WHAT TYPE OF EXPORTS CONTRIBUTE TO UGANDA'S ECONOMIC GROWTH?

Ronald Waiswa

Uganda Revenue Authority, Uganda

ABSTRACT

The study aimed at establishing the type exports that lead to economic growth in Uganda. Specifically; it aimed at establishing the effect of agricultural, non-agricultural, traditional, non-traditional and individual commodities' exports on economic growth. It was based on time series quarterly data from 2000 to 2016 obtained from Bank of Uganda, World Bank development indicators and Uganda Bureau of statistics. The study was based on the Auto Regressive distributed Lag Model (ARDL) for estimating empirical results.

The results show that in Uganda's case, it's agricultural and not non- agricultural exports that lead to economic growth. Also, both traditional and non-traditional exports are relevant for Uganda's economic growth. It was further revealed that only the export of electricity, gold, tea and flowers had significant positive effects on economic growth when treated individually. The rest of the export commodities had negligible effects. Other important variables influencing economic growth include the conventional factors of production that's gross capital formation and labour force participation rate.

The study recommends that the agricultural sector should be boasted in terms of productivity, quality and value addition. This will help to increase the agricultural exports of the country. In the long run however, strategies to increase manufacturing exports would be important for Uganda's long term development agenda. Lastly, the country's action plan for the promotion of exports in selected commodities should be revised to include Electricity, gold and flower as these, compared to other commodities, had significant effects on economic growth.

Keywords: National Export Strategy, Economic , NDPII, GDP, Export.

CHAPTER ONE:

INTRODUCTION

1.0 Background of the Study

The relationship between exports and economic growth is a frequent topic of discussion when economists try to explain the different levels of economic growth between countries. The role of exports in promoting economic growth of countries is not only acknowledged in recent times, it dates back to the classical economists such as Adam Smith (1776) and David Ricardo (1817), who argued that, international trade plays an important role in economic growth. These, emphasized the importance of specialization in international trade.

Specifically, Adam Smith in his publication of wealth of nations argued that each country should specialize in the production and export of goods and services in which it has absolute advantage (less cost per unit) and import commodities in which it has higher absolute disadvantage. From this fact, each nation would gains from trade in terms of welfare. However, the theory failed to explain how trade can occur if there is absolute advantage in both countries. This was raised by David Ricardo in his theory of comparative advantage. Ricardo argued that, for a country to gain benefits from international trade, it does not necessary need to have absolute advantage. Ricardo argued that at least one country would have relative less cost per labor in production of certain goods. In this case, each country should specialize in productions of commodities in which it has relative less labor cost compared to other commodities.

Theoretically, it has been argued that a change in export rates could change output and this proved highly successful in East Asian during the 1970s and 1980s, and especially if compared to the overall failure of import substitution policies in most of Africa and Latin America, Fouad, (2005).

There are a number of studies that confirm the robust connection between exports and economic growth in countries across the world such as (Chenery and Strout, 1966; Michaely, 1977; Balassa, 1978; Tyler, 1981; Kavoussi, 1984; Ram, 1985; Ramos, 2001;Shirazi and Manap, 2005; Bbaale and Mutenyo, 2011; Noula, Sama and Gwah, 2013 Kang, 2015; Nahanga, 2016).

Exports being a major source of economic growth has many theoretical justifications. First, from Keynesian theory, export is part of national income. Gross domestic product is made up of consumption, investment, government spending and exports less of imports. Thus an increase in exports, keeping all other variables constant, would have a positive effect on national income. Second, exports help to finance imports. For a country, developed or developing, imports bring

new technology, new ideas, and higher efficiency to the economy that it may not be able to develop on its own. Here, exports play a significant role in enabling the country to acquire these imports, Nillson, (2005). Third, exports indirectly promote growth via increased competition, economies of scale, technological development, and increased capacity utilization. Fourth, many positive externalities like more efficient management or reduction of organizational inefficiencies, better production techniques, positive learning from foreign rivals and technical expertise, about product design are accrued due to more exports, Lundin and Hansson, (2003).

Despite the universal consensus among many researchers on the positive association between exports and economic growth, empirical literature on export composition and Economic growth presents mixed results. Some researchers such as Kim & Lin, 2009, Crespo, Cuaresma and Worz (2003), Levin & Raut,1997; Srinivasan et al., 2001; Herzer et al., 2004 found that its manufacturing and not agricultural exports that lead to economic growth, while others suggest that its agricultural and not manufacturing exports that lead to Economic growth such as Bbaale & Mutenyo (2011). The former argue that agricultural exports are subject to excessive price fluctuations hence posing a negligible impact on economic growth as compared to manufacturing products that are less sensitive to the cyclical changes in the international market. The later, while they don't entirely strike down the findings of the first group, argue that in an African setting, where countries still enjoy a comparative advantage in agricultural than manufacturing exports, its agricultural and not manufacturing exports that are more important in stimulating economic growth.

These studies however also considered manufacturing and agricultural exports in a combined/ aggregate form. There is still scanty literature on the type of products that need to be exported to spur economic growth at country level. Specifically, with regard to Uganda, to the best of knowledge, there is no rigorous empirical analysis to establish the exact commodities that are relevant in Uganda's export basket to spur her growth.

1.2 Uganda's Export Sector and Performance

Cognizant of the robust connection between exports and economic growth, Uganda like many other countries, has over the years implemented a number of initiatives to fuel her exports growth such as (a) the creation of Uganda export promotion board in 1996 and mandated to specifically coordinate all activities that would lead to export growth on a sustainable basis,(Ministry of Trade, Industry and Cooperatives, 2016), (b) signing a number of trade agreements such as East African Community, the Common Market for Eastern and Southern Africa (COMESA) among others; (c) In 2007, H.E President Yoweri Kaguta Museveni launched the National Export Strategy (NES) which was Uganda's medium term planning framework for

export promotion. The NES was formulated with a goal of providing a road map for revamping and accelerating export growth over the medium term 2008-2012, (International Trade Centre 2012). Lastly, in 2016, an Export Action plan was launched as a strategic response by Government of Uganda to operationalize the Second National Development Plan (NDPII) whose overall goal is to attain a middle income status by 2020. The NDPII identified export oriented growth as one of the key development strategies towards achieving sustainable wealth creation, employment and inclusive growth. This action plan identified strategic interventions for the development and promotion of exports in selected commodities in order to realize the NDPII export target of 16.9% of GDP by 2020, (GOU, 2016).

All these export growth targeted initiatives have indeed yielded dividends. Earnings from formal merchandise export growth in 2016 stood at US $ 2.543 Billion - a 91% growth from US$ 1,334 Million in 2007 (10-year) and 8% from US$ 2.407 Billion in 2012 (5-year). The country's export product and market portfolio has also continued to expand especially due to development of the industrial sector, (UEPB, 2016).

Uganda's dominant export product is and has for decades been coffee, but other goods and service exports have grown in importance. Whereas in the 1990s coffee exports were higher than all non-coffee exports combined- contributing over 65 percent of the total exports, Oliver and Rudaheranwa (1998), coffee's share of merchandise exports has shrunk to about 14% in 2017, (BOU, 2017). Traditionally, export items of Uganda are coffee, tea, cotton, and tobacco. These items were part of Uganda's export sector from quite an earlier period of time. However, these items have been overtaken as the main exports of the country. The list of export items of Uganda which have overtaken the traditional export items in the recent past constitute the non-traditional ones. These include; fish and fish products, gold, animal/vegetable fats and oils, iron and steel, petroleum and its products, sugar, maize, Flowers among others, (Byanyima.F, 2011, Sewanyana, 2011, Ben Shepherd, 2016, BOU, 2017).

While food commodities still make up the majority of the export basket, the share of non-food exports has grown, with a variety of non-food exports produced mainly by agri-business and light manufacturing industries. This group of products includes cement, metal and steel, wood, chemicals, leather, and plastic products. Overall it is much more fragmented and diversified within than the food commodity group of exports.

The biggest change in Uganda's export sector has come from the growth in services exports. In 1995, services made up about 15% of all exports, a value that has since risen to 42%, (Ben Shepherd, 2016). Between 2005 and 2014, service exports grew by 355%, (UEPB, 2016). This growth is remarkable, especially considering that the share of services in the export portfolio in

the rest of sub-Saharan Africa more or less stagnated at about 15% over the same time period, (Ben Shepherd, 2016). About 50% of services exports are travel and tourism services, which has become a major earner of foreign exchange. Other important service exports are transport and construction, with 11% and 10% shares in services exports, respectively; the rest is made up of business and government services, (Ben Shepherd, 2016).

1.2 Problem Statement

Theoretical and Empirical literature has reached an agreement on the importance of aggregate exports in the economies of both developed and developing countries. Disagreements now remain on the composition of exports that lead to economic growth. The argument is that not all exports contribute to economic growth. Some researchers found manufacturing not agricultural exports to be the engine of economic growth while other researchers found the opposite. Specifically, in Uganda's case, it's not clear whether agricultural exports are more important than non-agricultural exports in stimulating her growth.

Additionally, the 2016 Export action plan specifies strategic products that the government is focusing on in order to grow the country's exports. These, among others include the traditional commodity exports (coffee, tea, tobacco cotton). The non-traditional ones include livestock products, fish and its products, horticulture crops among others. There is however very little or even no empirical evidence on how significant the different export commodities are in stimulating the country's economic growth.

Accordingly, this study pursued to explore the relationship between different export compositions and economic growth as well as to identify the exact commodities that are relevant in Uganda's context.

1.3 Objective of the study

1.3.1 General Objective

This research aimed at establishing the type of export commodities that lead to Economic Growth in Uganda.

1.3.2 Specific Objectives

Specifically, the study intended to;

   i.   Establish whether its agriculture or non-agricultural exports that lead to economic growth in Uganda.

  ii.   To test whether Uganda's traditional exports (coffee, cotton, tea and tobacco) are still relevant for economic growth as compared to the non-traditional ones.

 iii.   To identify export commodities that pose significant effects to economic growth in Uganda.

1.4 Research hypotheses

In order to achieve the above stated objectives, the study tested the following research hypotheses;

   i.   It's the export of agricultural products and not non-agricultural exports that pose a significant positive effect to economic growth in Uganda.

  ii.   Both traditional and non-traditional exports have positive significant effects on Uganda's economic growth.

 iii.   In Uganda, there is no single export commodity that can lead to economic growth but rather a combination of export commodities.

1.5 Significance of the Study

The findings of this study will help policy makers to identify the exact export commodities that are vital for Uganda's economic growth. This will go a long way to guide policy formulation relevant to boost the export sector.

This research adds to the body of literature on the role of exports in economic growth. However, compared to the rest of studies that considered exports in aggregate form, or manufacturing and Agricultural exports in aggregate form, this study adds to the light evidence on the relationship between exports and economic growth at commodity level. Researchers and academicians are thus expected to find this as a point of further research.

1.6 Scope of the Study

The study intended to investigate the relationship between different types of exports and economic growth in Uganda. The investigation covered both agriculture and non-agriculture exports. It utilized data from Bank of Uganda and Uganda Bureau of Statistics for the period 2000 to 2016 compiled on a quarterly basis. The choice of this study period was guided by two considerations. First is the need to cover a period long enough so as to make meaningful statistical inference. The second relates to consistent data availability.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews related literature on the subject matter of this work. It is divided into three sections. Section 2.1 provides theoretical literature review and section 2.2 provides the empirical literature review on the role of exports as well as export composition and economic growth. This section further includes studies that have studied different export commodities and their effects on economic growth. Section 2.3 presents the summary of the reviewed literature.

2.1 Theoretical Literature Review

The classical economists believed that foreign trade promoted economic growth in two ways. On the one hand, foreign trade improved the optimal distribution of resources and productivity consequentially and then stimulated economic growth; on the other hand, one country could gain raw materials and equipment which it could not produce. Those provided the material basis for economic development. The most famous theories were exports of surplus of Adam Smith (1776), comparative advantage of David Ricardo (1817), the interests of the trade development of John Mueller and "trade is the engine of economic growth" of D. H. Robert Morrison (1956). All these theories interpreted the relationship to some extent but ignored the fact that the international environment is complex.

The structural economists represented by Lewis (1954), who put forward dual economy model which parted a developing economy into capitalist part (the industry sector) and non-capitalist part (the traditional agricultural sector) argues that the capitalist sector was bound to promote the growth of the economy through absorbing and accumulating surplus labour from non-capitalist sector. If the capitalist part produced the exporting goods and the traditional part produced the importing goods, foreign trade would undoubtedly expand the market and demand products in capitalist part and reduce the wages of labour. Then it would further increase the profit and promote economic growth.

In the effect school, the main point of Max Corden (1985) was that he analyzed foreign trade together with macro-economic variables and especially emphasized the impact of trade on the supply of production factors and productivity. Corden recognized that a country's foreign trade would affect macroeconomics from 5 aspects: the revenue effect, the effect of capital accumulation, the substitution effect, the income distribution effect and the effect of the

weighted elements. All the above effects were cumulated which meant that the impact of trade on economic growth was strengthened gradually.

Economists in the new-growth school represented by Romer (1997), Lucas (1988) and Svensson (1998), took technology as the core factor to promote productivity. This theory pointed out that the growth of developed countries would be attributed to the improvement of productivity. Based on this fact, the theory made a series of models to study the relationship among international trade, technological progress and economic growth. They viewed that international trade could promote economic growth through technology spill over and external stimulation. On one hand, any technology had a spill-over process. The owners of advanced technologies, whether they had intention or no intention, would gradually make other countries learn these technologies through foreign trade; on the other hand, international trade provided a broader market, more frequent exchange of information and increased competition, which forced every country to develop new technologies and products. The mutual promotion relations between international trade and technical change could ensure a long-term economic growth.

The new-trade theory economist, Haierpoman Paul Krugman (1996) believed there were two ways for international trade to promote economic growth. One was the effects of economies of scale brought by trade, and the other was that international trade could promote economic growth through improving the optimal allocation of resources between materials production sector and knowledge production sector.

2.1 Empirical Review of Literature

There are several influential studies that provide a useful framework for analyzing and discussing the relationship between exports and economic growth both in early and recent times. The basic idea of this literature is that exports increase total factor productivity because of their impact on economies of scale and other externalities such as technology transfer, improving skills of workers, improving managerial skills, and increasing productive capacity of the economy. Another advantage of export-led growth is that it allows for a better utilization of resources, which reflects the true opportunity cost of limited resources and does not discriminate against the domestic market. The next subsection includes some of the early and recent studies that explore the relationship between economic growth and exports.

2.2.1 The Role of Exports on Economic Growth

Some early empirical works could be traced back to the use of conventional ordinary least squares technique to relate economic growth to exports. Blumenthal (1972), Viovodas (1974), Fajana (1979) are among the earliest studies. Blumenthal (1972) for example undertook a study

of Japan using both annual and quarterly series from 1953 to 1967 by regressing growth of real exports on growth of real GDP. The results did not establish an export-led economic growth. Fajana (1979) also applied the OLS method of testing the export-led economic growth using Nigerian annual data (1954-74). The study used growth of real GDP on real exports. The results of this study established an export led economic growth for Nigeria during the period of study.

Maizels (1963) is one earlier study that tested the export-led growth hypothesis using cross country series. Maizels' study pooled seven developed countries series (1899-1959) by applying rank correlation method on the averaged growth in manufacturing output and exports. The study affirms the export-led growth hypothesis. Sprout and Weaver (1993) however pooled a total of seventy-two (72) less developed countries series (1970-1984) and applied a two stage least squares (25LS) method. The study which averaged real GDP growth on averaged real exports growth or growth of export share of GDP also included other variables (averaged labour force growth and averaged investment share of GDP). The results of the study revealed the existence of export-led growth for large and non-primary exporters group.

The past decade saw a surge in the use of error correction modelling and other relatively new techniques (autoregressive distributed lags, or Bounds, ARDL Test) in analyzing the export-led growth hypothesis. Balagher and CantavellaJorda (2002) study examined the Spanish export led growth hypothesis from the trade liberalisation process initiated in the 1960s. The study took cognizance of the role of the effects of structural change in export in analyzing the hypothesis. The stationarity of the series was investigated by employing the unit root tests developed by Dickey and Fuller (1979, 1981) and Phillips and Perron (1988). The stationarity results did not reject the null hypothesis that the series contain unit root independent of the model specification. The cointegration test using the Johansen's (1988) methodology suggests that there is a single significant cointegrating vector and thus the existing relationship among real output, real exports and structural change in export composition of Spain is not spurious and are therefore causally related, at least in one direction. The results of Granger causality tests revealed that the growth of real exports appeared to "Granger-cause" the growth of real output at 5% significance level. Another attractive outcome of the results is that export structural transformation seems to cause exports which implied intra-sector resource movement.

Abou-Stait (2005) tested the export-led economic growth hypothesis also by applying a cointegration and causality tests-for Egypt (1977-2003). The trace test indicated no cointegration between net GDP, exports and imports for Egypt. However, the findings support the validity of the export-led growth hypothesis. The study also analyzed a vector autogression (VAR) model to show the dynamic effect of the impact of unitary shocks on a variety of macroeconomic variables. Based on this VAR model, the analysis was extended to include the impulse response

functions (IRFs). In summary, the results support the hypothesis that exports, imports and GDP are not cointegrated, and that exports Granger cause GDP growth. Moreover, the results also show that exports of goods remain one important source of economic growth and that shocks to export lead to a significant response in GDP, which also gives credence to the export-led growth hypothesis.

The export-led, growth hypothesis has also been investigated using Bound test methodology. Keong et al. (2005) applied the Bounds test methodology using Malaysian data. The integration results or the unit root tests yielded a mixture of both I(0) and I(1) variables, thus providing a rationale for the use of the (autoregressive distributed lag) ARDL methodology. The results of this study affirmed the validity of the export-led growth hypothesis in the case of Malaysia, and the existence of a stable positive long-run relationship between growth and exports.

There are also many studies analyzing the role of exports in the economic growth specifically for developing countries. Most of these African studies tend to confirm the importance of exports for developing nations for example, Balassa (1978 and 1985), Jung and Marshall (1985), Ram (1985 and 1987), Chow (1987), Shan and Sun (1988), Bahmani-Oskoee, Mohtadi and Shabsigh (1991), Bahmani-Oskoee and Alse (1993), Jin (1995), Levin and Raut (1997), and Khalifa Al-Youssif (1997). Most of this literature attributes the effects of exports on economic growth to several factors. One of the key factors however is that exports promote thresholds effects due to economies of scale, increased capacity utilization, productivity gains, and greater product variety. It is also argued that exports of goods and services provide the opportunity to compete in the international markets that leads to technology transfer and improvement in managerial skills. Indeed, a review by Gunter, Taylor and Yeldan (2005) concludes that any gains from trade liberalization are often associated with external effects that are dynamic in nature.

2.2.2 Export Composition and Economic Growth

The ensuing section summarizes studies that have particularly addressed the issue of export composition and economic growth.

Kalaitzi (2013) examined the relationship between exports and economic growth in the United Arab Emirates over the period 1980-2010. The study applied the two-step Engle-Granger cointegration test and the Johansen cointegration technique in order to confirm or not the existence of a long-run relationship between the variables. The findings of this study confirmed the existence of a long-run relationship between manufactured exports, primary exports and economic growth. In addition, the Granger causality test showed unidirectional causality between manufactured exports and economic growth.

Bbaale, and Mutenyo, (2011) studied the role of export composition and economic growth in 35 sub-Sahara African countries using disaggregated data on exports and imports from the United Nation's Statistical Database. They employed the Generalized Methods of Moments estimator in their analysis. These found that it is the growth in agricultural exports, and not manufactured exports, that is significantly associated with per capita income growth.

Kim and Lin (2009) examined the impact of export composition on economic growth and indicated that not all exports contribute equally to economic growth. In particular, many developing countries depend on exports of primary products, which are subject to excessive price fluctuations. In most cases, this category of exports had negligible impact on economic growth, while manufactured exports had a positive and significant effect on economic growth.

Crespo, Cuaresma and Worz (2003) argued that exports of manufacturing products are less sensitive to the cyclical changes in the international market compared to exports of raw and intermediate goods. Hence, countries that depend on the exportation of manufactured products were less affected by the cyclical changes in the world economy. The major problem facing most developing countries was the heavy dependency on the export of raw materials. Changes in the world economy affected its demand for primary products, which then affected the economic performance of less developed countries.

Levin and Raut (1997) explored the effect of primary commodity and manufactured exports on economic growth. The exports of primary commodity included both agricultural products and others that is metals and oil products. The study concluded that manufacturing exports were the main source of economic growth and the exports of primary products had a negligible effect. The author had used the time series data of eight Asian developing countries covering the period from 1960 to 1997.

Dawson (2005) studied the contribution of agricultural exports to economic growth in less developed countries. The author used the two theoretical models in his analysis, the first model based on agricultural production function, including both agricultural and non-agricultural exports as inputs. The second model was dual economy model i.e. agricultural and non-agricultural where each sector was sub divided into exports and no export sector. Fixed and Random effects were estimated in each model using a panel data of sixty two less developed countries for the period 1974 – 1995. The study provided evidence from less developed countries that supported theory of export led growth. The results of the study highlighted the role of agricultural exports in economic growth.

Sanjuan-Lopez and Dawson (2010) estimated the contribution of agricultural exports to economic growth in developing countries. They estimated the relationship between Gross

Domestic Product and agrarian and non-agrarian exports. Panel co integration technique was used in analyzing the data set of 42 underdeveloped countries. The results of the study indicated that there existed long run relationship and the agriculture export elasticity of GDP was 0.07. The non-agriculture export elasticity of GDP was 0.13. Based on the empirical results, the study suggested that the poor countries should adopt balanced export promotion policies but the rich countries might attain high economic growth from non-agricultural exports.

The narrow specialization especially in primary and agricultural goods makes countries vulnerable to external shocks and thus retard their economic growth through unfair terms of trade leading to trade deterioration. With the deterioration in the terms of trade of primary products vis-à-vis manufactured products, the trading terms of the developing nations against their developed counterparts also decline (Sarkar, 1986). Since most of the sub-Saharan African countries in particular depend heavily on two or three commodities for most of their export earnings are glaring examples. The larger the number of goods exported by a country, movements in the prices of individual goods will offset each other and country's export price level will tend to be relatively stable. Thus Export diversification, plays a greater role in stabilizing export earnings in the long run (Michaely, 1962; Acharyya, 2007).

The nature and composition of export baskets matters a lot. Neither specialization nor diversification aids growth as long as exports comprise of predominantly low value added commodities (Rodrik, 2006; Acharyya, 2007).

Lederman and Maloney (2007) in a cross-country framework found evidences that export concentration was negatively related to growth during 1975-1999. Putting in mind the effects of factors like investment and rule of law, Agosin (2007) also found out that export diversification interacted with per capita export growth are highly significant in explaining per capita GDP growth of a country. Therefore export diversification is seen to be an important factor to the differences in growth performance of a country. In a dynamic growth framework Hesse (2008) also established a nonlinearity in the relationship between export diversification and economic growth for the period 1962-2000 with developing countries benefiting from diversifying their exports whereas the advanced countries perform better with export specialization.

2.2.3 Different Commodity Exports and Economic Growth

Noula, Sama and Munchunga, 2013 studied the effects coffee, banana and cocoa exports in Cameroon and these found coffee and Banana export to have a positive and significant effect on economic growth in Cameroon while Cocoa exports had a negative and insignificant effect.

Shashi and Marcel (2010) however, found that cocoa in Ghana was shaping the success of the economy. He noticed a positive effect between the cocoa sector and economic growth in Ghana.

According to Paulo (2000) who looked at the role of coffee in social and economic development of Latin America; points out the evidence that during the second half of the nineteenth century up to the world economic crisis of the 1930s, the coffee sector played an important role in many countries such as Brazil, Colombia, Costa Rica and to a lesser degree in other countries in South and Central America.

Similarly, Junguito and Pizano (2001) remind us that the economic relevance of coffee was not limited to its impact on growth via increased exports. They suggest that coffee has had a clear link with the development of other sectors and with the overall development process of Colombia. Among other impacts they stress the links between coffee production with employment and the social situation given the activity's high demand for labour, its relation with public finances, its impact on industrial, regional, and institutional development and its role in national politics.

Tigist, (2015) studied the role of agricultural exports on economic growth in Ethiopia taking a case study of coffee, oilseed and pulses. He found coffee and oilseeds to have positive significant effects while pulses had a negligible effects on economic growth of Ethiopia.

Bakari,(2017) investigated the impact of citrus exports on economic growth on Tunisia using annual data Tunisian Central Bank for the periods between 1970 and 2016 . He tested the relationship using co integration analysis of Error Correction Model. According to the study, citrus exports have not any influence on economic growth in the long term. However, empirical results showed that there was a positive unidirectional causality from citrus exports to economic growth in the short run.

2.3 Summary of Literature

The debate on whether it's agricultural or manufactured exports that lead to economic growth in an African setting has not reached a consensus. Though majority of the researchers are inclined to the manufactured exports as being of significant importance than the agricultural exports, other studies found contradictory results.

Additionally, there is still very little literature investigating the role of different commodity exports in economic growth. For Uganda, in particular, to be the best of my knowledge, no study has been made on the exact type of commodities that need to be exported to spur economic growth. Even in the countries where such studies exist, there are differences in their findings-

some commodity exports have significant effects in some countries and are of insignificant importance in other countries.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This presents the methodology used in examining the relationship between various types of exports and economic growth in Ugandan economy. Section 3.2 describes the data and its source, section 3.3 describes the empirical model. Subsection 3.4 presents the diagnostic tests carried out to check the robustness of the estimated model

3.2 Data and Source

The study used secondary data obtained from Uganda Bureau of Statistics, Bank of Uganda and World Bank development indicators. Import and export volumes, Private sector credit and exchange rates were obtained from Bank of Uganda, GDP was from Uganda Bureau of Statistics, Gross capital Formation, and labour force participation were from the World Bank. Quarterly data from 2000 to 2016 on the study variables was used.

The series were transformed into log form. A basic advantage of transformation into logarithms is the reduction of heteroscedasticity problem. As noted by Gujarati (1995), log transformation compresses the scale in which the variables are measured, thereby reducing a tenfold difference between two values to a twofold difference.

3.3 The Model

The basic theoretical framework for modelling economic growth is the neo-classical model. This postulates that economic growth measured by GDP depends on labour, capital and technology. This follows the Cobb Douglas production function written as

$$Y_t = A_t K^{\alpha} L^{\beta} \qquad\qquad (1)$$

Where Y_t is the total output (GDP) of the country at time t, K_t and L_t are the conventional factors of production and A_t represents production technology or stock of knowledge. Gross capital formation and labour force participation rate were used as proxy variables for capital and labour respectively. According to Bbaale and Mutenyo, (2011), exports and imports affect growth

through via parameter A. Thus, they expressed this parameter as a function of various import and export components and controlling for other factors. This study benefits from these authors.

Therefore, $A_t = f(AX, NX, M, Z_i)$ (2)

Where AX is a vector of different agricultural commodity exports, NX is a vector of different nonagricultural exports, M are import, and Z_i is a vector of control variables such as private sector credits (PSC), Exchange rate among others.

Imposing factor shares on each of the components in equation (2) gives

$$A_t = f(AX^\gamma, NX^\delta, M^\mu, Z^\emptyset)$$ (3)

Substituting (3) into equation (1) yields.

$$Y_t = AX_t^\gamma NX_t^\delta M_t^\mu Z_t^\emptyset K_t^\alpha L_t^\beta$$ (4)

Applying natural logs on both sides leads to;

$$lnY_t = c + \gamma lnAX_t + \delta lnNX_t + \mu lnM_t + \emptyset lnZ_t + \alpha lnK_t + \beta lnL_t + \varepsilon_t$$ (5)

3.4 Estimation Procedure

3.4.1 Unit Root Tests

The study first tested for unit roots in the study variables. These tests were conducted using the Augmented Dicky Fuller (ADF) test and Philips-Peron (PP) test. It is crucial to test for unit roots when dealing with time series data in order to ascertain the appropriate model. For example if all the variables are I(0), and hence stationary, model (5) would simply be fit using OLS estimation, which is not appropriate if the variables are non-stationary or if integrated of different orders, (Dave, 2013). Similarly, regression involving non stationary time series often lead to the problem of spurious regression. This occurs when the regression results reveals a high and significant relationship among variables when in fact none exist.

In order to undertake unit root tests for the variables under study, consider the simple first order autoregressive, AR(1) model given by the following expression:

$$X_t = \alpha + \rho X_{t-1} + u_t$$
(6)

The unit root tests focuses on the magnitude of the coefficient of the lagged dependent variable. Therefore, if $\rho < 1$, the variable under consideration is said to be stationary and the associated error term (u_t) is time invariant (Adam, 1992; Tambi, 1999; Niemi, 2003). That is, the series have a finite variance, transitory innovations from the mean and a tendency for the series to return to their mean value. This means that a stationary series X_t for example has a constant mean, variance and autocorrelation over time. In unit root tests, a variable under consideration is said to be a non-stationary time series if $\rho \geq 1$ (Granger and Newbold, 1974; Philips, 1986). That is any stochastic shock to the variable may not return to a proper mean level. In this case the variable is said to have a unit root.

3.4.2 Cointegration Tests.

The test for co-integration was also performed to aid in selecting the appropriate model. According to Dave, 2013, if for example the series are integrated of the same order, and they are co-integrated, an error-correction model (ECM), estimated by OLS can be used to represent the short-run dynamics of the relationship between the variables. Such a model is however not appropriate even when they are co-integrated especially if some of the variables in question are stationary and others are integrated of order one. In such a scenario, an Auto regressive distributed lag model (ARDL) is appropriate.

Basically, co-integration is said to exist between non-stationary variables if their linear combination, namely the residuals of the co-integrating regression are stationary (Granger, 1986; Hendry, 1986). Following Eagle and Granger (1987), the co-integration regression between Y_t and Z_t can be specified as:

$$Y_t = \alpha_0 + \alpha_1 Z_t + \varepsilon_t \tag{7}$$

The ADF tests based on the residuals is given by the following expression:

$$\Delta \overset{*}{\varepsilon_t} = \lambda_0 + \beta \overset{*}{\varepsilon}_{t-1} + \sum_{t=1}^{j} \phi \Delta \overset{*}{\varepsilon}_{t-1} + v_t \tag{8}$$

The hypothesis β=0 is then tested. If this null hypothesis cannot be rejected against the alternative that β<0, then the variables are not co-integrated, on the other hand if the null hypothesis is rejected then the conclusion would be that the estimated ε_t is stationary (that is, does not have a unit root).

3.4.3 The Auto-Regressive Distributed Lag (ARDL) Model

The unit root tests revealed that some series were I(0) while other were I(1). Additionally, the I(1) series are co-integrated and therefore the ARDL model formulated below was adopted.

$$\Delta Y_t = c + \sum \emptyset \nabla Y_{t-i} + \sum \alpha \nabla AX_{t-j} + \sum \beta \nabla NX_{t-k} + \sum \gamma \nabla K_{t-l} + \sum \delta \nabla L_{t-m} + \sum \delta \nabla Z_{t-m} +$$

$$\theta_0 Y_{t-1} + \theta_1 AX_{t-1} + \theta_2 NX_{t-1} + \theta_3 K_{t-1} + \theta_4 L_{t-1} + \theta_5 Z_{t-1} + \varepsilon_t \qquad (9)$$

3.5 Diagnostic tests

The results of the model were then tested for robustness. This involved testing whether the errors are serially independent or not and also checking if the errors are homoscedastic. The Breusch-Godfrey LM test for autocorrelation was used to test the null hypothesis that the errors are serially independent while Breusch-Pagan / Cook-Weisberg test for heteroskedasticity was used to test the null hypothesis that the errors exhibit a constant variance.

CHAPTER FOUR

PRESENTATION, INTERPRETATIONS AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter presents and discusses the empirical results of the study on the relationship between various export components and economic growth in the Ugandan economy. Section 4.1 presents the time series properties of the data such as descriptive statistics, graphical display, stationarity and cointegration tests. Section 4.2 presents the econometric results and interpretation of the results. Also this section gives the comparison of the results of this study and previous studies.

4.1 Time Series properties of the study Variables

This includes the descriptive statistics of the variables, graphical analysis, unit root and cointegration tests.

4.1.1 Descriptive Statistics

The descriptive statistics of the study variables are shown in table 4.1. Results indicate that the average GDP over the study period was about UGX 39,331.01 Bn, export value was averagely

UGX 1,076.47 Bns compared to imports that averaged UGX 2,356.79 Bns -a value that is more than twice the economy's exports. Similarly, Uganda's agricultural exports are averagely more than twice the non- agricultural exports. The traditional exports commodities have been overtaken by the non-traditional exports. Averagely, non-traditional exports were UGX 832.25Bns compared to UGX 244.22Bns for the traditional exports.

Uganda's gross capital formation was averagely 20.9% of GDP over the period with the highest at 32.2%. Similarly, credit of about 9.1% of GDP is given to the private sector quarterly. Averagely 79.31% of the total population aged at least 15 years were engaged in active labour activities. Exchange rate averaged UGX 2,203.19 for 1 US Dollar over the study period with the highest at UGX 3,532.

All the variables are fit to be included in the estimation model as none of them had a standard deviation of zero as seen in table 4.1 below.

Table 4.1 Descriptive statistics

Variable	Description	Mean	Standard Deviation	Minimum	Maximum
GDP	Gross Domestic Product(UGX Bns)	39,331.01	21,995.42	13,120.88	85,611.18
Exports	Value of Exports (UGX)	1,076.47	749.50	157.95	2,896.82
Imports	Value of imports (UGX Bns)	2,356.79	1,555.31	464.46	5,479.88
Agricultural exports	Value of agricultural Exports (UGX Bns)	387.87	234.44	98.61	949.91
Non_agricultural_ exports	Value of non-agricultural Exports (UGX Bns)	97.86	87.57	32.11	434.42
Traditional Exports	Value of traditional Exports (UGX Bns)	244.22	150.34	51.35	632.60
Non-traditional Exports	Value of non-traditional Exports (UGX Bns)	832.25	606.06	85.49	2,264.21
GCF	Gross Capital Formation (% of GDP)	20.9	5.9	14.0	32.2
LFP	Labour Force Participation rate (% of total population ages 15+	79.31	10.43	21.99	85.03
PSC	Private Sector Credit (% of GDP)	9.1	4.32	4.04	29.15
EXR	Exchange rate(US$)	2,203.19	537.49	1,634.01	3,532.00

Source: Author's Computations

4.1.2 Graphical analysis of the study Variables

Before, embarking on the econometric analyses, a visual inspection of the graphs was done as shown in Figure 1. Results demonstrate that with the exception of Labour force participation rate, all the other variables in levels are strongly trending, thus, signifying the need to carry out unit root tests.

Fig 1: Trend analysis of the study variables in levels
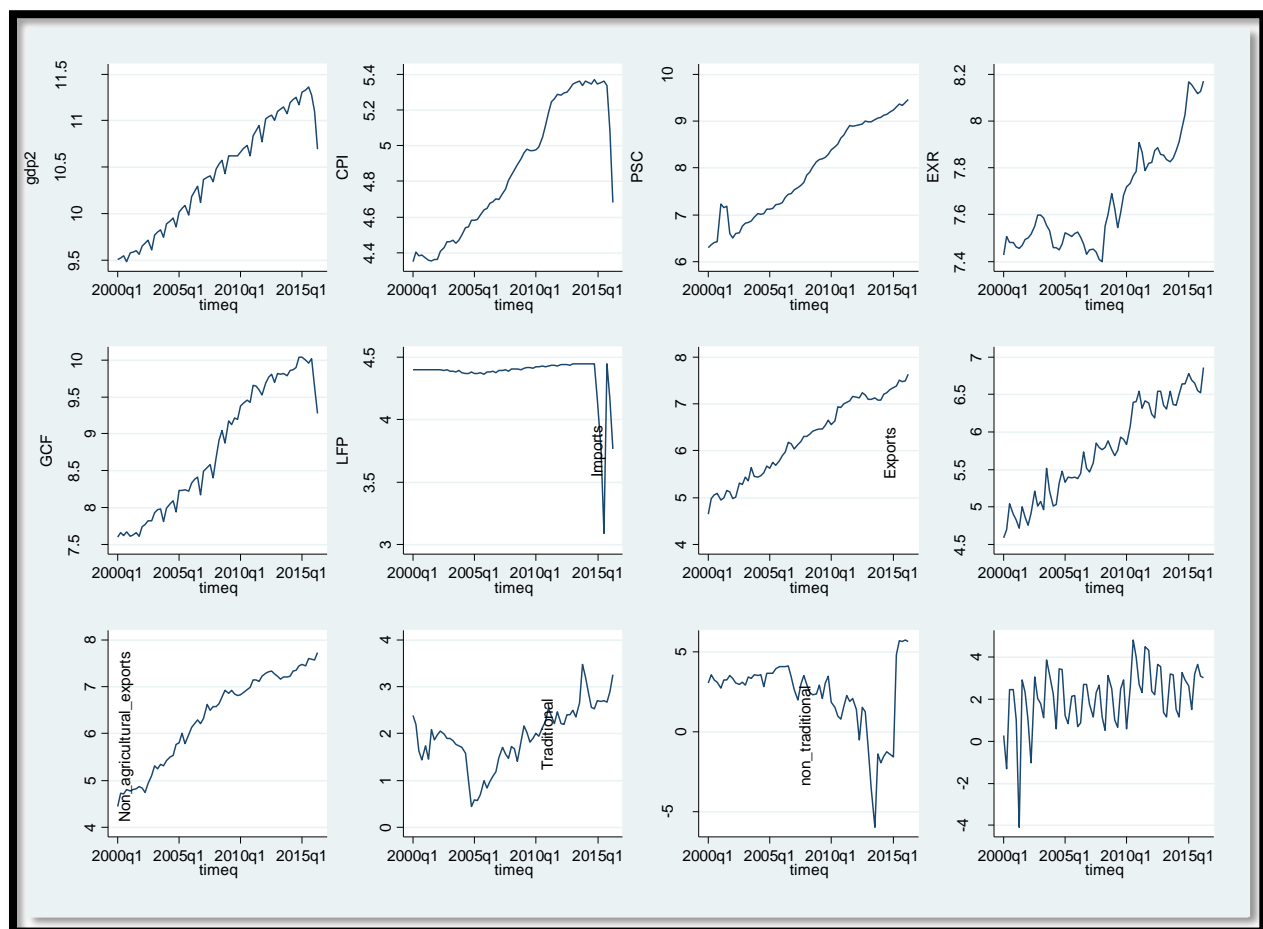
4.1.3 Unit Root tests of the study variable

To verify whether the series are stationary or not, the Augmented Dick Fuller (1978) and Philips Perron tests were employed on the variables both in their levels, first and second differences. The unit root test results for the variables are reported in Table 4.2. The results indicate that with the exception of non-traditional exports and labour force participation rate, all the other variables

under consideration exhibit unit roots at levels. These variables, are found stationary after differencing once implying that the variables are integrated of order one. The unit root results are presented below.

Table 4.2: ADF and PP Unit Root Tests of the variables in levels (Variables in natural logs)

Variables	Augmented Dickey Fuller (ADF) AND Philips-Perron (PP) test Statistics			
	ADF Test statistic		PP Test Statistics	
	At level	1st difference	At level	1st difference
GDP	-1.482	-8.919***	-1.497	-8.922***
Exports	-0.488	-8.914***	-0.853	-18.133***
Agricultural exports	-1.556	-10.093***	-1.969	-10.241***
Non Agricultural exports	-1.021	-7.310***	-1.116	-7.277***
Imports	-1.070	-10.205***	-1.442	-12.699***
Traditional exports	-2.284	-9.953***	-2.490	-17.640***
Non Traditional exports	-6.567***		-6.665***	
GCF	-1.323	-8.423***	-1.326	-8.433***
LFP	-4.393***		-4.365***	
EXR	0.349	-6.536***	0.455	-6.427***
PSC	-0.685	-7.897***	-0.577	-9.095***

Note: * significance at 1%, ** significance at 5% and * significance at 10%**

The unit root tests for the different export commodity series are reported in appendix 1. The results show that the series for cotton, tobacco, fish, and bean are stationary at level while the rest of the export commodities exhibit unit roots at level but become stationary at their first difference.

The unit root results above imply that estimating the empirical model using non-stationary variables would result into spurious regression estimates. This requires that the variables are differenced to make them stationary before we estimate the model that would yield unbiased and efficient regression results that can be used to make valid conclusions and accurate forecasts.

4.1.4 Cointegration test

The study tested if there was a long run relationship between the study variables through the cointegration test as seen below.

Table 4.3 Cointegration test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.655517	252.0847	197.3709	0.0000
At most 1 *	0.617078	189.2079	159.5297	0.0004
At most 2 *	0.515311	132.5723	125.6154	0.0176
At most 3	0.435843	89.84166	95.75366	0.1191
At most 4	0.372412	56.06868	69.81889	0.3752
At most 5	0.249295	28.58230	47.85613	0.7878
At most 6	0.105664	11.66446	29.79707	0.9429
At most 7	0.078136	5.075744	15.49471	0.8007
At most 8	0.004661	0.275651	3.841466	0.5996

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The null hypothesis that there is no cointegration is rejected at 5%. This implies that the series are cointegrated suggesting that there is a long run relationship between the variables.

4.2 Auto Regressive Distribution Lag (ARDL) Model Results

The study variables include a mixture of I (0) and I (1). Additionally, the variables are cointegrated as indicated in the unit root and cointegration test results above. The appropriate model therefore is the ARDL, (Dave, 2013).

The regression results of the ARDL model are in Table 4.4 and Table 4.5. Four models have been estimated. Model 1 considers the effect of aggregate exports on economic growth, Model 2 considers effects of agricultural exports on economic growth treating the non-agricultural exports as the base category, Model 3 considers the effect of traditional exports on economic growth treating non-traditional exports as a base category while model 4 that is reported in table

4.5 investigates the effects of individual commodity exports on economic growth. In all these models, a number of control variables are included such as gross capital formation, labour force participation rate, imports, exchange rate, and private sector credit.

Table 4.4 ARDL Estimates for the determinants of Economic growth in Uganda

Variables	Model 1	p-value	Model 2	p-value	Model 3	p-value
Δ GDP(-1)	0.1832	(0.367)	0.186	(0.408)	0.195	(0.425)
GDP(-1)	0.2918*	(0.094)	0.373*	(0.059)		(0.014)
					0.463**	
Δ Exports	0.527***	(0.000)				
Exports(-1)		(0.013)				
	0.336**					
Δ Agricultural export			0.493***	(0.008)		
Agricultural export (-1)				(0.422)		
			0.102			
Δ Traditional exports					0.037***	(0.003)
Traditional exports(-1)					0.0193**	(0.033)
Δ GCF	0.045	(0.797)	0.078	(0.692)	0.1088	(0.611)
GCF(-1)	0.294**	(0.034)	0.306**	(0.045)	0.058*	(0.071)
LFP	-0.006**	(0.033)	-0.058**	(0.042)	-0.107**	(0.023)
LFP(-1)	0.104***	(0.003)	0.062**	(0.042)	0.017***	(0.002)
Δ Imports	-0.193**	(0.025)	-0.582***	(0.001)	-0.425***	(0.017)
Imports(-1)	-0.218	(0.153)	0.197	(0.282)	0.317***	(0.002)
Δ PSC	-0.005	(0.960)	-.0013	(0.890)	0.001	(0.993)
PSC(-1)	-0.046	(0.562)	-0.037	(0.676)	-0.046	(0.584)
Δ EXR	0.479*	(0.085)	0.4701	(0.142)	0.323	(0.314)
EXR(-1)	-0.439***	(0.005)	-0.485**	((0.043)	-0.211	(0.191)
Constant	3.623**	(0.025)	4.876**	(0.013)	3.925**	(0.024)
Observations	64		64		64	
R-squared	0.521		0.4127		0.4716	
F	4.19	(0.000)	2.70	(0.006)	3.29	(0.0013)

Source: Authors computations; P-value in parentheses *** p<0.01, ** p<0.05, * p<0.1

The coefficient on the lagged dependent variable (GDP (-1)) is positive and statistically significant at conventional levels. This means that a unit change in last quarter's GDP will bring about a pass through effect of about 0.292%, 0.377% and 0.463%   in models 1, 2 and 3 respectively to the current GDP.

Results in model 1 indicate that exports in aggregate form do have a positive and significant effect on Uganda's economic growth. This is consistent with what many other researchers found such as Bbaale and Mutenyo, (2011); Noula, Sama and Gwah, (2013) Kang, (2015); Nahanga, 2016 among others on the positive connection between exports and economic growth across the world.

The purpose of this study was to investigate the nature and type of commodity exports that lead to economic growth. The study investigates the impact of agricultural and non-agricultural exports on economic growth. The current literature presents mixed results. Most of the researchers found non-agricultural exports (manufacturing exports) as the contributors to economic growth and not agricultural exports. The justification was that prices for agricultural products are subject to excessive price fluctuations and hence have negligible impact on economic growth. A few researchers such as Bbaale and Mutenyo, (2011) however found agricultural exports to be of significant importance than manufacturing exports specifically in African countries.

This study found that in Uganda's case it's the export of agricultural rather than non-agricultural exports that lead to economic growth in Uganda. From the results in model 2, in the short run, a 1 percent change in agricultural exports leads to about 0.493 percent increase in economic growth and this was statistically significant at conventional levels. The coefficient of the lagged agricultural export series were however found insignificant as seen above.

The non-agricultural exports pose positive but insignificant effects on economic growth in Uganda's economy (see results in appendix 2). This however can be attributed to the low quantities of such products that are exported by Uganda. Presently, Agriculture is the most important sector of the economy, employing more than one-third of the work force. Uganda has a small industrial sector whose growth is impeded by high-costs due to poor infrastructure, low levels of private investment, and the depreciation of the Ugandan shilling. Therefore, in the short to the medium term, Uganda needs to focus on improving the quality of agricultural exports but in the long run, strategies to boost industrialization need to be put in place as these manufactured exports are indeed more valuable compared to agricultural products in the countries that have registered impressive stages of industrialization and thus have a competitive advantage in manufactured products.

For quite some time, Uganda's traditional exports were coffee, tea, cotton, and tobacco. These constituted a lion share of Uganda's export sector. However, recently, these items have been overtaken as the main exports of the country by non-traditional commodities such as fish and fish products, gold and gold compounds, animal/vegetable fats and oils, iron and steel, petroleum

and petroleum products, sugar and sugar confectionery, maize and roses and flowers. The interest of this paper was also to analyze whether or not the traditional export commodities still matter in Uganda's growth agenda.

From the results, both traditional and non-traditional exports in aggregate form have positive and significant effects on economic growth. Additionally, even their respective lagged values had positive and significant effects on economic growth. Results (Model 3) show that a 1percent change in traditional exports leads to 0.04 percent changes in economic growth while a 1 percent change in non-traditional exports leads to about 0.03 percent increase in economic growth (see appendix 2).

Are there export commodities that singularly affect Uganda's economic growth? This study was extended to establish export commodities that can singularly affect economic growth. Results are presented in Model 4 reflected in table 4.5 below.

The government of Uganda, in its strategic plan to unlock the country's export potential, identified a number of priority export products and services. The selected commodities and services include: Agricultural commodities such as Coffee and coffee products, Tea and tea products, Fish and Fish Products, Livestock and livestock products (dairy and beef), Grains products (maize and beans), Horticulture crops, and Cotton and cotton products; Services include Tourism, and Information and Communication Technology. Others include Minerals (Iron-ore, Steel and dimension stones), and Oil and Gas, (GOU, 2016).

The study results however reveal that other than tea, commodities that individually pose positive significant effects on economic growth are not part of the selected commodities. These include electricity, gold and flowers.

The export of electricity and Flowers have positive significant effects on economic growth at 1% and 5% levels of significance respectively while gold and tea are significant at 10% as seen in model 4 below. The rest of the commodities had negligible effects when considered individually. The export of electricity to the East African community has specifically reaped significant returns for Uganda. According to bank of Uganda, inflows from Uganda's electricity exports have consistently increased from $6.31 million in FY2006/07 to $24.43 million in FY2013/14 but later declined to $17.1 million in FY2015/16.

However, while these commodities should be given attention, it will be safe for the country to diversify its exports since the combined exports revealed significant effects on economic growth as already discussed above.

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Other important variables in Uganda's development agenda include the conventional factors of production that's gross capital formation and labour force participation rate. Imports and exchange rate revealed negative effects on economic growth while Private sector credit had negligible effects.

While gross capital formation had an expected positive effect on economic growth, in Uganda's case, labour force participation rate gave unexpected negative effect on economic growth in the short run and a positive effect after a lag. The results are consistent with those of Beaudry and Collard, (2002); McGuckin and Van Ark, (2005); Pickelmann and Roeger, (2008); Dew-Becker and Gordon, (2008).

The main reasons for this negative trade-off are that new entrants may lack practical skills and that it takes time until they become fully productive. Older workers may suffer from declining physical abilities and slightly lower cognitive capacities, although this may be compensated by higher levels of experience and social intelligence. On balance, a higher participation of older workers, or an extension of their work life, is not likely to contribute to productivity growth.

Table 4.5 ARDL Estimates for export commodities that affect Economic growth in Uganda

Variables	Model 4	p-value
Δ GDP (-1)	0.858***	(0.001)
Δ Gross Capital formation	0.247**	(0.018)
Δ Labour force participation rate	0.277	(0.722)
Δ Exchange rate	-0.275	(0.308)
Δ Private sector credit	-0.120	(0.260)
Δ Coffee (-1)	0.031	(0.629)
Δ Electricity (-1)	0.107***	(0.002)
Gold (-1)	0.042*	(0.080)
Cotton (-1)	-0.032	(0.615)
Δ Tea (-1)	0.062*	(0.082)
Tobacco (-1)	0.011	(0.015)
Fish (-1)	0.003	(0.907)
Δ Hides_skins	0.026	(0.066)
Δ Simsim (-1)	-0.085**	(0.020)

Δ Maize (-1)	-0.013	(0.761)
Beans (-1)	0.059	(0.203)
Δ Flowers (-1)	0.166**	(0.047)
Constant	-1.059	(0.756)
R-squared	0.6291	
F	2.89	(0.0057)

4.3 Model Diagnostic tests

This involved testing for serial correlation and heteroskedasticity of the errors from the above estimated models.

Table 4.6 Diagnostic test Results

Hypothesis	Model 1 χ^2 (p value)	Model 2 χ^2 (p value)	Model 3 χ^2 (p value)	Model 4 χ^2 (p value)
H_0: No serial correlation	0.029(0.8646)	0.001(0.9786)	0.106(0.7447)	0.023(0.6731)
H_0: Constant variance	2.11 (0.178)	1.78(0.1823)	0.81(0.3671)	0.73(0.371)

From the results above, both null hypotheses are accepted in all the models (P values>0.05). Therefore, there is no serial correlation in the residuals and they are homoscedastic.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

5.0 Introduction

This chapter is divided into three sections. Section 5.1 presents the summary of the findings, section 5.2 presents conclusions from the study and section 5.2 the policy recommendations.

5.1 Summary

In the empirical analysis, the study started by exploring the times series properties of the data employed in the study. The unit root tests were carried out using the Augmented Dicker-Fuller

and Philips Perron techniques while the Johansen's Cointegration test was used to test for long run relationships between variables. Then, this was followed by estimation of empirical Models. The variables included a mixture of I(0) and I(1) and a long run relationship existed between the variables and hence the ARDL model was used in investing the effects of different variables on economic growth.

Aggregate exports play an important role in the growth of Uganda's economy. The study revealed consistent results with many other researchers in support of the export led growth theory. Disaggregating the exports into agricultural and non-agricultural exports, the results show that in Uganda's case, it's the export of agricultural and not non- agricultural exports that lead to significant economic growth. Both traditional and non-traditional exports are relevant in Uganda's economic growth.

It was also revealed that only the export of electricity, Gold, Tea and flowers had positive significant effects on economic growth when treated individually. The rest of the export commodities had trivial effects on economic growth.

Other important variables in Uganda's development agenda include the conventional factors of production that's gross capital formation and labour force participation rate, exchange rate, and imports. Private sector credit and imports had negligible effects. However, while gross capital formation had an expected positive effect on economic growth, labour force participation rate is negatively related with on economic growth at least in the short run.

5.1 Conclusion

Export role in Uganda's economic growth is significant. This is consistent with the literature and the hypothesis in this research.

Disaggregating between agricultural and non-agricultural exports, analysis reveals that exports of agricultural exports remain one important source of economic growth despite the excessive price fluctuations. While this study concludes that economic growth and non-agricultural traditional exports are independent, it does not mean that non- agricultural exports are not needed in Uganda. Since GDP responds to changes in these exports positively, then economic growth is to some extent influenced by these exports. Exports of non-agricultural exports such as manufacturing products are less sensitive to the cyclical changes in the international market compared to exports of agricultural goods. The impacts of nonagricultural exports such as higher productivity, higher incomes, and more revenue for government through taxes will in the long run boost economic growth of Uganda's economy.

Therefore, while Government policies towards promotion of exports of agricultural goods are important to stimulate growth, it is equally important to ensure that the produced goods are able to compete internationally in terms of quality and prices.

It is also correct that Uganda's traditional exports have in recent times been overtaken by the non-traditional exports. However, their effects on economic growth is still significant even though the non-traditional ones are of a higher impact compared to the traditional exports.
Export specialization may not be safe for Uganda's case. Only the export of electricity, Gold, tea and flowers has significant positive effects on economic growth when treated individually. The rest of the commodities are of importance if combined with others.

5.2 Policy Recommendations

The policy implication of the positive association between exports and economic growth reveal that economic reform policies should focus on further trade liberalization, further tariff revisions, non- tariff barriers, and building up of an efficient service infrastructure.

Specifically, more resources need to be directed to boasting the agricultural sector and supporting value addition specifically. Uganda, currently, largely depends on the agricultural sector both for exports, domestic consumption and employment of her citizens. To realize more gains from the trade of these products, they need to command high and stable prices in the world market.

In the long run however, strategies to increase manufactured exports would be of importance to the achievement of Uganda's long term development aspirations as many researchers have found these to be of a stronger impact than the agricultural products. Given the high capital-intensity of the manufacturing sector and the poor functioning of capital markets in Uganda, there could be a case to expand current credit facilities from agriculture to the manufacturing sector, which has begun to show promising prospects to substitute imports and for regional exports.

Uganda's 2016 action plan for development and promotion of exports of selected commodities needs to be adjusted to include Electricity, Gold and flowers. As the results indicated, other than tea, the other included commodities in Uganda's plan had negligible effects on economic growth while those that had significant effects (electricity, gold and flowers) were left out.

More detailed analysis is still necessary to identify particular sectors and products where Uganda has been successful, or where it has a comparative advantage that remains underexploited. Support should be made available for detailed sectorial studies and firm-level analysis to support

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a better understanding of what makes these areas competitive, and how lessons can be transferred to other sectors in the interest of diversification.

More vocational trainings are required to increase labour productivity in the country. Current data shows that Uganda's labour force participation rate defies theory. It poses a negative effect on economic growth. It's attributed to lack of practical skills and therefore if more hands on trainings are conducted, a positive relationship consistent with theory will be realized.

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Appendices

Appendix 1: Unit Root Test Results for different Commodity Exports

Variable	Augmented Dickey-Fuller			Phillips Perron		
Coffee	-0.099	(0.9496)	I(1)	0.096	(0.9658)	I(1)
Electricity	-1.828	(0.3665)	I(1)	-1.191	(0.6775)	I(1)
Gold	-5.040***	(0.0000)	I(0)	-4.976***	(0.0000)	I(0)
Cotton	-3.428**	(0.0100)	I(0)	-3.557***	(0.0066)	I(0)
Tea	-0.881	(0.7941)	I(1)	-0.802	(0.815)	I(1)
Tobacco	-3.590***	(0.0060)	I(0)	-3.291***	(0.0153)	I(0)
Fish	-2.929**	(0.0420)	I(0)	-2.734	(0.0683)	I(1)
Hides & skins	-1.991	(0.2904)	I(1)	-1.511	(0.5281)	I(1)
Simsim	-2.251	(0.1884)	I(1)	-2.398	(0.1422)	1(1)
Maize	-1.358	(0.6022)	I(1)	-1.297	(0.6307)	I(1)
Beans	-2812*	(0.0565)	I(0)	-2.723*	(0.0702)	I(0)
Flowers	-1.570	(0.4986)	I(1)	-1.808	(0.3764)	I(1)
Oil re-exports	-3.891***	(0.0021)	I(0)	-5.077***	(0.0000)	I(0)

Appendix 2:

Variables	Model	P value	Model	P value
Δ GDP(-1)	0.2114	(0.384)	0.333	(0.998)
GDP(-1)			0.210	(0.169)
Δ Non-agricultural export(-1)	0.022	(0.709)		
Non-agricultural export (-1)	0.007	(0.855)		
Δ Non Traditional exports(-1)			0.034**	0.012
Non Traditional exports (-1)			0.021**	0.030
Δ GCF(-1)	0.005	(0.983)	0.001	0.998
GCF(-1)				0.169
	0.217	(0.187)	0.200	
LFP	0.001	(0.990)	0.025	0.747
Δ Imports(-1)	-0.349**	(0.018)	-0.047	0.790
Imports(-1)				0.980
	0.143	(0.301)	-0.004	
Δ PSC (-1)	-0.014	(0.900)	-0.0004	0.996
PSC(-1)				0.818
	-0.052	(0.596)	-0.0209	
Δ EXR (-1)	0.579*	(0.081)	0.439	(0.145)
EXR(-1)				(0.078)
	-0.282	(0.137)	-0.289*	
Constant	3.810	(0.063)	2.711	(0.127)
Observations	64		64	
R-squared	0.3209		0.4380	
F	1.82	(0.066)	3.00	(0.0026)