

**IMPACT OF INTERNATIONAL TRADE ON ECONOMIC
GROWTH OF TANZANIA**

**By
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**A Dissertation Submitted to Dar es Salaam Campus College in Partial
Fulfillment of the Requirements for Award of Master of Science in Applied
Economics and Business Degree of Mzumbe University.**

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CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled “***Impact of International Trade on Economic Growth of Tanzania***” in partial fulfillment of the requirements for award of the degree of Masters of Science in Applied Economics and Business (Msc. AEB) of Mzumbe University.

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DEDICATION

I dedicate this piece of work to my caring parents, Andrew Nguto Kitojo and Janeth Mkazeni, for establishing a strong base of my academic growth. Their invaluable support, love, and encouragement made this study successful.

LIST OF ABBREVIATIONS AND ACRONYMS

AEO	African Economic Outlook
ARDL	Auto-regressive Distributed Lag
ASEAN	Association of Southeast Asian Nations
CEE	Central and Eastern Europe
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
ECOWAS	Economic Community of West African States
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
OLS	Ordinary Least Squares
STATA	Software for Statistics and Data Science
UAE	United Arab Emirates
UN	United Nations
VIF	Variance Inflating Factor

ABSTRACT

Tanzania as an open economy engages herself in international trade which constitutes significantly a proportion of the country's aggregate output. As in other developing countries, Tanzania regards trade as the main instrument for the development and growth of the country. Different empirical studies explain the existing relationship between international trade and the country's economic growth. However, the empirical findings produce mixed findings which then developed more curiosity to conduct this study.

Under this review, the researcher examines the impact of international trade on the economic growth of Tanzania, whereby goods exports, service exports, goods imports, and service imports make the independent variables. Otherwise, interest rate and inflation rate are the control variables while GDP makes the dependent variable. The study employs a time-series data-set for 31 years (1988 to 2018) gathered from the World Bank data site. Besides, Ordinary Least Squares (OLS) method is used to estimate a multiple linear regressions model, and the findings suggest that goods exports and service exports have a positive and significant impact on the economic growth of Tanzania; goods imports, service imports and exchange rate have a negative but significant impact on the economic growth while the inflation rate has a negative but insignificant impact on the economic growth.

These findings correspond to the economic theories of international trade both classical and neoclassical theories which regard foreign trade as a catalyst for economic growth. However, foreign trade has both negative and positive impact on the growth of the economy. This study concludes that international trade plays a substantial role in the economic growth of Tanzania. Therefore the study recommends that the government of Tanzania should effectively enhance export promotion policies, import substitution strategy of industrialization, and strengthen investment in science and technology to increase Tanzania's competitive edge in the international market.

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CHAPTER ONE

INTRODUCTION AND PROBLEM SETTING

1.0 Introduction

This chapter is comprised of the background of the study, problem statement, main objective, and specific objectives of the study as well as the research questions. Furthermore, the chapter enlightens the scope of the study, the significance of the study and organization of the study.

1.1 Background

The curiosity of different economists has long been in economic stimulants behind countries' growth at different proportions and achievements of wealth at different heights. Among other factors, trade has become a focal point of the debate as far as drivers of economic growth are concerned. From the historical point of view, it is evident that countries which produce to feed the international market lean towards high productivity and efficiency contrary to countries that are internationally inactive (domestically based production) (Obadan & Okojie, 2016). The existing relationship between overseas trade and country's economic growth can be of the two natures; positive or negative, depending on the prevailing economic structures and policies in place that regulate trade activities of the respective country. Commonly around the globe, it is likely inevitable for a country to endure behind locked doors (autarky economy) without engaging itself in foreign trade with other partner countries. Thus, both classical and neoclassical schools of thought have defined considerable insights into international trade as a driver for the growth of the economy (Abubakar & Shehu, 2015).

Many researchers and economic analysts such as Abubakar & Shehu (2015); Agbo, Ebere, & Oluchukwu (2018); Kenya (2017) come to an agreement that, opening doors to foreign trade speeds up the rate of economic development. Besides, economic growth is not an overnight event but a process that involves a transition for a consecutive number of years or decades. This transition spends decades so that the effect of trade openness towards economic growth becomes real rather than an abrupt

shift in real Income. Growth has been achieved by many countries through the implementation of an export-led strategy, as well as other countries embrace trade liberalization of economies to attain economic growth. However, there is a slight opportunity to grow for small economies due to low productivity. With the absence of an external market through foreign trade, Tanzania's economy can grow due to the support of its vast domestic market, but the impact of that growth cannot sustainably enhance poverty eradication. Therefore, Tanzania has continuously relied on international markets as well (Obadan & Okojie, 2016).

In mixed trade relations around the globe, the foremost purpose of different governments of many countries particularly in a more recent period has been to enhance sustainability in economic growth that will match with the prevailing trade rhythm. It is behind this motive, countries have thrown themselves into the adoption of trade policies for reduction and elimination of trade barriers particularly quotas, tariffs, and import controls. Among other countries, Tanzania has as well opted for trade liberalization policy as one of the trade policies that many countries believe may help to boost the economic growth of their specific economies (Hamad, Mtengwa, & Babiker, 2014).

Tanzania as an open economy practices international trade through which 32.6% of the GDP is represented by foreign trade. The key objectives of the country's trade policy are to enhance domestic industries that appeal to the prevailing competition around the globe and to enable diversification of the exportation sector to stimulate the country's economic growth (UN Comtrade, 2019). Over the last decade, Tanzania has maintained a comparatively high growth rate of the economy with an average of 6% - 7% per year. Moreover, the country has registered an average growth rate of 7% for about five years as in 2019, including the fact that it is among the twenty fastest evolving economies and surpassing the 4% average economic growth rate for Sub-Saharan countries. This implies that, the economy has a positive growth and thus, the projected growth rate for the year 2020/2021 is 6.6% reflecting the massive investment in infrastructure. Restructuring of the fiscal framework and investment in the private sector are part of the reformation strategies the government of Tanzania consider in

fostering economic growth and enhance massive industrial productivity (World Bank, 2019)

To make the country openly accessible for international trade, Tanzania employs few restrictions on trade and low customs duties, on average 7% tariff rate (UN Comtrade, 2019). Thus, the existing trade restrictions are predominantly on logistics and non-tariff barriers. For instance, the prevailing challenges of high traffic on entering and exiting the port of Dar es Salaam which is the main port where Tanzania and its non-coastal adjacent countries such as Zambia, Rwanda, Uganda, and Burundi send and receive goods, have not been accommodated with the appropriate investments in infrastructures. Together with this, poor conditions of roads and railways establish one of the main trade barriers between Tanzania and these neighboring countries. However, the Tanzanian government has taken serious initiatives to launch many infrastructural enhancement projects (UN Comtrade, 2019).

Despite the challenges in infrastructures which create trade barriers, Tanzania through its membership in different international communities such as East African Community (EAC) and Common Market for Eastern and Southern Africa (COMESA) enjoys trade interactions through trade agreements with other member states as well as direct trade relations with the United States and the European Union. On the other hand, the country experiences a continuing and increasing trade deficit since what is imported is two times the exports of the country. For the year 2017, Tanzania experienced a trade deficit of \$3.3 billion as exports were \$8.33 billion while imports were \$11.68 billion. In 2018, the country experienced a deteriorated balance of trade as gross export value declined by 3.9% while imports expanded by 7.8%. However, as coal reserves and hydrocarbon increase, it is expected that the negative trade balance will strongly go down shortly (UN Comtrade, 2019). Thus, in the year ending January 2020, the country recorded a trade surplus of \$699.6 million which is higher than the deficit of \$861.3 recorded as in the same period in 2019 (Bank of Tanzania, 2020).

The contribution of trade particularly foreign trade and reformation in trade policies in Tanzania draws substantial attention to the economic growth in Tanzania since trade

is among the key sectors in Tanzania's economy. To this end, some researchers suggest that trade has a positive contribution to growth while the other side of research suggests otherwise. Thus, there is a need to conduct this study to examine the impact of international trade on the economic growth of Tanzania. The researcher's curiosity is based on the controversial part among schools of thought as to whether foreign trade is important to Tanzania's economy. More specifically the researcher aspires to examine the contribution of each sub-category of trade indicators; goods imports, goods exports, service imports, and services exports on the country's economic growth.

1.2 Statement of the problem

Causes of difference in economic growth between countries and differences in the level of growth have always been clicking in the minds of Economists (Abdulkadir, Sheikh, & Dalmar, 2017). Tanzania being an open economy engages herself in international trade which constitutes significantly a proportion of the country's aggregate output. Despite the belief as in other developing countries, Tanzania regards trade as the main instrument for the development and growth of the country specifically in generating jobs, market expansion, income generation, competition facilitation, and knowledge flow. The question here comes, how does the international trade with its underlying indicators impact the economic growth of Tanzania?

Different studies under this review, explain the existing relationship between international trade and the country's economic growth in different perspectives. For instance, taking into consideration studies conducted by Abdulkadir et al. (2017); Agbo, Ebere, & Oluchukwu (2018); Husin (2018) in Somalia, Nigeria, and Malaysia respectfully suggest that export trade significantly impact the economic growth while import trade has an insignificant impact on the economic growth, except for Husin (2018), whereby the impact of exports on growth is insignificant. From this scenario, it is evident that foreign trade has a significant contribution to the economy. Moreover, as extracted from Hassen et al. (2019), trade openness, human capital, foreign direct investment and the financial development measured in terms of a ratio of money have a long term positive significance on economic growth. Thus, there is a substantial

contribution of international trade to economic growth. On the other hand, Silajdzic and Mehic (2018); Tinta, et al. (2018) argue that international trade does not provide a better solution to lift economies of the countries within intracommunity or regional integrations since regional trade is concomitant to the formation of value chains for each country, unlike international trade. Thus, more emphasis should be on fine-tuning the policies to strengthen regional trade.

Generally, research studies that have been conducted in this field have remarkably produced a mixed basket of findings across the globe. This then develops more curiosity to examine the impact of international trade on the economic growth of Tanzania. Therefore, this study attempts to fill the existing gap in the field of international trade by examining the impact of international trade on the economic growth of Tanzania whereby imports and exports are used as explanatory variables and GDP as a dependent variable. However, exports have been subdivided into goods exports and service exports and imports into goods imports and service imports. The purpose is to investigate the specific contribution of each category to the economic growth of Tanzania. Furthermore, this study intends to assess the effect of the exchange rate and inflation as controlling factors on international trade and economic growth at large.

1.3 Research Objectives

1.3.1 Main Objective

The main objective of the study under review is to examine the contribution of international trade to Tanzania's economic growth

1.3.2 Specific Objective

Specifically, this study concentrates to meet the following objectives;

- i. To determine the impact of goods exports on the economic growth of Tanzania.
- ii. To examine the impact of service exports on Tanzania's economic growth.
- iii. To determine how goods imports impact the economic growth of Tanzania
- iv. To ascertain the impact of service imports on Tanzania's economic growth

1.4 Research Questions

This study is been guided by the help of the following questions;

- i. To what extent do goods exports impact Tanzania's economic growth?
- ii. To what extent do service exports impact Tanzania's economic growth?
- iii. To what extent do goods imports impact Tanzania's economic growth?
- iv. To what extent do service imports impact Tanzania's economic growth?

1.5 Scope of the Study

This study is constructed from the macroeconomic indicators that are international trade and economic growth. Therefore, it is conducted by considering the country (Tanzania) as a whole. Important indicators of Tanzania's foreign trade such as exports and imports and other controlling factors of the trade such as inflation and exchange rate are studied to explain the economic growth of Tanzania through Gross Domestic Product. Besides, the study does not cover any other area beyond the impact of international trade on the economic growth of Tanzania.

1.6 Significance of the Study

This study contributes to the wide knowledge of the existing relationship between international trade and economic growth in Tanzania. Since there are different pieces of literature on international trade, this study will add some more useful information that will help to fill or minimize the existing gap in the field of international trade specifically its contribution to the economy of Tanzania. Thus the study will help to provide answers to some unanswered questions.

Also, the study produces some essential insights to economists and policymakers about the international trade and its contribution to the economy and hence be utilized in the sketching and reviewing of the trade policy framework of the country. The fact that this study is the continuation of other previous studies conducted in Tanzania and other parts of the world, will help in making a comparison between different studies and therefore provide a meaningful and fruitful conclusion; this will help to restructure the economic framework and policies of the country.

Furthermore, this study will help in attesting the existing foreign trade practices in Tanzania against predefined trade theories and growth theories. That in the end, the researcher(s) and other users such as academicians, economists, traders, the government, and the general public will be in a good position to verify or nullify the theories against the real practices.

The study also provides a useful basis in the evaluation of the implemented trade policies, strategies, and other trade initiatives. For instance, the implemented trade liberalization policy and the export-led promotion can be evaluated based on the findings of this study on how successful they are. As well, this may provide an alarming alert on the challenges hindering the implementations of these trade policies, strategies, and other initiatives and hence open a room for proper solutions to encounter these challenges.

Moreover, since the study adds new literature in Tanzania, it may be referred by other researchers and hence open new ground for further research. The researcher has laid down some challenges encountered in the process of conducting this research and provides recommendations. As well the researcher recommends some new areas for furthers research hence this will help in the identification of new research gap(s). Generally, this study will be useful to the policymakers, decision-makers, and the general public on their day to day activities.

1.7 Organization of the Study

This study is divided into six chapters namely; Chapter one comprises the introduction part, background of the study, problem statement, objectives of the study, research questions, significance of the study, the scope of the study and organization of the study. Chapter two comprises the literature review specifically the definition of key terms, theoretical framework, empirical literature review, and the conceptual framework. Chapter three defines the research approach, research design, study area, population, units of analysis, variables and measurements, data types and sources, methods of data collection, data analysis methods, and ethical issues. Chapter four presents the findings by including both Descriptive statistics and Econometric

analysis, Chapter five presents a discussion of findings. Lastly, Chapter six provides a summary, conclusion, recommendations, and study limitations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter comprises a review and discussion of related literature on international trade and its impact on the economic growth of Tanzania. It provides arguments on the impact of international trade on the economic growth of a country. Alongside the review of literature, this part defines the key concepts, provides a discussion of the theoretical framework and empirical review through which the research gap is justified. Lastly, discussion and sketching of the Conceptual Framework are also presented to guide the analysis stage of study.

2.1 Definition of Key Concepts

International Trade

International trade simply implies the exchange of goods and services across nations. Thus, it involves exports and imports of goods and services. One of the benefits of international trade is that, promotes specialization in production which of course increases productivity, promotes technological development and growth, and enhances commerce. In following up on the prevailing situations in international trade, countries, governments, and international organizations track the transactions between countries recorded in the balance of payment accounts. In comparing economies of nations as well as examining the relationships among nations, the balance of payment and international trade are the two important aspects to consider (Krugman, Melitz, & Obstfeld, 2018).

Terms of Trade

Terms of trade refer to the proportion of exports of goods to the imports of goods in a country. It measures the purchasing power of the country's exports in terms of its imports, hence expressed as a relation between the prices of exports and the prices of imports of goods. Then, when prices of exports increase relative to that of imports the terms of trade are considered to have improved because the country can have a larger

quantity of imports compared to exports. Oppositely, the prices of imports increase relative to that of exports, the terms of trade of a country tend to have deteriorated because the country can have smaller import quantities as compared to exports (Krugman et al., 2018).

Balance of Payment

The balance of payment of a country refers to all economic transactions with the outside world recorded systematically in a given particular year. In other words, the balance of payment refers to a way of listing receipts from exports and payments on imports in international transactions of a country, thus it can be used statistically to frame the economic relationships of a country with the outside world. It shows the changes in the country's official reserve holding, the trading position of a country, and the country's net position (foreign lender or borrower) (Krugman et al., 2018).

Exchange Control

This refers to one of the important instruments in controlling international trade and payments. It intends to indicate the equilibrium in foreign receipts and payments but not through market forces of demand and supply or flexible rates of exchange rather through direct and indirect foreign exchange control. The control of all foreign receipts and payments in terms of foreign currencies is done by the government. Thus, exchange control deals with difficulties on the balance of payments and takes into regard government officials' decisions while disregards the market forces of demand and supply. Therefore payments on imports and other international payments are not only determined by comparisons on international prices but also national need is taken into consideration (Krugman et al., 2018).

Economic Growth

Economic growth refers to the increase in the inflation-adjusted market value of all goods and services produced by the country's economy over time. Thus, it is usually presented in terms of percentage which calculates the percentage increase in real GDP. The adjustment to inflation is employed to eliminate the effect of inflation distortion on the prices for goods produced. The nations' economic growth rates are normally

compared using the ratio of the GDP population or income-per-capita (Blanchard, 2017).

2.2 Theoretical Literature Review

2.2.1 International Trade and Economic Growth: Theoretical Relationship

International trade has a substantial effect on economic growth, and that effect cannot be marginalized. Different classical and neoclassic economists examine the considerable relationship which exists between the two economic indicators, there comes a conception that “international trade is an engine for economic growth”, meaning that foreign trade plays a significant role on the economic growth of any country. Stretching on international trade, the discussion focuses much on the main elements of foreign trade; exports and imports. However, other influencing factors for trade such as foreign exchange rate, inflation, and Foreign Direct Investment should not be flouted (Coenen, 2015). Alongside the ongoing debate on foreign trade and the growth of the economy, different theories have been referred to as discussed below:

Mercantilism Theory of International Trade

Way back, during the 16th to 18th century in the so-called mercantilist era, the eldest international trade theory was born; that is mercantilism theory. The pillars of mercantilism were to increase exports and gather of treasurable metals particularly silver and gold. It is during this era where advocates for mercantilism supposed that nations/states with a strong army were likely to enhance protection of their domestic markets and supply bases and therefore increased wealth (Kenya, 2017).

Given the foregoing, the balance of trade explains what mercantilism theorists had in mind. The theory of mercantilism also known as balance of trade theory drew the sketches for international trade. Despite having neither silver nor gold mines, countries could as well grow rich through trade by importing precious metals from other countries. These mechanisms provided the basis for international trade. Furthermore, exportation was highly emphasized and strengthened as a result of stable macro-economic policies emanated from the theory. The impacts of these policies were volume increase in exports, strengthened exportation sector, reduced poverty, and

increased employment creation. Referring to the main objective of this study, as far as mercantilism theory is concerned, foreign trade leads to the strengthened export sector, reduced poverty, and increased employment. As a result, all these lead to the increased economic growth of a country through the multiplier effect (Yaw & Keong, 2019).

Heckscher - Ohlin-Samuelson Theory

The literature on international trade and growth is built using absolute and comparative advantage and the Heckscher-Ohlin-Samuelson model, the Two by Two by Two model (two countries, two commodities, two factors). The Heckscher-Ohlin-Samuelson model as an extension of the Comparative Advantage Theory was in the first place constructed by Eli Heckscher in 1919 and Bertin Ohlin in 1933 but in 1948 the theory experienced some reforms by Paul Samuelson. These economists believe that countries have plenty of factor endowments at a diverse proportion. Hence, the variances in the relative factor endowments at the international level describe the base for specialization and differences in comparative cost.

A country with high capital endowment relative to labor should specialize in the production and exportation of capital intensive goods while a less capital endowed country relative to labour should specialize in the production and exportation of labour-intensive goods (Yaw & Keong, 2019). Since the theory enlightens the reason for international variances in prices which is the basis of comparative advantage, hence Heckscher –Ohlin-Samuelson theory expanded the edges of the concept of comparative advantage. Besides, this kind of specialization which influences external trade has a healthy impact on the economies of the trading partners unlike for the autarky economies (Alfred, 2018).

Since the main objective of this study is to examine the contribution of international trade to Tanzania's economic growth, this theory enlightens the need for conducting international trade and further explains how a country can gain from trade though specializing in the production and exportation of goods produced from high factor endowment relative to another country. This kind of specialization minimizes production costs and increases production efficiency, thus, enhanced production

encourages exportation which in turn enhances injection to the economy hence leads to economic growth (Alfred, 2018).

Staple Theory of Economic Growth

This theory is a Canadian innovation in the field of political economy and this approach has been so useful to social scientists and historians of Canada. The theory was formerly innovated by the late Harold Innis in his early studies in the history field, particularly of the cod fisheries and the fur trade; thus he advocated that the export of staples has a significant contribution to the economic growth of Canada. His main concern was on the general impact on the economy and staple producing societies. The good thing from his theoretical point of view was how the theory concentrated on explaining the overall contribution of staple foreign trade on the economy of the country and more specific on the societies where staple goods are produced.

Despite some criticisms from other scholars specifically in the methodological framework of the theory, that the approach was more on technological history and not economic growth, yet the staple theory by Harold Innis still provided clear insights on the impact of the export of staples to the economic growth (Watlins, 1963). In this study under review, the Staple Theory draws some guiding insights in examining the impact of exports on the economic growth of Tanzania, as it is revealed that exports lean towards economic growth and improved welfare of the societies where staple goods are produced. Since the theory pinpoints on exports as an element of international trade, this study attempts to investigate how goods exports and service exports contribute to the economic growth of Tanzania.

Export Base Theory

Nicholas Kaldor as the pioneer of the export-led growth model made the foundation of the theory on the concept of cumulative causation. He believed that among the components of demand exports serve as the main component which is as well the main component of international trade (Yaw & Keong, 2019).

Countries' economic activities provide goods and services for either export or domestic markets. The export base theory provides the basis for the notion that trade stands as an engine for economic growth, hence export growth provides productivity benefits and positive externalities to regional economies and individual participating countries or trading partners (Lam, 2015). With the underlying assumptions of perfect elasticity of input supply and demand of export, simply export base theory submits that the region's output growth and employment is a function of exogenous region's export demand. Thus, growth is contributed by both direct sales of export goods and the Keynesian income multiplier effect. This is due to the implication that income growth related to the region's export growth leads to further increases in demand for domestic goods, which then, leads to further region's income growth due to the multiplier effect as explained by Keynes (Lam, 2015).

The Export-Led Growth Theory or Export Base Theory advocates that, export is the major source of economic growth and this has been theoretically justified in different pieces of literature. Therefore foreign exchange multiplier effect and the direct and indirect effect of exports on economic growth are of high importance under this review. According to Keynes, the more country's exports are increased the more growth in income is generated in the short run through the multiplier effect. Furthermore, as income generated from export facilitates the country's purchase of essential goods particularly capital goods that will, in turn, be consumed for investment and further production. These goods include machinery, transport equipment, electrical equipment, and fuel without living aside food commodities. The significance importance of these commodities is how they stimulate the economic growth of a nation. Besides, export has an indirect contribution to economic growth as enhanced competition, development in technology, intensified capacity utilization, and economies of scale all together form motivation components for growth. Additionally, export trade is associated with various positive externalities such as enhanced managerial efficiency, efficiency on production techniques, adoption of processes, and technical know-how from the trading partners and other foreign competitors in product crafting hence economic growth (Yaw & Keong, 2019).

2.2.2 International Trade as a Catalyst for Country's Economic Growth: Theoretical Perspective

There are some arguments in literature on foreign trade and economic growth whereby, some scholars support that international trade promotes economic growth on the contrary other scholars do not support that perspective. According to Winters (2002) argues that liberation in trade is advantageous because it allows a country to trade in larger markets hence reduces trading risks in smaller markets significantly. On the other hands, it is argued that among other consequences international trade exposes the involved countries to foreign shocks, however, the magnitude of the shocks depend on the existing institutions, capability and policy decisions of the country to attack the shocks (Winters, McCulloch, & Mackay, 2004)

Works of literature constructed by Dollar and Kraay (2002) emphasizes the positive impact of international trade on economic growth as well as poverty eradication. These studies argued that international trade promotes economic growth and development positively as through trade openness the domestic income of the involved countries will increase. The reason behind this is that trade liberation enables local entrepreneurs to adopt new techniques and methods of utilizing or producing inputs of high quality timely and efficiently, also increasing marginal productivity, enhancing the human capital accumulation, and embracing technology.

Abdulkadir et al. (2017); Agbo et al. (2018) produce useful literature advocating the relationship that international trade through exports and imports has on economic growth. The study argues that exports and imports are believed to be the source for economic growth thus export-led strategic initiatives should highly be heightened. Furthermore, high exports attract the inflow of foreign currency and increase the country's revenue, through which its multiplier effect affects the economic activities and massive production records a fundamental growth which then upturns the growth of the economy. A similar study conducted by Obadan and Okojie (2016) concludes that, trade openness has a positive impact on economic growth. Therefore it is

recommended that macroeconomic fine-tuning should be intensified to enhance international trade through export trade promotion and limiting imports.

Moreover, Tinta, et al. (2018) indicates that countries should promote regional integration to strengthen economic growth for individual countries. His conclusion goes contrary to many other economists as he argues that international trade does not provide a better solution to lift countries' economies within the regional integration. Obadan and Okojie (2016) state that it is deceitful for African states to campaign and strategize for a potential penetration to the world markets whilst trade openness at home is rejected. It is as well self-defeating as protectionism of the domestic market facilitates continuing poverty in Africa. Different studies reveal that nations exposed to high trade openness enjoy high growth of the economy as compared to countries that constrain trade openness.

Even though the theoretical relationship between overseas trade and economic growth has received an extensive argument for more than two consecutive centuries, numerous ambiguities still encounter their actual effects. The debates in favor of international trade can be sketched out from the school of thought by classical economists championed by Adam Smith. Thereafter, the justification for open trade has been impressively debated in the literature. Here below, different empirical justifications will be presented.

2.3 Empirical Literature Review

Discussions on the macroeconomic indicators require quality and sufficient data recorded in the long run. The reason is to escape from bias and to picture out the long-term trend of the employed variables. Given the scantiness of long term data range in many countries, different scholars have employed cross-sectional data analysis where time-series data analysis is limited in examining economic growth determination as an impact of international trade. Consecutively for some decades, the debate on international trade and its impact on the growth of the economy has been given more attention, hence fruits of these empirical works suggest that increased opening to trade or limited trade protectionism is in one way or another connected with increase in the

economic growth. However, in different scenarios mixed conclusions have been drawn by different researchers. Some of these discussions are presented below.

Abdulkadir et al. (2017) examined the impact of exports and imports on the economic growth of Somalia. This study employed OLS method as well tested for Granger Causality and Co-integration to examine time series data. Findings indicate that international trade impacts positively on the economic growth of Somalia. In fact, enhanced exports as a result of trade openness result in increased GDP which indicates the positive economic growth in Somalia. Husin (2018) in a very similar study proves that, export has no relationship with the economic growth of Malaysia. Moreover, another main component of international trade (imports) registers a significant relationship with economic growth. While Abdulkadir et al. (2017) emphasize for export-led strategic initiatives in line with export-led import as to boost the economic growth of Somalia, Husin (2018) emphasizes for protectionism since international trade yields an insignificant contribution to the economic growth of Malaysia.

In view of the foregoing, Sulaiman and Ramli (2019) appeal to Abdulkadir et al. (2017) however an extended discussion on the simultaneous linkages' effect (exchange rates and other independent variables which include export and import) to economic growth and the importance of interaction variables to the economic growth of developing countries is initiated. By using multivariate techniques including Vector Error Correction and Johansen Juselius, Sulaiman & Ramli (2019) through an empirical study based on Malaysia's economy prove that international trade performs a significant role in the growth of the economy in the long term. A significant positive effect of interaction variables (real effective exchange rate and Export; real effective exchange rate and import) on GDP is registered.

Besides, the international trade responds sensitively to fluctuations in the exchange rate due to its interaction with the import and export. The interaction variables in both long term and short term impact positively the GDP (economic growth). Thus, the importance of exchange rate on trade and GDP at large as employed in this study is of high significance since the price of a country's currency rises if its demand is high

while if the demand is lower the price of a country's currency goes down (Kess, 2019). Therefore as the country's exchange rate against trading partners increases, exports are also expected to become expensive while imports expectedly become cheaper and vice versa (Dubravskaa & Siraa, 2015).

While in other studies such as Abdulkadir et al. (2017); Agbo et al. (2018); Husin (2018) the concentration is grounded more on imports and exports against GDP, the substantial segment of this argument by Hassen et al. (2019) takes into consideration of some other influential factors of international trade such as trade openness, human capital, FDI and financial development and therefore employs OLS method on time series data to explain their impact on Tunisia's economic growth. Besides, trade openness, human capital, foreign direct investment, and the ratio of money taken as the measure for financial development reveal a long term positive significance on economic growth. Thus, human capital correlates positively to economic growth due to its special and significant contribution to innovation and development in technology. Meanwhile, investment leans towards productivity then investment in human capital influences production, trade, and a further increase in economic growth. When the level of literacy is high, an open economy grows higher than a country in an autarky economy (Pelinescu, 2015).

International trade can involve countries that are within the economic regional integration or otherwise. Under the scenario where trade is conducted by a country/countries in regional integration, there are expectedly different experiences; for example, Silajdzic & Mehic (2018) by using fixed effects panel methods and least squares dummy variables method re-examined the relationship between trade openness and economic growth. Findings reveal that international trade does not provide a better solution to lift economies of the (Central and Eastern Europe) CEE countries of the European Union hence policy implications in support of the positive effect of trade barriers on economic growth matters more beyond the international trade effect; that means international trade has no significant contribution on the economic growth of CEE.

In picturing the preceding study, Tinta et al. (2018) estimated two models with fixed effect panel techniques and the results indicate that countries should promote regional integration to strengthen economic growth for individual countries, thus international trade does not provide a better solution to lift ECOWAS countries' economies. Since regional trade is concomitant to the formation of value chains for each country can be the drive for growth, unlike international trade. The take from these justifications is that intracommunity or regional trade and per capita value added domestically are of high potential in accelerating economic growth for individual countries within that particular region while the relationship between growth and open trade is not vigorous, hence more emphasize should be on fine-tuning the policies to strengthen regional trade (Ungerer, Hernandez, & Vincelette, 2018).

In examining the impact of trade openness on the performance of Kenya's economy for regional trading partners, Ovamba (2019) employed a correlational analysis and the findings propose that trading with Sub Sahara and Arab countries impact the economic performance of Kenya positively. More specifically, international trade with South Asia and Northern Africa has less impact whereas trading with high-income countries harms Kenya's economy. This suggests that a low-income country like Kenya has to involve herself more in open trade with Arab and Sub Saharan Africa instead of the high-income states to increase performance in the economy (Ovamba, 2019). These justifications appeal to Linder's country similarity theory which suggests that countries with similarities particularly similar culture, geographical location, similar political interests, similar economies, and a similar level of development prefer to trade with each other. This is because the similarity of location reduces costs of goods transportation; a similar culture reflects similar taste and preference hence encourages trade as well similarity in political and economic interests provides room for mutual trade agreements among countries (Yaw & Keong, 2019).

Furthermore, Obadan and Okojie (2016) by using time series data for OLS estimation indicate that trade openness has a positive impact on the economic growth of Nigeria. Besides, political instability which has been rarely involved in explaining interaction impact on growth indicates a strong negative impact which confirms the true colours

of the democracy of the country, thus an improvement in a democracy needs to be intensified as foreign investors are reluctant to an economy with political instability. Under this review, exchange rate and Foreign Direct Investment are erroneously assigned and therefore fail to meet the aforementioned expectations. Hence, intensified diversification strategies on export base for oil, commodities, and minerals need to be enhanced, oil market repositioning as well as boosts exports which at the final edges boost growth. Since Nigeria's exports are not for industrialized goods and services, devaluation of the Nigerian currency deteriorates the economy as the overseas demand and supply of non-industrial goods and services are inelastic.

On the other hand, a multiple regression time-series study conducted by Agbo et al. (2018) indicate that export has a significant impact on the economic growth of Nigeria while import has an insignificant impact on growth. However, exports impacts positively the economic growth, diversification of the exportation sector should be enhanced that over-dependence on oil exportation needs to be lessened and exportation of non-oil goods needs to be shouted. Stable exchange rates and conducive infrastructures expedite trade and economic growth. These two studies extend the access for further macroeconomic fine-tuning to enhance international trade through export trade promotion and limiting consumption of overseas goods and services which harm the economic growth of Nigeria.

Through an experimental study, Kenya (2017) by using OLS regression, unit root test, Johansen co-integration technique and error correction technique proposes that imports, exports, and foreign direct investment have a long-run relationship with growth and that export and Foreign Direct investment affect economic growth positively, while the negative impact is with the import effect. That negative impact of imports is something unsurprising due to the nature of Nigeria's importations (finished goods but mainly consumables and household items) which do not form injections to the GDP. Despite the positive impact of exports and FDI, international trade points out an insignificant impact on Nigeria's economic growth. Forward and backward linkages are minimal because exportation in Nigeria involves agricultural goods and

unrefined oil. As well FDI inflow is into portfolio investment and not the real sector and thus its contribution to the national output is minimal or completely nothing.

Despite different studies such as Agbo et al. (2018); Kenya (2017); Obadan and Okojie (2016) conducted in Nigeria attempt to examine the general impact of overseas trade on Nigeria's economic growth, Faruk (2018) pursued a more specific study to re-investigate individual contribution of trade openness, exchange rate and FDI on economic growth in Nigeria. From time series data analysis Faruk (2018) indicates that openness affects the growth of Real GDP positively and significantly while for the case of imports and exports the relationship is negative but significant. Since the exportation sector is concentrated much on raw goods, export plays an insignificant role in growth. However, different results provide an indication that amongst the determinants of foreign trade, export provides more contribution to economic growth. These justifications appeal to numerous theoretical and empirical shreds of evidence advocate that export exercises a huge and significant impact on growth above other variables in low-income countries like Nigeria which concentrate more on exporting raw goods. Nigeria and other developing countries need to embrace massive production and enabled exportation of finished goods, as well to enhance proper strategies and policies in trade which will appeal to foreign investors, increased inflows of capital, and enhanced FDI to influence the increase in economic growth.

Among the key goals of the strategy on India's economic reform after 1991 regarding the external sector, were to form a major fine-tuning of exportation and enhance huge foreign capital inflows through export-oriented Foreign Direct Investment (Abubakar & Shehu, 2015). A significant slice of previous research works revealed an indication of correlation between exportation and economic growth which is also supported for export-led promotion. As such, this is likely to pose some doubts on time-series studies on the long-run positive impacts of country's exportation on economic growth, rather this embraces only on a cross-sectional analysis (Obadan & Okojie, 2016). However, Abubakar and Shehu (2015) in a time series analysis indicate the presence of a positive and significant relationship between domestic investment and exports with Gross Domestic Product for both long run and short run estimation. Moreover, imports and

exchange rates reveal a negative and statistically significant long-run relationship with GDP while the same yields a negative relationship but statistically insignificant in a short run estimation, and a further short-run causal relationship between domestic investment, exports and exchange rates to Gross Domestic Product.

Parallel to the preceding, Musinguzi and Rapha (2019) focused on GDP, imports, exports, and FDI to analyze the effect of foreign trade on Uganda's economic growth. By using OLS technique, the authors indicate a strong positive relationship between exports and Uganda's GDP (economic growth) while the coefficient of correlation of exports and economic growth in comparison to that of imports and economic growth is slightly lower. The impact of imports on the economic growth of Uganda is greater which is \$8.55 compared to that of exports which is \$1.23, the implication being the presence of high capital goods inflows particularly in industrial, agricultural and service sectors while FDI as one of the involved determinants of trade reflected a negative effect on Gross Domestic Product by \$-2.46. As suggested by Abubakar and Shehu (2015), Musinguzi and Rapha (2019) similarly suggest for policymakers to emphasize on production for exportation, importation of capital goods and services, enhance the development of Uganda FDI hence improve GDP which reflects performance in Uganda's economy.

In assessing the relationship between international trade and economic growth for the countries of the Middle East, Erkisi (2019) insists the indication of correlation between exports and economic growth which as well supports for export-led promotion, thus there is a long-run positive impact of country's exportation on economic growth in a cross-section analysis. As suggested by Obadan and Okojie (2016) on the correlational relationship between exports and economic growth in cross-section studies, Erkisi (2019) employs Dumitrescu & Hurlin causality test, Panel Co-integration and PGM estimation and justifies that, international trade leads to sustainable growth in the long run. Thus, there is a short term; bidirectional causality between imports and GDP, bidirectional causality between exports and GDP, a unidirectional causality for exports to imports. Also at the country level, the study indicates a long term relationship for

Egypt, Israel, Oman, Yemen, Cyprus, Jordan, Turkey, Iran, S. Arabia, and Qatar, but not for Lebanon, Kuwait and Bahrain.

In different analytical studies, overall time-series data analysis for a set of years is normally been employed. However, in investigating causality on the liberalization of trade and Sri Lanka's economic growth for the period of 1960 to 2012, Herath (2016) divided the time series data covering that particular period into two intervals; before trade liberalization (1960-1976) and after the liberalization of trade (1977-2012). This study confirms a visible change in the economic growth of Sri Lanka before and after the liberalization of trade; therefore there is a significant positive relationship on the liberalization of trade with a country's economic growth.

In the face of international trade as one of the important areas of concentration in research, few studies have applied advanced econometric analysis on the impact of foreign trade on economic growth in South Africa (Mogoe & Mongale, 2014). Consequently, Mogoe and Mongale (2014) employed a co-integration vector auto-regression technique through Augmented Dickey-Fuller Phillips - Perron for stationarity test, Johansen co-integration test, and Vector error correlation test to accomplish their study. Therefore the study indicates all the variables have a long-run relationship between the GDP with export, import, exchange rate, and inflation. Along with this, empirical results confirm that GDP is positively related to export, inflation rate, and exchange rate while imports with GDP indicated a negative relationship. Without involving sophisticated techniques in analysis, Malefane and Odhiambo (2019) employed an exploratory research design to investigate the role of international trade in the economic growth of Lesotho, with a focus on economic growth policy, economic growth trends, trade performance, and trade policy. The authors pinpoint the presence of a relationship between exports of manufactured goods and economic growth.

Furthermore, the graphical analysis reveals that Lesotho's economic growth trends correspond positively to international trade performance. Correspondingly, through the application of advanced econometric techniques, Azam, Rafiq, & Nazir (2015)

endorse that international trade has a significant relationship with economic growth. Thus, depending on the nature of the study and the author's/authors' choice a study may or may not apply advanced econometrics yet the results yielded may become valuable. Azam et al. (2015); Malefane and Odhiambo (2019); Mogoe and Mongale (2014) provide a lane for enhancement of exportation sector through increased production and fine-tuned macroeconomic policies appealing to export promotion as exports play a great role on economic growth.

In analyzing the impact of foreign trade on the economic growth of South Africa, Xuba (2018) through OLS approach indicates the presence of a long-run positive relationship between foreign trade and growth and that foreign trade leads to economic growth. The involvement of the exchange rate and inflation in this study is substantial as exchange rate depreciation stimulates the rate of exportation as inflation lean towards a rise in consumption resulted from high domestic production. These arguments concur with Sulaiman and Ramli (2019) in explaining the role of the exchange rate in stimulating exportation and a further increase in economic growth, however, Xuba (2018) finds the importance of employing the effect of inflation on international trade and economic growth, as inflation rate increases in the domestic economy, exportation tends to decline while importation is stimulated since local consumers are encouraged to buy goods and services from abroad and this provides an indication of unhealthy impact to GDP.

Due to the shift of the debate on trade as a key determinant of growth to growth spillovers as reflected by trade and interdependence of openness growth, Radimersky and Hajko (2018) employed panel data analysis for EU countries involving the data set 1999-2011 covering export shares weights among the trade partners in examining the impact on the economic growth of European Union countries as impacted by international trade. Thus, trade openness has an insignificant impact on growth while when including trade partner's growth in the model, this reveals that trade partner's growth has a significant impact on domestic economic growth. It is even more interesting that the growth of intra-industry trade considerably increases economic growth.

Contrary to Radimersky's and Hajko's study, Malefane and Odhiambo (2019) employed autoregressive distributed lag bound technique and the results show that trade openness depicts a long run and short run insignificant impact on economic growth in Lesotho. Since the former employed panel data analysis, while the latter employed time series analysis respectively, this is the reason correlational relationship reveals conflicting results in these two studies, as time series analysis is likely doubted on the long-run positive impacts of country's exportation on economic growth. Thus, the growth of the economy and worthwhile trade openness are subjected to the enhancement of human capital and the development of infrastructure.

Due to contentious debate concerning foreign trade and its relationship with the economic growth of countries both in developing and developed world, Egbetunde and Obamuyi (2018) empirically examine the subject matter focusing on causality test for proper policy development in India and Nigeria. Granger causality test and Vector Auto-regression techniques were used for data estimation, thus the study reveals a positive and significant influence of economic growth on foreign trade in India and Nigeria as well; economic growth Granger causes foreign trade in India and Nigeria. However, this study points out the conclusion that foreign trade works as a catalyst for further countries' economic activities enhancement, and therefore economic growth, the researcher would have employed a cross-sectional analysis instead of time-series analysis which would have yielded similar or even different rationalizations.

Purnama and Yao (2019) employed a cross-sectional analysis to investigate a long term relationship between international trade and economic growth in ASEAN nations. The two parameters reveal a long term co-integration relationship and that Foreign Direct Investment and international trade has a positive, long-term effect on economic growth whilst the exchange rate has a long term, negative impact on economic growth. This negative impact of the exchange rate is justified in a way that, holding higher exchange rates in relation to trade partners is likely weakening the economic growth as exports become expensive then depresses demand for exports, imports become cheaper hence higher demand on imports and worsened demand for locally produced goods.

Among other determinants of foreign trade such as imports, exports, and trade openness, Lawal and Ezeuchenne (2017) additionally include the balance of trade to determine the impact on the economic growth of Nigeria in terms of real GDP. Other reviewed studies under this particular discussion such as Ali and Xialing (2017); Ghaffar et al. (2019) involved other variables but not the balance of trade. The impact of balance of trade together with exports on economic growth is significant in the long run and the short run while in the long-run trade openness and imports register a significant but insignificant impact in the short run. Since the balance of trade forms one of the key elements of GDP, thus GDP increases in the presence of trade surplus and a decrease in the presence of trade deficit. Generally, Lawal and Ezeuchenne (2017) show a long-run relationship between economic growth and international trade.

In view of the above-discussed, every argument in both the theoretical part and empirical point of view has a substantial contribution to this important discussion. However, each of these studies has taken a different approach; and sometimes in some studies, the approach in one study is slightly similar or completely similar to the other. These differences and/or similarities are precisely observed on the type and number of variables employed, methodological segment and consequently, the results yielded. For example, Abdulkadir et al. (2017) examined the impact of exports and imports on the economic growth of Somalia, whereby exports and imports were employed to explain GDP. The results revealed that, export and imports are the sources for the economic growth of Somalia, such that the country needs export-led strategies as well as export-led imports. Similarly, studies conducted by Agbo et al. (2018); Husin (2018) are of the same nature as the above-mentioned; but the results are conflicting. The former indicates to have a significant relationship between exports and economic growth and an insignificant relationship for imports while the later indicates a vice-versa. Sulaiman and Ramli (2019) constructed a linkage effect of the exchange rate and interaction variables (imports and exports) and realized that international trade performs a significant role in economic growth. Other studies extend the discussion by employing variables like trade openness, human capital, FDI and financial development yet the international trade registered a positive impact on economic

growth (Faruk, 2018; Hassen et al., 2019; Kenya, 2017; Musinguzi & Rapha, 2019; Obadan & Okojie, 2016). Some other scholars conclude that international trade does not provide a better solution to lift economies of the member states in the economic regions. They further, suggest that, countries should promote regional integration to strengthen the economic growth of individual member countries (Silajdzic & Mehic, 2018; Tinta, et al., 2018).

These contradictory findings call for further research works. In many of the studies discussed above, imports and exports were commonly employed as explanatory variables and GDP as a dependent variable for analysis purpose. However, other trade indicators were also included as explanatory variables for sometimes. Furthermore, Ordinary Least Square Estimation method was highly utilized (Abdulkadir et al., 2017; Agbo et al., 2018; Hassen et al., 2019; Husin, 2018; Kenya, 2017; Musinguzi & Rapha, 2019; Obadan & Okojie, 2016; Xuba, 2018). Since exports and imports are the main components of trade and they include both goods and service values, utilizing exports and imports in their aggregate values leaves a gap for further discussions. Notwithstanding, discussing international trade and its impact on economic growth without including imports and exports aspects are likely to result to more confusing results. Therefore, this study examines the impact of international trade on the economic growth of Tanzania by including imports and exports as explanatory variables and GDP as a dependent variable. Ordinary Least Square method is utilized for analysis and model estimation.

However, under this review the main components of international trade are discussed and analyzed in their specificity. That is to say, exports have been subdivided into goods exports and service exports and imports into goods imports and service imports. The purpose is to investigate the specific contribution of each category to the economic growth of Tanzania. Furthermore, for a productive analysis, this study includes some control variables, specifically, the exchange rate and inflation rate.

2.4 Conceptual Framework

The conceptual framework shows diagrammatically how GDP is related to Export value (both goods exports and service exports) and Import value (both goods imports and service imports). Moreover, it shows how explanatory variables affect the dependent variable (GDP). Therefore, Exports; Portion of the total number of goods and services produced in the country that is purchased by a foreign country is an injection to the Tanzanian economy; hence it is anticipated to be positive. Thus it is expected that as the export value increases, the GDP will also increase (Krugman et al., 2018).

Imports; the total number of goods and services purchased by residents of Tanzania, but produced by foreign countries, is a withdrawal from the Tanzanian economy; hence it is anticipated to be negative. Thus it is expected that as import value increases GDP will decrease (Krugman et al., 2018). For a more fruitful analysis, this study also includes some control variables; exchange rate and inflation rate. Thus:

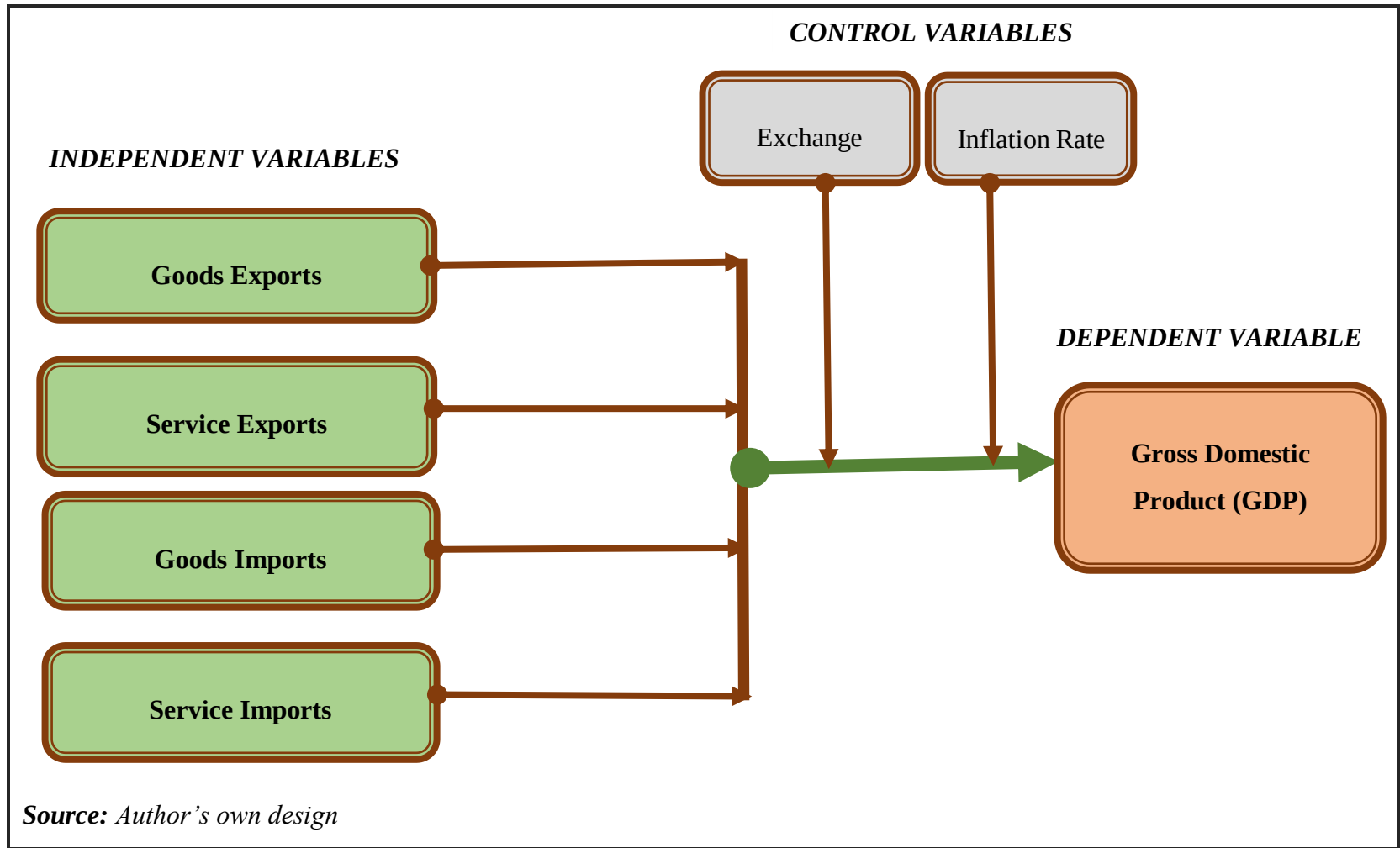
When the inflation rate of a country rises relative to that of the trading partner countries, under *ceteris paribus* its current account will be anticipated to go down. The implication is that consumers and firms will mostly buy goods and services from abroad due to the increasing domestic inflation whilst the exportation of goods and services overseas will deteriorate. Then it is expected that as the inflation rate increases exports will decrease while imports will increase and this will lead to a decrease in GDP while the declining inflation rate will influence exports and lower imports (Alotaibi, 2016).

Exchange rate refers to one currency's price in terms of the other fluctuates responding to the demand for that currency in particular. The price of the country's currency will rise if its demand is high while if the demand is lower the price of a country's currency will go down (Kess, 2019). Therefore, when Tanzania's exchange rate in terms of her trading partners increases, its exports are expected to become expensive while imports will be expected to become cheaper. On the other hand, when the exchange rate in terms of other trading partners decreases, the exports are anticipated to become

relatively cheaper as imports become relatively expensive (Dubravskaa & Siraa, 2015).

Therefore this study employs different methodological techniques to estimate parameters of the model which explain these variables. The Conceptual framework for this study is presented in Figure 2.1:

Figure 2.1: Conceptual framework of the impact of international trade on the economic growth of Tanzania.



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section of the research methodology is designed to provide a description of how the whole study is performed. The study is aimed to make an assessment of the contribution of international trade to the country's economic growth. Thus, this chapter includes the study area, research design, study population, data collection procedures, variable identification, methods of analysis, model specification, and lastly the ethical consideration.

3.1 Research Design

The selection of research design has a substantial concern since it draws prearrangement of the conditions necessary for the collection and the analysis of the data in a way that aspires to combine the purpose or objectives of the study (Creswell & Plano, 2011). Thus, a proper research design selection will produce a plan or layout structure or a blueprint for the research strategy designed to obtain answers to the research questions through a systematic collection and data analysis in the process of integrating research purposes with the economy (Kothari, 2004).

Since this study is aimed at examining the contribution of international trade to Tanzania's economic growth, the researcher employs a longitudinal research design which is an appropriate design for a time series analysis. The study's data are the statistical observations recorded for 31 years on Tanzania's yearly exports of goods and services, imports of goods and services and the control variables specifically the foreign exchange rate and inflation rate together with the dependent variable Gross Domestic Product (GDP). With longitudinal research design, a single research unit or subject is studied or measured repetitively over a regular interval of time. This allows for an underlying

realistic pattern of change over a period to be observed by the researcher (Cooper & Schindler, 2011).

3.2 Study Area

This research is carried out in Tanzania as it is specifically involving the most notably known macroeconomic variables of Tanzania, particularly GDP and the perceptive of international trade. Also, the researcher includes control variables of inflation and foreign exchange, to meet the primary objective of this study (to examine the contribution of international trade to economic growth in Tanzania). Since the study involves the use of macroeconomic analysis of Tanzania, data of interest are obtained from the official websites of the World Development Indicators of the World Bank. The World Development Indicators of the World Bank is an international instrument whereby different development indicators' for all World Bank member countries are published. Thus, this study relies on this important reliable source and therefore the international trade and economic growth of a country as a whole are studied.

3.3 Types and Sources of Data

Due to the nature of this study that it requires statistical and econometric analysis, therefore numerical quantitative data which act as the raw material for analysis calls for data collection. This particular research study uses the well-published secondary data whereby secondary data refers to data that was already collected by another person or an institution for another statistical or research study reason, and also it has already been through the necessary statistical processes (Kothari, 2004). Since the published secondary data are usually found on the various publications by the government or other institutions and other international bodies, the current study also reviews books journals and magazines. This study, in particular, employs the published secondary data of time-series nature over the period of 31 years from 1988 to 2018 collected from the World Development indicators site of the World Bank. The use of time-series data enables the representation of trends over the period of interest.

3.4 Data Collection Procedures and Methods

This particular study employs quantitative time-series data that was already collected for 31 years from 1988 to 2018. The data were gathered from the World Bank data site (<https://databank.worldbank.org/>). The data will be recorded in US dollar currency.

3.5 Data Processing and Analysis

Data analysis allows for a systematic application of statistical and logical techniques in describing, illustrating, condensing, recapturing, and evaluating data. Furthermore, it includes cleaning, transforming, and modeling data to discover valuable business decision-making knowledge since data analysis aims at collecting useful data information and taking the decision based on the data analysis (Cooper & Schindler, 2011).

This research study in particular employs an econometric analysis of the gathered data. The collected data are thereafter sorted out and processed in the arrangement that they suit the analysis, discussion, and interpretations, and hence enable the study to have meaningful conclusions. The use of the econometric analysis is preferred as the basis of the study analysis in order to create a visual and casual relationship of the variables, where the collected data are then most likely be coded and transferred to the STATA (statistical software analysis tool) in order to formulate and evaluate the economic model. Microsoft Office tools for analysis such as MS-Word and MS-Excel are as well used.

The study definitely uses the multiple linear regressions model in econometric form using the Ordinary Least Squares Method (OLS) method, which helps in determining the relationships between endogenous variables and exogenous variables. The method becomes efficiently helpful in understanding the relationships between variables, especially in the long term. In data analysis, the Ordinary Least Square analysis is usefully implemented as it uses data very effectively and is often clearly understandable and interpretable for statistical values. Besides, the OLS is an effective approach to understanding the relationship between exogenous and endogenous variables, keeping

other variables stable (constant), and producing optimized results (Gujarati & Porter, 2008).

Furthermore, in sustaining assumptions of the classical linear regression, different necessary time series related tests are performed to ensure the validity aspects of the collected data. These tests include:

Firstly, the Dickey-Fuller test checks for stationarity of the collected data by testing the unit-roots presence. The main intention is to check if the variables which will be used to estimate the model are stationary or non-stationary or to check if the involved variables in the model portray a unit root or not. This test is important since a stationarized series is relatively easy to predict: you simply predict that its statistical properties will be the same in the future as they have been in the past. Also this helps to obtain meaningful sample statistics such as means, variances, and correlations with other variables, therefore such statistics are useful as descriptors of future behavior only if the series is stationary (Gujarati, 2012)

Secondly, the Granger causality test aims at checking the directions and trend of the causality effect among the seven variables that constitute the model. Therefore the Granger test employs pairs' estimation of regressions.

Thirdly, the study tests for homogeneity of variance of the residuals and therefore as to check for heteroscedasticity which implies that variance of the residuals is non-constant (Heteroscedastic). By using hettest; the Breusch-Pagan test is used to test the problem of heteroscedasticity. This test is also employed to check for auto-correlations of the error terms, that is if the model estimated is free from the problem of serial correlation or not.

Finally, Variance Inflating Factor (VIF) measures are to test the extent of multicollinearity in a set of multiple explanatory variables in a regression. The presence of this problem can cause a number of problems specifically in understanding individual variables'

significance in the regression model, therefore if the value of VIF exceeds 10 then further investigation on that respective variable is advised and that the model can be adjusted. Breusch-Pagan test may also be used to check for multicollinearity.

3.6 Model Specification

The relationship between various variables of economics is usually non-deterministic (Gujarati & Porter, 2008). Thus, the study adopts a multiple regression econometric model that allows for the inexact relationship between the variables i.e. international trade variables and economic growth. Furthermore, the Ordinary Least Squares (OLS) estimation technique is employed to estimate parameters of the model. The researcher opts to use OLS method since it is widely used to estimate the parameter of a linear regression model and therefore OLS estimators minimize the sum of the squared errors (a difference between observed values and predicted values) given that the underlying assumptions of OLS regression are observed, hence appropriate for this study. Besides, lack of knowledge of OLS assumptions would result in its misuse and give incorrect results for the econometrics test completed. The model estimation and regression analysis use time-series data for the period 1988 – 2018. Therefore, since the aim of this study is to assess the impact of international trade on the economic growth of Tanzania, the multiple regression model specified below is proposed for the study.

$$\text{GDP} = \beta_0 + \beta_1 \text{expgd} + \beta_2 \text{expser} + \beta_3 \text{impgd} + \beta_4 \text{impser} + \beta_5 \text{exr} + \beta_6 \text{inf} + \mu \dots (1)$$

After log transformation;

$$\ln \text{GDP} = \beta_0 + \beta_1 \ln \text{expgd} + \beta_2 \ln \text{expser} + \beta_3 \ln \text{impgd} + \beta_4 \ln \text{impser} + \beta_5 \ln \text{exr} + \beta_6 \ln \text{inf} + \mu \dots (2)$$

Where

β_1 to β_6 = coefficients

GDP stands for Gross Domestic Product.

expgd stands for Goods exports.

expser stands for Service export.

impgd stands for Goods imports.

impser stands for Service imports.

exr stands for Exchange rate.

inf stands for the Inflation rate.

β_0 = intercept term, which is the value of GDP when $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are held constant

β_1 = the effect of $\ln \text{expgd}$ on $\ln \text{GDP}$ when other factors are held constant.

β_2 = the effect of $\ln \text{expser}$ on $\ln \text{GDP}$ when other factors are held constant.

β_3 = the effect of $\ln \text{impgd}$ on $\ln \text{GDP}$ when other factors are held constant.

β_4 = the effect of $\ln \text{impser}$ on $\ln \text{GDP}$ when other factors are held constant.

β_5 = the effect of $\ln \text{exr}$ on $\ln \text{GDP}$ when other factors are held constant.

β_6 = the effect of $\ln \text{inf}$ on $\ln \text{GDP}$ when other factors are held constant.

μ = The Error term which accounts for other unobserved factors that may affect $\ln \text{GDP}$.

The predicted signs of the coefficients of the independent variables are:

$\beta_0 > 0, \beta_1 > 0, \beta_2 > 0, \beta_3 < 0, \beta_4 < 0, \beta_5 < 0, \beta_6 < 0$

Therefore;

β_0 is expected to be positive due to the reason that there are other factors which as well determine the GDP separately from the stated variables in the model.

β_1 is expected to be positive for, in economics, goods export is considered as an injection to the economy of the exporting country.

β_2 is expected to be positive for, in economics, service export is considered as an injection to the economy of the exporting country.

β_3 is expected to be negative for, in economics, goods imports are considered as withdrawal from the economy of the importing country.

β_4 is expected to be negative for, in economics, service import is considered as a withdrawal from the economy of the importing country.

β_5 is expected to be negative for, in economics, when the country's exchange rate in terms of her trading partner increases, exports will be expected to become expensive while imports will be expected to become cheaper, the impact will be a withdrawal from the economy. On the other hand, when the exchange rate in terms of other trading partner decreases, exports will be anticipated to become relatively cheaper as imports become relatively expensive

β_6 is expected to be negative for, in economics, as the inflation rate of a country rises relative to that of the trading partner countries, under ceteris paribus its current account will be anticipated to go down. The implication is that consumers and firms will mostly buy goods and services from abroad due to the increasing domestic inflation whilst the exportation of goods and services overseas will deteriorate; this will lead to a withdrawal from the economy. Then it is expected that, as the inflation rate increases exports will decrease while imports will increase and this will lead to a decrease in GDP while the declining inflation rate will influence exports and lower imports.

3.7 Ethical Consideration

The awareness of the ethics and values of science reminds the researcher of the obligation to evaluate, inform the public, and protect human subjects' privacy and well-being (Mason

& Bramble, 1997). Consequently, anyone who joins the research activities must adhere to ethical obligations. During the planning and conduct of the study, the researcher must follow all the necessary laws, regulations, and obligations of the research. Therefore, the acquired data were given a caution in obtaining information contents and confidentiality guarantee. Other scholars' suggestions are also well acknowledged accordingly.

CHAPTER FOUR

PRESENTATION OF THE FINDINGS

4.0 Introduction

This chapter enlightens the procedures taken into consideration to obtain all the necessary results and indicates the findings of the study. The findings presented in this chapter are in line with the main objective of the study which is to examine the contribution of international trade to Tanzania's economic growth. Both Descriptive and Econometric analyses are conducted. Hence, econometric techniques for testing and estimation of all international trade indicators of interest and the employed control variables which influence the economic growth of Tanzania have been employed. Important tests included in this chapter are the Stationarity test, test for Multicollinearity, Heteroscedasticity test, Model specification test, test for Autocorellation, Cointegration test, and Granger Causality test. Lastly, the regression model is also estimated in this chapter. Statistical tools; Microsoft excel and STATA package are used to present findings.

4.1 Descriptive Statistics

This analysis technique involves the demonstration of a summary of the data-set in a graphical or chart form of which represents the entire study population or its sample. Therefore, it defines the characteristics of the particular data of interest in a study. Measurement of the central tendency or variability has been used to quantify the description. The data-set is reliable as it is extracted from the most trusted and reliable source of secondary data specifically development indicators for different countries around the globe. The study uses the measurement of a central tendency such as mean (the weighted average of the series) and standard deviation which is useful to determine the observed data divergence from the center. Additionally, the range, minimum value, and maximum value are determined under this section. Below are the established descriptive statistics for each respective variable.

Table 4.1: Descriptive statistics

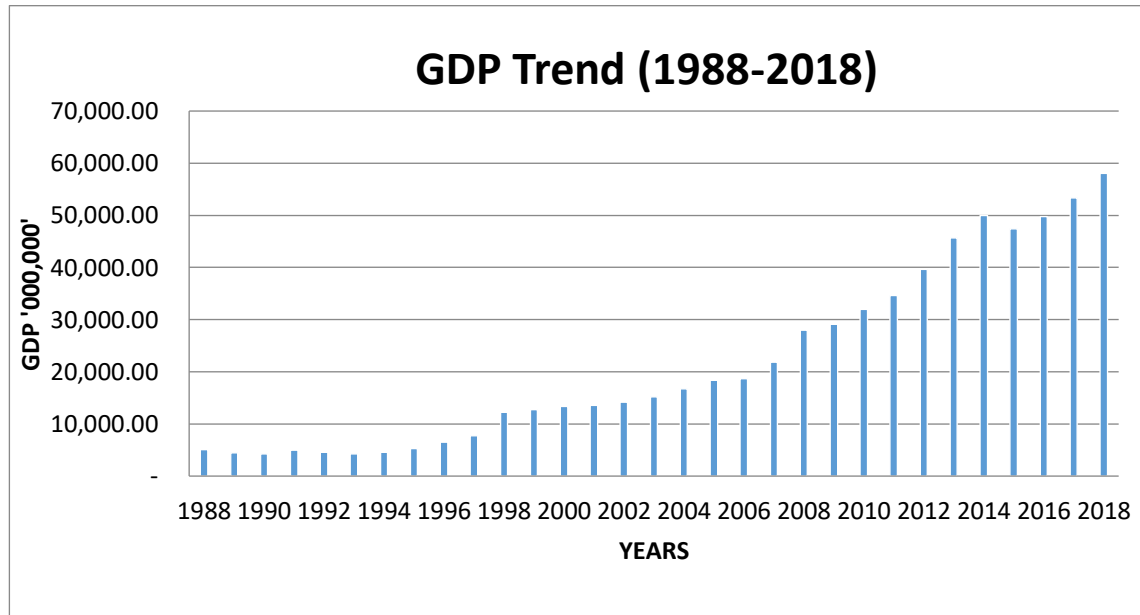
<i>Variables</i>	<i>Mean</i>	<i>Standard Error</i>	<i>Median</i>	<i>Standard Deviation</i>	<i>Range</i>	<i>Min.</i>	<i>Max.</i>	<i>Count</i>
GDP ‘000,000’ (USD)	21,803	3,116	15,224	17,346	53,743	4,258	58,001	31
Goods exports ‘000,000’ (USD)	2,273	364	1,221	2,024	5,526	363	5,889	31
Service exports ‘000,000’ (USD)	1,482	226	948	1,261	3,897	117	4,015	31
Goods imports ‘000,000’ (USD)	4,234	649	1,933	3,611	9,996	1,033	11,029	31
Service imports ‘000,000’ (USD)	1,245	141	975	785	2,406	263	2,670	31
Exchange rate (TZS)	1,045	113	1,038	630	2,164	99	2,264	31
Inflation rate (%)	14	2	8	10	32	3	36	31

Data source: World Bank (2020)

4.1.1 Gross Domestic Product (GDP)

In this study, the published GDP secondary data of time-series nature over 31 years ranging from 1988 to 2018 were obtained from the World Development indicators site of the World Bank. Table 4.1 registers that the mean for this series is USD 21,803,000,000; the standard deviation is USD 17,346,000,000; the range is USD 53,743,000,000, since the minimum value is 4,258,000,000 while the maximum value is USD 58,001,000,000. Figure 4.1 provides the summarized GDP trend from the year 1988 to 2018.

Figure 4.1: GDP trend (1988 - 2018)



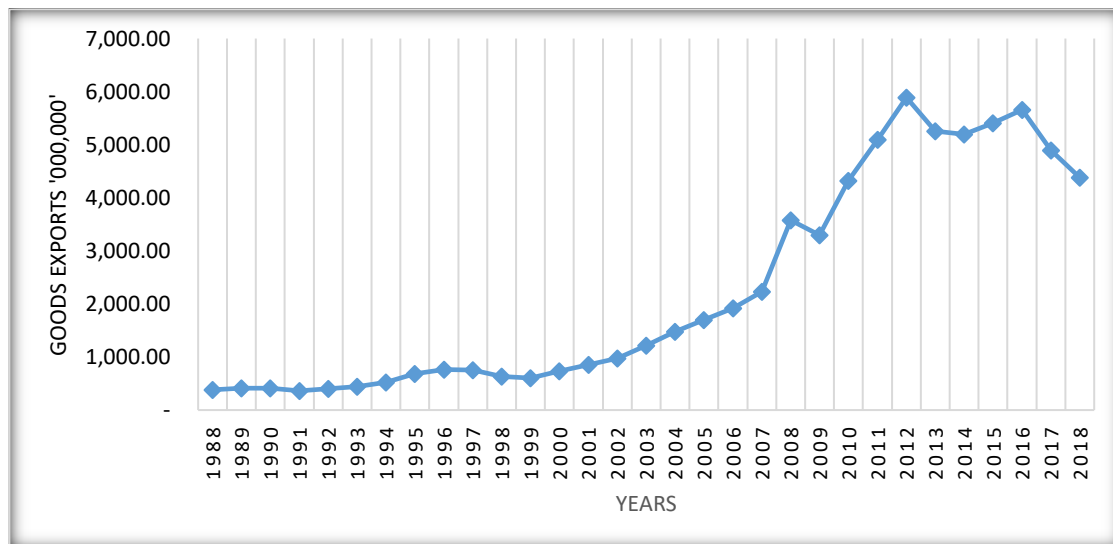
Data source: World Bank (2020)

From the year 1988 to 2018 Tanzania experienced a remarkable general upward trend in the country's GDP despite some fluctuations across the period under review. In 1988, Tanzania recorded GDP amounting USD 5,100,405,772.46 whereas the trend throughout 1997 does not draw striking progress. In 1998 the recorded GDP of USD 12,270,448,700.20 at least started to indicate some progress and throughout 2018 the trend was outstanding. This is the period when Tanzania emphasized on the restructuring of the fiscal framework and investment in the private sector as part of the reformation strategies the government of Tanzania considers in fostering economic growth to enhance massive industrial productivity (World Bank, 2019). It is also from this reason that the country decided to put in place effective trade policies to enjoy the benefits of an open economy as foreign trade contributes about 32.6% of the country's GDP (World Bank, 2019).

4.1.2 Goods Exports

Under this review, the published goods export secondary data over a period of 31 years ranging from 1988 to 2018 are obtained from the World Development indicators site of the World Bank. Table 4.1 shows that, the mean for this series is USD 2,273,458,621; the standard deviation is USD 2,024,361,970; the range is USD 5,526,234,454 since the minimum value is USD 362,981,099 while the maximum value is USD 5,889,215,553. Figure 4.2 provides the summarized goods export trend from the year 1988 to 2018.

Figure 4.2: Goods exports trend (1988 - 2018)



Data source: World Bank (2020)

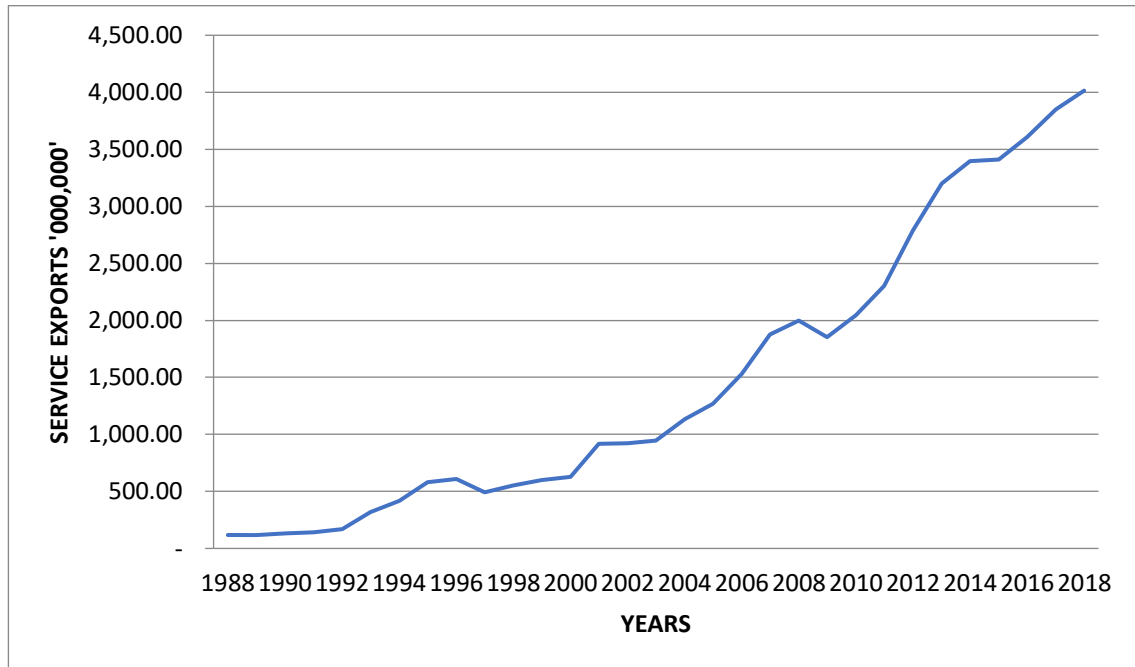
From 1988 towards 2012, Tanzania's goods exports increased at an increasing rate despite some fluctuations in 1997, 1998, 1999 and 2009 whereby USD 752,500,000, USD 636,100,000.00, USD 601,500,043.22 and USD 3,298,090,283.90 were recorded. The experience from 2012 towards 2018 shows a decreasing trend which is not a good indication of the economy from the perspective of Tanzania's foreign trade. The decline in goods exports and exports at large in recent years has led to a continuing and increasing trade deficit since what is imported exceeds what is exported by the country. This

deterioration in the trade balance is associated with the export decline of non-traditional goods such as horticultural products, gold, diamonds, fish, and fish products and manufactured goods such as electronics. For the year 2017, Tanzania experienced a trade deficit of \$3.3 billion as exports were \$8.33 billion while imports were \$11.68 billion. In 2018, the country experienced a deteriorated balance of trade as gross export value declined by 3.9% while imports expanded by 7.8%. However, as coal reserves and hydrocarbon increase, it is expected that the negative trade balance will strongly go down shortly.

4.1.3 Service Exports

This study utilized the published service exports secondary data over a period of 31 years ranging from 1988 to 2018 obtained from the World Development indicators site of the World Bank. Table 4.1 shows that, the mean for this series is USD 1,481,863,332, the standard deviation is USD 1,260,837,507, and the range is USD 3,897,404,270 since the minimum value is USD 117,264,343 while the maximum value is USD 4,014,668,613. Figure 4.3 below provides the summarized service exports trend from the year 1988 to 2018.

Figure 4.3: Service exports trend (1988 - 2018)



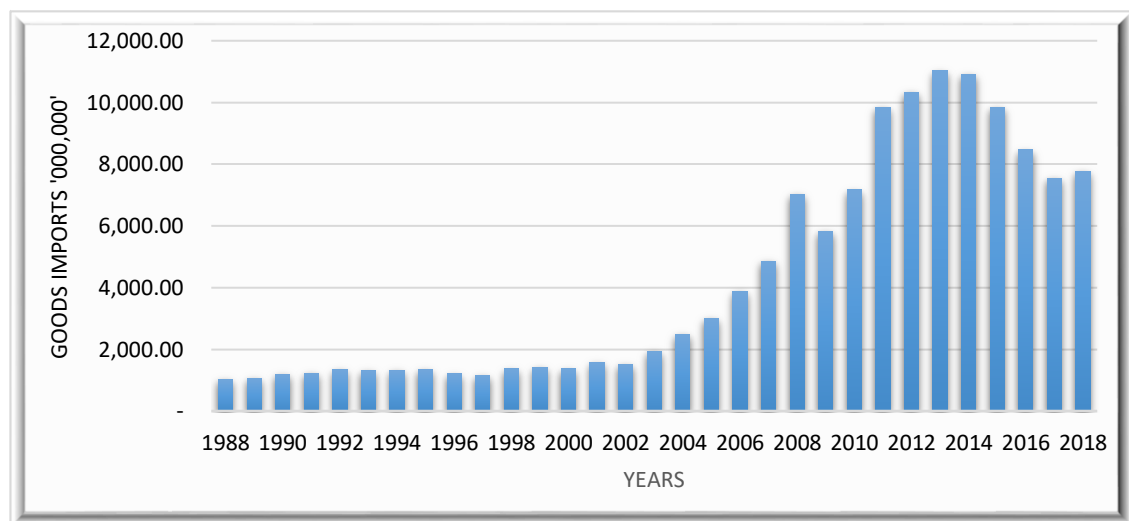
Data source: World Bank (2020)

In this period under review, the overall trend in service exports is positive as in 1988 about USD 117,391,001.11 was earned from services exported while in 2018 the value of service exports was USD 4,014,668,613.68605, marking a very high improvement in this trade category. This upward trend was attributed to by the expanding tourism services, transport services, and other export services such as professional services, government services, technical services, and miscellaneous business in the country. In the year ending March 2018, Tanzania recorded USD 2,223.4 million of Tourism service exports while in the same period in 2019 USD 2,512 million was recorded. Furthermore, Transport service recorded USD 1,079.4 million in the year ending March 2018 and USD 1,247.4 in the same period in 2019 while exports of other services declined from USD 420 million to USD 331.2 million (this marginal decline is not of high concern though).

4.1.4 Goods Imports

Among other elements of international trade, the published secondary data of goods import time-series over 31 years ranging from 1988 to 2018 were obtained from the World Development indicators site of the World Bank. From that series, Table 4.1 indicates that, the mean is USD 4,234,191,021; the standard deviation is USD 3,610,973,869; and the range is USD 9,996,146,373 since the minimum value is USD 1,032,972,325 while the maximum value is USD 11,029,118,698. Figure 4.4 below provides the summarized goods imports trend from the year 1988 to 2018.

Figure 4.4: Goods imports trend (1988 - 2018)



Data source: World Bank (2020)

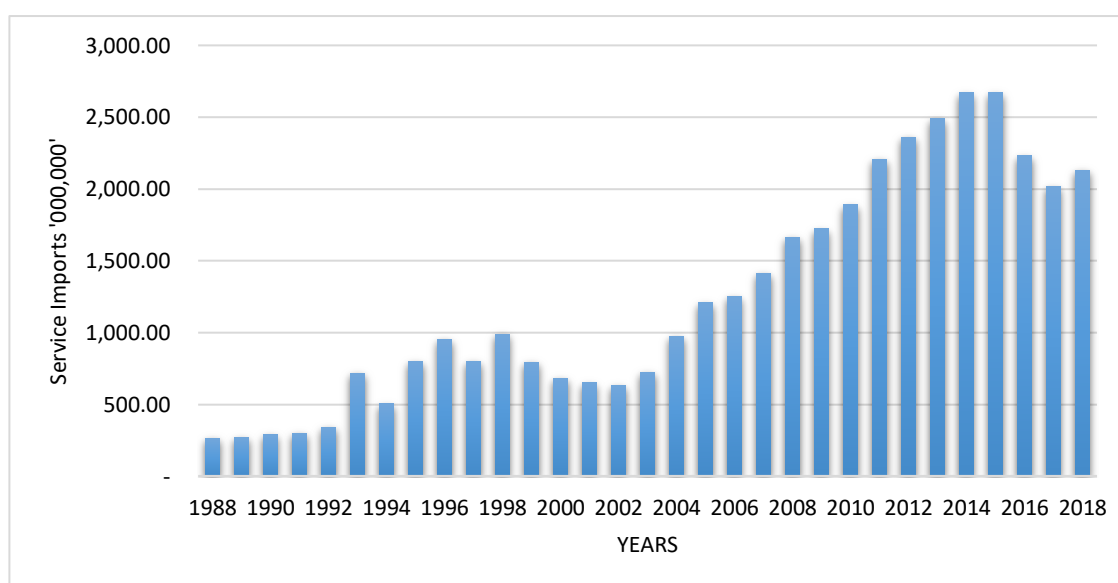
As presented in Figure 4.4, Tanzania experienced a fluctuating trend in goods imports during the period under review. The highest value was recorded in 2013 amounting to USD 11,029,118,698 while the lowest value was recorded in 1988 amounting to USD 1,032,972,325. Besides, the country experienced an increase in goods imports by 2.65% from the year 2017 to 2018. This increase in goods imports was influenced by the increased importation of transport equipment, materials for building and construction activities. According to the Bank of Tanzania Report (2019), all goods import categories

increased; and these include importation of materials for the building and construction sector, capital goods, and transport equipment. An increase in these categories is catalyzed by the ongoing standard gauge construction project and other infrastructural projects in roads, railways, ports, bridges, and airports. Oil imports which contribute to a large proportion of Tanzania's imports rose due to the blowing up of prices in the global market as influenced by the supply side.

4.1.5 Service Imports

In examining the impact of international trade on the economy of Tanzania, the researcher employed the published secondary data of service imports time-series for 31 years ranging from 1988 to 2018 obtained from the World Development indicators site of the World Bank. As described in Table 4.1, the series records the mean of USD 1,245,180,323; the standard deviation is USD 784,819,766; the range is USD 2,406,295,182 since the minimum value is USD 263,444,904 while the maximum value is USD 2,669,740,086. Figure 4.5 provides the summary of service imports trend from the year 1988 to 2018.

Figure 4.5: Service imports trend (1988 - 2018)



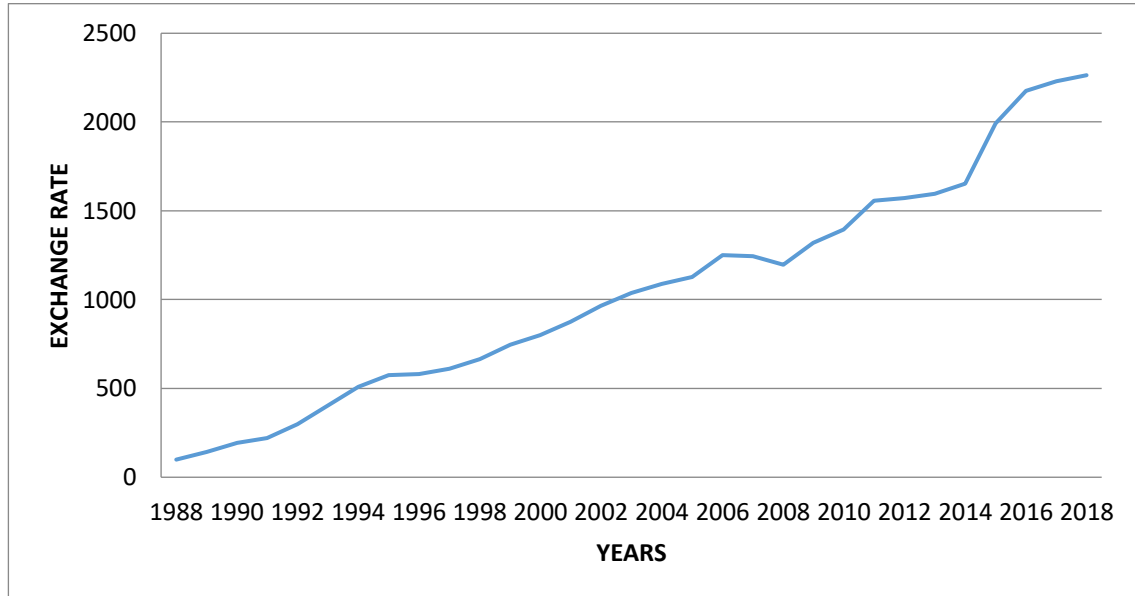
Data source: World Bank (2020)

As presented in Figure 4.5, during the period under review, Tanzania experienced a fluctuating trend in service imports. The highest value was recorded in 2015 amounting to USD 2,669,740,086 while the lowest value was recorded in 1988 amounting to USD 263,444,904. On average, from 2002 up to 2015 Tanzania's service imports were increasing while a sharp decline was experienced in the following two consecutive years. Besides, the country experienced an increase in service imports by 5.62% from the year 2017 to 2018. This increase is attributed to the increased importation of technical services, transport services, professional services, and miscellaneous business. Thus, both imports of goods and services increased from 2017 to 2018 which then led to a trade deficit of \$3.3 billion in 2017 as well in 2018, the country experienced a deteriorated balance of trade as gross export value declined by 3.9% while imports expanded by 7.8%.

4.1.6 Official Exchange Rate

Since the exchange rate plays a substantial role in international trade, the researcher employed the published secondary data of official exchange rate time-series for 31 years ranging from 1988 to 2018 obtained from the World Development indicators site of the World Bank. As described in Table 4.1, the series records the mean of TZS 1,045 which implies that 1 USD is equivalent to an average of TZS 1,045 throughout the period under review. Besides, the standard deviation is TZS 630; the range is TZS 2,164 since the minimum value is TZS 99 while the maximum value is TZS 2263. Figure 4.6 below provides the summarized exchange rate trend pattern from the year 1988 to 2018.

Figure 4.6: Official exchange rate trend (1988 - 2018)



Data source: World Bank (2020)

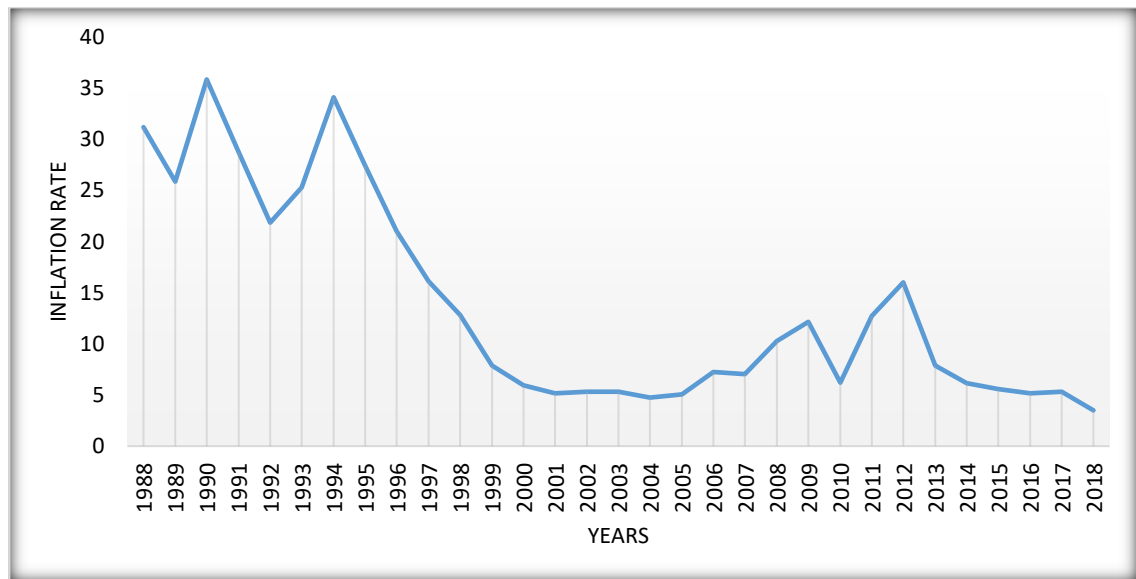
Figure 4.6 depicts an increasing trend of the official exchange rate of Tanzania. In 1988 1 USD was equivalent to TZS 99.3, thirty years later in 2018, 1 USD equaled TZS 2263.78. This increase implies how expensive the price of 1 USD becomes in terms of Tanzanian shillings. The currency of Tanzania experiences a depreciated movement as time goes on. This is attributed to factors such as actions of the central bank, political tension, government controls, prices of commodities, risk aversion, growth of the economy, and the deficit of the current account, equity flows and fiscal measures such as taxation.

4.1.7 Inflation Rate

Since the country's inflation level influences the ability of a country and its people to buy and sell goods and services, the researcher employed the published secondary data of Tanzania's inflation rate time-series for 31 years ranging from 1988 to 2018 obtained from the World Development indicators site of the World Bank. As described in Table 4.1, the series records the mean of 14% which implies that on average inflation rate is not of a single-digit throughout the period under review, and therefore not healthy to the economy.

Besides, the standard deviation is 10%; the range is 32.33% since the minimum value is 3.49% while the maximum value is 35.82%. Figure 4.7 below provides the summarized inflation rate trend pattern from the year 1988 to 2018.

Figure 4.7: Inflation rate trend pattern (1988 - 2018)



Data source: World Bank (2020)

As presented in Figure 4.7, during the period under review Tanzania experienced a fluctuating trend in the inflation rate. The highest recorded value was 35.82% in 1990 while the lowest value was recorded in 2018 which is 3.49%. During the 1990's Tanzania continued to implement the established economic recovery program as to promote an open economy, thus these initiatives brought out positive economic impacts including raise in economic growth and foreign reserves despite having experienced a high level of inflation. High inflation was attributed to the declined fiscal state particularly budget deficit and deficit in the external current account. Besides, the country experienced a declining rate of inflation to a single digit in 2013, 2014, 2015, 2016, 2017, and 2018 that is 7.8%, 6.1%, 5.3%, and 3.4% respectively. This historical lowest level of inflation in 2018 is the result

of tightness in the monetary policy, strength in the exchange rate as well as the enhanced food production and supply. A low level of the inflation rate is good for the economy.

4.2 Econometric Analysis

This section presents findings from the econometric analysis. The main parts of this section include the diagnostic tests and estimation of the regression model. Hence, econometric techniques for testing and estimation of all international trade indicators of interest and the employed control variables which influence the economic growth of Tanzania have been employed. This includes tests for Stationarity, Multicollinearity, Heteroscedasticity, Model specification, Autocorrelation, Cointegration, and Granger Causality. Lastly, the regression model is as well estimated in this chapter. Statistical tool namely the STATA package is used to provide the summarized findings.

4.2.1 Diagnostic Test

4.2.1.1 Stationarity Test

A researcher often has to set some simplifying and potentially rational presumptions about the whole framework. The process of making statistical inferences about the structure of a stochastic process is based on the predetermined record of that particular process. One of the most substantial presumptions is that of stationarity, whereby the underlying fundamental principle of stationarity describes that, the laws of probability that determines the process's behavior tend to change from time to time. It is, therefore, the whole course that observes a statistical equilibrium (constant mean, variance, standard deviation, and autocorrelation) in a way (Cryer & Chan, 2008). As explained by Gujarati (2012), the key significance of stationarity comes from its ability to the generalization of statistical results to certain periods. The inverse of stationarity is non-stationarity of which the regression analysis of that specific time-series may often lead to spurious regression results.

In this study, testing for stationarity in the time-series study for the given dataset is examined by the use of the Dickey-Fuller test. Besides, the key presumption in conducting

this test holds for the uncorrelated error term. Thus, the Augmented Dickey-Fuller (ADF) test is performed by introducing lags to check for the correlation in the error term. Cryer & Chan (2008) explain that, to check for stationarity the concentration should be on two result values of $Z(t)$ and Mackinnon p-value for $Z(t)$. In this perspective, for time-series data to observe stationarity condition; $Z(t)$ must have a relatively larger negative value than the 1% critical value, 5% critical value, and 10% critical value. Additionally, the p-value for the $Z(t)$ should at least be significant at 5% level. Therefore;

As stated, the null hypothesis (H_0): = A variable has a unit root (not stationary)

The alternative hypothesis (H_1): = A variable was generated by a stationary process (constant mean, variance, and autocorrelation).

GDP Stationarity Test

From Table 1 in Appendix 1, Dickey-Fuller test for the log-transformed GDP time series reveals $Z(t)$ value of the test statistics = -3.606 which is not a large negative number than any of the three critical values (-4.334, -3.580, -3.228 for 1% critical value, 5% critical value and 10% critical value respectively), however, the p-value is insignificant. After adding lags the tests continue to reveal a $Z(t)$ value with a lower negative number than the three critical values and p-value becomes insignificant. Thus, this suggests that the null hypothesis cannot be rejected and therefore the time-series GDP is non-stationary despite adding lags for the correlated error terms. Besides, from Table 2 in Appendix 1 the log-transformed GDP time-series is finally stationary after the first differencing with zero lags since the p-value = 0.0000 is significant and the $Z(t)$ value of the test statistics is -8.744 which has a large negative number compared to all three critical values (-4.343 at 1% significance level, -3.584 at 5% significance level and -3.230 at 10 significance level). These results suggest the rejection of the null hypothesis.

Goods Exports Stationarity Test

Table 3 in Appendix 1 shows that, the log-transformed goods exports time-series is stationary with zero lags since the p-value = 0.0000 is significant and the Z(t) value of the test statistics is -5.579 which has a large negative number compared to all three critical values (-4.334 at 1% significance level, -3.580 at 5% significance level and -3.228 at 10 significance level). These results suggest for the rejection of the null hypothesis and therefore a variable was generated by a stationary process.

Service Exports Stationarity Test

However, from Table 4 in Appendix 1 the results suggest for the rejection of the null hypothesis since Dickey-Fuller test for the log-transformed service exports series reveals p-value = 0.0000 which is significant and the Z(t) value of the test statistics is -7.538 which has a large negative number compared to all three critical values (-4.343 at 1% significance level, -3.584 at 5% significance level and -3.230 at 10 significance level) after the first differencing. Therefore the natural log of service exports series is finally stationary after the first difference with zero lags.

Goods Imports Stationarity Test

The Dickey-Fuller test results from Table 5 in Appendix 1 suggest for the rejection of the null hypothesis since the p-value = 0.0017 is significant and the Z(t) value of the test statistics is -11.484 which has a large negative number compared to all three critical values (-4.334 at 1% significance level, -3.580 at 5% significance level and -3.228 at 10 significance level). Therefore the log-transformed goods import series is finally stationary with zero lags.

Service Imports Stationarity Test

The results from Table 6 in Appendix 1 suggest that, the null hypothesis should be rejected and therefore the time-series for the log-transformed service imports is stationary with zero lags. These decisions are subjected to the fact that Z(t) of the test statistics value

which is -6.331 is less than all three critical values, (at 1%, 5%, and 10% which are -4.334, -3.580 and 3.228 respectively). Also p-value for $Z(t) = 0.0000$ is significant. Thus, the log-transformed service imports time-series can be used for further regression analysis.

Exchange Rate Stationarity Test

Table 7 in Appendix 1 shows a value of $Z(t)$ of the test statistics = -4.905 which has a comparably large negative number than all three critical values (-4.334, -3.580 and 3.228 at 1%, 5%, and 10% respectively). The p-value = 0.0003 which is as well significant, thus the null hypothesis is rejected meaning the log-transformed exchange rate time-series stationary with zero lags. Therefore the null hypothesis is rejected, that is to say, the log-transformed exchange rate series was generated by a stationary process that allows the series to be utilized for further regression analysis.

Inflation Rate Stationarity Test

Table 8 in Appendix 1 shows that the time-series log of the inflation rate is stationary since the p-value = 0.0000 is significant and the $Z(t)$ value of the test statistics is -5.819 which has a large negative number compared to all three critical values (-4.334, -3.580 and 3.228 at 1%, 5%, and 10% respectively). Therefore the null hypothesis is rejected, that is to say, the series was generated by a stationary process.

4.2.1.2 Multicollinearity Test

Multicollinearity exists when the correlation takes place among the independent variables within a regression model or equation. This correlation is a concern since explanatory variables have to be independent. Thus, if variables are highly correlated this may trigger problems when estimating and interpreting the model. Two basic problems caused by multicollinearity problem includes the issue of coefficients becoming very sensitive to small changes in the model, also multicollinearity reduces the precision of the estimate coefficients, which weakens the statistical power of the regression model. The p-values may not be trusted to identify independent variables that are statistically significant. However, multicollinearity is not necessarily an issue in some scenarios (Gujarati, 2012).

Being able to identify variables that have been encountered with multicollinearity and the degree of that correlation, in particular, it is well enough a way to determine whether that problem is a problem or no need to fix it. Despite having some tests in assessing the presence and the level of multicollinearity in a regression model, it is interesting that the variance inflation factor (VIF) is a very simple econometric test that can be used.

In this study under review, the VIF test was used to test for multicollinearity the rule of thumb being that explanatory variables with VIF exceeding 10 value may threaten the results while VIF between 1 and 10 values can be tolerated. The VIF test results in Table 4.2 indicate that there is no multicollinearity problem among independent variables since the VIF result for each respective variable is below 10 value as well the mean VIF is below 10 value. This set of results is not alarming to demand further corrective actions.

Table 4.2: Test for multicollinearity

Variable	VIF	1/VIF
Goods exports	2.12	0.472258
Service exports	1.99	0.501631
Inflation rate	1.69	0.590477
Service imports	1.33	0.751282
Exchange rate	1.24	0.804869
Goods imports	1.19	0.839756
Mean VIF	1.59	

Data source: World Bank (2020)

4.2.1.3 Heteroscedasticity Test

In regression analysis, heteroscedasticity is being looked at in terms of the error term or residual. Heteroscedasticity in particular is a systematic change of the spread of the error term over the range of observed values. Since ordinary least squares (OLS) regression presumes that, residuals are taken from a population with a constant variance, that is to say, there exists homoscedasticity in the population of interest therefore presence of heteroscedasticity is a problem.

To fulfill OLS regression presumptions and make the regression results trusted, the residuals have to register a constant variance (Lutkepohl, 2005).

Heteroscedasticity may occur in a time-series regression model with a condition that the dependent variable is subjected to change considerably from the start to the end of the series. As well, in modeling time series data and changes in measurement error over time, there may be heteroscedasticity since regression analysis consists of measurement error in the residual. Therefore, if measurement error declines from time to time as improved techniques are implemented, the error variance is expected to drop substantially. Thus, in OLS time series analysis, the extent of the effects of heteroscedasticity is believed to be marginal since it does not impact coefficients but the standard error estimators (Lutkepohl, 2005).

In this study, the Breusch-Pagen test in Table 4.3 reveals that, a test statistic is 13.91. When a comparison is made to a χ^2 distribution one degree of freedom, the p-value result is below the standard 0.05 significant level. Therefore, it is evident that the null hypothesis that there exists homoscedasticity is rejected and the alternative hypothesis is accepted that there exists heteroscedasticity in the error term of this particular regression model. The robust regression command has been used to fix the problem; hence the modified robust standard errors are produced. This is attributed to periodic changes to time series variables that fix deviations (errors) over time (Table 4.4)

Table 4.3 Test for heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity	
H₀: Constant variance H₁: There is no constant variance Variables: fitted values of GDP chi2(1) = 13.91 Prob > chi2 = 0.0002 Rule of thumb: if P (chi²) is below 0.05 reject the H₀, that is to say, there is no constant variance If P (ch²) is above 0.05 you fail to reject H₀, hence there is constant variance.	

Data source: World Bank (2020)

Table 4.4: Correcting heteroscedasticity

Variables	Coefficients	Robust Standard Error
Goods exports	2134.57*	1175.495
Service exports	1407.88**	551.5492
Goods imports	-427.28***	95.84535
Service imports	-119.68***	27.23292
Exchange rate	-1618.28*	859.7833
Inflation rate	-186.24**	82.68032
Constant	8452.81**	4113.121
Number of observations		31
F(6, 24)		7.41
Prob > F		0.0001
R-squared		0.6366
Root MSE		4214.3

Data source: World Bank, 2020

Note:

- The dependent variable is the natural logarithm of Tanzania's GDP;
- ***, **, and * imply 1%, 5%, and 10% significance levels respectively;
- Robust standard errors technically produce unbiased standard errors of the respective OLS coefficient estimates.

4.2.1.4 Autocorrelation Test

The occurrence of autocorrelation in the data series leads to a correlation of the series within each other and hence disrupts the OLS assumptions, presenting bias in the OLS estimator. This is why it is very important to check for autocorrelation and put in place effective corrective measures to fix the problem (Gujarati, 2012).

Breusch-Godfrey LM test is used to check for autocorrelation since it possesses additional pluses over the classical Durbin Watson test. Among other advantages, the Breusch-Godfrey LM test is less concerned with the assumption that error terms are normally distributed while the Durbin Watson test counts on this condition.

Given;

Null hypothesis: No serial autocorrelation

Alternative hypothesis: Null hypothesis is not true (there is a serial correlation)

Significance level: 5%

Condition: The null hypothesis is rejected when $p|\chi^2|$ is less than 5%, and vice-versa is true.

Therefore, from Table 4.5, $p|\chi^2| = 0.1734$ which is greater than 0.05; hence the null hypothesis cannot be rejected. This implies that, there is no serial correlation between the residuals of the regression model. Since the OLS assumption of no serial correlation is not violated, there is no need for corrective measures.

Table 4.5: Test for autocorrelation

Breusch-Godfrey LM test for autocorrelation			
lags(p)	chi2	df	Prob > chi2
1	1.853	1	0.1734
H ₀ : no serial correlation			

Data source: World Bank (2020)

4.2.1.5 Cointegration Test

A non-stationary time series is likely to produce spurious regression results. However, regression results may still be valid if the stochastic pattern is removed from a non-stationary time-series and generate stationary error terms. It is thus inferred that, the series are cointegrated. The cointegration further implies the presence of non-stationary stochastic time-series, which underlie two or even more processes (Cryer & Chan, 2008).

The Johansen Cointegration test points out the total number of cointegrating equations relevant to the variables used in the analysis by looking at the trace statistic and/or max statistic against 5% critical values. The results of this test are shown in Table 4.6 and Table 4.7 and the findings demonstrate that the null hypothesis of no cointegration is rejected and therefore based on Trace statistics, the findings show that there is a maximum rank of three cointegrating equations while based on Max-Eigen statistics at least one significant cointegrating equation is identified. These findings indicate that the employed series under this study possess long-run relationships. From these results, it is therefore essential to identify the equations in particular and test for causality.

Table 4.6: Johansen Co-integration test based on trace statistic

Maximum rank	Eigenvalue	Trace Statistic	5% Critical value
0		169.3191	124.24
1	0.89105	105.0311	94.15
2	0.71417	68.7127	68.52
3	0.62980	39.8952*	47.21
4	0.46421	21.7987	29.68
5	0.42145	5.9291	15.41
6	0.15282	1.1198	3.76
7	0.03788		

Data source: World Bank (2020)

Table 4.7: Johansen Co-integration test based Max-Eigen statistic

Maximum rank	Eigenvalue	Max Statistic	5% Critical value
0		64.2881	45.28
1	0.89105	36.3183	39.37
2	0.71417	28.8175	33.46
3	0.62980	18.0965	27.07
4	0.46421	15.8696	20.97
5	0.42145	4.8093	14.07
6	0.15282	1.1198	3.76
7	0.03788		

Data source: World Bank (2020)

4.2.1.6 Granger Causality Tests

The results of the Granger causality test in this study reveal that, there are both unidirectional and bidirectional causalities between the employed variables. Significant bidirectional causality is observed between service exports and goods exports, official exchange rate and goods exports, and between inflation rate and goods exports. Besides, a significant unidirectional causality is observed from goods imports to goods exports at 1%, service imports to goods exports at 1%, GDP to goods exports at 1%, GDP to goods imports at 5%, service exports to goods imports at 5%, service imports to goods imports at 5%, inflation rate to goods imports at 1%, GDP to inflation rate at 1% and service imports to inflation rate at 1% (Table 9 in Appendix ‘1’)

4.2.1.7 Model specification Test

This test is applied to examine the relevance of the variables employed in the regression model. Furthermore, the test discloses whether the estimated model includes irrelevant variables or not, or whether the model omits the relevant variables or not. Therefore this test has substantial importance as it gives sufficient confidence in the proposed estimation model (Gujarati, 2012). See Table 4.8 below:

Table 4.8: Model specification test

Ramsey RESET test using powers of the fitted values of the natural log of GDP	
H0: the model has no omitted variables	
F(3, 21) =	2.01
Prob > F =	0.1427

Data source: World Bank (2020)

Table 4.8 reveals that, the specification of the model is well specified since the p-value = 0.1427 which is greater than the standard level of 0.05 value. Therefore, this points out highly confident evidence of accepting the null hypothesis that the model has no omitted variables, thus the model is appropriately specified. These results provide a room for further estimation and analysis for the relating variables of the particular study under review.

4.2.2 Regression Results

This section presents outputs of the regression model as estimated by the use of STATA statistical package. See Table 4.9 below. Further discussion of these findings is presented and interpreted in Chapter five.

Table 4.9: Regression results

Variables	Coefficients	Probability value
Goods exports	2134.571**	0.026
Service exports	1407.881**	0.013
Goods imports	-427.282***	0.008
Service imports	-119.681**	0.030
Exchange rate	-1618.281**	0.013
Inflation rate	-186.240	0.148
Constant	8452.806**	0.043
Number of observations	31	
F(6, 24)	7.006	
Prob > F	0.0002	
R-squared	0.637	
Adjusted R-squared	0.545	
Root MSE	4214.3	

Data source: World Bank (2020)

Note:

- *The dependent variable is the natural logarithm of Tanzania's GDP;*
- ****, **, and * imply 1%, 5%, and 10% significance levels respectively.*

A time-series regression model as presented in Table 4.9 is estimated to examine the impact of international trade on the economic growth of Tanzania. This study engages a data-set with a total of 31 observations which include data for GDP, goods imports, service imports, goods exports, service exports, inflation rate, and Tanzania's official exchange rate collected from the world development indicators site of the world bank. All these variables both independent variables and the dependent variable were transformed into natural logarithm to correct issues associated with skewness in data distribution and hence making data patterns comply with the assumptions of statistical analysis and enable for a more useful interpretation. By using the Ordinary Least Squares (OLS) method with the aid of STATA package, estimation results as presented in Table 4.9 suggest the following: Given that;

1. The Null Hypothesis (H_0): the explanatory variable(regressor) has no relationship with the dependent variable (regressand)
2. The Alternative Hypothesis (H_1): there is a relationship between the explanatory variable and the dependent variable

Since the probability level = 0.05, therefore:

Rule of thumb: The null hypothesis is rejected when $p |t|$ is less than 5%, which indicates that there is a relationship as predetermined in H_1 .

The null fails to be rejected when $p |t|$ exceeds 5%, which indicates that there is no relationship as predetermined in H_0 .

Thus, the regression results of the analysis as in Table 4.9 exhibit that $\text{Prob} > F = 0.0002$ which indicates that the regression model has an overall good fit and is significant at a 1% level of significance. Also, the R- Squared is 0.6366 which implies that the explanatory

variables employed in the regression model (goods exports, service exports, goods imports, service imports, the official exchange rate and the inflation rate) explain the dependent variable (GDP) by about 63.66%. Thus, other variables have not been included in this analysis which explains the dependent variable by about 36.34%.

Furthermore, the results indicate that, goods exports, service exports, goods imports, service imports, and the official exchange rate are statistically significant at 5%, 5%, 1%, 5% and 5% significance levels respectively while the inflation rate series is insignificant at 1%, 5%, and 10% significant levels. Besides, all explanatory variables (both variables of interest and the control variables) included in the model possess the predetermined coefficients as explained by the trade theories whereby goods exports and service exports have positive coefficients while goods imports, service imports, exchange rate and inflation rate register positive coefficients. These results further indicate that a percentage increase in goods exports and service exports leads to a certain percentage increase in GDP and therefore these variables are found to have a positive impact on the GDP since they are significant at 5%. For the case of goods imports and service imports indicate that a percentage increase in goods imports and service imports cause a certain percentage decrease in GDP, thus these variables are found to have a negative impact on the GDP since they are significant at 1% and 5% respectively.

For the case of the included control variables, the exchange rate is found to be significant and has a negative influence on the GDP, therefore, a percentage increase in exchange rate leads to percentage decrease in GDP while the inflation rate is found to be insignificant hence has no influence on the GDP in this case in particular despite observing a negative sign on its coefficient.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter covers the discussion part of the observed findings presented in Chapter Four. The aim is to draw a meaningful and summarized statistical presentation and the applicability of the findings to the real world. The chapter comprises of two main sections: The first section describes an overview of finding, and the succeeding section presents a discussion of the findings. Here, the predetermined objectives are being interpreted as supported by the statistical results. Since the main objective of this study is to examine the contribution of international trade to the economic growth of Tanzania, the discussion, in line with the objectives, is meant to determine the extent to which each employed independent variable contributes to the Gross Domestic Product of Tanzania.

5.1 Overview of the Diagnostic Test Findings

This section is designed to establish the degree of quality of the employed data-set. Data of low or poor quality can mislead the whole study while data with satisfactory qualities and that observes necessary conditions can lead a study into a meaningful conclusion and therefore reinforce grounds for statistical generalization. This section further explains whether sufficiency, validity, accuracy, logic, and relevance of the data set are observed. Thus, findings from the preceding chapter provide proof that the employed data series and their respective variables meet the predetermined data quality assumptions hence leads the study in the right direction by providing a meaningful conclusion.

Since the researcher used the log-transformed variables, the statistical results indicate that, five of the seven employed log transformed variables (goods exports, goods imports, service imports, the exchange rate and the inflation rate) are stationary at level and the rest (GDP and service exports) become stationary after their first difference.

To this end, the observed results are regarded useful for further econometric analysis of the time-series studies.

Concerning multicollinearity, the data employed indicate the absence of a multicollinearity problem. This is a good indication that the explanatory variables do not observe a perfect linear relationship. For the case of heteroscedasticity, Breusch-Pagan test detected a problem of heteroscedasticity which is attributed to the issues in the quality of data related to the secondary data and or erroneous techniques of collecting data, however, this does not cause bias on the estimated coefficients rather leads to biased estimated standard errors and further cause the type II error if no corrective measures effected. However, under this review measures to correct this problem were taken. The results also exhibit that, there is no serial correlation between the residuals in the estimated model. Thus, there is no need for correction since the OLS assumption of no serial correlation is not violated.

Since the ovtest for model specification test indicates a p-value = test 0.1427 which is greater than the standard level of 0.05 value, the results reveal that the estimated model of the study under review is properly specified. Therefore, no important and relevant variables were omitted as well no inapplicable variables were included for model estimation. Therefore the test results provide substantial importance as they give out sufficient confidence in the proposed estimation model and hence allow for further analysis while being assured that the model estimation observes realistic, reliability, and correctness characteristics which will then lead to a proper conclusion.

Based on Trace statistics, findings from the cointegration test as presented in the previous chapter (see Table 4.6), show that there is a maximum rank of three cointegrating equations while based on Max-Eigen statistics the results as presented in Table 4.7 indicate at least one significant cointegrating equation. These findings indicate that the employed series under this study possess long-run relationships.

5.2 Discussion of Findings

Under this section, the discussion of findings is driven from the predetermined study objective. Thus, this part presents answers to researcher questions as described in chapter one.

5.2.1 The impact of goods exports on the economic growth of Tanzania

Findings as presented from the regression results in Table 4.9 indicate that goods exports have a positive and significant impact on the economic growth of Tanzania which is expressed in terms of the GDP. The p-value of 0.026 shows that, the series is significant at a 5% significance level, implying that there exist a relationship between goods exports and the Gross Domestic Product. Furthermore, the positive coefficient of 2134.57 of the goods exports indicates that holding other factors constant, as goods exports increase by 1%, Tanzania's GDP increases by 2134.57%. Therefore as Tanzania exports goods, it implies that the country increases sales of goods to the overseas market, which includes individual consumers, firms, businesses, and governments in other countries. In return, sales of goods exports generate money to the home country (Tanzania) and hence enhance Tanzania's GDP as an exporting country of goods.

These results correspond to the findings in the study by Kenya (2017), which indicates that, export has a positive impact on Nigeria's economic growth measured in terms of GDP hence the author points out recommendations for the government to enhance infrastructural investments as to develop the manufacturing sector which is a focal point for changing the structural framework of Nigeria's foreign trade. Also, these arguments comply with the study by Abubakar and Shehu (2015), as indicate that export has a significant positive relationship with GDP as an indicator of India's economic growth. The findings recommend for policy enhancement in the exporting sector and discourage importation together with improving domestic investment.

In contrary, a study conducted by Faruk (2018), reveals a negative significant impact of export on GDP, and therefore suggests that, for sustainability in the growth of Nigeria's

economy, the country needs to focus on producing and exporting more of finished goods. As well as benefiting policy frameworks and proper strategies on trade should be in place to enhance the attraction of foreign investors and increase capital inflow.

5.2.2 The impact of service exports on the economic growth of Tanzania

Since exports refer to a portion of the total number of goods and services produced in the country that is purchased by a foreign country, therefore this is an injection to the Tanzanian economy. The findings as presented from the regression results in Table 4.9, indicates that service exports have a positive and significant impact on the economic growth of Tanzania which is expressed in terms of the Tanzania's GDP. The p-value of 0.013 shows that the series is significant at a 5% significance level implying that there exists a relationship between service exports and the Gross Domestic Product. Moreover, the positive coefficient of 14047.88 of the service exports indicates that holding other factors constant, as service exports increase by 1%, Tanzania's GDP increases by 14047.88%. Therefore as Tanzania exports services mainly tourism services, transport services, and other export services such as professional services, government services, technical services, and miscellaneous business, it implies that the country absorbs benefits from the foreign market of which in return, sales of service exports generate money to the home country and hence enlarges Tanzania's GDP as an exporting country.

This is likely similar to the findings in the study by Erkisi (2019), which reveals that a 1% increment in export leads to an increase in GDP in the Middle East countries by 0.34 and 0.60% in the short term and long term respectively. As well, Lawal and Ezeuchenne (2017), show that export is significant in both the long-run and short-run and that it has a positive impact on the economic growth of Nigeria. Gabriele (2006) suggested that service exports have a long run positive impact on the growth of GDP of developing countries however the service/GDP ratio for developing countries is relatively weaker as compared to developed countries. Furthermore, Kenya (2017), suggests that exports have a positive impact on economic growth in Nigeria, expressed in terms of GDP, and thus recommends

that the government should strengthen investment in infrastructure to develop the manufacturing sector which is a centerpiece for adjusting the structural framework of Nigeria's foreign trade. These arguments are also consistent with Abubakar, and Shehu (2015), which shows that exports have a significant positive relationship with GDP as an indicator of India's economic growth. The findings recommend for a strengthened policy in the exporting sector and discourage imports, along with an improvement in domestic investment.

In contrast, Faruk (2018) shows that exports have a significant negative impact on GDP and therefore suggest that to sustain the growth of Nigeria's economy, the country needs to focus on producing and exporting more of finished goods. As well to increase the attraction of foreign investors, the appropriate policy framework and proper trade strategies should be in place.

5.2.3 The impact of goods imports on the economic growth of Tanzania

The findings as presented from the regression results in Table 4.9 indicates that goods imports have a negative and significant impact on the economic growth of Tanzania which is expressed in terms of the GDP of Tanzania. The p-value of 0.008 shows that the series is significant at a 1% significance level implying that there exists a relationship between goods imports and the Gross Domestic Product. Besides, the negative coefficient of -427.28 of goods imports indicates that holding other factors constant, as goods imports increase by 1%, Tanzania's GDP decreases by 427.28%. This relationship is attributed to the fact that as Tanzania imports goods, it implies that the country buys goods from overseas producers. Thus, the money spending on goods imports, leaves the economy and this is referred to as leakage in the economy and therefore the GDP of Tanzania as an importing country tends to decrease.

These findings correspond with the study by Kenya (2017), which suggests that imports of goods have a negative impact on GDP as a measure for economic growth in Nigeria, and thus suggested that the government should discourage imports and strengthen

investment in infrastructure to develop the manufacturing sector which is a centerpiece for adjusting the structural framework of Nigeria's foreign trade. Also, Musinguzi and Rapha (2019) reveal that imports of goods have a negative significant impact on the GDP as a measure for the economic growth of Uganda. This study further suggests that trade policies should be in place to encourage domestic production of finished products for exportation. Also enacted laws should limit to the importation of only capital intensive goods which serve as inputs for production activities and hence lead to an increase in the growth of the economy of Uganda. Another study conducted by Faruk (2018) shows that imports of goods have a significant negative impact on GDP and therefore suggests that to sustain the growth of Nigeria's economy; the country needs to focus on producing and exporting more of finished goods. In order to increase the attraction of foreign investors, the appropriate policy framework and proper trade strategies should be in place.

5.2.4 The impact of service imports on the economic growth of Tanzania

Based on the findings as presented from the regression results in Table 4.9, indicates that service imports have a negative and significant impact on the economic growth of Tanzania which is expressed in terms GDP. The p-value of 0.030 shows that the series is significant at a 5% significance level implying that there exists a relationship between service imports and the Gross Domestic Product. Also, the negative coefficient of -119.68 of service imports indicates that holding other factors constant, as service imports increase by 1%, Tanzania's GDP decreases by 119.68%. In this case, this relationship is attributed to the increased importation of technical services, transport services, professional services, and miscellaneous business. Thus, the money spending on service imports leaves the economy which leads to leakage in the economy, and therefore the GDP of Tanzania as an importing country tends to decrease.

These findings correspond to the study by Muhtaseb (2015), which shows that services imports have a negative impact on the economic growth of Jordan but statistically significant. This negative relationship is attributed to the negative significant effect of the

category in “other services” particularly business services, that may be of a vital role to technological advancement and diffusion of knowhow. As well the negative impact is driven by the imports in transport and travel services. Xiaoying et al. (2003) suggest that for the case of import of services, their impact on economic growth is negative and significant in developing countries while the relationship is positive and significant in developed countries. As well, this negative relationship is attributed to the negative and significant effect of the service category in other services particularly business services and miscellaneous business which could have played a significant role in technology advancement and dissemination of technical expertise-how and further increase economic growth.

5.2.5 The impact of exchange rate and inflation rate on the economic growth of Tanzania

For a more fruitful analysis, this study also includes some control variables; exchange rate and inflation rate as to explain their impact on economic growth as well as to avoid the problems associated with improper model specification. From the regression results as presented in Table 4.9, the official exchange rate of Tanzania indicates a negative and significant impact on the economic growth of Tanzania as expressed in terms of the GDP of Tanzania. The p-value of 0.013 shows that the series is significant at a 5% significance level implying that there exist a relationship between Tanzania’s exchange rate and the Gross Domestic Product. Also, the negative coefficient of -1618.281 of the exchange rate indicates that holding other factors constant, as service imports increase by 1%, Tanzania’s GDP decreases by 1618.281%. This effect is driven from the ground that as Tanzania’s exchange rate in terms of her trading partners increases, exports become expensive while imports become cheaper and this implies that the rate of goods and services exported tends to decrease while imports tend to increase. Thus, a decrease in exports and an increase in imports affect GDP negatively.

Meanwhile, the impact of the exchange rate is explained in the study by Purnama and Yao (2019), which reveals that the exchange rate influences the GDP of ASEAN countries negatively in the long term. Thus, the study suggests that foreign trade should receive full support from the trade policies aiming to finance new investments for economic growth. Likewise, Abubakar and Shehu (2015) suggest that there is a negative but statistically significant impact of the exchange rate on the economic growth of India. This negative impact of the exchange rate is justified in a way that, holding higher exchange rates in relation to trade partners is likely weakening the economic growth as exports become expensive then depresses demand for exports, imports become cheaper hence higher demand on imports and worsened demand for locally produced goods.

On the other hand, the inflation rate as one of the employed control variables depicted a negative but insignificant impact on the economic growth of Tanzania expressed in terms of GDP. Thus, when other factors are held constant as the inflation rate increases by 1% Tanzania's, GDP decreases by 186.24%. Even so, the inflation rate is insignificant at 1%, 5% and 10 levels of significance. Similar findings feature in the study by Nyongesa (2017), which suggests that inflation rate effect on the economic growth of East African Community countries becomes negative and statistically insignificant as a result of structural breaks in the East African Community. Thus, policies to moderate the inflation rate should be in place to minimize the negative effect inflation may cause on the growth of the economy.

CHAPTER SIX

SUMMARY, CONCLUSION AND, POLICY IMPLICATIONS

6.0 Introduction

This chapter presents the summary of the study findings, the conclusion, and recommendations as key takings from the study. The chapter closes with some details on policy implications and the limitation of the study.

6.1 Summary and Conclusion

Among other factors, trade has become a focal point of the debate as far as drivers of economic growth are concerned. Under this review, the main objective of the study was to examine the impact of international trade on the economic growth of Tanzania, the focus being on goods exports, service exports, goods imports, service imports, exchange rate, inflation rate, and their impact on the GDP of Tanzania. Specifically, this study intends to meet the following objectives;

OBJECTIVE 1: To determine the impact of goods exports on the economic growth of Tanzania.

OBJECTIVE 2: To examine the impact of service exports on Tanzania's economic growth.

OBJECTIVE 3: To determine how goods imports impact the economic growth of Tanzania

OBJECTIVE 4: To ascertain the impact of service imports on Tanzania's economic growth

This study employs OLS econometric techniques to examine this relationship by employing a time-series dataset for the period of 31 years from 1988 to 2018. Therefore;

Objective 1 was set to answer a research question: To what extent do goods exports impact Tanzania's economic growth. The findings of the study suggest that goods export has a

significant positive impact on the economic growth of Tanzania. This implies that the country increases sales of goods to the overseas market, which includes individual consumers, firms, businesses, and governments in other countries. In return, sales of goods exports generate money to the home country (Tanzania) and hence enlarge Tanzania's GDP as an exporting country of goods. This is consistent with the assertion by Kenya (2017) and, Abubakar and Shehu (2015).

Objective 2 intends to answer a research question: To what extent do service exports impact Tanzania's economic growth? The findings of the study indicate that service exports have a significant positive impact on the GDP growth, hence leads to an increase in the economic growth of Tanzania. In this perspective, as Tanzania exports services mainly tourism services, transport services, and other export services such as professional services, government services, technical services, and miscellaneous business, it implies that the country absorbs benefits from the foreign market of which in return, sells of service exports generate money to the home country and hence enlarges Tanzania's GDP as an exporting country. This phenomenon is referred to as an injection to the economy. This is consistent with the assertion by Gabriele (2006) and Kenya (2017).

Objective 3 was set to answer a research question: To what extent do goods imports impact Tanzania's economic growth? The results indicate that goods import has a significant negative impact on Tanzania's GDP, the relationship which is attributed to the fact that as Tanzania imports goods, it implies that the country buys goods from the overseas producers. Thus, the money spending on goods imports, leaves the economy and this is referred to as leakage in the economy and therefore the GDP of Tanzania as an importing country tends to decrease. In this perspective, the importation of goods was actually reducing the growth rate of the domestic economy. This phenomenon is consequent on the nature of Tanzania's import trade. Tanzania's import is mainly centered on finished products, and mostly consumables or predominantly household stuff. Except for capital goods, goods import is leakage to GDP and therefore reduces the GDP growth rate.

Therefore, the negative effect of Tanzania's goods imports on economic growth is a direct consequence of the nature of the country's import of goods. These findings correspond with the studies by Kenya (2017) and Musinguzi and Rapha (2019).

Objective 4 intends to answer a research question: To what extent do service imports impact Tanzania's economic growth? In this case, the findings of the study reveal that service imports have a significant negative impact on the economic growth of Tanzania, as a relationship which is attributed to the increased importation of technical services, transport services, professional services, and miscellaneous business. Thus, the money spending on service imports leaves the economy which leads to leakage in the economy, and therefore the GDP of Tanzania as an importing country tends to decrease. These findings correspond with the studies by Muhtaseb (2015) and Xiaoying et al. (2003).

Furthermore, exchange rate as a control variable indicates a significant negative impact on the economic growth of Tanzania, the effect which is driven from the ground that as Tanzania's exchange rate in terms of her trading partners increases, exports become expensive while imports become cheaper and this implies that the rate of goods and services exported tend to decrease while imports tend to increase. Thus, a decrease in exports and an increase in imports affect GDP negatively. This is consistent with the study by Purnama and Yao (2019) and Abubakar and Shehu (2015). Besides, the inflation rate as one of the employed control variables depicted a negative but insignificant impact on the economic growth of Tanzania. The study findings are summarized in Table 6.1 below:

Table 6.1: Summarized study findings

Variable	Impact relationship on GDP	Significance
Goods exports	Positive	Significant
Service exports	Positive	Significant
Goods imports	Negative	Significant
Service imports	Negative	Significant
Exchange rate	Negative	Significant
Inflation rate	Negative	Insignificant

Therefore, these findings elaborates the objectives of conducting this study thus, goods exports and service exports reveal a positive impact on the growth of the economy of Tanzania while goods imports and service imports have a negative impact on the economic growth of Tanzania as expressed in terms of GDP growth. From the findings, it is evident that, among the positive effects of overseas trade, the export of goods and services brings more contribution to the growth of GDP and hence the growth of Tanzania's economy. As exports lead to injection in the economy, imports of goods and services cause leakage/withdrawal from the economy, therefore a negative impact. Generally, international trade plays a substantial role in generating jobs, market expansion, income generation, competition facilitation, and knowledge flow. These findings as well corresponds with the economic theories of international trade both classical and neoclassical trade theories which regard foreign trade as a catalyst for the economic growth of a country. This research work also consistent with empirical studies by (Abubakar & Shehu, 2015; Erkisi, 2019; Faruk, 2018; Gabriele, 2006; Kenya, 2017; Musunguzi & Rapha, 2019; Nyongesa et al., 2017; Purnama & Yao, 2019; Muhtaseb, 2015; Xiaoying et al.,2003)

6.2 Recommendations and Policy Implications

Despite the realized impact of foreign trade on the economy, particularly the positive contribution of exports of both goods and services on the GDP growth of Tanzania, the country has room to enjoy the fruits of international trade even more. Besides, this study recommends the following;

- i. The government of Tanzania should enhance the exportation of finished goods through the implementation of export promotion policies and their underlying strategies. This will develop a conducive environment for the progress of the sector of manufacturing and hence speed up the industrial growth as a key player for exportation. Increased exportation of goods and services lean towards economic growth, help to correct for trade deficit and hence enlarges the size of the country's GDP.
- ii. Re-enforcement of the import substitution strategy of industrialization should be implemented to trim down imports particularly for consumable goods since imports particularly for consumable goods impact the economic growth negatively. For example importation of food products, clothes, medicines, meslin, furniture for office and home use, papers, building materials such as painting colors, cement, and iron bars, and other consumable goods should be discouraged, and instead, these goods should be produced domestically. Where necessary, importation of capital goods and technical expertise should be tolerated to boost investment and hence increase the economic growth of the country.
- iii. The government of Tanzania to enhance investment in science and technology as well put more effort into research and development. This will increase Tanzania's economic competitiveness against other economies, enhances cost effectiveness and reduce over-dependence on the importation of these services. Where deemed necessary, transfer of relevant technology should be directed to the agricultural sector, building and construction sector, oil and gas, aviation services, marine economy, and the mining sector as among key sectors for economic growth of the Country.
- iv. The government should put in place policies and control measures to regulate Tanzania's official exchange rate since its increase possess a negative impact on the economic growth of Tanzania as it was indicated in study findings.

6.3 Limitations of the Study

One of the main limitations to this study includes the author being limited to a single data source which then restricts a comparison of data relevance, consistency, and validity. Despite that, a time series analysis needs a large number of observations. This study is limited to 31 observations as the researcher could not find other data for years before 1988.

The study was limited to use time series data for analysis to draw a realistic pattern of change over a period to be observed by the researcher. Besides, panel data could be used as a good alternative as it enables to check short run and long run effects.

Furthermore, the use of secondary data is associated with some data issues-driven from data collection errors and involved data bias by the collector or organizer.

Therefore, the author recommends other researchers to employ other econometric techniques for analysis. Also, a large number of observations is recommended to come up with more fruitful findings. Lastly, other researchers should try to investigate the impact of individual exporting and importing sectors such as Agriculture, manufacturing, mining, transport, travel, building and construction, education, tourism, and others on the economic growth of Tanzania. Both goods and service sectors should be pursued for further studies.

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APPENDICES

APPENDIX 1: RESULTS FOR STATIONARITY TEST AND GRANGER CAUSALITY TEST.

Table 1: lnGDP stationarity test, trend lag (0)

Dickey-Fuller test for unit root		Number of obs = 30		
			Interpolated Dickey-Fuller	
Test	1% critical	5% critical	10% critical	
Statistics	value	value	value	
Z (t)	-3.606	-4.334	-3.580	-3.228
MacKinnon approximate p-value for Z(t) = 0.0294				

Table 2: dlnGDP stationarity test, trend lag (0)

Dickey-Fuller test for unit root		Number of obs = 29		
			Interpolated Dickey-Fuller	
Test	1% critical	5% critical	10% critical	
Statistics	value	value	value	
Z (t)	-8.744	-4.343	-3.584	-3.230
MacKinnon approximate p-value for Z (t) = 0.0000				

Table 3: lnexpgd stationarity test, trend lag (0)

Dickey-Fuller test for unit root		Number of obs = 30		
			Interpolated Dickey-Fuller	
Test	1% critical	5% critical	10% critical	
Statistics	value	value	value	
Z (t)	-5.579	-4.334	-3.580	-3.228
MacKinnon approximate p-value for Z (t) = 0.0000				

Table 4: dlnextpser stationarity test, trend lag (0)

Dickey-Fuller test for unit root		Number of obs = 29		
			Interpolated Dickey-Fuller	
Test	1% critical	5% critical	10% critical	
Statistics	value	value	value	
Z (t)	-7.538	-4.343	-3.584	-3.230
MacKinnon approximate p-value for Z (t) = 0.0000				

Table 5: lnimpgd stationarity test, trend lag (0)

Dickey-Fuller test for unit root		Number of obs = 30		
			Interpolated Dickey-Fuller	
Test	1% critical	5% critical	10% critical	
Statistics	value	value	value	
Z (t)	-4.469	-4.334	-3.580	-3.228
MacKinnon approximate p-value for Z (t) = 0.0017				

Table 6: lnimpser stationarity test, trend lag (0)

Augmented Dickey-Fuller test for unit root		Number of obs = 30		
			Interpolated Dickey-Fuller	
Test	1% critical	5% critical	10% critical	
Statistics	value	value	value	
Z (t)	-6.331	-4.334	-3.580	-3.228
MacKinnon approximate p-value for Z (t) = 0.0000				

Table 7: lnexr stationarity test, trend lag (0)

Dickey-Fuller test for unit root		Number of obs = 30		
			Interpolated Dickey-Fuller	
Test	1% critical	5% critical	10% critical	
Statistics	value	value	value	
Z (t)	-4.905	-4.334	-3.580	-3.228
MacKinnon approximate p-value for Z (t) = 0.0003				

Table 8: Ininf stationarity test, trend lag (0)

Dickey-Fuller test for unit root		Number of obs = 30		
		Interpolated Dickey-Fuller		
Test		1% critical	5% critical	10% critical
Statistics		value	value	value
Z (t)	-5.819	-4.334	-3.580	-3.228
MacKinnon approximate p-value for Z (t) = 0.0000				

Table 9: Granger causality wald test

Equation	Excluded	chi ²	df	Prob> chi ²
GDP	Goods exports	3.215	2	0.200
GDP	Service exports	4.1342	2	0.127
GDP	Goods imports	2.1056	2	0.349
GDP	Service imports	1.8541	2	0.396
GDP	Exchange rate	.8097	2	0.667
GDP	Inflation rate	2.7722	2	0.250
Goods exports	GDP	10.4	2	0.006
Goods exports	Service exports	45.572	2	0.000
Goods exports	Goods imports	29.423	2	0.000
Goods exports	Service imports	18.749	2	0.000
Goods exports	Exchange rate	12.875	2	0.002
Goods exports	Inflation rate	22.1	2	0.000
Service exports	GDP	0.425	2	0.809
Service exports	Goods exports	4.8812	2	0.087
Service exports	Goods imports	1.2821	2	0.527
Service exports	Service imports	2.5834	2	0.275
Service exports	Exchange rate	1.3586	2	0.507
Service exports	Inflation rate	1.7326	2	0.420
Goods imports	GDP	6.985	2	0.030
Goods imports	Goods exports	0.46303	2	0.793
Goods imports	Service exports	7.6478	2	0.022
Goods imports	Service imports	7.2114	2	0.027
Goods imports	Exchange rate	2.9749	2	0.226
Goods imports	Inflation rate	11.088	2	0.004
Service imports	GDP	1.1462	2	0.564
Service imports	Goods exports	1.7315	2	0.421
Service imports	Service exports	1.606	2	0.4448
Service imports	Goods imports	3.8751	2	0.144
Service imports	Exchange rate	5.2831	2	0.071
Service imports	Inflation rate	4.409	2	0.110
Exchange rate	GDP	2.8371	2	0.242
Exchange rate	Goods exports	7.0944	2	0.029
Exchange rate	Service exports	4.1631	2	0.125
Exchange rate	Goods imports	0.73558	2	0.692
Exchange rate	Service imports	5.1431	2	0.076
Exchange rate	Inflation rate	5.3114	2	0.070
Inflation rate	GDP	10.815	2	0.004
Inflation rate	Goods exports	16.608	2	0.000
Inflation rate	Service exports	16.874	2	0.000
Inflation rate	Goods imports	67.935	2	0.000
Inflation rate	Service imports	13.09	2	0.001
Inflation rate	Exchange rate	13.439	2	0.001

Data source: World Bank (2020)