



ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES

***THE IMPACT OF ETHIOPIA'S COMESA MEMBERSHIP ON ITS
EXPORTS: AN AUGMENTED GRAVITY MODELING APPROACH***

By

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List of Acronyms

ADB	African Development Bank
AEC	African Economic Community
AFTA	ASEAN Free Trade Area
AMU/UMA	Arab Maghreb Union
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of South East Asian Nations
ASYCUDA	Automated System for Customs Data Management
AU	African Union
CARICOM	Caribbean Common Market
CEAO	West African Economic Community
CEMAC	Central African Economic and Monetary Community
CEPGL	Economic Community of Great Lakes countries
CET	Common External Tariff
CGE	Computable General Equilibrium
CMEA	Council of Mutual Economic Assistance (COMECON)
COMESA	Common Market for Eastern and Southern Africa
CU	Customs Union
DTIS	Diagnostic Trade Integration Study
EAC	East African Community
EC	European Commission
ECA	Economic Commission for Africa
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EEC	European Economic Community/Cooperation
EFTA	European Free Trade Association

EPC	Export Promotion Council
EU	European Union
FAL	Final Act of Lagos
FDI	Foreign Direct Investment
FTA	Free Trade Area
GATT	General Agreement on Tariff and Trade
GDP	Gross Domestic Product
IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
IOC	Indian Ocean Commission
LAFTA	Latin American Free Trade Area
LDCs	Least Developing Countries
LPA	Logos Plan of Act
MERCOSUR	Southern Cone Common Market
MRU	Mano River Union
NAFTA	North American Free Trade Area
NBE	National Bank of Ethiopia
NTB	Non -Tariff Barriers
OAU	Organization of African Unity
OLS	Ordinary Least Square
PTA	Preferential Trade Agreements
REC	Regional Economic Community
RIA	Regional Integration Arrangement
RTA	Regional Trade Arrangement
SAARC	South Asian Association for Regional Cooperation
SACU	Southern Africa Customs Union
SADC	Southern Africa Development Authority
SAP	Structural Adjustment Program
SAPTA	SAARC Preferential Trading Arrangement
SEN-SAD	Community of Sahel Saharan States

SSA	Sub Saharan States
UEMOA	West African Economic and Monetary Union
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
USA	United States of America
USD	United States Dollars
World War II	World War Second
WTO	World Trade Organization

Abstract

This paper attempts to assess the impact of Ethiopia's COMESA membership on its export flows. In this regard the tobit random effects of the gravity model has been specified to annual exports of Ethiopia to twenty countries over the period 1981-2006. Accordingly, the results of the estimation show that COMESA membership has neither a significant effect of both export trade-creation and export trade-diversion on Ethiopia's export flows. This can be interpreted as weak participation of the country within COMESA region. The empirical result also witnesses that Ethiopia tends to have highly sectoral and geographically concentrated destination of exports (a large share of its exports is destined to Europe and Asia) and consists of few primary export commodities. On the other hand; most of the traditional explanatory variables of the gravity model are the significant determinants on the flow of Ethiopia's exports. Hence, the possible advices to the government to accelerate the growth of its exports to COMESA member countries are to diversify the economy, enhance the export competitiveness, and encourage the involvement of the private sector in the formulation and implementation of trade policy. Further study is also advised to investigate the potential pros and cons of being a full member of COMESA FTA on Ethiopia's export flows since Ethiopia is not a member of Free Trade Area (FTA), has only done a 10 percent reduction of tariff for the goods coming from COMESA member states

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The history of economic integration process has taken its momentum after the World War II, when the idea of matching global resources to global markets lead to effective and efficient utilization of resources got wider acceptance; hence it leads to mushrooming of international and regional trading blocs.

The rationale for regional integration in Africa reflects the desire to deal with both political and economic issues. Before independence, political integration took the form of dependence of African states on foreign colonial powers. In post colonial Africa, motives for regional integration, however, have been changed in to broad economic interests, and the need for greater international bargaining power. To this end, the Organization for Africa Unity (OAU) was founded in 1963. The basic motivation for such integration emanated, especially after independence, from the need to combat African major economic problems, such as, inter alias, the limited economic size of many of African states, poor infrastructure services, land locked ness of many African states. Regional integration, therefore, is seen as the best way for relaxing these constrains and to increase intra-regional trade (ADB, 2000).

A Regional Integration Arrangement (RIA) is a preferential (usually reciprocal) agreement among member countries, that join together to pursue common policies and objectives in matters of economic and non-economic issues. The extent of integration and the way discrimination is applied to non-members can take several forms (ECA, 2004). COMESA was established in 1994 as a successor to the Preferential Trade Area for Eastern and Southern Africa (PTA), which had been in existence since 1981 within the framework of the

organization of African Unity's Lagos Plan of Act (LPA) and Final Act of Lagos (FAL)¹. COMESA was established to take advantage of a larger market size, to share the region's common heritage and destiny and, to allow greater social and economic cooperation, with a view to achieving the ultimate goal of an economic community.

In order to accomplish its mission, COMESA has to pass through achievement of zero tariffs for all tradable goods among member countries. To meet these objectives it has applied reduction of tariff schedules stipulated by the PTA agreement on all products traded between member countries as follows: 60 percent as of October 1993, 70 percent as of October 1994, 80 percent as of October 1996, 90 percent as of October 1998, and 100 percent as of October 2000, and thus had managed to achieve a free trade area (with 13 countries as members). COMESA had also planned to establish a Common External Tariff (CET) by the year 2004, and to achieve the Economic Community by the year 2025.

Despite these efforts, the success of integration programs in terms of increase trade between the COMESA member states, has been, at it best, marginal. The reasons for failure to succeed as pointed out by Alemayehu and Haile (2006) are issue of revenue loss, compensation issues and variation in initial condition and poor private sector's participation as major sources.

In view of the above issues, Ethiopia has committed to foster economic and technical cooperation and trade with the rest of Africa. The founding member of PTA/ COMESA, Ethiopia, had played an immense role in actively

¹ Both the LPA and FAL envisaged an evolutionary process in the economic integration of the continent in which regional economic communities would constitute building blocs upon which the creation of an African Economic Community (AEC) would ultimately be erected (UNCTAD, 2003)

participating in the negotiation process of establishing the PTA (starting from 1978 up to its creation in 1981).

1.2. Statement of the Problem

The increasing integration of the world economies has revived interest in regional integration scheme. Hence, the fear of marginalization together with the fact that, most of African countries are too small on their own to negotiate with powerful trading blocs, has led to increased interest towards regional integration (Sophie, et.al, 2002). The current scope and wave of globalization in trade and finance is also giving rise to emergence of economic integration. Africa has been hit hard by globalization. The loss of terms of trade and failure to break into the world markets for manufactured goods are having major adversaries (Abebe, 2002).

The inception of COMESA was to promote cooperation and development in economic and social activities, expand and maintain economic growth and stability as well as coordinate better relations among member states and generally contribute meaningfully to the development of Africa. The objectives of COMESA are to facilitate the removal of structural and institutional weakness of member states, so that they are able to attain collective and sustained development.

COMESA, one of the largest regional economic groupings in Africa, has been some achievement in trade and trade related areas. While COMESA increases trade on the part of member states, it can lead to diversion of trade from a lower-cost non-member states (which faces external tariffs) to higher-cost member state (which no longer faces tariff). These two effects are referred to as trade creation and trade diversion (Viner, 1950). Trade creation occurs when a member state starts importing from the other members a product that was previously produced locally by inefficient (high-cost) producers.

Ethiopia as of today, is not a member of Free Trade Area (FTA), has only done a 10 percent reduction of tariff for the goods coming from COMESA member states due to fear of revenue loss as tariff revenue is the most significant source of government revenue and the potential damage to its weak industries and low degree of competitiveness (Abebe, 2002).

As a way of investigating the impact of Ethiopia's COMESA membership on its exports, this paper appreciates the export trade creation and diversion effects of COMESA's membership on the flow of Ethiopia's exports.

1.3. Objectives of the Study

The main objective of this study is to analyze the impact of Ethiopia's COMESA membership on its exports by using augmented gravity modeling approach.

The specific objectives are:

- a) To investigate whether COMESA activities have export trade creation or export trade diversion effects in the case of Ethiopia;
- b) To find out or examine the determinants of Ethiopia's exports
- c) To analyze the performance and structure of Ethiopia's exports

1.4. Hypothesis of the Study

The main hypothesis to be tested in this study will be Ethiopia's COMESA membership have the effect of trade creation but not the effect of trade diversion on the flow of exports. This particular study will also test the hypothesis that Ethiopia's trade is determined by the size of the economies and the distance between them.

1.5. Significance of the Study

Economic integration involves Regional Trade Agreements (RTAs) among countries in defined geographic areas aimed at facilitating greater trade and factor flows by reducing trade barrier among member countries. Africa has a large number of regional economic groups. Although such arrangements hold promise to accelerate economic development for individual countries and the continent as a whole, they require cost and benefit analysis, to inform what such arrangements can realistically achieve_ and help them to succeed.

COMESA is one of the largest groupings in Africa and its main focus is on the formation of a large economic and trading unit that is capable to overcome some of the barriers that are faced by individual states. Even if one of the founding members of COMESA, Ethiopia, but not yet a member of FTA.

The justification for any RTA should be assessed from its trade creating and diverting capacities. According to Viner (1950), the net welfare effect of RTA could be positive or negative for the member countries and the rest of the world depending on the magnitude of trade creation and trade diversion. That is why this paper intends to investigate whether Ethiopia's COMESA membership has export trade creation or export trade diversion effects for its exports.

For countries preparing to join FTA like Ethiopia, such a study is very important. The outcome of this study may help policy makers in the process of their decision as to whether or not the effort for integration should continue and if it should, what necessary changes need to be introduced or to which specific areas should emphasis be given in order to make it effective.

1.6. Scope and Limitations of the Study

Regional integration covers a wide range of integration forms, which encompasses trade integration, monetary integration, labor market integration, capital market integration, and inter-governmental authorities. Moreover, there are both static and dynamic effects resulting from the formation of regional bloc. But those dynamic effects are much more difficult to capture. This study, however, will be restricted to focus only on the trade aspect of regional integration and limited to measure only the static effects of the regional bloc. Constraints or limited resources of appropriate data, time, and finance have played a limiting role on the content of this study. As the title of this work indicates, the study is limited to focus only on the impact of COMESA on Ethiopia's exports.

1.7. Organization of the Study

The rest of the thesis is designed and organized as follows. The second chapter will be concerned with review of related literature, including the empirical evidences of the impact of regional economic integration. An overview of African regional economic communities with particular focus on COMESA is reviewed in chapter three. In chapter four, it proceeds with evaluating the performance and structure of Ethiopia's Exports. The methodological approaches of the study including econometric methods are addressed in chapter five. Estimation of the model and analysis of empirical results will then follow in chapter six. The final chapter will wind up the study by presenting some conclusions and policy implications based on the findings.

CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical Literature

Regional economic integration may be defined as an attempt to link together the economies of two or more countries, in defined geographic areas, designed to reduce economic barriers such as tariffs and immigration controls, aimed at raising the living standards as well as achieving peaceful relations between the participating countries (Murinde, 2001).

There are various levels and degrees of integration, involving five stages; Preferential Trade Agreements (PTA), Free Trade Agreement (FTA), Customs Union (CU), Common Markets and Economic Union. A preferential trade agreement is the loosest form of economic integration. A free trade agreement involves the removal of all barriers of trade among members, but retains control over their own restrictions on trade with non-members. A custom union involves a free trade area plus a common set of tariffs toward non members. A common market is a custom union combined with free mobility of labor and capital. Economic union is the final stage of economic integration which involves a common market plus coordinated macroeconomic policies such as currency and harmonization of standards and regulations. Economic integration can also be shallow or deep. Shallow integration involves changes in the rules of trade at the border such as reduction in tariffs, quotas and customs procedure among members. Deep integration is a more recent type of integration and goes beyond border-related trade matters. It involves the harmonization and adoption of similar rules and mutual recognition (Sisay and Adugna, 2002).

2.1.1. Theoretical Models of Regional Integration

The above forms of arrangement are associated with the market integration model of integration. Non all integration strategies fit neatly into this however. Consequently, other models of integration have been formulated that attempt to provide a more accurate description of the nature of these other non-traditional trade blocs and the benefits they confer. One of the difficulties for analysis raised by this multiplicity of models is that WTO rules only apply to traditional free trade areas and customs union.

2.1.1.1 Market Integration (Customs Union) Theory

It envisages a linear process of trade barrier elimination from free trade area to the deepest level, political union (Balassa, 1961). The discriminatory aspect of customs union led Viner to question the assumption of increased world welfare. According to Viner, to determine whether a customs union was beneficial, it should have been created trade or diverted. Moreover, the relevance of this model to developing countries especially Africa has been questioned. It has been argued that most favorable conditions for trade creation are not characteristic of developing countries and, there by regional integration among developing countries is likely to have immaterial effects on their patterns of trade. As a result of these, the irrelevance of this model had proved not only insufficiently workable but even harmful to the integration process in Africa.

2.1.1.2 Development Integration Theory

It can be defined as a combination of market integration, with its focus on the removal of tariff and non-tariff barriers to trade, and production integration, which focuses on cooperation in the planning and implementation of productive activities (Karingi, et al; 2002). Development integration theory was developed as a response to the perceived short comings in customs union theory, as applied to developing countries. McCarthy (1999) argued that there

was an important difference between the way that developed and developing countries view regional integration:

For developed economies, the emphasis has fallen on the welfare-enhancing static outcome of trade creation. In contrast, the dynamic consequences to be derived from a larger market have been the main explanation of regional integration's developmental role in less developed countries. Regional economic integration is intended to facilitate structural change in developing countries by promoting economic diversification through industrialization.

Development integration is characterized by the conscious intervention by the regional partners to promote cooperation and interdependence and by efforts to secure an equitable distribution of the benefits from regional integration.

2.1.2. The Gains from Regional Economic Integration

Both economic theory and empirical evidence point towards the superiority of full multilateral rather than regional free trade as the best strategy to maximize national welfare (Radelet, 1997). RIAs are a second-best strategy, and a step towards to multilateral trade. One way to evaluate RIAs, compare their outcomes against hypothetical outcomes from open trade. By using this standard, RIAs can be expected to lead to both static and dynamic gains (de Melo, et al; 1993).

2.1.2.1 Static Gains

It results from a one-time reallocation of economic resources. The static, partial equilibrium effects of forming a regional bloc are measured in terms of trade creation and trade diversion. A distinction first made in the classic analysis of customs union by Viner (1950). Trade creation occurs when there is a shift in domestic consumption from the high-cost domestic source to a lower-cost member nation source, due to elimination of tariffs on intra-regional trade. Trade diversion occurs when there is a shift in consumption from a low-cost outside the bloc to a high-cost partner source as a result of

elimination of tariffs on imports from the partner (Viner, 1950 and Lipsey, 1957).

Viner was the first to show trade creation is welfare enhancing, providing gains on both the supply and demand side (Viner, 1950 and Balassa, 1961). Supply side benefits accrue from the reallocation of resources away from protected industries and towards firms producing goods for the regional market (assuming full employment), once protection in other member countries is reduced. On the demand side, consumers benefit from being able to buy from the lowest-cost producer in the region. These effects can have important distributional repercussions; previously protected producers lose, while consumers and low-cost producers gain.

Trade diversion is generally welfare reducing, although, this may not always be the case. The loss from trade diversion stems from the reduction in government revenue as imports from outside the region (with high tariffs) are replaced by imports from within the region (with lower tariffs). Although there is an offsetting gain because consumers face lower prices (with an increase in consumer surplus), a portion of the price they pay effectively subsidizes producers in other member countries, rather than accruing to the government for reallocation within their own country. This cross-border subsidy represents a decrease in aggregate economic welfare (Radelet, 1997).

2.1.2.2 Dynamic Gains

As a contrary to the static gains from RIAs, the dynamic gains are presumed to continue to generate annual benefits, even after the withdrawal of a country from the union (Cline, 1978). Umurungi (2005) has pointed out that the dynamic gains from RIAs. The competition effect which brought about freeing imports from partner countries; the investment effect which appears when there are new foreign and domestic investments that have not occurred

in the absence of RIA; and the structural transformation effect which is a shift from traditional primary-products exports to new industrial-products export.

The dynamic effects of regional trade integration are potentially more significant than the static effects, because of their cumulative nature. However, these dynamic effects are much more difficult to measure, as a satisfactory framework for analyzing those does not yet exist.

2.1.3. The Economic Effects of Regional Integration

The theoretical arguments in favor of regional integration are essentially the same as those in favor of a free trade policy; that allows for the exploitation of comparative advantage within the region. Membership in RIA has implications for almost all parts of the economy. RIAs must be viewed as a means to improve welfare in participating countries-not as an ends in themselves.

2.1.3.1 Trade Creation and Trade Diversion

All formal RIAs reduce barriers to trade among member states. Thus, it is tempting to conclude that regional integration will generate welfare gains. However, because they involve preferential reductions in trade barriers, RIAs are both trade creating and trade diverting (ECA, 2004). Trade creation occurs when the displacement of higher-cost domestic production by lower-cost production from partner countries due to lower barriers within RIAs-increases welfare. But the trade diversion arises when the lower-cost production from non-members replaced by higher cost productions from partner countries due to lower barriers-reduces welfare. RIAs generate welfare gains only when trade creation dominates trade diversion though the outcome can not be determined in advance. These are intrinsically multi-industry (or “general equilibrium”) issues, involving expansion of some sectors and contraction of others. However, the analysis of trade creation and diversion first put forward

by Viner (1950). The classical source of gains from trade is that free trade allows consumers to buy from the cheapest source of supply.

On the other hand, trade barriers discriminate against foreign producers in favor of domestic suppliers. Even though the domestic import-competing industries costs are higher than the cost of imports, the policy of trade barriers induces domestic producers, which in turn starves the export sectors of domestic resources. Suppose that a country can import a good from partner country and the rest of the world at \$ 105 and \$ 100 per unit, respectively. The country pays \$ 10 as a duty in both cases making the prices of goods imported \$ 115 from partner country and \$ 110 from the rest of the world. Since consumers are rational, they purchase from the rest of the world at \$ 110. If the country joins an RIA with the partner, the consumers pay for imports from partner country falls to \$ 105 due to the goods coming on a duty-free basis, while imports from the rest of the world remains cost consumers \$110. In this situation, consumers switch to the partner country's goods at \$ 105 and saving \$5. But the government loses the revenue of imports \$ 10 per unit from the rest of the world, so the net effect for the country is a loss of \$ 5. The country not the consumers used to pay \$100 per unit, and now pays \$ 105 per imported unit-deleterious welfare effect of "trade diversion".

The focus of trade diversion has been on imports. What about exports? Recall in the previous hypothetical example, consumers switched to imports from the partner country. Although the exports of partner country expands, how much of a gain from partner country is questionable. If the exports are selling at \$ 105 per unit, selling more goods does not raise income of partner country. However, if they are selling above cost, there will be a real gain of income. But the price cannot go further above \$ 110, because consumers would switch back to purchasing from the rest of the world. This shows that the exporter country's gain per unit cannot exceed the difference between the

price of imports from the rest of the world and costs. i.e. maximum \$ 5= \$ 110- \$ 105. Is an importer country loss due to trade diversion just the other side of an exporter gain, the regional integration as a whole would be better off? There may be exporter country gain, but is less, per unit, than importer country loss.

Bhagwati and Panagaria (1996) argue that RTAs will likely reduce welfare in member states and impede multilateral liberalization of trade. They pointed out that, because RTAs give preferential treatment to member states, they divert trade from non-member, least cost suppliers. This trade diversion is likely to dominate trade creation, so it will reduce welfare in member states.² To illustrate the effects of trade diversion of RTA, they present Viner's model of a customs union in which two countries remove bilateral tariffs. When the rest of the world is the least cost supplier and faces constant costs, an RTA with the supplier who faces increasing costs can only divert trade. The liberalizing country loses because it foregoes tariff revenue from the new union member but does not face a lower internal price for the imported goods, since the rest of the world is a price setter.

As a contrary, when the union partner is the supplier facing constant costs, an RTA improves welfare in the liberalizing country (Robinson, 1999). It benefits from the price reduction and still collects tariff revenue from the countries excluded from the union. There is only trade creation from the RTA. As Panagaria (1996) notes, this case is even better than multilateral tariff elimination due to the tariff revenue collected. However, he argues it is usually the case that the rest of the world, not the union partner, faces constant costs while union members face increasing costs. While there will be

² Wannacott (1996) notes that trade diversion is not necessarily welfare-reducing by definition. Instead trade diversion may increase welfare for the diverting country and the world as a whole. Trade liberalization between partners in RIA may lead to increased competition and specialization; firms can exploit economies of scale when they have a bigger market and the partner country may become the least-cost supplier. This is really a "new trade theory" argument

trade creation for some commodities, the majority of goods will come from a partner with increasing costs-trade diversion will dominate in most RTAs.

2.1.3.2 Scale and Competition Effects

Smaller markets constrain the number and scale of firms that can be sustained, hindering competition among firms and the development of scale economies. This might be the lack of sufficient quantities of specialized inputs and the markets are too small to generate the sales necessary to cover costs. It makes difficult to produce goods that are subject to increasing returns to scale. Even if production is profitable, only one or few producers engaged with monopoly power, leading to high prices, low levels of sales, and high costs.

The desire to achieve economies of scale associated with larger size is one of the most influential factors in the pursuit of regional integration, especially among developing countries. RIAs can benefit member countries through increased scale and competition, usually when countries, their endowments, or both are small and market size is limited (Fernandez and Portes, 1998). RIAs can combine markets, enabling firms to expand and making markets to reduce monopoly power as firms from different countries are brought in to more intense competition. Three types of gains can be yielded. First, the increase in competition reduces monopolistic distortion, firms are induced to lower prices and to expand sales, benefiting consumers. Second, the market enlargement allowed firms to exploit economies of scale. Although there is a trade off between scale economies and competition, if firms are larger, then there are fewer of them and the market is less competitive. But the enlargement of market shifts this trade off, as it becomes the possibility of both larger firms and more competition. The larger the number of firms associated with more competition and the increased possibility of merger (or bankruptcy) of some firms, perhaps leaving only the most efficient firms. The net effect brought in RIAs is increased competition, increased firm scale, and lower costs. The third one comes from possible elimination of internal

inefficiencies that firms are raised productivity. The more intense competition may induce firms to eliminate internal inefficiencies (so called X-inefficiency) and increase worker productivity, an attractive benefit for developing countries including Africa (ECA, 2004).

The exposure of firms for greater competition in regional markets should bring greater efficiencies in production and marketing, and possible gains from industry restructuring. Most importantly, a large competitive market may induce firms to produce more specialized products, facilitating the expansion of firms serving niche markets. Additionally, if there are economies of scale in specific production processes, a larger market may enable firms to lower unit production costs (Robson, 1987 and Balassa, 1961). Similarly, larger markets may also be conducive to spillover effects such as transfers of knowledge from producers to users. Mutual gains can be realized from the joint production of public goods of common interest.³

Radelet (1997) suggests that RIAs should be designed as an intermediate step towards to global integration, rather than as an end in itself. Along the same line of thought, an infant industry argument, firms can progress from being domestically competitive to regionally competitive to globally competitive. The assumption in this “training ground” argument is that extending protection to a regional basis will have beneficial impacts on quality control, marketing techniques, and management capabilities that will enhance the capacity of firms to eventually compete on global markets (Langhammer and Hiemenz, 1990). Krugman (1984) has referred as “import protection as export promotion”. It assumes that member states can distinguish “infant” industries from “sunset” industries, to be able to determine which sectors have the potential to eventually compete in world markets. There is a consensus of the positive impacts that trade liberalization has efficiency through scale

³ For example, member states can cooperate in the construction of connecting road or rail networks, or from joint management of natural resources (such as ocean or river fisheries).

economies and increased competition-those RIAs offers developing countries substantial benefits. However, it is important to note that these benefits emanating from unilateral (or non-preferential) trade liberalization and the adoption of an open domestic economy (World Bank 2000b).

2.1.3.3 Investments and Industrialization

RIAs can increase investment in member countries by reducing distortions, enlarging markets, and enhancing the credibility of economic and political reforms. Integration can attract investment in two ways. Firstly, the creation of a larger market makes a trade bloc more attractive for investors who desire to reap the benefits of economies of scale. Secondly, it has been argued that integration has investment attraction because the credibility of economic reform can be enhanced by embedding the reform in an integration agreement. In addition to changing the organization of local industry, RIAs may assist in attracting foreign direct investment (FDI). Foreign firms face a choice of serving the market by importing and or by building a local plant while they want to supply their product to a particular country. The trade off is between the costs of tariffs and non-tariff barriers (NTBs) on imports, and the cost of production of the local plant. The decision towards FDI will be made if RIA makes the market more competitive favoring lower marginal cost sources of production. Moreover, customs unions can encourage foreign investors to engage in tariff jumping, that is, investing in one member country in order to trade freely with all member countries. Apart from its direct impact on production, increased investment, particularly FDI, it can promote knowledge and technology transfers and spillovers, raising productivity in member countries (Fernandez and Portes, 1998; World Bank 2000b).

Regional integration is expected to create conducive environments for a more successful industrialization by pooling regional resources for investment (ADB, 2000). By reducing distortions and altering incentives, RIAs has the

possibility to induce economic activities to relocate. Industrialization may be based on the comparative advantages of members relative to one another and to non-members. The backward (demand-related) and forward (supply-related) links may also generate interdependence among the location choices of different firms, triggering cumulative causation and creating agglomeration of activities. Relocation can change income levels and demand for factors of production, generating gains for some members and losses for others (Puga and Venables, 1996; World Bank 2000a, 2000b). Countries with comparative advantage closer to the world average do better in an RIA than countries with more extreme comparative advantage.

Though comparative advantage and historical factors play a role in determining the location of industries, agglomeration forces are also key determinants where in industries set up.⁴ As economic centers start to develop, so “cumulative causation” mechanisms come in to effect, leading to clustering (or agglomeration) of economic activity, and extending the advantage of locations that have ahead start. Trade liberalization can affect the balance of “centripetal forces”, encouraging firms to locate close to each other and “centrifugal forces”, encouraging them to spread out. In a preferential basis, it affects the locational attractiveness of the bloc relative to the rest of the world and the relative attractiveness of individual bloc members. By reducing barriers to trade, membership in RIA makes it easier to supply consumers from a few locations. Although the ensuing relocation of industry could develop in several different ways, the balance of forces may be tipped in favor of agglomeration. In some south-south RIAs, the forces of comparative advantage and agglomeration are at work, but industries agglomerate in a relatively richer and initially industrialized members. This

⁴ Clustering arises from the interaction between centripetal forces such as technological externalities, availability of skilled labor and linkages between buyers and sellers that make it attractive for firms to locate close together, and centrifugal forces associated with high areas of economic activity such as congestion, pollution, prices of land, competition and consumer dispersion

unequal sharing of benefits is commonly cited as having contributed to the break-up of the original East African community.

2.1.3.4 Effects on Economic Growth

One of the major dynamic benefits of regional integration is that export markets widen the total market for a country's producers. For a small developing country, little scope for large-scale investment and specialization is limited by the extent of the market. Thus, the relevance of RIA to growth is that it helps to shift outwards the production possibility frontier by augmenting the availability of resources for production through increasing the productivity and quantity of resources (ADB, 2000).

The more competitive markets emanated from RIA should be felt not only by firms inside the agreement, but also by firms outside that export to the RIA markets. The more intense competition induces them to cut prices; it will be a direct source of economic gain to purchasers in the RIA although the gain comes at a cost to those outside firms. Thus, it reveals that the threat of increased competition may be enough to improve the terms of trade in RIAs.

Regional integration can contribute to economic growth by magnifying the impact of the three factors. First, the acquisition of new knowledge, new ideas and the dissemination of technical knowledge, the possibility of accompanying capital flows through FDI, and there by channels technology and knowledge across borders. Second, obeying to the criteria of specified macro economic convergence and urging countries to create a supportive macroeconomic environment of international competition such as low inflation, low deficits and consistent exchange rates. It can cement the credibility of governments to macroeconomic stabilization, with additional positive spillovers to growth. Third, countries required to update and improve their legislative and regulatory framework consistent with RTAs. Integrating with countries that

have efficient institutions can induce other countries to undertake the reform (ECA, 2004).

2.1.4 Net Gainers or Losers: Some Stylized Characteristics

Integration theory suggests some guidelines about the relationship between the characteristics of regional agreements and the likelihood of net gains for member states. These guidelines are at best rules of thumb.

a) According to Langhammer (1992), the larger the share of intra-regional trade in total trade for the member countries before the RIAs, the more likely that trade creation will dominate trade diversion. However, Bhagwati (1992) has pointed out that it is not necessary the case that neighboring countries form natural trading partners. Other factors, such as geo- strategic alliances, colonial links, and complementarities of production can play a far more important role in determining trade flows.

b) The higher the initial tariffs between partner countries having the greater scope for trade creation. A reduction of high tariffs between member states can likely lead to the replacement of goods formerly produced by highly protected domestic firms with goods from more efficient firms elsewhere in the region. So, the greater the difference in cost structures of firms among member states, the greater scope for increased trade.

c) After the formation of an RIA the higher tariff facing non-members, the greater potential for detrimental trade diversion, and the less beneficial to an RIA.

d) The smaller elasticity of substitution between goods belongs to members and non-members having the smaller the likelihood of trade diversion. If goods produced by member countries are not close substitutes for goods

previously imported from non-members, trade diversion will be smaller (Bhagwati, 1992).

e) Theory provides opposing hypothesis about the impact of differences in member country's income. On the one hand, income levels tend to be correlated with factor endowments, so the larger the difference in income levels, the larger the difference in factor endowments, and the larger the potential gains from trade driven by comparative advantage (Radelet, 1997). On the other hand, countries with similar income levels and consumer demand patterns may be reap gains from intra-industry specialization and product differentiation. It may be for RIAs involving industrialized countries because the demand for more specialized products tends to increase with income (de Melo and Panagaria, 1992). For developing countries, income disparities are likely associated with differences in transportation systems, communication networks, and legal systems that may make the potential for increased trade more difficult to realize.

f) The greater the RIA in terms of number of members, economic size and share in world trade, the larger the scope for trade creation and smaller tendency for trade diversion because of the presence of the low cost producer and the greater the potential for specialization (Langhammer, 1992).

g) In more limited arrangements, there is a possibility that countries with comparative advantage in excluded sectors within RIA may lose from trade.

h) The greater the history of political harmony and ties between member states, the scope for integration will be larger. The reverse is true for countries with a history of animosity.

2.1.5. Old and New Regionalism

The recent literature distinguishes the degrees of regional integration from shallow to deep. The old regionalism (or shallow integration) associated with the concept of customs union as developed by Viner (1950), Meade (1955) and Kemp and Wan (1976). The theory of customs union has been concerned with the welfare gains and losses that resulted from the reduction of tariff and non-tariff barriers among member states. Deep integration (or new regionalism) is a more recent phenomenon that goes beyond the preferential trade arrangements among member states, but more broadly with cooperation in a wider range of economic issues.

The new regionalism is focused on the establishment and maintenance of macroeconomic stability and free mobility on factors of production. A stable macro-economic environment associated with harmonization of national policies is sustained through “lock-in” mechanism of an RIA. The old regionalism in developing countries has been an inward looking and import-substitution-industrialization. As a reflection of the wave of liberalization and globalization, most regional groupings are changing their strategies from the protectionist and inward-looking to the more pro-active and outward-looking (ADB, 2000). A new regionalism contribute to a greater coordination of key macroeconomic policies with harmonization of national development plans, including fiscal and monetary policies, improving regional communication and establishing regional institutions such as development banks, court of justice and monetary union.

2.1.6 Regional Integration in the Global Trading Context

Regionalism versus Multilateralism

Economists were interested for a long time about the compatibility question between regionalism and multilateralism, especially on whether regionalism

constitutes a stumbling bloc to multilateralism or serves as a stepping stone. Winters (1996) defined “regionalism” as any policy designed to reduce barriers of trade between a subset of countries regardless of whether those countries are actually contiguous or even close to each other, although, “multilateralism” is a characteristic of the world economic system, it must ultimately reside in the behavior of individual countries- the discrimination is absent and the country’s trading regime approximates free trade.

There are many ways regionalism can contribute in promoting multilateralism. Kim (2005) took two cases in which regionalism facilitate multilateralism. The first one is the use of regionalism as a trading device teaching countries concerned negotiation techniques and processes for trade liberalization. Especially, experiencing the effect of market opening on their domestic economy can be helpful to dilute the possible concerns to be brought about by multilateral trade liberalization. The second one is opening the market for specific group of countries can reduce costs of economic restructuring and reforms by providing appropriate external pressures and incentives. Moreover, it guarantees transparency and non-reversibility of economic policies. As a contrary, the Bhagwati-School posits two key risks of regionalism. Firstly, it is a substitute for multilateral liberalization by dampening nations’ enthusiasm for further multilateral liberalization and diverting policy makers’ attention from WTO rounds. Secondly, it shifts power in worrying directions; specifically it increases the chance of inter-bloc trade war.

The immediate consequences of regionalism for economic welfare of the integrating partners further go to question whether it sets up forces that encourage or discourage evolution towards globally freer trade. Winters (1996) offers the answer is “we do not know yet.”

Bhagwati et al. (1998) introduce the concept of “spaghetti bowl phenomenon”. The growing number of overlapping membership embodying diverse treatment of trade policy issues has increased the complexity of rules of origin. Increasing complexity raises the transaction costs of conducting trade, while inconsistent provisions create uncertainty and undermine transparency. However, it is still a debatable issue whether overlapping schemes have mitigating effects on global trade or not.

Proponents of regionalism argue that, it is as a building bloc for multilateralism by allowing for faster, more efficient negotiation of agreements, and allowing a majority within a trade bloc to exert more pressure on recalcitrant members to comply with trade rules than would be possible in multilateral forums.

Jagdish Bhagwati challenged the truth of these assertions with regard to regionalism is quicker. He pointed out that the first wave of RTAs were much less successful than the GATT in lowering tariffs, that even with enormous political supports. Regarding the efficiency argument, he asserted that weaker states in bilateral agreement may be forced to agree to the demands of strong states that are not optimal from economic efficiency of the global trading system. Such concessions may later distort the result of multilateral negotiations.

Baldwin (1995) introduces the “domino effect” to explain the proliferation of regional trade blocs. RTAs produce gains from freer trade for members. Thus, exporters in outside the regional bloc will force their governments to seek membership in a regional bloc in order to avert the potential damage due to the preferential trade liberalization. This triggers the domino effect, which can increase either the number of RTAs or membership size of existing blocs.

Alan winter (1996) offers the conclusion about regionalism versus multilateralism issue. Regionalism has a direct effect on multilateralism, but possibly the indirect effect by changing the ways in which groups of countries interact in the world economy. The possibility of regionalism increases the risks of catastrophe in the trading system. Regionalism is a means to bring trade partners to the multilateral negotiating table because it is essentially coercive. For this purpose, this may have been an effective strategy, but it is also risky.

2.2. Empirical Literature

2.2.1. Measuring Progress on Integration

Prior to 1950, when Jacob Viner showed that the net impact of a regional trade on welfare is uncertain and depends on a number of economic circumstances, the general opinion was any economic integration towards freer trade should be beneficial and welfare enhancing. In a simple partial equilibrium model assuming perfect competition, an RTA will increase trading between members at the cost of less efficient domestic producers-trade creation but also of more efficient third countries-trade diversion. The net effect of an RTA on trade depends on the relative size of the two effects. There are at least two ways to analyze the economic effects of regional schemes. The first is an ex-ante simulation of a change in trade policy, which projects the future effects on a set of economic variables of interest. This approach answers “what if” type of questions. The second one is, the ex-post approach which uses historical data to conduct analysis of the effects of a past trade policy. This method applies econometric approaches.

2.2.1.1 EX-ante CGE Analysis

Recently the Computable General Equilibrium (CGE) models have become popular in analyzing the effects of policies and shocks that appear in the economy. Even if there is a new large empirical literature using CGE models

to analyze the impact of RTAs, it is more complex approach since it takes in to account all the intersectoral and international linkages that are affected by changes in trade policies emanated from RTA formation (Cernat, 2003).

The CGE models, the standard practice in RTA analysis, are well suited to analyze the likely impact of an RTA. It incorporate a detailed input-output database about domestic variables on consumption, savings and production disaggregated at sector and country level. In these models, trade data are associated with protection and transportation costs to simulate these fundamental international linkages a cross countries and regions at sectoral level (Cernat, 2003).

2.2.1.2 EX-post Gravity Approach

The gravity models are econometric models of trade which acquire their name from their similarity to the Newtonian theory of gravitation. Newton's law states that the attraction force a_{ij} between two entities i and j is proportional to their masses m_i and m_j and inversely related to the squared distance d^2_{ij} between these entities. The gravity model of trade predicts that the volume of trade between any two countries will be positively related to the size of their economies and inversely related to the trade costs between them.

Before the recent wave of CGE models, the gravity model had to a large extent become the "workhorse" of studies on regionalism. Despite the fact that the gravity models are perceived as lacking a strong theoretical basis, there has been a widespread use of this equation in estimating the impacts of RTA. The model was considered suspect in it could not consistent with the dominant Heckscher-Ohlin model explaining net trade flows in terms of differential factor endowments. Exceptions to this trend, Anderson (1979) showed the gravity model could be derived from expenditure share equations, assuming commodities to be distinguished by place of production. Bergstrand (1985) derived the gravity model of trade in differentiated products. Deardorff (1998)

also showed that the gravity equation based on a suitable modeling of transport costs as an estimation form even for the Heckscher-Ohlin model.

2.2.2. Impact of Regional Economic Integration

De Melo et.al, (1993) present a more balanced view of the welfare effects of an RTA in an analytical model in which integration both creates and diverts trade. In this case, the country which lowers its barriers against a trade partner faces a new domestic price which is lower than the tariff-inclusive mark-up over the constant cost supplier (the rest of the world), but higher than the free trade price. The welfare effects on the tariff-reducing country are ambiguous: it loses because it has diverted all imports from the lowest-cost supplier, but it benefits because total imports have increased. De Melo et.al., notes: (1) the higher the initial tariff on a given sector, the larger the benefits and the smaller the costs of an RTA; (2) the lower the post-RTA tariff on non-union states, the less likely that the lower-priced goods of the latter will be displaced; and (3) the greater the complementarities in import demands between the union partner, the greater the gains from an RTA. Determining the net welfare impact of RTA is an empirical issue.

Along the same line of thought, De Rosa (1998) provides a balanced survey that allow for both trade creation and diversion when an RTA is formed either with a partner facing constant or increasing cost. In addition to describing the effects of an RTA in Viner's partial equilibrium model, he presents Meade's model in which both international and domestic relative prices can adjust in a general equilibrium framework. One result from the model which is relevant to the debate over trade creation and diversion is that if a country entering the RTA increases its imports from all sources, its welfare will improve. To insure that there is no trade diversion - and hence that the country entering the RTA can improve its welfare - De Rosa recommends member countries of a new trading bloc should simultaneously reduce trade barriers with non-

member states. The idea is important-formation of an RTA in environment of continuing multilateral liberalization may well have different welfare implications than forming an RTA in an increasingly in an increasingly protectionist environment.

A study was conducted by Solaga and Winters (2000) to capture the trade creation and trade diversion effects of the major multilateral RIAs. They found significant positive trade creation effect for Latin American countries but significant trade diversion effects for EU and EFTA. Endoh (1999) has also found both the trade creation and diversion effects for the EEC, LAFTA and CMEA (Council of Mutual Economic Assistance, COMECON). With reference to these studies, the estimated effects of RIAs on the flows of trade by using the gravity model are not uniform but mixed.

Rahman, Shadat and Das (2006) developed the augmented gravity model to identify the trade creation and trade diversion effects for SAPTA and other RTAs. It was found that SAPTA appeared to be a significant intra-bloc export creating and net export diverting. The study also found that Bangladesh, India and Pakistan are expected to gain from joining the RTA, while Nepal, Maldives and Srilanka are negatively affected. Among the other RTAs; AFTAs are associated with intra-bloc export creation and net export diversion. Indonesia, Lao PDR, Malaysia, Singapore, Thailand and Vietnam are experienced an increase in intra-bloc exports. The estimation result for NAFTA shows a robust intra-bloc export creation and associated with net export diversion. But none of the countries is found a positive effect on intra-bloc export creation. Even if the EU appears to have export creating and net export diverting effects, some of the countries are found to be positively affected due to the establishment of EU. In SADC, all countries except South Africa and Malawi are adversely affected by the creation of SADC. All countries under EAC also appear to have a negative extra-regional export flows.

A study was also conducted by Cernat (2003) to assess the impact of south-south regional integration using the gravity model. This shows that there are a significant trade creation effects with no evidence of trade diversion and moderate trade expansion effects within CARICOM, COMESA, ECOWAS and SADC. There is a significant expansion of trade in RTAs, COMESA members were more than twice within the bloc. The estimates of the gravity model on this study both intra and extra-regional trade, except Andean Community and the MERCOSUR, are positive. This suggests that the intra-RTA trade increases more than trade with non-members emanated from the formation of RTA.

The net impact of RTA on trade creation and diversion is ambiguous. It greatly relies on the export capacity of the partner country whether the partner country faces constant cost or not. As Panagaria (1998) notes that RTA can be net trade creating and net trade diverting in one sector and another sector respectively. So, it needs economic wide, multisectoral Computable General Equilibrium (CGE) models to determine the aggregate welfare and trade patterns of RTA.

By using multi-country CGE models; Lewis and Robinson (1996) and Lewis, Robinson and Wang (1995) analyzed the potential impacts of APEC and ASEAN. They found that the formation of RTA would generate welfare for member countries.

Empirical studies of RTAs using CGE models, Robinson and Thierfelder (1999), find that aggregate trade creation is much larger than trade diversion and thereby RTAs increases welfare. Even though trade diversion can be dominant in some analytical models, no empirical evidence in any of the general equilibrium models can prevail. Bhagwati and Panagaria argue that RTAs are a bad idea with focus on trade diversion.

Empirical evidence suggests that RIAs involving developing countries have had little, if any, impact on intra-regional trade. By having comprehensive survey, Langhammer and Heimenz (1990), find that no case in which the RIA made developing countries a significant contribution to trade expansion. Among SSA, only SACU has achieved a significant integration of a goods market as of South Africa is key member (Radelet, 1997). After the immediate formation of the RTAs, CEAO appeared a modest positive intra-regional trade, but trade growth stagnated thereafter. Within SSA, other RTAs had no discernable impact (Foroutan and Pritchett; 1993).

The records of regional trade arrangements have been some what better in industrialized countries, such as the EC, where RTAs are generally considered to be increased trade. There are several reasons for this different outcome between industrialized countries and developing countries (de la Torre and Kelly, 1992). First, trade creation appears to be larger in industrialized countries' RTAs at least partially, because member countries were more integrated even before the agreement. Second, industrialized countries have exploited the gains from intra-industry specialization and product differentiation. The expansion of intra-industry trade has been experienced in EC. But the market for differentiated products and the intra-industry trade is more limited in poorer countries. Third, the implementations of agreed policy changes often ahead of schedule within industrialized countries' RTAs.

One of the reasons for many RTAs in developing countries to fail in achieving their specific objectives can be traced directly to their strategy based on import-substitution towards industrialization. The inward-oriented strategy has failed consistently to expand trade and industry within RTAs (de la Torre and Kelly, 1992). Expanding intra regional trade as a substitute for world trade rather than fostering competition indeed, trade diversion was an implicit objective of many RTAs (Langhammer, 1992). As a result of internal conflicts over the distribution of costs and benefits of regional integration, many RTAs

have broken down. Alemayehu and Haile (2006) shows Kenya and Zimbabwe dominate intra-COMESA trade. In fact, COMESA countries are extremely dependent on “Third countries” for their exports and imports, and their exports are primary commodities. This also shows that the low level of intra-REC trades in Africa. The countries of SSA continue to be inward oriented and having only modest trade linkages. The comparable shares were for ASEAN 19 percent, NAFTA 42 percent and the EC 61 percent (Foroutan, 1993). Foroutan and Pritchett (1993) have also fitted a gravity model to show the relatively small share of intra-regional trade in SSA with a given relative income levels and the geographical characteristics of the countries in the region. The potential for diversion of trade is high and gains from expanding existing trade are relatively small emanating from the small existing trade linkages (Radelet, 1997).

A study also conducted by Gbetnkom (2007) using the gravity model to assess the market implications of COMESA’s accession to the FTA. The study was confined to annual bilateral exports between 27 reporting countries and 32 partner states during 1993-1996 and 1998-2002. The study shows that the intra-COMESA trade presents a positive sign that statistically significant in both sub-periods. This shows marked increases in trade between member countries of COMESA. Same study further investigates the trade diversion effects of COMESA. Both trade creation and trade diversion effects occur simultaneously over the aforementioned periods in COMESA. However, the trade creation effect is dominating more than trade diversion, even though the union has been exhibited lower intra-COMESA trade.

In contrast to the above study, Alemayehu and Haile (2006) fitted the gravity model to assess the performance of a regional bloc. They have concluded that regional trade integration has failed to achieve its main goals of increasing intra-regional trade. This has been the case in the COMESA region. In a particular study Sisay and Adugna (2002) have estimated Ethiopia’s trade

with the rest of African economies using the tobit random effects model. The results of the regression reveal that only IGAD membership can increase export, import and trade of Ethiopia. Similar results are obtained while they estimate a separate model for Ethiopia's trade with only COMESA member countries.

Musila (2004) employs the cross sectional gravity model to examine the impact of the COMESA on the flow of Kenya's exports to 74 countries. The empirical results suggest that COMESA has the effect of trade creation. No evidence for trade diversion is found. Accordingly, COMESA has helped to improve Kenya's export performance.

This particular study of mine examines the impact of Ethiopia's COMESA membership on its export performance with a view to determining whether or not COMESA as a regional bloc helps to promote and diversify Ethiopia's exports. Thus, the tobit random effects of the gravity model is estimated to show Ethiopia's export activities to 20 major trading partners from all over the world using a panel data estimation techniques.

CHAPTER THREE

3.1. An Overview of Regional Economic Integration in Africa

3.1.1. History and Objectives of African Economic Communities

The organization of African Unity (OAU) was established in 1963 with the aim of African unity as well as the broad issue of African development. The idea of building economic links among African countries was equally accorded some prominence by the OAU. The OAU heads of state and government second extraordinary session in Lagos, Nigeria, adopted the Lagos plan of Act (LPA) and the Final Act of Lagos (FAL) in 1980 towards to regional integration in Africa. These commitments culminated in the signing of the Treaty in Abuja, Nigeria, in 1991 to set up an African common market as a prelude to the establishment of an African Economic Community (AEC).

The aim of the AEC specified in the Treaty is promoting economic, social and cultural development as well as African economic integration in accordance with self-sufficiency and endogenous development and to create a framework for development, mobilization of human resources and material. The AEC further aims to promote cooperation and development in all aspects of human activity in order to raise the standard of living of Africa's people, to maintain economic stability and establish a close and peaceful relationship between member states. In 1994, the AEC (or the Abuja Treaty) had received a number of ratifications, thus coming into force by providing for the AEC to be set up through a gradual process. It would be achieved through coordination, harmonization and progressive integration of the activities of existing and future Sub-Regional Economic Communities (RECs) in Africa. RECs are considered as the building blocks of AEC (ECA, 2004).

- a) In North Africa, the Arab Maghreb Union (AMU), whose 5 members encompasses all of North African countries
- b) The community of Sahel-Saharan States (CEN-SAD), whose 18 members are in West, Central, Southern, and North Africa
- c) The Common Market for Eastern and Southern Africa (COMESA), having 19 members include all of East African countries except Tanzania
- d) The Economic Community of West African States (ECOWAS), having 15 members cover all of west Africa
- e) The Southern Africa Development Community (SADC), having 14 members covers all of Southern Africa
- f) The Inter-Governmental Authority on Development (IGAD), whose 10 members are of the Horn of Africa; and
- g) The Economic Community of Central African States (ECCAS), having 11 members span central Africa

Some geographically more limited RECs exist as subsets of the above; the Central African Economic and Monetary Community (CEMAC), the East African Community (EAC), the Economic Community of Great Lakes countries (CEPGL), the Indian Ocean Commission (IOC), the Mano River Union (MRU), the Southern Africa Customs Union (SACU) and the West African Economic and Monetary Union (UEMOA).

3.1.2. Trading Among Regional Economic Communities

Despite greater efforts of trade liberalization schemes and reforms, Africa's experience with regional integration reveals that inter-Africa trade remains low and undiversified (ECA, 2004). Of the total merchandise exports, intra-African trade accounted 8.9 percent in 2005. Similarly around 90 percent of its imports originate from outside Africa.

The share of trade of each group within the REC itself and with the rest of Africa has been assessed, on average between 2000 and 2005. The intra-

RECs exports were highest in SADC (19.9 percent) followed by ECOWAS (13.9 percent) and CEN-SAD (12.2 percent). ECCAS (0.7 percent) has accounted the least traded among themselves. With regard to imports, SADC accounts the largest shares of imports from their community market followed by ECOWAS. In terms of trade within the African continental market, SADC countries registered the highest percentage of exports to Africa (22.19 percent) followed by ECOWAS (19.38 percent) and COMESA (17.34 percent). On imports, SADC ranks highest, followed by COMESA. In the area of intra-regional trade, the SADC experienced some success in recent years. The dominance of SADC intra-community trade, partly reflecting South-Africa's largest economy and other strong export-oriented economies, such as Mauritius, also contributed. There appears to be some encouraging signs of growth of intra-REC trade in most RECs. In terms of the share from total trade, however, the fact that the majority of RECs, over 80 percent of were destined to markets outside Africa, with EU and USA accounting over half of the export market. Africa is also dependent on the exports of developed countries for manufacturing items.

Africa's total merchandize exports amounted to 297.7 billion dollars, with intra-African trade accounting for 26.5 billion dollars (or 8.9 percent) in 2005. The major export commodities, fuels and mining constitute over 65 percent in 2005. Over 70 percent of Africa's fuel and mineral exports went to Europe and North America, while 4.8 percent served the African market. Most of the export items of Africa constituted undiversified primary commodities and the import demands of Africa are mainly manufacturing items that could not be fulfilled by intra-REC, and intra-continent, trade.

3.1.3. Outstanding Issues in African Economic Integration Process

Africa has a large number of regional economic groups; most of them have been established since the Abuja Treaty in 1991. Actually the schemes have been implemented, as opposed to proposed, do not go further than customs

union (Lyakurwa, et.al, 1997). This suggests that Africa's regional integration has been hampered by low level of implementation of treaties.

3.1.3.1 Revenue Loss

The theory of Free Trade Area (FTA) states that a loss of revenue due to elimination of tariffs in a regional grouping is more of an opportunity than a threat since the revenues transfer from government being collected for public expenditure purpose to private sector importers and producers. The reduction of tariffs in economies where it is considered as the most significant sources of government revenue, especially in Africa, complicates the inter-temporal trade-off between the short-term loss of revenue and the expected long-term benefits coming from regional integration (Alemayehu and Haile, 2006). By having the assumption of free trade (i.e. zero tariffs), the estimated loss of total tax revenue is less than 0.5 percent of GDP for all African RECs emanating from full liberalization of inter-regional trade (Teshome, 1997). The likely potential loss of revenue in intra-COMESA trade is low owing to the low level of intra-regional trade. For instance, Ethiopia's revenue loss resulted from liberalization of trade in COMESA is less than 1 percent since its trade with COMESA is insignificant (Alemayehu and Haile, 2006).

3.1.3.2 Overlapping Membership

Overlapping membership, being a member of many regional groupings simultaneously, is a common phenomenon in Africa (except in North Africa). In East and Southern Africa, some countries are members of both SACU and SADC or both COMESA and SADC. Similarly, many countries that are members of ECOWAS also belong to UEMOA in West Africa. The overlapping membership of large groups and the existence of subset groups within large groups sometimes referred to as "variable geometry approach". For instance, Lyakurwa, et.al., (1997, p.196) contends, "in the African context, such an approach of variable geometry could, for example, mean making genuine

progress at ECOWAS level while maintaining the achievements and benefits of UEMOA". The argument why African countries prefer to participate in multiple groupings is to maximize the benefits of integration and minimize the losses by diversifying risks. Countries with weak economic background could spread the cost of integration, and benefits from in each regional scheme (ECA, 2004).

Other argues as a contrary; overlapping membership can constitute an obstacle to the process of regional trade integration by duplicating efforts and resources associated with the membership and fragmentation of markets. There have been conflicts between Kenya and South Africa associated with rules of origin. The South African goods' freely entering into Kenyan market via other countries, which are members both COMESA and SADC, because Kenya is not a member of SADC, South Africa imposes tariffs on Kenyan goods entering its market (Umurungi, 2005). This gives signal to question how SADC and COMESA achieve harmonization of policies. Furthermore, member states will be burdened by not only multiple financial obligations, but also different meetings, customs procedures, policy harmonization decisions, instruments, and schedules. The relevant question seem be worth whether sub-regional groups are serving as building blocks or stumbling blocs to a continent wide integration (Alemayhu and Haile, 2006)?

3.1.3.3 Compensation Issues and Variation in Initial Condition

In the absence of effective compensation measures for the cost of integration, economic integration cannot be viable. Fair distribution of benefits and costs among member states is the root cause of conflicts between such countries. Because more developed countries benefit more than less developed countries, whilst there are no compensatory measures. However, most countries are scared about fierce competition from relatively well industrialized member states rather than revenue loss such as Kenya, Mauritius and South Africa (Alemayehu and Haile, 2006). Surprisingly, there

is no redistributive or compensatory mechanisms designed in the COMESA framework. The implementation of compensation issue is a complex exercise, even if gainers agree to compensate losers. These have contributed to the low level in implementing trade liberalization measures in Africa.

3.1.3.4 Issues of Complementarity

Most of African countries produced and traded a few similar and primary commodities, which face a declining income elasticity of demand in the international market. They are also excessively dependent on the importation of industrial goods. The lack of structural complementarities may hamper division of labor and specialization to generate appreciable gains on regional integration. The members of COMESA face a challenge to change their industrial structures and introduce new export commodities. Their export nearly similar primary commodities and import manufactured goods from their main trading partners, EU (Alemayehu and Haile, 2006). This depicts the non-complementarity nature of intra-REC trade.

3.1.3.5 Poor Private Sector Participation

Efforts in regional integration so far have been dominated by governments; the private sector has no part towards in the formulation and implementation of integration policies and programs in most of African countries. The treaties of AECs needed to place the role of the private sector participation in policy and decision making, as the driving force in cross-border investment and in development of infrastructure and provision of services. Country level studies in SADC and COMESA shows that, lack of government resources to ensure full participation of private sector, and some participation is limited for officials in the chamber of commerce (Alemayehu and Haile, 2006).

3.2. The Review of COMESA Region

3.2.1. Establishment and Objectives of COMESA

The preferential Trade Area Agreement between the heads of state and government of Eastern and Southern Africa on December 21st 1981 in Lusaka, Zambia, which signed the treaty and protocols, and entered into force definitely on September 30th 1982. COMESA was formally established on December 1994, replacing the Preferential Trade Area (PTA) which had been in existence since 1981. As of today, COMESA is a regional integration grouping of 19 African states which have agreed to cooperate in development of their natural and human resources for the mutual benefit of all their people. The member states, namely: Angola, Burundi, Comoros, DR Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia and Zimbabwe. The idea of PTA originated within the framework of the OAU's Lagos plan of Act and Final Act of Lagos with the aim of African Economic Community through sub-regional economic organization.

The COMESA Treaty encompasses a large number of sectors and activities; however, the commitment of the complete COMESA mandate is given as a long-term objective. The priorities have been defined within COMESA, over the medium term, as the "Promotion of Regional Integration through Trade and Investment", to achieve COMESA as effective institution (UNCTAD, 2003). This is done by promoting "outward oriented" regional integration through trade and investment in order to become part of the global economy within the framework of WTO and other international agreements. The aims and objectives of COMESA as defined in the Treaty and Protocols are to facilitate the removal of the structural and institutional weaknesses of member states to enable them attain collective and sustained development.

The objectives outlined in the PTA were improving cooperation in the development of economic endeavors, so as to achieve the highest standard of living of its society ; fostering peaceful relation ship among member states; and there by the establishment of common market (ADB, 2000). But the objectives of COMESA are more specific as a contrary to the PTA's ones. The major objectives of COMESA are defined in the Treaty and its Protocols:

- a)** a full trade area guaranteeing the free movement of goods and services produced within COMESA and removal of all tariffs and non-tariff barriers;
- b)** a custom union under which goods and services imported from non-COMESA to an agreed single tariff in all COMESA states;
- c)** free movement of capital and investment supported by the adoption of common investment practices in order to create a more favorable investment climate;
- d)** gradual establishment of a payments union based on the COMESA Clearing House and the eventual establishment of a common monetary union with a common currency;
- e)** the adoption of a common visa arrangement which will eventually lead to the free movement of persons.

3.2.2. Achievements of COMESA

a) Trade liberalization is one of the COMESA's key objectives with the aim of establishing a Free Trade Area (FTA) by the year 2000. Even though member states have agreed on a tariff reduction schedule, only 13 countries have achieved the FTA of COMESA as of 2006 (COMESA Annual Report, 2006). To improve this situation, two important changes to the Treaty were made. Accommodation of multi-track (or variable geometry), so that fast-track tariff reduction can take place along side the slower states, and imposing sanctions on those countries that do not meet implementation deadlines (ADB, 2000). Elimination of non-tariff barriers: export and import licensing, quantitative

restrictions, foreign exchange rationing, and other restrictions have been largely eliminated to facilitate intra-regional trade.

b) The review and restructuring of rules of origin have simplified, with more scope for import content, by adopting a 35 percent local value added criterion, by taking into account further changes at international trading practices.

c) As part of the process of facilitating trade under the Treaty, simplification and harmonization of trade statistics and customs procedures and documents will be undertaken by COMESA (COMESA's Vision and Strategy in to 21st century, 2001). These will incorporate the adoption of a single COMESA Customs Document (COMESA-CD) for clearance of customs warehousing, re-export and transit purposes; and the installation of efficient customs management systems to facilitate intra-regional trade using the Automated System for Customs Data Management (ASYCUDA).

d) The COMESA Customs Bond Guarantee Scheme and Advanced Cargo Information System to facilitate transit traffic and for cargo tracking, respectively.

e) The establishment of the Trade and Development Bank (PTA Bank) to facilitate the process of regional integration by boosting investment and offering trade financing facilities.

f) The development and implementation of competition policy/COMESA FTA is compatible with WTO enabling clause and Article XXIV on regional groupings.

3.2.3 COMESA Free Trade Area (FTA)

The establishment of FTA involves elimination of tariffs among members whilst each country maintains its own tariff and protection policy against non-members. FTA is a best approach in boosting economic growth through

efficient utilization of resources, competitiveness, technology spillovers and capacity building though, it is not risk proof thought and practice, resulting from there are a winners or losers in the process (Tekle, Kamayama, Ito; 2005).

The COMESA FTA was established with in aim of an integrated market for trade in trade in goods and services and to increase the COMESA region's comparative advantage towards to the world market. The benefits generating from comparative cost theory is through global competition, with the reduction of tariff and non-tariff barriers, to make sure investment is directed to particular country's sectors which is most competitive. The FTA is serving as a catalyst by increasing competition in domestic markets, lowering prices, improving quality, and making products that are more competitive in global markets. The FTA increases regional competition before infant domestic industries face unfair big competition brought by globalization.

The COMESA FTA has emphasized the need for the following instruments to be adopted so that the free trade will be a useful stepping stone to deeper regional integration and promotes economic growth (UNCTAD, 2003);

- a)** development-oriented Rules of origin;
- b)** a rules-based trading system;
- c)** open competitive investment policies and national treatment;
- d)** a level playing field (a common external tariff and customs union);
- e)** an effective and efficient regional regulatory environment;
- f)** the existence of a high level of advocacy and "championship."

3.2.4 Status of FTA participation

Participation of member countries within COMESA has divided in to two parts; namely FTA and Non-FTA COMESA. Thirteen COMESA member states participating in the FTA are: Burundi, Comoros, Djibouti, Egypt, Kenya,

Libya, Madagascar, Malawi, Mauritius, Rwanda, Sudan, Zambia and Zimbabwe by the year 2006 (COMESA Annual Report, 2006). However, they have erected their national external tariffs for goods originating from outside COMESA FTA. Trading among the FTA and non-FTA COMESA countries on preferential basis based on the reduction of tariff by the non-FTA country. DR Congo, Eritrea, Ethiopia, Seychelles, Swaziland and Uganda are yet not participating in the FTA. Ethiopia is studying the impact of FTA on her economy.

3.2.5. Trading among COMESA member Countries

Although the intra-regional trade increased in COMESA, its share in the COMESA world trade remains small. In contrast to other RECs, regional integration in COMESA failed to increase trade between member countries. Between the years 1980-1990, the intra-trade in ASEAN was 120 percent and in SADC was 880 percent while in COMESA it was only 60 percent (Umurungi, 2005).

Since the level and growth of intra-regional trade is one of the measures of progress in regional integration, the intra-COMESA trade has increased to US\$ 6.3 billion in 2005 as compared to US\$ 4.5 billion by the year 2004 (COMESA Annual Report, 2006). Although all sectors contributed to this relatively high intra-regional trade, agricultural raw materials bets first increased by 87 percent; manufactures and fuels also increased by 40 percent and 37 percent gains, respectively.

Table 3.1**Intra-COMESA Trade: (million us \$)**

	1999	2000	2001	2002	2003	2004	2005
Exports	1343.8	1443.6	1285.8	1828.5	1573.5	1758.4	2554.0
Re-Exports	21.3	200.1	400.1	267.9	475.0	531.3	623.9
Total Exports	1365.2	1643.7	1685.9	2096.4	2048.5	2289.7	3178.0
Imports	1142.6	1374.4	1689.4	2146.8	2140.6	2216.1	3152.0
Total-Trade	2507.8	3018.1	3375.4	4243.2	4189.2	4505.8	633.0

Source: COMESA Annual Report, 2006

With the advent of the COMESA FTA, there has been a significant increase in intra-COMESA trade. Trade within COMESA FTA has increased to US\$2.7 billion in 2005. In other words, intra-FTA trade registered a 27 percent increase by the year 2005. Tea has taken the lion's share in tradable commodity followed by petroleum, tobacco, alginic acid, cotton and cement.

Table 3.2**Intra-FTA Trade: (million US\$)**

	2000	2001	2002	2003	2004	2005
Exports	653.9	572.8	854.0	678.4	948.4	1102.2
Re-Exports	70.8	213.1	74.4	152.8	148.0	216.1
Total Exports	724.7	785.9	928.4	831.2	1096.4	1318.3
Imports	640.2	802.7	1079.0	1026.5	1084.8	1451.6
Total Trade	1364.8	1588.6	2007.3	1857.7	2181.2	2769.9

Source: COMESA Annual Report, 2006

3.2.6. Challenges of COMESA in the Global and Regional Economy

An open world trading system is seen as enhancing the living standards of all people of the world by opening trade and increasing competition. The goals of regional integration are consistent with those of the WTO, but it often seen as either being good if it is trade creating or bad if it is trade diverting within a global economy. COMESA has faced a challenge to ensure an outward oriented trade and investment regime in the global economy. Because globalization exposes to competitive market forces, those nations can not able to compete in a world market will loss out this is increasingly dominated by large economies. Most COMESA countries are individually too small to achieve economies of scale with their small domestic market, undiversified production bases and poor infrastructures. Incapability of expanding the effective size of markets, improving access to export markets, provision of incentives for foreign direct investment (FDI) and increasing productivity are other challenges that have been faced by COMESA in to 21st Century, 2001).

The economic performance of Sub-Saharan Africa closely mirrors situation in the COMESA sub-region. Unfavorable weather conditions, civil war, policy flaws, mounting debt, poor external terms of trade and other external shocks are to be known. Although the region is endowed with high population, the region is suffering from skilled human resources due to AIDS scourge, brain drain as major ones. Despite promising signs of economic growth depicts in the last half of 1990s, the COMESA region still manifests illiteracy, poverty and diseases. The decline in education, health care, social services and employment levels are evidence for the devastating effects of debt on economies of COMESA countries

CHAPTER FOUR

4.1 Ethiopia's Trade Performance

4.1.1 Export Structure and Performance

Like most of the Least Developed Countries (LDCs) in Africa, commodity structure of the Ethiopian export sub-sector is a mirror reflection of the country's overall economic structure at large. The nation's exports are highly comprised agricultural commodities, while the share of non-agricultural products in total merchandize exports is almost insignificant. The country keeps export of the same primary commodities, dominated by coffee as it has been doing decades ago.

The amount of total merchandize exports USD 1000.3 million in 2005/06, raised by 18 and 66 percent as compared to the preceding two years. The robust growth of export earnings was mainly due to improvements in all components of exports, except *chat*⁵ and fruits and vegetables.

As shown on the table, coffee is a chief export commodity but has been slightly declining from 37.2 percent in 2003/04 to 35.4 percent in 2005/06. Recently oilseeds have become the second most important export commodity followed by *chat*. Export of oilseeds, meat and meat products, live animals and flowers depicts a noticeable performance in the last three years.

⁵ a mind stimulant

Table 4.1
Values of major export Items

Particulars	2003/04	% Share	2004/05	% Share	2005/06	% Share	Percentage Change	
	A		B		C		C/B	C/A
Coffee	223.5	37.2	335.2	39.6	354.3	35.4	5.7	58.5
Oilseeds	82.7	13.8	125.0	14.8	211.4	21.1	69.1	155.7
Leather & Leather Products	43.6	7.3	67.6	8.0	75.0	7.5	10.9	72.1
Pulses	22.6	3.8	35.4	4.2	37.0	3.7	4.3	63.7
Meat & Meat Products	7.7	1.3	14.6	1.7	18.5	1.9	27.1	139.4
Fruits & Vegetables	12.7	2.1	16.1	1.9	13.2	1.3	-17.9	3.7
Live Animals	1.9	0.3	12.8	1.5	27.6	2.8	115.1	1342.9
Chat	88.0	14.7	100.2	11.8	89.1	8.9	-11.1	1.2
Gold	48.7	8.1	59.4	7.0	64.7	6.5	9.1	32.9
Flowers	2.3	0.4	7.8	0.9	21.8	2.2	177.8	832.1
Others	66.7	11.1	73.0	8.6	87.8	8.8	20.3	31.6
Total	600.5	100.0	847.2	100.0	1000.3	100.0	18.1	66.6
Non-Coffee	377.0	62.8	512.0	60.4	646.1	64.6	26.2	71.4

Source: Ethiopian Customs Authority Publication, 2006

A significant change has been also taken place in ranking of the export trading partner countries of Ethiopia by the year 2005/06. Export of Ethiopian commodities to Germany which is estimated at 1.14 billion birr in 2004/05 declined to 867.1 million birr in 2005/06 bringing Germany to second place among countries of destination of export commodities from Ethiopia. Even though the volume of export trade to Japan and Saudi Arabia, both among the top on the list of countries to which Ethiopia exports its

commodities, increased, the ranking of both among the major trade partners moved down during the fiscal year 2005/06.

China, the country to which Ethiopia exported commodities worth 396.8 million birr in the fiscal year 2004/05 stood at the fourth place among the export trade partners of Ethiopia. Probably the major change which has taken place with regard to country of destination of Ethiopian commodities relates to China. In the fiscal year 2005/06, with a total value of export to China amounting birr 1.18 billion and its 13.4% share in total export of Ethiopia, China surpassed Germany, Japan and Saudi Arabia and ranked first among export trading partners of Ethiopia.

The decrease in the volume of export to Germany, together with the significant increase in export to China, brought Germany, whose share in the total export of Ethiopia is estimated at 9.8 percent, to the second place among export trading partners of Ethiopia. Similarly, Japan with its share of 7.8 percent in total export of Ethiopia, moved to the third place in 2005/06 against at second rank in 2004/05. The increase in the volume of gold exported, increased the volume of export trade with Switzerland, the number one trading partner in gold. This increase resulted in changing the position held by Switzerland which moved up from eighth place among the major trading partners in 2004/05 to fourth place in 2005/06 Ethiopian fiscal year. Switzerland accounted for 6.6 percent of total export of Ethiopia. With respect to other export trading partners of Ethiopia, only a slight change has taken place in 2005/06 which resulted in minor reshuffling in ranking of export partner countries.

Concentration of export in a limited number of countries is clearly seen from the structure of Ethiopian foreign trade. In 2005/06 fiscal year, the top 15 export trading partners of Ethiopia constituted 80.3 percent of the total annual export of the country. All 15 countries have imported commodities worth more than 200 million birr each.

Table 4.2**Top 20 Export Trading Partners of Ethiopia (in thousands birr)**

Country of Destination	2004/05		2005/06		Growth Rate in 2005/06 in %	Change in Ranking in 05/06 Compared to 04/05
	Value	Rank	Value	Rank		
China	396,816.6	4	1,180,679	1	197.5	-3
Germany	1,144,796.9	1	867,147	2	-24.3	+1
Japan	529,582.3	2	692,476	3	30.8	+1
Switzerland	287,786.7	8	583,218	4	102.7	-4
Saudi Arabia	422,142.6	3	541,619	5	28.3	+2
Djibouti	361,562.2	7	497,593	6	37.6	-1
Italy	381,323.8	6	484,556	7	27.1	+1
United States of America	385,182.5	5	417,775	8	8.5	+3
Somali Land	229,452.0	12	399,851	9	74.3	-3
Netherlands	256,301.6	9	335,850	10	31.0	+1
United Arab Emirates	248,890.1	10	248,407	11	-0.2	+1
United Kingdom	213,728.4	13	238,391	12	11.5	-1
Belgium	211,380.4	14	233,954	13	10.7	-1
Sudan	137,306.6	19	214,005	14	55.9	-5
Yemen	156,513.7	17	200,721	15	28.2	-2
France	141,732.1	18	179,152	16	26.4	-2
Israel	175,029.1	16	175,586	17	0.3	+1
Egypt	50,042.1	15	134,209	18	168.2	-5
Somalia	245,221.9	11	126,756	19	-48.3	+8
Turkey	108,677.5	20	124,056	20	14.2	0

Source: Ethiopian Customs Authority Publication, 2006

With regard to the direction of Ethiopia's exports, Europe was a major trading partner accounting for nearly half of its export for decades. However, according to the foreign annual trade, there is an indication of a shift from European to Asian markets by the year 2005/06. Export share to Europe has been consistently declining from 43 percent in 2004/05 to 35.6 percent in 2005/06, while the opposite has been taking place to Asia from 33.5 percent in 2004/05 to 40.3 percent in 2005/06. This moved Asia to the forefront leaving Europe behind. The share of Africa, the third in the order of importance, increased from 15.7 percent in 2004/05 to 16.5 percent in 2005/06 while that of North and Central America decreased from 6.5 percent to 5.4 percent. The respective share of South America as well as Australia and Oceania remained at a very low level (0.1 and 0.4 percent of the total export of Ethiopia in 2005/06).

During 2005/06, China was the major recipient country out of the total exports to Asia with 34.4 percent, Japan (20 percent) and Saudi Arabia (15.7 percent). China and Japan are the main importers of oilseeds and coffee respectively. Within Europe, Germany was the main importer of coffee and flower (26.9 percent), followed by Switzerland (17.7 percent), the sole importer of gold and, Italy (14.5 percent). Among African countries, Djibouti and Somalia took the lion's share which claims 60 percent of exports to Africa as mainly for the export of *chat*, fruits and live animals. Similarly, over 96 percent of export to America went to the USA (86.6 percent) and Canada (10.4 percent).

The lack of diversification, both in the type of commodity and direction of exports, for nearly half a century is a witness for the lack of structural change in production, where traditional mode of production in agriculture remains predominant, yet (Berhanu Nega et.al., 2002). Ethiopia heavily depends on agriculture for its foreign exchange earning even today. Ethiopia could not

exploit its comparative advantage emanating from its geographic proximity to the African market, and the country has been withdrawn from both the richest markets in the world, USA and Europe.

4.1.1.1 Export to COMESA Member Countries

The commodities traded by COMESA member countries being more or less similar. Most of Ethiopia's exports to COMESA member countries comprised by mainly vegetable products, animal products and live animals. The export of Ethiopian commodities to the member countries is insignificant. This is not to undermine the developments observed in this line. The total export of Ethiopia to COMESA member countries in 2005/06 reached more than 885 million birr, 48 percent more than what was exported to countries belonging to the regional economic grouping in the preceding fiscal year. The 48 percent growth rate of export to this group of countries compared to 24.7 percent growth rate in total export of Ethiopia during the fiscal year 2005/06 shows the increasing importance of COMESA member countries as destination of export of Ethiopian commodities.

While Ethiopia exports commodities to 12 COMESA member countries, of the total export estimated at birr 885.6 million, four countries, namely Djibouti, Sudan, Egypt and Kenya accounted for birr 867.7 million (98 percent). Even though at a varying rate, trade with all four major trading partners of Ethiopia among the countries belonging to regional economic grouping has increased during the fiscal year 2005/06.

Table 4.3**Export to COMESA Member Countries (in thousands birr)**

Country of Destination	2004/05	2005/06	Growth Rate in %
Angola	734.9	595.4	-19.0
Burundi	140.2	-	-100.0
Congo, Democratic Republic	4,383.6	1,256.3	-71.3
Djibouti	361,562.2	497,593.3	37.6
Egypt	50,042.1	134,209.3	168.2
Kenya	19,320.9	21,868.7	13.2
Libyan Arab Jamahiriya	4,656.5	-	-100.0
Madagascar	1,834.8	65.6	-96.4
Rwanda	20.7	687.8	3226.5
Sudan	137,306.6	214,005.5	55.9
Swaziland	16,670.8	12,398.2	-25.6
Uganda	25.1	105.9	322.5
Zambia	1,208.9	2,264.0	87.3
Zimbabwe	515.6	603.5	17.0
Total	598,422.8	885,653.4	48.0

Source: Ethiopian Customs Authority Publication, 2006

Trade with Djibouti, the leading export destination both among COMESA member countries as well as the whole Africa, has increased during the fiscal year from birr 361.6 million to birr 497.6 million with annual growth rate of 37.6 percent. The second major trading partner, Sudan has imported commodities worth 214 million birr in 2005/06 against 137.3 million in 2004/05. This puts the growth rate of Ethiopian export to Sudan at 55.9 percent. Egypt puts the third among importers of Ethiopian commodities, imported commodities worth 134.2 million birr in 2005/06. This figure compared to birr 50 million in 2004/05 shows 168 percent growth during the fiscal year. The increase in the volume of export to Djibouti and Sudan is attributed to proportionate increase in all commodities exported to the two countries while increased export of live animals played the major role in increasing the export to Egypt. Despite their proximity and preferential

trading arrangement, COMESA member countries had a very insignificant share in total export of Ethiopia. This can be explained by the type of commodities the member countries trade with, which is identical in nature.

4.1.2 Import Structure and Performance

During the last three years, Ethiopia's imports were mainly composed of capital and consumer goods. Imports of capital goods increased by 21 and 65.7 percent reflect the continued rise in imports of machinery and equipment. Imports of consumer goods also increased to USD 1281.9 million in 2005/06 from USD 986 million a year earlier, resulting from higher imports of motor vehicles, cereals, medical and pharmaceuticals and textile fabrics. Fuel imports has accounted for 18.7 percent of total imports, thus indicating the importance of fuel in total import basket.

According to the NBE annual report (2007), by the year 2005/06 over half of Ethiopia's imports (55 percent) originated from Asia followed by Europe (29 percent), America (10 percent) and Africa (6 percent). Within Asia, China (24 percent) and Saudi Arabia (27 percent) were the first two suppliers of Asian goods to Ethiopia. Among European countries, the lion's share of Italy (20 percent) followed by Germany (13.5 percent) and Belgium (8 percent). USA and Brazil have accounted over 94 percent of imports from America. At the regional level, 52 percent of the import originated from Djibouti and Egypt within COMESA.

Of the total imports of Ethiopia from the COMESA region, Egypt, Sudan, Kenya and Djibouti have taken this form of ranking. The shares of Egypt, Sudan, and Kenya as a source of imports have increased while the share of imports from Djibouti has been declined.

4.2 Export Promotion Efforts in Ethiopia

The policy adopted both in the Imperial and Military government was characterized by strongly inward-oriented development strategy through exchange rate pegging to the US dollar for a long period of time, high tariff rates, extensive foreign exchange control and other non-tariff barriers as well as heavy taxation on exports. Even though both previous governments were pursuing import substitution strategy, they made effort to promote exports and diversify the entire export commodities. But the Ethiopian export products remain undiversified and still concentrated on very few primary commodities. In 1991/92, Ethiopia pursued the Structural Adjustment Program (SAP) initiated by the World Bank and the International Monetary Fund (IMF) to address the internal and external imbalances of the economy. The measures undertaken involved deregulation of domestic prices, liberalization of foreign trade, devaluation of the national currency, significant reduction in tariffs and non-tariff barriers and others. As a result of these trade policy reforms, there is a decrease in anti-export bias incentive structure and an increase in export volume and earning (Debel Gemechu, 2002).

Its success in enhancing exports, however, in manufacturing export is highly limited. Regardless of many factors that affect exports, the problem has been the greater emphasis largely given to the increasing volume of production of the traditional primary commodities, on the belief that Ethiopia has comparative advantage on these commodities (Berhanu Nega, et.al. 2002). Now there is a change in government's policy towards export promotion, provision of such services is recognized as essential.

An Export Promotion Council (EPC) was set up in 1992 to design, implement and monitor export development policies (DTIS, 2005). The Ethiopian Export Promotion Agency was established in 1999 as a successor to EPC with the

aim of conducting market research, facilitating participation of exporters in trade fairs, exhibitions and trade missions; and disseminating market information.

CHAPTER FIVE

5. Methodology of the Study

5.1 The Gravity Model

The gravity model has its origins in Newton's law of gravitation in seventeenth century. Newton's law of gravity in mechanics states that two bodies are subjected to a force of attraction force that depends positively on the product of their masses and negatively on their distance. Social scholars, a few centuries later, applied this law to social phenomenon of quite different nature the common character of which was transfers or flows between two or more entities or sources. Thus migration or traffic flows (not only of cars but of information too) were examined using this "law". Economists too applied it and Tinbergen (1962) is credited for his study of international trade flows using a gravity model.

The gravity model is analogues to Newton's law of gravity. The analogy is that bilateral trade is a function of attraction factors such as "economic mass" (generally measured by GDP) and resistance factors such as "economic centers of gravity" distance or various obstacles to trade.

$$\text{Trade}_{ij} = \alpha \cdot \frac{\text{GDP}_i \cdot \text{GDP}_j}{\text{Distance}_{ij}} \quad \text{-----} \quad (1)$$

Taking logarithms of the gravity model equations in (1) we get the linear form of the model and the corresponding estimable equation as:

$$\text{Log} (\text{Trade}_{ij}) = \alpha + \beta_1 \log (\text{GDP}_i \cdot \text{GDP}_j) + \beta_2 \log (\text{distance}) + u_{ij} \text{-----}(2)$$

Although the base line model gives relatively good results, there are other factors that influence trade levels. In light of this, most estimates of the gravity models add a certain number of dummy variables to(2) that test for specific effects; like being a member of a trade agreement, sharing a common land border, speaking the same language and so on.

5.1.1 Theoretical Justification of the Model

5.1.1.1 Linnemann's Approach (1966)

A number of factors that may be determined the flows of trade between any pair of countries say, the exports from country A to country B.

- a) total potential supply of country A_ the exporting country_ on the world market;
- b) total potential demand of importing country B-the importing country_ on the world market; and
- c) the “resistance” to a trade flow from potential supplier to potential buyer B

The “resistance” factors are cost of transportation, tariff wall, quota, etc

The potential supply of any country to the world market is linked systematically to the size of a country's national product and the size of a country's population.

In equilibrium, the potential supply and demand have to be equal in the world market. It implies that every country has a moderate price level in the long-run. But it needs that the exchange rate has been fixed at a level corresponding with the relative scarcity of the country's currency on the world market. There would be a permanent disequilibrium of the balance of payments, if the price level is too high or too low. The exchange rate will necessarily take place as an adjustment mechanism. Therefore, the general price level will not have an impact on a country's potential supply and demand except in the short-run.

In which $\gamma_1 = 1$ and γ_2 is negative. If we include per capita income, in spite of its limited significance, as one of the explanatory variables, we have

$$E^P = \gamma_0 Y^{\gamma_1} N^{\gamma_2} y^{\gamma_3} \dots\dots\dots (5)$$

The per capita income will not be introduced as individual variable because, as $y = Y/N$, the coefficients of this equation would be dependent. If its effect is at all significant, that would be incorporated “automatically” in the exponents of the two other variables:

$$E_p = \gamma_0' Y_1^{\gamma_1'} N_2^{\gamma_2'} \dots\dots\dots (6)$$

The potential supply (M^P) is also determined by identical forces:

$$M^P = \gamma_4' Y_5^{\gamma_5'} N_6^{\gamma_6'} \dots\dots\dots (7)$$

In principle, the potential supply and potential demand are equal to each other in equilibrium situation. So, $\gamma_0' = \gamma_4'$, $\gamma_1' = \gamma_5'$, and $\gamma_2' = \gamma_6'$

The trade resistance factor R can be replaced by two variables D and P with a negative exponent and a positive exponent respectively. The flow of trade equation would be as follows:

$$X_{ij} = \delta_0 \frac{Y_i^{\delta_1} Y_j^{\delta_3} P_{ij}^{\delta_6}}{N_i^{\delta_2} N_j^{\delta_4} D_{ij}^{\delta_5}} \dots\dots\dots (8)$$

Or

$$X_{ij} = \delta_0 Y_i^{\delta_1} N_i^{-\delta_2} Y_j^{\delta_3} N_j^{-\delta_4} D_{ij}^{-\delta_5} P_{ij}^{\delta_6} \dots\dots\dots (9)$$

5.1.1.2 Anderson's Approach (1979)

Anderson shows that the critique to Linnemann's theoretical explanation of the gravity equation. Linnemann saw the gravity equation as a reduced form from a four equation partial equilibrium model of export supply and import demand. Prices are excluded since they merely adjust to equate supply and demand. Anderson (1979) further presented an alternative theoretical model to explain the equation based on a Cobb-Douglas expenditure system.

The gravity equation is generally specified as:

$$M_{ijk} = \alpha_k Y_i^{\beta_{1k}} Y_j^{\beta_{2k}} N_i^{\beta_{3k}} N_j^{\beta_{4k}} d_{ij}^{\beta_{5k}} U_{ijk} \dots\dots\dots (10)$$

Where M_{ijk} is the dollar flow of goods or factor k from country i to country j as a function of incomes Y_i (Y_j), population N_i (N_j), and distance d_{ij} . Most often the flows are aggregated across goods on cross section data and sometimes on pooled data.

Assumptions: (1) identical homothetic preferences across regions, (2) products are differentiated by place of origin, (3) pure expenditure system by specifying that the share of national expenditure accounted for by spending on tradable is a stable unidentified reduced form function of income and population.

5.1.1.2.1 The Pure Expenditure System Model

Suppose each country specializes in the production of its own goods. Specialization is at the heart of trade theory according to identical and homothetic preferences. Further more, trade occurs with out friction, meaning that it is not impeded either by transport costs or tariffs. This implies identical Cobb-Douglas preferences everywhere. Prices are constant at equilibrium values and units are chosen such that they are all unity with cross section analysis. Thus, consumption of good i (in value and quantity terms) in country j (imports of good i by country j) is

$$M_{ij} = b_i Y_j \dots\dots\dots (11)$$

where b_i is the fraction of income spent on the production of country i
 Y_j is income in country j

The income must be equal to sales

$$Y_i = b_i (\sum_j Y_j) \dots\dots\dots (12)$$

By solving (11) for b_i and substituting in to (10), we get the simplest form of “gravity” model

$$M_{ij} = Y_i Y_j / \sum_j Y_j \dots\dots\dots (13)$$

5.1.1.2.2. The Trade-Share-Expenditure System Model

This adds to the Cobb-Douglas expenditure system for traded goods differing trade-non-traded goods split and produces an unrestricted gravity equation. Suppose all countries produce a traded and a non-traded good. In this formulation, the overall preference function is assumed weakly separable with respect to the partition between traded and non-traded goods: $U = u(g(\text{traded goods}), \text{non-traded goods})$. Individual traded goods demands are determined as if a homothetic utility function in traded goods alone $g(\)$ are maximized subject to a budget constraint involving the level of expenditure on traded goods. It is assumed $g(\)$ has the Cobb-Douglas form. The expenditure shares for any goods are identical across countries within the class of traded goods. So, for any consuming country j , θ_i is the expenditure in country i 's tradable good divided by total expenditures in j on tradable.

Let Φ_j be the share of expenditure on all traded goods in total expenditures of country j and $\Phi_j = F(Y_j, N_j)$.

Demand for i 's traded good in country j is

$$M_{ij} = \theta_i \Phi_j Y_j \quad \text{-----} \quad (14)$$

The balance of trade relation for country i implies that the value of imports of i plus domestic spending on domestic tradable equals the value of exports of i plus domestic spending on domestic tradable

$$Y_i \Phi_i = (\sum_j Y_j \Phi_j) \theta_i \quad \text{-----} \quad (15)$$

By solving for θ_i and substituting in to (14):

$$M_{ij} = \frac{\Phi_i Y_i \Phi_j Y_j}{\sum_j \Phi_j Y_j} = \frac{\Phi_i Y_i \Phi_j Y_j}{\sum_{ij} M_{ij}} \quad \text{-----} \quad (16)$$

In fact, if trade imbalance due to long-term capital account transactions is a function of (Y_i, N_i) , we may write the basic balance $Y_i \Phi_i m_i = (\sum_j Y_j \Phi_j) \theta_i$, with $m_i = m(Y_i, N_i)$, and substitute into (15) and (16)

This yields again the deterministic gravity equation

$$M_{ij} = \frac{m_i \Phi_i Y_i \Phi_j Y_j}{\sum_{ij} M_{ij}} \quad \text{-----} \quad (17)$$

This accounts for the theoretical explanation of the multiplicative form of the gravity equation, allows for an interpretation of distance and identifies its coefficients, and presents an efficient estimator for the gravity model. Anderson concludes that his application of the gravity model is an alternative to cross-sectional budget studies.

However the model is limited by the fact that it only holds for countries with identical preferences for traded goods, and identical structure in terms of trade tax and transport. Anderson's approach left unresolved some issues. First, it does not explain the unidentified part of the equation; the function specifying that trade's share of budget is dependent on income and population. Furthermore, the explanation did not include price variables.

The next approach is based on the Walrasian general equilibrium model, each country with its own supply and demand functions for all goods. Like Anderson, Bergstrand (1985) assumes constant elasticity of substitution (CES) preferences and applies Armington assumption. When Bergstrand tests his assumption for product differentiation, he concludes that price and exchange rate variables have plausible and significant effects on aggregate trade flows. His estimates indicate that goods are not perfect substitutes and that imported goods are closer to being substitutes for each other than substitutes for domestic goods. His empirical results indicate that the gravity equation is a reduced form of a partial system of a general equilibrium model with nationally differentiated products. Later, Bergstrand (1990) distances himself from the Heckscher-Ohlin model by assuming, within a frame work of Dixit-Stiglitz monopolistic competition, product differentiation between firms rather than between countries. Bergstrand assumes a two-sector economy with n monopolistically competitive sectors, and different factor proportions within each sector. This yields a comparable gravity equation.

Eaton and Kortum (1997) also derive the gravity equation from a Ricardian frame work, while Deardorff (1997) derives it from a Heckscher-Ohlin perspective. They argue that the increasing returns to scale model rather than the perfect specialization version of the H-O model is more likely candidate to explain the success of gravity equation. They also explained the variations in the volume of trade can be described by the models with imperfect product specialization than the models with perfect product specialization.

Evenett and Keller (1998) forwarded the following models in analyzing the theoretical foundations of the gravity equations:

- a)** technological differences across countries in the Ricardian model,
- b)** variations in terms of countries' different factor endowments in the H- O model, and
- c)** increasing returns at the firm level in the Increasing Returns to Scale (IRS) model.

Although these are belongs to perfect specialization models, the imperfect product specialization is empirically important. The theories of trade just only explain the reason for countries trade in different products but do not explain why some countries' trade links are stronger than others and why the levels of trade between countries tends to increase or decrease over time. The gravity model in this respect is a successful tool to explain the extent of trade.

As a result of economies of scale, the production activities locate in one country and the producers differentiate their products. The larger the country in national income associated with the larger the varieties of goods offered. The more similar countries are in terms of income, the more considerable intra-industry trade between them. With economies of scale and differentiated products, the volume of trade, thus, depends on country size in terms of national income. This is the concept of new trade theories, and it provides a

better explanation of empirical facts of international trade in terms of their pattern, direction and rate of growth.

The H-O and Ricardian theories of trade contradict with the trade in real world. According to H-O model, the larger the differences in factor abundances between two countries associated with the larger trade will be. Based on the underlying assumption, we would expect little trade between West European countries since they have more similar factor endowments and a lot of “North-South” trade. This is contrary to empirical evident from the international trade statistics that intra-industry trade and “North-North” trade are significantly large.

The Linder (1961) hypothesis related to the trade in real life. It suggests that the presence of increasing return in production of each good to be located in either of the countries but not in both of them. And the demand structure will be identical for the similarities of per capita income. The more similar the countries in per capita income, the larger bilateral trade will be existed. But the “absolute value of the difference” of per capita income of the countries, the negative effect on their bilateral trade. This should explain the “North-North” trade pattern.

Deardorff (1995) has been argues that certain kinship to H-O perspective in the gravity model by showing capital intensive goods are produced by capital-rich countries. But Markusen (1986) has already explains as a counter attack. If high-income consumers tend to consume larger budget shares of capital intensive goods, capital rich countries will trade more with other capital rich countries, and capital poor countries will trade more with their own kind. These are analogous to Linder hypothesis (Frankel, 1997). Finally, Deardorff (1998) shows that the gravity model is consistent with several variants of the Ricardian and H-O models.

Despite continuing discussions, one can summarize that the theoretical considerations of the gravity model based on microeconomic foundations (Tinbergen, 1962; Linnemann, 1966; Anderson, 1979; Bergstrand, 1985, 1990), trade theories (Deardorff, 1995, 1998; Krugman, 1979) and new economic geography (Krugman, 1991a, 1998)

5.2 Econometrics Strategy

The recent popularity of the gravity model is highlighted by Eichengreen and Irwin (1998) who call it the work horse for empirical studies of regional integration to the virtual exclusion of other approaches. Classical gravity models use cross-section data to estimate trade effects and trade relationships for a particular time period. Prior to Matyas (1997) a major drawback of all studies lies in the nature of the data used, and the explicit or implicit model restrictions implied by it. Although inference was drawn either up on a cross-section of a country data or up on single time-series of data, heterogeneity across countries in trade flows is extremely likely. Erroneously ignoring either of these effects will expose to seriously miss-specified econometrics models and biased and miss-interpreted parameter estimates.

A pooled time-series of cross-sections (panel data) requires identifying those effects, and hence correctly specifying the econometrics model. Panel data analysis is a method of studying a particular subject within multiple sites, periodically observed over a defined time period. The potential advantages of a panel framework were two fold (Matyas, 1997). First, it can increase degrees of freedom, and to enable identification of business cycle and local (or exporting) country effects. Secondly, it correctly account for target (or importing) country effects. Egger (2002) also points out the potential advantages of a panel framework. A Panel makes it possible to capture the relationships among the relevant variables over a longer period of time, and to identify the role of over all business cycle phenomenon.

Several studies have recently criticized the standard cross-sectional methods, it yields a biased estimate because they do not control for heterogeneity among trading partners. Even though the two export markets have the same GDPs and are equidistant from the exporter, a country would export different amounts to two countries. This can be emanated from historical, political, or geographic factors that are often difficult to observe though they could potentially affect the level of trade and correlated with the gravity variables.

There are several types of panel data analytic models. The constant coefficient model (pooled regression model) has constant coefficients of intercepts and slopes; the fixed effects model has constant slopes but intercepts differ according to the cross-sectional unit; and the random effects model is a regression model with a random constant term. In this particular study of mine, a panel data analysis will be used for the empirical gravity model taking in to account the above justifications.

5.2.1 Model Specification and Estimation Techniques

In this study the generalized gravity model is applied using panel data estimation technique. This model is chosen to the extent that the gravity model is policy neutral. It should be noted that the period under consideration is a period when policies played a very important role in shaping Ethiopia's exports or trade. The basic model is extended with a series of dummy variables which capture export-creation and diversion effects generated by the RIA, and the signs and magnitudes of the dummy coefficients are interpreted as the extent to which the presence of the RIA that influences departure from the normal situation predicted by the basic model.

In our estimation techniques, we consider the following issues. The data of Ethiopia's export may involve zero or missing values, since it is not possible to differentiate them due the nature of the data itself. Given the log specification, these values would be translated into undefined values. This problem of a

limited dependent variable in a censored sample produces biased results if OLS estimation is used. In order to overcome the problem of missing values, the zero values may simply be discarded from the sample. Even if this may solve the statistical problem, the economic analysis of important information may be eliminated together with these zero values. Another way to address the problem is to replace the zero values by arbitrary small values. But this introduces arbitrariness in to the analysis, which may distort the analysis. A third solution, this particular study employs, is to use the Tobit maximum-likelihood method, which explicitly deals with the zero values in the censored sample. This estimation treats zero or missing trade flows as unobserved data points. The Tobit model, which was first suggested by Tobin (1958), uses the advantage of unobserved measures of dependent variables.

This particular study has recognized the panel nature of data in the process of Tobit estimation. Thus, country-specific factors that are not controlled in the model are accounted for by estimating the Tobit panel model, specifically the “Tobit Random Effect Model”.

5.2.1.1 Tobit Model with Random Effects

The model setup is $y_{it} = \beta'x_{it} + v_{it} + u_i$ ----- (18)

$$y_{it} = \max [0, y_t]$$

$$[v_{it}, u_i] \sim N[0, 0, \sigma_v, \sigma_u, 0]$$

Then, $f(y_{it} | u_i) = \{(1/\sigma_v)\phi[(y_{it} - z_{it} - u_i)/\sigma_v]\} d_{it} \{1 - \Phi[(z_{it} + u_i)/\sigma_v]\}^{1-d_{it}}$ --- (19)

where $d_{it} = 1$ if $y_{it} > 0$ and 0 otherwise
and $z_{it} = \beta'x_{it}$.

Conditioned on u_i , the y_{it} s are independent, so

$$f(y_{i1}, y_{i2}, \dots | u_i) = f(\mathbf{Y}_i | u_i) = \prod_t f(y_{it} | u_i) \quad \text{-----} (20)$$

The unconditional distribution is

$$f(\mathbf{Y}_i) = \int_{-\infty}^{\infty} f(\mathbf{Y}_i | u_i) g(u_i) du_i = \int_{-\infty}^{\infty} \prod_t f(y_{it} | u_i) (2\pi\sigma^2)^{-1/2} e^{-u_i^2/(2\sigma^2)} du_i \quad \text{-----} (21)$$

For convenience, make the change of variable from u_i to $w_i = u_i/(\sqrt{2}\sigma)$. Then, the integral is

$$f(\mathbf{Y}_i) = (1/\sqrt{\pi}) \int_{-\infty}^{\infty} \prod_t H_{it}(\beta, \sigma_v, \sigma_u, w_i) e^{-w_i^2} dw_i \quad \text{-----} (22)$$

where $H_{it}(\cdot) = \{(1/\sigma_v)\phi[(y_{it} - z_{it} - \sqrt{2}\sigma_u w_i)/\sigma_v]\} \text{dit} \{1 - \Phi[(z_{it} + \sqrt{2}\sigma_u w_i)/\sigma_v]\} 1 - \text{dit}$

The integral is computed using an eight point Hermite integration,

$$f(\mathbf{Y}_i) \approx (1/\sqrt{\pi}) \sum_{m=1}^8 \prod_t K_m H_{it}(\beta, \sigma_v, \sigma_u, v_m) \quad \text{-----} (23)$$

where

$K_m =$ the weight

and

$v_m =$ the node of the approximation⁶.

To avoid overflow, this is computed as

$$f(\mathbf{Y}_i) = (1/\sqrt{\pi}) \sum_{m=1}^8 \exp(\sum_t \log(K_m H_{it}(\beta, \sigma_v, \sigma_u, v_m))) \quad \text{-----} (24)$$

Then, the log-likelihood for the sample is

⁶ See Abramovitz and Stegun (1972).

$$\text{Log-L} = \sum_i S_i \log f(Y_i) \quad \text{-----} \quad (25)$$

Let q denote the full parameter vector. The gradient of the log-likelihood is computed as

$$\frac{\partial \text{Log-L}}{\partial q} = \sum_i (1 - \frac{Y_i}{\hat{Y}_i}) \frac{Y_i}{\hat{Y}_i} \exp(\sum_t \log(K_m H_{it}(b, s_v, s_u, v_m))) \sum_t K_m \frac{\partial \log H_{it}(q, v_m)}{\partial q}$$

The Tobit model is adapted to a panel framework with a random effects specification. The model is

$$Y_{it}^* = X_{it} \beta + \alpha_i + U_{it} \quad \text{where } i = 1, \dots, N \text{ and } t = 1, \dots, T \quad \text{-----} \quad (26)$$

where U_{it} is i.i.d with $N(0, \sigma_u^2)$ and only $Y_{it} = \max(0, Y_{it}^*)$ is observed

α_i is the country specific factor that is allowed to be random

The main emphasis in the analysis of the results from maximum likelihood estimation (MLE) will be on the significance of each estimated coefficient as well as on the overall significance of the model as judged by the chi2 statistics derived from the Wald test statistic. The Wald test statistic follows a chi2 distribution with degrees of freedom equal to the number of coefficient restrictions.

5.2.2 The Data Set and Variable Description

The augmented gravity model is estimated by the data for 20 countries over the period 1981-2006. The countries are chosen on the basis of importance of trading partnership with Ethiopia and on the availability of required data. Seven out of all African countries; Djibouti, Egypt, Kenya, Sudan, Tanzania, Uganda and Zambia are included. We could not include the rest of COMESA and other African countries in the sample as these countries have no data for most of the years of our sample period. From Asian continent, five countries-

China, Saudi Arabia, Japan, United Arab Emirates and Yemen are included. Seven countries are also taken from Europe- Belgium, France, Germany, Italy, Netherlands, Switzerland and United Kingdom. Only one country, USA, is considered as a trading partner from America. The base year was selected for the very reason that it coincides with the year of COMESA/PTA establishment and the limitation of available data. The data are annual over 26 year's period, running over sample countries.

Data on the annual US dollar value of total export of Ethiopia to partner countries are extracted from UN-comtrade data base. Data on GDP, GDP per capita and population are obtained from International Monetary Fund's World Economic Outlook (2007). The distance between Addis Ababa, capital of Ethiopia, and other capital cities of country j in kilometers are extracted from Indonesian website: WWW.indo.com/distance

5.2.2.1 The Dependent Variable

$\ln X_{ijt}$ denotes the total exports from Ethiopia (country i) to country j at time t . Unrecorded trade is common in SSA. Unfortunately, it is extremely difficult to incorporate informal trade in the model.

5.2.2.2 Traditional Gravity Regressors

The GDP of the exporting country ($\ln GDP_{it}$) is used to control for the supply side, while the GDP of importing country ($\ln GDP_{jt}$) controls the demand side. A high level of income in the exporting country is an indicative of a high level of production, so that exports are expected to be high as well. At the same time, a high level of income in the importing country suggests that imports will be higher. So, both variables are expected to have a positive effect on the regressand.

The signs of the coefficients of the population of the exporter ($\ln\text{POP}_{it}$) and importer country ($\ln\text{POP}_{jt}$) may be either positive or negative. If the exporter is big in terms of population, it may either need its production to satisfy domestic needs, so that it exports less (absorption effect), or it may export more than any other small country, as it happens when small and large enterprises achieve economies of scale. The same holds true for importing country ($\ln\text{POP}_{jt}$); if it is big, it may either import less because it is more self-sufficient or it may import more because it can not satisfy all internal demand with its own production.

The per capita GDP differential between two countries variable is frequently included in to the gravity model to test the two hypothesis of international trade associated with the effect of the difference between the two countries (Ethiopia and its trading partners) level of per capita income. The sign of this coefficient will depend on the traditional comparative advantage effect on trade (the H-O theory) and the intra-industry theory of trade (Linder hypothesis). If the sign is positive, it suggests the H-O type of proposition and if the sign is negative, it suggests a Linder-type hypothesis.

The geographical concept of distance may not be an accurate reflection of transaction costs in certain instances. Transaction costs refer to costs in obtaining information, the costs of bureaucratic processes involving government regulations and the costs of financing the transactions depending on how efficient and developed financial institutions are in specific countries. From the works of Ogunkola (1994), there is a high correlation between transportation costs and distance. In this very study of mine, distance ($\ln\text{DIS}_{ij}$) is used as a proxy variable for resistance to trade. Assuming that the further a country is away from another, the more expensive-bilateral trade will be. Accordingly, distance is expected to have a negative impact on bilateral trade flows.

5.2.2.3 Traditional Dummy Variables

The model then includes a set of dummy variables traditionally considered to be determinants of bilateral trade flows. A number of country-specific variables are first exploited in order to capture relations between pairs of countries that may influence trade flows: adjacency. The adjacency dummy variables (ADJ_{ij}) takes the value of one if countries i and j share a common border, it is zero otherwise.

The adjacency dummy is in addition to the inclusion of the distance variable to account for the possibility of centre- to-centre distance overstating the effective distance between neighboring countries that may often engage in large volumes of border trade.

5.2.2.4 Regional Integration Dummy Variables

The goal of this paper is to capture the export trade creation and export trade diversion effects of Ethiopia's COMESA membership on the flow of its exports. To this end, two regional integration dummy variables, Intra-COMESA and Extra-COMESA, are introduced as proxies for intra-regional trade effects and extra-regional trade effects on exports.

CHAPTER SIX

6. Analysis of Empirical Results

6.1 Estimation of the Model

A particular specification of the Tobit Random Effects model may be used to assess the export trade-creation and export trade-diversion effects of COMESA on Ethiopian export flows. The model used in this particular study is specified as follows:

$$\ln X_{ijt} = \beta_1 \ln(Y_{it}Y_{jt}) + \beta_2 \ln N_{it} + \beta_3 \ln N_{jt} + \beta_4 \ln PCD_{ijt} + \beta_5 \ln DIS_{ij} + \beta_6 ADJ_{ij} + \delta_1 \text{Intra-COMESA}_{jt} + \delta_2 \text{Extra-COMESA}_{jt} + \alpha_i + \varepsilon_{ijt} \quad \dots\dots\dots(27)$$

where,

- α_i is country-specific factors that are allowed to be random;
- X_{ijt} is Value of exports of Ethiopia to country j at time t;
- $Y_{it}Y_{jt}$ is the product of Ethiopia and country j GDP at time t;
- N_{it} (N_{jt}) is the number of population in county i(j) at time t;
- PCD_{ijt} is per capita GDP differential between country i and j at time t;
- DIS_{ij} is the distance between them and ADJ_{ij} is a dummy variable capturing the effect of sharing a common border;
- Intra-COMESA_{jt} = it takes the value of 1 for exports from Ethiopia to a member of COMESA and 0 otherwise;
- Extra-COMESA_{jt} = it takes the value of 1 for exports from Ethiopia to a non-member of COMESA and otherwise.

It should be noted that intra-COMESA_{jt} and Extra-COMESA_{jt} have been specified to capture the export trade-creation and export trade- diversion effects respectively.

6.2 Hypothesis to be Tested

The product of GDP is considered as the size of the economy. The size of the exporting and importing countries are basic determinant of in explaining exports. As it is bigger there will be more trade between the two countries. So the coefficient of this variable would be expected positive.

The coefficient of population of exporter may have negative or positive sign, depending on whether the country exports less while it is big (absorption capacity) or whether a big country exports more compared to a small country (economies of scale). It holds true for importer population.

According to the H-O theory, the sign of the coefficient of per capita GDP differential would be positive. On the other hand, based on Linder hypothesis, the sign would be negative.

Distance appears in the model as a proxy for transportation costs implying that the coefficient of this variable is expected to have negative sign. It is also expected that coefficient of common border would be positive.

6.3 Econometric Issues

To test for hetroskedasticity in the model, a separate regression is made and the hetroskedasic corrected (Huber-White standard errors) results are reported in annex 3. The results are fairly identical to our estimates in terms of both sign and significance. Hetroskedasticity is thus not a problem in our specification. With respect to diagnostics test, the Wald test reveals that the overall significance of our estimates. Since the p-value is 0.000 attached to the Wald chi², the regression that we have estimated is significant.

Fitting the equation (1) with the data explained above, the regression results we found from the estimation are reported below.

Table 6.1**Regression Results from the Tobit Random Effects Model**

Variable	Coefficient	Std. Err.	t-statistics
$\ln Y_{it}Y_{jt}$	.7228545***	.2874388	2.51
$\ln N_{it}$	8.893906***	1.479441	6.01
$\ln N_{jt}$	.926818**	.4527887	2.05
$\ln PCD_{ijt}$	.9297448**	.3917177	2.37
$\ln DIS_{ij}$	-1.20648	1.027655	-1.17
ADJ _{ij}	4.138127***	1.414978	2.92
Intra-COMESA _{jt}	3.953983	4.430137	0.89
Extra-COMESA _{jt}	3.773426	4.144819	0.91
Constant	-38.59343***	10.80118	-3.57
Number of obs.	520		
Log likelihood	-1648.0767		
Wald test	$\chi^2(8) = 134.73$		
P-value	0.0000		

Note: ** and ***denotes to 5 and 1 percent level of significance

6.4 Interpretation of Results

As indicated in the estimation results, most of the traditional gravity variables are significant in explaining Ethiopia's export flows. The coefficient of product of GDP is positive and significant as expected. This implies that Ethiopia tends to export more to larger economies. Ethiopia's exports to country j increases by 0.73 percent as the product of Ethiopia's GDP and country j 's GDP increases by 1 percent.

The estimation results also show that population of both exporting and importing countries are significant and have positive impact on bilateral trade flows. The increasing population in the exporting country (Ethiopia) contributes to the economies of scale while increasing population in the importing country results in the rise of the absorption capacity.

To test for the strength of the Linder hypothesis as against the H-O hypothesis we have included the log of the absolute difference in GDP per capita between Ethiopia and country j . This allows us to address the question whether Ethiopia exports more to similar or dissimilar countries in terms of national income. Our estimation result supports the traditional comparative advantage effect (H-O); that is the country exports more to dissimilar countries. The per capita GDP gap appears as positive and significant statistically.

The traditional resistance variables such as distance and adjacency have the anticipated sign. Distance, which is a proxy of transportation cost, shows negative but is statistically insignificant. This implies Ethiopia would be better if the country exports more with its neighbours. The insignificant values arise due to the fact that the proxy may be inadequate in capturing transporting

costs. The coefficient for adjacency can help us to explain the sub region process. As expected, it tells us that Ethiopia-with common frontiers that enable border trade-will have more trade. Moreover, the adjacency is highly significant.

So far as we have shown that the gravity equation performs relatively well in explaining Ethiopian export flows for the period studied. Most of our variables had the expected sign and were statistically significant. They also confirmed some of the stylized facts presented in the previous section and are consistent with theoretical interpretation of the model. We now turn to the key variable of the paper; Intra-COMESA and Extra-COMESA.

The variables of interest, Intra-COMESA and Extra-COMESA, which are designed to capture both export trade-creation and export trade-diversion comes with a positive sign, and is also insignificant statistically. The non-significant coefficient for Intra-COMESA variable implies that COMESA has not a significant effect of intra-bloc export creation on the Ethiopian export. Insignificant coefficient for Extra-COMESA variable means that export-diversion was null in this regional arrangement. Thus, there is no evidence of export –diversion. This can be interpreted as weak participation of Ethiopian within COMESA region.

An important consequence of these results is that the sign and magnitudes of both Intra-COMESA and Extra-COMESA suggest that membership of COMESA has no both export trade-creation and export trade-diversion effects on the flow of Ethiopian exports. Hence, COMESA membership may not be the main reason why Ethiopia's exports have surged for the specified time covered under this study.

CHAPTER SEVEN

7. CONCLUSIONS AND POLICY IMPLICATIONS

7.1 CONCLUSSIONS

The objective of this paper was to assess the impact of Ethiopia's COMESA membership on its export flows. With this aim we develop the augmented gravity model to annual exports of Ethiopia to twenty countries over the period 1981 to 2006. The results were obtained using the maximum-likelihood estimations of the random effects Tobit regressions.

Our results show that Ethiopia's export is positively determined by the size of both exporter's and importer's economies. Both Ethiopia's and importer's population have a large and positive effect on bilateral trade flows. The coefficient of per capita GDP differential between Ethiopia and country j is also significant and has a positive sign. From the positive sign of this coefficient we can have an indication that the H-O effect (differences in factor endowments) dominates the Linder effect in case of Ethiopia's export flows. Coefficients of common border and distance bear expected sign, but it is statistically insignificant only for distance variable.

It was found that there are positive values; however, still insignificant values for both Intra-COMESA and Extra-COMESA variables. These results reveal that Ethiopia's COMESA membership has neither a significant effect of both export trade-creation and export trade-diversion on its export flows. The fundamental conclusion is that despite Ethiopia's participation in COMESA, the realization of concrete results is, so far, very little.

The following points might be the reason for the preceding results. A very low provision of duty reduction access given by Ethiopia to its import from other COMESA members, without having enjoyed any, in return for that, preferential access to its exports for COMESA member countries' markets, could not help achieve access to larger free market; and thus, detrimental to its economic growth at large. Add insult to injury, lack of complementary nature of Ethiopia's export commodities within COMESA region, aggravates the severity of the hamper.

The empirical result witnesses that Ethiopia tends to have highly sectoral and geographically concentrated destination of exports (a large share of its exports is destined to Europe and Asia) and consists of few primary export commodities.

7.2 POLICY IMPLICATIONS

From this result, we can suggest that certain policy measures should be taken by the Ethiopian government to accelerate the value of its exports to COMESA members' markets.

a) Since the achievement of a dynamically integrated and growing economy is a prerequisite for any country to reap the benefit from regional integration, Ethiopia should diversify its economy and enhance its export competitiveness.

b) The structure of out put across COMESA countries is mainly primary commodities, and not of complementary in nature. So, Ethiopia should pursue economic policy aimed at economic diversification away from dependency of few primary unprocessed products and at realization of complementarities.

c) The proper quality of the goods must be maintained as well as the varieties of goods and services must be increased as the Ethiopia's exports largely depend on the foreign demand. All COMESA member countries' propensities to export of Ethiopian commodities must be taken in to account sufficiently and adequately when trade policy is set.

d) Driven from above by public sector organizations, regionalism has failed to support for the involvement of the private and the general public sectors. Ways must be found to involve the private sector in the formulation and implementation of policies conducive to Ethiopian export. The participation of consumer groups and other NGOs should be encouraged as these groups can also gain from exploiting the opportunities for greater intra-regional trade. Thus, public-private partnership is mandatory.

e) Investors also need to have confidence that integration measures will not be reversed and barriers to regional markets will not be reinstated overnight. In addition to that it must be recognized that trade is not just in finished products but also in intermediary goods that are inputs to the production process. Thus, unpredictable trade and investment environment frustrates not just trade, but also production, productivity and ultimately over economic growth.

The success of RIA to increase intra-regional trade is may be linked with the ability and/or willingness of these countries to carry out the preferential trade liberalization measures that represent the prerequisite for trade creation among integrating markets. In light of these, further research and analysis therefore, need to investigate the potential pros and cons of being a full member of COMESA-FTA on Ethiopia's export flows. Finally, note that we have not addressed the welfare impacts of COMESA, the effects of lobbying and the progression of the agreements. We leave these important topics for further research.

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Annexes

Annex 1: Values of Imports by End Use (In Millions of USD)

Particulars	2003/04	Share from total Import	2004/05	Share from total Import	2005/06	Share from total Import	Percentage Change	
	A		B		C		C/B	C/A
Raw Materials	26	1.0	49.1	1.4	77.2	1.7	57.3	197.3
Semi-finished Goods	435.2	16.8	664.7	18.3	821.6	17.9	23.6	88.8
O/w Fertilizers	106.6	4.1	122	3.4	136	3.0	11.5	27.5
Fuel	310.5	12	668.7	18.4	860.5	18.7	28.7	177.1
Petroleum Products	310.2	12	667.4	18.4	856.5	18.6	-3	108.6
Others	0.3	0	1.4	0	4	0.1	191.6	1139.3
Capital Goods	876.6	33.9	1199.3	33	1453.1	31.6	21.2	65.8
Transport	298.3	11.5	371.6	10.2	429.9	9.4	15.7	44.1
Agricultural	10.8	0.4	24.4	0.7	38.7	0.8	58.9	259.6
Industrial	567.5	21.9	803.4	22.1	984.4	21.4	22.5	73.5
Consumer Goods	895.6	34.6	986.1	27.1	1281.9	27.9	30	43.1
Durables	294.6	11.4	337.3	9.3	415.7	9.1	23.2	41.1
Non-durables	601	23.2	648.8	17.9	866.2	18.9	33.5	44.1
Miscellaneous	43.1	1.7	65.3	1.8	98.5	2.1	50.9	128.7
Total	2586.9	100	3633.3	100	4592.8	100	26.4	77.5

Source: Ethiopian Customs Authority Publication, 2006

Annex: 2 Descriptive Statistics for the Dependent and Independent Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
.....					
lnxijt	520	11.88539	6.807302	0	18.85114
lngdpitgdpjt	520	13.45899	2.039018	5.397602	18.67186
lnpopit	520	3.97244	.2028142	3.657131	4.318434
lnpopjt	520	3.285887	1.621175	-1.038074	7.180906
lnpcgdpdijt	520	7.958121	2.267806	-.0253178	10.8477
lndisij	520	7.864367	.8584035	6.334859	9.351111
adjij	520	.15	.3574153	0	1
intracomesaj	520	.3019231	.4595341	0	1
extracomesaj	520	.7019231	.4578539	0	1

Source: Own Computation

Annex 3: Heteroskedastic Corrected Regression

Variable	Coefficient	Robust Std. Err.	t-statistics
$\ln Y_{it} Y_{jt}$	.7953912***	.3512089	2.26
$\ln N_{it}$	9.19848***	1.425105	6.45
$\ln N_{jt}$	.8204571**	.3502276	2.34
$\ln PCD_{ijt}$	.7811109**	.392298	1.99
$\ln DIS_{ij}$	-1.144983	.8064726	-1.42
ADJ _{ij}	4.846529***	.9939167	4.88
Intra-COMESA _{jt}	1.887819	1.681419	1.12
Extra-COMESA _{jt}	2.883701	1.23089	2.34
Constant	-38.58882***	9.308241	-4.15
Number of obs.	520		
F(8,511)	36.40		
P-Value	0.0000		
R-squared	0.2771		
Root MSE	5.8328		

Note: ** and *** denotes to 5 and 1 percent level of significance

Declaration

I, the undersigned, declare that this project is my original work and has not been presented for degree in any other university, and that all source of materials used for the project have been duly acknowledged.

Declared by:

Name Hussien Mohammed Oumer

Signature

Date June 30, 2008

Confirmed by Advisor:

Name _____

Signature _____

Date _____

Place and Date of Submission: Addis Ababa, June, 2008