

**ECONOMIC GROWTH AND ITS RELATIONSHIP  
WITH EXPORT, FOREIGN DIRECT INVESTMENT  
AND GOVERNMENT EXPENDITURE IN TANZANIA**

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**MASTER OF ARTS IN ECONOMICS**

**THE UNIVERSITY OF DODOMA**

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EXPORT, FOREIGN DIRECT INVESTMENT AND  
GOVERNMENT EXPENDITURE IN TANZANIA**

**BY**

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THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS**

**IN ECONOMICS**

**THE UNIVERSITY OF DODOMA**

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**DECLARATION**

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## CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by the University of Dodoma dissertation entitled “**Economic Growth and its Relationship with Export, Foreign Direct Investment and Government Expenditure in Tanzania**” in partial fulfilment of the requirements for the degree of Master of Arts in Economics of the University of Dodoma.

Dr Arbogast B. Moshi

Signature:.......... Date: 14/11/2019.....  
(SUPERVISOR)

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## **DEDICATION**

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## **ABSTRACT**

The key aim of this thesis was to analyse the relationship among exports, foreign direct investments, government spending and economic development in Tanzania. The specific objectives of the study aimed to examine the effect of exports on economic growth in Tanzania; to inspect the relationship among foreign direct investments on economic growth, and to test the relationship between government spending (Gross national expenditure) and economic growth. Additionally, the research questions were as follows: Does there exist a link between exports and economic growth?; does there exist a relationship between foreign direct investment and economic growth?; and does there exist an association between government spending (Gross national expenditure) and economic growth?. This study used annual time series data covering the period from 1988 – 2018 and employed Granger causality approach.

The study concluded that, the direction of causality is from foreign direct investment (FDI) to economic growth (GDP); the way of causality is from both economic growth (GDP) and government expenditure (GOVTEXP) to export (EXPO); the direction of causality is also from both foreign direct investment (FDI), exports (EXPO) to government expenditure (GDP); and is from both government expenditure (GDP) and export (EXPO) to foreign direct investment (FDI). Centred on these findings, the research suggested that exports can encourage economic growth of Tanzania. The government should direct its resources towards the promotion of exports in enlightening economic growth.

## TABLE OF CONTENTS

DECLARATION AND COPYRIGHT .....	i
CERTIFICATION .....	ii
ACKNOWLEDGEMENT .....	iii
DEDICATION .....	iv
ABSTRACT .....	v
TABLE OF CONTENTS .....	vi
LIST OF TABLES .....	x
LIST OF FIGURES .....	xi
LIST OF ABBREVIATIONS OR ACRONYMS .....	xii
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.0 Background Introduction .....	1
1.1 Statement of the Problem .....	5
1.2 Objectives of the Study and Research Questions.....	8
1.2.1 General Objective.....	8
1.2.2 Specific Objectives.....	8
1.2.3 Research Questions .....	8
1.3 The Significance of the Study .....	8
1.4 The Organization of the Study .....	9
<b>CHAPTER TWO .....</b>	<b>9</b>
<b>LITERATURE REVIEW.....</b>	<b>9</b>
2.0 Introduction .....	9
2.1 Definition of Key Terms .....	10
2.1.1 Economic Growth .....	10
2.1.2 Government Expenditure .....	11
2.1.3 Gross Domestic Product (GDP) .....	13
2.1.4 Foreign Direct Investment (FDI) .....	15
2.1.5 Export.....	17
2.2 The Determinant of Economic Growth.....	18



2.2.1 Some Cross-Country Evidence .....	20
2.3 Theoretical Review .....	21
2.3.1 The Harrod-Domar Growth Model .....	21
2.3.2 Musgrave Theory of Public Expenditure Growth.....	22
2.3.3 The Endogenous Growth Theory .....	23
2.3.4 The Solow – Swan Model .....	24
2.4 Empirical Literature Review .....	24
2.4.1 The Relationship Between Government Expenditure and Economic Growth .....	25
2.4.1.1 Empirical Literature in Tanzania .....	25
2.4.1.2 Empirical Literature Outside Tanzania .....	27
2.4.2 The Relationship Between Foreign Direct Investment and Economic Growth .....	31
2.4.2.1.1 Empirical Literature in Tanzania .....	31
2.4.2.1.2 Empirical Literature Outside Tanzania .....	33
2.4.3 The Relationship Between Exports and Economic Growth.....	38
2.4.3.1.1 Empirical Literature in Tanzania .....	38
2.4.3.1.2 Empirical Literature Outside Tanzania .....	39
2.5 Conceptual Framework .....	44
<b>CHAPTER THREE .....</b>	<b>47</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>47</b>
3.0 Introduction .....	47
3.1 Research Design.....	47
3.2 Area of the Study .....	47
3.3 The population of the Study .....	48
3.4 Sampling Procedure and Sample Size .....	48
3.4.1 Sampling Procedure .....	48
3.4.2 Sample Size.....	49
3.5 Data Type, Collection and Sources .....	49
3.6 Data Processing and Analysis .....	50
3.7 Model Specification and Variables Description .....	50
3.7.1 Model Specification .....	50

3.7.2 Variables Description.....	53
3.8 Model Estimation/Approach .....	54
3.8.1 Unit Root Test.....	55
3.8.2 Co-integration Estimation .....	55
3.8.3 Vector Error Correction Model Estimate (VECM).....	56
3.8.4 Diagnostic Test.....	56
3.9 Validity and Reliability of Results .....	56
3.10 Ethical Consideration .....	56
<b>CHAPTER FOUR.....</b>	<b>58</b>
<b>PRESENTATION OF FINDINGS .....</b>	<b>58</b>
4.0 Introduction .....	58
4.1 Descriptive Statistics .....	58
4.1.1 Gross Domestic Product (GDP).....	59
4.1.2 Government Expenditure (GOVTEXP).....	59
4.1.3 Foreign Direct Investment (FDI) .....	60
4.1.4 Export (EXPO).....	60
4.2 The Trend of Each Variable From 1988 – 2018 .....	60
4.2.1 Gross Domestic Product (GDP).....	60
4.2.2 Government Expenditure .....	61
4.2.3 Foreign Direct Investment .....	62
4.2.4 Export.....	63
4.3 Normality Test .....	64
4.4 Correlation Test.....	65
4.5 Lag Selection Criteria .....	67
4.6 Test for Stationarity.....	68
4.6.1 Augmented Dickey-Fuller (ADF) Unit Root Test .....	69
4.6.2 Unit Root at First Difference.....	70
4.6.3 Unit Root at Second Difference .....	71
4.7 Co-integration Test Results.....	71
4.8 Diagnostic Test.....	73
4.8.1 Test for Heteroscedasticity.....	73
4.8.2 Correction of Heteroscedasticity.....	74

4.8.3 Autocorrelation Test .....	75
4.8.3.1 Correction of Autocorrelation .....	77
4.8.4 Test for Multicollinearity .....	78
4.9 Regression Analysis on the Relationship between Export, Foreign Direct Investment, Government Expenditure and Economic Growth .....	79
4.9.1 Gross Domestic Product and Government Expenditure .....	79
4.9.2 Gross Domestic Product and Foreign Direct Investment.....	80
4.9.3 Gross Domestic Product and Export .....	80
4.10 Vector Error Correction Model (VECM) Results .....	81
4.11 Lagrange Multiple (LM) Test for Residual Autocorrelation .....	82
4.12 Granger Causality Test.....	83
4.13 Conclusion .....	85
 <b>CHAPTER FIVE.....</b>	 <b>86</b>
<b>DISCUSSION OF THE FINDINGS.....</b>	<b>86</b>
5.0 Introduction .....	86
5.1 Export and Economic Growth.....	86
5.2 Foreign Direct Investment and Economic Growth .....	87
5.3 Government Spending and Economic Growth .....	87
 <b>CHAPTER SIX .....</b>	 <b>88</b>
<b>CONCLUSION AND RECOMMENDATIONS .....</b>	<b>89</b>
6.0 Introduction .....	89
6.1 Summary .....	89
6.2 Conclusion .....	90
6.3 Policy Implications and Recommendations .....	91
6.4 Limitation of the Study .....	92
6.5 Suggestions for Further Research .....	93
<b>REFERENCES .....</b>	<b>94</b>

## LIST OF TABLES

Table 3. 1: Variable Description .....	54
Table 4. 1: Descriptive Statistics Results .....	59
Table 4. 2: Jarque-Bera Test .....	65
Table 4. 3: Correlation Test Results.....	66
Table 4. 4: Selection-Order Criteria.....	67
Table 4. 5: Unit root at the level .....	69
Table 4. 6: Unit Root at First Difference .....	70
Table 4. 7: Unit Root at Second Difference.....	71
Table 4. 8: Johansen Test for Co-integration Results .....	72
Table 4. 9: Heteroscedasticity Results .....	74
Table 4. 10: Correction of Heteroscedasticity.....	75
Table 4. 11: Autocorrelation Test Results.....	76
Table 4. 12: Correction of Autocorrelation Test Results .....	77
Table 4. 13: Multicollinearity Results.....	78
Table 4. 14: Regression Analysis Results .....	79
Table 4. 15: Vector Error Correction Model.....	81
Table 4. 16: Lagrange-Multiplier test .....	82
Table 4. 17: Granger Causality Test Results.....	84

## **LIST OF FIGURES**

Figure 2. 1: Conceptual Framework.....	45
Figure 4. 1: The Graph of GDP Trends.....	61
Figure 4. 2: The Graph of Government Expenditure Trend.....	62
Figure 4. 3: The Graph of Foreign Direct Investment Trend.....	63
Figure 4. 4: The Graph of Exports Trend.....	64

## LIST OF ABBREVIATIONS OR ACRONYMS

3SLS	Three Stages Least Squares
ADF	Augmented Dick-Fuller
ARDL	Auto Regression Distributed Lag
BEA	The Bureau of Economic Analysis
BOT	Bank of Tanzania
BRICS	Brazil, Russia, India, China and South Africa
C	Consumption
DF	Dickey-Fuller
DR	Doctor
EAC	East African Community
ECM	Error Correction Model
EPZ	Export Processing Zones
EU	European Union
EXPO	Export
FDI	Foreign Direct Investment
G	Government Purchases
GDP	Gross Domestic Product
GE's	Government Expenditures
GMM	Generalized Methods Moments
GOVTEXP	Government Expenditure
I	Investments
IPAs	Investment Promotion Agencies
LM	Lagrange Multiplier
MNCs	Multinational Corporations

MNES	Multinational Enterprises
MoFP	Ministry of Finance and Planning
NBS	National Bureau of Statistics
No	Number
NX	Net Export
OECD	Organisation for Economic Co-Operation and Development
OLS	Ordinary Least Square
PI	Private Investment
PPPs	Purchasing Power Parities
R & D	Research and Development
SAP	Structural Adjustment Program
TRA	Tanzania Revenue Authority
TZS	Tanzania Shilling
UDOM	The University of Dodoma
UNCTAD	United Nations Conference on Trade and Development
URT	United Republic of Tanzania
US\$	United States Dollar
USD	United States Dollar
VAR	Vector Auto Regression
VIF	Variance Inflation Factor
Y	Gross Domestic Product (GDP)

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Background Introduction**

Economic growth normally refers to an unceasing process where the productive ability of a nation is improved over time to increase the level of national output (Mtaturu, 2016). It simply implies the growth in real Gross Domestic Product (GDP) over time, it is observed from a wider outlook which encompasses an increase in efficiency and productivity of various economic variables. Economic growth is a key theme in macro-economic as it unswervingly affects the economy welfare (Akindele, 2010).

The economic growth of any state is a function of numerous drivers such as foreign direct investments, exports, government expenditures and capital formation (Albiman & Nn, 2016). There exists continuously debate amongst scholars on the causal link among economic growth, exports, foreign direct investment, capital formation, and government expenditure. The chief concern is whether there exists a significant contribution of such components towards economic growth. A vast literature has indicated such a relationship from several nations.

In addition, capital formation is among the vital engine towards attaining economic growth of most nations. However, capital formation refers to the process of adding physical capital stock to the economy (Akindele, 2010). The capital formation can be attained through the accumulation of capital arising from saving and investments. Economic growth arises when there are capital accumulation and technology transformation which improve labour efficiency and population growth which rises the economy's labour supply. The theories of international trade suggest that trade



plays a significant role in capital formation as it increases specialization in production leading to efficient productions and optimal resources allocations. Furthermore, a neoclassical growth theory led by Solow claims that “capital formation is a core factor of growth and has a long-run association with economic growth” (Akindele, 2010). Similarly, new growth theories stress the strong relationship and causality amongst capital formation and economic growth through investments in human and physical capital in the long-run (Dritsakis, Varelas, & Adamopoulos, 2006).

Moreover, based on the classical economic theory coined from Adam Smith and David Ricardo, Export is viewed as an engine for the economic growth of diverse economies as it generates foreign currencies required for importation of goods which are not produced domestically (Mtaturu, 2016). However, Export is simply defined as the selling of the product to another country. There exists a huge literature that identifies the connection as well as the focal point of causation between the country’s exports and the country’s economic growth. A positive association among economic growth and exports has been recognized in different countries by numerous researchers (Iqbal, Hameed, & Devi, 2012).

Contrary, countless studies have not identified any positive link among economic growth and exports. The affiliation of causality from exports to economic growth is known as export-led growth. The relationship among exports and growth is regularly accredited to the probable positive spillovers for the local economy resulting from involvement in global markets, for example from the reallocation of prevailing possessions, economies of scale as well as various labour training effects.

For several eras, foreign direct investment (FDI) has been regarded as the main basis of capital accumulation that leads to economic growth in most of the developing nations, thus these countries' design policies that get rid of trade barriers to fascinate more inward foreign direct investment. Most of the discoveries support foreign direct investment to be a central reagent for growth (Pegkas, 2015; Vu, Gangnes, & Noy, 2008; Weinhold, Nair-Reichert, & Weinhold, 2001; Yao & Wei, 2006), others approved foreign direct investment to have growth effect in the economy only with well-built financial system and a high level of human capital. Furthermore, certain empirical discoveries do not hold the view that foreign direct investment has a positive force on development (e.g. (Duasa, 2007; Kholdy, 1995; Mohamed, Singh, & Liew, 2013).

In the view of the above, evaluating economic growth and its relationship with exports, foreign direct investment and government expenditure in Tanzania is a vital step in identifying the causal relationship that exists among these variables, detecting which variable cause the other and also the direction of the causation. There is some literature dealing with the relationship among these variables for Tanzania (like (Bomani, 2013; Kioi, 2003; Usiri, 2014) ). The United Republic of Tanzania is considered as one of the lowliest countries in the world unveiling features of weak economies with prevalent poverty (Mandalu, Thakhathi, & Costa, 2018).

Tanzania made substantial efforts in improving its trade and investment climate with a sight to fascinate more exports and foreign direct investment to her economy over the past decades. Most important policy and structural economic reforms that have been commenced since the mid-1980s intended at enlightening trade and investment climate in the nation. It includes policy and structural reforms that directed in

refining trade, business and investment environment in the country. Empirically, these reforms and policies shown that “there was an increase in foreign direct investment inflows into the country in recent years” (URT, 2013). “Tanzania’s relative success in attracting FDI to her economy reflects the soundness and relevance of this development path undertaken” (United Nations Industrial Development Organization, 2014).

Also, the National Export Strategy was introduced due to exports to perform below expectations. The intention of the strategy was to “critically assess recent export performance and trends, highlights obstacles to increased export competitiveness, establish priorities for the years ahead and form a partnership between the public and private sectors aimed at realising the goal of accelerating Tanzania’s export performance” (URT, 2009). Furthermore, “Tanzania has sustained 6-7 percent Gross Domestic Product growth since the last 1990s due to relatively stable political environment, reasonable macroeconomic policies, structural reforms, resiliency from external shocks and debt relief. Additionally, growth in Tanzania has been driven primarily by transportation, communications, agriculture, manufacturing, electricity, wholesale and retail trade, real estate and business services” (U.S. Department of Commerce, 2018).

Tanzania economy has gone through major fluctuations since the policy transformations of the 1980s. The motivating force behind these economic transformations was the increased openness of the Tanzanian economy to globalization. In the process, Tanzania has changed from low growth to a high growth economy. Tanzania economic growth has accelerated significantly in recent years (Wuyts & Kilama, 2014). In Tanzania economic growth displays a growing

trend. Since 2005 Tanzania GDP annual growth rate be around 7 per cent whereas in 2018 was also 7 per cent (URT, 2019).

Referable to the volume of the financial crisis and monetary values of exports chop down, flows of capital and investment fluctuated, tourism and demand for its products fell as easily. Also, since 2005 the value of the foreign direct investment has improved, averaging USD 603 million annually. The biggest share of foreign direct investment inflows goes to mining and tourism (URT, 2010). Tanzania has boarded on discovering policies that will stimulate economic growth through increased foreign direct investment inflows, exports and government expenditure. Since the mid-1990s laws have been put in place to oversee the efficient operation of private sector-led the market economy. According to IMF (2013), economic growth in Tanzania is driven by financial intermediation, transport and communications sector, real estate, businesses, mining and manufacturing industries. These sectors necessitate satisfactory investments, thus exports, foreign direct investment inflows and government expenditure will link the investment resource gap and through its appeared advantage lead to the growth of all these sectors and general economic growth (Kabarole, 2015).

### **1.1 Statement of the Problem**

There exists a vast literature on the association amongst exports, foreign direct investment, government expenditure and economic growth (Kolawole & Odubunmi, 2015). However, these studies tell the association among these variables, but the relationship between these variables is not clearly known. The purpose of this study was to observe the link among economic growth, exports, foreign direct investment and government expenditure in Tanzania as various studies revealed a contradicting

relationship between these variables. Few studies have indicated the link among exports, foreign direct investment and government spending on economic growth but no consensus has been reached in relation to the causal effect between these variables on economic growth. For instance, a study conducted in Tanzania by Kyissima et al., (2017) to inspect the association among economic growth and government spending opined that in the long run there is positive association while in the short run there is a negative association. Also, Makwandi and Raphael (2018) showed that government spending has a significant effect on economic growth both in the short run and long run in Tanzania.

Then once more, various studies have been taken to examine the causal link among economic growth and foreign direct investment from Tanzania coming up with numerous finishes. For instance, the study conducted by Missama (2010) testing factors affecting foreign direct investment inflows to agriculture has a negative relationship with growth domestic product. Moreover, Asajile (2014) tested the effect of foreign direct investment inflows on economic growth and exposed that there exists a long-run association among economic growth and other variables. Lema and Dimoso (2011) explored the causal link between foreign direct investment inflows and economic growth for Tanzania proved that there is a bilateral causality between foreign direct investment inflows and economic growth. Moreover, the effect of foreign direct investment on agricultural productivity and poverty reduction are observed by Msuya (2007) portrayed that “foreign direct investment has a positive effect on productivity particularly to smallholder farmers”. Kabarole (2015) revealed that foreign direct investment inflows, export trade, gross capital formation and educated labour in conjunction influencing economic growth in Tanzania when

examined empirically the link among foreign direct investment and economic growth.

Additionally, there are numerous studies that have been piloted outside Tanzania. For example, Columbia confirmed that there exists sturdy evidence on the causal effect of foreign direct investment on Cambodia's gross domestic product implying that foreign direct investment granger causes gross domestic product (Sothan, 2017). Furthermore, a study conducted to scrutinise the determinants of economic growth in Greece found a unidirectional causal association among foreign direct investment and economic growth (Dritsakis et al., 2006). Additional studies have indicated the causal link among government expenditure on economic growth while others find no clear causal link among them (Albiman & Nn, 2016).

Akindele (2010) to explore the causal link amongst capital formation and economic growth revealed that gross capital formation has a positive association with economic growth both in the short run and long run and the causality was uni-directional. In addition, strong causality from economic growth to capital formation has been observed from most of the Middle East and North Africa Nations where gross capital formation does not have any significant impact on gross domestic product meaning that it is the gross domestic product that drives capital formation in these countries (Mehrara & Musai, 2013). Contrary, it has been found that capital formation has long run affiliation on growth and granger causes economic growth (Albiman & Nn, 2016).

Though foreign direct investment, capital formation, exports and government spending have been witnessed to perform a vigorous role in increasing economic

growth worldwide, yet the causal link among these variables is still debatable. This study, therefore, aimed at contributing to the literature by exploring the causal effect among foreign direct investment, exports and government spending on economic growth in the context of the Tanzanian economy.

## **1.2 Objectives of the Study and Research Questions**

### **1.2.1 General Objective**

This study's general objective was to investigate the economic growth and its relationship with exports, foreign direct investments, and government expenditure in Tanzania.

### **1.2.2 Specific Objectives**

In particular, the study was aimed at:-

- (i) To examine the effect of exports on economic growth in Tanzania.
- (ii) To study the relationship among foreign direct investment on economic growth.
- (iii) To test the relationship among government spending (Gross national expenditure) and economic growth.

### **1.2.3 Research Questions**

- (i) Does there exist a link among exports and economic growth?
- (ii) Does there exist a relationship among foreign direct investment and economic growth?
- (iii) Does there exist a relationship among government spending (Gross national expenditure) and economic growth?

## **1.3 The Significance of the Study**

The results of this study will have crucial implications for the government and policy-makers' decisions on the suitability growth approaches and policies to adopt. This identification of the causal link among exports, government expenditure, foreign direct investment and growth will help the government to have informed decision making on where the government should exert more efforts to improve the economic growth of the Nation. Moreover, the study will enable the expansion of the body of knowledge in public, academicians and professionals also will provide a platform for other researchers and academicians for further studies on this subject, basing on findings and recommendations. Furthermore, the study will be important to the researcher since it will be a partial fulfilment for the accolade of the degree of Master of Arts in Economics at the University of Dodoma (UDOM).

#### **1.4 The Organization of the Study**

This study is structured and set in six chapters. Chapter one includes a comprehensive introduction, statement of the problem, objective of the study, research questions and the significance of the study. In details, Chapter two explains the literature review of the study, conceptual, theoretical and empirical frameworks. Furthermore, Chapter three presents the methodology used in the field. Moreover, Chapter four presents the results and findings. Chapter five highlights the discussion of the findings. Chapter six presents conclusions and recommendations of the study based on the results and findings.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**



This chapter presents the conceptual, theoretical and empirical literature on economic growth, exports, foreign direct investment and government spending. It first presents the meaning of key terms used in the study, the determinant of economic growth, trends of economic growth in Tanzania and the trends of government spending in Tanzania. The second section goes over the theory and discloses the theoretical basics that underlie the subject. The theoretical representations of the models are described, and the final section deals with the empirical reviews and conceptual framework.

## **2.1 Definition of Key Terms**

### **2.1.1 Economic Growth**

Conferring to classical economists, “economic growth depends on not only main inputs such as land, labour, capital, technology but also depends on social, economic and political structures” (Ucak, 2015). Also, Leszek Balcerowicz defines economic growth as “a process of quantitative, qualitative and structural changes with a positive impact on the economy and on the population’s standard of life whose tendency follows a continuously ascendant trajectory” (Balcerowicz & Rzońca, 2015). Denison (1962) confirmed that “economic growth is the increase of real GDP or GDP per capita, an increase of national product that is measured in constant prices” (Beckerman, 1962). Moreover, Gisore et al., (2014) defined economic growth as “sustainable growth in real GDP” (Gisore et al., 2014).

Economic growth “is the process of increasing the sizes of national economies, the macro-economic signals especially the GDP per capita in an ascendant but not essentially linear direction with positive effects on the economic social sector”

(Haller, 2012). It “is a complex long-run phenomenon subjected to restrictions like the extreme rise of population, inadequate resources, inadequate infrastructure, ineffective utilization of resources, undue governmental intervention, and institutional and cultural models that make the increasingly difficult”. Economic growth is attained by effective use of the existing resources and by accumulating the volume of production of a nation. Usually, economic growth can be positive, zero or negative in one way and in the other (Haller, 2012).

According to Haller (2012), “positive economic growth is noted when the annual regular rhythms of the macro indicators are higher than the average rhythms of growth of the population”. Zero economic growth “is when the annual average rhythms of growth of the macroeconomic indicators, particularly GDP are equal to those of the population growth”. Negative economic growth occurs when population growth patterns are higher than those of the macroeconomic indicators (Haller, 2012).

Economic growth is influenced by both direct and indirect factors. Direct factors include human resources like increase inactive population and investing in human capital, natural resources like land and underground resources, and the increase in capital hired or technological progressions. Indirect factors include institutions like financial institutions and private administration, the extent of the aggregate demand, saving and investment rates, effectiveness of the financial system, budgetary and fiscal policies, migration of labour and the efficiency of the government (Boldeanu & Constantinescu, 2015).

### **2.1.2 Government Expenditure**

Government expenditure refers “to expenses incurred by public authorities, central states and local on its several activities”. Its activities comprise the primary accomplishments as the civil administration and defence of the country. Government expenditure is also known as public expenditure and is often divided into three main types. It can be categorised as current expenditures, capital expenditures and transfer payments. Moreover, the government expenditure can be further categorized into numerous subcategories as follows: general administration services, education and training, health care, defence, public debts repayments, infrastructure, economic affairs and others (Maingi, 2017).

Current expenditures openly gratify individual or collective needs of the members of the community; capital spending envisioned to generate future benefits such as infrastructure investment in transport, communication, health, education, and defence; and transfer payments is the expenditure that does not comprise transactions of goods and services but instead signify transfers of money such as social security payments, pensions and unemployment benefits (Agenor & Moreno-Dodson, 2006; Maingi, 2017).

Generally, there are five (5) canons of public expenditure as follows: the canon of maximum social benefit. This means that the government should plan its expenditure in a way as to encourage the greatest good of the greatest number; canon of the saving. It proposes that the regime should be frugal in spending; canon of authority. It entails that the government before incurring any expenditure on any item should obtain the proper authority and blessing of the competent government agency. In a most democratic country, the competent government agency is the Legislature whereby the government delivers its budget so as to get approval in order to incur

expenditure; canon of surplus or a balanced budget. The regime must avoid resort to deficit financing as far as possible; canon of flexibility or elasticity. It means that the expenditure may be enlarged or reduced according to the demand of the time. At the time of crisis, the expenditure should be cut down and at the time of prosperity, the expenditure can go up (Agenor & Moreno-Dodson, 2006; Maingi, 2017).

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

Gross Domestic Product (GDP) is among the measures of national income and output for the economy of a given country over a given time period (Kira, 2016). The Bureau of Economic Analysis (BEA) gives a clear definition for GDP as “the value of the goods and services produced by the nation’s economy less the value of the goods and services used up in production. GDP is also equal to the sum of personal consumption expenditures, gross private domestic investment, net exports of goods and services, government consumption expenditures and gross investment” (Dyan & Sheiner, 2018).

GDP is the ordinary measure of the value of final goods and services produced by a nation during a stop. Since GDP is the only most important index to capture these economic activities, it is not a full amount of society’s well-being and simply a qualified amount of people’s material living standards. Countries calculate GDP in their own currencies. In parliamentary law to compare across countries, these estimates have to be changed over into a common currency. Often the conversion is made using current exchange rates, but these can give a deceptive comparison of the three volumes of final goods and services in GDP. A better method is to apply purchasing power parities (PPPs) which are currency converters that control for dissimilarities in the price levels of products among countries and so agree on an

international comparison of the sizes of GDP and of the magnitude of economies (OECD, 2009).

Prof. Wyatt Brooks defines GDP as “the market value of all final goods and services produced within a country in a given period of time usually a year or a quarter. It includes only final goods which comprise of tangible goods like clothes, beer, laptops and intangible services like concerts, mobile phone services and dry cleaning. It also includes currently produced goods and not goods produced in the past”. Gross Domestic Product also measures the value of production that takes place inside a nation’s borders, whether it is achieved by own people or foreigners situated in the country. Gross domestic product is classified into four (4) components, that includes consumption (C); investment (I); government purchases (G); and net exports (NX) (Brooks, 2014; Eurostat, 2011). These components add up to GDP which is denoted by Y. mathematically it was written as follows:

$$\mathbf{Y = C + I + G + NX}$$

Moreover, the gross domestic product does not measure the quality of the environment, leisure time, non-market activities such as childcare at home supported by a mother, and equitable distribution of income (Brooks, 2014; Eurostat, 2011).

Real GDP grew by an average of about 7 per cent annually from 2001-07 which is more than double the average of about 3 per cent in the 1980s and 1990s (Nord, Sobolev, Dunn, & Hajdenberg, 2009). According to National Bureau of Statistics (2018), Gross Domestic Product grew at 4.5 per cent in 2012, 6.8 per cent in 2013,

6.7 per cent in 2014, 6.2 per cent in 2015, 6.9 per cent in 2016 and 6.8 per cent in 2017 (URT, 2018). Moreover, in 2018 Tanzania's Gross Domestic Product grew at 7 per cent annually. This growth was further exacerbated by the increase in investment, especially in infrastructure such as the construction of roads, railways and airports; dependence of availability of electrical energy; improvement of transportation services; and good climatic conditions for agriculture. Sectors with high levels of growth include: 13.7 per cent art and entertainment; construction 12.9 per cent; transportation and storage 11.8 per cent; and information and communication 9.1 per cent (URT, 2018, 2019).

#### **2.1.4 Foreign Direct Investment (FDI)**

Foreign direct investment (FDI) “is an integral part of an open and effective international economic system and a foremost catalyst to development” (OECD, 2002). As a significant form of international capital transfer, foreign direct investment has risen dramatically over the past decade (Froot, 1993). Conferring to the IMF and OECD definitions, “foreign direct investment reflects the aim of obtaining a lasting interest by a resident entity of one economy in an enterprise that is resident in another economy. The lasting interest implies the existence of a long term relationship between the direct investor and the direct investment enterprise and a significant degree of influence on the management of the latter” (Duce, 2003).

The direct investment includes both the preliminary transaction creating the partnership among the investor and the enterprise and all consequent capital transactions among them and amongst allied enterprises both incorporated and or not

(Duce, 2003). In increase, foreign direct investment “is an investment in the kind of a controlling ownership in a business in one country by an entity founded in some other state. It is also an investment in a business by an investor from another country for which the foreign investor has control over the company purchased” (Maskus, 2004).

Commercial enterprises which create foreign direct investments are regularly called multinational enterprises (MNEs) or multinational corporations (MNCs). This enterprise may get to direct investment or acquire a foreign firm. Roughly, Foreign direct investment includes mergers and acquisitions, reinvesting profits earned from overseas operation, intra company loan and building new facilities (Maskus, 2004; Maskus & Okediji, 2010). FDI can be categorized as a horizontal, platform and vertical foreign direct investment. Horizontal FDI arises when a firm copies its home country-based undertakings at the same value chain stage in host nation through FDI; vertical FDI occurs when a firm via FDI moves upstream or downstream in altered value chains; and the FDI system guides investment from a source country to a destination country for sale to a third country (Demir & Sayek, 2008; Protsenko, 2004).

Forms of the foreign investment are research and development support, low corporate tax and individual income tax rates, tax holidays, investment financial subsidies, free land or land subsidies relocation and expatriation, bonded warehouses, preferential tariffs, specific economic zones, Export Processing Zones (EPZ), other types of tax concessions, energy, Governmental Investment Promotion Agencies (IPAs), infrastructure subsidies and derogation from regulations (Dhar & Joseph,

2012). FDI is the most significant amongst the different channels of technology transfer.

It is defined as “act of establishing or acquiring a foreign subsidiary over which the investment firm has substantial management control” (Dhar & Joseph, 2012). Firms which take part in FDI are multinational companies (MNCs) according to the definition. Generally, “FDI is observed less as a source of finance and more as a source of technology or knowledge-based assets. Because the capital prerequisite in the investment may be raised from the host country of global financial markets or even from local capital markets of the home country” (Dhar & Joseph, 2012; Maskus, 1998).

According to UNCTAD (2019) foreign direct investment inflows in Tanzania stood US\$ 1.1 billion in 2018 signifying an 18% rise compared to 2017 (US\$ 938 million) and a 30% decline from the peaks reached in 2015 at US\$ 1.56 billion. The oil and gas industry, mining sector as well as the primary agricultural products sector (coffee, cashew nuts and tobacco) drew most FDI. The top five providers of FDI in Tanzania are South Africa, The UK, Kenya, Canada and China (UNCTAD, 2019).

### **2.1.5 Export**

An export “is a function of international trade whereby goods produced in one country are shipped to another country for future sale or trade. Exports are a crucial component of a country’s economy as the sale of such goods adds to the producing nation’s gross output”. Additionally, “exports are the goods and services produced in one country and purchased by residents of another country”. Exports are one component of international trade. When the country exports more it has a trade



surplus. The government encourages exports as it increases jobs, bring in higher wages and raise the standard of living for residents.

Likewise, exports add to the foreign exchange reserves detained in the nation's central bank. Aliens pay for exports either in their own currency or the host country. The country can increase export through the use of trade protectionism, which consists tariffs and subsidies, by negotiating trade agreements by reducing interest rates and by printing more currency or purchasing foreign currency to make its value higher.

The economy hinges on agriculture, which accounts for other than one-quarter of GDP, delivers 85 per cent of exports and hires about 65 per cent of the workforce. Exports of goods went down (largely cashew nuts and manufactures), while imports went up steeply (mainly capital goods). In 2017 exports was US\$ 5.194 billion and exports partners are Switzerland 15.1%, India 13.8%, South Africa 12.4%, China 7%, Kenya 6.2%, Democratic Republic of Congo (DRC) 5.7% and Belgium 5.6% (URT, 2019).

## **2.2 The Determinant of Economic Growth**

There are various components that influence economic growth and determine income growth in African economies including Tanzania. The causal factors of economic development are interrelated factors influencing the maturation pace of an economy. There are "six major factors that determine growth with four of them been grouped undersupply determinants and the other two are efficiency and demand". The four supply factors are natural resources, capital goods, human capital and technology and

they have a direct impact on the value of goods and services supplied (Boldeanu & Constantinescu, 2015).

Factor accumulation and technical progress: “Accumulation of physical and human capital, efficiency in resource allocation, and the ability to take and apply innovative technology are basic determinants of growth in any economic system. The policy question, which is relevant here, is how the surroundings should be devised to facilitate the collection of production components and their efficient allocation as well as the presentation of better technologies. The consensus vision today is that economic policies at the micro level should aspire to develop and sustain efficient markets, while macro policy must be geared to promise macroeconomic stability” (Boldeanu & Constantinescu, 2015).

Institutions and transaction costs: “An effective economic system needs an effective set of establishments that can have low economic transaction costs. In African economies doubt is high, that hinders transactions and brings down the extent for specialization. Uncertain ownership conditions incline people to avoid long term contracts and to use little fixed capital. A government, which is primarily concerned with its own survival, is unlikely to set up institutions and rules that are good for economic growth” (Boldeanu & Constantinescu, 2015).

Governance and politics: “It is becoming more and more apparent that the influence of politics on economics in African economies is of strategic importance to growth prospects. Many policy interventions undertaken have been discretionary, which has paved the way for the high level of corruption and rent-seeking in Africa (Bigsten, 1993). Many interventions were well intended, but the elite has also used the system

to allocate rents as a means of securing their power positions” (Bigsten & Moene, 1996; Hammouda & Jallab, n.d.).

### **2.2.1 Some Cross-Country Evidence**

Numerous cross country studies concerning the causal factors of growth in Africa have been borne out in latest years. Rodrik (1998) finds out that “the quantity of ethnic disintegration or openness is not significant when the variation of growth within Africa. Instead, human capital, fiscal policy and demography (fundamentals) and convergence factors which elucidate intra-country variation”. Sachs and Warner (1997) highlight the role of secure trade policy and geographical factors as the leading deterrents of poor growth. Easterly and Levine (1997) point the significance of ethnic disintegration and the poor quality of infrastructure in the description of poor African growth performance.

Bigsten and Danielsson (1999) put out growth-determining factors are an investment in human and physical capital, technical progress and efficiency of resource allocation. Variations in these factors do in turn depend on the character of the policy environment on institutions and on governance. Consequently, investment rate, relative prices (exchange rate), accumulation of skills through education, institutional structures, macro-economic stability in terms of budget balance, the quality of governance, external balance and monetary stability are variables to consider (Bigsten & Danielsson, 1999).

Economic growth measured by GDP means “the increase of the growth rate of GDP, but what determines the increase of each component is very different. Employment rates, exchange rates, capital formation, public expenditure, private or public

investment have different impacts on economic growth and we should take into account that these determinants have different implications if the states are developed or not. Also, there are socio-political factors and events that have a major influence on the economic advancement of a country” (Boldeanu & Constantinescu, 2015).

Moreover, it exists the variations among economic and non-economic determinants. Economic determinants refer “to factors like capital accumulation, labour and technological progress and non-economic refers to factors like government efficiency, political and administrative systems, institutions, cultural and social factors, geography and demography” (Acemoglu & Dell, 2009; Boldeanu & Constantinescu, 2015).

### **2.3 Theoretical Review**

This section inspects a theoretical framework on the causality association among exports, foreign direct investment, government expenditure and economic growth. The theory entails the factors that add to economic growth over time and explore the factors that allow some nations to grow faster, some gradually and others not at all. The theories that explain the association among the variables of interest are presented below.

#### **2.3.1 The Harrod-Domar Growth Model**

This theory was developed by Harrod and Domar in the late 1930s and 1940s when most of the industrialized nations fell into deep recessions, high unemployment rate with a shrill decline in GDP (Pietak, 2015). These two authors built their theory based on the work done by Keynes who reasoned why markets fail. The main argument behind the Harrod-Domar modal is that economic growth is a result of

intensive savings and investment by firms which results in capital accumulation. As capital accumulation increases economic growth increases as well (Akindele, 2018).

This is because capital formation helps in delivering all the necessities of a growing population in third world economies. When capital formation ensures good exploitation of natural resources and the creation of diverse industries, the level of income increase and the diverse wants of the people are fulfilled, their average of living increases and their economic wellbeing increases leading to economic growth. Also, Capital formation leads to market expansion by removing market imperfections thus breaking the vicious cycles of poverty, both from the demand side and the supply side. The theory assumes the existence of a direct connection between capital accumulation (saving and investment) and economic growth. The study will employ this theory to test the causal link between capital accumulation and economic growth.

### **2.3.2 Musgrave Theory of Public Expenditure Growth**

The theory was put forward by Musgrave and Musgrave (1969), it explains that “government spending and economic growth have a direct causal relationship” (Tunde, 2016). This is because, if the demand for services provided by the public sector will rise especially in health, education and transportation sectors, the government will be constrained to afford expenditures on such services, as a result, it will raise its expenditure leading to increased economic growth (Tunde, 2016). When per-capita income is higher, especially in developed nations, after the essential needs being provided and fulfilled, the rate of public expenditure tends to decrease leading to the decrease in economic growth. The study will employ this theory to test the causal link among government spending and economic growth.

### **2.3.3 The Endogenous Growth Theory**

The theory was developed by Paul Romer in the early 1980s and 1990s. The Endogenous growth theory, put much emphasis on capital accumulation as an important determinant of economic growth (Pietak, 2015). The accumulation of capital here is considered to be through investments in physical and human capital (skills and knowledge achieved through investments in education and health) (Albiman & Nn, 2016). Capital formations refer “to the net additions of (physical) capital stock in the economy. Capital formations (investment) can have an association with the exports, since when the investment request rise, then the export demand is also raised”. Capital formation can promote economic growth by increasing the level of capital stock and endorsing internal technology (Albiman & Nn, 2016).

According to this theory, “growth is driven by the accumulation of the factors of production while accumulation, in turn, is the result of investment in the private sector. This implies that the only way a government can affect economic growth at least in the long run is via its impact on investment in capital, education and research and development”. The approach makes better-quality education as the key to achieving economic growth (Etale & Etale, 2016). The study will employ this theory to test the causality between capital formation, exports and economic growth.

### **2.3.4 The Solow – Swan Model**

This model was introduced by Solow and Swan in 1996 introduced Solow’s model in 1996 (Pietak, 2015). The model argues that, under *ceteris paribus*, saving, investment and population growth rates are central bases of economic growth. Higher saving and investment rates lead to more capital accumulation. The study will employ this model to test the causal link between foreign direct investments, capital accumulation and economic growth.

The study will base on endogenous growth theory, Solow – Swan model and Musgrave Theory of Public Expenditure Growth to explain and test the relationship that exists between economic growth with exports, foreign direct investment and government expenditure. These theories will be used due to the fact that there is no single theory that can be used to assess the association among those variables of interest.

### **2.4 Empirical Literature Review**

Relevant works of literature that include cross countries evidence and the case of Tanzania linking government expenditure, exports, foreign direct investment and economic growth are reviewed in this section. The section is divided into the relationship between government expenditure and economic growth; the relationship among foreign direct investment and economic growth; and the relationship among export and economic growth.

## **2.4.1 The Relationship Between Government Expenditure and Economic Growth**

Conferring to the existing literature, there is a large amount of evidence that displays the association among government expenditure and economic growth. The different studies that have explored the association among government expenditure and economic growth are presented below:

### **2.4.1.1 Empirical Literature in Tanzania**

The study conducted by Kyissima, Pacific and Ramadhan (2017) employed Error-Correction Model (ECM) “to examine the long run and the short-run relationship among government spending and economic growth in Tanzania over the period of 1996-2014 making the use of annual secondary time series data. Along with that, the Granger causality test is employed to determine whether government expenditures granger causes economic growth. The study found that in the long-run government expenditures have a positive relationship with economic growth and in the short run there is no positive relationship among them” (Kyissima et al., 2017).

Ruturagara (2013) employed Error Correction Model to analyse the consequence of government expenditure on economic growth in Tanzania using secondary time series annual data for the period 1970-2010. The study initiated that, government spending is positively related with economic growth (Ruturagara, 2013). Salim (2017) studied the effect of government expenditures on economic growth in Zanzibar by using secondary time series data from 2000-2013. The study employed econometric analysis and found that levels of government expenditures have a positive effect on the levels of economic growth (Salim, 2017).



Kimaro et al., (2017) uses “a panel data of 25 Sub-Saharan African low-income countries spanning from 2002-2015 to analyse the impact of government expenditure and efficiency of economic growth of Sub Saharan African low-income countries. The study executes panel unit root tests by using Im-Pesaran and Fisher ADF test. Also, it uses the Pedroni test to accomplish panel co-integration tests and Generalized Methods Moments (GMM). The study opines that increasing government expenditure accelerates economic growth of low-income countries in Sub Saharan Africa” (Kimaro et al., 2017).

Moreover, Kweka and Morrissey (2000) formulated simple growth accounting model adapting Ram (1989) to examine the effect of public expenses on economic growth by time series data on Tanzania from 1965-1996. The study showed that increased productive spending seems to have a negative effect on economic growth and consumer spending relates positively to economic growth. However, they conclude that there is a positive association among government spending on human capital and economic growth in Tanzania (Kweka & Morrissey, 2000).

Makwandi and Raphael (2018) employed the ARDL bound test to examine the effect of government spending, money supply and inflation on economic growth in Tanzania. The study used secondary information, annual time series covering the period from 1970 – 2011. The result suggested that “government expenditure has a significant effect on economic growth both in the short and long run” (Makwandi & Raphael, 2018). Kimaro (2018) questioned the effects of government expenditure and efficiency on economic growth in Tanzania used annual panel data for 20 regions spanning from 1996 – 2014 and also engaged Im-Pesaran-Shin, Fisher ADF, Poni tests, Data envelopment analysis, Keynesian hypothesis, modifies Barro’s

growth model and Generalised Methods of Moments. Verdicts exposed that increasing federal and local government expenditures, reduce economic growth. Moreover, it is publicized that federal government efficiency improves economic growth whereas local government efficiency reduces economic growth (Kimaro, 2018).

#### **2.4.1.2 Empirical Literature Outside Tanzania**

Gisore et al., (2014) used data from East African Countries to examine empirically on how government expenditure adds to economic growth in East Africa employing balanced panel fixed-effect model. The study focused on disaggregated expenditure over the period from 1980-2010. The results showed that “expenditures on health and defence to be a positive and statistically significant effect on growth while education and agriculture spending were insignificant” (Gisore et al., 2014).

Maingi (2017) used a Vector Auto Regression estimation method expending annual time series data for 1963-2008 to evaluate the consequence of government spending on economic growth in Kenya. The study exposed that “government spending on investment, health care, economic affairs, defence, physical infrastructure, education, public debt servicing, public order and national security and government spending have an effect on economic growth” (Maingi, 2017).

Kolawole and Odubunmi (2015) “employed some econometric technique including OLS, Granger Causality and Co-integration to ascertain the causal relationship among government expenditure, FDI and economic growth in Nigeria from 1980 – 2012 as well as the extent to which one variable impact on the other. They revealed that government capital expenditure positively influenced economic growth. It also,

revealed that both government capital expenditure and growth Granger caused each other, as causality flowed from growth to FDI (Kolawole & Odubunmi, 2015). Hence, the study suggested that the government of Nigeria should channel more of her expenditure on capital projects like power, energy, road, health, education and commercial agriculture in order to boost growth as well as attract more foreign direct investment into the economy” (Kolawole & Odubunmi, 2015).

Pula and Elshani (2017) used quarterly time series data spanning from 2004 – 2016 to analyse the association among economic growth and public expenditure for Kosovo. The study used Johansen Cointegration technique to inspect the long run connection among public consumption and economic growth. Also, it employed a Granger Causality method to recognize the direction of flow between variables. The study discovered that there is a long-run association between variables and there is a unidirectional causality among government expenditure and economic growth in Kosovo, furthermore, it revealed that the economy of Kosovo displayed a proof that, economic growth is being caused by public spending. However, they find that there was no evidence that economic growth causes any increased public expenditure (Pula & Elshani, 2017).

Dudzevičiūtė, Šimelytė and Liučvaitienė (2018) estimated the connection among government expenditure and economic growth in the European Union (EU) in the period 1995-2015. The study consisted of several different stages of methodology: descriptive statistical analysis was employed for the estimation of dynamics of government expenditure and economic growth indicators over two decades; correlation analysis helped to discover the associations among government consumptions (GEs) and economic growth, and Granger Causality test was applied

for modelling the link and the assessment of causality among GE and economic growth. The research point out that “eight EU countries have a significant association between government expenditure and economic growth” (Dudzevičiūtė et al., 2018).

Mercan and Sezer (2014) utilized the bounds test approach developed by Pesaran et al., (2001) in studying the effect of education spending on economic growth in Turkey sing 1979-2012 periods annual data. The study found that “there is a positive association between education expenses and economic growth” (Mercan & Sezer, 2014; Pesaran et al., 2001). Al Bataineh (2012) used the different regression model, Dicky-Fuller and Philips-Perron Unit root tests to inspect the effect of government spending on economic growth in Jordan in the periods 1990-2010. The study showed that government spending at the collective level had a positive effect on GDP growth incompatibility with the Keynesian theory (Al Bataineh, 2012).

However, Alshahrani and Alsadiq (2014) “employed annual data covering the periods from 1969-2010 to empirically examined the effects of different types of government expenditures on economic growth in Saudi Arabia. They used different econometric techniques to estimate the short and long-run effects of these expenditures on growth. The study suggested that healthcare expenditure stimulated growth in the long run (Alshahrani & Alsadiq, 2014). Yasin (2003) examined the effects of government spending, official development assistance, trade openness, private investment spending and population growth rate on economic growth using panel data from Sub Saharan African countries for the period 1987-97. The study applied full and restricted versions by fixed effects and random effects estimation technique. The results indicated that the government spending on capital formation,

trade openness and the private investment spending all have a positive and significant effect on economic growth” (Yasin, 2003).

Essentially, the study conducted by Amusa and Oyinlola (2019) engaged the Auto-Regressive Distributed Lag (ARDL) bounds testing approach in examining the connection among government consumption and economic growth in Botswana over the period 1985-2016. The study sorts the argument that “the usefulness of public spending should be gauged not only against the amount of spending but also the type of expenditure. It also displayed that, aggregate expenditure has a negative short-run and the positive long-run effect on economic growth. Furthermore, when spending has disaggregated both forms of spending have a positive short-run effect on economic growth, whereas only a long-run positive effect of recurrent spending is observed” (Amusa & Oyinlola, 2019).

Ogeh Soli et al., (2008) used Engel-Granger two-step procedure, co-integration and an error-correction model to inspect the associations among disaggregated government fiscal policy variables (private capital investment and economic growth) in Ghana as well as the similarities and differences in the effect of these variables on private investment (PI) and economic growth. The study indicated that variations in government recurrent expenditure, current government capital spending and international trade taxes are noteworthy for growth. It also revealed that “the foremost difference among the effect of fiscal policy on PI and economic growth, however, lies in the direction of effect” (Ogeh Soli et al., 2008).

In investigating the effect of government spending on economic growth, Nurudeen and Usman (2010) employed a disaggregated analysis by using co-integration and

error correction methods. The result revealed that “government total capital spending, total recurrent spending and government spending on education have a negative effect on economic growth. On the contrary, rising government spending on transport, communication and health results to an increase in economic growth” (Nurudeen & Usman, 2010). Sjöberg (2003) used data from the period 1960-20012 to observe the impact of government spending on economic growth in Sweden. The results suggested that “the government of Sweden spend too much and might inhibit economic growth” (Sjöberg, 2003).

## **2.4.2 The Relationship Between Foreign Direct Investment and Economic Growth**

Various studies have different views on the relationship among foreign direct investment and economic growth. These studies include the following:

### **2.4.2.1.1 Empirical Literature in Tanzania**

Missama (2010) used primary data and secondary data to scrutinize the factors affecting FDI flows into the agricultural sector in Tanzania employed OLS method and attitude ratings. The study revealed that FDI inflows in agriculture were negatively related to GDP (Missama, 2010). Asajile (2014) tested the dynamic associations among GDP growth rate, FDI, trade openness, inflation rate and government expenditure in Tanzania over the period 1975 – 2013 employed Augmented Dickey-Fuller test (ADF), Philip Perron and ARDL test. The study used time series data from 1975 – 2013. The study revealed that there exists a long-run association among growth and the rest of the variables in question (Asajile, 2014).

Msaraka and Hongzhong (2015) examined a nexus amongst trade openness and economic growth in Tanzania using OLS of time series secondary data encompassing a period 1971 – 2013 (forty-three years). The study revealed that there is a direct link amongst GDP growth and foreign direct investment inflows. It means that “foreign direct investment has a positive and significant effect on economic growth” (Msaraka & Hongzhong, 2015). Moshi (2015) explored the impact of foreign direct investment on the economic growth of Tanzania used time-series data for the period 1998 – 2013 by employing OLS method. The results of the study designated that “foreign direct investment in the sectors of mining and quarrying has a positive significant effect on economic growth” (Moshi, 2015).

Bomani (2013) used time-series data for 30 years to inspect the long run and causality relationships among foreign direct investment, exports and economic growth for Tanzania covering 1980 – 2010 by employing Granger causality test, vector autoregression model and Johansen test. The results depicted that there was a unidirectional causal relationship with the direction of foreign direct investment and exports to economic growth. Also, there was a unidirectional causality with the direction from foreign direct investment to exports, and therefore Granger caused economic growth and exports. It entails that foreign direct investment has a direct and indirect causality to economic growth” (Bomani, 2013).

Lema and Dimoso (2011) used secondary annual time-series data to observe the casual link amongst foreign direct investment and economic growth for Tanzania from 1970 – 2007. The study employed a Granger causality test to examine the link between the variables in question. The results proved that “there is a bilateral (two way) causality among foreign direct investment and economic growth. It also

showed that foreign direct investment inflows led to economic growth and similarly economic growth has been attracting foreign direct investment inflows” (Lema & Dimoso, 2011). Masanja (2018) used OLS estimation technique to examine the extent to which inward foreign direct investment adds to the economic growth of Tanzania analysed 1990 – 2013 macroeconomic time series data. Findings showed that foreign direct investment has a positive but insignificant contribution towards the country’s economic growth for the period under consideration (Masanja, 2018).

#### **2.4.2.1.2 Empirical Literature Outside Tanzania**

The study was done by Uwazie et al., (2015) used vector error correction model method of causality to inspect the casual relationship among foreign direct investment and economic growth in Nigeria. The study analysed annual data for the periods of 1970-2013. The results from the study are as follows: “it avowed that foreign direct investment and economic growth reinforce each other in the short run; showed that there is long-run relationship among foreign direct investment and economic growth; and also reported that foreign direct investment granger cause economic growth both in the short run and long run in Nigeria” (Uwazie et al., 2015).

In another study, Sridharan et al., (2009) also employed Vector Error Correction Model to observe the causal association amongst foreign direct investment and growth of the Brazil, Rusia, India, China and South Africa (BRICS countries) using vacant quarterly data set from 1996-2007 for Brazil, 1994-2007 for Russia, 1992-2007 for India, 1999-2007 for China and 1990-2007 for South Africa. The results discovered that “the growth leads foreign direct investment bi-directionally for



Brazil, Russia and South Africa and foreign direct investment leads to growth unidirectionally for India and China respectively” (Sridharan et al., 2009).

Etale and Etale (2016) employed vector error correction model in examining the association amid exports, foreign direct investment and economic growth in Malaysia by using secondary time series data for a period of 33 years from 1980-2013. The results obtained from the study indicated that there is a significant bidirectional long-run association among foreign direct investment inflows per capita and gross domestic product per capita. It also showed that foreign direct investment plays a vital role in the development of the Malaysian economy (Etale & Etale, 2016).

The study of Tang et al., (2008) employed a multivariate VAR system with error correction model (ECM) and the innovation accounting (variance decomposition and impulse response function analysis) techniques on time-series data from the periods 1988-2003 to investigate the casual link among foreign direct investment, domestic investment and economic growth in China. The results reported “a single-directional causality from foreign direct investment to domestic investment to economic growth and further confirms evidence of bi-directional causality between domestic investment and economic growth” (Tang et al., 2008).

Magnus and Fosu (2008) studied the causal link between foreign direct investment and GDP growth for Ghana for the pre- and post-SAP periods using annual time series data covering the period 1970-2002. The study based on the more robust Toda and Yamamoto (1995) Granger no-causality test which allows the Granger test in an integrated system. The study found no causality among foreign direct investment and

growth for the total sample period and the pre-SAP period. However, foreign direct investment caused GDP growth during the post-SAP period (Magnus & Fosu, 2008).

Onakoya (2012) examined the effect of foreign direct investment on economic growth in Nigeria adopting a three-stage least squares (3SLS) technique and macro-economic model of simultaneous equations. The results demonstrated that foreign direct investment has a significant effect on the output of the economy (FDI contributes positively to economic growth in Nigeria) but the growth effects of foreign direct investment differ across sectors (Onakoya, 2012). Also, another study conducted in Nigeria by Osuji (2015) investigated the link between foreign direct investment and economic growth using secondary time series data on the variables of interest measured on annual basis for the period 1981-2013. Autoregressive Distributed Lags (ARDL) model and bounds testing approach were used in the study. Results showed evidence that a long run (co-integrating) relationship exists between FDI and economic growth. Moreover, in the short run FDI has a small positive but insignificant effect on growth while in the long run it has a small negative and insignificant impact as according to error correction model (Osuji, 2015).

Chughtai (2014) tested the effects of FDI on economic growth in Pakistan for the periods from 1971-2013 by taking into account data on the inflow of FDI and GDP for selected 23 productive sectors of the economy through panel co-integration and Granger causality framework. The findings found the significance of FDI and economic growth with proxies of GDP with the evidence of co-integration between the variables selected. Also, the results presented the long term causality between FDI and GDP while two-way causality if found under short run, and further

identified positive significance between FDI and GDP in the overall sectoral level (Chughtai, 2014).

Fadhil and Almsafir (2015) based on a deduced endogenous growth model to examine the effect of FDI inflows on economic growth in Malaysia by through using annual time series data covering the period from 1975-2010. The study conducted Hierarchical Multiple Regression (HMR) analysis. The findings revealed that the FDI inflows together with human capital development contribute strongly to the Malaysian economic growth. Moreover, the technology spill-overs of FDI inflows are still not sufficiently combined with human capital to contribute to economic growth (Fadhil & Almsafir, 2015).

Almfraji, Almsafir and Yao (2014) scrutinized the relationship among FDI inflows and economic growth in Qatar using time series data selected from 1990-2010. Granger causality and VAR Impulse Response tests were employed in the study. The results showed that “FDI inflows and the economic growth interact with each other in a relatively long term. Moreover, the FDI inflow is positively affected by economic growth, but more sensitive to its own performance change than to economic growth. Also, the economic growth is negatively affected by the FDI inflows and more sensitive to the FDI inflows change than to the economic growth itself” (Almfraji et al., 2014).

Hong (2014) employed Generalized Method of Moments (GMM) proposed by Arellano and Bond (1991) to examine the dynamic empirical relevance among FDI and the economic growth in China and the relevant factors of FDI based on the panel data of 284 Chinese Prefecture Cities covering from 1994-2010. The study showed

that “FDI still stimulate the economic growth in China and the factors of FDI generate positive interaction with FDI and promote the output jointly in the lag adjustment process. In addition to that, trade openness does not obviously induce FDI and contribute to economic growth and the spending slow down the growth” (Hong, 2014).

Nistor (2014) employed the Durbin Watson test to examine whether there is a link amongst FDI inflows and economic growth in Romania using annual evolution data of the variables of interest covering the period 1990-2011. The results revealed that there is a correlation between FDI and economic growth. Moreover, FDI inflows had a positive influence on GDP. Therefore, the study affirmed that FDI inflows influenced economic growth in Romania (Nistor, 2014). Almfraji and Almsafir (2014) reviewed a number of researches to examine the relationship among FDI and economic growth especially the effects of FDI on economic growth from 1994-2012. The results showed that “the main discovery of the FDI-economic growth relation is significantly positive but in some cases, it is negative or even null. And within the relation exist several influencing factors such as the adequate levels of human capital, the well-developed financial markets, the complementarity amongst domestic and foreign investment and the open trade regimes” (Almfraji & Almsafir, 2014).

Abbes et al., (2015) employed co-integration and panel Granger causality tests to analyse the relationship between foreign direct investment and economic growth in 65 countries. The study used the long term panel data consisted of cross country observations for 65 countries over the period of 1980-2010 obtained from the United Nations Conference on Trade and Development (UNCTAD) database. The results showed “a disparity in terms of the relationship between the co-integration of the

panel study. Also, the findings specified a unidirectional causality from FDI to GDP which could be a good tool to prioritise the allocation of resources across sectors to promote foreign direct investment” (Abbes et al., 2015).

### **2.4.3 The Relationship Between Exports and Economic Growth**

Various studies showed different results regarding the association amongst exports and economic growth. In general, most of the studies conducted are presented below for Tanzania and outside Tanzania.

#### **2.4.3.1.1 Empirical Literature in Tanzania**

Mtaturu (2016) used time series secondary data covering 1976-2013 to analyse the causality link among export and economic growth in Tanzania through employing a Granger Causality approach. The results revealed “the existence of feedback causality amongst export and economic growth. Thus, both export and economic growth Granger cause each other for the case of Tanzania” (Mtaturu, 2016).

Additionally, Shawa and Shen (2013) employed Granger causality test to analyse the causality relationship between foreign direct investment, export and GDP growth of Tanzania used annual time data for about 33 years starting from 1980 to 2012. The results revealed that there is the existence of a long-run relationship amongst the variables in question (Shawa & Shen, 2013). Msaraka and Hongzhong (2015) inspected a nexus amongst trade openness and economic growth in Tanzania used OLS of secondary time series data incorporating a period 1971 – 2013 (forty-three years). The study showed that there is a direct inverse relationship between net export and real GDP growth. It implies that net export has a negative effect on real GDP growth in Tanzania (Msaraka & Hongzhong, 2015).

Epaphra (2016) employed OLS and Granger causality test to examine the determinants of export performance in Tanzania using secondary time series data for the period 1966 – 2015. The results proved that there occurs causal association running from the real GDP growth rate for exports. It recommended that real GDP per capital causes exports and not otherwise. Additionally, the results proposed that real per capita GDP, exchange rate and trade liberalisation has a positive effect on export performance in Tanzania (Epaphra, 2016).

Mkubwa et al., (2014) used annual time series data to analyse the effect of trade liberalization on economic growth in Tanzania covering the period 1970 – 2010. The study adopted a linear regression model by using the OLS technique. The results showed that trade liberalisation had a positive and significant effect in Tanzania (Mkubwa, Hamad et al., 2014). Kahyarara (2013) employed the famous Dickey-Fuller (DF), Augmented Dickey-Fuller (ADF) and error correction model (ECM) to examine the long-run association linking exports and growth of Tanzania manufacturing sector using time series data from 1961 – 2010. The result of the study suggested a long-run relationship amid exports and growth (Kahyarara, 2013).

Dimoso and Utonga (2019) employed Johansen cointegration and Granger causality tests to explore the causal relationship among exports and economic growth in Tanzania by analysing time series data from 1980 – 2015. The findings concluded that “in the long run there is a connection linking exports and economic growth in Tanzania and causality runs from economic growth to exports” (Dimoso & Dickson, 2019).

#### **2.4.3.1.2 Empirical Literature Outside Tanzania**

Acaravci and Ozturk (2012) investigated the casual relationship among FDI, export and economic growth for 10 transition European Countries (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia) by using quarterly time-series data from 1994-2008. The study used a two-step procedure from the Engle and Granger (1987) model. The results revealed that “there is long-run relationship and both long and short-run there is casual relationship between FDI, export and economic growth in four out of ten countries considered” (Acaravci & Ozturk, 2012).

Shawa and Amoro (2014) examined the causality association linking FDI, export, domestic investment and GDP growth of Kenya from 1980 – 2013 using cointegration and granger causality test. The study used secondary time series collected annually. The results specified that there are a long run association amongst the variables being investigated in the study (Shawa & Amoro, 2014). Keho (2017) used multivariate modelling framework a to scrutinize the relationship among exports and economic growth in Ivory Coast (Cote d’Ivoire) over the period 1965-2014. The study applied the ARDL bounds test to co-integration and Granger causality tests. The result confirms “the export-led growth hypothesis in the long run when non export GDP is considered, export cause economic growth both in the short run and long run. In addition to that, the results substantiate that exports are a major driver of the economic growth of the Ivory Coast (Cote d’Ivoire)” (Keho, 2017).

Etale and Etale (2016) employed vector error correction model in investigating the connection between exports, foreign direct investment and economic growth in Malaysia by using secondary time series data for a period of 33 years from 1980-2013. The results showed that “there is a unidirectional long-run link from exports to

FDI inflows and exports to GDP per capita” (Etale & Etale, 2016). Iqbal et al., (2012) investigated the causality among exports and economic growth of Pakistan through employing Granger causality technique by using annual time series data collected from 1960-2009 retrieved from World Bank development indicators. The results clearly signified that there exists unidirectional causality from GDP to exports in Pakistan and not vice versa (Iqbal et al., 2012).

Chimboi and Uche (2010) explored the causality relationship amongst export and economic growth in Nigeria using time series data covering 1970-2005 through employing Granger causality. They revealed that economic growth granger causes export (Chimobi & Uche, 2010). The study conducted by Jordaan and Eita (2010) investigated the causal relationship between export and economic growth for Botswana using quarterly data for 1996-2007. The study used Granger causality test and showed that there is bidirectional causality connecting export and economic growth (Jordaan & Eita, 2010).

Furthermore, Jordaan and Eita (2007) used the Granger causality approach to analyse the causality between export and GDP in Namibia for the period from 1970-2005. The results disclosed that exports granger cause GDP suggesting the application of export-led growth strategy in Namibia (Jordaan & Eita, 2007). Also, Niishinda and Ogbokor (2013) used Vector error correction model (VECM), weak exogeneity test, variance decomposition and Granger causality test to investigate the export-economic growth relationship for Namibia through using annual data which covers the period 1972-2010. The results indicated unidirectional causation from export to economic growth and suggested that economic growth is dependent on export performance in a way (Niishinda & Ogbokor, 2013).



Feddersen et al., (2017) used quarterly time series data ranging from 1975q1-2012q4 to analyse whether there is a link between exports, capital formation and economic growth in South Africa. The study employed a Granger causality approach. The results confirmed the notion that the purpose of exports in their ability to promote investment and capital formation. Exports growth openly supports higher economic growth in the short run, the long-run impact was found to lie in supporting faster capital formation, and in turn significantly increased economic growth (Feddersen et al., 2017).

Ajmi et al., (2015) used annual data to investigate from 1911-2011 the dynamic causal link among export and economic growth using both linear and non-linear Granger causality tests in South Africa. The findings illustrated no evidence of significant causality amongst exports and GDP (Ajmi et al., 2015). Furthermore, Shihab et al., (2014) used annual time series data during the period 2000-2012 to look at the relationship among economic growth and exports in Jordan using the Granger causality approach. The study found “the evidence of unidirectional causality amongst export and economic growth in Jordan and the direction of causality runs strictly from economic growth to exports” (Shihab et al., 2014).

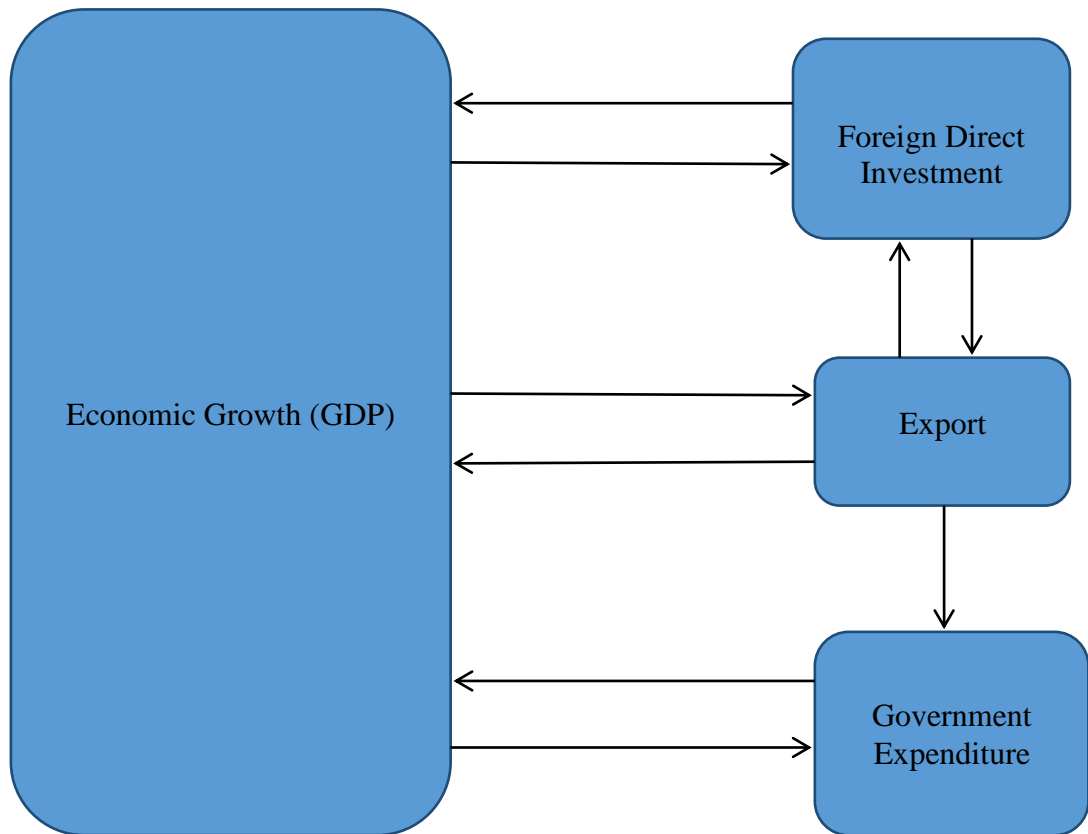
Ojo et al., (2014) used time series secondary data covering the period 1980-2012 to analyse the relationship amid agricultural export and economic growth in Nigeria. The study employed Johansen co-integration, Phillips-Peron unit root, error correction model (ECM), and vector autoregression (VAR). The results in the study exposed that “agricultural export, agricultural output, net capital flow and the world price of Nigeria’s major agricultural commodities are long-run determinants of economic expansion in Nigeria” (Ojo et al., 2014).

Simasiku and Sheefeni (2017) made use of time series quarterly data covering the period 1990-2014 to analyse the relationship amongst agricultural exports and economic growth in Namibia. The study employed the technique used by Ojo et al., (2014). The results of the study showed that “agricultural exports have a positive and insignificant impact on economic growth while non-agricultural exports have a positive and significant impact on GDP” (Simasiku & Sheefeni, 2017). It also revealed that agricultural exports, non-agricultural exports, gross domestic fixed capital formation and consumer price index are long-run determinants of economic growth in Namibia (Simasiku & Sheefeni, 2017).

Tahir et al., (2015) based on annual data drawn from World Bank (WB) data bank for the period 1981-2012 to examine export-led growth (ELG) hypothesis for Sri Lanka. The study tested the hypothesis with simple GDP and export framework and also employed the Granger causality approach. The results found that there is no short-run or long run relationship that exists amongst the export and GDP growth of Sri Lanka (Tahir et al., 2015).

## **2.5 Conceptual Framework**

Economic growth is squared up by considerable enhancements in key macroeconomic variables in the kindness of the State. Direct concerned macroeconomic variables are real GDP, government consumption, net export, total investment and total expenditure. In total investment, foreign direct investment is a crucial factor and also an investment in the capital can increase productivity and promote economic development. Export offers a root of foreign currency for acquiring capital goods and expose domestic products worldwide. There are instances where economic growth attracts foreign direct investment and stimulates manufactured exports. This study will focus on relationships between export, government spending, foreign direct investment and economic growth and also establish the direction of causality emanating from those of relationships as indicated below:



**Figure 2. 1: Conceptual Framework; Adopted and Modified From Bomani (Bomani, 2013)**

From figure 2.1 above the dependent variable is the economic growth (GDP). The independent variables are export, foreign direct investment and government expenditure for the periods from 1988-2018. As postulated by figure 2.1 above foreign direct investment may cause economic growth. Furthermore, the relationship is from foreign direct investment to economic growth; the way of association is from both economic growth and government expenditure to export; also from both foreign direct investment, exports to government expenditure; and is from both government expenditure and export to foreign direct investment.

Additionally, figure 2.1 recaps the general notion underlying the prescribed relationships amongst the variables, that from the literature reviewed several revealed that foreign direct investment can be the engine for growth by persuading economic growth and export performance while various anticipated that economic growth prejudiced foreign direct since a good execution economy guarantees stable and secured market for products manufactured produced or provided by the foreign company. Likewise, exports were found out as an economic growth rise by offering for foreign currency which is utilized to buy capital goods integrates economies and provided for use. Conversely, economic development can promote export development through expansion for production and manufacturing infrastructure development and improved human capital.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter introduces the general methodology employed in the study. It includes study area and targeted population, research design, sampling procedure, data collection and sources, data analysis, methods of estimation, validity and reliability of results, and ethical consideration.

#### **3.1 Research Design**

This study adopted a descriptive research design whereby both qualitative and quantitative approaches were used. Descriptive design was preferred because it was helpful in identifying variables that were tested and it also helped the researcher to explore and gather information on the current situation concerning issues being studied; it is a fairly comprehensive method that allows the researcher to read intensely and thoroughly different aspects of the phenomenon; saves both time and costs and has flexibility in respect to data collection methods.

#### **3.2 Area of the Study**

This study of economic growth and its relationship with exports, foreign direct investment and government expenditure was focusing on Tanzania using time series data from the period 1988-2018 (30 years). The time was considered due to the availability of the data required.

### **3.3 The population of the Study**

The targeted population of the study was all exports, government expenditure, exports, foreign direct investment (FDI) and economic growth of the United Republic of Tanzania for 30 years from 1988-2018.

### **3.4 Sampling Procedure and Sample Size**

#### **3.4.1 Sampling Procedure**

Time series data from the period 1988 to 2018 was used in the analysis of economic growth and its relationship with exports, foreign direct investment and government expenditure. The selection of the time period covered by the study was due to the unavailability of data for years before 1988, hence the period chosen due to during this time period the Government of Tanzania made various policy and structural economic reforms so as to attract exports, foreign direct investment and cut unnecessary government spending so as to promote economic growth, and also due to the availability of data.

Moreover, the study used both simple random and purposive sampling techniques in selecting particular units of the universe constitute a sample. Purposive sampling technique was used to select annual time series data covering 1988 – 2018 in order to meet the objective of the study. Ritchie and Lewis and Kumar (2011; 2003) claims that the purposive sampling technique has the belief of units to convey the best and unique information in order to fulfil the research objectives (Kumar, 2011; Ritchie & Lewis, 2003). It also calls for identifying and selecting units, individuals or groups of people that are especially knowledgeable about or felt with a phenomenon of interest” (Kothari, 2004; Ritchie & Lewis, 2003).

Simple random sampling was used in choosing variables whereby each variable was fed an equal chance of being chosen. According to Kothari (Kothari, 2004), the result obtained from random sampling can be secured in terms of probability. This fact brings out the favourable position of random sampling plan to ensure the legal philosophy of statistical regularity, which states “If the sample is randomly selected, the sample had the same composition and characteristics as the universe” (Kothari, 2004). This is a reason why random sampling is taken as the best technique of choosing a representative sample.

### **3.4.2 Sample Size**

Time series annual data have been collected from the Bank of Tanzania (BoT), and National Bureau of Statistics (NBS) covering the periods from 1988-2018. This sample was technical selected due to the availability of data for these years. Also during this period, Tanzania’s economy has changed from self-reliance and socialism to a mixed economy. Inconsistency and inaccurate data was the main problem encountered during the process of data collection. Mikesell and Zinser (1973) observed that it is very difficult to obtain accurate data on economic variables in many developing countries. These problems arise mainly from the weak institutional framework in monitoring the economy associated with poor reporting and recording (Mikesell & Zinser, 1973).

### **3.5 Data Type, Collection and Sources**

Methods of data collection are one of the basic parts of any research work. Subject to the nature of the study, secondary annual time series data from reliable sources was used. Data on FDI, export, government expenditure and economic growth were required in order to explain the causal relationship among them. Data on FDI and



exports were obtained from NBS, BOT and the Ministry of Finance and Planning (MoFP).

### **3.6 Data Processing and Analysis**

The analysis methods of this study fully based on data and information collected from the National Bureau of Statistics, Bank of Tanzania and the Ministry of Finance and Planning. Firstly, the gathered data were in an excel sheet and then was cleaned and finally transferred to STATA and E-views, statistical software for analysis. Descriptive analysis was performed and also several diagnostic tests were conducted to ensure the validity of data. During the analysis, reliability test was conducted in order to have valid results. Data was presented by using figures, charts and tables.

### **3.7 Model Specification and Variables Description**

#### **3.7.1 Model Specification**

The growth model founded by Solow (1956) has spawned a theoretical basis for growth accounting. In this sort of modelling, we can decompose the contribution to output growth of the maturation rates of inputs such as capital, FDI, government spending by incorporating vector of additional variables in the estimation equation such as exports, imports and institutional dummies. The neoclassical form of the production function is a description that assumes constant returns to scale, decreasing returns to each factor input and some positive and smooth elasticity of substitution between the inputs.

The growth accounting framework is derived from the following functional form equation.

$$Y = AF [K, L, \Omega] \dots\dots\dots i$$

Where Y, K, A, L are output, capital, labour, and efficiency of production respectively; and  $\Omega$  is a vector of auxiliary variables. In order to test the casual relationships discussed, the model takes the following form as shown below:

Function form;

$$GD \text{ ′}_t = f(GOVTEXP_t, FDI_t, EXPO_t) \dots\dots\dots ii$$

Where;

$GDP_t$  = is the real GDP per capital at time t (in USD)

$GOVTEXP_t$  = is the government spending or expenditure at time t

$FDI_t$  = is the foreign direct investment at time t

$EXPO_t$  = is the export at time t

Economic growth (GDP) is the dependent variable and exports, foreign direct investment and government expenditure are independent variables. GDP is a gross domestic product at current basic prices, FDI is the inflow of foreign direct investment in terms of USD, export is the goods and services sold outside the country and government expenditure is the total expenditure incurred by the government as explained below;

**Economic Growth**

Economic growth is the dependent variable in this study. “It is the growth in the total or per capita output of an economy regularly measured by an increase in real GDP and caused by an increase in the supply of factors of production or their

productivity” (Tunde, 2016). Different variables can be used to measure economic growth like the real gross domestic product and real output per capita. This study would substitute economic growth with growth in real per capita as it is recognized as a good measure of the economic value of a country’s income and output. Ultimately, in the model, the real GDP per capita will be the dependent variable.

### **Government Expenditure**

It is the procurement of goods and services for public consumption in the present or future. Government expenditure is the component of GDP. Most developing countries, including Tanzania, have practiced increasing levels of government expenditure over a period of time. The government expenditure is the independent variable in the study.

### **Foreign Direct Investment**

FDI “is the inflow of foreign direct investment in terms of USD”. FDI is the independent variable used in the study.

### **Export**

Export is the goods and services sold outside the country and government expenditure is the total expenditure incurred by the government. In the study, export is the independent variable.

Econometrically, the model can be as;

$$GDP_t = \beta_0 + \beta_1 GOVEXP_t + \beta_2 FDI_t + \beta_3 EXPO_t + \varepsilon_t \dots\dots\dots iii$$

Whereby:

GDP = Gross Domestic Product

GOVTEXP = Government Expenditure. This accounts for all expenses incurred by the government.

FDI = Foreign Direct Investment. The total investment inflow in the country was used to measure the amount of FDI in the economy.

EXPO = Exports. Accounts for goods and services sold outside the country.

$\beta_0 - \beta_3$  = Variable coefficient

$\varepsilon_t$  = the error term which accounts for unobservable factors that may affect the GDP

t = denotes the time dimension

Note that, the study incorporated the error term ( $\varepsilon_t$ ) that incorporates all other factors which influence the dependent variable other than the encompassed independent variables in the model. The variables of interest are described below.

### **3.7.2 Variables Description**

All the variables are required to establish a confident association with economic growth (GDP). The variables are depicted below in table 3.1:

**Table 3. 1: Variable Description**

<b>Name of the Variable</b>	<b>Description</b>	<b>Variable Code</b>	<b>Expected Sign</b>
GROSS DOMESTIC PRODUCT	Amount of goods and services produced within the country	GDP	+
GOVERNMENT EXPENDITURE	All expenditures incurred by the Government	GOVTEXP	+
FOREIGN DIRECT INVESTMENT	Inflows of foreign direct investment	FDI	+
EXPORTS	Amount of goods and services sold outside the country	EXPO	+

### **3.8 Model Estimation/Approach**

Therefore, in parliamentary procedure to analyze and determine the extent and direction of causation amongst FDI, exports, government spending and economic development, this study employs Granger causality test or attack. Granger causality test was developed by Granger (Granger, 1969) and postulated that “variable x is said to Granger cause another variable y if the past and present values of x help to predict y”. According to Gujarati (2004), Granger causality test is a suitable econometric technique to use in time series analysis to look at the direction of

causality among two economic variables (Gujarati, 2004). Other estimation techniques are discussed below:

### **3.8.1 Unit Root Test**

Given the non-stationary characteristics of most macroeconomic variables, testing the properties of these variables will become pertinent to avoid spuriousness of empirical result. In this view, this study commences its econometric analysis by taking ascertaining the stationary properties of the variables using the Augmented Dickey-Fuller (ADF) and the Phillip-Perron tests. The unit root test will be done so as to determine whether the variables are stationary or not. The null hypothesis will be rejected if the tau statistic  $|\tau|$  is greater than the critical values and conclude that the variables are stationary. But the null hypothesis of the unit root will be accepted if tau statistic is less than the critical value and concludes that the variables have unit root or non-stationary.

### **3.8.2 Co-integration Estimation**

The Engel-Granger (1987) co-integration test will be unsuitable for testing co-integration between the variables. This is because “the Engel – Granger approach based on the assumption that there exists only one co-integrating vector that connects the variables and since our model will be multivariate there will be the possibility of having more than one co-integration vector”. In light of the above weakness, the study applied the Johansen and Juselius (1990) Co-integration test to determine whether the variables are cointegrated or not. If the model will be cointegrated then Vector Error Correction Model a restricted form of Vector Auto Regression will have to be used but if not, the unrestricted model will be used. If cointegrated, the

insinuation will be that, all the variables share a common stochastic trend and will grow proportionally, in other words, a long-run association exist among them.

### **3.8.3 Vector Error Correction Model Estimate (VECM)**

Since the single equation model does not inevitably mean the direction of causation or explain the interdependence that may live between the explanatory variables themselves or how they connect to other variables (Adeleke, 2013). Consequently, the study report will employ Granger causality based on VECM to determine the direction of causation. The VECM will be favoured to the pairwise (VAR) causality when variables are cointegrated. Thus the choice of VECM based causality test will be because it classifies causality into a short run and long run which is totally ignored by VAR or pair-wise causality test” (Masih & Masih, 1997c, 1997b, 1997a, 1999).

### **3.8.4 Diagnostic Test**

The diagnostic test is guided so as to affirm the quality of the model selected and the validity of the appraisal.

## **3.9 Validity and Reliability of Results**

Validity and reliability are important concepts in research. Reliability is the consistency of research procedures or tools. The study used appropriate techniques that lead to relevant findings. Validity is “the quality that a method or a tool used in the research is precise, correct, true, meaningful and right” (Temu, 2014). This study ascertained that no wrong conclusions were prepared and observed and also saw to it that there was the accuracy of research processes and tools so as to obtain valid findings and results.

## **3.10 Ethical Consideration**

All data and information gathered for this study was used exclusively for the intention of the study and will be kept strictly secret. The names of the taxpayers and other confidential information regarding them will not be disclosed in any way. Also, the results of the study were for the intention of the study only and not otherwise.



## **CHAPTER FOUR**

### **PRESENTATION OF FINDINGS**

#### **4.0 Introduction**

This chapter gives an analytical presentation of the findings/results of the econometric analysis. Descriptive statistics, correlation analysis and regression model were performed to study the nature of the data used. To avoid the spurious effect, the data were subjected to the Augmented Dickey-Fuller (ADF) to test for stationarity or the presence of a unit root. The Johannsen co-integration test was employed to identify the number of co-integrating equations, then after a Vector Error Correction Model was performed to establish the long run as well as the short-run relationship between the variables. The study also involved various diagnostic tests such as heteroscedasticity, serial correlation and multicollinearity to analyze the data.

#### **4.1 Descriptive Statistics**

This provides the summary statistics of sample means, standard deviations and maximums on the variables that were used in the analysis. Table 4.1 below presents descriptive statistics of all variables used:

**Table 4. 1: Descriptive Statistics Results**

<b>Stats</b>	<b>Gross Domestic Product</b>	<b>Government Expenditure</b>	<b>Foreign Direct Investment</b>	<b>Export</b>
Mean	5.47	3838.95	677.40	2790.04
Max	7.8	14007.68	2087	5889.2
Min	0.4	297.96	1	504
S.d	2.07	3950.32	651.75	1920.29
Skewness	-0.92	1.04	0.64	0.26
Kurtosis	2.66	2.86	2.03	1.44
Range	7.4	13709.72	2086	5385.2
Observations	31	31	31	31

**Source: Researcher's Calculations, 2019**

**Note:** max- maximum, min- minimum and sd- standard deviation. The table above shows the preliminary analysis of the properties of data used in this study.

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

From Table 4.1 above, results show that GDP gives an average value of 5.47 with a maximum value of 7.8 and the minimum value of 0.4. GDP has the smallest standard deviation compared to Government Expenditure, Foreign Direct Investment and Export which stands at 2.07. Its range of 7.4 is also the smallest one compared to the mentioned variables. The skewness level is -0.92 while the kurtosis is 2.66.

#### **4.1.2 Government Expenditure (GOVTEXP)**

Government expenditure has a mean value of 3838.95 with 14007.66 being the maximum and 297.96 being the minimum as displayed by table 4.1 above. The difference between max and min was 13709.72 while the standard deviation is 3950.32 which is the largest compared to other variables. The level of skewness is 1.04 while the kurtosis was 2.86.

### **4.1.3 Foreign Direct Investment (FDI)**

Basing on the descriptive statistics table 4.1 above, the average value of Foreign Direct Investment is 677.40 USD millions with the maximum value of 2087 and a minimum value of 1 hence making a range of 2086. Also, Foreign Direct Investment has a standard deviation of 651.75, skewness of 0.64 and kurtosis of 2.03.

### **4.1.4 Export (EXPO)**

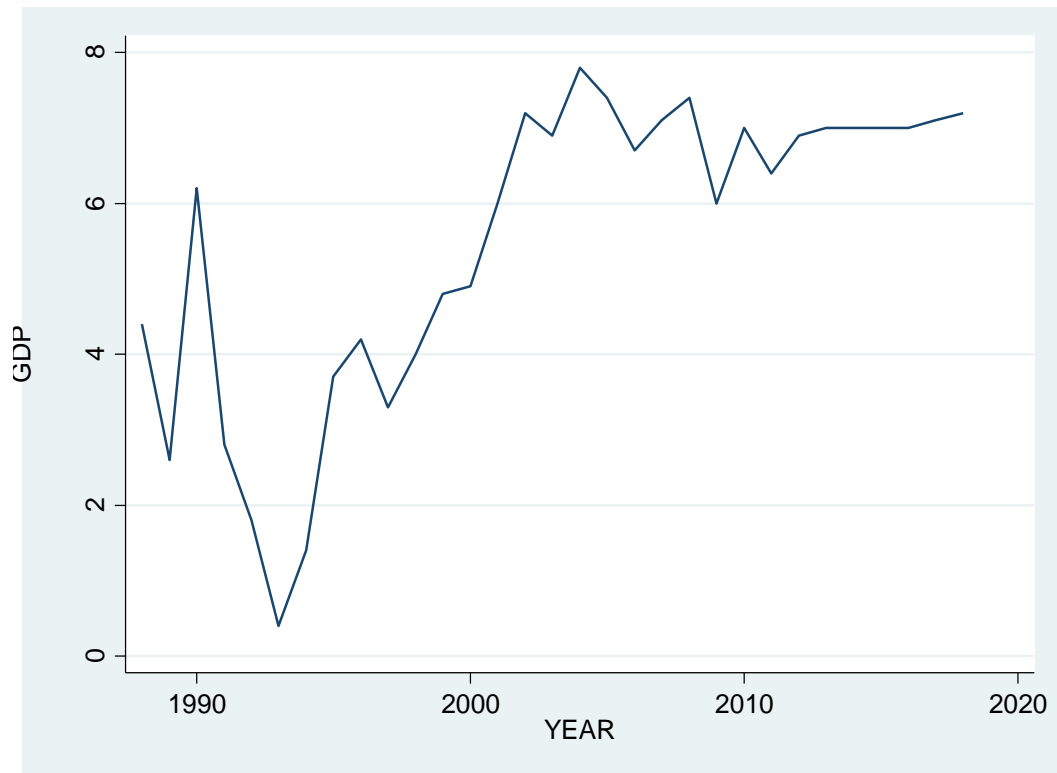
From Table 4.1 above, the variable Export gives a mean value of 2790.04 with the maximum value of 5889.2 and the minimum value of 504. Export has the standard deviation of 1920.29 with the range of 5385.2. The skewness level is 0.26 while the kurtosis is 1.44.

## **4.2 The Trend of Each Variable From 1988 – 2018**

The trend of variables has been explained below by the use of graphics and words.

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

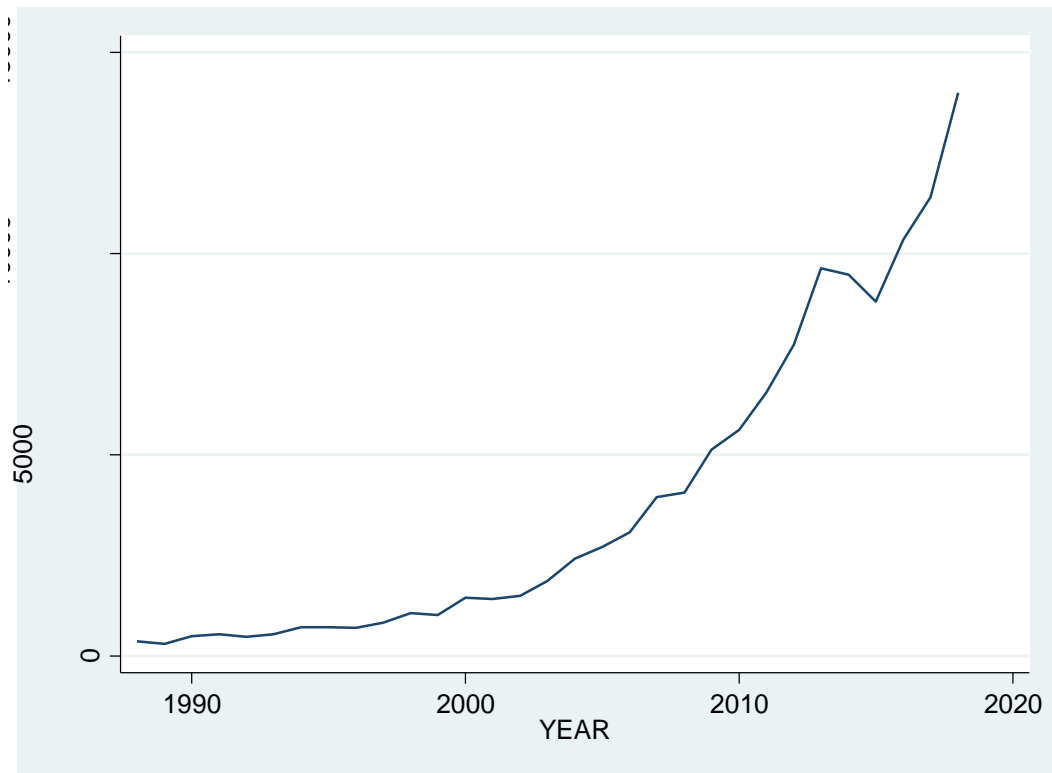
The graph of GDP is trending upward from 1988 to 2018 with minor fluctuations in some years. The amount of GDP decreased from 1988 to 1989, then rose in 1990 and fell again till 1993. In 1993 there was a severe downturn in GDP, which experienced a fall in GDP to 0.4 USD millions. On the other hand, the graph shows that in 2004 there was the highest level of GDP of 7.8 USD millions.



**Figure 4. 1: The Graph of GDP Trends**

#### **4.2.2 Government Expenditure**

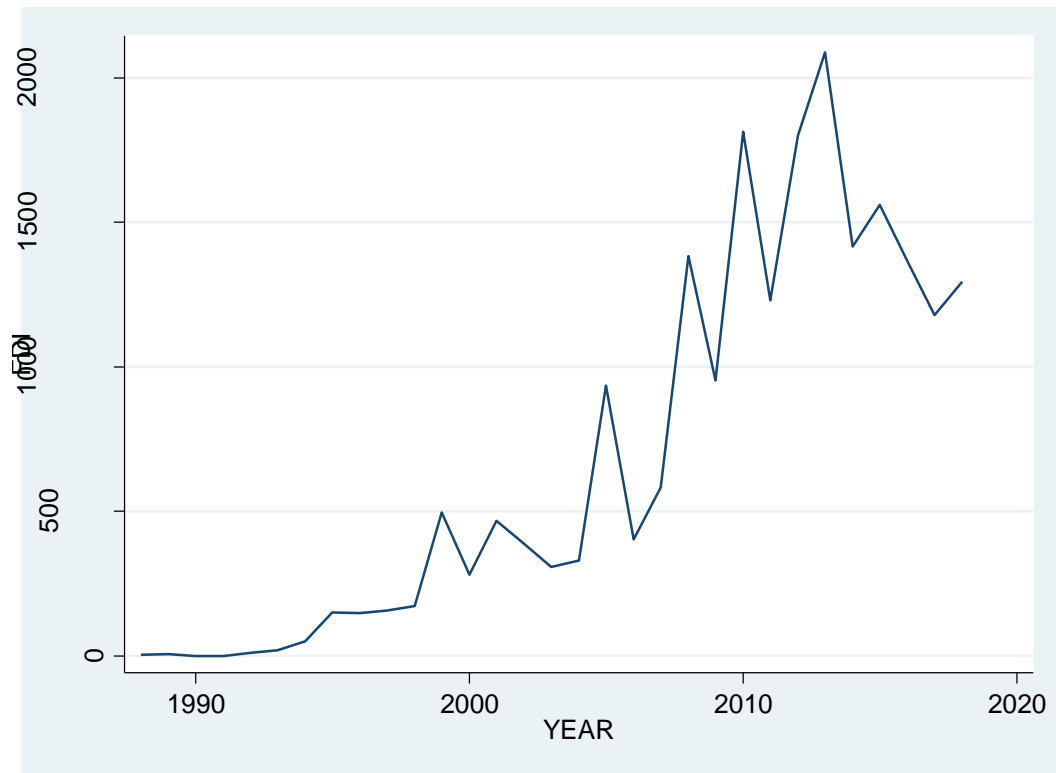
The graph for Government expenditure is increasing while trending upward with a uniform increase from 1988 to 2018. However, there was a drop from the amount of 9481.11 USD millions in 2014 to 8808.16 USD millions in 2015. The highest amount of Government expenditure was experienced in 2018 standing at 14007.68 USD millions while the lowest was 297.96 USD millions in 1989.



**Figure 4. 2: The Graph of Government Expenditure Trend**

#### **4.2.3 Foreign Direct Investment**

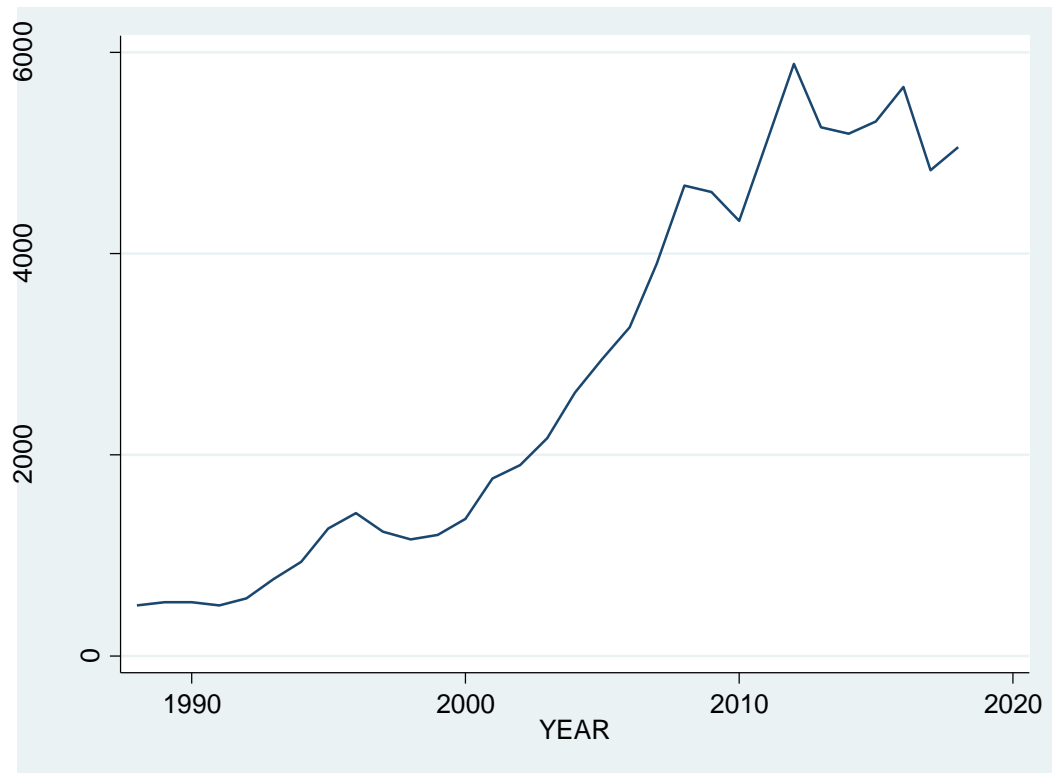
Foreign Direct Investment is increasing while trending upward with cycling up and down movements from 1988 to 2018. The graph reached a pick of 2087 USD millions in 2013 and started to drop in the following years. Also in 1990 and 1991, the lowest level of FDI of 1 USD million was experienced.



**Figure 4. 3: The Graph of Foreign Direct Investment Trend**

#### 4.2.4 Export

The graph for Export is increasing while trending upward from 1988 to 2018 with a few minor fluctuations in some years especially from 2013. USD millions. The highest level of export was 5889.2 USD millions in the year 2012 while the lowest level of Export was 504 USD millions in 1988.



**Figure 4. 4:** The Graph of Exports Trend

### 4.3 Normality Test

The normality test was done so as to ensure that all variables used during the analysis follow a normal distribution; the normality test of the Jarque-Bera was performed with the exception of skewness and kurtosis. The data are said to be normally distributed if their probability is greater than 0.05. Table 4.2 below presents the results in which the Null hypothesis; residuals are normally distributed and Alternative hypothesis; residuals are not usually broadcast.

**Table 4. 2: Jarque-Bera Test**

<b>Equation</b>	<b>chi2</b>	<b>df</b>	<b>Prob &gt; chi2</b>
D_GDP	1.004	2	0.60545
D_GOVTEXP	2.732	2	0.25512
D_FDI	3.268	2	0.19511
D_EXPO	0.134	2	0.93524
ALL	7.138	8	0.52183

**Source:** Estimation Results, 2019

The above table 4.2 shows the probability values of all variables. From the table, all the variables that have a probability greater than 0.05 are normally distributed and those variables that have a probability less than 0.05 are not normally distributed. From Table 2 above, the D\_GDP which is the target model has the probability of 0.60545 which is greater at 5% critical value, hence we cannot reject the null hypothesis hence accept that the residuals are normally distributed. Also, all other variables for D\_GOVTEXP, D\_FDI and D\_EXPO have the probabilities which are larger than 0.05 critical values which imply that the whole system is normally distributed. The next step was to perform the correlation test.

#### **4.4 Correlation Test**

The test was conducted so as to foresee if there was perfect collinearity between the variables. Multicollinearity occurs when two or more explanatory variables are correlated with each other and can cause the coefficient of these variables to be biased and insignificant. When the variables exceed 0.8 are considered highly collinear and results in multicollinearity problem.



**Table 4. 3: Correlation Test Results**

	<b>GDP</b>	<b>GOVTEXP</b>	<b>FDI</b>	<b>EXPO</b>
<b>GDP</b>	1.0000			
<b>GOVTEXP</b>	0.6039*	1.0000		
	0.0003			
<b>FDI</b>	0.6710*	0.8455*	1.0000	
	0.0000	0.0000		
<b>EXPO</b>	0.7329*	0.8970*	0.9292*	1.0000
	0.0000	0.0000	0.0000	

**Source:** Estimation Results, 2019

The correlation analysis ascertains the existence of a linear relationship between variables as well as the statistical significance of the given variable by using the correlation matrix. Table 4 above shows there are positive, highly significant correlations for all variables in the model. The correlation between GDP and GOVTEXP is 60.39% and its p-value is 0.0003 which is significant at 0.05 critical levels. The correlation among GDP and FDI is 67.10% and its p-value is 0.0000 which is less than 0.05 critical level hence become significant.

The correlation between GDP and EXPO is 73.29% and its p-value is 0.0000 which is significant at 0.05 critical levels. On the other hand, there are positive correlations between FDI and GOVTEXP, EXPO and GOVTEXP, EXPO and FDI, which are given by 84.55%, 89.70% and 92.92% respectively. Their p-values are all significant at 5% critical level. Additionally, the lag selection criteria test was conducted.

#### 4.5 Lag Selection Criteria

The exact number of lags to be included in the Johansen co-integration test was determined by Final Prediction Error (FPE), Akaike Information Criterion (AIC), Hannan and Quinn Information Criterion (HQIC) as well as Schwarz Bayesian Information Criterion (SBIC). In this section, four variables; Gross Domestic Product, Government Expenditure, Foreign Direct Investment and Export were subjected to lag selection criterion test so as to obtain the number of lags to be used in this study.

**Table 4. 4: Selection-Order Criteria**

<b>Sample: 1992 - 2018</b>									<b>Number of obs =</b>
									<b>27</b>
<b>Lag</b>	<b>LL</b>	<b>LR</b>	<b>df</b>	<b>p</b>	<b>FPE</b>	<b>AIC</b>	<b>HQIC</b>	<b>SBIC</b>	
0	-715.082				1.6e+18	53.2654	53.3224	53.4573	
1	-620.223	189.72	16	0.000	4.7e+15	47.4239	47.7093	48.3838	
2	-609.473	21.499	16	0.160	7.6e+15	47.8128	48.3266	49.5406	
3	-593.867	31.213	16	0.013	1.0e+16	47.842	48.5841	50.3377	
4	-531.262	125.21*	16	0.000	5.4e+14*	44.3898*	45.3602*	47.6534*	

**Source:** Estimation Results, 2019

Table 4.4 above shows the lags selection criterion with reference to the model and data employed in this study. After running the lag selection criterion test in order to identify the number of lags that should be used in running Vector Error Correction Model (VECM) and Johansen Co-integration test, all five criteria LR (125.21\*), FPE (5.4e+14\*), AIC (44.3898\*), HQIC (45.3602\*) and SBIC (47.6534\*) recommends

four(4) lags to be used in our model. Basing on a selection criterion, it assumed that the lower the value the better the model. Hence the lowest values in each selection criterion were chosen and indicated by a star (\*). Next stationarity test was conducted.

#### **4.6 Test for Stationarity**

It is very important to test for stationarity in the data so as to proceed with further steps in time series analysis. For the time-series data to be stationary, the t- statistic should be signed at least on the 5% critical level. In this study, the Augmented Dickey-Fuller (ADF) Unit Root Test was performed at the level, first and second difference until the data became stationary. The ADF test normally involves testing a null Hypothesis that variables are not stationary while the Alternative Hypothesis states that there is no unit root implying that the variables are stationary.

#### 4.6.1 Augmented Dickey-Fuller (ADF) Unit Root Test

**Table 4. 5: Unit root at the level**

<b>AT LEVEL</b>						
<b>VARIABLE</b>	<b>T-STAT</b>	<b>CRITICAL VALUES</b>			<b>P-VALUE</b>	<b>RESULTS</b>
		<b>1%</b>	<b>5%</b>	<b>10%</b>		
						NON-
GDP	-1.944	-4.343	-3.584	-3.230	0.6316	STATIONARY
						NON-
GOVTEXP	0.485	-4.343	-3.584	-3.230	0.9968	STATIONARY
						NON-
FDI	-1.949	-4.343	-3.584	-3.230	0.6290	STATIONARY
						NON-
EXPO	-1.982	-4.343	-3.584	-3.230	0.6113	STATIONARY

**Source:** Estimation Results, 2019

The table 4.5 show results of the ADF test at the level show all the variables GDP, GOVTEXP, FDI and EXPO have unit roots meaning they are not stationary because their t-statistics are less at 1%, 5% and 10% critical values. Also, their p-values are not significant at the 5 % level. Since the variables GDP, GOVTEXP, FDI and EXPO are not stationary at level, the required procedure is to transform them into first difference so as to attain the state of stationary.

#### 4.6.2 Unit Root at First Difference

**Table 4. 6: Unit Root at First Difference**

<b>AT 1ST DIFFERENCE</b>						
<b>VARIABLE</b>	<b>T-STAT</b>	<b>CRITICAL VALUES</b>			<b>P-VALUE</b>	<b>RESULTS</b>
		<b>1%</b>	<b>5%</b>	<b>10%</b>		
GDP_d1	-4.154	-4.352	-3.588	-3.233	0.0053	STATIONARY
						NON-
GOVTEXP_d1	-3.582	-4.352	-3.588	-3.233	0.0314	STATIONARY
FDI_d1	-5.684	-4.352	-3.588	-3.233	0.0000	STATIONARY
EXPO_d1	-4.745	-4.352	-3.588	-3.233	0.0006	STATIONARY

**Source: Estimation Results, 2019**

Table 4.6 depicts the results of the ADF test after the first differentiation, shows all the variables GDP\_d1, FDI\_d1 and EXPO\_d1 have no unit roots meaning they are stationary because their t-statistics are greater at 1%, 5% and 10% critical values. Also, their p-values are significant at the 5 % level. With the exception of GOVTEXP\_d1 which is only stationary at 10%, but non-stationary both at 1% and 5%, however, its p-value is 0.0314 which is significant at the 5 % level. Even after the first differentiation, it observed that Government expenditure was still non-stationary, therefore necessitated for performing second differentiation.

### 4.6.3 Unit Root at Second Difference

**Table 4. 7: Unit Root at Second Difference**

AT 2ND DIFFERENCE						
VARIABLE	T-STAT	CRITICAL VALUES			P-VALUE	RESULTS
		1%	5%	10%		
GDP_d2	-6.032	-4.362	-3.592	-3.235	0.0000	STATIONARY
GOVTEXP_d2	-4.946	-4.362	-3.592	-3.235	0.0003	STATIONARY
FDI_d2	-11.093	-4.362	-3.592	-3.235	0.0000	STATIONARY
EXPO_d2	-7.940	-4.362	-3.592	-3.235	0.0000	STATIONARY

**Source:** Estimation Results, 2019

The table 4.7 show results of the ADF test after the second differentiation, all the variables GDP\_ d2, GOVTEXP\_d2, FDI\_ d2 and EXPO\_ d2 have no unit roots meaning they are stationary because their t-statistics are greater at 1%, 5% and 10% critical values. Also, their p-values are significant at the 5 % level. All variables became stationary after performing Augmented Dickey-Fuller (unit root test) at the second difference. Therefore four lags of lag selection criteria were used both in testing Johansen Co-integration and Vector Error Correction Model.

### 4.7 Co-integration Test Results

Co-integration test help to determine the scope of the long-run association which occur amongst the variables. It is done when determining the lag length of the variables and carrying out a stationary test. In the absence of co-integration and a case of nonstationary of variables, the VAR model can be used after differencing to obtain stationary before the regression. When co-integration is present among the variables the restricted VAR model known as a vector error correction model

(VECM) is applicable. Nonetheless, it is advised to use autoregressive distributed lag (ARDL) in the presence of both stationary I (0) and nonstationary I (1) variables. To test for co-integration Johansen test was used.

**Table 4. 8: Johansen Test for Co-integration Results**

Trend: constant				Number of obs = 27	
Sample: 1992 - 2018				Lags = 4	
5% Critical					
Maximum rank	Parms	LL	Egein value	Trace statistic	value
0	52	-602.32869	-	142.1336	47.21
1	59	-564.31405	0.94015	66.1043	29.68
2	64	-536.85407	0.86920	11.1844*	15.41
3	67	-532.79201	0.25984	3.0602	3.76
4	68	-531.26189	0.10716	-	-
5% Critical					
Maximum rank	Parms	LL	Egein value	Max statistic	value
0	52	-602.32869	-	76.0293	27.07
1	59	-564.31405	0.94015	54.9200	20.97
2	64	-536.85407	0.86920	8.1241	14.07
3	67	-532.79201	0.25984	3.0602	3.76
4	68	-531.26189	0.10716	-	-

**Source:** Estimation Results, 2019

The table 4.8 displays results of the Johansen co-integration test shows that there is co-integration of at least two equations which implies the existing long-run association among gross domestic product (GDP), government expenditure

(GOVTEXP), foreign direct investment (FDI) and export (EXPO). This confirms that the variables employed in this study are moving together in the long run. Since there is a co-integration of two equations, the suitable model to perform in the study was a Vector Error Correction Model (VECM). Therefore VECM test was performed by using two co-integration equations obtained from the Johansen test and four lags selected from lag selection criterion. A diagnostic test was conducted.

#### **4.8 Diagnostic Test**

Diagnostic testing is conducted so as to find whether an expected model is an acceptable explanation of an economic phenomenon. It includes the following different tests.

##### **4.8.1 Test for Heteroscedasticity**

The presence of heteroscedasticity in time series data causes the differing in variances of the independent variables hence violation in the OLS assumption and biases. For this regards, it is necessary to test for the heteroscedasticity condition and furthermore to correct it by using the appropriate measures. In this study Breusch-Pagan test was performed to diagnose whether there is a presence of heteroscedasticity or not.



#### **Table 4. 9: Heteroscedasticity Results**

---

Breusch- Pagan / Cook- Weisberg test for heteroscedasticity	
<hr/>	
H <sub>0</sub> : Constant Variance	
Variables: fitted values of GDP	
chi2(1)	= 4.69
Prob > chi2	= 0.0304

---

**Source:** Estimation Results, 2019

Table 4.9 above indicates the results obtained after running a Breusch- Pagan test to diagnose heteroscedasticity in the model. The results indicated that there is a presence of heteroscedasticity as the probability was 0.0304 which is basically less than 0.05 critical levels.

#### **4.8.2 Correction of Heteroscedasticity**

In order to correct and remove the heteroscedasticity problem, the regression with robust standard errors is performed.

**Table 4. 10: Correction of Heteroscedasticity**

Linear regression	Number of obs = 31					
	F ( 3, 27) = 11.10					
	Prob > F = 0.0001					
	R-squared = 0.5522					
	Adj R-squared = 0.5024					
	Root MSE = 1.4576					
GDP	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
GOVTEXP	-.0001418	.0000971	-1.46	0.156	-.000341	
FDI	.0000575					
EXPO	-.0001551	.0006434	-0.24	0.811	-.0014752 .001165	
	.0010991	.0003376	3.26	0.003	.0004063 .0017919	
_cons	3.053631	.6045118	5.05	0.000	1.813275 4.293987	

**Source:** Estimation Results, 2019

The results from table 4.10 obtained after running a regression with robust standard errors showed that the heteroscedasticity problem was removed because the robust standard errors for GOVTEXP, FDI, and EXPO were .0000971, .0006434 and .0003376 which are different from those obtained from the first regression model.

### 4.8.3 Autocorrelation Test

Normally Autocorrelation occurs when error terms in a regression model correlate with other variables over time. For this reason, it leads to the problem in the bias of OLS estimator. In order to check for autocorrelation, a Breusch-Godfrey LM test was then performed. The null hypothesis was there is no serial correlation, while the alternative hypothesis was there is a serial correlation.

**Table 4. 11: Autocorrelation Test Results**

---

Breusch-Godfrey LM test for autocorrelation

lags(p)	chi2	df	Prob > chi2
1	10.358	1	0.0013

H0: no serial correlation

---

**Source:** Estimation Results, 2019

Table 4.11 shows the results from the test which revealed a presence of serial correlation simply because the p-value of 0.0013 was less at 5% critical value, hence rejecting the null hypothesis. The presence of serial correlation necessitates for performing the test to correct it.

### 4.8.3.1 Correction of Autocorrelation

**Table 4. 12: Correction of Autocorrelation Test Results**

---

Iteration 0: rho = 0.0000  
 Iteration 1: rho = 0.5560  
 Iteration 2: rho = 0.6195  
 Iteration 3: rho = 0.6250  
 Iteration 4: rho = 0.6254  
 Iteration 5: rho = 0.6255  
 Iteration 6: rho = 0.6255  
 Iteration 7: rho = 0.6255

**Cochrane-Orcutt AR(1) regression -- iterated estimates**

Source	SS	df	MS	Number of obs = 30		
Model	11.3232899		3	F( 3, 27) = 2.70		
Residual	3.77442997			Prob > F = 0.0662		
	36.3188383	26	1.3968784	R-squared = 0.2377		
Total	47.6421282		29	Adj R-squared = 0.1497		
	1.64283201			Root MSE = 1.1819		
GDP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
GOVTEXP	-.0000186	.0001907	-0.10	0.923	-.0004107	
FDI	.0003734					
EXPO	.0007637	.0007324	1.04	0.307	-.0007417 .0022692	
	.0005716	.0004797	1.19	0.244	-.0004143 .0015576	
_cons	3.377366	1.076983	3.14	0.004	1.163595 5.591136	
rho	.6254818					
Durbin-Watson statistic (original)				0.876718		
Durbin-Watson statistic (transformed)				2.055124		

---

**Source:** Estimation Results, 2019

After performing the Autocorrelation correction test the new D- Watson statistic value 2.055124 which is greater at 5% critical value was obtained differently from the original p-value of 0.876718 as revealed from table 4.12 above.

#### 4.8.4 Test for Multicollinearity

Multicollinearity problem arises due to the fact that an explanatory variable correlates with one or more explanatory variable(s) in multiple linear regression. According to Allen (Allen, 1997) to the problem with multicollinearity is that it leads to the underestimation of the statistical significance of a given variable. To diagnose for the presence of multicollinearity, the Variance Inflation Factor (VIF) test was done.

**Table 4. 13: Multicollinearity Results**

<b>Variable</b>	<b>VIF</b>	<b>1/VIF</b>
EXPO	9.74	0.102669
FDI	7.36	0.135930
GOVTEXP	5.15	0.194284
<b>Mean VIF</b>	<b>7.42</b>	

**Source: Estimation Results, 2019**

The answers in table 4.13 demonstrated that there is no multicollinearity among the variables used in a model. Hence the model is free and ready to perform the regression analysis.

## 4.9 Regression Analysis on the Relationship between Export, Foreign Direct Investment, Government Expenditure and Economic Growth

The regression analysis was performed so as to test the relationship between the variables in question as presented in table 4.13 below.

**Table 4. 14: Regression Analysis Results**

Source	SS	df	MS	Number of obs = 31		
Model	70.7215422		3	F ( 3, 27) = 11.10		
Residual	23.5738474			Prob > F = 0.0001		
	57.3623288	27	2.1245307	R-squared = 0.5522		
Total	128.083871		30	Adj R-squared = 0.5024		
	4.26946237			Root MSE = 1.4576		
GDP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
GOVTEXP	-0.0001418	.0001528	-0.93	0.362	-.0004553	.0001718
FDI	-0.0001551	.0011075	-0.14	0.890	-.0024275	.0021172
EXPO	.0010991	.0004541	2.42	0.023	.0001674	.0020308
_cons	3.053631	.5493126	5.56	0.000	1.926535	4.180728

**Source: Estimation Results, 2019**

$$GDP_t = 3.053631 - 0.0001418 GOVTEXP_t - 0.0001551 FDI_t + 0.0010991 EXPO_t + \mu_t$$

### 4.9.1 Gross Domestic Product and Government Expenditure

From table 4.14, the extent to which the total government expenditure influence Gross domestic product is revealed by a negative insignificant relationship. An increase in 1 USD million dollars of GOVTEXP leads to a reduction of 0.0001418

USD million dollars of GDP. The government expenditure is statistically insignificant because its p-value (0.362) is greater than 0.05 critical levels.

#### **4.9.2 Gross Domestic Product and Foreign Direct Investment**

From table 4.14, the extent to which the foreign direct investment influence Gross domestic product is a negative and statistically insignificant impact. An increase in 1 USD million dollars of FDI leads to a reduction of 0.0001551 USD million dollars of GDP. The coefficient of government expenditure is statistically insignificant because its p-value (0.890) is greater than 0.05 critical levels.

#### **4.9.3 Gross Domestic Product and Export**

Results from table 4.14, shows the extent to which export influence Gross domestic product has a positive and statistically significant effect. An increase in 1 USD million dollars of EXPO leads to an addition of 0.0010991 USD million dollars of GDP. In another word, an increase in 100 USD million dollars of EXPO leads to an addition of 0.10991 USD million dollars of GDP. The coefficient of export is statistically significant because its p-value (0.023) is less than 0.05 critical levels. The correlation test was done.

#### 4.10 Vector Error Correction Model (VECM) Results

**Table 4. 15: Vector Error Correction Model**

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
<b>D_GDP</b>						
_ce1						
L1.	.0113942	.0504575	0.23	0.821	-.0875007	.1102891
_ce2						
L1.	.0001057	.0003331	0.32	0.751	-.0005471	.0007585
GDP						
LD.	.2774098	.1742646	1.59	0.111	-.0641424	.6189621
L2D.	-.1389837	.1515533	-0.92	0.359	-.4360228	.1580554
L3D.	-.2693159	.1441106	-1.87	0.062	-.5517674	.0131357
GOVTEXP						
LD.	.0001856	.0006331	0.29	0.769	-.0010551	.0014264
L2D.	-.0006896	.0005355	-1.29	0.198	-.0017392	.00036
L3D.	-.0001379	.0006546	-0.21	0.833	-.0014209	.0011451
FDI						
LD.	-.0008623	.0009585	-0.90	0.368	-.0027409	.0010162
L2D.	.0009062	.0010608	0.85	0.393	-.0011729	.0029853
L3D.	.0014839	.0008616	1.72	0.085	-.0002048	.0031727
EXPO						
LD.	-.0000216	.0012138	-0.02	0.986	-.0024007	.0023575
L2D.	.0004038	.0009245	0.44	0.662	-.0014082	.0022159
L3D.	-.000131	.0009966	-0.13	0.895	-.0020843	.0018223
_cons	.4584475	.328061	1.40	0.162	-.1845403	1.101435

**Source:** Estimation Results, 2019



From table 4.15 above, ce1 and ce2 represent 2 co-integration equations. Coefficients for ce1 and ce2 are 0.0113942 and 0.0001057 with p-values of 0.821 and 0.751 respectively. Since ce1 and ce2 are not negative and their p-values are not significant at the 5 % critical level, it implies that the Vector Error Correction Model doesn't have any long term causality between GDP and independent variables; GOVTEXP, FDI and EXPO. The VECM test goes hand in hand with the LM test as well as the normality distribution test. Therefore the Lagrange Multiple (LM) Test for Residual Autocorrelation and normality test were done.

#### 4.11 Lagrange Multiple (LM) Test for Residual Autocorrelation

To check the whole system model, whether it has an autocorrelation, the Lagrange-multiplier test was done. In performing the LM test for residual autocorrelation, the Null hypothesis was there is no autocorrelation while the Alternative hypothesis was there is autocorrelation.

**Table 4. 16: Lagrange-Multiplier test**

lag	chi2	df	Prob > chi2
1	11.3081	16	0.79008
2	15.8652	16	0.46241

H0: no autocorrelation at lag order

**Source:** Estimation Results, 2019

Table 4.16 shows that at lag 1, the p-value was 0.79008 meaning that the null hypothesis that there is no autocorrelation cannot be ruled out. Also at the lag 2, the p-value was 0.46241 hence the null hypothesis cannot be rejected. It observed that

probabilities for both lags were greater than 0.05 critical values, hence there is no serial correlation.

#### **4.12 Granger Causality Test**

Granger causality was put forward in the 1960s and has been widely used in economics since then. It is a way of examining causality that is built on prediction between two variables in a time series. It uses empirical data sets to find patterns of correlation and a probabilistic account of causality (Granger, 1969; Hoover, 2001, 2008; Leamer, 1985). According to Granger causality “ a signal  $X_1$  Granger causes a signal  $X_2$ , then past values of  $X_1$  Should contain information that helps predict  $X_2$  above and beyond the information contained in past values of  $X_2$ ” (Granger, 1969). In the study, the Granger Causality test looking for the way of causality among export, foreign direct investment, government expenditure and economic growth in Tanzania for 1988-2018.

**Table 4. 17: Granger Causality Test Results**

Equation	Excluded	chi2	df	Prob > chi2
GDP	GOVTEXP	7.6619	4	0.105
GDP	FDI	22.009	4	0.000
GDP	EXPO	3.326	4	0.505
GDP	ALL	29.695	12	0.003
GOVTEXP	GDP	4.365	4	0.359
GOVTEXP	FDI	13.677	4	0.008
GOVTEXP	EXPO	105.34	4	0.000
GOVTEXP	ALL	132.18	12	0.000
FDI	GDP	5.1658	4	0.271
FDI	GOVTEXP	50.831	4	0.000
FDI	EXPO	73.053	4	0.000
FDI	ALL	153.35	12	0.000
EXPO	GDP	12.82	4	0.012
EXPO	GOVTEXP	9.6092	4	0.048
EXPO	FDI	5.199	4	0.267
EXPO	ALL	34.306	12	0.001

**Source:** Estimation Results, 2019

**First Row:** In the first row above, table 4.17 shows that the lagged values of FDI cause GDP simply because its p-value (0.000) is less than 0.05. At the same time, the lagged values of GOVTEXP and EXPO do not cause GDP as their p-values (0.105) and (0.505) are larger than 0.05. Thus, it makes sense to say that the focal point of causality is from FDI to GDP.

**Second Row:** In the second row above, the table 4.17 shows that the lagged values of FDI and EXPO granger cause GOVTEXP because their p-values (0.008) and (0.000) respectively are less than 5% critical value. The lagged value of GDP does not Granger cause GOVTEXP because its p-value 0.359 is greater than 0.05. Therefore the direction of causality is from both FDI and EXPO to GOVTEXP.

**Third Row:** In the third row above, the table 4.17 shows that the lagged values of GOVTEXP and EXPO granger cause FDI because their p-values (0.000) and (0.000) respectively are less than 5% critical value. The lagged value of GDP does not Granger cause FDI because its p-value 0.271 is greater than 0.05. Therefore the direction of causality is from both GOVTEXP and EXPO to FDI.

**Fourth Row:** In the third row above, the table 4.17 shows that the lagged values of GDP and GOVTEXP granger cause EXPO because their p-values (0.012) and (0.048) respectively are less than 5% critical value. The lagged value of FDI does not Granger cause EXPO because its p-value 0.267 is greater than 0.05. Therefore the direction of causality is from both GDP and GOVTEXP to EXPO.

#### **4.13 Conclusion**

This chapter explored the empirical analysis of the study using STATA, E-Views, descriptive analysis and other tests to calculate out the nature and state of variables.

## **CHAPTER FIVE**

### **DISCUSSION OF THE FINDINGS**

#### **5.0 Introduction**

In this chapter, we give a discussion of the results or findings attained as the study intended to test the association that exists between exports, foreign direct investment, government expenditure and economic growth. The chapter is organized into three (3) sections.

#### **5.1 Export and Economic Growth**

This study investigated the casual effect of exports and economic growth. The regression results revealed that there is a positive and statistically significant impact between exports and economic growth. Furthermore, the study revealed that the direction of causality is from both economic growth and Export and therefore exports and economic growth Granger cause each other in the case of Tanzania. These findings are similar with the study conducted by Mtaturu (Mtaturu, 2016) whereby showed that both export and economic growth granger caused each other in case of Tanzania, Kira (Kira, 2013) indicated that economic growth in Tanzania as a developing country is influenced by exports. Also, the study conducted by Simasiku and Sheefeni (Simasiku & Sheefeni, 2017) showed that non-agricultural exports had a positive and significant effect on economic growth. Moreover, the studies conducted by Jordaan and Eita (Jordaan & Eita, 2007), Niishinda and Ogbokor (Niishinda & Ogbokor, 2013) and Jordaan and Eita (Jordaan & Eita, 2010) showed the same results as this study.

## **5.2 Foreign Direct Investment and Economic Growth**

The study envisioned to examine the relationship between foreign direct investments on economic growth. This study finds that from regression there is a negative insignificant relationship between FDI and economic growth. Additionally, “the study revealed that foreign direct investment granger cause economic growth and the direction of causality is from FDI to economic growth (GDP)”. The results of this study are supported by different studies conducted by Nistor (Nistor, 2014) showed there is a link between FDI and economic growth, Mihaela et al., (Mihaela, Kornélia, Gabriela, Kamil, & P, 2017) revealed that foreign direct investment promote economic growth in all countries except the Slovak Republic, Dritsakis et al., (Dritsakis et al., 2006) showed there is causal relationship between foreign direct investments and economic growth, Chirwa and Odhiambo (Chirwa & Odhiambo, 2016) indicated that foreign direct investment is among the determinant of economic growth in developing countries, and Uwazie et al., (Uwazie et al., 2015) showed that foreign direct investment granger cause economic growth both in the short run and long run in Nigeria.

## **5.3 Government Spending and Economic Growth**

This study projected to the testing the relationship between government spending and economic growth. The regression revealed that there is a negative insignificant relationship between government spending and economic growth. Likewise, the study showed that the way of causality is from both economic growth (GDP) and government expenditure (GOVTEXP) to export (EXPO). Study conducted by Dereje (2012) revealed that all components of government expenditure do not have significant effect in explaining growth of real per income in the short run, Mihaela et

al., (Mihaela et al., 2017) showed that expenditure on education was negatively correlated with economic growth in all other countries except for the Czech Republic and expenditure on research and development (R and D) had negative effect in other countries except for Romania, Hungary and the Czech Republic, Hasnul (Hasnul, 2015) indicated that there was a negative correlation between government expenditure and economic growth in Malaysia, Kweka and Morrisey (1996) revealed that expenditure on human capital investments was insignificant in the regression, and Kyissima et al., (2017) disclosed that there is no significant relationship between government expenditure and economic growth in short-run estimates.

## **CHAPTER SIX**

## **CONCLUSION AND RECOMMENDATIONS**

### **6.0 Introduction**

This chapter delivers a summary, conclusion, policy implications and recommendations, limitations of the study and the areas for further research. They are delivered subject to the various findings of this study.

### **6.1 Summary**

The foremost intention of this study was to investigate the economic growth and its relationship with exports, foreign direct investment and government in Tanzania using annual time series covering the period 1988 – 2018. In analyzing time series data, the study employed a Granger causality test model as conducted by preceding studies to explore the causal relationship between the variables of interest identified.

Various pre estimation, tests were done so that to ensure the steadiness of the results, which included testing for heteroscedasticity, multicollinearity test, autocorrelation test, correlation tests and other important tests. Tests for heteroscedasticity and autocorrelation were corrected during the analysis. Moreover, the ADF test for unit root and Johansen Test for cointegration was also conducted.

A regression was conducted which publicized that there is a significant positive relationship between exports and economic growth; the negative insignificant relationship between foreign direct investment and economic growth and also between government expenditure and economic growth. Besides, the Granger causality approach displayed that: the direction of causality is from foreign direct investment to Gross Domestic Product in the first row; in the second row, the direction of causality is from both foreign direct investment and export to



government expenditure; the direction of causality is from both government expenditure and export to foreign direct investment in the third row; and in the fourth row, the direction of causality is from both Gross Domestic Product and government expenditure to export. Also, the regression broadcasted that there is a positive significant association among exports and economic growth; negative insignificant link amid foreign direct investment and economic growth and also amongst government expenditure and economic growth.

## **6.2 Conclusion**

The study showed that: the lagged values of foreign direct investment cause economic growth, and at the same time the lagged values of government expenditure and exports do not cause economic growth; the lagged values of foreign direct investment and exports granger cause government expenditure and also the lagged value of economic growth does not granger cause government expenditure; the lagged values of government expenditure and exports granger cause foreign direct investment and the lagged value of economic growth does not granger cause foreign direct investment; and the lagged values of economic growth and government expenditure granger cause exports, and the lagged value of foreign direct investment does not granger cause exports.

Furthermore, the direction of causality is from foreign direct investment (FDI) to economic growth (GDP); the way of causality is from both economic growth (GDP) and government expenditure (GOVTEXP) to export (EXPO); the direction of causality is also from both foreign direct investment (FDI), exports (EXPO) to government expenditure (GDP); and is from both government expenditure (GDP) and export (EXPO) to foreign direct investment (FDI).

Centred on these findings, the study suggested that exports can promote the economic growth of Tanzania. To achieve this goal, the government should direct its resources towards the promotion of exports like manufacturing sectors, so as to produce quality goods and services to be exported since it plays a substantial role in enlightening economic growth.

### **6.3 Policy Implications and Recommendations**

In demonstrating the relationship between exports, foreign direct investment, government expenditure and economic growth in Tanzania, we found that there is a positive relationship between exports and economic growth. There is also a negative relationship between foreign direct investment and economic growth and government expenditure and economic growth. It implies that exports play an important role in economic growth in Tanzania rather than government expenditure and foreign direct investment. So, the government should devote a lot of her resources in promoting exports so as to influence economic growth.

The government should also optimize the effect of government expenditure and foreign direct investments in economic growth. Furthermore, the government is advised to use government spending and FDI in a better way and un-excessively. Additionally, the government needs to make sure that increment in government expenditure and FDI does not hurt the economy and people within the country.

It is valuable for Tanzania to establish efforts in strengthening the level of exports, foreign direct investment, government expenditure and economic growth. Tanzania may still implement the export-led industrialization, which can boost both domestic production and consumption and ultimately increase exports. It is now the matter of

reviewing and restructuring policies and strategies which can successfully achieve the same in view of their long-run relationship.

We appreciate that Tanzania 2025 Vision is industrialization with foreign direct investment (FDI). Tanzania aims to become a semi-industrialized country by 2025, for which the contribution of manufacturing to the national economy must reach a minimum of 40% of the GDP (URT, 2016). With Industrialization, domestic production as well as consumption will be improved and thus ultimately boosting up exports and foreign direct expenditure. With booming foreign direct investment and exports, economic growth will, in turn, be rejuvenated as predicted in the findings of this paper. In the case of the government expenditure, the government should direct her expenditure towards the productive sectors, so as to promote economic growth. When the government spends on unproductive sectors cannot trigger economic growth.

The study recommends that appropriate policies that promote exports, foreign direct investment and government expenditure must be pursued so as to improve economic growth in Tanzania.

#### **6.4 Limitation of the Study**

This study faced the following limitations: availability, quality and reliability of data since data were collected from various institutions and publications; time constraints whereby it was not enough to carry out broad and exhaustive study; the government may have other intentions other than upholding economic growth like income redistribution, promoting peace and security in and outside the country and

promoting international corporation; and financial constraints as this study needs a lot of funds to conduct it.

### **6.5 Suggestions for Further Research**

Further research is obligatory to nullify these findings/results as we cannot rely on a single study as different approaches can be used for the same study. The researcher recommends further research in the following areas: the same study can be conducted by including other variables and use different methodology; integrate qualitative data in elucidating economic growth; and also future research can be conducted on the effect between economic growth and other macroeconomic variables.

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