2000	6.19
2001	5.84
2002	6.18
2003	6.33
2004	7.94
2005	9.24
2006	9.98
2007	11.92
2008	14.14
2009	15.8
2010	17.19
2011	16.81

**Source: World Economic Indicators, World Bank (2012)**

**Appendix 2: Export Earnings of Uganda from 2000-2011 (Coffee, Cotton,  
Fish) In Million Dollars**

Year	Export earnings			
	Cotton	Coffee	Fish	Total
2000	109.64	14.08	50.11	173.83
2001	85.25	18.00	80.85	184.1
2002	105.47	16.88	83.4	205.79
2003	114.13	42.84	88.82	245.79
2004	144.53	41.34	121.23	307.1
2005	173.37	12.86	147.04	333.27
2006	228.52	19.67	140.67	388.86
2007	348.52	19.9	126.59	495.12
2008	336.65	20.11	111.47	468.23
2009	262.13	17.03	130.56	409.72
2010	371.04	82.95	144.45	598.44
2011	396.74	80.01	128.16	604.91

**Source: BOU Annual Report (2012)**