ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES

MASTERS OF BUSINESS ADMINISTRATION (MBA) PROGRAMME

THE REVENUE IMPLICATIONS OF AFRICAN CONTINENTAL FREE TRADE AREA (AFCFTA): IN CASE OF ETHIOPIA

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DECEMBER, 2020

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TAGES MULUGETA

(SGS/0224/2010A)

THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ST. MARY'S UNIVERSITY IN THE PARTIAL FULFILLMENT OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN GENERAL MBA

ADVISOR

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DECEMBER, 2020

ADDIS ABABA, ETHIOPIA

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APPROVED BY BOARD OF EXAMINERS

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DECLARATION

The undersigned, declare that this thesis is my original work, prepared under the guidance of_____. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

_____ _____

Name Signature

St. Mary's University, Addis Ababa December, 2020

ENDORSEMENT

This thesis has been submitted to St. Mary's University College, School of Graduate Studies for examination with my approval as a university advisor.

_____ _____

Advisor Signature

St. Mary's University, Addis Ababa December, 2020

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ACKNOLOGIMENTS

First and for most I would like to give my heartfelt gratitude to the Almighty GOD who helped me throughout my life.

Next, I am highly thankful for my advisor **Dr. Tesfaye Wolde** for his constructive advice and guidance, motivation and encouragements in addition to his fruitful suggestions which assisted me to organize and accomplish this paper accordingly.

Moreover, I extend my gratitude to my wife Mrs. Nitsuhbirhan Asres, for her immense contribution and support to familiarize me this paper. Last, but not least, I am greatly happy to forward my thanks to St. Marry University school of graduate studies, Masters of Business Administration (MBA) Program for allow me to do this research.

Abstract

African union member states were taken an action on policy reforms like tariff reduction to all member states including Ethiopia. There is a gap in assessing the implication of AfCFTA before its enforcement, on government revenue and change in export performance for Ethiopian trade in goods**.** The study aims to identify the revenue implication of African Continental Free Trade Area (AfCFTA) on Ethiopia economy. This study uses Partial Equilibrium model by TRIST based on average three years (2016-2018) import data and collected duties from the tariff, VAT and excise tax at the tariff line (Harmonized System (HS) 8 digit). Two alternative scenarios was used to investigate revenue impact of AfCFTA on Ethiopian economy, in both scenarios, the simulation assumes model elasticity parameters that equal to product demand elasticity = 1.5 and elasticity for export substitution effect = 0.5. This elasticity is fairly standard in the literature. The study finding indicates that Ethiopia's import is expected to increase by 0.2 % if the country adopts the AfCFTA full liberalization, while it increases by 0.1 % if Ethiopia excludes those revenue sensitive product lists. The adoption of AfCFTA free trade agreement by Ethiopia, income tax collection is expected to fall by 0.04 % after taking into account all sources of revenue, that is, import tax, VAT and excise duties. The revenue loss is tolerable as it is a short term negative impact on the revenues since it had longer transition period for progressive liberalization with 7 % sensitive list and 3 % exclusive list for policy space and benefits the consumers and importers.

Key word: - AFCFTA, Revenue Impact and TRIST Model

Acronyms

AFCFTA……	African Continental Free Trade Area
AMU/UMA ……..……	Arab Maghreb Union
AU ……..…..	African Union
CEMAC ……..…	Economic and Monetary Community of Central Africa
CENSAD ……..….	Community of Sahel-Saharan States
CIF …….	Cost Insurance and Fright
COMESA …….	Common Market for Eastern and Southern Africa
CPC ……...	Customs Procedure Codes
EAC ……..	East African Community
ECA ……..….	Economic Commission for Africa
ECC ……..	Ethiopian custom commission
ECCAS …….. ……	Economic Community of Central African States
ECOWAS ……..	Economic Community of West African States
FTA ……..	Free Trade Area
GDP ……..….	Growth Domestic Product
IGAD ……..…	Inter-Governmental Authority for Development
IMF ……..….	International Monetary Fund
NTMs ……	Non-Tariff Measures
OAU ……	Organization of African Union
REC's ……..…..	Regional Economic Communities
SACU ……	South African Customs Union
SADC ……	South African Development Community
T-FTA ……..…..	Tripartite Free Trade Agreement
TRIST……	Tariff Reform Impact Simulation Tool
UEMOA ……..	West African Economic and Monetary Union
UNECA ……..	United Nation Economic Commission for Africa
WAMZ ……..…..	West African Monetary Zone
WTO ……..	World Trade Organization
VAT ……..	Value Added Tax

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CHAPTER ONE

INTRODUCTION

1.1.Background

Regional trade integration is an agreement among countries in a geographic region or not; to reduce, and ultimately remove, tariff and non-tariff barriers to the free flow of goods, services, and factors of production between each other's (Hill, C., Udayasankar, K. and Hou, W. 2014).

Over the last four or five decades the world have been moving from which national economies were relatively self-centered, isolating themselves by levying barrier on trade, distance, language, culture and national difference in government regulation to the interdependent, integrated economic system.

The formation of Organization of African Unity (OAU) in 1963 now African Union (AU) since 2001 is striving towards to start and strengthen several regional economic communities (REC's). Currently there are eight regional blocs as the pillar or building blocks for ultimate formation of African Content Economic Community. AU summit adopted the Lagos Plan of Action (1980), articulating a regional development plan for Africa that included the formation of Abuja Treaty (1991), it articulated the formation of a AfCFTA as a stepping stone toward the realization of the African Economic Community (Unctad.org, 2019).

African Union, 18th Ordinary Session of the Assembly of Heads of State and Government, held in Addis Ababa, Ethiopia in January 2012, adopted a decision to establish the African Continental Free Trade Area (AfCFTA) by an indicative date of 2017 and approved the Boosting Intra-Africa Trade (BIAT) plan of action. While during the 10th Extraordinary Summit of the AU, in 21 March 2018 Rwanda /Kigali/, the agreement establishing AfCFTA with the Kigali Declaration and Free Movement of Persons was signed.

The main objectives of the African Content Free Trade Area (AfCFTA) are:

- Create a single continental market for goods and services, with free movement of business persons and investments.

- Expand intra-Africa trade across the regional economic communities and the continent in general.
- Enhance competitiveness and support economic transformation.

According to African Trade Report (2018), Africa accounts for less than 3% of world trade. In terms of intra-African trade, it is about 15 percent, and adversely compared to Europe (68 %), North America (37 %), and Latin America (20 %).

Africa is the home to 14% of the global population; and receives only 3% of foreign direct investment. As regards to global goods trade, the continent accounts for only 1.8% of imports and 3.6% of exports. These rates are even lower in the services sector: 1.7% and 1.8% of imports and exports, respectively (AUC 2013).

There are many empirical studies which investigated the link between regional economic integration and its positive welfare effects for developing countries. For instance Marco F. and David V. (2005), indicates that the potential of annual welfare gain by removal of south-south trade barriers is larger than the opening up of Northern market to developing countries (Marco F. and David V. (2005). And also Gadisa (2010), find out that trade liberalization has a significant positive impact on manufactured export performance, in line with this Begidu H. (2016), shows the impact of CFTA in Ethiopia, as it will be the cause for revenue loss, while it increases the GDP and export.

According to the Economic Commission for Africa (UNECA) estimation, AfCFTA has the potential both to boost intra-African trade by 52.3 percent due to eliminating import duties, and to double this trade if non-tariff barriers are also reduced (Tralac, 2018).

1.2. Statement of Problem

Deeper regional integration for Africa brings with it important social welfare benefits by reduction on import tax and trade barriers, increased competition and larger markets across the continent. This will enable citizens to improve their welfare by obtaining goods and services based on comparative advantage among competing markets (Asmita P. 2018). Despite of the changes in prices, the reduction on import tax will negatively impact on government revenue.

Ethiopia is a founding member of both Common Markets for Eastern and Southern Africa (COMESA) which 10% tariff reduction for imported goods from member states, Inter-governmental Authority for Development (IGAD) and signed the Declaration of Tripartite Free Trade Area (T-FTA) which is still under negotiation.

In all these cases Ethiopia is not engaged in any regional integration, having a commitment of liberalized scheme except a bilateral Free Trade Agreement (Bilateral-FTA) with Sudan (2002) and South Sudan (2017) which is not yet enforced.

AfCFTA member states were taken an action on policy reforms like tariff reduction to all member states including Ethiopia. As per the reports AU heads of states meeting decision on the tariff concession. Members are agreed to liberalize 90 percent of the tariff lines in five years after the enforcement of the agreement. And the sensitive product which covers seven percent of tariff lines will be liberalized in five years period for the developed AU member states and in eight years for the rest of AU members. In general 97 percent of tariff lines will be liberalized in ten and thirteen years for developing and list developed countries respectively. The rest three percent of tariff lines are exclusive list.

There is a gap in assessing the implication of AfCFTA before its enforcement, on government revenue and change in export performance for Ethiopian trade in goods, in line with this does the identified sensitive product and exclusion lists are comprehensive and do those products reduce the overall loss of revenue due to the liberalization scheme.

Therefore this research will fill these gaps through identifying the implication of the tariff liberalization, on government revenue gain/loss and the overall import/export performance using TRIST model by using the 2016 to 2018 average import data.

1.3. Research questions

The study is attempted to answer the following questions.

- What is the implication due to joining AfCFTA in Ethiopian government revenue?
- Does the liberalization of trade on goods will improve the overall import/export performance?

1.4. Objectives of the Study

1.4.1. The general objectives of the study

The general objective of the study is to identify the revenue implication of African Continental Free Trade Area (AfCFTA) on Ethiopia economy.

1.4.2. The specific objectives

- To investigate revenue implications of joining into the AfCFTA due to elimination of import tax and its consequence;
- To assess the overall import/export performance of Ethiopia due to the elimination of tariff.

1.5. Significance of the Study

The study provides quantitative information on the implications of AfCFTA on Ethiopia and expected to provide the following significance:

- It helps the policy makers to have detailed information on the revenue effects of AfCFTA and assist them to take appropriate measures which would help to achieve economic stability.

- It serves as impute to prepare a negotiating document for the government to negotiate on exclusion and sensitive lists.
- It is also useful reference source for academic communities who like to do farther researches.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1.Conceptual Review of Regional Integration

Based on the explanation of Vector A., the concept of integration in a simple logic means bringing parts or units together to form a whole or creating inter-dependence. It could also represent a situation in which states becomes inter-dependent in whatever aspects of their relations they desire (Adetula, 2004).

Meanwhile, regional economic integrations became widely popular after the Second World War. The main feature of these integrations is that a group of countries remove all trade barriers among themselves in order to achieve free trade on each other's market by discriminating the rest of the world.

2.2. Over View of International Trade

The first theories of international trade originated from the liberal reaction to the mercantilist domination from the 16^{th} to the 19^{th} century. The rationale of economic integration and regional trade develops from the application of classical and contemporary international trade theories. Thus theories try to explain why trade takes place and how it can benefit the parties involved in a trading exchange or trade agreement (Hill, C., Udayasankar, K. and Hou, W. 2014).

2.2.1. Classical International Trade Theories

Mercantilism's trade policies that support trade surpluses by promoting exports paid for in gold/silver and restricting imports. In this theory government intervention in trade to ensure that countries fulfill with trade policies, colonization to obtain cheap labor and raw materials, and creation of markets for high value manufactured goods (Caroline K. 2016).

Absolute advantage theory developed by Adam Smith refers that a country's ability to generate goods more effectively and efficiently than the other countries and trade them for similarly

produced goods by other nations. As Caroline (2016), mention the work of Cavusgilet. al. (2015), nation benefits by generating and exporting only those goods that it can produce using fewer resources than another country and importing those that it lacks an absolute advantage in producing.

The third classical trade theory by David Ricardo (1817) was a comparative advantage theory. According to Ricardo's theory of comparative advantage, two nations to trade without barriers if one of them is more efficient at manufacturing goods or providing services required by the other. This means that trade remains beneficial even when one nation is less efficient in the generation of two goods provided that it is efficient in producing either of them (Hill, C., Udayasankar, K. and Hou, W. 2014).

2.2.2. Contemporary International Trade Theories

As a contemporary trade theory Product life cycle theory initially proposed by Raymond Vernon in the mid-1960s, the theory peruses trade as evolutionary process that takes place in product development and distribution around the world. Production process passes through three evolutionary stages (introduction, growth, and maturity). (Caroline K. 2016).

The new trade theory began to emerge in the 1970s when a number of economists pointed out that the ability of firms to attain economies of scale might have important implications for international trade. Economies of scale are unit cost reductions associated with large scale output. (Smit, 2010). If two nations may not have any opportunity cost differences but if one of them specializes in a given industry, it may gain network benefits and economies of scale through specialization (Hill, C., Udayasankar, K. and Hou, W. 2014).

2.3. Expected Effects of Free Trade Area (FTA) in Economy

A free trade area is an agreement among countries whereby tariffs and non-tariff barriers like, quotas, licensing requirement and safety regulation are ended among members, where members of FTA keep its own external tariff and other regulation for trade with non-members countries.

This type of integration may often advantage all member states through increasing intra-regional trade and enhance competitiveness, productivity and efficiency. A free trade area can have static or dynamic trade impact.

The static effects of FTA are trade creation, trade diversion and terms of trade. Due to the FTA there is a removal of trade barriers, which creates trade between member states; it sometimes does so in the expenses of the import from non-members, which is a trade diversion effect. There for FTA members are likely improving their terms of trade vis-à-vis non-members.

The formation of FTA is expected to improve productivity of firms since the abolishment of intra-regional trade barriers, and may induce them to be more competitive and innovative. These FTA effects streaming from economic of scale and enhanced competition effect, which considered as dynamic effect.

2.4. Stages of Regional Economic Integration

Table 1: Stages of Regional Economic Integration

Level of Integration	Reduction of tariffs	Trade liberalization	Common Commercial policy	Free movement of factors	Common monetary and fiscal policy	Common governments
PTA	yes					
Free Trade Area		yes				
Customs Union		yes	yes			
Common Market		yes	yes	yes		
Economic Union		yes	yes	yes	yes	
Political Union		yes	yes	yes	yes	yes

Source: UNCTAD (2003)

1. Preferential Tariff Agreement is the simplest forms of regional trade arrangement. Under this arrangement, import tariffs on trade among member countries are reduced relative to those on trade with non-member countries.

2. In the first stage, member countries agree to liberalize their internal trade, but each country maintains autonomy in deciding its external level of protection.
3. One stage further, a customs union implies not only internal free trade but also a common external tariff, which is usually an average of all members' tariffs prior to the formation of the union.
4. A common market calls for considerably deeper integration because it leads to free flows of capital, investment and labor in addition to free flows of goods and services.
5. Economic and monetary integration involves the unification of macroeconomic fiscal and monetary policies and the creation of an independent regional central bank with control over exchange rate policy, inflation rates and fiscal deficits.
6. Political union requires the pooling of sovereignty and the creation of democratic institutions beyond the national level.

This form of integrations, which implies an orderly sequence of microeconomic and macroeconomic integration, requires some form of supranational institutions.

2.5. Economic Integration in Africa

The formation of the former Organization of African Unity (OAU) in 1963 represents the first attempt by African leaders to create a platform for social, political and economic integration among African countries toward boosting continental cooperation and integration (Farahat 2016).

The Lagos Plan of Action which was launched in 1980, an economic development proposal for the African continent emphasized the role of Intra-Africa trade for growth and development on the continent; and provided for further development of regional economic communities and subsequent step toward the realization of the African Economic Community (AEC). Efforts to the formulation and adoption of the African Economic Community (AEC) reintroduce the treaty known as the Abuja Treaty, in 1991 and which came into force in 1994, highlights a 34-year with 6-stages integration plan since 1994 to 2028. The stages involve the strengthening of sectorial cooperation and establishment of regional FTAs (stages 1-3), continental customs union (stage 4), common market (stage 5) and a monetary and economic union (stage 6).

These stages provided a gradual process which would be achieved by coordination, harmonization and progressive integration of the activities of existing and future regional economic communities (RECs) in Africa with the following objectives as provided in the Article 4 of Abuja treaty:

a) Promote soci-economic development in order to increase economic self-reliance and an home-grown and self-sustained development;
b) To establish a framework for the utilization and mobilization of a continental economic of scale and human resources;
c) To encourage and raise the standard of living of African peoples through enhance and maintain an economic development among the member states; and
d) To coordinate and harmonize policies among existing economic communities in order to foster gradual establishment of the African Economic Community.

African Union recognizes eight RECs as "building blocks" for the African Economic Community (AEC); those REC's have been designated in the Abuja Treaty as the pillars of the continental integration process in Africa (Rodríguez, 2015). These pillars and their corresponding subgroups are presented in follows table-2.

Table 2: Regional Economic Blocs and Subgroups in Africa

No.	Regional Blocs	Subgroup under the regional blocs	
1	Economic Community of Central African States (ECCAS/CEEAC)	a	Economic and Monetary Community of Central Africa (CEMAC)
2	Economic Community of West African States (ECOWAS)	a	West African Economic and Monetary Union (UEMOA)
		b	West African Monetary Zone (WAMZ)
3	Southern African Development Community (SADC)	a	Southern African Custom Union (SACU)
4	Community of Sahel-Saharan States (CENSAD)		
5	Common Market for Eastern and Southern Africa (COMESA)		
6	Intergovernmental Authority on Development (IGAD)		
7	Arab Maghreb Union (AMU/UMA)		
8	East African Community (EAC)		

Source: *http://en.wikipedia.org/wiki/African_Economic_Community*, retrieved on/11/1/2004.

According to the Aniche and Okeke pointed out each RECs has been observed based on the origin and membership.

- Community of Sahel-Saharan States (CENSAD) was established in February 1998 by six[1] countries, but its membership currently has grown to 28[2].
- Common Market for Eastern and Southern Africa (COMESA) was formed in December 1994 replacing a Preferential Trade Area, which had existed since 1981. Currently, COMESA has 19[3] member states.
- The East African Community (EAC) was originally set up in 1967, however; disagreements between the original-founding members, Uganda, Kenya and Tanzania led to its collapse in 1977. And these member states has reestablishing the EAC on November 1999 and entered into force on July 2000 following the ratification of the treaty by the three original partner states.

  Rwanda and Burundi acceded to the EAC in 2007 and South Sudan became a member in 2016 (Eac.int, 2019). EAC members (Kenya, Burundi, Rwanda, Uganda, and Tanzania) have a common market for labor, capital, and goods, but they lack a monetary union. (Caroline K. 2016).
- Economic Community of West African States (ECOWAS) is a regional group of West African states founded in 1975 with the signing of the treaty of Lagos (. In 1976, Cape

[1] Burkina Faso, Chad, Libya, Mali, Niger and Sudan

[2] Central African Republic (1999) Eritrea (1999) Djibouti (2000), Morocco (2001), Nigeria (2001), Somalia (2001), Tunisia (2001), Benin (2002), Togo (2002), Cote d'Ivoire (2004), Guinea-Bissau (2004), Liberia (2004), Ghana (2005), Sierra Leone (2005), Comoros (2007), Guinea (2007), Kenya (2008), Mauritania (2008), Sao Tome and principle (2008).

[3] Burundi, Comoros, Democratic Republic of Congo, Djibouti, Egypt (1999), Eritrea (1994), Ethiopia, Kenya, Libya (2005), Madagascar, Malawi, Mauritius, Rwanda, Seychelles (2001), Sudan, Swaziland, Uganda, Zambia and Zimbabwe.

Verde joined ECOWAS in 2000, while Mauritania withdrew having announced its intention to do so in December 1999. Currently, ECOWAS has 14[4] member states.

- The Intergovernmental Authority on Development (IGAD) was founded in 1986 by the following founding states; Djibouti, Ethiopia, Kenya, Somalia Sudan and Uganda, while Eritrea joined in 1993 and South Sudan become a member after its independency in 2013.

- Economic Community of Central African States (ECCAS) was established in 1985 by ten founding member states, namely, Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Republic of the Congo, Equatorial Guinea, Gabon, Rwanda, Sao Tome and principle, while Angola joined in 1999. The Central African Economic and Monetary Community (CEMAC) is a customs union formed by some[5] ECCAS member states.

- Southern African Development Community (SADC) was first formed as Southern African Development Coordination Conference (SADCC) in Lusaka, Zambia on April 1, 1980 as following the adoption of the Lusaka Declaration by nine[6] founding member states. While Madagascar and Namibia joined in 1990. When SADCC was transformed into SADC in 1992 four other states has joined SADC and currently total number of member states become fifteen[7]. Some SADC partner states (Lesotho, Botswana, South Africa, Swaziland, and Namibia) have formed a customs union, the Southern African Customs Union (SACU), which allows them to trade freely among themselves. All SACU members except Botswana belong to a monetary union (Caroline K. 2016).

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[4] Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea- Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo, while Guinea was suspended after 2008 coup *d'etat*.

[5] Chad, Gabon, the Republic of Congo, Equatorial Guinea, and Cameroon

[6] Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe

[7] Madagascar(1990), Namibia (1990), South Africa (1994), Mauritius (1995), Democratic Republic of Congo (1997) and Seychelles (1997)

- The Arab Maghreb Union (AMU) was formed in 1989 by five founding states, namely, Algeria, Libya, Mauritania, Morocco and Tunisia.

2.6. Empirical Review

There are two general types of economic models in the trade literature that have been used to analyze the revenue and welfare impact of regional integration namely ex-ante simulation studies and ex-post econometric analyses. The ex-post analysis reviews the impact of Regional Trade Agreements (RTAs) by using simple investigation of intra-regional trade patterns following the formation of the RTA. The ex-ante approach is undertaken at an earlier date before the formation of the RTA. Each of these modeling approaches has its own strengths and weaknesses and is suitable under different circumstances.

The research by Hamilton in 2009, aimed at investigating the impact of various trade agreements using the Tariff Reform Impact Simulation Tool (TRIST). Hamilton (2009) investigated the impact of a Common Market for Eastern and Southern Africa Free Trade Area (COMESA FTA) on Ethiopia. The results suggest that an elimination of all tariffs on goods from COMESA FTA member states results in a fall in tariff revenue by 4.8 % as well as a reduction in total revenue by approximately 2.4 %. According to Hamilton (2009), imports are not projected to be heavily impacted (increase of 0.2 %).

Hamilton (2009) also examined the impact of a complete tariff liberalization of Mozambique on imports from Southern Africa Customs Union (SACU) members using TRIST model. The model projected a short-term fall in tariff revenue by 38.3 % as well as a reduction in total revenue by 13.5 %. Imports are not projected to be heavily impacted (decrease of 1.0 %).

In addition to that Hamilton (2009) used the TRIST model to hypothesis complete tariff liberalization on imports from EAC member states on Burundi. According to Hamilton (2009) the short-term impact of this reform is projected to involve revenue losses of 8.1 % (tariff revenue) and 3.4 % (total revenue). He noted that imports are expected to increase marginally by 0.5 %. Burundi imported BIF344 billion worth of goods from 94 import partners, distributed

across 2,354 tariff lines. The top ten trading partners were: Saudi Arabia, Belgium, Uganda, Kenya, Japan, China, India, France, the United Arab Emirates (UAE) and Germany.

2.6.1. Intra-African Trade in Goods

Many studies has been undertaken on evaluating intra-African trade flows and the potential impact of the AfCFTA by UNECA, the IMF, the World Bank, and UNCTAD. The liberalization of trade under the AfCFTA without addressing complementary trade facilitation measures and without removing non-tariff measures produced the following findings:

1. Intra-African trade in goods remains low, at around 10 per cent of total trade of Africa in 2010. Such trade is limited by a relatively high applied tariff protection rate, at about 8.7 per cent, with heterogeneous tariff structures that range much higher in many cases. This brings positive news for boosting intra-African trade that could come from the AfCFTA.

2. The AfCFTA would add US$ 17.6 billion (2.8 per cent) to Africa's overall trade with the world (compared to a 2022 baseline scenario without it), stimulating Africa's exports by US$ 25.3 billion (or 4 per cent). The highest positively impacted sectors would be agriculture and food, with a projected growth of 9.4 per cent over the 2022 baseline scenario.
3. Intra-African trade is expected to rise by US$ 34.6 billion (52.3 per cent above the 2022 baseline), if agriculture/food, industrial goods and services are included, with the highest impact being in industrial goods (at US$ 27.9 billion, or 52.3 percent above the baseline). Intra-African trade in agricultural and food products would increase by US$ 5.7 billion (53.3 per cent over the baseline), with services rising by US$ 1 billion (31.9 per cent over the baseline). Overall, intra-African trade would rise from 10.2 per cent of total trade in 2010 to 15.5 per cent by 2022. Although a positive overall outlook, it still short of the stated goal of doubling the trade within 10 years.
4. AfCFTA implementation would negatively impact customs revenue resources, but would enhance real income for Africa by US$ 296.7 million (or 0.2 per cent) as are sult of stimulated exports.

5. Market diversification, both for exports and imports, is very limited, due to a relatively small number of export items (mostly primary products). However, for those economies on the continent that have a more diversified production base, the African market for manufactured products is more important in their overall trade. This would represent a significant increase over the 2022 baseline. That would certainly achieve a more-than-doubling of intra-African trade in 10 years, rising to 21.9 per cent of Africa's global trade by 2022. Given the current level of intra-African trade share at about 18 per cent of total African goods exports, the expected doubling of intra-African trade could raise it even up to or beyond 30 per cent.

Realizing a larger impact on boosting intra-African trade requires tariff liberalization of goods trade to be accompanied by the removal of non-tariff barriers, reform of services sector and improvement of trade facilitation measures (Mevel S. and Karingi S. 2012).

2.6.2. Ethiopian Trade and Overall Economic overview

As per the report of World Economic Forum on the Global Competitiveness Index (GCI), Ethiopia ranked 57th of 137 countries on the quality of its macroeconomic environment in its 2017[8].

Ethiopia announced an average growth rate of 10.3 percent per year from 2005/06 to 2015/16 from a low base, nearly twice the regional average of 5.4 percent. In 2017 the GDP is 10.9 percent growth rate which ranked fifth in the world.

However, this rapid growth has largely been operated by state spending and has translated into limited gains for the average Ethiopian; its per capita GDP of only 783 USD was one of the lowest in the world. This is largely due to Ethiopia's rapid population growth; its 2018 population of 107.53 million makes it the 12th most populous country in the world.

[8] http://www3.weforum.org/docs/gcr/2017-2018.

Table 3: Summary of basic macroeconomic data from 2015-2017

	2015	2016	2017	Rank (2017)
GDP (PPP)	$167.9 billion	$185.4 billion	$200.2 billion	65
Real GDP Growth Rate	10.4%	8.0%	10.9%	5
Gross National Savings	32.4%	32.7%	32.1%	21

Source: World Fact book

2.7. Methodological Review

A tariff changes at a tariff line level is possible to make a reasonable effects on imports and, perhaps, exports. However, looking at tariffs alone is insufficient. Because many firms sell their output to other firms as intermediate inputs, lower prices in one sector are beneficial to downstream sectors. Such interactions should be taken into consideration in assessing a policy change.

The model gives an indication which sectors of the domestic economy are likely to be most affected in terms of output and employment.

A Tariff Reform Impact Simulation Tool (TRIST) developed by the World Bank was used in this study. TRIST is a trade policy impact assessment tool build in Excel spreadsheet that can be used to simulate the short term implications of tariff reform on revenue (World Bank, 2012).

This study provides a quantitative assessment of the potential revenue implication and trade performance of the AFCFTA on Ethiopia. The study will assess the revenue loss and export performance due to the enforcement of AFCFTA continental free trade agreement.

TRIST model has advantages by which Projections are based on customs data on revenues (includes customs duty, VAT, excise and sure tax), which are actually collected at the tariff line level, defined trading partners and selected products. This improves the accuracy of tariff reform simulations by taking into account tariff exemptions. Additionally the whole tool is set up in

Excel and formulas and calculation steps are visible for the user. It is open-source in the sense that users are free to change, extend or improve according to their needs.

The other advantages are TRIST has a Policy Relevance, which allows projecting the impact of tariff reform on total fiscal revenue (including VAT and excise) and results are broken down to the product level so sensitive products or sectors can be identified. TRIST can incorporate tariff liberalization towards any group of trading partners. User defined tariff scenarios, to incorporate a sensitive product list into the liberalization schedule.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research Design

A tariff changes at a tariff line level is possible to make a reasonable effects on imports and, perhaps, exports. Such interactions should be taken into consideration in assessing a policy change. Partial Equilibrium (PE) models are necessary to take account of the interactions that are used to make an estimate of the possible effects of changes on import tariff in variables, such as exports, imports, government revenues and welfare.

This thesis used the Tariff Reform Impact Simulation Tool (TRIST) from Ethiopian customs commission (ECC) data for imports and collected duties from the tariff, VAT and excise tax at the tariff line (Harmonized System (HS) 8 digit) level, broken down by trading partner groups (World Bank, 2012). The use of TRIST model allows for the identification of tariff exemptions and the trading partner specific collection rates for tariffs, VAT and excise duties (World Bank, 2012). This provides for more accurate projections than when using statutory tariff rates.

The TRIST model estimate short-term tariff, VAT and excise revenue and import value changes at tariff line level. This is important as it enable the government to evaluate the effects a trade policy reform. For example, the government will be able to know in advance major casualty of tariff reform. This will therefore enable the government to either classify such products as sensitive product which will be exempted from trade policy reform or provide relevant safety nets.

The data from customs are organized within the Data Aggregation Tool and then uploaded it into the Simulation Tool. In the Simulation Tool the user can define the relevant tariff reform scenarios and parameters, such as the elasticity. A separate worksheet within the Simulation Tool presents the results of the chosen reform scenario. It illustrates the impact on tariff, excise and VAT revenues as well as on prices at the sector level.

A cleaned data which are organized in separate Excel file can directly be imported into the Data Aggregation Tool via a drop-down menu built into the tool. Summary of TRIST work process is displayed below in figure 1.

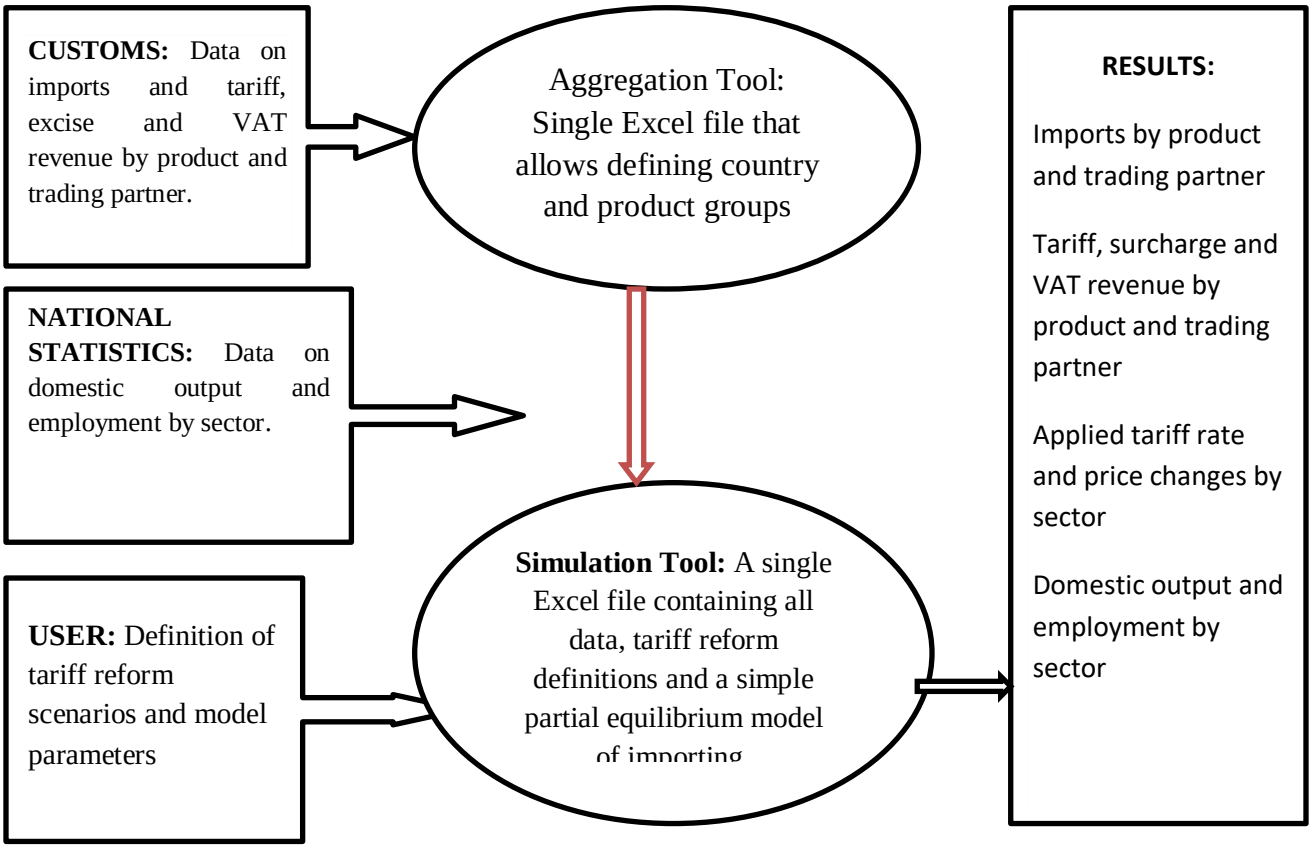

Figure 1: TRIST work process

3.2. Calculation Steps of the TRIST Model

The trade model in TRIST is based on the standard Armington (1969) assumption of imperfect substitution between imports from different sources. The model does not allow for direct substitution between products. The trade response to a change in tariffs for a given product from a given exporter is calculated based on the resulting percentage change on the duty inclusive price. It is assumed that all changes in tariffs are fully passed on and that the

world price remains unchanged (infinite supply elasticity). The calculation of the price change depends on how a country applies its tariffs, excise and VAT.

In Ethiopia, tariffs are collected as a percentage of the CIF import value, excise taxes on the tariff inclusive if import value and VAT on the tariff and excise inclusive CIF import value. Thus, for a change in the tariff (with VAT and excise rates unchanged), the percentage change in the price of good i from exporter j is calculated as follows (subscript i is omitted on all arguments in the formula):

$$\frac{\Delta p_j}{P_j^{old}} = \frac{\left[p_j^{new} / P_{wld}\right] - \left[p_j^{old} / P_{wld}\right]}{\left[P_j^{old} / P_{wld}\right]}$$

$$= \frac{(1+t_j{}^{new})(1+ext_j)(1+vat_j) - (1+t_j{}^{old})(1+ext_j)(1+vat_j)}{(1+t_j{}^{old})(1+ext_j)(1+vat_j)}$$

$$= \frac{t_j{}^{new} - t_j{}^{old}}{(1+t_j{}^{old})}$$

Where

ΔP_j - change in price of imports from country j;

p_j^{old} - Price of imports from j before tariff reform;

p_j^{new} - Price of imports from j after tariff reform;

p_{wld} - World market price;

t_j^{old} - Tariff rate applied to imports from country j before reform;

t_j^{new} - Tariff rate applied to imports from country j after reform;

ext_j - Excise tax rate applied to imports from j;

Vat_j - VAT rate applied to imports from j;

The simulation tool modeled the trade response for a particular product in three consecutive steps:

1. The substitution between different exporters following changes in relative prices of different suppliers due to preferential tariff changes,

2. The substitution between imports and domestic output as the relative price of overall imports of the product changes relative to domestically produced goods, and
3. A demand effect whereby consumption of the product hangs in response to a change in the overall price of the product.

In the first stage we model the allocation of given expenditure on imports of a product across different country suppliers and how this allocation changes when tariffs are amended.

The exporter substitution effect defines how imports from exporter A are substituted for imports from exporter B when the price of imports from exporter A relative to B declines because of a preferential trade reform for exporter A. The extent to which a given change in relative prices translates into a change in relative imports depends on user-defined exporter substitution elasticity. To isolate this substitution effect total imports are held constant in this step. This is achieved in the model by deflating the imports from each supplier after substitution effects have been modeled by the ratio of total imports of the product before tariff reform to the sum of imports of this product from all trading partners after the substitution effects.

$$q_j^{ES} = \left[\frac{\Delta p_j}{p_j^{old}} * \gamma_j^{ES} + 1\right] q_j^{old} * \frac{\sum_{j=1,\ldots,n} \left(q_j^{old}\right)}{\sum_{j=1,\ldots,n} \left(\left[\frac{\Delta p_j}{p_j^{old}} * \gamma_j^{ES} + 1\right] q_j^{old}\right)}$$

Where:

q_j^{ES} - imported quantity from j after exporter substitution step;

q_j^{old} - imported quantity from j before reform;

γ_j^{ES} - Exporter substitution elasticity for imports from country j.

In the second step, total expenditure on the product is allocated between domestic sources and imports. The domestic substitution effect models how demand shifts between domestic and imports when the relative price of imports changes. When tariffs or other duties are changed

there is an impact on the aggregate price of imports of the product that leads to substitution between imports and domestic output. The change in imports resulting from this step is then distributed across all importers according to their share of the import market (technically we assume unitary expenditure elasticity for the different sources of imports).

In response to the change in the aggregate price of imports (the weighted average of the prices of imports from individual country suppliers), total imports change relative to domestic output. This change is defined by an elasticity of substitution between domestic output and imports λ^{DS}. The change in aggregate imports is then allocated across individual suppliers according to their share of overall imports. Any change in total imports is offset by an opposite change of equal size in domestic output, total domestic consumption remains constant in this stage.

$$Q_{imp}^{DS} = \left[\frac{\Delta \overline{P}_{imp}}{\overline{P}_{imp}^{old}} * \lambda^{DS} + 1 \right] Q_{imp}^{old}$$

$$q_j^{DS} = q_j^{ES} + \left[Q_{imp}^{DS} - Q_{imp}^{old} \right] * \left[\frac{q_j^{old}}{\sum_{j=1,\ldots,n} \left(q_j^{old} \right)} \right]$$

Where:

Q_{imp}^{old} -is the initial total imported quantity;

Q_{imp}^{DS}- is total imported quantity after substitution with domestic output;

Q_j^{DS} - is quantity imported from supplier j after substitution between imports and domestic output;

λ^{DS} - Domestic substitution elasticity for imports from exporter j;

And below is an equation to the change in price of total imports.

$$\frac{\Delta \overline{P}}{\overline{P}^{old}} = \sum_{j=1,\ldots,n} \left[\frac{q_j^{old}}{\sum_{j=1,\ldots,n} \left(q_j^{old} \right)} * \frac{\Delta p_j}{p_j^{old}} \right]$$

In the third and final step, the demand effect, the change in the price of imports leads to an overall change in the price of the product (given by the change in the aggregate price of imports weighted by the share of imports in domestic consumption) which in turn results in a change in domestic consumption of a good. Again, the additional consumption resulting from this effect is distributed across both imports and domestic production according to initial shares of total consumption of the product and the change imports is then allocated across individual suppliers according to import shares.

$$Q_{TD}^{new} = \left[\frac{\Delta \widetilde{P}}{\widetilde{P}^{old}} * \mu^{D} + 1 \right] Q_{TD}^{old}$$

$$Q_{imp}^{new} = Q_{imp}^{DS} + \left[Q_{TD}^{new} - Q_{TD}^{old} \right] * \left[\frac{Q_{imp}^{old}}{Q_{imp}^{old} + Q_{dom}^{old}} \right]$$

$$q_j^{new} = q_j^{DS} + \left[Q_{imp}^{new} - Q_{imp}^{DS} \right] * \left[\frac{q_j^{old}}{\sum_{j=1,\ldots,n} \left(q_j^{old} \right)} \right]$$

Where:

Q_{TD}^{old} - is the initial total demand for product i;

Q_{TD}^{new} - is total demand after the change in the overall price of product i;

Q_{dom}^{old} - is the initial quantity of demand for domestic output;

Q_{dom}^{new} - is the final demand for domestic output;

Q_{imp}^{new} - is the final demand for imports of product i;

q_j^{new} - is the quantity imported from supplier j.

After all 3 effects from changes import prices (the substitution between different sources of imports, between imports and domestic output and the demand effect for the product as a whole).

μ^D - demand elasticity for product i;

$$\frac{\Delta\widetilde{P}}{\widetilde{P}^{old}} = \left[\frac{Q_{imp}^{old}}{Q_{imp}^{old} + Q_{dom}^{old}} * \frac{\Delta\overline{P}}{\overline{P}^{old}} \right]$$

The above formula is the change in price of total domestic consumption. (Brenton, et.al 2009)

3.3. Data sources for the model

This study relies on the average three years data (2016-2018) Partial Equilibrium Simulation Tool (TRIST) data set for Ethiopia as it harmonizes the schedule nomenclature. The trade data are the actual reported figures (in ET birr) as captured at customs, given the different product levels. These data, which have information on various merchandise trade and tariffs, are compiled by Ethiopian custom commission (ECC).

3.4. The research Simulations

Three alternative scenarios were investigated to examine the implication on the government revenue and the country's export performance in the implementation AfCFTA on Ethiopian economy:

Table 4: Alternative Scenarios

No.	Description
1	Scenario 1: considered the full liberalization of all imported goods from all African countries.
2	Scenario 2: Simulate the impact of the FTA by reducing 3 % exclusive lists and 7 % sensitive products which are excluded from the preferential scheme.

We assume that AfCFTA involves a gradual complete removal of all tariffs between member states while no accommodation is made for Non-Tariff Measures /NTMs/.

CHAPTER FOURE
RESULT AND DISCUSSION

4.1. RESULT

This Tariff Reform Impact Simulation Tool (TRIST) requires the availability of the necessary import transactions data. In particular, it requires a full set of import transactions for the latest three years (2016-2018) average import transaction.

Therefor the data for this simulation was based on by Ethiopian custom commission (ECC). The dataset comprises complete data on import transactions (in tariff line level, typically HS 8 digit in average), which including information on trading partners (country of origin for the imported goods), C.I.F. values, collected import tax and any additional charges applied at the border. The data also include information on customs procedure codes (CPC)[9] defining the customs regime under which the good enters the country, the statutory tariff, the tariff actually applied (to calculate tariff exemptions) as well as the value of VAT, excise and other import taxes. This data is typically readily available from the ECC.

4.1.1 Tax trend from African imported goods

As per Ethiopia's 2017 tariff book for MFN trading partners, there are 5 non-zero tariff bands (5, 10, 20, 30 and 35%). As can be seen form the table below prohibited and zero tariff rate products covers around 450 (7.09%) tariff line out of the overall 6,342 tariff lines. The remaining tariff lines are distributed across the rest of the tariff bands as follows:

[9] The CPC code allows government, transit and temporary imports to be identified and excluded. These types of import transactions should be excluded from the analysis as they do not enter the domestic market and/or are not subject to import duties and other taxes applied at the border. Studies that simply use total imports inclusive of these official and temporary imports will underestimate the degree of protection in the economy and overstate the importance of exemptions.

Table 5: Distribution of Ethiopian Tariff Line

Duty rate	Tariff Lines	Share of Total (%)
Prohibited	4	0.06 %
0	446	7.03 %
5	1,494	23.6 %
10	1,226	19 %
20	1,230	19.4 %
30	1,185	18.7 %
35	757	11.9 %
Total	**6,342**	**100 %**

Base on ECC working procedure Customs duty is calculated as a percentage of the duty paying value (CIF), this includes the sum of the transaction value (cost of goods), transport charges paid to transport the good from the original port of loading to the port of entry in Ethiopia, the transport insurance paid, loading unloading charges, port charges etc.

Excise taxes are charged on selected goods such as luxury goods, which are computed on the bases of the CIF value plus the customs duty payable. The rate of excise tax varies from 10 to 100 percent depending on the type of imported goods.

Value added tax (VAT) is paid as a flat percentage rate of 15% on the sum of CIF value, customs duty and excise tax inclusive.

In the period 2008 to 2019, the intra- trade between Ethiopia and Africa has been increasing; especially the import has a major share. As we can see the chart below, which illustrate the trade of import and the taxes (import tax, excise tax, VAT and sur tax) from African imported goods?

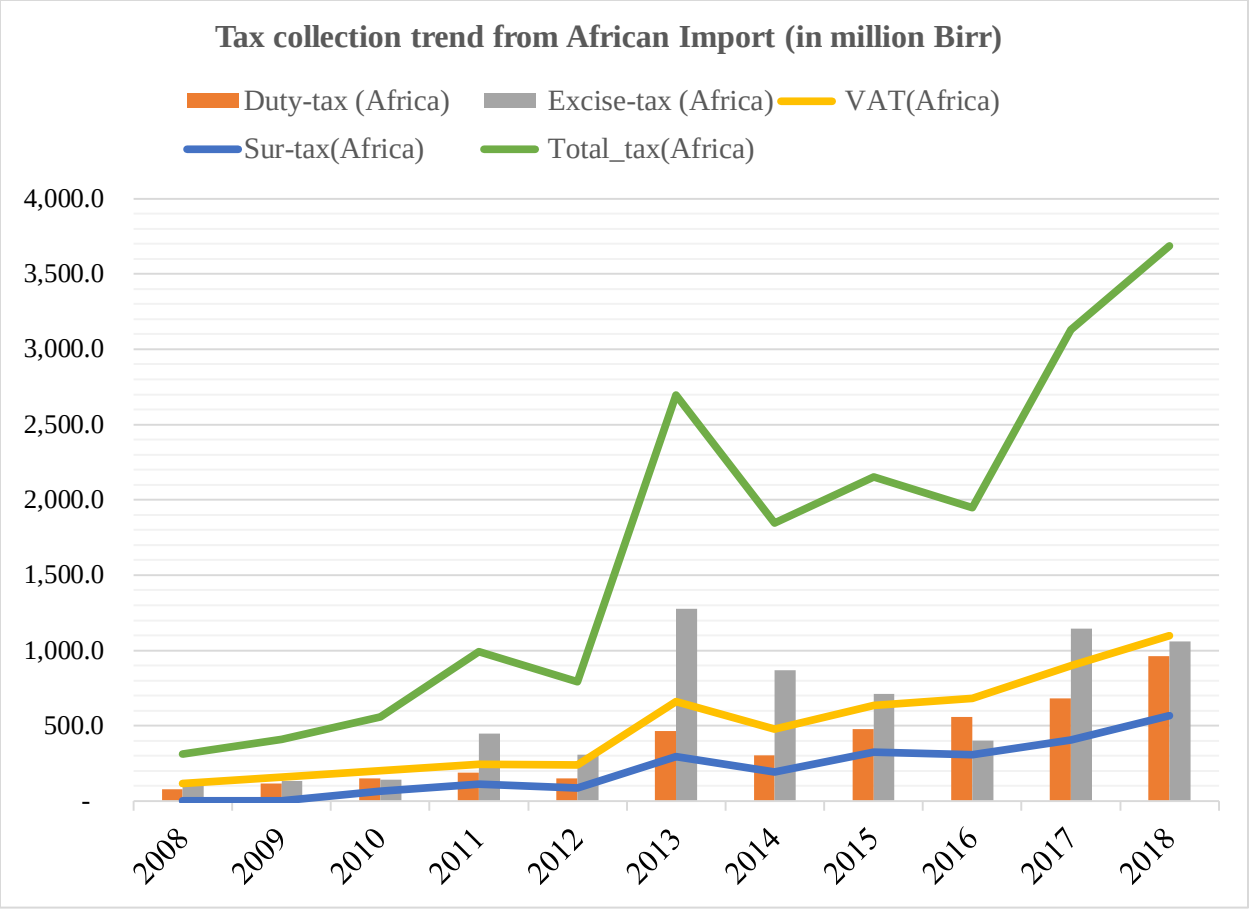

Figure 2: Import and taxes (duty tax, excise tax, VAT, sur-tax) trend based on ECC data

4.1.2. Simulation Result on Revenue due to AfCFTA

From the TRIST simulation result import data to Ethiopia comprises on a total of 4,819 tariff lines in the period 2016 to 2018. The total value of average imports amounts to 161 billion ETB worth of goods from 165 importing partners. The top ten partners were identified in the figure below.

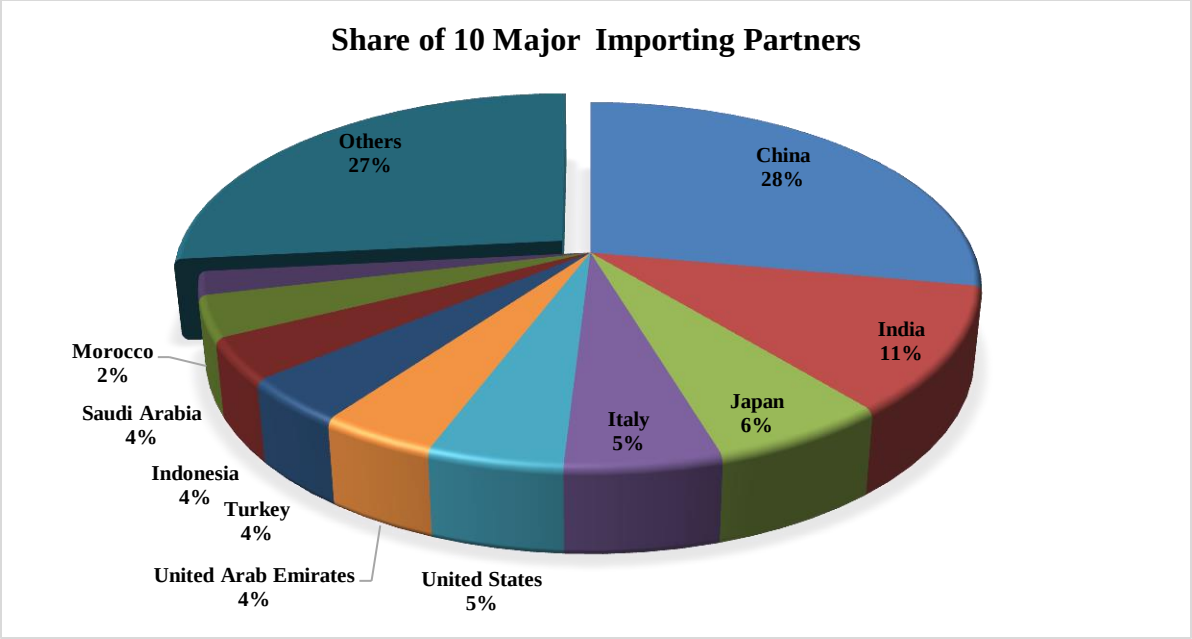

Figure 3: Top ten partners for Ethiopian Import Transaction (2016 - 2018)

In the indicated time period Ethiopia has collects a total of around 53.5 billion ETB revenue in average, of which the duty tax comprises 33.2% share from the total revenue, while the other taxes, such as excise taxes, VAT, and sur-tax comprises 10.4%, 37% and 19.5% share respectively.

Based on the simulation result the simple average tariff rates are 17.3% (for both statutory tariff and collected tariff), while the import-weighted averages are around 11.0% (for both statutory tariff and collected tariff). Average excise tax rates are 1.6% (simple average) and 3.1% (weighted average), while VAT rates are 14.1% (simple average) and 10.7% (weighted average) as we have seen the table below.

Table 6: Ethiopia's trade revenue (as 2016_2018 average value in ETB)

	Statutory tariff	Collected import tax	Excise tax	VAT	Sur tax
Total Value	17,767,964,804	17,767,967,410	5,558,395,557	19,734,361,831	10,422,463,605
Share Of Total		33.2%	10.4%	36.9%	19.5%
Simple Average	17.3%	17.3%	1.6%	14.1%	8.0%
Weighted Average	11.0%	11.0%	3.1%	10.7%	5.1%

Scenario 1: Full Liberalization in 100% level ambition

This scenario projects the short-term impact of full liberalization with the African states, Ethiopia effectively implying that all tariffs lines of import goods from African member states with zero tariffs which assume that no products lines are in sensitive list and excluded from the AfCFTA free market access. The model submits that imports will slightly increase by 0.2 % while import tax reduced by 4.2 % and total revenue and domestic taxes are likely to fall by 1.8%. And the countries over all average applied tariff rate changes from 11 percent to 10.5 percent due to the tariff preference for African countries.

Scenario 2: AfCFTA with Exclusion/ Sensitive List

Due to the agreement, member states can use the exclusion/ sensitive product list to minimize revenue losses or any other reasons that can help to enhance the specific countries economic development. Ethiopia as a least developed country agreed that the sensitive products will be 7% of total tariff lines and the Exclusion List will not exceed 3% of the total tariff lines with a transitional period of 5 years or less, be used for countries which require this flexibility before the start of liberalization of Sensitive Products, thereby allowing for tariffs applicable to sensitive products to be maintained, provided that tariffs are eliminated by the end of the phase-down period outlined in 13 years for the least developed countries.

Therefore, for this paper we assume that the countries are agreed to exclude 10 % (7% sensitive products plus 3% of exclusion list which is nearly 632 tariff lines), is identified from the scenario 1 as a most revenue sensitive products. The second scenario works by excluding those revenue sensitive products.

The TRIST simulation result projects that there will be a short term implications on slight increment on import by 0.01% and an import tax will reduce by 0.11% and that total revenue will fall by 0.04% as illustrated on the table below.

In both scenarios, the simulation assumes model elasticity parameters that equal to product demand elasticity = 1.5 and elasticity for export substitution effect = 0.5. This elasticity is fairly standard in the literature.

Table 7: TRIST result with scenario 1 and 2 (value in ETB)

RESULTS	Scenario 1: Full liberalization with 100% level of ambition	Scenario 2: After Excluding AfCFTA sensitive List
Impact on imports:		
Imports pre	161,213,682,673	161,213,682,672.54
Imports post	161,515,889,986	161,222,721,009.36
Change in imports	302,207,314	9,038,336.82
% change in imports	**0.2%**	**0.01%**
Impact on Revenue:		
Tariff revenue pre	17,767,967,410	17,767,967,410.4166
Tariff revenue post	17,013,912,850	17,748,743,843.5556
Change in tariff revenue	-754,054,560	(19,223,566.86)
% change in tariff revenue	**-4.2%**	**-0.11%**
Total Tax Revenues on Imports		
Total revenue pre	53,483,188,403	53,483,188,403.32
Total revenue post	52,507,228,273	53,462,127,243.68
Change in Total revenue	(975,960,130)	(21,061,159.64)
% change in Total revenue	**-1.8%**	**-0.04%**
Total Tax Revenues on Imports and Domestic Production		
Total tax revenue pre	53,483,188,403	53,483,188,403.3169
Total tax revenue post	52,507,228,273	53,462,127,243.6754
Change in total tax revenue	(975,960,130)	(21,061,159.6414)
% change in total tax revenue	**-1.8%**	**-0.04%**
Collected Tariff rate:		
Collected applied tariff rate pre	11.0%	11.02%
Collected applied tariff rate post	10.5%	11.01%
% change in collected applied tariff rate	-4.4%	-0.11%

4.2. Discussion

From the descriptive analysis of tax collection trend from African countries, Ethiopia's revenue collected from imported goods from Africa has been increases in parallel with import value, but does not mean proportional. In this regard, if there is liberalization on trade there will be an increase on import for the short run because of the consumer's preference.

Since the core function of TRIST model is to show how the countries will impacted, due to the tariff reduction regional integration. Therefore, in considering the ambition of liberalization on which each member states are agreed on, we tried to simulate the data in two scenarios.

From scenario one, eliminating all tariffs on African imported goods into Ethiopia would have only a small incremental impact on imports by only 0.2% in the short run. This would cause a 4.2% of import tax collection from the overall collection on the baseline period. However, the collected import tax accounts around 33% of the overall total revenue that Ethiopia collects on its imports; excise, VAT and sur-tax account for 10%, 37% and 20% of the taxes collected on imports. The reduction in total import revenue would be smaller, estimated to fall by an estimated 1.8% (equivalent to approximately 975 million ETB).

The AfCFTA modalities for trade in goods envisage the possibility to exclude a number of products from liberalization. As a result of the first scenario, we identified 632 tariff lines, which is a 10 % of the overall tariff lines as the most revenue sensitive products from African imported goods. Using these sensitive products, which could be liberalized with longer transition period and exclusive lists that can effectively reduce the import of the AfCFTA on revenues or retain protection for certain sectors that may be deemed too sensitive to face African imports.

As shown on the simulation result on the above table 7, using the identified 632 tariff lines from the first scenario, we dissolve the magnitude of the revenue impact due to the elimination of import tax for African market. Therefore, we found that the import will increase insignificantly by 0.01%, the import tax collection will fall by 0.11 percent and the total revenue will also fall by 0.04 percent.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The outcome of this study shows that Ethiopia's import is expected to increase by 0.2 % if the country adopts the AfCFTA full liberalization, while it increases by 0.1 % if Ethiopia excludes those revenue sensitive product lists. The adoption of AfCFTA free trade agreement by Ethiopia is expected to fall by 0.04 % after taking into account all sources of revenue, that is, import tax, VAT and excise duties.

As many developing countries, Ethiopia's economy heavily rely on customs revenues, liberalizing tariff will have a negative impact on the revenues in short run and benefits the consumers and importers

Hence, the AfCFTA negotiation gives longer transition period for progressively liberalized of the 7 % sensitive list and 3 % exclusive list for policy space. This will allow the countries to slowly adjust and prepare so as to seek alternative revenue sources, by strengthening the domestic tax systems.

5.2. Limitation of the Study

Since this paper uses a TRIST model, which is a partial equilibrium model that treats demand for each product in isolation from the rest of the economy. Hence, it does not take into account inter- and intra-sectorial linkages or the economy wide impacts of tariff changes. Generally it has been designed with the specific task of providing policy makers with important insights into the short-term effects of trade reform. It has not been designed for making longer-term predictions about the broad economy wide impact of trade reform.

5.3. Recommendation

From the TRIST simulation model results, we recommend that Ethiopia should liberalize tariffs together with joining the AfCFTA, in 90 percent level of ambition. From the initial draft list

there are some products, which are not easy to liberalize since they are crucial to revenue generation, and also there are products which have to be promoted to a crucial sector in the economy; these are relatively easy to liberalize. There also products, which should be protected for the fair competition of the infant industries with African countries. So that, Ethiopia must take additional measures:

- Their needs further consultation with respective stockholders in order to touch an impact which are not addressed by the simulation tool.
- The agreement by member states to have a basket of sensitive products will help to reduce the revenue loss for Ethiopia in the given transition period. In this regard, Ethiopia's negotiators should push for sensitive products that will not be subjected to tariff reduction for some time.
- Improve the tax collection system from alternative sources such as VAT, personal and company taxes and excise duty in order to mitigate itself against the revenue loss impact. And also consider to widening the tax base by taxing the informal sector, which has been growing rapidly in the resent years.

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