REPUBLIC OF TURKEY
ISTANBUL GELISIM UNIVERSITY
INSTITUTE OF GRADUATE STUDIES

Department of Economics and Finance

FREE TRADE AGREEMENTS: CHALLENGES AND OPPORTUNITIES TO MALI'S ECONOMY

Master Thesis

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Istanbul – 2022

THESIS INTRODUCTION FORM

Name and Surname : Ibrahim BATHILY

Language of the Thesis : English

Name of the Thesis : Free Trade Agreements: Challenges and Opportunities to Mali's Economy

Institute : Istanbul Gelisim University Institute of Graduate Studies

Department : Economics and Finance

Thesis Type : Master

Date of the Thesis : 29.06.2022

Page Number : 46

Thesis Supervisors : Asst. Prof. Dr. Ebru Gül YILMAZ

Index Terms : Free exchange, Free Trade Agreements, Duty reduction, Preferential origin, Rules of origin, Supplier solicitation

Turkish Anstract : Bu araştırma, Mali'deki Serbest Ticaret Anlaşmalarının (STA) etkinliğini ve ekonomisi için ortaya çıkan çeşitli fırsatları analiz etmektedir.

Distribution List : 1. To the Institute of Graduate Studies of Istanbul Gelisim University
2. To the National Thesis Center of YÖK (Higher Education Council)

Signature

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DECLARATION

I hereby declare that in the preparation of this project, scientific ethical rules have been followed, the works of other persons have been referenced in accordance with the scientific norms if used, there is no falsification in the used data, any part of the project has not been submitted to this university or any other university as another project.

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SUMMARY

This research analyzes the effectiveness of Free Trade Agreements (FTAs) in Mali and the various opportunities unlocks for its economy. It takes an institutional thinking face of view in explaining the opportunities and effects of non-tariff barriers and how Free Trade Agreements can address these barriers to attract foreign investors. For almost every business, they can bring substantial benefits through duty reductions and offer strategic competitive advantages. The aim of this research was to determine the impact of FTAs on the economic growth of Mali. Yearly data was utilized and ranging from 1967 to 2020 which was regressed through the OLS method. The first Sub-set sample (1967-1990) indicated that FTA's had little siginificant impact on the economic growth, whilst after signing different FTAs, the impact of FTAs increased significantly where all variables could positively improve the economic growth of Mali in the second sub-set sample (1990-2020). The study concluded that Mali should gear its policies towards improving trade openness.

Keywords: Free exchange, Free Trade Agreements, Duty reduction, Preferential origin, Rules of origin, Supplier solicitation.

ÖZET

Bu araştırma, Mali'deki Serbest Ticaret Anlaşmalarının (STA) etkinliğini ve ekonomisi için ortaya çıkan çeşitli fırsatları analiz etmektedir. Tarife dışı engellerin fırsatlarını ve etkilerini ve Serbest Ticaret Anlaşmalarının yabancı yatırımcıları çekmek için bu engelleri nasıl ele alabileceğini açıklarken kurumsal bir bakış açısı gerektirir. Hemen hemen her işletme için, vergi indirimleri yoluyla önemli faydalar sağlayabilir ve stratejik rekabet avantajları sağlayabilirler. Bu araştırmanın amacı, STA'ların Mali'nin ekonomik büyümesi üzerindeki etkisini belirlemektir. 1967'den 2020'ye kadar olan ve OLS yöntemiyle regrese edilen yıllık veriler kullanılmıştır. İlk Alt küme örneği (1967-1990), STA'ların ekonomik büyüme üzerinde çok az önemli etkisi olduğunu, farklı STA'ların imzalanmasından sonra, ikinci alt grupta tüm değişkenlerin Mali'nin ekonomik büyümesini olumlu şekilde iyileştirebileceği STA'ların etkisinin önemli ölçüde arttığını belirtti. -set örneği (1990-2020). Çalışma, Mali'nin politikalarını ticari açıklığı iyileştirmeye yönlendirmesi gerektiği sonucuna vardı.

Anahtar Kelimeler: Serbest Ticaret, Serbest Ticaret Anlaşmaları, vergi indirimi, tercihli menşe, menşe kuralları, tedarikçi talebi

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ABBREVAITIONS

ARDL   : Autoregresive Distributed Lag Model

ECOWAS   : Economic Community of West African States

FDI   : Foreign Direct Investment

GATT   : General Agreement on Tariffs and Trade

GCF   : Gross Capital Formation

GMM   : Generalized Method of Moments

MENA   : Middle East and North Africa

OECD   : Organisation for Economic Co-operation and Development

OLS   : Ordinary Least Square

POP   : Population

RGDP   : Real GDP

SADC   : South African Development Community

TIFA   : Trade & Investment Framework Agreements

WAEMU   : West African Economic and Monetary Union

WTO   : World Trade Organization

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PREFACE

I thank Almighty Allah for blessing me this far and beyond. I dedicate this project to my family, whose support, patience, and encouragement made this work successful. I wish to give special thanks to my family for their everlasting effort in giving me an education, and also a special thanks to his wives and children. Many thanks to my supervisor for her valuable advice and guidance towards writing this research.

CHAPTER ONE

INTRODUCTION

1.1. Research Background

Following global trends free trade agreement has become a highly prioritized technical tool for trade compliance and regulations of countries' economy globally. Creating its own niche amongst different governments in the regulation and deregulation of taxes and import duties, FTA in a nutshell is; a trade agreement pact between two or more nations to reduce barriers to imports and exports among them (Nwoye, 1994). With almost a zero or minimal trade tariffs goods and services can be exchanged between nations and also almost a zero governmental custom restrictions.

According to World Trade Organization (WTO) Free trade Agreement is between two or more countries where the countries agree on certain obligations that affect trade in goods and services, and protections for investors and intellectual property rights, among other beneficial motives. For Mali, the main goal of trade agreements is to reduce barriers to exports, protect Malian interests competing abroad, and enhance the rule of law among FTA partner country or countries.

In March 2018, Mali signed the African continental free trade agreements. Mali has trade agreements with all countries of the West African Economic and Monetary Union (WAEMU), the Economic Community of West African States (ECOWAS) and the United States Trade & Investment Framework Agreement (TIFA). This has singled Mali economy out for a progressive move although it is not overly evident yet with the current struggling country economy. However, it is mandatory to foster this relationship to achieve results in the world trade area, where business unanimity and trade negotiations have been achieved for decades.

Mali decided to move towards a private initiative by choosing a liberal economy. These steps were first taken within the context of World Bank group and the IMF structural adjustments trade agreement supported by their bilateral partnership. This bilateral trading agreement between Malian government and its partners has yield great improvement in the Malian economy since 20 years ago when it began its reforms. Mali's accession to the WTO is one among the reason the country's economy is

opening up for productivity and a fine trading conditions for investors around the globe.

Taking into consideration the improvement of Mali macro-economic conditions and the remarkable evolution of trade agreements possibility, it is in fact worthy to note that Mali more free market entrance compared some of its African counterparts, though Mali still faces some major drawbacks in this context mostly in the area of manufacturing and exchanging its locally made products because of the lack of mechanization. Hence the need for the country to see beyond managing its local works for an industrialized economy centered on growth in all sectors and also offering substantial comparative advantage for the Malian economy.

In account of this structural economy reality, this research has shown some of the macroeconomic effects of Malian economy through the analysis of the main indicators of both the opportunities and challenges that free trade agreement poses to the Malian economy.

1.2. Thesis research problem

Since Mali's independence from France in the 1960s, the country's government has spent a great deal of money, efforts and time on various programmes aimed at developing the country's trading hub. However, as evidenced by the current state of the small and medium scale businesses in the country, these efforts have not proven enough significance. In a more detailed note, entrepreneurs in Mali have not fared as well as predicted, and as a result, have not had the intended impact on the country's economic growth and development. Despite their growth, small and medium-sized enterprises continue to be restricted in their ability to play a significant role in the economy trading power due to a lack of industrial resources, some high tariffs, restricted exporting powers, government assistance in mechanized agriculture, skill acquisition and an overall low performance rating. Thus, it begs the question that "does engaging with foreign countries and signing bilateral trade agreements augment businesses' aim to play a role in improving economic growth".

1.3. Research Question

Are there any possible economic relationships or benefit of free trade agreement to the Malian economy?

1.4. Research Objective

Vividly, this research purpose is to see the beneficial and challenging aspect of free trade agreement and its various deeming impact in the economy of Mali. The objective of this thesis is to see a fine way in adding value to Mali's trade policy as regards the upgrading of its local market, securing a normal and notable supplies of consumer and capital goods, holding a sure markets place for domestic products both abroad and locally, diversifying manufactured exports, for the wellbeing of the Malian economy and the common man in Mali.

It also intends to see some correlated activities with economic advancement indicators such as employment rate and GDP growth over a specific period of years. Which will in-turn show clearer understandings with regards to the level of association between the two variables.

Amongst other important objectives are:

• Checking the relationship and indicators between economic growth in Mali and free trade agreement.

• suggesting possible means by which free trade agreement (FTA) can be improved to better the economy and the general Malian wellbeing.

1.5. Research Hypothesis

The below outlined hypothesis is coined from the statement of research and it reads as follows;

• Ho: There is no relationship between free trade agreement and the Economy of Mali

• Ha: There exist a relationship and economic impact between free trade agreement and the Economy of Mali

This research study hypothesis will be evaluated based on the estimation results and checked against the 5% significance level.

1.6. Significance of the study

Among the significance of this study is the comprehensive analysis it provides towards the attainment of a robust Malian economic growth through free trade agreements and also matching other countries successes with FTA's to Mali's. it also narrates the importance of free trade agreements to other academic communities who are not fully aware. Lastly, this study will contribute to the literature for academicians to read and understand the free trade agreement and economic growth of Malian wellbeing.

1.7. Structure of the Research

The research structure clearly explains the different chapters are how their relevant contributions towards this thesis end goal. Starting from two; it will contain relevant literature in study concerning diaspora remittances, their motives, and their beneficial role also the challenges of free trade agreements and economic impact in Mali. The methodological aspect which is obviously the chapter three will analyze the various research data, it sources, sampling method, and design. And then the research summary, conclusion and recommendation follow for other researchers to use as a pathway.

CHAPTER TWO

LITERATURE REVIEW

Thesis literary review clearly explains the work of other academicians as it relates to the subject matter, mostly to the Malian economy. Narrating literature review is important because it shows the empirical relationship between other studies and a background for future work on same subject. Particularly, this chapter of review is categorized into three phases of; concept, empirical, theoretical and conceptual framework. The conceptual review is as follows;

2.1. Theoretical framework

2.1.1. Concept of Free Trade Agreements (FTA's)

Regional economic integration has four phases. The first of these steps is free trade zones. In free trade zone structures, member countries eliminate all trade restrictions such as tariffs and quotas among themselves, and each implement separate foreign trade policies for non-member countries. In the customs union, which is another type of regional structuring, member countries follow a common commercial policy towards third countries, unlike the free trade zone structuring. One more stage of the customs union is the common markets. In the common market structure, there is free circulation of capital, labor, entrepreneur and production factors among member countries. The next stage of regionalization after the common market is economic union. Under the shed of light this information free trade agreements can be accepted as the first step of reel integration (Yılmaz 2021).

A free trade agreement is an economical decision in between two or more countries to reduce barriers to importation and exportation within their countries for economic benefit. It can also be noted as a free trade policy; goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange. Free trade agreement cannot be mistaken as protectionism, because protectionism is restriction or barriers placed by countries government for the sole purpose of local market, goods and services appreciation. Free trade is totally the opposite of protectionism.

Ricardo (1817) argument is that if free trade is allowed between countries, resources would be readily available at low cost because productivity would rise. His comparative advantage model theory is one of the biggest insights to free trade exchanges amongst nations as a means of sharing and making available scarce resources. Countries should focus more in making its border open for international relationships of trade exchanges with zero quotas, limitations and custom duties.

Bagwati (1997) postulated that the case of free nation's trade is robust because it goes beyond not just too overall prosperity or aggregate national prosperity but to a shared nation's outcome which make free trade agreement a moral compass for trade fairness as well. Also he went further to explain the existing link between free trade openness and economic prosperity is solid and very suggestive. With his simple examples he divided countries in the developing stages into two various sectors which are: "Miraculous" countries with annual capital per GDP growth rates of 3% even more, and "fiasco" countries with zero growth rates. He noticed commensurate corresponding increase rates of trade for both sectors of group within the period of 1961-1999. Meaning that trade barriers has a higher impact to a nation's economy if it is reduced just like the category of Miraculous countries has done.

With public opinion, free trade is a debated topic as it is like a mirage to a number of persons Milton Friedman (2020) says that free trade is unanimous on the sole image of individual or national desirability. Free-trade policies have not been as popular with the general public. The key issues include unfair competition from countries where lower labor costs allow price-cutting and a loss of good-paying jobs to manufacturers abroad. In a nutshell the public view this means of trade as an economic threat but it is highly debatable.

To economist, free trade agreement on foreign level is not different from trade between states, regions, cities and local municipalities. Most importantly, it gives room for countries to trade on their best goods locally produced in the international space and allows the scarce in readily available goods and services moved into their country. The blend of local mix of products allows economies involved in bilateral agreement to experience a quicker and more motivated growth because goods become readily available for both countries and consumer's needs are satisfied with little token tariffs price range (Ricardo, 1817). However, especially Trump's stance on FTAs has been

argued by many economists, as it seems that there is no bigger gap between economists and politicians than on the subject of free trade (Lowenstein, 2017).

As free trade is genrally understood, it is about free movement of factors of production and economic integration between countries, certain global bodies are responsible to for bringing together these economies and assist in setting up agrmment between them. The General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO) are responsible for these activities. Their aim is to enter into a contractual agreement between countries and set laws to reduce tarrifs, quotas, and subsidies between members. The GATT's main focus when it came into play was to help economies recover from the world war II.

The Uruguay round meeting conducted between participants was held on September 1986 in Uruguay (Puntal del Este) in a ministerial meeting to discuss farm policy reforms to reduce world hunger, and from this the WTO was born with 123 members. The main goal of this meeting was to liberalize economies through subsidies in agriculture, easy access to foreign investment, protection of inovations and begin trade between financial institutions (Watkins, 1991). The utilization of product endowments to put these overflows on to world business sectors caused emerging nations extreme exchange and food security issues during the 1980s; and a Uruguay Round bargain was the way out for economies to get out of food hunger.

Through the early years of WTO and GATT, the United States and the European Union could not agree on terms and conditions on the agricultural reform until 1994 where the Marrakesh Agreement was signed and the WTO officially began its duties. The Uruguay-Round achievement can likely be said to be the improvement of the declining agricultural trade in which subsidies could not subsidies decling world food prices.

However, the GATT framework still has it critics by legislators and other countries. For example, Global non-profit organization critized GATT officials for the negligence of developing countries in participation and benefiting from the Agricultural programs. Sub-Saharan African countries which primary trade is agriculture are not fully represented in the GATT policies (Finger & Nogues, 2001)

2.1.2. Concept of economic growth

This can be defined as the percentage rise in the real GDP of an economy which can be measured by calculating the difference between the present inflation-adjusted market values of all goods and services produced against the once from the previous year (Begg, Vernasca, Fischer, & Dornbusch, 2015).

Economic growth is generally important to any nation, as it is the foundation of societal development. It is the increase of total value of goods and services of country within a particular period of time. Economists over the years has researched different ways of achieving this growth and has developed different theories explaining their methods. Neoclassical economists have been on the forefront of this reseach and they support the notion that economic growth can be caused by exogenous factors (Chang 2003; Reinert 2006).

According to Robbert Solow (1957) model of economic growth, growth is primarily achieved through influence of outside factors (such as international trade) on the production process of country. Solow (1957) was convinced that an economy can grow faster with the influence of technology which is independent of other economic forces. Since labor and capital are the traditional inputs of production process, the addition of technological process increases the rate of production, such that when capital and labor is doubled, the amount of production doubles. Solow's model other key components of economic growth are the rate of saving and investment in an economy. His assumptions were that savings is a linear function of income and investment is a product of accumulation of capital, and capital exhibits a diminishing return in a closed economy. Hence, to increase the rate of savings, economies can look to outside border for capital.

However, before the model of Solow, neoclassical economist had already determined that economic growth can spun from the increase on the rate of savings in an economy. The Harrod-Domar growth model of Harrod (1939) and Domer (1946) oversimplified the concept of economic growth as they only recognized two components that can increase the income level of a nation. These two components include the level of savings which equals the investment of nation and the capital-output ratio. When this ratio is low, a country needs little capital to produce for the

nation. Although, when this ratio is high, it suffices that a larger capital is required to increase the rate of productivity.

The Endogenous economic growth theory also explains the growth spurs from internal factors as opposed to the models above. Economists that believe this theory postulate that; ivvestment in human capital, technological development, and investment in infrastructure fascilitates faster productivity. This makes government investment in research and development very important, so as to derive innovative ways to produce in the contry. The main argument for this theory pertains to that of an economy that is driven by knowledge and information in production will continue to have a spillover effect on the economy, as investment in the technology industry (tech companies) leads to increasing scale of return. This theory also directs government policies towards protection of patents, Small and Medium Enterprises, and Education of the public.

2.2. Mali's foreign trade structure and development

Mali's coups d'état and domestic conflicts (terrorism, corruption, and tribalism) has had bad influence on the international trade sphere of Mali. Its long-term economic outlook is in a dilemma, however, with the gift of natural resources opportunity in securing energy deals, and high agricultural benefits can save it in the long-run. Despite the political conflicts and infrastructural challenges, Mali is still open for international business.

Mali's economy relies upon two significant commodities: gold and cotton. These two products addressed 89.6 percent of Malian commodities in 2020. Mali has seen a flood in gold commodities, with modern gold creation arriving at roughly 65 tons in 2019 and in 2020. The Government of Mali has focused on mining area expansion, with promising open doors in uranium, bauxite, phosphates, iron, lithium, and manganese extraction.

Since the implementation of the WEAMU-West African Economic and Monetary Union and ECOWAS-Economic Community of West African States, Mali saw a surge in economic growth by 60%. This is obviously an improvement from in foreign trade, as export and import activities were engaged. Observing the export trends of Mali, we can see a significant increase from US$957 million in the year 1994

to US$2.7 billion in the year 2008, before the global financial crises, and this trend continued to US$3.5 billion in year 2020.
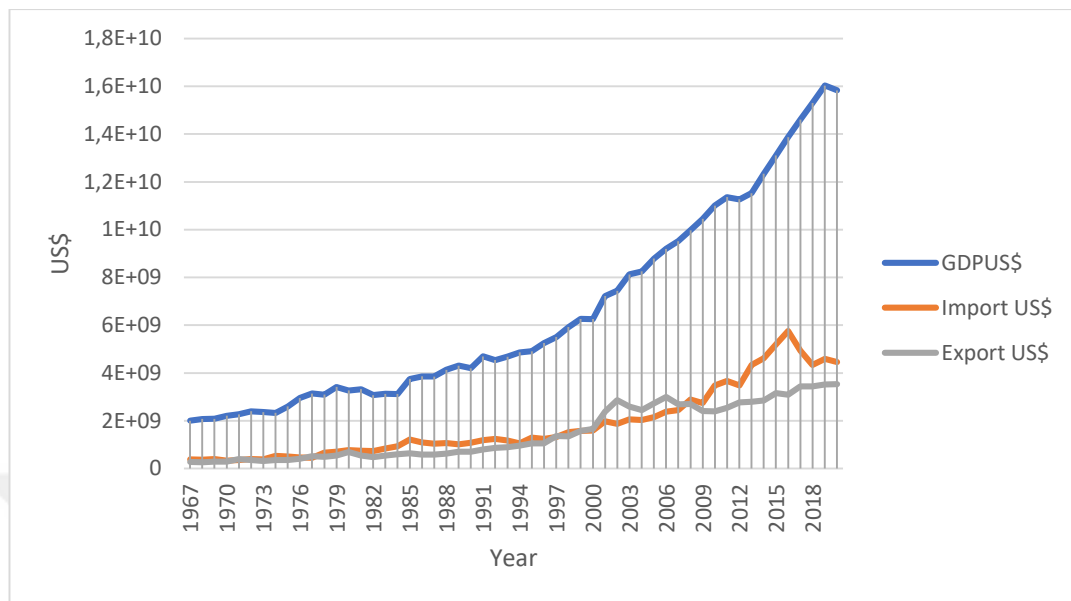

Figure 1: Historical trend on GDP, Import, and Export

Source: World Bank

Likewise, the import of goods and services which improved from US$1 billion in 1994 to US$2.6 billion in 2007 and further continued to US$3.5 billion in 2020. When export in a country is larger than the import, the trade balance of the country becomes positive, hence improving the currency of the country and increasing foreign savings. Furthermore, when foreign savings increase, it will augment part of national savings which can be used for infrastructure development. Mali's strength in export is in three different commodities. These commodities include cotton, gold, and livestock. These 3 commodities account for 90% of Mali's merchandise export over the years. Mali imports are majorly comprised of crude oil, cements, and other mechanical products (World Bank, 2022).

Clearly, the adoption of the import substitution strategy in the 1980s has paid of for the Malian's economy. The implementation of tariffs, restrictions on import prices and quotas, and other quantitative restrictions has allowed exports to grow and economy to prosper. The implementation of WAEMU, GATT, WTO membership has allowed its economy to be open and trade policies became transparent. For instance, custom duties and fiscal duties were combined to make a single duty for importation of goods with four different rate categories (5% for commodities, 20% for consumer

goods, 10% for intermediate goods, and 0% for staple goods). Furthermore, Mali subjected goods imported outside of the ECOWAS and WAEMU zone to additional tax such as the solidarity tax and the WAEMU's statistical fee. To further promote export, Mali's implementation of 0% Value added Tax (VAT) on goods, and 3% of VAT on golds and cotton export.
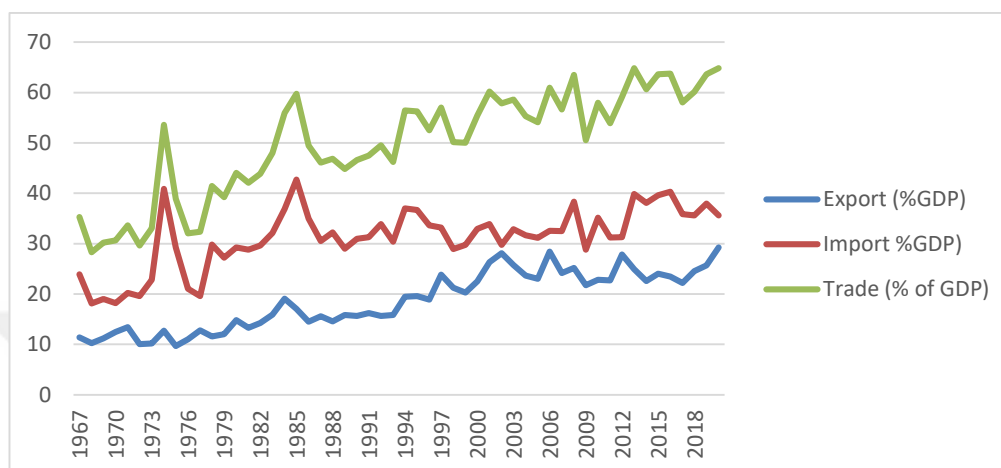
Figure 2: Historical trend on International trade

Source: World Bank

Cotton is Mali's second-biggest export commodity. Cotton exportation employs about one fifth of the population, and cotton represented 6.7 percent of products in 2020. An about 80% of Mali's population is involved in livestock farming, horticulture, fishing and forestry, and this represents 33% of Mali's total economic growth.

According to Trading Economics (2022), Mali's majorly export to South Africa ($.33B), followed by Switzerland ($1.30B), Bangladesh ($258.6M), Ivory Coast ($154.44M), Burkina Faso ($100.68M), Senegal ($97.43M), India ($55.26M), Malaysia ($36.54M), China ($32.09M) and Denmark ($31.62M). while the other top 10 countries they import to are Senegal ($1.14B), China ($795.91M), Ivory Coast ($536.20M), France ($40.5M), India ($156.13M), Germany ($149.87M), United States ($142.26M), Italy ($125.78M), and South Africa ($117.64).

Furthermore, Mali exports and imports different Merchandise to the mentioned countries above. The table below outlines the top 10 imported and Exported Merchandise according to Trading Economics.

Table 1: Mali's Merchandise Export and Import

S/N	Import	Export
1	Mineral fuels, oils, distillation products	Cotton
2	Electrical, electronic equipment	Pearls, precious stones, metals, coins
3	Machinery, nuclear reactors, boilers	Live Animals
4	Vehicles other than railway, tramway	Fertilizer
5	Salt, sulphur, earth, stone, plaster, lime and cement	Oil seed, oleagic fruits, grain, seed, fruits
6	Fertilizers	Machinery, nuclear reactors, boilers
7	Pharmaceutical products	Mineral fuels, oils, distillation products
8	Cereals	Iron and steel
9	Iron and steel	Edible fruits, nuts, peel of citrus fruit, melons
10	Articles of iron or steel	Vehicles other than railway, tramway

Source: Trading Economics (2021)

2.3. Empirical literature review

In this section, the study will outline the empirical works on the relationship between FTA's and economic growth. These studies covers both developed countries and developing countries, with the use of different methodologies. Since the literature on Mali are scanty, this study will examine studies on both international level and country focus on Mali.

2.3.1. Empirical review of FTAs and Economic growth

Looking at the study of Hye and Lau (2015) which investigated the relationship between trade openness and economic growth for India using an Autoregressive Distributed Lag Model (ARDL) and rolling window regression method on trade openness, physical capital, human capital and real GDP. The findings of the study were in conflict with the theoretical view as a negative relationship exist between trade and real GDP in the long-run, while a positive relationship exist in the short run. The study added that due to the low incentive in research and development and imperfect knowledge spillover on India may be the reason for the negative relationship.

Examining the study of Musila & Yiheyis (2015) which discussed the realtionship between international trade, investment and economic growth for Kenya, between the periods of 1982 and 2009. The study discovered a negative and significant effect of trade on economic growth of Kenya. The study implied that cost of inputs pose a

challenge to Kenya's productivity, which in turns affects the ability to exports and affects economic growth.

The study of Asfaw (2015) investigated this enigma for 47 sub-Saharan countries using a panel ordinary least sqaure between the periods of 2008 and 2000. The variables included were real GDP per capita, investment (%GDP), real Exchange rate, Trade, geographical factor, institutional quality, and population. The research asserts to the claim that trade policies are positively linked investment and economic growth.

Similarly, the study of Saeed & Khalid (2017) explored this nexus in the MENA region using a Panel ARDL model with Trade as a share of import and export volumes and real GDP for the periods between 1973 and 2013. The simiarlities found in highly trading regions like OECD countries were found in the MENA regions too. Trade has positive and strong link to economic growth in the region.

According to the study of Chin et al. (2018), international trade significantly affects the economies in OECDs countries than some selected developing countries. The study examines the relationship between trade openness and economic growth while using TRADE (% GDP) as a proxy for international trade. Foreign Direct Investment (FDI), Gross Capital formation, total factor productivity, human capital, and total factor productivity were also included in the estimation using a panel Generalized Method of Moment (GMM) between the periods between 1977 and 2011. Further in the findings, the study discovered that FDI and human capital are improved by Trade in the long-run which is consistent with the endogenous growth theory. However, the study added that weak institutions were responsible for the slow growth in developing countries despite the effect of trade.

Moreover, African countires are known to engage in high voluminous of international trade, where they export primary comodities and import a lot of capital goods. The study of Moyo and Khobai (2018) dicussed the impact of trade openess and economic growth in eleven countires in the Southern African Development Community (SADC) region, employing a pooled mean group estimation between the years of 1990 and 2016. Trade (% of GDP), FDI, labor, and real GDP were the variables employed in the estimation. A negative and significant relationship was

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discovered in the long-run while in the short-run, only nine of the eleven countries were able to establish a positive association.

The study of Mbogela (2019) discussed the impact of trade liberalization policies on economic growth of 49 countries. The dependent variable is real GDP while the independent variable is Trade (% of GDP), population, agricultural production, mining sector (% GDP), and a dummy variable to measure the effect of location. Using a random effect and fixed effect model, the study concluded that there is a positive link between trade and real GDP, and Population is the highest determining factor of real GDP in the economies.

Following closely on the investigation on the SADC region, the study of Malefane and Odhiambo (2019) also investigated this nexus, while using the panel ARDL for the period between 1973 and 2013 on South Africa and Lesotho. It appeared this relationship exhibits a negative and significant relationship between the variables. The study eluded to the lack of infrastructural development in lesotho and quality institution in South Africa.

In the case of China, Li et al., (2019) focused on the foreign trade structure, opening degree and economic growth in western China using the GMM method to study this relationship. Through the estimation, the study discovered that China exports primary products and labor intensive products which has an impact on the economic growth of China. Additionaly, degree of openness was found to have an impact on the economic growth of China.

The study of Yusuf et al (2020) employed the OLS on Nigeria between the year 1986 to 2017 to determine the nexus between economic growth and international trade. GDP per capita was utilized alongside the international trade. The result indicated an inversely related relationship between the variables.

A more comprehensive analysis was done by Udeagha & Ngepah (2020) with the use of a nonlinear ARDL approach to determine if a relationship between composite trade share and economic growth of South Africa for the periods between 1960 and 2016. The conclusion to their findings were that; in the short-run composite trade share as a measure of international trade positively induce economic growth, and negatively deduce economic growth in the long-run.

Likewise, the study above, the research of Abiden & Duan (2021) looked at the relationship between economic growth and international trade: the role of digital economy. The research used 53 African countries sample between 2000 and 2008 while employing the panel OLS, and the GMM model to investigate the enigma. The result indicated that trade posititively affects the digital economy of African countries, and capital, labour has negative and positive impacts on economic growth respectively.

2.3.2. Empirical review of FTAs and Economic growth of Mali

In this section, the studies that examined the relationship between international trade and economic growth are outline, however, since these studies are scanty, this study had decided to include panel studies which include Mali.

The study of Lloyd et al. (2014) also looked at trade-economic growth relationship in the ECOWAS region for 15 member states between the periods of 1975 to 2009 using a panel OLS method. The study used export diversification as a proxy for trade, and manufacturing value-added index, and per capita GDP. These three variables yielded a positive and significant impact on ecoomic growthBeginning in the ECOWAS region which Mali is a part of, the study of Iyoha & Okim (2017) discussed the relationship between export as a proxy for international trade and economic growth of ECOWAS member states the period between 2013 and 1990. Control variables such as FDI, exchange rate, were also used to see their effects on economic growth. With the use of a pooled Ordinary Least Square Estimator (OLS), the study verified that trade is an important determinant of GDP in Mali and other member states.

A country focus on Mali was investigated by the study of Disa et al. (2017) researching the co-integration and causality relationship between trade and economic growth of Mali between 1986 and 2015. Amongst the econometric techniques employed are; Johansen co-integration test, Granger causality test, and Vector Error Correction Model (VECM). The variables included; export and import (as a proxy for trade), real GDP, Gross capital formation, and Labor. The result intepreted from the estimation was a longrun relationship between all variables in question. This relationship exhibits a positive in the long-run. For the granger causality result, Export granger caused economic growth in the short run, gross capital formation also granger caused econimic growth, and labor as well.

Ijirshar (2019) investigated this enigma using a PMG technique to determine the impact of trade (%GDP) on real GDP per capita. Control variables such as labor force, gross fixed capital formation, FDI, exchange rate, and government expenditure. The result for mali yielded a negative and insignificant relationship between trade and per capita GDP. The study eluded to bureaucratic inefficiency at a high degree, which reduces the effects of trade on economic growth.

On the study of Guei and Le Roux (2019) which used same technique and same ECOWAS member state over the period 1990–2016. The variables utilized include; per capita GDP, trade (%GDP), labor, gross capital formation, exchange rate, financial development, and external debt. The result for Mali included a long-run relationship between the variables, however, this relationship was negative. The study adviced that the ECOWAS region are not fully taking advantage of international trade as export diversification is not encouraged.

2.3.3. Gap in the literature

The literature above has outlined different studies carried on different geographical locations with different econometric results, yielding conflicting results. Some studies agree with theories, while others conflict with theories. The literature on Mali is underresearched, and not enough data has been utilized to study this enigma. The novelty of this research will close the gap in the literature in the following was; The study will investigate the impact of FTAs on the economic growth of Mali by examing the relationship between Trade and economic growth before and after Signing FTAs. To the best knowledge of the author, no study has discussed this issue.

CHAPTER THREE

METHODOLOGY AND ANALYSIS

The aim of this study as mentioned in the previous chapters is to determine the relationship between Mali's international trade and its economic growth. As for mentioned before, trade liberalization includes removing trade barriers between countries and implementing policies that aids economic growth, hence this study decides to use the Ricardian model of comparative advantage to explain the relationship between trade and economic growth.

3.1. Ricardo's trade model

David Ricardo's model of international trade was among the first models to highlight the benefit of international trade in improving an economy. This concept regards to where a country focuses on the goods it can produce more efficiently compared to other countries. Ricardo's model was based on the ability of a country using labor as the only factor of production to produce a good. In his assumptions; there're only 2 countries in the model, they produce 2 goods, production only requires labour as input, opportunity cost exhibit constantant return to scale, and transportation cost is eliminated.

Ricardo's model is commonly refered to as theory competitive advantage and it advocates for free trade between countries and suggest countries to follow specializations method of production to ensure economic growth. For example, if country A can produce a bread more efficiently than country B, and Country B can produce sugar more efficiently than Country A, then these two nations can trade for both goods or the single good. This is the concept of Free Trade. The ability for a nation to remove trade barriers and allow free flow of goods and services from one country to another in other to improve economic growth of that country. In practice government applies theory through implementing trade liberalization practices e.g removing tarrifs, removing physical borders, and lowering other merchandise cost.

3.2. Research Model

As explained in the theoretical framework, the main objective of a government is to subsequently improve its economy through increase in output, hence why David Ricardo suggested that; this increase can be realized through trading with foreign countries which can produce goods at lower cost. Certain variables like labor, capital, and foreign investment play an important role in facilitating traded, hence, they are added to the model for more robust analysis. Graphically the relationship between variables are established follow;
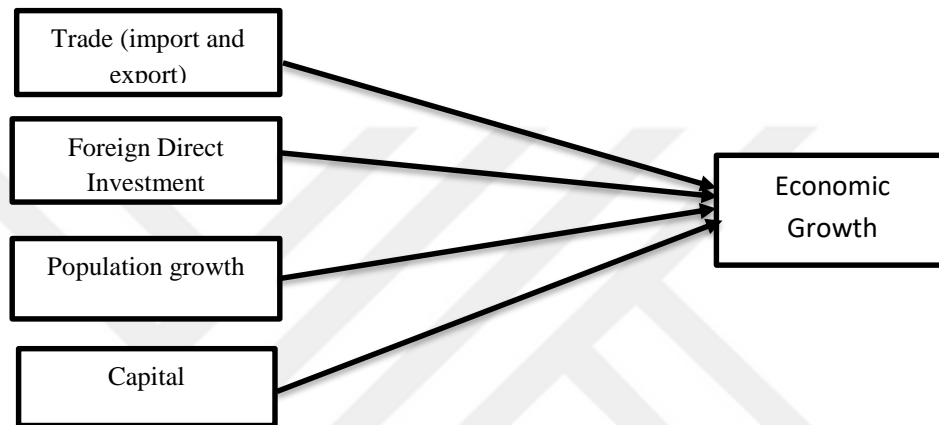
Figure 3: Relationship between variables

Once the relationship has been identified, the study further outlined the economic function and econometric function of the model. However, it is worthy to mention also that the study will utilize a multiple regression form in order to understand the relationship between these variables. Hence, the equation is outlined below;

$$Y = \beta_0 + \beta_1 Trade + \beta_2 FDI + \beta_3 K + \beta_4 PoP + \varepsilon_t \qquad \text{Eq2}$$

Where Y is Real Gross Domestic Product as a proxy for economic growth, Trade is the sum of import and export relative to GDP, FDI is foreign direct investment, GCF is Gross Capital formation, PoP is for population growth while $\beta_0, \beta_1, \beta_2, \beta_3$ and β_4 represent the coefficients of each variables and ε is the error term. Before estimation of this equation, the study took the first step of transforming the variables into their natural logarithm form.

3.3. Sample and Target Population

The sampling technique applied for this study is the purposive sampling technique. This entails specifically selecting a sample out of a population and study the sample with the aim of investigating the research hypotheses at hand. Since Mali's independence from France in the 1960s, the country's government has invested a lot in developing the country's international market, with export of gold and cotton which makes up 80% of total Mali export. It is one of West Africa's largest exporter of cotton, and has trade agreement with the West African Economic and Monetary Union (WAEMU) and with the Economic Community of West African States (ECOWAS). Mali was selected for this purpose, and research sample employed for the analysis included time series data ranging from 1967 to 2020, for which it was collected from the World Development Indicators of the World Bank.

3.4. Data

The variables employed for the estimation is outline below;

Table 2: Variable Description

Variable	Source
Economic Growth (rGDP)	Word Development Indicators of the World Bank
Trade (TR)	Word Development Indicators of the World Bank
Foreign Direct Investment (FDI)	Word Development Indicators of the World Bank
Population growth (POP)	Word Development Indicators of the World Bank
Gross Capital Formation (K)	Word Development Indicators of the World Bank

Source: (World Bank, 2021)

3.5. Data Analysis

The first step the study took was to analyze the nature of the data through investigating the descriptive data of this study (Table 3). This includes understanding the central tendencies of the data and their measures of dispersions, skewness, and

normality of the data. It is worthy to mention the nature of the data used in this study are of continuous data, not that of categorical data. Then the study examined the stationarity level of the data. Subsequently, equation 2 was estimated through the OLS technique and the diagnostic tests followed to ensure the coefficients pass the multiple regression assumptions.

3.5.1. Unit root testing

It is detrimental not to investigate the stationarity levels of the data, in order to determine if variables have unit root (not stationary) or not (stationary). If it changes, then there is a risk of the error term being biased and the regression spurious. Hence, the study applied the two conventional unit root techniques which are Augmented Dickey-Fuller test (ADF) (Dickey & Fuller, 1981) and Phillip-Perron test (PP) (Phillips & Perron, 1988). These two tests are widely used to investigate the level of stationarity by researchers. The ADF uses adequate lagged variables of the dependent variable and the error term to run a regression until there is no serial correlation, while the PP is powerful unitroot problems which may cause heteroscedasticity in the error term of the regression. Both null hypothesis must be checked under the 5% significance level.

3.5.2. Ordinary Least Square

The next step was to run the equation 2 through the Ordinary Least Square (OLS). The OLS is a technique used to measure the relationship between an independent variable and dependent variable. The relationship is established through distinguishing the difference between the predicted value and observed values using a straight line after minimizing its sum of squares. This method of inference is normally used in a case of multivariate analysis. Since we have more than one independent variable, it is proper to use the OLS method. However, this method has assumptions to be adhered to, in order for our estimates to be unbiased and information drawn will be accurate.

Equation 2 will be estimated two different times with different number of observation. The reason is to capture the difference in the results between the period before Free trade agreements of Mali (1967-1990) and the period after the free trade agreements (1990-2020). Mali signed its first trade agreement as part of being an

ECOWAS member in 1995, the WAEMU membership in 1994, WTO in 1995, and GATT membership in 1993. The effect of all these trade agreements are to be captured in the estimation.

3.5.3. Normality Test

One of the assumptions of a multiple linear regression is that; the error term is normally distributed around its mean value. By achieving this, the estimation indicates efficient coefficient for policy recommendation, therefore, this study will use the Jareque-Bera statistics and the chi-square distribution to determine if the residual term is normally distributed. The following null hypothesis guards the Normality test.

- H: Errors are normally distributed

- Ha: Errors are not normally distributed

Reject H0 when Jareque-Bera value is more than the critical value at 10% significance level.

3.5.4. Autocorrelation

Another assumption of the classical multiple linear regression is for the error term to be free from autocorrelation. Autocorrelation simply means that error term for a specific year is carried forward which further enlarges the t-stats and minimize the standard error. This ends up giving misleading interpretation. This study will employ Breusch–Godfrey Lagrange Multiplier (LM) test to investigate if the error term has autocorrelation. The LM statistics is calculated from the regression and with t-distribution, it is compared to the critical values with the following hypothesis.

- Ho: No Autocorrelation

- Ha: Errors are Autocorrelated

Reject H0 when LM value is more than the critical value at 10% significance level.

3.5.5. Heteroscedasticity

Constant variance throughout the OLS estimation is required, which means that the variance of the dependent variable should not be the same as error term's variance. This study opted to use the Breusch-Pagan-Godfrey test with the following hypothesis

- H0: There is no heteroscedasticity

- Ha: There is heteroscedasticity

Reject H0 when t-stats value is more than the critical value at 10% significance level.

The accuracy and validity of the model will be tested against different test, in order make accurate predictions through the following test;

3.5.6. Joint Hypothesis testing

The study will test the significance of the model by looking at the F-statistics and comparing it to the critical values of the F-distribution. This test is important in order to determine if the independent variables can jointly explain the dependent variable. It also gives an indication if there is an omitted variable. The test takes the following hypothesis

$$H_0: \beta_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$$

$$H_0: one\ or\ more\ \beta\ are\ different\ from\ 0$$

3.5.7. R-squared and Adjusted R-squared

The r-squared statistics is responsible for outlining for how much of the variation in the dependent variable is explained by the independent variable. The rule of thumb is that; the statistic should be more than 50%. While the adjusted r-squared statistic looks at the redundancy of the independent variables. If a new variable is included in the model and the statistic increases, it means that the variable is not redundant. This outcome is true in reverse scenarios.

RESULTS AND DISCUSSION

This section is set to discuss the estimated result and its implication. Firstly, the descriptive statistics is outlined, then the regression results are given and coefficients are discussed with their implications. Furthermore, the model robustness and the diagnostics tests were discussed. The aim of the study was to find the relationship between the real GDP of Mali, and trade related variables. The descriptive statistics of the data is outlined below;

Table 3: Descriptive statistics

	RGDP	TR	FDI	K	POP
Mean	22.86702	56.97114	18.35188	21.00224	15.39429
Median	22.94230	57.82929	18.81404	21.05999	15.40859
Maximum	23.49765	64.86498	20.39565	21.89101	15.80894
Minimum	22.15807	46.24560	14.00217	20.14583	14.96773
Std. Dev.	0.439561	5.643625	1.669743	0.564890	0.270997
Skewness	-0.10523	-0.36388	-0.86946	-0.09312	-0.01069
Kurtosis	1.644931	2.102132	2.892434	1.440182	1.660239
Jarque-Bera	2.428989	1.725399	3.920773	3.187464	2.319079
Probability	0.296860	0.422021	0.140804	0.203166	0.313631
Sum	708.8775	1766.105	568.9083	651.0693	477.2230
Sum Sq. Dev.	5.796403	955.5153	83.64125	9.573035	2.203188
Observations	51	51	51	51	51

Source: Authors compilation

The dependent's variable mean is 22.9 and the median 22.94, indicating how close the distribution of the data is, while the standard deviation of the data is 0.4. This exhibits are good measure of dispersion because the deviation of the data from its mean is low and the skewness of the data is negatively skewed with a chi-square statistic of 2.42. The data also exhibits a normal distribution which indicates that during estimation, the study may escape the problem of normality. For the independent variables, Trade, FDI, POP, and K all have a mean of 56.97, 18.35. 15.39, and 21.00 respectively, while the median values are 57.83, 18.81, 15.41, and 18.81 respectively. Likewise, the standard deviations of the independent variables are 5.64,1.67, 0.56, and 0.27. This shows the deviation from the mean is low and data are likely to return to their original values after a shock.

3.6. Unit root test's Result

Table 4: Unit root test result

ADF Test with Intercept				PP Test with intercept		
Variable	I(0)	I(1)	Decision	I(0)	I(1)	Decision
TR	0.1409*	-5.909*	I(0)	-4.5284*	-9.243*	I(0)
FDI	-11.214**	-7.338*	I(0)	-8.956**	-9.873*	I(0)
K	-0.781*	-5.572*	I(0)	-0.752**	-5.630*	I(0)
POP	-2.136**	-10.378*	I(0)	-4.069*	-9.198*	I(0)
RGDP	-7.614*	-6.246*	I(0)	-4.846*	-8.310*	I(0)

*, ** and *** indicates the rejection of the unit root hypothesis 10%, 5% and 1% significance levels respectively

Source: Authors calculations

The table above reveals that all variables are stationary at level. Hence, it is suitable to run a regression on the variables. Furthermore, the study estimated equation 1 using the ordinary least square regression. The table 4 below depicts the effect of international trade on the economic growth of Mali.

3.7. OLS result

Table 5: OLS result

	(1967-1990)		(1991-2020)	
Variable	Coefficient	P-value	Coefficient	P-value
C	21.20556	0*	18.03174	0*
TR	0.011548	0.0484**	0.045635	0.0008**
FDI	-0.21913	0.1011***	0.012271	0.0617***
K	-0.00037	0.8907	0.075796	0.0476**
POP	0.120413	0.5118	0.00681	0.0067*
R-squared	0.413001		0.643114	
Adjusted R-squared	0.266251		0.575136	
S.E. of regression	0.191582		0.252379	
F-statistic	2.814323		9.460585	
Prob (F-statistic)	0.06067		0.000155	

*, ** and *** represents 1%, 5% and 10% significance levels respectively
Source: Authors computation

From the table 5 above, the study can verify the impact international trade has on the Economic growth of Mali before the FTA. Through this estimation, we can identify if there are challenges and opportunities for the international trade variables to influence economic growth of Mali. From the estimation above, the intercept term C has a positive and significant coefficient of 21.21%. This means that at the initial stage where all variables are held constant or equal to zero, the economic growth of

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Mali will be increased by 21.21%. Similarly, the coefficient of trade is positive and significant. It suffices that; for every per cent change in trade, economic growth will be increased by 0.012%. Conversely, FDI had a negative and significant relationship with GDP at the 10% significance level. The variable had a coefficient of 0.22% effect on economic growth. Likewise, the variable of POP which holds a positive and insignificant coefficient of 0.12%.

The same variables were utilized and estimated through the OLS technique. Before discussing the coefficients, it is imperative to highlight robustness of the estimation. The r-squared is at 0.64%, which means 64% of the variations of the in the dependent variable can be explained by the independent variable.

Furthermore, the standard error of the regression is minimized at 0.25 while the Durbin-Watson figure of 1.98 indicates no possible serial correlation problems. In table 5 above, the intercept coefficient is recorded at 18.20 which translate to when all things ceteris paribus, trade is improved by 18.20% every year. The trade variable is positive and significant at the 1% level with a coefficient of 0.045%. This shows the variable is beneficial to the economy of Mali. This outcome was expected as the priori for this variable is a positive sign like in the studies of (Chang et al. 2005; Ulaşan, 2015; Musila & Yiheyis, 2015). This confirms the theoretical expectation of the variable. Neoclassical economists such as Ricardo believes that an economy can increase their economic growth through the international trade. This involves trading the most.

Likewise, the variable of FDI is has a positive and significant coefficient of 0.013%. FDI improves Mali's economic growth by 0.013%. The variable representing capital records a positive and significant value of 0.006%, which translate to an increase on GDP every year by 0.006%. The final variable which is the population yielded a coefficient of 0.72%, positive and significant at the 1% level.

Moreover, the two estimations above have proved the positive influence of international trade on the economic growth of Mali. The periods between 1967 and 1990, only international trade had a significant effect on the economic growth despite the impact being little. FDI, and K were insignificant in determing economic growth. After signing different trade agreements between world economies, a spillover effect is in play in the estimation. International trade variable became highly significant in

determing economic growth, alongside with the control variables. FDI and international trade almost perform similar roles in stimulating economic growth as revenue is generated from foreign economies. These two variables facilitate international transactions such as; movement of capital goods and human resources which in turn drive the economy. Capital Account policies that government utilizes to promote foreign trade works for both FDI and International trade, and resources transfer (knowledge and technoglogy) also flow engaging in FDI and International trade.

3.8. Model's robust check

In order to ensure the robustness of the estimation and the efficiency of the coefficients, the study conducted some diagnostic test and the results were outlined in the table below;

Table 6: Diagnostics test

Test	Period (1967-1990)		Period (1991-2020)		Decision
	t/f-statistics	P-value	t/f-statistics	P-value	
Normality Test (Jarque-Bera)	0.533	0.765	1.952	0.376	Do not Reject H0
Autocorrelation (LM test)	4.62	0.288	8.395	0.684	Do not Reject H0
Heteroscedasticity	1.492	0.251	1.518	0.233	Do not Reject H0
Ramsey Reset Test (t-test)	0.819	0.4251	0.8198	0.422	Do not Reject H0
Ramsey Rest Test (f-test)	0.6721	0.4251	0.6721	0.422	Do not Reject H0

Source: Authors computation

The table above summarizes the diagnostic test performed to ensure the estimation follows all the assumptions of a multiple linear regression. All tests passed the diagnostic test which means coefficients are valid and not biased.

3.9. Discussion

Numerous studies are of the opinion that trade plays a significant role in boosting economic growth. In this study, this hypothesis has been put to the test in the Malian context through estimating the linear relationship between trade and economic growth of Mali. The priori in this hypothesis is that economies with wide trade openness (positive trade liberalization policies) will outperform economies that are relatively less to them. The hypothesis underlying this study is highlighted below;

- **Ho**: There is no correlational situation between free trade agreement and the Economy of Mali
- **Ha**: There exist a correlation and economic impact between free trade agreement and the Economy of Mali

Observing the estimations' results in table 4 and 5, the study can confirm statistically under the 5% significance level that there is a positive and significant connection between trade and economic growth, and this was observed after the Mali's engagement into free trade between the periods 1990 and 2020.

The results of the study are consistent with some of the regional studies done for Mali and also conflicting with other findings. Per say, this study agrees with the findings of Iyoha & Okim (2017); Lloyd et al. (2014); Mbogela (2019); Udeagha and Ngepah (2020), which discovered a positive association between economic growth of trade.

Furthermore, the study also established a positive and significant relationship between economic growth and FDI as in the studies of Iyoha & Okim (2017) and Udeagha and Ngepah (2020). FDI is seen as stimulant of foreign trade, as they compliment each other in inducing economic growth of a country. Horizontal and Vertical FDI like the acquisition of new factory in country that supplies raw materials can help the domestic firm to increase productivity in order export to other countries.

Similar to the influence of FDI on economic growth, Gross capital formation is also an important determinant of economic growth. The development of domestic infrastrucure inorder to facilitate productivity is an important determinant of growth. Finally, Population as driver of economic growth is important for a country, as it increases the size of the economy and gives the potential for economic growth and development. However, this variable can have adverse effect on economic growth, as it may deplete economic resources which may lead to socio-economic problems.

CONCLUSION

In this section, the conclusion to the study is provided alongside possible policy recommendation that can be implemented based on the research's results. Furthermore, the section will highlight the contribution to the area of study and underline some future research suggestions.

This research's aim has been set to investigate the influence of FTAs on the economic growth of Mali for the period between 1967 and 2020. Examining the problem statement of the study, it can be discovered that since independence from the French, Mali's government has spent time and money in restructuring its economy for which it has opened up for productivity and a fine trading conditions for investors around the globe. Mali's FTAs came after the 1990s after insisting to pursue economic restructuring hoping to industrialize its economy more. In light of achieving the aim of this study, the conceptual framework of this study took the stance of the "Ricardian approach" towards economic growth. As mentioned in the study, neo classical economist believes open economic models fastens the growth process of an economy, hence, participating in international trade can benefit the economy. The Ricardian model of Comparative advantage was considered for this study as it explains why countries engage in international trade.

The study elected to use the OLS method of regression to statistically measure the impact FTA's on the economy of Mali. There were two sub-samples employed to see the impacts of before FTA's (1967-1990) and after FTA's (1990-2020). The variables selected were; real GDP as the dependent variable, trade (% of GDP), FDI, gross capital formation as a proxy for domestic investment, and population growth as proxy for labor. Both of models were able to pass the diagnostic test in order to ensure the estimation was accurate and coefficients are accurate for policy recommendation.

The results indicated that; before Mali entered into different FTAs between the periods 1967 and 1990, only trade was able to significantly determine its economic growth at the 5% significance level. After the influence of FTAs on the economy of Mali, all variables significantly and positively increased its impact on real GDP. Hence, the study concluded that FTAs has allowed the development of the economy through international trade. FDI is seen to have a spillover effect on domestic

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industries as technology and the know-how for production is enhanced. Moreover, domestic investment in infrastructure and population growth also enhances the chances of improving trade, which in turn improves the growth of the economy.

RECOMMENDATIONS

This part of the study will outline some macroeconomic policy recommendation for the Malian government to follow, so as boost economic growth through the international trade scenery. Based on the results' estimation, the study recommends the following policies;

- Trade: its is apparent that FTAs had an impact on the economic growth of Mali since the implementation of trade liberalization policies, which means that international trade is a determinat of economic growth. Therefore, to benefit from this opportunity, free trade policies needs to be implemented. The reduction of tarrifs between member states to ease movement of goods and services between borders is encouraged. The country should endeavor to mordernize custom procedures and get rid of bureaucratic process of international trade. Although, these policies are to be implemented with caution against protecting the local businesses.

- Since FDI and Foreign trade can be interchangeable utilized to promote economic growth, the government of Mali could therefore introduce polices that promote foreign investment. The government can allocate tax rebates to foreign investors so as perform more corporate social responsibilities and have enough revenue to continue their business. This way businesses will be enticed to invest in Mali and not shutdown.

- Finally, government needs to increase domestic investment through developing local infrastructure like education, roads, and technology. This will assist industries in speeding up the process of production which in turn allows export to increase.

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