

**FOREIGN DIRECT INVESTMENT, EXCHANGE RATE AND EXPORT GROWTH IN
UGANDA (1996-2015)**

BY

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DECLARATION

This Thesis is my original work and has not been presented for a Degree or any academic award in any University or Institution of Learning.

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SAYID ABDIWAHID HASSAN

APPROVAL

I confirm that work reported in this thesis was carried out by the candidate under my supervision.

Signature _____

Date: _____

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LIST OF ABBREVIATIONS

ADF:	Augmented Dickey-Fuller
ADI:	African Development Indicators
ANER:	Annual Exchange Rate
BOP:	Balance of Payments
BOU:	Bank of Uganda
CPI:	Consumer Price Index
ECM:	Error Correction Mechanism
FDEI:	Foreign Direct Equity Investment
FDI:	Foreign Direct Investment
GDP:	Gross Domestic Product
IMF:	International Monetary Fund
LDC:	Least Developed Countries
MFPED:	Ministry of Finance Planning and Economic Development
NRM:	National Resistance Movement
OLS:	Ordinary Least Squares
REER:	Real Effective Exchange Rate
SITC:	Standard International Trade Classification
TOT:	Terms of Trade
UBOS:	Uganda Bureau of Statistics
UEPB	Uganda Exports Promotions Board
UNBS	Uganda National Bureau of Standards
UNCTAD:	United Nations Conference on Trade and Development
UNECA:	United Nations Economic Commission for Africa
US:	The United States
USAID	United States Agency for International Development
UTB	Uganda Tourism Board
VAR:	Vector Auto Regression
VECM:	Vector Error Correction Model
WDI:	World Development Indicators

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ABSTRACT

The purpose of the study was to assess the relationship between foreign direct investment, exchange rate and export growth in Uganda (1996-2015). The study was prompted by the inconsistencies in the findings by various researchers on the above relationship hence the need for a clarification. The study was conducted using data obtained from African Development Indicators; World Bank tables and the United Nations Statistics Division Common Database. An export supply model used by Musinguzi et al (2000) was adopted for the study. Foreign price level and Foreign Direct Investment were added to Gross Domestic Product, Terms of Trade and Real Exchange Rate, the explanatory variables used in the model adopted.

Foreign price level and Terms of Trade were found to be statistically significant in explaining export growth for Uganda between 1996 and 2015. Interestingly, Foreign Direct Investment, Real Exchange Rate and Gross Domestic Product as per the findings do not significantly affect export growth.

This study recommends that in order to improve export growth, the motive of Foreign Direct Investment should be changed from capturing the domestic market to production for export. There should be diversification of exports preferably to include manufactured good but emphasis should be put on utilizing the export potential of the newly discovered oil which if exported would attract higher prices than the current blend of exports.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter covers the background of the study, problem statement, purpose of the study, objectives of the study, research questions, and scope of the study and significance of the study.

1.1 Background of the Study

This section focused on historical perspective, theoretical perspective, conceptual perspective and contextual perspective.

1.1.1 Historical Perspective

Historically, foreign companies across the globe tend to establish branches in countries that import their products to escape import tax. For example, importing and exporting products within the European Union (EU) has been subsidized for member countries (Alfaro & Charlton, 2009). Foreign firms outside EU therefore tend to establish branches in one or more of the member countries to take advantage of the local subsidies especially when the products are targeted to markets within the EU. In the face of inadequate resources to finance long-term development across the globe and with poverty reduction looking increasingly bleak, attracting FDI has assumed a prominent place in the strategies of most countries. The experience of a small number of fast-growing East Asian newly industrialized economies has strengthened the belief that attracting FDI could bridge the resource gap of low-income countries and avoid further build-up of debt while directly tackling the causes of poverty (UNCTAD 2004).

In Africa, a number of scholars such as Akinlo (2004) examined the importance of FDI on growth for several periods and the channel through which it boosts the export growth since it also improves on the exchange rate in most African countries. In the literature there exists a direct positive link between FDI and export growth. Since the

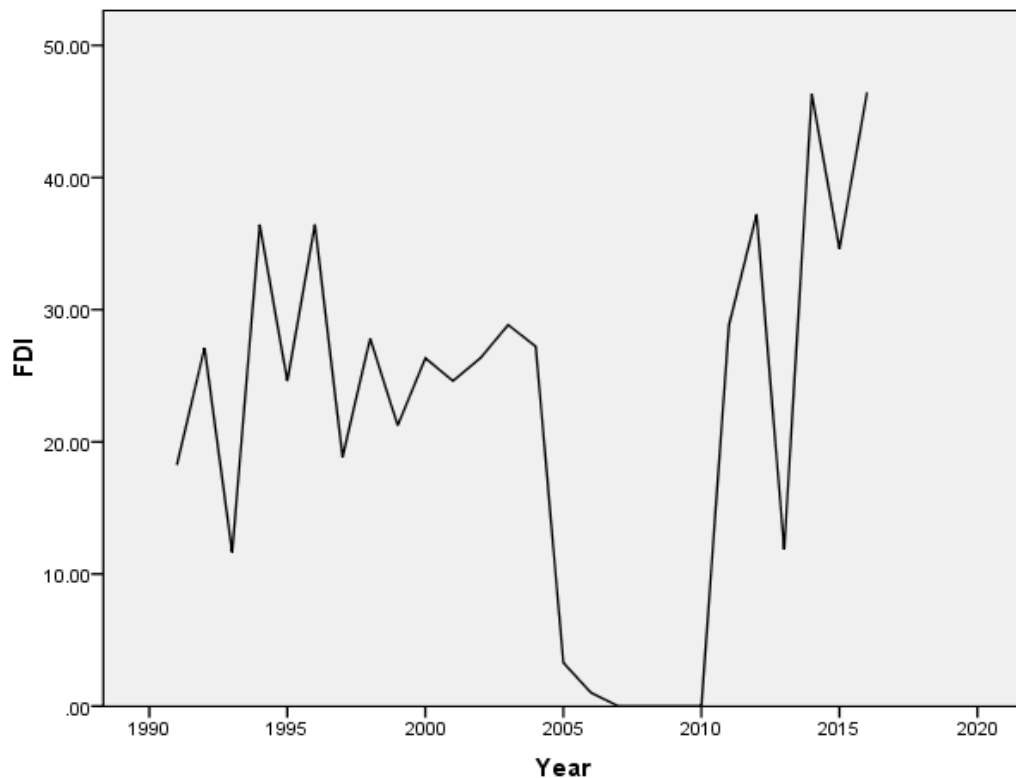
trend in export can further be traced down to the level of investment which in most cases can be domestic or foreign investment in those countries. Uganda is one of the countries that attract the most FDI in East Africa. FDI stocks have increased steadily since 2000. However, after reaching a record level of USD 1.2 billion in 2012, FDI flows declined to USD 541 million in 2016, according to UNCTAD. Nevertheless, thanks the discovery of oil reserves, new investors might be interested in the country in the future. Uganda ranked 115th out of 190 in the World Bank's 2017 Doing Business report, gaining one place compared to the previous year, after having already gained 27 places between 2015 and 2016. The most important advances have been made in terms of electricity connection and cross-border trade.

The five-year programme (National Development Plan - NDP), established by the Government in 2010, has begun to bear fruit. The plan, which aims to expand the country's agriculture sector and infrastructure, has allowed the country to increase the budget allocated to the energy sector three-fold. It also aims to provide the country with hydro-electrical power stations and an oil refinery connected to a large distribution network. An increase in the rate of investments, in particular in the construction sector, is to be expected with the planned construction of a pipeline to the coast of Kenya. These projects should allow Uganda to double its energy production by 2017. However, in the meantime, critical infrastructure problems remain and 15% of the population lacks access to electricity. In addition, weak education systems as well as a weak communication network are obstacles to the improvement of the investment climate. Uganda is rich in natural resources; FDI mainly goes to the coffee and mining sectors.

The main export commodities in Uganda include: coffee, fish and fish products, tea, cotton, flowers, horticultural products and gold, while the main agricultural products are: coffee, tea, cotton, tobacco, cassava (tapioca), potatoes, corn, millet, pulses, cut flowers; beef, goat meat, milk and poultry (CIA 2011). Lately substantial reserves of oil were discovered and this is expected to stimulate the economic growth further. The agricultural sector remains the major employer (82 percent), providing raw materials for

multinational companies operating in the country. The country has a real GDP growth rate of 5, 2 percent (CIA, 2011).

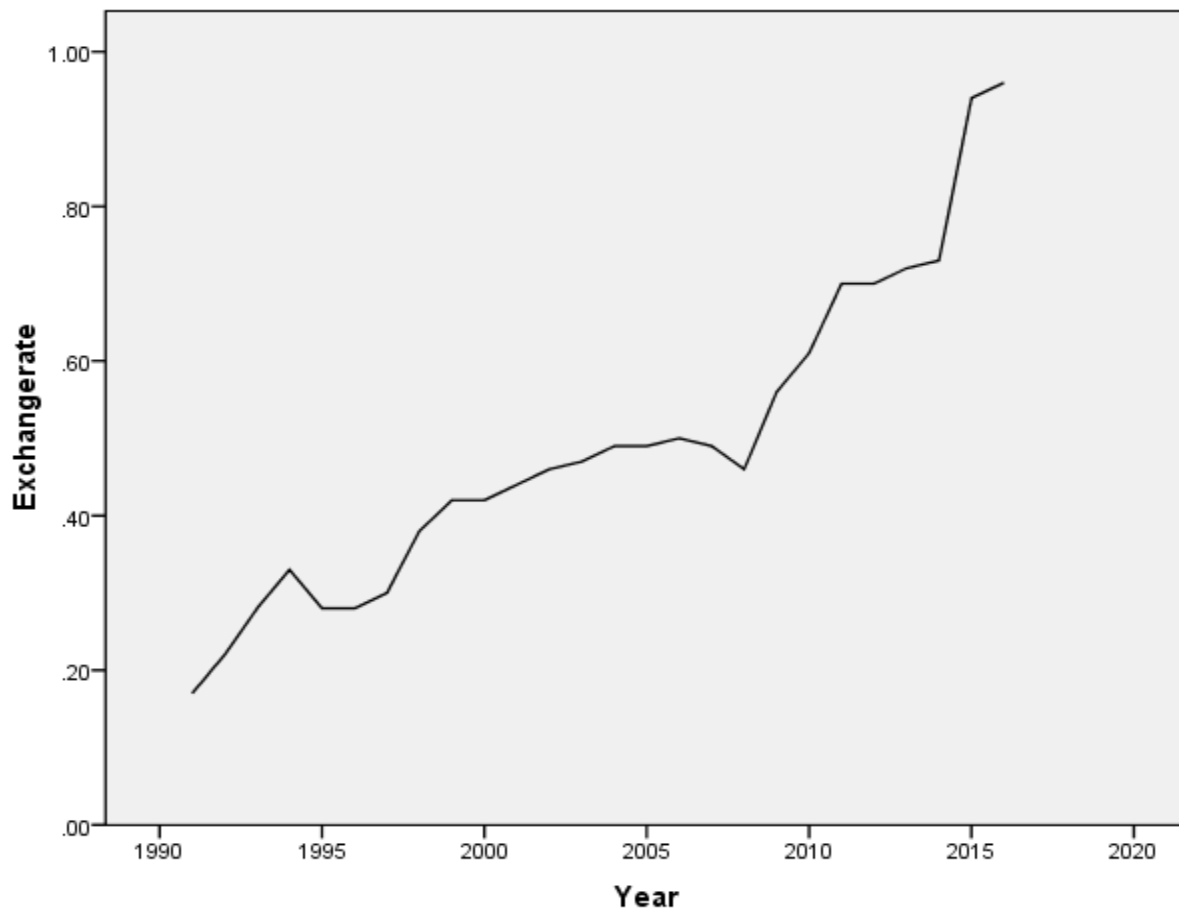
Figure 1.1: Trend of Foreign Direct Investment of Uganda (1996-2015)



Source: Researcher (2018)

There is a general decrease in Foreign Direct Investments in Uganda over the period under studies, from figure above, in 2006 up to 2011 it tried to show some kind of decrease, this was due to uncertainties such as exchange rates, political crisis. This was evident from period of 2011- 2016 due to stable government. Several declines in FDI were caused by uncertain political situations in Uganda which was a major disincentive. Also, economic crisis can discourage investment. However, the increase in FDI was due to stable governance brought about by the NRM government in Uganda.

Figure 1.2: Trend of exchange rate of Uganda (1995-2015)



Source: Primary Data (2018)

According to the figure above, it is evident that there was a consistent increase on exchange rate in Uganda over a period of 25 years. For instance, the exchange rate stood at 0.22 in 1992, 0.28 in 1993, and 0.33 in 1995 and this trend increased gradually over the time. However, it is believed that this was attributed by a number of factors in Uganda and these include; changes in market inflation would cause changes in currency exchange rates. Changes in interest rate would affect currency value and dollar exchange rate. The country's political state and economic growth would also affect its currency strength. Whenever the country experienced a recession, its interest rates would likely to fall, decreasing its chances to acquire foreign capital. As a result, its

currency weakened in comparison to that of other countries, therefore lowering the exchange rate.

1.1.2 Theoretical Perspective

This study was based on gravity model. This model is based on an analogy of Newton's Law of Gravity, which has been applied most often to analyze bilateral trade (Bergstrand, 2007; Feenstra et al., 2001; Silva and Tenreyro, 2006; Siliverstovs and Schumacher, 2009). Tinbergen (1962) and Pöyhönen (1963) first employed a gravity model to study international trade. The first theoretical foundation for the gravity model to analyze trade was derived by Anderson (1979) and was based on a constant elasticity of substitution (CES) utility function. Later, Bergstrand (1985) also derived the gravity model based on CES utility. Deardorff (1995) derived a gravity model using CES utility and the Heckscher-Ohlin theory of international trade. The theoretical foundations of the gravity model explaining trade flows (e.g., Anderson, 1979; Helpman, 1987; Leamer, 1974; Deardorff, 1995; Bergstrand, 1985) have been well documented. According to the gravity model of trade, transportation costs and trade barriers tend to discourage trade flows and the market size of both the host and home country tend to encourage trade.

The use of the gravity model as an explanation of FDI has increased in recent years. It has become the most popular and widely used method in analyzing the importance of countries' attractive location factors for FDI (Brainard, 1997; Grosse and Trevino, 1996; Lipsey and Weiss, 1981; Lipsey and Weiss, 1984). Recent work has had relatively little success in the derivation and establishment of theoretical aspects of the gravity model as it relates to FDI (Bergstrand and Egger, 2007; Helpman and Yeaple, 2004; Keller and Yeaple, 2009; Kleinert and Toubal, 2010). Helpman and Yeaple (2004) derived a theoretical foundation based on the interaction between exports and foreign affiliates' sales, in which a firm either chooses to export or stream FDI. Kleinert and Toubal (2010) extended the work of Helpman and Yeaple (2004), allowing for a fixed set up cost that increases with an increase in distance. The traditional gravity model for

FDI suggests that market size (home and host country) and the corresponding distance between two countries have positive relationships with FDI. The gravity theory of international trade uses the distance decay theory. However, the FDI gravity framework uses the distance incentive theory. As the distance between two participating country increases, transportation costs also increase. Thus, it will be preferable to produce in the host country rather than export from the home country (Brainard 1993, Markusen and Venables, 2000).

In this study, the theoretical gravity model for FDI is derived by following the method outlined in Kleinert and Toubal (2010), which draws from the proximity concentration theory. First, the theoretical model is derived for foreign production with domestic inputs.

1.1.3 Conceptual Perspective

A foreign direct investment (FDI) is an investment in the form of a controlling ownership in a business in one country by an entity based in another country. It is thus distinguished from foreign portfolio investment by a notion of direct control. The origin of the investment does not impact the definition as an FDI: the investment may be made either "inorganically" by buying a company in the target country or "organically" by expanding operations of an existing business in that country. (Ott, Mack, 2002). Broadly, foreign direct investment includes "mergers and acquisitions, building new facilities, reinvesting profits earned from overseas operations and intra company loans". In a narrow sense, foreign direct investment refers just to building new facility, a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. FDI is the sum of equity capital, other long-term capital, and short-term capital as shown the balance of payments. FDI usually involves participation in management, joint-venture, transfer of technology and expertise. Stock of FDI is the net (i.e., outward FDI minus inward FDI) cumulative FDI for any given period. Direct investment excludes investment through purchase of shares. Foreign direct investment was expected to affect exports positively through

various ways such as increased access to foreign capital, technological transfer, better marketing knowledge & others. It was measured in terms of its accumulated capital stock. This type of measurement was preferred due to the fact that it takes into account the value of previous and current FDI and it is mostly used by previous researchers (Slaughter and May, 2012).

An exchange rate is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in terms of another currency. Exchange rates are determined in the foreign exchange market, which is open to a wide range of different types of buyers and sellers where currency trading is continuous: 24 hours a day except weekends, i.e. trading from 20:15 GMT on Sunday until 22:00 GMT Friday. The spot exchange rate refers to the current exchange rate. The forward exchange rate refers to an exchange rate that is quoted and traded today but for delivery and payment on a specific future date (Asante, 2010). In the retail currency exchange market, a different buying rate and selling rate will be quoted by money dealers. Most trades are to or from the local currency. The buying rate is the rate at which money dealers will buy foreign currency, and the selling rate is the rate at which they will sell the currency. The quoted rates will incorporate an allowance for a dealer's margin (or profit) in trading, or else the margin may be in the form of a commission or in some other way. Exchange rate is measured by inflation, interest rate, speculation, change in competitiveness, balance of payments etc (Fowowe, 2011).

Export growth is the relative success or failure of the efforts of a firm or nation to sell domestically-produced goods and services in other nations (UNCTAD, 1999). Export growth can be described in objective terms such as sales, profits, or marketing measures or by subjective measures such as distributor or customer satisfaction. Exportation of goods and services is required by any economy to enhance its revenue and usher in economic growth and development. It is therefore crucial for economic progress and this has informed the idea of export-led growth (Owuru & Farayibi, 2016). The measures of export growth involved different dimensions of export sales which are

export intensity, export dollar sales, market share for the most important product/market combination, and satisfaction with export sales, as well as with export sales intensity. Export growth as a dependent variable was measured in terms of amounts (Million USD Dollars). This type of measurement had been chosen because Country's total export consists of basket of goods and services therefore it was easily measured in terms of value rather than other measurements. Export supply is affected by the producer's production capacity. Therefore, Gross Domestic Product is expected to affect export growth from the fact that increase in domestic supply holding other factors constant creates surplus for export. This is also measured in terms of value as it is found simple to convert all domestic produced goods and services in value. Relative price, depicted by real effective exchange rate, is also important determinant for export growth. This is because increase in relative export prices decrease demand for Uganda's export while decrease results in the reverse result.

1.1.4 Contextual Perspective

The underdeveloped nature of the Ugandan economy that essentially hindered the pace of her economic development has necessitated the demand for Foreign Direct Investment into the country. Aremu (1997), noted that Uganda as one of the developing countries of the world, has adopted a number of measures aimed at accelerating growth and development in the domestic economy, one of which is attracting foreign direct investment (FDI) into the country. According to World Bank (1996), FDI is an investment made to acquire a lasting management interest (normally 10% of voting stock) in a firm or an enterprise operating in a country other than that of the investor defined according to residency. However, Foreign Direct Investment (FDI) is often seen as an important determinant for export growth in the developing countries because it affects the export growth by stimulating domestic investment, increase in capital formation and also, facilitating the technology transfer in the host countries. (Falki, 2016).

The Ugandan government is primarily concerned with how to promote and improve economic development and reduce the rate of poverty in the country. Owing to this objective, the government always attempt to woo or attract inflow of FDI. Uganda economy has been experiencing growth for some years, but how FDI influences export growth suggests an empirical investigation. The main objective of this study is to explore foreign direct investment, exchange rate and export growth of Uganda between 2012 and 2015.

In Uganda, exporting firms are offered incentives to help them cope with the country's infrastructure shortfalls as well as the expenses of bureaucratic indolence. Furthermore, the export incentives are also targeted at developing a level and favorable playing field to enhance the competitiveness of the economy's exports. For example, foreign exchange has been liberalized allowing the exporting firms to keep all their earnings from exports. VAT and duty are not charged for export goods unlike Kenya where the exporters have to pay tax on exports. Moreover, exporters are allowed to claim compensation of the VAT charged on the inputs used in the production of export goods. The compensation also applies to the duty paid on imported inputs for export products (Uganda Export Promotion Board, 2010).

Access to the Ugandan market has been made easy through Uganda's government policy of global economic integration. It is aimed at increasing the amount of trade thereby offering economic prospects to foreign investors. Bilateral agreements such as COMESA and the EAC allow better tariff rates for Uganda's products in foreign markets. The Cotonou accord as well as AGOA initiative allows entry of Uganda's exports to the EU market as well as the USA duty free. This encourages foreign investors to establish in Uganda (Lutwama, 2010).

1.2 Problem Statement

Uganda's export growth has nearly stagnated to an average of 1.5 per cent per annum over the last 15 years (Behname, 2012). As a result of the country's falling exports and

increasing deficits in current-account balances, businessmen both domestic and foreign speculated that Uganda shillings would soon be devalued (Camarero & Tamarit, 2003). However, it has been observed that in 2012s export growth was poor compared to the year 2014s where total export kept on increasing (WTO Statistical datasets, 2014). Uganda exports growth has exhibited a dramatic change of exports pattern from agricultural traditional products to non-traditional products with the emergence of minerals specifically oil.

The above scenario of the Uganda's poor export growth has been attributed by bureaucracy among officials in the Ministry of Trade Industry and Cooperatives and Uganda Export Promotion Board. In addition, Uganda's ill-conceived trade pacts have also resulted in inverted duty structure high import duties on raw materials and intermediates, and lower duties on finished goods that discourage the production and export of value-added items (Uganda Export Promotion Board, 2010). The roots of Uganda's declining exports are deeper, and have no short-term fix, such as letting the shilling depreciate against the dollar, simply because Uganda's export basket is no longer as price elastic as it once was. Hence, currency depreciation would have to be truly dramatic to give a meaningful push to Uganda's exports. That may not work, as other countries are trying to do the same thing to capture an increasing share of sluggish global demand (Falki, 2016).

Despite all attempts at diversification, Uganda's merchandise exports still have a narrow base. The Government of Uganda has also taken steps in attracting export oriented FDI as one way to be part of global value chain, however little success has been realized. It is therefore in this aspect the researcher attempts to examine the relationship between foreign direct investment, exchange rate and export growth in Uganda (1996-2015)

1.3 Purpose of the study

The purpose of the study was to assess the relationship between foreign direct investment, exchange rate and export growth in Uganda (1996-2015)

1.4 Specific Objectives

- i) To examine the relationship between export growth and Foreign Direct Investment
- ii) To establish the relationship between export growth and Terms of Trade
- iii) To establish the relationship between export growth and Real exchange Rate
- iv) To examine the relationship between export growth and real Gross Domestic Product
- v) To establish the relationship between export growth and foreign price level

1.5 Research questions

- i) What is the relationship between export growth and Foreign Direct Investment?
- ii) What is the relationship between export growth and Terms of Trade?
- iii) What is the relationship between export growth and Real exchange Rate?
- iv) What is the relationship between export growth and real Gross Domestic Product?
- v) What is the relationship between export growth and foreign price level?

1.6 Hypotheses

- i) There is no relationship between export growth and Foreign Direct Investment
- ii) There is no relationship between export growth and Terms of Trade.
- iii) There is no relationship between export growth and Real exchange Rate.
- iv) There is no relationship between export growth and real Gross Domestic Product.

1.7 Scope of Study

1.7.1 Geographic scope

The research was done in Uganda which is located in east Africa countries. Uganda is located in eastern Africa, west of Kenya, south of South Sudan, east of the Democratic Republic of the Congo, and north of Rwanda and Tanzania.

1.7.2 Content scope

The study was based on effect of Foreign Direct Investment on export growth of Uganda, effect of exchange rate on export growth of Uganda and effect of FDI and exchange rate on export growth in Uganda

1.7.3 Time scope

The study focused on data from 1996-2015 and it was carried out in a period of five months and took place from September to November 2017 because of the nature of exercise that was undertaken in gathering, editing and processing data.

1.8 Significance

It is expected that when this study is carried out and accomplished successfully, it will contribute substantial awareness on effect of FDI and exchange rate on export growth. The study will contribute to identifying the existing trend of FDI and exchange rate in Uganda (1996-2015) and thus enable the concerned stakeholders to formulate appropriate policies. The study also will serve as a future data base for further researches that will be carried out as researchers draw data from the findings which will arrow the existing gaps in FDI and exchange rate and export growth

The study was significant to the researcher in fulfilling one of the requirements for award of the master's degree of Economic Policy and Planning. Apart from getting current research findings, the study will also provide the room for comparison with the previous research findings for further studies.

1.9 Definition of key terms

Foreign direct investment: According to the IMF, direct investment reflects the aim of obtaining a lasting interest by a resident entity of one economy (direct investor) in an enterprise that is resident in another economy (the direct investment enterprise)

Exchange rate: An exchange rate is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in terms of another currency.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the review of theoretical framework on export growth and its measurements. The framework is developed by examining the existing literature through reviewing the past and current empirical studies on the determinants of export growth.

2.1 Theoretical Review

This study was based on gravity model. The gravity model has been extensively used in analyzing the pattern and the determinants of trade flows of countries particularly in Europe, Latin America, and Asia. For example, Gani (2008) applied the gravity model to examine the factors influencing trade between Fiji and its Asian partners, using a panel data for the period 1985 to 2002. The results suggested that Fiji's exports are significantly influenced by Fiji's infrastructure, the distance to export markets, and the real exchange rate. On the other hand, Fiji's and its partners' GDPs were found to be statistically insignificant. Further, the study fails to account for the possible influence of regional trade agreement on Fiji's bilateral trade flows.

In a similar study, Roy and Rayhan (2011) analyzed the determinants of trade flows in Bangladesh through gravity model panel data approach. This study covered a total of 14 countries including Bangladesh and other 13 countries that have bilateral trade agreement with Bangladesh, namely South Asian Association for Regional Co-operation (SAARC). The data collected for the study spanned from the period of 1991 to 2007. Results of the study showed that Bangladesh's trade flows were significantly determined by the size of Bangladesh's economy and that of its partners, openness of the partner's economy and exchange rate. In addition, the cross-sectional results showed that membership of SAARC and border were significant determinants of Bangladesh's trade flows.

2.2 Export supply functions

There have been a number of empirical studies of export supply functions majority of which have been based on the notion of specialised profit maximization. The literature constitutes both price and scale measures (GDP in the supplying nation, exchange rate and unit price measures) but sometimes includes additional factors of exchange rate variability and trade.

Several empirical models have been used to examine the growth of exports of goods and services. Balassa (1990) studied the responsiveness of exports of goods and services to real exchange rate related price incentives. The study was conducted for 16 Sub-Saharan African (SSA) countries and the model used had export volumes as a function of output proxied by Gross Domestic Product, real exchange rate and export volumes of the previous period.

Sekkat and Varoudakis (2000) extended the work of Balassa by incorporating two more exchange rate policy indicators namely, real exchange rate volatility and misalignment. The study was conducted for selected SSA countries and postulated the following relationship between export volumes and exchange rate variables:

$$\text{Log } X_t = \alpha_0 + \alpha_1 \log \text{MNF} + \alpha_2 \log \text{RER} + \alpha_3 \log \text{RERV} + \alpha_4 \log \text{MIS} + \varepsilon_t \dots\dots\dots 2.1$$

Where X is the ratio of export to Gross Domestic Product, MNF is the ratio of total manufactured value added to Gross Domestic Product, RER is the real exchange rate, RERV is the volatility of the real effective exchange rate, MIS is a measure of misalignment of real effective exchange rate and ε is the error term.

Karimi (2003) estimated export supply function for Iran using data for period 1970-1998. The export supply function used for the study was specified as;

$$\text{Log } X_s = \beta_0 + \beta_1 \log (P_x / (P_b * E_r)) + \beta_2 \log YR + \beta_3 \log SSR + \beta_4 T \dots\dots\dots 2.2$$

Where X_s = export, P_b = domestic price in national currency, P_x = export price, E_r = exchange rate in producer country in dollar, YR = Gross Domestic Product in the producer country, SSR = supply side shock and T = time trend.

2.3 Effect of foreign direct investment on export growth

Hoekman and Djankov (1998) analyzed the magnitude of change in the export structure in Central and Eastern European countries. They investigated the relative importance of subcontracting trade, imports of input, and FDI as determinants of the countries' export growth in European Union markets. A statistical analysis of the extent to which these variables are associated with the countries' export composition during 1990-95 was undertaken. The findings of this study suggested that of all the countries looked at, only Poland had a significant positive association between FDI and exports structure.

Alvarez (2002), Wignaraja (2002), Sarpong (2004) and (Van Dijk 2002) conducted Studies analyzing firm-level export growth in developing countries of Chile, Mauritius, Ghana and Indonesia respectively. In the Chilean firms, factors affecting the decision to export and the determinants of export success were identified. The study concluded that productivity, firm size and human capital increase the sustainability of export while foreign technical licenses and foreign capital participation positively improve export growth. In Ghana, the relationship between export growth and investment behavior of private firms was tested using a simultaneous equation model. The study did not find any positive or significant relationship between the two variables. The study of Van Dijk (2002) attempted to determine the factors affecting export growth for Indonesian manufacturing firms. It highlighted the importance of sectoral variation in determining export activities and concluded that relative size, foreign ownership and age were significant factors across all sectors.

Amelia and Santos (2000) studied the effect of trade liberalization on export growth in selected developing countries. Using pooled cross sectional and time series data for 48 African countries and an export demand function with share of exports to Gross domestic Product as a dependent variable, Foreign Direct Investment was found to significantly impact on export volumes. Export growth was highly negative with price and real exchange rate exerted a significant negative impact on export volumes.

Hoekman and Djankov (1997) investigated the relative growth of trade. Imports of inputs, foreign direct investment (FDI) and entrepreneurs' response to changed incentives were major determinants of a country's export growth. Growth of exports in Central and Western Europe was found to be a consequence of entrepreneurial response to new incentives which caused them to restructure their production in order to capture new markets. Lack of changes in export structure and foreign direct investment had insignificant effects on export growth. FDI sometimes chooses sectors in the economy in which the country may not have relatively specialized under central planning which may affect export growth. Imports of intermediate inputs and machinery were also found to be important determinants of changes in export structure.

Vinod and Nash (1991) postulated that the poor growth in African countries exports was due to trade policies which did not contribute to acceleration in industrialization growth. They indicated that import restriction policies often bias exporters. High tariff and non-tariff barriers significantly raise prices of input products in the manufacturing sector and greatly affect the potential of exporters' to compete in foreign markets.

2.4 Terms of trade and export growth

Svedberg (1990) commented on the sluggish export growth of sub-Saharan Africa countries from 1980 to 1985. Factors which influence exports were identified and categorized as external and internal. Unfavorable terms of trade which had a negative effect on the exports and the limited change in export structure facing sub-Saharan

Africa countries were cited as the major external factors. The internal factors which lead to poor export growth identified were domestic policies including overvalued exchange rates and high taxes on producers' exports that reduce export supply.

Ministry of Finance, Planning and Economic Development (1995) reported that exports increased from the period 1991 to 1994 due to the dramatic improvement in the terms of trade for coffee. The price of coffee tripled because the Brazilian coffee crop was hit by frost. This significantly reduced the Brazilian coffee supply on the international market and during the same period, exports improved due to domestic policies. Liberalization of foreign exchange payments which removed the anti-export bias from the official exchange rate and the abolition of export taxes were some of the policies credited for this growth.

According to World Bank (1996), Uganda's predominantly agricultural primary commodity exports suffer from declining terms of trade especially coffee exports and high price volatility in the international prices. In addition, the production of these commodities tends to be susceptible to adverse supply shocks such as unexpected changes in weather and attacks from pests and diseases.

Kasekende and Atingi-Ego (1999) studied the impact of trade liberalisation on key markets in SubSaharan Africa focusing on the case of Uganda. Using annual data (1970-1996), they modelled Uganda's exports as a function of real effective exchange rate, terms of trade, and income of trading partner countries. Uganda's exports were found to be positively and significantly correlated with both the terms of trade and the error correction term (*ecm*) lagged three periods but real effective exchange rate was not significantly related to exports.

Musinguzi, Obwona and Stryker (2000) using an export growth function disequilibrium model, theoretically specified exports as a positive function of the terms of trade, exchange rates and capacity to produce commodities for export sector. Output was

measured in terms of industrial output. Exports were significantly and positively affected by the previous year's export growth and current growth of the real economy but were marginally increased by an increase in the terms of trade though it was significant. Real exchange rate did not significantly boost exports.

Bank of Uganda (2001) reported that in May 2001, the external sector of Uganda continued to operate under pressure owing to deteriorating terms of trade and poor export sector growth as a result of a further decline in the prices of coffee compared to the corresponding period in 2000.

2.5 Impact of real exchange rate on export growth

Sharma (2001) investigated the determinants of exports in India using annual data for 1970-98. The study used the simultaneous equation framework and the results of study suggested that demand for Indian exports increased when its export price fell in relation to world prices. The appreciation of the rupee adversely affects Indian exports and exports supply is positively related to the domestic relative price of exports and higher domestic demand reduces export supply.

Bahmani and Ltaifa (1992) analyzed the effects of exchange rates on exports and results showed that exchange rates adversely affect exports. Sivri and Usta (2001), while studying the determinants of export growth in Turkey found that real exchange rate does not appreciably account for changes in exports. Oztang (2000) postulated total exports to be a function of foreign income and real exchange rate and results revealed that real exchange rate is a statistically significant determinant of export growth.

Nowak et al (2007) used an extended version of gravity model for Turkey covering 1988-2002 while investigating the trade effects of Turkey's trade integration into European Union. Sectoral trade flows to the European Union were examined based on panel data. Real exchange rate, a proxy of price competition turned out to be

statistically significant in explaining export growth. The depreciation of real effective exchange rate was also found to significantly increases the level of Turkish exports.

Edwards and Golub (2004) examined the determinants of export supply in South Africa and found out that foreign prices, domestic prices and the exchange rate have a strong impact on manufacturing export growth in South Africa. Using an econometric model, results showed a positive and significant coefficient on the relative price variable and the real effective exchange rate. A conclusion was drawn that a 1 % increase in the relative price of exports is estimated to raise average manufacturing export volumes by to 2.5% in the long-run.

Baak, Mahmood, and Vixathap (2002) studied the impact of exchange rate volatility on exports in four East Asians countries (Hong Kong, South Korea, Singapore, and Thailand). Findings revealed that exchange rate volatility has negative impacts on exports in both the short run and long run periods.

Chowdhury (1993) investigated the impact of exchange rate volatility on the trade flows of the G-7 countries in context of a multivariate error-correction model. Exchange rate volatility was found to have a significant negative impact on the volume of exports in each of the G-7 countries.

Granberg (1998) suggested that the exchange rate is not the only or even major factor at play in promoting exports to other policies. Moderate devaluation and appreciation have marginal impacts on exports and trade in general.

Schnitzer (1991) argued that inflation has an influence on the economy. When there is inflation, domestic products become expensive than the imported commodities and people find it easier to purchase foreign goods than domestic goods. Consequently, exports decrease since they become more expensive to importers.

Fosu (1992) analysed the effect of real exchange rates on agricultural exports in Ghana. Between 1960 and 1982, it was observed that there was a decline in nominal exchange rate which led to the reduction of total export volume of coffee and cocoa. On the contrary, the 1983 to 1989 period was characterized by a real exchange rate increase as well as the implementation of World Bank (WB) and International Monetary Fund (IMF) structural reforms which resulted into an increase in real total agricultural exports. An economic model that estimated both aggregate and sectoral supply functions with elasticities of agricultural price incentives with respect to changes in real exchange rate was employed. The results showed that the elasticities of agricultural exports were less than unit (inelastic) and only significant with coffee and cocoa but insignificant with cashew nut exports and aggregate agricultural exports.

Lyakurwa (1998) expressed concern that export growth of sub Saharan Africa over the last three decades was below par and consequently the region had lost a share of world exports by over 250% in the last 30 years. This was attributed to the import compression particularly in the 1980's when their participation declined and their place was taken over by fastest growing economies of East Asia and Latin America. Both institutional and policy factors had affected the export growth of the sub Saharan African countries. Ordinary regression for all the categories of exports from sub Saharan African countries showed that real exchange rate, government expenditure, gross investment and freight cost in case of manufactured exports influenced the growth rate of exports.

According to Helleiner (2002), a competitive real exchange rate is associated with Non traditional exports success. Using time series, a study on Tanzania's non traditional exports revealed a statistically significant relationship between real devaluation and non traditional exports growth.

Goldstein and Khan (1985), and Senhadji and Montenegro (1999) estimated export demand elasticities for a large number of developing and industrial countries using time

series techniques. Exports were found to react to both the income of trade partners and relative prices. The average long-run price and income elasticities for all countries were found to be approximately -1 and 1.5, respectively, but there was a wide diversity of experiences.

Edwards and Alves (2005) while studying South Africa's export growth, determinants of export supply found out that exchange rate depreciation on average positively affects export growth. Results showed that export growth is not predominantly dependent on the economic prosperity of South

Africa's trading partners or their ability to compete in the export market on the basis of price. Export volumes are determined by the profitability of export supply and factors which raise the output price and reduce the cost of production enhance export growth.

2.6 Gross domestic product and export growth

Rodrik (1999) carried out a regression analysis on pooled cross section and time series data for 1964-1994. Using export growth rate as a function of a wide range of determinants including trade policies, income levels and geographic variables in a sample of 37 Sub Saharan Africa countries, it was established that GDP has a statistically significant effect on export growth.

Cline (2004) used Ordinary Least Squares regression for pooled data on 100 developing countries for the period 1981-2001. Export growth rate was expressed as a function of the share of manufacturing to exports, real effective exchange rate, Gross Domestic Product real growth rate and Per Capita Income. The effect of GDP growth rate and real effective exchange rate on export growth was statistically significant.

Kumar (1998) conducted a study on the determinants of export growth in the developing countries and confirmed that GDP has got a positive impact on exports. Increased level of production is the main cause of export expansion since surplus of

output can be exhausted in international markets. However, in a closed economy, surplus production leads to fall in price which in turn creates pessimism among the producers where as in an open economy such surpluses create foreign reserves through exportation.

Ngeno (1996) studied the determinants of exports in Kenya using an export growth equilibrium and disequilibrium model. Theoretically, export growth was specified as being positively related to output level since higher production should lead to increase in export growth. The coefficient of real exchange rate was postulated to be positive because depreciation of the domestic currency increases export earnings and therefore increases production for export. Empirical result suggested that an increase in domestic output increased the export growth. Growth promoting policies were found to be insignificant in relation to export supply since Kenya is a price taker in the world market. It was also established that the use of the world price as a signal for exports was constrained by the quota system.

Fugazza (2004) studied export growth and its determinants, supply and demand constraints. The log of GDP (lagged) was highly significant across all periods and real exchange rate also had a significant effect on export growth. A 1 per cent real depreciation was found to increase exports by 6 percent. Results indicated that an overvalued currency is detrimental to export growth since an overvalued currency translates into a direct loss of price competitiveness for exporting firms. Foreign Direct Investment was also found to affect export growth positively and experience in a number of countries suggests that FDI strongly contributes to the transformation of the composition of exports.

2.7 Effect of foreign price level on export growth

The external trade environment and domestic products geared towards utilizing opportunities of trade and responding to constraints to trade influenced the growth and development of African economies significantly, Ndulu and Lipumba (1990). The policies

involved those targeting the exchange rates, tariff structure, export taxation, import controls and administrative exchange allocation system, wage, pricing especially for agricultural products and adjustment policies to external conditions. The external factors were found to be world prices of the primary commodities, which for most small economies have to be taken as given. The export baskets of the African countries were also still concentrated on commodities which had a low growth rate of demand on the world market.

Rafik and Svedberg (1990) examined the export growth of sub-Saharan Africa countries and detected a decline during the 1970 to 1985 period. The major cause of the decline was the protection facing exports from the sub-Saharan countries. Protection in terms of export quotas and price decline of primary products accounted for one third of the total world market share loss by sub Saharan Africa.

Musinguzi (1999) in his analysis of the factors that affect export earnings instability in Uganda, found out that Uganda's exports which are mainly primary products are faced with two major problems of declining quantity of exports and export price fluctuations.

BOU (2005) reported that coffee export earnings during the second half of 2004/05 amounted to USD 88 million up from USD 66.6 million realized in the corresponding period of 2003/04. It further revealed that export volumes fell from 1.39 (60kgs) million bags during the second half of 2003/04 to 1.28 million bags in the corresponding period of 2004/05. In the same period, there was an increase of 43.3% in average unit price which more than offset the decline in export volumes leading to the increase in coffee export earnings.

Primary commodities exhibit excessive short term and medium term fluctuations and long term declines, Jayant (2006). Erratic short term movements in commodity markets hamper economic decisions while long term declines of primary products exacerbate deteriorations in terms of trade.

High degree of price instability of primary commodities coupled with worsening terms of trade leads to a contraction of export earnings and instability in the commodity depending developing countries. Burundi depends on coffee and tea to an extent of 87%. Its coffee and tea prices fell by 37% and 20% in 1986 and 1987 respectively and as a result, annual exports fell from USD 154 million to USD 90 million.

Ministry of Finance Planning and Economic Development (2007), reported that coffee exports for the month of July shot to USD 28.3 million registering a 52.5% increase compared to July 2006 as a result of the average coffee prices rising by 36% vis a' vis the price in July 2006. The volumes for the coffee exports also increased by 106.7 % to 268,864 (60kgs) bags in July 2007 compared to July 2006 owing the favorable weather conditions and good husbandry practices. Coffee export earnings for May 2007 increased by 63.3% to USD 17.9 million compared to may 2006 as a result of a 9.1 % increase in export prices on the world market. The price was USD 1.62 per kilogram, the highest price since May 1998.

2.8 Research Gap

As the foregoing review reveals, GDP per capita as factor that influences FDI in Uganda have not been extensively tackled. A number of studies such as that of Akin et al, (2001); Bennet, R.J. (2013) have been done covering the subject of FDI and exchange rate however, none of them has covered the aspect of export growth through Real interest rate and Degree of openness hence providing a content gap that this study covered.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology that was used in the study, sources of data, variables that were used, scope, technique for data analysis and various tests that were carried out and the procedures for the interpretation of results.

3.1 Data Sources

Secondary data was used for the study. It was obtained from Bank of Uganda, Uganda Bureau of

Statistics, African Development Indicators, World Bank tables and United Nations Statistics Division common data base. The variables that were used are export growth rate (EGR), foreign price level (P_f), real exchange rate (RER), Gross Domestic Product (GDP), Foreign Direct Investment (FDI) and Terms of Trade (TOT).

3.2 Data Analysis

The data was analyzed using E-VIEWS to perform the Ordinary Least Squares regression in order to establish if the above variables significantly affect export growth rate as well as the other tests which precede regression analysis. Annual data was obtained and in order to create more data points, it was converted to quarterly range using E-views. The technique used was the quadratic match average which fits a local polynomial for each observation of the series in annual range. It then uses a polynomial to fill in all observations in quarterly range. The quadratic polynomial is formed by taking sets of three adjacent points from the source series and then fitting a quadratic so that the average of the quarterly observations matches annual data actually observed. The three points mentioned above are selected in a way that one point before and after the period currently being interpolated provide the three points.

3.3 Model

The study employed a time series regression analysis in which export growth rate was assumed to be determined by internal supply factors, an approach used by Musinguzi, Stryker and Obwona (2000) while studying the monetary and exchange rate policy in Uganda. Their model had lagged export growth rate, Gross Domestic Product, Terms of Trade and real exchange rate as the predictors of export growth and this study included in its model, Foreign Direct Investment and foreign price level in addition to the above mentioned predictors. This export supply model is based on the assumption that in Low Developed Countries like Uganda which mainly export primary commodities, import and export prices are exogenously determined on the world market implying that their exports are constrained by more of supply bottlenecks than world demand. The conventional export function has exports related to incomes of foreign importing countries, but for small countries like Uganda, the external element is not a limiting factor as their exports constitute a very small proportion of the external world's commodity basket.

The study therefore used the model below;

$$EGR_i = \beta_0 + \beta_1 RER + \beta_2 GDP + \beta_3 TOT + \beta_4 Pf + \beta_5 FDI + \varepsilon_i \dots \dots \dots 3.1$$

Where;

EGR is Export Growth Rate,

GDP is Gross Domestic Product,

TOT is Terms of Trade,

Pf is foreign price level proxied by USA's Consumer Price Index since the unit value of exports is a dollar adopted from Cottani (1990) in a study titled "Real exchange rate behavior and economic growth in LDC".

FDI is Foreign Direct Investment,

RER is real exchange rate computed as $RER = E * P_f / P_d$ where E is nominal exchange rate, P_f is foreign price level and P_d is domestic price level proxied by Uganda's Consumer Price Index.

Table 3.1: Description of Variables

Variable	Description	Unit of measurement	Source
EGR	Export growth rate	Percent	United Nations Statistical Division
FDI	Foreign Direct Investment	Millions US \$	United Nations Statistical Division
GDP	Gross Domestic Product	Millions of US \$	Bank of Uganda
Pf	Foreign price level	Index	United Nations Statistical Division
RER	Real exchange rate		UBOS and author's computations
TOT	Terms of trade	Index	African Development Indicators

3.4 Test for Normality

The series used in the model were tested for normality by plotting a histogram for residuals and also using the Jarque-Bera test statistic. The Jarque-Bera statistic is computed as per the formula below;

$$JB = \frac{n}{6} \left[(skewness X_s)^2 + \frac{(kurtosis X_s)^s}{4} \right] \dots\dots\dots 3.3$$

Where n, is the number of observations.

The statistic tests the null hypothesis that the series is normal against the alternative that the series is not normal. Where the probability of the statistic was less than 0.05%, the level of significance, the series was regarded not normal and otherwise; a series was regarded normal.

3.5 Test for Stationarity

The series were also tested for stationarity using the Augmented Dickey Fuller test. The reason for this test is the fact that macroeconomic variables are desired when they are stationary and on the contrary, regression on the series yields spurious results. The ADF statistic is computed using formula below;

$$\Delta y_t = \alpha_0 + \lambda_t + \delta y_{t-1} + \sum_{j=1}^l \phi_j \Delta y_{t-j} + \varepsilon_t \dots \dots \dots 3.3$$

Where l , is the lag length

The ADF statistic tests the null hypothesis that the series are non stationary against the alternative that the series are stationary. Where the absolute value of the computed ADF statistic is greater than the tabulated one, the null hypothesis is rejected and an inference drawn that the series is stationary at a given level of significance. The series which were found to be non stationary were differenced to make them stationary.

3.6 Test for Cointegration

The variables used in the study were tested for cointegration in order to establish if there existed a long run relationship between the series. The fundamental equation for testing for cointegration using Johansen's procedure is as below;

$$\Delta Y_t = \sum_{i=1}^{p-1} \pi_i \Delta Y_{t-i} + \pi Y_{t-p} + \varepsilon_t \dots \dots \dots 3.4$$

Where;

$$\pi_i = - \left[1 - \sum_{j=1}^i A_j \right] \text{ is trace statistic,}$$

$$\pi = - \left[1 - \sum_{i=1}^p A_i \right] \text{ is Eigen value.}$$

The key feature in Johansen's value is the rank (π) which equals the number of independent cointegrating equations. The series were therefore tested for cointegration and after confirming its presence, when the absolute value of the likelihood ratio was greater than the tabulated value at a given level of significance for a given hypothesized number of cointegrating equations, an error correction model was constructed and later a parsimonious model of the series also developed.

3.7 Diagnostic Tests

The variables were subjected to the Whiteness test. This is a test which examines the series for constant variance and serial correlation. The test for serial correlation tests the null hypothesis that the series are not serially correlated against the alternative that the series are serially correlated whereas the test for constant variance tests the hypothesis that the series have a constant variance against the alternative that the series have a varying variance.

3.8 Problems Encountered

The main challenge in this study was finding data to use in analysis. Ironically, there are several sources of macroeconomic data but getting the appropriate data was not easy. Much of the data was expressed in different base years and varied from source to source. In addition, some of the variables were not provided directly and had to be computed using internationally recognized formulae.

CHAPTER FOUR

ESTIMATION AND INTERPRETATION OF RESULTS

4.0 Introduction

This Chapter presents the research findings as per the objectives and hypotheses of the study. The chapter starts by performing data pretesting and then goes ahead to estimate and interpret the results of the models.

4.1 Data preliminary testing

Before using the data in the analysis, several diagnostic checks and tests were conducted to find out the statistical behaviour of all the variables. This is important since for data to be used in any analysis, its integrity and reliability should be ascertained as well as finding out if the data is normally distributed.

Table 4.1: Descriptive statistics of variables used in the model

Variable	EGR	FDI	GDP	PF	RER	TOT
Mean	39.267	120.754	8192.650	91.573	1324.583	81.652
Median	23.716	133.280	8029.391	92.234	1426.435	78.969
Maximum	196.223	296.950	13154.94	118.411	1926.160	104.988
Minimum	-12.560	0.313	811.781	65.171	471.568	53.950
Std. Dev.	47.633	91.565	2212.938	14.697	416.894	15.811
Skewness	1.805	0.049	-0.239	-0.047	-0.562	0.004
Kurtosis	5.836	1.773	3.930	2.009	2.357	1.539
Jarque-Bera	70.281	5.048	3.643	3.300	5.590	7.114
Probability	0.000	0.080	0.162	0.192	0.061	0.029
Observations	80	80	80	80	80	80

Source: Output from EViews7

The mean export growth rate in the study period was 39.267 percent but this was high due to the figures obtained in the 90s when the economy was undergoing reforms.

Maximum registered growth was 196.223 percent and the lowest was -12.560 percent. The standard deviation of growth rate from the mean was 47.6333 percent. The inflow of Foreign Domestic Investment in Uganda from 1996 to 2015 was 120.754 million dollars on average with the highest inflow recorded being 296.95 and the least 0.313 million dollars. The standard deviation from the mean of Foreign Direct Investment was 91.565 million dollars. The mean Gross Domestic Product in the study period was 8,192.650 million dollars with the highest estimate at 13,154.94 million dollars and the least at 811.781. The average foreign price level in the period of study was 91.573 with the highest level being 118.411 and least 65.171. The standard deviation from the mean foreign price level in the period was 14.697. The mean real exchange rate was 1324.583 with the highest being 1926.160 and lowest 471.568. The standard deviation from the mean Real exchange rate was 416.894. Terms of trade in Uganda have not been favorable as depicted by the results above. The mean Terms of Trade was 81.652 percent and the highest was 104.988 and least 53.950. The standard deviation was 15.811 for the entire period.

The jarque-bera statistic shows that with exception of export growth rate and Terms of trade, the other variables are normal at 5 % level of significance. The skewness statistics of export growth rate and Terms of trade are much higher than zero and this implies that the variables are not normal. The kurtosis values for export growth rate and Terms of trade don't tend to 3 in absolute terms which is the condition for normality of any series.

4.2 Test for Normality

The variables used in the model were tested for normality to ascertain if the spurious results in the model above were due to non-normality of the variables. This was tested using Jarque-Bera statistic and the results are presented in the Table 4.2.

Table 4.2: Test for normality

Variable	EGR	FDI	GDP	PF	RER	TOT
Skewness	1.805	0.049	-0.239	-0.047	-0.562	0.004
Kurtosis	5.836	1.773	3.930	2.009	2.357	1.539
Jarque-Bera	70.281	5.048	3.643	3.300	5.590	7.114
Probability	0.000	0.080	0.162	0.192	0.061	0.029
Observations	80	80	80	80	80	80

Source: Output from EViews7

Normality test results in Table 4.2 show that export growth rate and terms of trade are not normal at 5% level of significance. The probabilities of their Jarque-Bera statistics are less than 0.05, the level of significance. We reject the null hypotheses that they are normal and conclude that they are not normal. There is need to log the variables prior to their use in the subsequent tests.

4.3 Test for Stationarity

The variables were tested for stationarity using the Augmented Dickey Fuller (ADF) statistic. Results of the test for stationarity are presented in the Table 4.3.

Table 4.3 Stationarity test for variables in levels

Variable	ADF statistic	1% value	5% value	10% value
LEGR	-4.802	-4.080	-3.468	-3.161
LFDI	-2.180	-4.080	-3.468	-3.161
LGDP	-2.093	-4.080	-3.468	-3.161
LPf	-3.808	-4.080	-3.468	-3.161
LRER	-4.660	-4.080	-3.468	-3.161
LTOT	-3.539	-4.080	-3.468	-3.161

Source: Output from EViews7

The results in Table 4.3 show that export growth rate, Real exchange rate, foreign price level and Terms of Trade are stationary at 5 % level of significance. The absolute values of their ADF statistics are greater than the critical values at 5 % whereas for Foreign Direct Investment and Gross Domestic Product, their ADF statistics in absolute terms are less than the critical values at 5 % significance level. Some of the variables were found to be non-stationary and had to be differenced in order to make them stationary. Table 4.4 presents results of the test after differencing.

Table 4.4 Test for stationarity after differencing

Variable	ADF statistic	1% value	5% value	10% value
LEGR	-5.775	-4.082	-3.469	-3.161
LFDI	-4.149	-4.082	-3.469	-3.161
LGDP	-4.811	-4.082	-3.469	-3.161
LPf	-4.578	-4.082	-3.469	-3.161
LRER	-3.747	-4.082	-3.469	-3.161
LTOT	-4.559	-4.082	-3.469	-3.161

Source: Output from EViews7

All the variables after taking the first difference become stationary. The results further show that all the variables are stationary at 5 and 10 percent levels of significance since for all of them; the absolute ADF test statistical values are greater than the critical values.

4.4 Test for Cointegration

After establishing that the variables are integrated of the same order, they were tested for cointegration using Johansen's maximum likelihood method and the results are presented in Table 4.5.

Table 4.5 Cointegration Test

Eigen value	Likelihood ratio	5%value	1%value	Hypothesized CE
0.532	160.960	104.94	114.36	None **
0.371	102.423	77.74	85.78	At most 1 **
0.321	66.671	54.64	61.24	At most 2 **
0.242	36.904	34.55	40.49	At most 3
0.144	15.529	18.17	23.46	At most 4*
0.045	3.537	3.74	6.40	At most 5**

Source: Output from EViews7

*(**) denotes rejection of the hypothesis at 5 % (1%) significance level

Likelihood ratio test indicates 3 cointegrating equation(s) at 5% significance level.

Results in Table 4.5 show that there are three cointegrating equations at 5% level of significance. The absolute value of the likelihood ratio is less than the critical value at 5 % level of significance for 3 cointegrating equations. We therefore accept the null hypothesis that there are 3 cointegrating equations. This means that despite some of the variables being non stationary, their linear combination is stationary hence the existence of a long run relationship of the variables. This calls for a long run model of the variables and an Error Correction Model for their short run relationship as presented in the subsequent tests.

Table 4.6 Long run relationship model

Dependent LEGR

Variable	Coefficient	Std. Error	t-Statistic
C	39.015		
LFDI	-0.263	0.144	-1.820
LGDP	1.314	0.542	2.425
LPF	-9.694	2.928	-3.311
LRER	-2.234	0.682	-3.276
LTOT	1.475	0.853	1.731

Source: Output from EViews7

Table 4.6 reveals that the effect of Gross Domestic Product and real exchange rate on export growth rate is significant. Foreign Direct Investment and terms of trade have no significant effect on export growth rate while foreign price level is also significant but with an unexpected sign of its coefficient.

4.5 Error Correction Model

After confirming that the variables are cointegrated, an Error Correction Model which is constructed by including in the model, the lagged terms of the variables and the Error Correction Term was generated. The error correction model shows the short run relationship between variables and its results are presented in the Table 4.7.

Table 4.7 Short run relationship model

Dependent Variable: DLEGR

Included observations: 75 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.154	0.410	0.377	0.7078
DLEGR_1	1.285	0.348	3.696	0.0005
DLEGR_2	0.146	0.117	1.245	0.2188
DLEGR_3	-0.412	0.122	-3.372	0.0014
DLFDI	-0.384	0.253	-1.522	0.1343
DLFDI_1	0.459	0.299	1.535	0.1312
DLFDI_2	0.132	0.257	0.512	0.6112
DLFDI_3	0.247	0.227	1.088	0.2817
DLGDP	2.083	2.526	0.824	0.4136
DLGDP_1	2.425	2.550	0.951	0.3462
DLGDP_2	-1.211	2.516	-0.481	0.6325
DLGDP_3	0.105	1.917	0.055	0.9564
DLPF	-1.339	1.524	-0.879	0.3839
DLPF_1	1.879	2.703	0.695	0.4901
DLPF_2	-2.421	0.747	-3.240	0.0021
DLPF_3	3.531	1.129	3.131	0.0029
DLRER	-2.936	4.202	-0.699	0.4880
DLRER_1	4.638	5.251	0.883	0.3814
DLRER_2	6.826	5.035	1.356	0.1813
DLRER_3	-2.633	4.187	-0.629	0.5322
DLTOT	-1.635	2.144	-0.762	0.4495
DLTOT_1	12.075	2.842	4.248	0.0001
DLTOT_2	-7.844	2.339	-3.354	0.0015
DLTOT_3	4.024	1.725	2.333	0.0237
ECT_1	-1.566	0.392	-3.992	0.0002
R-squared	0.643	Akaike info criterion		2.592
Adjusted R-squared	0.527	F-statistic		3.071
Durbin-Watson stat	2.116	Prob(F-statistic)		0.000

Source: Output from EViews7

Table 4.7 reveals that approximately 64% of the variation in export growth rate is explained by the Gross Domestic Product, Foreign Direct Investment, foreign price level,

real exchange rate and Terms of Trade. The probability of the F statistic is significant which implies that the model is well specified.

4.6 Discussion of Results

The purpose of the study was to assess the relationship between foreign direct investment, exchange rate and export growth in Uganda (1996-2015). The study was prompted by the inconsistencies in the findings by various researchers on the above relationship hence the need for a clarification. The study was conducted using data obtained from African Development Indicators; World Bank tables and the United Nations Statistics Division Common Database. An export supply model used by Musinguzi et al (2000) was adopted for the study. Foreign price level and Foreign Direct Investment were added to Gross Domestic Product, Terms of Trade and Real Exchange Rate, the explanatory variables used in the model adopted.

Foreign price level and Terms of Trade were found to be statistically significant in explaining export growth for Uganda between 1996 and 2015. Interestingly, Foreign Direct Investment, Real Exchange Rate and Gross Domestic Product as per the findings do not significantly affect export growth.

The export growth rate of the previous period significantly impacts on the current period's export growth rate. This is due to the fact that the determinant factors of export growth in a given period sometimes spill over to another period affecting its growth as well. The growth rate of the previous three periods also has a significant effect on the current period's export growth rate. This finding is consistent with that of Musinguzi, Obwona and Stryker (2000) who found out that lagged export growth rate has a statistically significant impact on current period's growth rate.

Foreign Direct Investment has no statistically significant effect on export growth. This is attributed to the fact that most foreign direct investments in Uganda focus on capturing the domestic market as opposed to foreign markets which would have been

penetrated by producing export items other than locally consumed. This finding contradicts that of Amelia and Santos (2000) who found out that in developing countries, Foreign Direct Investment significantly impacts on export volumes since it changes their structure. Hoekman and Djankov (1998) analysed the magnitude of change in export structure in eastern European countries and their findings suggested that there is a significant positive association between FDI and exports structure in Poland which is also a different finding from the one in this study.

The Gross Domestic Product of the current period has a positive but insignificant effect on the current period's export growth rate. This is because much of the output in Uganda is agricultural and a significant proportion of it put to subsistence use and not sold in both local and international markets.

GDP of the previous periods also does not significantly impact on export growth rate of a given period. This is a different finding from that of Ngeno (1996) who studied the determinants of exports in Kenya and found out that an increase in domestic output increases export growth. Kumar (1998) conducted a study on determinants of export growth in developing countries and found out that Gross Domestic Product has a positive relationship with export volumes since increased production leads to surplus output in an open economy being exhausted in international markets. This finding also contradicts the findings of Fugazza (2004). While studying export growth and its determinants in developing countries, lagged Gross Domestic Product was found to have a positive significant relationship with export growth rate.

Foreign price level has a significant and positive effect on export growth rate. The effect is statistically significant at 5% level. Lagged foreign price level significantly affects the current period's export growth rate. This finding is consistent with that of Ndulu and Lipumba (1990) who while studying opportunities and constraints to trade and their influence on growth and development of African economies, established that foreign prices of primary commodities significantly affect the export growth of countries

involved in their production. Edwards and Golub (2004) investigated the determinants of export supply in South Africa and found out that foreign prices have a highly significant impact on manufacturing exports growth in South Africa.

The effect of real exchange rate on export growth rate is not statistically significant. This could have been due to high susceptibility of our export to price fluctuations which limits the gains arising out local currency depreciation. This finding is similar to that of Musinguzi and Obwona (2000) who found no significant relationship between real exchange rate and export growth rate but then contradicts a number of other findings. Studies in Ghana and India by Fosu (1992) and Sharma (2001) respectively have shown that real exchange rate has a significant negative relationship with export growth. According to Sharma, a fall in domestic prices due to exchange rate depreciation makes exports cheaper in the international markets resulting into their increased demand. Cline (2004) also had a similar study using pooled data for over 100 developing countries for the period 1981-2001. Ordinary Least Squares regression showed that the depreciation of real exchange rate increases export growth.

Terms of trade has a statistically significant positive effect on export growth. Lagged Terms of trade significantly affects the current period's export growth rate. This is consistent with Jayant (2006) finding on Burundi that deteriorating terms of trade lead to a contraction of export earnings and instability. A number of other studies reviewed suggest the same. Musinguzi, Obwona and Stryker (2000) found out that Terms of Trade has a significant positive relationship with export growth rate though an increase in Terms of Trade marginally increases export growth. Kasekende and Atingi-Ego (1999) while studying the impact of trade liberalization on key markets in Sub Saharan Africa, found out that export volumes are significantly correlated with terms of Trade. Svedberg (1990) did a similar study on Sub Saharan Africa countries between 1980-1985 and attributed the sluggish export growth in Africa at the time to unfavorable Terms of Trade.

The negative coefficient of the Error Correction Term implies that there is a feedback mechanism in the short run. The error correction model helps to correct for disequilibrium in the short run and results show that approximately 2 % of the disequilibrium in export growth rate was corrected.

4.7 Parsimonious model

After the formulation of the error correction model, there was need to reduce the short run model components. This was done by expunging variables whose absolute values of the t-statistic were less than one and the insignificant ones from the error correction model. Results of reduced model (parsimonious) are presented in Table 4.8.

Table 4.8 Parsimonious model

Dependent Variable: DLEGR

Included observations: 75 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000	0.310	0.002	0.9988
DLEGR_1	1.035	0.233	4.441	0.0000
DLEGR_3	-0.365	0.117	-3.111	0.0028
DLPF_2	-4.582	1.356	-3.378	0.0012
DLPF_3	2.149	0.663	3.241	0.0019
DLTOT_1	8.452	1.999	4.227	0.0001
DLTOT_2	-7.421	1.596	-4.649	0.0000
DLTOT_3	4.611	1.349	3.419	0.0011
ECT_1	-1.328	0.264	-5.025	0.0000
R-squared	0.527	Akaike info cri terion		2.422
Adjusted R-squared	0.459	F-statistic		5.604
Durbin-Watson stat	2.149	Prob(F-statistic)		0.000

Source: Output from EViews7

Results in table 4.8 show that the value of R-squared reduces from approximately 64% to 53%. However, all the predictors in this model are statistically significant unlike in

the Error Correction Model where both Significant and Insignificant variables are included. The reduction in the R-squared value is due to the elimination of variables and their components which are not statistically significant in the Error Correction Model yet there is a portion they contribute to the variation in export growth rate.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The purpose of the study was to assess the relationship between foreign direct investment, exchange rate and export growth rate in Uganda. The chapter presents the summary of the findings in the previous chapter, conclusions drawn from the study and recommendations on how export growth can be improved.

5.1 Summary of findings

The research investigated the determinants of export growth for the period 1996-2015. The data used was obtained from Uganda Bureau of Statistics, African Development Indicators; World Bank tables and United Nations Statistics Division Common Database. Lagged export growth rate was found to have a significant positive effect on current period's export growth rate. It was also established that foreign price level and Terms of Trade both have a significant positive effect on export growth rate whereas Gross Domestic Product, real exchange rate and Foreign Direct Investment have no significant effect on export growth rate. The insignificant effect of Foreign Direct Investment on export growth was attributed to the motive of such investments. If the motive of foreign direct investment is to capture domestic market, it may not contribute to export growth. The low level of monetization in the country where subsistence production in the agriculture sector is estimated at 60% is thought to be the reason for the insignificance of Gross Domestic Product in explaining export growth rate.

5.2 Conclusions

Empirical results and analysis presented in the previous sections suggest that foreign price level and terms of trade have a significant positive relationship with export growth rate. The positive relationship of foreign price level is consistent with past findings. Ndulu and Lipumba studied the influence of trade opportunities and constraints on the

growth of African economies in 1990 and found out that foreign prices especially for primary commodities significantly impact on export growth.

Kasekende and Atingi- Ego (1999) while studying the impact of trade liberalization on key markets in Sub Saharan Africa established that there is a significant correlation between export growth and Terms of Trade which is consistent with the findings of this study. The significance of foreign price level explains the structure of Uganda's exports. Primary exports are known to experience price fluctuations which are also synonymous with export growth rates.

Foreign Direct Investment, Gross Domestic Product and real exchange rate do not have a statistically significant effect on export growth rate. The findings on the real exchange rate, Foreign Direct Investment and Gross Domestic Product contradict a number of previous findings including those reviewed in this study. Ngeno studied the determinants of export growth in Kenya in 1996. Using empirical analysis, it was found out that Gross Domestic Product significantly increases export growth. Amelia and Santos (2000) studied the effect of trade liberalization on export growth in selected developing countries and discovered that FDI significantly affects export volumes. Sharma while investigating the determinants of exports in India discovered that a fall in domestic prices due to exchange rate depreciation makes exports cheaper in the international markets resulting in their increased demand.

The insignificant effect of GDP on export growth was attributed to the high level of subsistence production in the economy. The motive of foreign direct investment in Uganda is to capture domestic market implying less is produced for export hence the insignificant effect of FDI on export growth. The reason for the insignificant effect of real exchange rate on export growth is thought to be the high susceptibility of Uganda's exports to price fluctuations on the world market.

The findings however show that there is room for improvement considering the economic situation in the country. There is need to redirect Foreign Direct Investment to production for export other than focus on the domestic market. Modernization of agriculture which is the major source of Uganda's exports would boost export growth. A number of the country's exports fall short of the international market standards, most of which relate to storage. The newly discovered resources such as oil in western Uganda should be constituted in the export basket as soon as possible as a means of diversifying our primary exports which fetch low prices on the international market.

5.3 Recommendations

There is need to diversify Uganda's exports. Diversification may appear like an awful task as various arguments have been advanced that African countries cannot be significant exporters of manufactured goods given their limited necessary skills. However, new resources such as oil in western Uganda have been discovered and therefore plans to have it exported should be implemented as soon as possible.

Uganda needs to focus on the modernization of agriculture since it is the major source of exports. Modern storage facilities should be put in a place in order to preserve our produce for export. Some of the agricultural produce is sold in the regional markets at low prices because it falls short of the entry requirements in the international markets which attract high prices.

The motive for FDI should be redirected from capturing the domestic market to production for export. Uganda has registered tremendous improvements in Foreign Direct Investment flows over the years but it appears its intention has not been export oriented. There is need to make use of Foreign Direct Investment to change the structure of exports since the current composition fetches low prices and is more affected by price fluctuations.

5.4 Suggestions for further research

Uganda's exports mainly constitute agricultural products and are therefore susceptible to price shocks. The effect of Gross Domestic Product on export growth was found to be insignificant and therefore I would like to propose that future studies about the same should consider agriculture's share of gross domestic product and not GDP as a whole.

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