COMESA

Key Issues
in Regional Integration. Vol 5

CONTENTS

Abbreviations and Acronyms

ASEAN	Association of Southeast Asian Nations
BRICS	Brazil, Russia, India, China, and South Africa
COMESA	Common Market for Eastern and Southern Africa
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
GVC	Global Value Chains
ICT	Information and Communication Technology
ILO	International Labour Organization
IT	Information Technology
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
R&D	Research and Development
2SLS	Two Stage Least Squares
UK	The United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
US	The United States of America
WTO	World Trade Organization

PREFACE - Key Issues in Regional Integration Volume V

Key Issues in Regional Integration is an annual publication of COMESA Secretariat. This edition is motivated by the long-standing desire to nurture the linkage between industry, academia and policy makers in addressing regional integration concerns in the region. The edition therefore provides a platform for disseminating research output on regional integration not only from COMESA secretariat, but also from these key constituencies.

This volume consists largely of empirical and a few theoretical research papers under the overall theme "trade in services and trade facilitation for inclusive and sustainable industrialization in the COMESA region". The papers address themselves to a wide range of topical themes namely: Trade in services and manufacturing productivity in the COMESA region; The movement of persons in COMESA; The nexus between international financial integration and trade in financial services; Transpacific partnership agreement: implications for COMESA Member States trade with the USA under AGOA; Informal cross border trade; The role of trade facilitating infrastructure in promoting manufactured exports in the COMESA region; and Northern Corridor infrastructure project as an engine for regional integration.

The purpose of this edition is to educate the reader on the status of integration in COMESA specifically on trade in services and trade facilitation, attendant challenges and prospects not only from the practioner's experiential viewpoint and the academia's more empirical perspective, but also from the hybrid context of the policy makers. It stretches the scope of readership to cover researchers on international trade and regional integration and avails to the reader insightful dimension of issues at the frontier of integration debate in the COMESA region including the key services sectors and trade facilitation programmes that merit more attention.

The journey of writing this edition commenced with presentation of research papers at the second COMESA-ACBF Research Forum held in Nairobi, Kenya in July 2016. Following a rigorous peer review process, select papers were presented at the plenary session of the Forum where they were discussed and subjected to further sit-in review and comments by participants. In the final round, a small band of papers were selected for publication on the basis of their relevance, conceptual and methodological robustness. This whole process was however, fraught with some problems. Some good papers were dropped for lack of relevant and up to date data and for inability of authors to complete revisions within scheduled timelines.

Majority of the empirical papers relied on secondary sources of data. A few however, collected primary data through field surveys in different countries. The novelty in this edition however, is found in the empirical basis of analysis deployed and the participation of academia and industry at the Research Forum and peer review process.

TRADE IN SERVICES AND MANUFACTURING PRODUCTIVITY IN THE COMESA REGION

By
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Abstract

This study investigated the role played by trade in services in industrializing the Common Market for Eastern and Southern Africa (COMESA) region, with a specific focus on the manufacturing sector. The study utilized panel data for the period 2005 to 2014 and dynamic generalized method of moments (GMM) to estimate the effects of trade in services on the performance of the manufacturing sector proxied by manufacturing value added per capita in COMESA. The results showed that transport and communication service imports had a positive effect on manufacturing value added per capita. Business services and financial services imports had a negative effect on manufacturing value added per capita. Transport and construction services exports had a negative and significant effect on manufacturing value added per capita. On the contrary, business services exports had a positive and significant effect on manufacturing value added per capita. GDP growth rate and fixed capital formation had positive effects on manufacturing value added per capita. The study recommends further liberalization and regulatory reforms in the transport and communication services sectors. It also recommends multilateral negotiations with other regional economic blocs to increase market access for COMESA's exports of transport and construction services. Finally, capacity building to enhance competitiveness in business and financial services sectors should be implemented.

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1.   Introduction

Trade in services encompasses a large number of intangible products or activities that come into existence as a result of production processes that transform the conditions of the consuming units, or facilitate exchange of products or financial assets (WTO, 2010).Trade in services are typified by human value addition that takes the form of labour, advice, entrepreneurship, creative arts, training and intermediation among others. More specifically, it includes transport, education, health, insurance, tourism, recreation, telecommunication, distribution, construction, financial services, marketing, business support, hotel and catering, real estate and provision of security among others (WTO, 2010).

Globally, the services sector plays an important role in economic growth and creation of employment. The contribution of the sector to the world Gross Domestic Product (GDP) averaged 62.56 per cent between 2005 and 2014 (World Bank, 2016). In Sub-Saharan Africa and the COMESA region, the sector contributed approximately 55 per cent and 52 per cent of the GDP respectively over the same period. The services sector also accounts for nearly 40 per cent of total employment in Africa (UNCTAD, 2015b). Although the United States of America (US) and the European Union (EU) are the leading exporters of services, developing countries such as India, Brazil, Costa Rica and Uruguay are steadily increasing their exports to developed and developing countries. African countries such as Kenya, South Africa, Morocco, and Tunisia also export and import travel, transport, and professional services among others (Saez and Goswami, 2010).

The services sector is closely linked to the manufacturing industry since services are used at every stage of the manufacturing process and value chain. Services such as research and development are needed at the initial stages of the manufacturing value chain, whereas services such as distribution, maintenance, and marketing and advertising are required at the end of the value chain (Catteano, Engman and Saez, 2010). Additionally, key services such as financial, insurance, and telecommunication are used in all stages of the manufacturing value chain.

The manufacturing industry is increasingly becoming services-intensive due to three major reasons. First, advancements in Information and Communication Technology (ICT) and improved availability of logistics, insurance, and financial services facilitate geographic dispersion of manufacturing value chains to enhance specialization and efficiency in production (Sissons, 2011). Affordable ICT and logistics services reduce the cost of coordinating global value chains (GVCs). As a result, manufacturers, especially in developed countries are relocating low-skill production tasks to low-wage countries and concentrating intellectual property development initiatives such as Research and Development (R and D) in countries with highly skilled professionals and favourable regulatory environment (Sissons, 2011). This reduces the cost of production and improves innovation through positive technology and knowledge spillover effects. Availability of credit and efficient payment services also reduce supply costs and improve efficiency in global manufacturing value chains.

Second, services enable manufacturers to leverage new technologies to reduce costs and improve efficiency. ICT services facilitate fast design of high quality products, thereby allowing manufacturers to enjoy the first mover

advantages associated with introducing a new product in a new market segment ahead of the competition (Conner, et al., 2014). Software development services facilitate access to enterprise resource planning (ERP), 'big data' analytics, and cloud computing solutions that promote lean manufacturing through effective management of inventory, suppliers, and customers. Additionally, R and D, software development, and maintenance services facilitate automation and use of robots and machines in manufacturing to cut costs and improve product quality.

Third, services are important sources of product differentiation since they allow manufacturers to customize their product offerings (Lodefalk, 2014). This improves competitiveness and strengthens customer relationships in the manufacturing industry. For instance, communication services enable manufacturers to obtain feedback from the market that helps them to tailor production to consumer needs. Additionally, manufacturers are increasingly selling their products as a bundle of goods and services to increase sales (Sissons, 2011). Furthermore, transport and shipping, leasing, insurance, financial, and maintenance services are provided by manufacturers or specialized service providers to facilitate purchase of high value goods such as cars. Similarly, distribution, advertising, and marketing services enable manufacturers to reach their target markets.

To the best of our knowledge, very little has been done to investigate the role of trade in services in enhancing manufacturing value added per capita within the COMESA region. Apart from filling this knowledge gap, this study is expected to inform trade and manufacturing policies in the COMESA region to facilitate achievement of the region's goal of development through sustainable industrialization

1.1   Trade in Services and Manufacturing

Although the services sector has a close link with the manufacturing industry, the benefits of services trade to manufacturers are marred with a lot of complexities. Services imports can boost productivity and value addition in the manufacturing industry by facilitating specialization, improved coordination of GVCs, and cost reduction. They can also improve competitiveness by allowing manufacturers to access a wide variety of high quality services (Beverelli, Fiorini and Hoekman, 2015). In this respect, services trade liberalization can enhance value addition in the manufacturing sector.

Importing services through commercial presence of foreign firms also play a key role in promoting the growth of the manufacturing sector. Foreign firms in the domestic economy create jobs, which in turn boosts the demand for manufactures (Gorg and Hanley, 2005). Additionally, commercial presence of foreign firms enhances transfer of knowledge and technology through training of local workers and collaboration with domestic research firms. This may improve productivity in both services and manufacturing companies in the domestic economy.

However, services imports can have negative effects on employment given the labour intensive nature of the service sector. Gorg and Hanley (2005) and Crino (2009) for example found evidence that services offshoring lowered demand for skilled labour. Imports can significantly increase competition, which may lead to job losses in local services firms that are not able to compete with foreign suppliers (Catteano, Engman and Saez, 2010). Moreover, relocation of some production processes to low-wage or high-skill countries is likely to reduce

employment in the manufacturing sector. The resulting increase in unemployment rate may constrain growth in the manufacturing industry through low domestic demand.

Services exports, on the other hand, have the benefit of increasing the income of a country; thus, providing the financial resources required for production and expansion in the manufacturing industry (World Bank, 2010). Furthermore, an increase in demand for manufactures as a result of increased services export earnings is an incentive for increased production and value addition. Nevertheless, services exports can also create adverse knowledge spillover effects as skilled workers focus on serving foreign firms rather than domestic enterprises. Moreover, significant expansion of the services sector to increase exports can lead to de-industrialization by crowding-out investment in key industries such as manufacturing (Goswami, Mattoo and Saez, 2012). Thus, the major policy issue that developed and developing countries continue to grapple with is the extent to which trade in services should be liberalized to facilitate sustainable growth of the manufacturing sector. It is in this context that this study sought to determine the effects of trade in services on manufacturing value added per capita in COMESA.

1.2   Trade in Services in the COMESA Region

Services account for nearly 60 per cent of the value of trade within COMESA (World Bank, 2010). Figure 1.1 shows that services exports rose rapidly between 2000 and 2008. However, fluctuations in exports were experienced after 2008 partly due to the global financial crisis.. Egypt is the leading exporter, accounting for nearly 48.9 per cent of services exports from COMESA to the world (UNCTAD, 2015). Other major exporters include Kenya, Mauritius, and Ethiopia which account for 13.2 per cent, 9.1 per cent, and 7.9 per cent of total services exports respectively (UNCTAD, 2015a).

Transport and travel services dominate services trade in COMESA. Travel services account for nearly 70 per cent of services exports, whereas transport account for approximately 55 per cent of imports (COMESA, 2015). Overall, the top five services exports include travel, transport, other business services (legal, marketing, R and D), ICT, and construction services.

Figure 1.1: Services exports
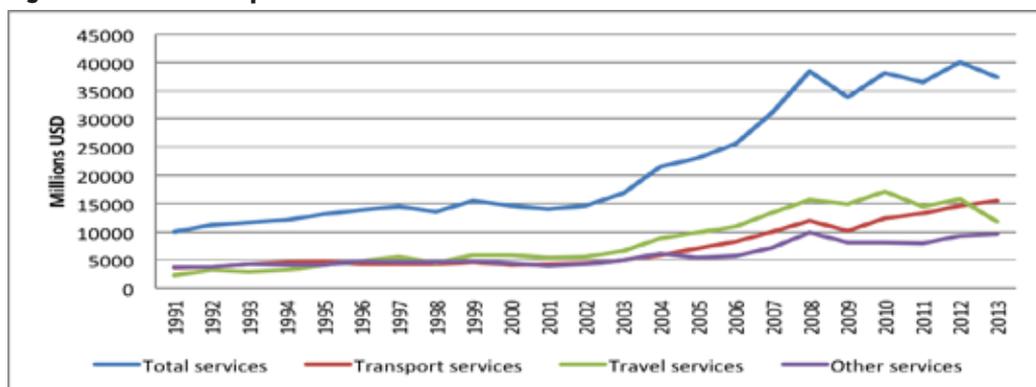
Source: Graph based on data from UNCTAD

Figure 1.2 shows that service imports also increased rapidly between 2003 and 2013 due to among other factors, robust economic growth in most of COMESA countries. Egypt and Libya are the main importers of services, accounting for nearly 36 per cent and 15.6 per cent of total services imports respectively. Other major importers include Ethiopia, Kenya, and Madagascar. The main imports in the order of their importance in total services imports are transport, other business services, travel, insurance, and construction services (COMESA, 2013).

Figure 1.2: Services imports

The main destinations of services exports from COMESA include the EU, the Middle East, and African countries. The main sources of services imports include the EU, the US, China, South Africa, and other African countries. Services exports from COMESA are driven by among other factors, expansion of ICT infrastructure, improvements in education, gradual liberalization of domestic markets, and growing access to international markets through free trade agreements (FTA) (UNCTAD, 2015). Although services trade has been increasing in COMESA, key challenges to future expansion include poor infrastructure, unfavourable business environment, limited technology, lack of skilled professionals, and low domestic demand in some countries (UNCTAD, 2015).

1.3 Industrialization and Manufacturing in the COMESA Region

Industrialization is a socio-economic process through which the share of the industrial sector and manufacturing industry in gross domestic product (GDP) increases (Gui-Diby and Renard, 2015). This process is often accompanied by concentration of industries and population in strategic locations such as urban areas. Industrialization in a broad sense encompasses several industries that include manufacturing, mining, construction, as well as, utilities such as water and electricity. However, this study focuses on the manufacturing sector only due to data limitation and the fact that the growth of the manufacturing industry reflects to a great extent the level of a country's industrialization.

Nearly all COMESA Member States specialize in production of low value-added goods and services and export of primary products. Production in the industrial sector is characterized by little backward and forward linkages to other sectors of the economy. This has led to GDP growth with little job creation and economic transformation (United Nations, 2013). The value of intra-COMESA trade in goods in 2010 was approximately 10 per cent of total trade in the region mainly because of low level of industrialization (World Bank, 2010).

Manufacturing in COMESA is deemed an opportunity to reduce heavy reliance on commodity trade by promoting economic diversification. Nevertheless, the region still lags behind its peers in terms of share of global manufacturing value added in GDP and manufacturing exports. Figure 1.3 shows that since 1991, COMESA's share of manufacturing value added in GDP has remained lower than that of its peers.

Figure 1.3: Share of Manufacturing Value-Added in GDP
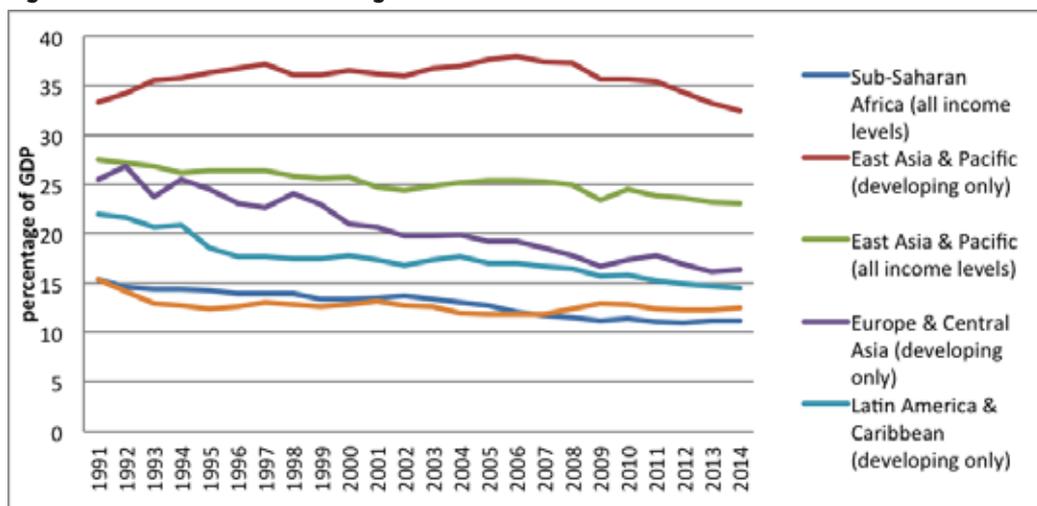
Source: Graph based on data from World Bank

In COMESA, the level of competitiveness in the manufacturing industry remains low. This is reflected in low export diversification, little product differentiation, and low value addition (COMESA, 2013). Manufacturing output is dominated by agro-based manufactures such as food, tobacco, and beverages; resource-based manufactures such as apparel, leather and plastics; and low technology manufactures, which include chemicals, medicine, and basic machinery.

The manufacturing sector has remained underdeveloped in COMESA despite the fact that the region maintained a robust average economic growth rate of 5.7 per cent in the decade to 2014. The share of manufacturing value added in GDP was approximately 11 per cent in 2015 compared to Brazil, Russia, India, China and South Africa (BRICS's) 18.54 per cent and Association of Southeast Asian Nations' (ASEAN) 18.40 per cent (World Bank, 2016). The slow pace of growth of the manufacturing sector is a hindrance to economic development and industrialization, thereby perpetuating poverty and inequality in COMESA Member States.

The benefits of trade in services with respect to the performance of the manufacturing sector are ambiguous. On the one hand, trade in services can help developing countries and regions such as COMESA to boost productivity and value addition in their manufacturing industries through improved access to high quality services inputs, thereby achieving rapid industrialization. On the other hand, significant expansion of trade in services can lead to de-industrialization as capital and labour shifts from manufacturing and other industries to the services sector. Moreover, domestic services industries can collapse if they are not able to compete effectively with foreign firms. This can increase unemployment in services industries that involve cross border supply in which foreign firms can serve domestic companies without establishing local subsidiaries to absorb the labour from collapsed local firms. Telecommunication and financial services are examples of services that can be delivered by foreign firms through cross border supply. An increase in unemployment can negatively affect the manufacturing sector by reducing the demand for manufactured goods.

In light of these ambiguities, it is important to investigate empirically the relationship between trade in services (imports and exports) and the performance of the manufacturing industry proxied by manufacturing value added per capita in COMESA.

Thus, the overall objective of this study was to determine the effects of trade in services on industrialization in COMESA with a focus on the performance of the manufacturing industry. Specifically, the study examined the effects of service imports and exports on manufacturing value added per capita in COMESA. The study sought to test the following null hypotheses; services imports have a positive effect on manufacturing value added per capita in COMESA and services exports have a positive effect on manufacturing value added per capita in COMESA.

2.   Review of Literature

2.1   Theoretical Literature

The producer theory has been used in several studies including Arnold, Javorcil and Mattoo (2011) and Kim and Kim (2003) to analyse the relationship between services trade and productivity and value addition in the manufacturing sector. The theory links the output of an industry to a given set of inputs. Production simply refers to any economic activity that involves conversion of inputs into outputs with the aim of satisfying human wants. Producers require a production set and a production function to produce a certain level of output (Nechyba, 2015). Additionally, the producer theory characterizes producers as cost minimizers and profit maximizers.

A production set refers to the various technologically feasible combinations of inputs and outputs that a firm can pursue to achieve its desired productivity level. Specifically, a production set indicates the level of output that can be achieved for every combination of inputs (Nechyba, 2015). This is reflected in a production function that measures the maximum level of output that can be produced using a given quantity of inputs and state of technology and knowledge. Cobb and Douglas (1928) developed a two-factor production function in which output was determined by labour and capital. In reality, production requires more than just capital and labour

as inputs. In this respect, the Cobb-Douglas production function has since been expanded to include additional inputs that determine output in industries such as manufacturing.

Therefore, a generally accepted functional form of the relationship between output and input is expressed as: $q = f(a, b, d \dots n)$ where q is output and *a, b, d …n* are the various inputs that can be in the form of services and or intermediate goods (Uppernberg and Strauss, 2010; Crino, 2009). In the manufacturing industry, services enter the production function as key inputs that determine the quality of manufactured products. Manufacturers have to combine a set of high quality intermediate goods and services in production to improve their competitiveness through high value addition, as well as, product and process differentiation.

As rational producers, manufacturers have to use inputs (services and intermediate goods) that minimize their production costs, thereby allowing them to maximize profits. Services trade, therefore, becomes important to manufacturers by facilitating access to a wide variety of reliable, high quality, and affordable services. For instance, Chakraborty and Remington (2005) showed that US manufacturers offshore production processes such as research and development, product design, and assembling parts to third party service providers in China and India where labour and energy costs are low. This helps US manufacturers to maintain their competitiveness as low cost producers of high quality manufactures. Additionally, Valle, Garcia, and Avella (2015) concluded that the rise in offshoring peripheral production activities such as accounting, marketing, distribution, and assembling parts is driven by the need to reduce production costs and allow manufacturers to participate in global value chains by specializing in activities in which they have core competencies.

At the macro-level, services trade results into external economies of scale in the manufacturing industry in several ways. Services trade liberalization often leads to a reduction in the cost of vital services such as transport, communication, financial, and insurance as foreign firms join local services industries (Mariotti, Nicolini and Piscitello, 2013). Additionally, both service imports and exports can facilitate transfer of technology and knowledge to the manufacturing sector, thereby enhancing innovation and value addition. Services exports can also boost productivity in the manufacturing sector through its positive effect on aggregate demand and GDP growth.

A significant increase in services imports is likely to reduce demand for manufactures by reducing jobs in the importing economy (Cattaneo, Engman, and Saez, 2010). Nevertheless, the negative effect on employment and demand for manufactures may be offset by the increase in productivity and economic growth that results from access to cheap and high quality services through imports.

2.2   Empirical Literature

2.2.1   Service Imports and Performance of the Manufacturing Industry

Research on the effects of services imports on the performance of the manufacturing industry has mainly been done at firm level in developed economies such as the US, the UK, and Japan. In this respect, most studies have

focused on the effect of offshoring on manufacturing firms' performance. Offshoring occurs when a company hires an external overseas supplier or its foreign affiliate to provide certain services. Thus, offshoring involves importing services, especially when an external overseas company provides services that would otherwise be obtained internally or in the local economy by the offshoring firm.

Cazzavillan and Olszewski (2012) using the GMM and 2SLS analysis revealed that financial services imports led to an increase in foreign direct investment inflow to the manufacturing sector. However, the imports did not have any direct effect on investments among local firms in the manufacturing sector. This means that financial services imports improved productivity by promoting FDI inflows rather than providing capital to domestic firms to expand their operations.

Focusing on the contribution of services to the Bangladesh economy, Azad (1999) used input-output analysis and OLS regression to show that services were employed as key inputs in the manufacturing industry. Services content formed the largest share of per unit output in industrial production. The implication of this finding is that increased industrial production, especially in the manufacturing sector requires reliable supply of cheap and high quality services inputs. Thus, trade in services promotes production and value addition in the manufacturing sector by facilitating access to affordable and high quality services in the international market.

Jaarsma and Vancauteren (2009) using GMM regression found that services imports increased total factor productivity (TFP) in the manufacturing sector. Additionally, increased importation of services inputs reduced competition in the Dutch market for manufactures. This was attributed to the cost savings associated with importing services. As production costs reduce, profit margins increase. This led to reduction in competition and motivated manufacturers to increase production and value addition.

Using input-output analysis and structural models, Houseman et al. (2010) found that increased importation of services inputs led to productivity gains in the manufacturing industry in the US. This was realized through cost reductions attributable to imported service inputs, which in turn led to a decrease in the prices of manufactures. However, employment declined in the manufacturing industry due to increased offshoring of production processes.

Keiko and Kiyoyasu (2010) used industry level data for Japan to establish the relationship between service imports and productivity in the manufacturing sector. Their estimation based on ordinary least squares (OLS) indicated that services imports, in general did not have any statistically significant relationship with productivity in the manufacturing industry. This was attributed to the low level of services imports in Japan compared to other developed countries. However, using data disaggregated by service category the researchers found that information and communication technology services had a positive and statistically significant effect on productivity.

Valle, Garcia, and Avella (2015) using data for Spain concluded that importing non-core manufacturing services in order to concentrate only on production processes in which a firm has core competencies leads to increased

innovation. Their analysis based on dynamic negative binomial models showed that innovation proxied by the number of patent applications increased among Spanish firms that hired external services suppliers in foreign countries to execute for them intermediate manufacturing activities. The increase in innovation was attributed to enhanced access to better knowledge, skills, and experience in the international market.

Silveira (2014) in his study of manufacturing strategies using linear and hierarchical regression models found that the need to compete based on cost and flexibility in production led to increased importation of product design and distribution services (often categorized as other business services). Companies that imported these services were found to have low production costs and were more flexible in responding to market needs. Importing services enabled manufacturers to realize economies of scale by accessing cheap factors of production in international markets (Silveira, 2014). The resulting reduction in production costs improved competitiveness and productivity.

Focusing on the European market, Castellani and Pieri (2013) used OLS and GMM estimation techniques and found that R and D services imports had a positive effect on productivity in the manufacturing sector. The increase was attributed to the fact that importing R and D services promoted integration of differentiated sources of knowledge, which in turn enhanced innovation at firm level. Although R and D services imports from most South East Asian countries had a positive effect on productivity in Europe, imports from India had a negative effect on productivity. This is explained by the fact that in India, R and D investments are more concentrated in software and business services rather than high-tech manufacturing (Castellani and Pieri, 2013). This suggests that the choice of import sources for R and D services matters in the industrialization process, especially in the manufacturing sector.

Arnold, Javorcik, and Mattoo (2011) noted that liberalization increased importation of services through commercial presence. Their estimation based on two stage least squares approach showed that entry of foreign firms in services industries such as transport, electricity, and advertising among others positively affected total factor productivity in the manufacturing industry.

Mariotti, Nicolini and Piscitello (2012) using data for Italy concurred with Arnold, Javorcik, and Mattoo (2011) by showing that importing services through commercial presence of foreign firms had positive productivity effects. Specifically, their instrumental variable regression analysis indicated that the entry of foreign multinational enterprises (MNEs) in utilities (electricity, gas, and water services), distribution, transport, and ICT (communication and IT services) had a positive effect on total factor productivity in the manufacturing industry. The positive effect was attributed to increased competition that resulted from the commercial presence of MNEs. Increased competition improved the quality and reduced the prices of services, thereby enhancing productivity and value addition.

2.2.2   Services Exports and Performance of the Manufacturing Industry

Arnold et al (2012) using data for India found that liberalization of trade in services increased services exports and imports. Their analysis based on OLS and instrument variable regression indicated that foreign owned manufacturing firms that bought business services such as advertising from India realized a significant increase in productivity. This positive relationship is inconsistent with Mollar, Munch, and Skaksen (2012) who found that services exports had a negative effect on productivity in the manufacturing sector. Nevertheless, transport and financial services did not have statistically significant effect on output growth.

Engman (2010) found that IT services exports did not only increase employment, but also facilitated inflow of advanced technologies and knowledge from developed countries to India. Indian professionals who worked temporarily in the US as IT consultants gained new knowledge and skills. Additionally, they created business networks which enhanced investment flows from the US to India, thereby promoting the growth of key sectors such as manufacturing.

The existing empirical literature shows that most studies used aggregate data rather than data disaggregated by service categories. Thus, they do not provide insights on how various services affect productivity in the manufacturing sector. Studies focusing on Africa and the COMESA region are hardly available since the existing studies were done in developed countries, particularly in Europe and the US. The findings of these studies might not be applicable in developing countries such as COMESA Member States due to differences in economic structure and development of the manufacturing sectors. Thus, this study sought to fill this knowledge gap by investigating the effects of trade in services on manufacturing in the context of COMESA.

3.   Methodology

3.1   Conceptual Framework

The conceptualized relationship between trade in services and manufacturing value added per capita is illustrated in Figure 3.1. It illustrates a simplified production process that begins with acquisition of inputs, which are transformed into manufactures and sold to the final consumer. Services imports play an important role in the manufacturing process by supplying services inputs. Services imports also facilitate access to services such as accounting, communication, financial, and insurance, which are needed to manage the production/manufacturing process (Cattaneo, Engman, and Saez, 2010). Additionally, enabling services such as transport, distribution and advertising can be accessed through imports. In this context, services imports are expected to have positive effects on manufacturing value added per capita.

However, services imports can also lead to a decrease in demand for manufactures by increasing unemployment rate. This is likely to affect manufacturing value added negatively. Services exports are a major source of foreign exchange earnings and employment. Thus, they are expected to boost manufacturing value added by supporting demand for manufactures and GDP growth.

Figure 3.1: Conceptual framework
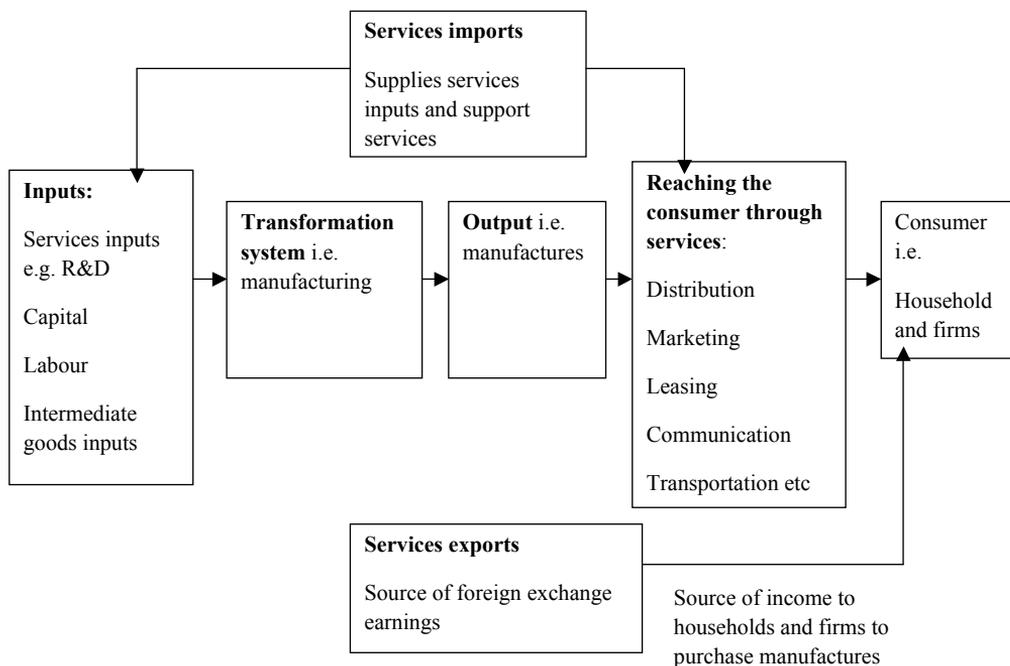
Source: Developed by authors

3.2   Analytical Framework

The growth rate of an industry or an economy is attributed to among other factors, changes in factor inputs and a residual that reflects technical progress (Barro, 1996). At the firm level, Cobb and Douglas (1928) developed a production function in which output is explained by two inputs namely, capital and labour. Cobb-Douglas' production function can be applied at industry level since an industry is an aggregate of firms engaged in similar business activities. The basic Cobb-Douglas production function is given as:

$$Y_t = \alpha L_t^{\beta} C_t^{\delta} \ \text{...} 1$$

Where t denotes time, Y is output, L denotes labour, and C is physical capital. α, β and δ are parameters to be estimated. A production function is expected to show constant, increasing, or decreasing returns to scale at any given time. Equation 1 can be linearized by taking the logs of the variables. This gives:

$$ln(Y) = \alpha + \beta ln(L) + \delta ln(C) \ \text{...} 2$$

Industry output also depends on technical progress and intermediate inputs that can be goods or services. Taking this fact into account leads to a model of the form:

$$lnY_t = \alpha + \beta lnL_t + \delta lnC_t + ln\gamma M_t + \varepsilon_t ....3$$

Where α is an intercept, γ is a parameter to be estimated, M denotes intermediate inputs, and ε is a residual term that captures technological progress.

3.3 Model Specification

$$lnManV_{it} = \alpha + \beta_1 lnManV_{it-1} + \beta_2 lnManV_{it-2} + \beta_3 lnTrnImp_{it} + \beta_4 lnComImp_{it} + \beta_5 lnBisImp_{it} + \beta_6 lnFinImp_{it} + \beta_7 lnConstImp_{it} + \beta_8 lnTrnExp_{it} + \beta_9 lnComExp_{it} + \beta_{10} lnBisExp_{it} + \beta_{11} lnFinExp_{it} + \beta_{12} lnConstExp_{it} + \beta_{13} lnCap_{it} + \beta_{14} lnEmp_{it} + \beta_{15} GDP_{it} + \mu_i + \varepsilon_{it} ....4$$

Where the dependent variable is manufacturing value added per capita ManV; α is an intercept; $\beta_1 ... \beta_{15}$ are parameters to be estimated; μ_i is country specific effect, ε is an error term, i and t denote ith country's manufacturing industry and time respectively. $ManV_{t-1}$ and $ManV_{t-2}$ are lagged values of manufacturing value added per capita.

Services imports are: transport services imports (TrnImp); communication services imports (ComImp); business services imports (BisImp); financial services imports (FinImp); and construction services import (ConstImp).

Services exports are: Transport services exports (TrnExp); communication services exports (ComExp); business services exports (BisExp); financial services exports (FinExp) and construction services exports (ConstExp).
The control variables are: Gross fixed capital formation (Cap); employment (number of people employed) in the industrial sector (Emp) and gross domestic product growth rate (GDP).

3.4   Estimation Technique

Equation 4 is likely to suffer from endogeneity since manufacturing industry output proxied by the level of value added per capita is expected to be jointly determined or have a bi-directional causal relationship with several regressors such as employment, services imports, and GDP growth. Additionally, the unobserved country-level effects (captured by μ_i) are likely to be correlated with the regressors. In this case, using ordinary least squares (OLS) is likely to produce inconsistent estimates. Although the unobserved country-level effects can be eliminated through differencing, the correlation between the lagged value of the outcome variable and the error term will still remain. This means that fixed effects and random effects models will also produce inconsistent results. This warrants the use of an estimator that employs instrument variables such as the two stage least squares (2SLS) and dynamic generalized method of moments (GMM) to purge endogeneity. Dynamic GMM has been found to be more efficient than 2SLS (Baum and Schaffer, 2002). Thus, we estimated a dynamic model (Equation 4) using GMM to take into account simultaneity bias, reverse causality, and omitted variable bias that may cause endogeneity. This involved using the Arellano-Bond GMM estimator, which uses the lagged values of the outcome and independent variables as instruments. Thus, the lagged values of manufacturing value added per capita were also included in equation 4 as regressors.

GMM estimates are consistent only if the instruments used are valid and there is no order two or higher autocorrelation in the residuals. Thus, we applied the Sargan test for over-identifying restrictions and the Arellano-Bond test for serial correlation to test for the validity of the instruments and autocorrelation in the residuals respectively.

3.5   Data

The study employed panel data for the period 2005 to 2014. The panel consisted of 11 out of the 19 COMESA countries. The 11 countries are Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Swaziland, Uganda, Zambia, and Rwanda. This choice was mainly informed by availability of data for the sample period. Services imports and exports data were obtained from UNCTAD's trade in services database. GDP growth rate, fixed capital formation, and real interest rate data were obtained from World Bank. Employment data was obtained from International Labour Organization's (ILO) labour statistics database. Manufacturing value added per capita was obtained from UNIDO's database.

4.   Results and Discussions

4.1   Descriptive Statistics

The descriptive statistics of the variables considered in the study are presented in Table 4.1. Manufacturing value added per capita has a mean of 203.91 with a high standard deviation of 314.98. The minimum and maximum values for manufacturing value added are 7.89 and 1076.12 respectively. These statistics show that there is a huge variation in the level of manufacturing output proxied by manufacturing value added per capita in the COMESA region. This is explained in part by the differences in the level of economic growth, size of economies and the level of development of the manufacturing industries in COMESA countries.

All services imports and exports have standard deviations that are greater than their means and there are huge differences between the minimum and maximum values. This reflects the fact that the value of services trade varies significantly in COMESA countries, with large economies such as Egypt, Kenya, and Ethiopia accounting for more than 60 per cent of exports and imports. GDP growth rate had a mean of 5.8 with a low standard deviation of 3.03. The distribution of all variables except GDP growth is positively skewed. All variables have positive Kurtosis. Manufacturing value added, employment, and GDP have Kurtosis that are less than 5, suggesting that their distribution is relatively flat. The distributions of the remaining variables seem to have higher peaks given their higher Kurtosis.

Table 4.1: Descriptive statistics

Variables	Mean	Std. dev.	Skewness	Kurtosis	Minimum	Maximum
Manufacturing value added	203.9129	314.9799	1.723399	4.439251	7.89	1076.12
Transport imports	1142.475	1733.613	2.601338	8.826912	13.90837	7553.8
Transport exports	1223.358	2962.189	4.13938	24.34122	2.729136	21831
Communication imports	68.25751	125.6337	3.025019	13.53662	0.9	785.2
Communication exports	142.1297	261.5445	2.914927	12.70585	0.039	1610.7
Insurance imports	190.2163	397.2652	2.866705	9.878276	1.717	1678.9
Insurance exports	19.79849	32.70743	3.210266	15.83769	0.1	216
Financial imports	34.23073	52.99905	2.576167	10.19637	0.133	263.32
Financial exports	51.95009	66.98211	1.441105	3.936993	0.04	269
Business services imports	452.1461	638.6171	2.385163	7.979561	1.854	2842.6
Business services exports	244.9387	397.7607	2.342594	7.948854	0.111	1788.7
Construction imports	108.2664	127.116	0.9869113	2.679649	0.405	479.135
Construction exports	116.4194	236.5108	2.973866	12.62454	0.027	1345.1
Capital formation	6691.1	9602.679	2.482659	8.46976	325	42056
Employment	1147.7	1546.426	1.825734	4.927314	85	5944
GDP growth	5.798616	3.029982	-0.0973557	2.899764	-4.013861	12.55054

Source: Authors' estimation

4.2 Heteroskedasticity Test

Panel-level heteroskedasticity test results based on the likelihood-ratio test are presented in Table 4.2. The test confirms the presence of heteroskedasticity, which was addressed by using robust standard errors in the regression models.

Table 4.2: Results for Likelihood Ratio test for Heteroskedasticity

Likelihood-ratio test	LR chi^2(7) = 88.16
Assumption: homosk nested in hetero	Prob > chi^2 = 0.0000

Source: Authors' estimation

4.3   GMM Results

Table 4.3: GMM results

Dependent variable: ManV *ManV*	Model 1 (imports)	Model 2 (export)	Model 3
Independent variables	Coefficients	Coefficients	Coefficients
$ManV_{t-1}$	0.7607755*** (0.0883254)	0.7416908*** (0.0769433)	0.7435063*** (0.0629743)
$ManV_{t-2}$	0.0028336 (0.05604)	-0.0219927 (0.05377)	0.0591715 (0.0544386)
TrnImp	0.0169908*** (0.0040132)		0.0219496*** (0.0058255)
TrnExp		-0.0150918 (0.0112981)	-0.0139355* (0.0082698)
ComImp	0.008777 (0.0064842)		0.0135757** (0.00632)
ComExp		0.0011144 (0.008077)	-0.0011434 (0.0039413)
BisImp	-0.0119705*** (0.0027775)		-0.0200015*** (0.0055969)
BisExp		-0.0052233 (0.0041343)	0.009316*** (0.0028421)
FinImp	-0.0051935 (0.0042187)		-0.011938* (0.0065525)
FinExp		0.0016125 (0.0052126)	0.0071121 (0.0069174)
ConstImp	-0.0034918 (0.004708)		-0.0012707 (0.0043954)
ConstExp		-0.0053438 (0.0041661)	-0.007793** (0.0033771)
Cap	0.0519676*** (0.0153376)	0.0514505** (0.0257583)	0.0707473*** (0.0180323)
Emp	-0.0375668 (0.0325434)	0.0609394 (0.067967)	-0.0075711 (0.0453289)
GDP	0.0088975** (0.0037505)	0.0074632* (0.0041918)	0.0095475*** (0.0035843)
Constant	0.775645*** (0.2171297)	0.5994215 (0.5288584)	0.3602211 (0.330657)

*Where ***, **, and * mean statistically significant at 1%, 5% and 10% respectively. Figures in parentheses are robust standard errors.*

Source: Authors' estimation

4.3.1 Effects of Service Imports on Manufacturing Value Added

The coefficient of transport services imports is positive and statistically different from zero at 1 per cent significance level in model 1 and 3 respectively. This is consistent with a priori expectation and Arnold, Javorcik, and Mattoo (2011) who found that transport services imports through commercial presence of foreign firms improved productivity in Czech Republic's manufacturing industry. The result means that holding other factors constant, a one per cent increase in transport services imports would increase manufacturing value added per capita by approximately 0.02 per cent in COMESA. An increase in transport services imports is expected to reduce transportation costs and enhance access to local, regional, and international markets. This provides the impetus to increase manufacturing value added per capita.

The coefficient of communication services imports is positive and statistically significant at 5 per cent significance level in model 3. The result means that holding other factors constant, a one per cent increase in communication services imports would increase manufacturing value added per capita by approximately 0.014 per cent. Our result is consistent with a priori expectation and Mariotti, Nicolini and Piscitello (2012) who found that communication services imports improved performance of manufacturing firms in Italy. Communication services are important in the manufacturing industry since they facilitate coordination of production activities, marketing of products, sharing knowledge, management of manufacturing firms, and coordination of domestic and global supply chains. In this regard, increased access to cheap, reliable, and high quality communication services through importation is expected to increase manufacturing value added per capita in COMESA.

Business services imports had a negative coefficient that was statistically significant at 1 per cent significance level in model 1 and 3. The coefficient of financial services imports was also negative and statistically significant at 10 per cent significance level in model 3. These results were similar to findings by Cattenao, Engman and Saez (2010) who established that an increase in service imports was likely to lower productivity in the manufacturing sector of the importing region.

4.3.2 Effects of Services Exports

Transport services exports had a negative coefficient that was statistically significant at 10 per cent significance level in model 3. This implied that holding other factors constant, a one per cent increase in transport services exports reduces manufacturing value added per capita by approximately 0.014 per cent. Business services exports also had a negative coefficient that was statistically significant at 1 per cent significance level. The result implies that a one per cent increase in business services exports would reduce manufacturing value added by 0.009 per cent.

The coefficient of construction services exports is negative and significantly different from zero at 5 per cent significance level. Holding other factors constant, a one per cent increase in construction services exports would reduce manufacturing productivity by approximately 0.008 per cent.

These findings were similar to Moller, Munch, and Skaksen (2012) who established that service exports had a negative relationship with manufacturing productivity. The export of the above services does not increase manufacturing productivity because their effects on aggregate demand and employment are not strong enough to increase the purchase of the manufactured products. It could be that the volumes of the above service exports are not large enough to impact on manufacturing productivity via the hypothesized channels.

4.3.3 Effects of Control Variables

The first lag of the dependent variable has a positive coefficient that is statistically different from zero at one per cent significance level in all models. This is consistent with a priori expectation and means that the manufacturing value added per capita in the previous period positively affects the level of value added in the current period. A high level of value added in the previous period is likely to increase sales and profits, thereby enhancing access to financial capital (sales and profits) for increased production or expansion in the current period.

Fixed capital formation has a positive coefficient that is statistically different from zero at five per cent significance level in model 2 and 1 per cent significance level in model 1 and 3. The result suggests that holding other factors constant, manufacturing value added per capita would increase by approximately 0.071 per cent (based on model 3) if fixed capital formation increases by one per cent. Fixed capital formation includes acquisition of new plants, machinery, equipment and tools, as well as, construction of transport infrastructure, schools, and hospitals among others. As such, an increase in fixed capital formation is expected to increase manufacturing value added per capita.

The coefficient of GDP growth rate is also positive and statistically significant at 1 per cent significance level in model 3 and at five per cent in model 1 and 10 per cent in model 2 as expected a priori. The result mean that a one per cent increase in GDP growth rate would increase manufacturing value added per capita by approximately 0.01 per cent. This positive effect mainly occurs through the aggregate demand channel. Specifically, a high GDP growth rate is often accompanied by an increase in demand for goods and services by firms and households. Thus, an increase in demand for manufactures due to high GDP growth is likely to increase manufacturing value added per capita.

4.4 Post-Estimation Tests

Table 4.4 Sargan test for over-identifying restrictions

Model 1		Model 2		Model 3	
$Chi^2(53)$	47.22281	$Chi^2(44)$	46.93254	$Chi^2(39)$	39.59808
Prob > chi^2	0.6976	Prob > chi^2	0.3532	Prob > chi^2	0.4432

Ho: Over-identifying restrictions are valid

Sargan test for over-identifying restrictions tests the null hypothesis that over-identifying restrictions are valid.

Table 4.4 shows that the null hypothesis was accepted for all the three models, implying that the over-identifying restrictions were valid.

Table 4.5 Arellano-Bond Test for Zero Autocorrelation in First-differenced Errors

	Model 1		Model 2		Model 3	
Order	Z	Prob > Z	Z	Prob > Z	Z	Prob > Z
1	-2.3354	0.0195	-2.0742	0.0381	-1.9427	0.0520
2	-0.12702	0.8989	-0.19552	0.8450	-0.84945	0.3956

Ho: no autocorrelation

The Arellano-Bond test for autocorrelation tests the null hypothesis of no autocorrelation in the idiosyncratic errors. The presence of autocorrelation at order one does not mean that the model is misspecified since the first difference of independently and identically distributed (iid) idiosyncratic errors are expected to be serially correlated. This means that a model is considered to be misspecified only if the null hypothesis (no autocorrelation) is rejected at an order higher than 1. Table 4.5 shows that there is no autocorrelation in all the three models at order 2. This means that there is no misspecification problem since the moment conditions used in the GMM are valid.

5.   Conclusions and Recommendations

5.1   Conclusions

This study set out to determine the effects of trade in services on industrialization in COMESA with a focus on the performance of the manufacturing industry. Industrialization in this study was defined as a socio-economic process through which the share of the industrial sector and manufacturing industry in gross domestic product (GDP) increases. This variable was proxied by manufacturing value added per capita. Services trade liberalization was hypothesized to impact on industrialization based on the direction of trade among other explanatory variables.

During the period 2005-2014, transport service imports and communication service imports were found to have a positive effect on value added within the manufacturing sector in the COMESA region. This finding supported the argument that services imports have the potential of increasing manufacturing value added, if indeed the lower aggregate demand brought about by job losses due to services offshoring, are offset by an increase in supply of cheap and high quality services that effectively lower the cost of production.

Business service imports together with financial service imports were found to have a negative effect on manufacturing value added per capita within the COMESA region. The implication is that the negative effects of offshoring of the above services outweigh the positives. Specifically, business and financial services imports

appear to lower employment, hence aggregate demand and this eventually has an overall negative effect on manufacturing value added per capita. This is a clear indicator that these services are better off being provided from within the region if it intends to achieve industrialization.

Transport service exports alongside construction service exports were found to have a negative relationship with manufacturing value added per capita. Export of these services therefore has a net effect of decreasing employment and aggregate demand within the COMESA region. Given that these sectors are key contributors to productivity in the manufacturing sector, their supply outside the region denies the industries critical inputs for growth. An outward movement of supply in these two services sectors, therefore impacts negatively on manufacturing value added per capita and hence industrialization.

5.2   Policy Recommendations

Given that the sectors considered in this analysis are included in COMESA's priority list of service sectors, it is important that a number of measures are taken to enhance their potential contribution to industrialization within the region. This study came up with the following policy recommendations based on findings.

Further liberalization of service sectors, particularly transport and communication should be done because they are significant contributors to the performance of the manufacturing sector. Evidence shows that imports in these two sectors have the potential of catalysing the region's industrialization process. This can be achieved by increasing market access in all modes of service supply in the above sectors. This especially applies for mode 3, setting up of commercial presence and mode 4, movement of natural persons. FDI in transport and communications sectors gives manufacturers access to affordable and efficient logistics and ICT services thereby reducing production costs and subsequently increasing productivity.

Liberalization in transport and communication services has to be accompanied by free movement of natural persons to allow the temporary migration of service suppliers. To support this, partner states should fast track the negotiations for mutual recognition of academic and professional qualification certificates to encourage the free movement of service suppliers across the region. Harmonization of professional and academic qualifications, curriculum, and training will go a long way in unlocking the existing impediments to movement of professional service suppliers within the region.

The above recommendations should go hand in hand with regulatory and policy reforms in the named sectors. These are currently the major obstacles to the realization of the service sector's maximum potential. Regulatory restrictions in the air transport sector for example hinder its growth and by extension its potential contribution to industrialization and economic growth. The policy and institutional environment should be made conducive for the growth and competitiveness of the sector.

To boost the performance of transport and construction service exports outside the region, member states should consider holding multilateral negotiations with other regional economic blocs in order to increase their

market access and diversify service export destinations. This will go a long way in enhancing their contribution to the industrialization process.

Finally, the region needs to lay emphasis on skill development and capacity building, in the service sectors (for example, business and financial services) whose imports seem to affect industrialization negatively. This will help in improving the region's capacity to provide the said services internally as a way of increasing local labour demand and by extension, employment and the sector's contribution to GDP.

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The Movement of Persons in COMESA: Regulatory Convergence, Differences and Regional Contrasts

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Abstract

The study provides a comparative analysis of regulatory frameworks for the movement of persons in the COMESA region, in comparison with EAC, ECOWAS and SADC some of its African regional counterparts. It examines the main elements and components of the frameworks and protocols on the temporary movement of persons amongst the four RECs and evaluates the degree of their implementation. A comparative analysis was undertaken based on international and regional practices. The study found a great level of convergence in terms of policy frameworks governing the movement of persons amongst the four RECs. All the four RECs have provisions on the right of entry, right to work, right of establishment and residence, nonetheless with markable divergences on the ratifications and actual implementation. In conclusion, the study espouses some policy recommendations to focus on partial labour agreements that focus on specific categories of professional skills, business persons as opposed to full labour mobility due to the limited implementation of existing provisions.

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1.   Background

Movement of persons is a key component and enabler in trade and regional integration. Consequently, free movement of persons forms an integral part of most regional and global trade agreements(Stephenson & Hufbauer, 2010). Likewise, movement of labour is one of the four fundamental economic freedoms in COMESA common market arrangements, along with free movement of goods, services, and capital.

The Common Market for Eastern and Southern Africa (COMESA) is the largest Regional Economic Community (REC) in Africa; comprising of 19 Member States. Its vision is to drive the attainment of a fully integrated and competitive regional economic community, through a strategy based on cooperation in trade, investment promotion, and development. The regional integration strategy for COMESA Member States sought to achieve the following; a Free Trade Area in October 2000, Customs Union by December 2012, a Common Market by 2015, and a Monetary Union by 2018, however COMESA is implementing an FTA. As such, the movement of persons has been a fundamental premise in the COMESA Treaty as it is essential to the attainment of the Common Market.

The free movement of persons is also one of the key fundamentals of continental political integration and international human rights systems. Chapter VI of the Treaty establishing the African Economic Community provides for the free movement of persons and the conclusion of a Protocol on the Free Movement of Persons, Right of Residence and Right of Establishment (African Union, 2002). Furthermore, the free movement of persons is also reinforced as a human right in terms of the 1948 Universal Declaration of Human Rights and the International Covenant on Civil and Political Rights as "freedom of movement". The World Trade Organisation (WTO) General Agreement on Trade in Services (GATS), provides for movement of natural persons in Mode 4 services supply, though in general there are no provisions for labour mobility under WTO Agreements.

The COMESA Regional integration agenda fully envisages the operation of a Common market; which includes the free movement of goods and persons. In terms of implementation, COMESA is at the level of a Free Trade Area (FTA). The framework is embedded mainly in the COMESA Treaty; Chapter 28, Article 164 through which Member States agreed to adopt individually, at bilateral and regional levels, the necessary measures in order to achieve progressively the free movement of persons, services, labour and right of establishment and residence among other things (COMESA, 1994). In view of which, two Protocols; on the Gradual Relaxation and Eventual Elimination of Visas (1984) and the Free Movement of Persons, Labour, Services, Right of Establishment and Residence (2001) have been adopted.

The objective of the study was to provide an assessment of the movement of persons framework in COMESA against the regulatory frameworks in other African RECs; Southern African Development Community (SADC), East African Community (EAC), and Economic Community of West African States (ECOWAS).

There is limited examination on the issues of temporary movement of person within the context of regional economic integration in Africa. In addition to being limited, research has focused on individual REC's without offering the comparative analysis between the three REC's. Some leading authors include; Cronje, 2013 , Fioramonti, 2013 and, Stephenson & Hufbauer, 2010. Most available literature is limited to migration as a human

right and security concept, rather than the temporary movement of persons as an element of trade and regional integration.

At the Tripartite level; COMESA-EAC-SADC, there are on-going negotiations on the framework for the movement of business persons under Tripartite FTA Agreement launched in June 2015. The Technical Committee on the Movement of Business Persons is negotiating an instrument to facilitate the temporary movement of business persons. The Tripartite FTA Agreement is not operational, therefore there has been little comparison of the regulatory framework within that context. The ECOWAS region has been cited as one of the REC's with a strong framework on the movement of persons, therefore provides greater insights for the study.

This study undertook legal and policy analysis on the free movement of persons that relies on legal instruments and academic literature. The methodology involved a comparative analysis of regional laws and regulatory frameworks, mainly drawing from treaties, protocols and legislation, regulations in the four selected RECs and international systems to provide some insights on best practices. The study detailed the movement of persons framework within COMESA and also considered movement of persons within the context of trade in services. The study sought to answer; what are the legislative frameworks governing the temporary movement of persons for each REC, what is the level of convergence with respect to the above frameworks, what are the lessons that can be adapted from regional, international experiences and best practice, and what are the policy suggestions that could advance the movement of persons frameworks in the region.

The study found that across the four regional blocs, the Protocols on the movement of persons had the lowest implementation rates amongst treaty provisions. While there is some convergence in terms of policy frameworks governing the movement of persons amongst the RECs in Africa, with most of them having ambitious goals on the right of entry, right to work and the right of establishment and residence. The most significant divergences were with regard to the implementation of the Protocols, with the SADC and COMESA regions lagging behind. The study suggested alternative frameworks that can deepen regional integration within COMESA, such as considering agreements that focus on specific categories of professional skills, business persons as opposed to full labour mobility agreements. This would be useful as countries move towards the implementation of the COMESA common market, Tripartite Free Trade Area and Continental Free Trade Area.

2. **Movement of Persons Policy Framework in COMESA Region**

2.1 Overview

Movement of labour is one of the four fundamental economic freedoms in a common market, along with free movement of goods, services, and capital. It was envisaged at the time of the signing of the COMESA Treaty; that the right to establishment and movement of labour was an essential facet to the fulfilment of COMESA's trade liberalization objectives. This was provided for in the Protocol on the Gradual Relaxation and Eventual Elimination of Visas (Visa Protocol) which has been in force since December 1984 and secondly; the Protocol on Free Movement of Persons, Services, Labour and Right of Establishment and Residence (Free Movement Protocol), was adopted in 2001 but is not in force. A COMESA Model Law on Immigration was adopted in 2006. It provides guidelines that COMESA Member States may use to harmonize their national immigration laws and practices.

The movement of persons policy frameworks for most of the Member States have not changed since 2006, it is therefore reasonable to assume that a few have used the Model Law.

Fifteen of the nineteen COMESA Member States are implementing the COMESA FTA, which permits duty free-market access for intra-regional trade. Trade and market access as envisaged by the FTA can only be fully realised when the people who engage in trade are free to move across the borders of an economic community. Intra COMESA trade stands 12 per cent (COMESA, 2016). Whilst the low levels of integration cannot be solely attributed to the movement of person's frameworks, restrictive national policies on the movement of persons adversely affect trade and regional integration (UNECA, 2012). Regions which have more integrated movement of person's policies have deeper economic integration. Intra-regional trade for the East African Community (EAC) and the European Union (EU), for example, stands at twenty per cent and sixty two per cent, respectively (UN COMTRADE, 2015).

2. 2   COMESA Visa Protocol

The main objective of the Visa Protocol was to provide a framework for the gradual elimination of visas through a structure that gradually relaxed visa regimes.

Table 1 shows that Kenya, Madagascar, Malawi, Mauritius, Rwanda, Swaziland, Seychelles, Uganda, Zambia, and Zimbabwe are to a large extent implementing the Protocol; providing ninety day visa access and access to visa on arrival to at least half of the COMESA Member states. Mauritius, Rwanda and Seychelles have fully waived visa requirements for all COMESA citizens. While Zambia , has waived visas and visa fees for all COMESA citizens on official business. A number of other countries have also set up COMESA desks at ports of entry to fast track access for COMESA citizens. Member States like Egypt, Libya, Ethiopia, DR Congo, Sudan and Eritrea only grant visas from their embassies and do not grant visas on arrival for COMESA citizens.

Table 1: Assessment of Compliance with Visa Protocol vis a vis Intra Regional Trade

Country	90 day Visa free on arrival	Access to Visa On Arrival	COMESA FTA	Percentage of intra-regional trade vs global trade -2014
1. Burundi	Partial	Limited	YES	18
2. Comoros	Partial	Partial	YES	10
3. DR Congo	Limited	Limited	Yes*is yet to begin tariff phase down process	23
4. Djibouti	Limited	Limited	YES	2
5. Egypt	NO	NO	YES	3
6. Eritrea	NO	NO	NO	13
7. Ethiopia	NO	NO	NO	3

8. Kenya	YES	YES	YES	10
9. Madagascar	Partial	Partial	YES	4
10. Malawi	Partial	Partial	YES	17
11. Mauritius	YES	YES	YES	5
12. Libya	NO	Partial	YES	5
13. Rwanda	YES	YES	YES	33
14. Seychelles	YES	YES	YES	3
15. Sudan	NO	NO	YES	7
16. Swaziland	Partial	Partial	NO	6
17. Uganda	Partial	Partial	YES	17
18. Zambia	YES	YES	YES	20
19. Zimbabwe	YES	Partial	YES	4

Countries with a "YES" are implementing the Protocol to at least a 75%; those with a "partial" are implementing at least 50%. "Limited" connotes less than 50%, while "No" connotes Less than 20% for columns on the Visa Protocol .

Source for Intra Trade percentages-COMESA, - COMSTAT, 2015

Whilst a number of countries are implementing the COMESA FTA, intra COMESA trade remains very low at 12 percent . One cannot strictly conclude that countries with a more flexible movement of persons policy framework have higher levels of intra-regional trade since there are other factors that influence this; for example, value addition, investment, and product development. However, it can be inferred that countries would increase their share of intra-regional trade if they adopt a more trade facilitative and non-restrictive approach to the movement of persons. It is worth noting that Member States with liberal movement of persons frameworks like Mauritius, Kenya and Rwanda were ranked high in terms of the Africa Integration Index (AfDB, 2015) and Global Competitiveness Report (World Economic Forum, 2015). While Djibouti, Egypt, Ethiopia and Zimbabwe whose intra-regional COMESA trade shares are below 5% are likely to increase their intra-regional trade contributions should they implement the Visa Protocol fully (COMSTAT, 2015).

Selected Country Analysis

DR Congo grants visas on arrival to citizens from 6 COMESA Member States Burundi, Kenya, Mauritius, Rwanda, Uganda and Zimbabwe for a stay of up to ninety days. All other countries apply for visas before travel, usually of seven to thirty days duration, but which may be extended to ninety days. DR Congo has deposited its instrument of accession to the FTA and will gradually reduce tariffs over a three year period. At approximately 20 per cent, DR Congo's intra COMESA trade is quite high (COMSTAT, 2015). But this is due to its exports of minerals and copper ore, and access to its market remains limited. However, DR Congo consists of a large market and has potential to trade in the region. A more relaxed movement of persons policy framework would facilitate better access to this market.

Sudan has a restrictive visa regime, requiring most African citizens, including those from COMESA Member States, to apply for visa before travel. It has bilateral arrangements with Egypt and as such only Egyptians do not require visas. Kenyans and Eritreans can access visas at points of entry. Sudan main trading partners within COMESA are Egypt and Ethiopia (COMSTAT, 2015).

2.3   Protocol on Free Movement of Persons, Services, Labour and Right of Establishment and Residence

The Protocol on Free Movement of Persons, Services, Labour and Right of Establishment and Residence adopted in 2001. The Protocol underscores the following key issues: issuance of a ninety day visa free regime; a one year multiple entry visa regime on a reciprocal basis; elimination of visas six years from entry into force; free movement of labour within six years of entry into force; free movement of services by the year 2004; gradual elimination of restrictions on the right to establishment; and agreement on the modalities for the right of residence.

COMESA Member States drew a roadmap to implement the Protocol in a phased manner as follows: Phase 1 (2000-2002): Gradual Removal of visa requirements; Phase 2 (2002-2006): Movement of skilled labour and services; Phase 3 (2006-2010): Right of establishment; and Phase 4 (2014-): Right of residence. However, these timelines have elapsed and the roadmap has not been implemented. In terms of compliance; only four Member States: Kenya, Rwanda, Burundi and Zimbabwe have signed the instrument with Burundi being the only one that has ratified it. As a result, the Protocol has received inadequate ratifications and is not in force.

Some components of the Common Market have been implemented with vast efforts on monetary harmonisation and measures to facilitate transport and trade facilitation through a number of instruments such as Yellow Card, Regional Bond Guarantee System and Regional Payment Settlement systems and Carrier Licence (COMESA Annual Report, 2014). The free movement of persons is the missing component, where after 15 years Member States were still trying to comply with phase one which deals with gradual removal of visa requirements. Burundi, the only state having ratified the Protocol, has not implemented the Protocol. This highlights reluctance, limited political will and inadequate comprehension on the Protocol, particularly with regard to provisions on the right of establishment and residence. This implies that there are limitations in attaining the COMESA Common Market unless this component is implemented.

2.4   COMESA Trade in Services Framework

The WTO General Agreement on Trade in Services (GATS) defines trade in services as the supply of services through four different modes of supply and includes Mode 4, which relates to the supply of a service through the presence of natural persons in the territory of another country(World Trade Organisation, GATS,1994). The scope of Mode 4 invariably interfaces with the movement of persons.

In June 2009, the COMESA Council of Ministers adopted a COMESA Framework for liberalising Trade in Services. It consists of Regulations on Trade in services, an Annex on the temporary movement of persons, and guidelines on the services negotiations. Ten Member States have validated schedules in the four priority sectors of communication, financial services, transport and energy and the schedules have commitments with a bearing

on the movement of persons(COMESA,2014). The schedules of commitment for Mode 4, highlight that some of the countries have chosen to be restrictive. For example Burundi, Kenya, Malawi and Sudan offers restrict market access except for intra company transferees and business visitors up to ninety days. On the other hand, Zambia's Mode 4 offer, which is more liberal, allows market access for management and expert jobs for the implementation of foreign investment. Mauritius has also adopted a much more liberal approach, allowing market access on Mode 4 for business visitors, persons engaged in installing machinery, employees of Foreign Service suppliers at management or expert level, and contractual service suppliers for stay up to a year and independent professionals.

Globally, the services sector is the fastest growing economic sector; accounting for about 70 per cent of global Gross Domestic Product (GDP), a third of global employment and approximately 20 per cent of gross global trade and 45 per cent of world exports in value added terms(ITC & COMESA Business Council, 2016). For the COMESA region, services account for a substantial share of GDP, typically around fifty per cent for most countries (ITC,Trademap, 2015). However, COMESA's global trade in services still remains low at US$ 77 billion, which is about a fifth in comparison to COMESA's trade in goods which currently stands at US$307 billion (COMSTAT, 2015).

Considering the scope of growth offered by the services sector, a much more strategic and efficient approach needs to be adopted to accelerate the negotiations for trade in services. This should be complemented by a liberal movement of persons policy regime given the overlap with certain aspects of trade in services, and GATS Mode 4. Based on the schedules of commitments above, the movement of persons and trade in services in COMESA is likely to remain very low because of the restrictive offers countries are adopting. Deeper regional integration in COMESA should take cognisance of the important role of trade in services in regional economic growth.

3.   **Comparative Regional Frameworks**

3.1   **East African Community Movement of Persons Policy Framework**

The East African Community (EAC) movement of persons policy framework is governed by the Protocol on the establishment of the EAC Common Market, (CMP), which provides for the free movement of goods, services, labour, persons and capital and the right of establishment and residence(East African Commubnity, 2009). The Protocol was ratified by all partner states and came into force on 1 July 2010. The Protocol is accompanied by Regulations on free movement of persons, free movement of workers, right of residence and the right of establishment, which provides for the scope of implementation. Since then, partner states have had the obligation to change their national policies, laws and regulations to allow full implementation of the Protocol.

The Free Movement of Persons Annex provides for visa free regime and stay of up to six months for visitors; persons who seek to enter a Partner State for the purpose of medical treatment; persons in transit through the territory of a Partner State; persons who are admitted as students in training establishments in a Partner State; and persons entering a Partner State for any other lawful purpose other than as a worker or as a self-employed person. It further provides for harmonization of the travel documents through an EAC passport, to which extent the citizens of Kenya, Rwanda, Burundi and Uganda have agreed to the use of national identity cards for their

citizens' for travel between the four Partner States.

The Free movement of workers Annex allows workers from any Partner State to accept employment in another EAC country, grants them social security benefits and freedom of association. However, this is limited by a schedule developed by each Partner State showing the different classes of workers that each Partner State is willing to recognise from the commencement of the Common Market. An examination of the Schedule shows that only professionals, administrators, technicians and other skilled workers will enjoy the benefit of the freedom of movement of workers. In addition, the Protocol provides for the mutual recognition of academic and professional qualifications with professional bodies such as those regulating accounting and engineering sectors having developed mutual recognition agreements to enable labour mobility. Furthermore, the Inter-University Council for East Africa has been established to harmonize qualifications across the community.

EAC Partner States agreed on progressive liberalization of trade in services in accordance with the negotiated Schedule of Specific Commitments as provided in Annex V of the Common Market Protocol (EAC, 2009). The Schedule of specific commitments follows the WTO GATS positive list approach and provides for the scheduling of commitments on market access and national treatment according to each of the four modes of supply, including temporary movement of natural persons. In this regard, EAC Partner States made commitments in seven service sectors; business and professional services; communication services; distribution services; education services; financial services; tourism and travel-related services; and transport services.

Annex II of the Protocol grants market access commitments mainly on categories of workers including; managers and administrators, professionals, technicians and associate professionals; and, craft and related trade workers. This is also in line with the Annex on the Movement of Workers provided by each Partner State. However, the provisions on Trade in Services and schedules of specific commitments are currently under review to ensure consistency between the GATS commitments and the CMP. Burundi and Rwanda have made more liberal commitments under GATS as opposed to the CMP (Baker, Estévez & Bosman, 2015). In the case of Rwanda, Business Services and Educational services of the CMP schedule subordinates Mode 4 commitments to the provisions of the Schedule on the Free Movement of Workers which are less liberal. Cognisant that no limitations were scheduled under its commitments in GATS under Mode 4, the commitments made at the regional level are more restrictive than the ones made under GATS. For Uganda, whilst it has only made commitments in two sectors under GATS, and five more under the CMP, the commitments made in the transport sector for instance are more liberal under GATS in comparison to the CMP. Tanzania is an exception as her commitments under CMP are more liberal in comparison to its GATS commitments.

3.2 SADC Movement of Persons Policy Framework

Article 5(2)(d) of the SADC Treaty states that SADC shall "develop policies aimed at the progressive elimination of obstacles to the free movement of capital and labour, goods and services, and of the people of the region generally, among Member States", within a framework of democracy, human rights and the rule of law (SADC, 1992).

In 1995, SADC drafted the Free Movement Protocol, which set out the right to freely enter another Member

State for a short visit without a visa, the right to reside in the territory of another member state and, the right to establish oneself and work in the territory of a member state for the SADC citizens. The scope of the Protocol was quite similar to the COMESA Free Movement Protocol. However, the Agreement never came to fruition as some Member States criticized it. In 2005, the Free Movement Protocol was replaced by the Protocol on the Facilitation of Movement of Persons, which emphasized 'facilitation' as opposed to 'free movement' and established a visa-free system for SADC countries and aimed at harmonizing immigration practices. The Protocol was signed by 13 Member States, and ratified by only six: Botswana, Lesotho, Mozambique, South Africa, Swaziland and Zambia and has not come into force yet because it requires a minimum of two-thirds ratification to come into force (Kitimbo, 2014). Nshimbi et al , 2013, sums it up, "The non-ratification and enforcement of SADC Facilitation Protocol, a much less ambitious objective than its free movement predecessor, raises questions about the region and its Member States' political will and commitment to migration governance".

SADC in 2011 approved the establishment of the SADC Regional Qualifications Framework to set minimum standards for quality assurance and to facilitate the recognition of qualifications in the SADC region. This is yet to be implemented. In 2015, SADC adopted the Regional Migration Policy Framework. The Framework does not specifically encompass provisions on the free movement of persons, rather, it recommends the development of national labour policies in tandem with the regional frameworks with provisions for labour data banks and databases. Despite recognizing the need to facilitate the free movement of persons and services, the framework is more focused on social issues for migrant workers.

The SADC Protocol on Trade in Services, signed in 2012, provides for negotiations on the liberalization of the movement of persons in the context of the supply of services. The legal architecture for this liberalization is similar to that of COMESA and follows the WTO GATS Agreement framework. The SADC Protocol on Finance and Investment also provides for the employment of foreign staff by investors. These Protocols are still in their initial stages and the work on the negotiations and scheduling of Commitments on the Trade in Services Protocol is on going.

3.3   ECOWAS Free Movement of Persons Policy Framework

The Treaty of ECOWAS (1975), aimed to eliminate all obstacles to the free movement of people, goods, capital and services to guarantee the right of entry, residence and establishment among the 15 member states. Article 3 of the Community Treaty for ECOWAS provides for the removal of obstacles to the free movement of persons, goods, services and capital and the rights of residence and establishment.

In 1980, the region ratified the Protocol on Free Movement of Persons and the Right of Residence and Establishment. The Protocol is accompanied by four supplementary protocols: 1985 Supplementary Protocol A/SP.1/7/85 on the Code of Conduct for the implementation of the Protocol on Free Movement of Persons, the Right of Residence and Establishment; 1986 Supplementary Protocol A/SP.1/7/86 on the Second Phase (Right of Residence) of the Protocol on Free Movement of Persons, the Right of Residence and Establishment; 1989 Supplementary Protocol A/SP.1/6/89 amending and complementing the provisions of Article 7 of the Protocol on Free Movement, Right of Residence and Establishment; 1990 Supplementary Protocol A/SP.2/5/90 on the

implementation of the Third Phase (Right of Establishment) of the Protocol on Free Movement of Persons, Right of Residence and Establishment. The first phase of the Protocol guaranteed free entry of citizens from Member States without visa for ninety days and was ratified by all Member States in 1980. The second phase of the protocol, right of residence became effective in July 1986 and was ratified by all Member States. However, the right of establishment is yet to be implemented. Although a biometric ECOWAS passport was introduced in 2000, which can also be used for travel to third countries, many ECOWAS nationals do not possess any travel documents or birth certificates to take advantage of it. Other issues such as lack of harmonization of immigration procedures, language barriers and corruption impede the fulfilment of the Protocol. (Abdoulahi, M.(2005).

The ECOWAS Migration framework is the most comprehensive migration framework in the African region. Nonetheless, when it comes to services, ECOWAS community has adopted a piece meal approach with various agreements on specific market access issues in services with greater focus on ICT, telecommunications and energy services.

3.4   Comparative Regional Analysis

All the REC's Treaties have provisions on full labour mobility and integration which includes right of establishment and residence. It is not the absence of legislative framework that is an issue, rather the ratification and implementation of Protocols (Touzenis, 2012). While each REC has negotiated Protocols on the free movement of persons not all Member States have signed and or ratified the Protocols, leaving many of the Protocols largely defunct. There are variations in the implementation of movement of persons policies; some RECs have made more progress than others. COMESA and SADC have a lower level of harmonization in comparison to the EAC and ECOWAS.

EAC and ECOWAS have both ratified the Protocols that relate to the right to work, right of establishment and residence, albeit with limited implementation. EAC and ECOWAS are also implementing 'Common Passport' systems, which highlights the greater levels of commitment in comparison with the COMESA and SADC regimes. EAC countries are at an advanced stage in comparison with ECOWAS on the same, since ECOWAS countries seem to be faced with challenges relating to access to biometric passports. EAC and ECOWAS are implementing provisions on the right to work. Table 2 provides a comparative summary of the levels of implementation of migration policies in COMESA, EAC, SADC and ECOWAS.

Table 2: Implementation of Migration Policy in RECs

REC	Protocol	Right of Entry- Freedom of movement	Right to work	Rights of establishment for business	Right of Residence	Common passport	Universal tourist visa
EAC	Article 7	Yes	Yes(limited)	Yes (limited)	Yes(limited)	Yes, EAC passport	Yes
COMESA	Article 164	Yes- Limited implementation	No	No	No	No	No
SADC	Article 14	No- Selective implementation based on bilateral arrangements	No	No	No	No	In progress Uni-visa between Zimbabwe and Zambia
ECOWAS	A/P/1/5/79	Yes	Yes-limited	Yes- limited	No	Yes, ECOWAS	No

Source: Aria (2012) and Author's own research

	COMESA	SADC	EAC
Protocol	Article 3(b), as 4(4) (c). Article 164 -free movement of services	SADC Protocol on Trade in Services 2012	EAC Common Market Protocol 2010
Sectors	communication, financial services, transport and tourism	No available information	Business, communication, distribution, education, financial; tourism; and transport.
Scope of Commitments	intra company transferees and business visitors	No available information	intra company transferees, business visitors, certain categories of professionals
Comments	Same as GATS offers		More liberal than COMESA offers. Broader than GATS offers in some cases-
	COMESA	**SADC**	**EAC**

The COMESA Committee on Trade in Services initiated processes on trade liberalization of the services sector in 2009; however, only half of the Member States have finalized their schedule of commitments on the four priority sectors. Nevertheless, they are still largely focused on the same level of market access commitments that the Member States have under the WTO GATS frameworks. The offers that have been submitted by most of the countries, besides Zambia and Mauritius are restrictive on market access for Mode 4 limiting this to intra company transferees and business visitors for a limited period of time.

The SADC Protocol on Trade in Services, signed in 2012, provides for negotiations on Trade in Services for the SADC Member States and follows the same model as the COMESA Trade in Services Regulations with negotia-

tions still ongoing. In contrast the EAC has progressed faster than the other two REC's as the Protocol on the free movement of services is already in force covering seven sectors. Whilst the levels of market access commitments are higher in comparison with COMESA the levels of commitments are similar to those made under the WTO GATS frameworks, with Rwanda and Burundi making lesser commitments on mode 4 under the REC framework (Cronje, 2015).

Table 3 shows that the EAC schedules are much more liberal in comparison with the offers made under COMESA. It is worth noting that countries with common membership in EAC and COMESA have made more restrictive offers under COMESA than the level of market access they are providing under the EAC.

Table 3. Comparative REC analysis for the Movement of persons within the Trade in Services

The free movement of persons within both the trade in goods and services dimensions remains limited in the four REC's. Despite having the legal frameworks in place there is selective implementation. The disparities in the levels of economic development and subsequent fear of influx of economic migrants, political migrants coupled with a series of national legislative frameworks that are not harmonized remain some of the key obstacles to the free movement of persons. Countries and REC's have maintained policies which restrict the movement of services suppliers at the detriment of trade and development of the services sectors.

4.   **Lessons from Select International Approaches**

There are varied regional and international models for the movement of persons. Most Regional Economic Communities have provisions that focus on the integration of the movement of persons within their respective regions. The European Union (EU) model expressly pursues the labour market integration, independent of service trade liberalization. Article 18 of the European Community Treaty gives EU citizens a fundamental, personal right to move and reside freely within the territory of the Member States, subject to very few limitations and conditions. As such, in addition to the right to freely move across the region, persons are also permitted to establish themselves or to supply services on the same conditions as nationals within any EU jurisdiction. Limits on the freedom to provide services is also to some extent determined by the degree of liberalization in a given service sector and some restrictions on public service posts.

This is further cemented by the Schengen Agreement currently operational amongst twenty five countries which allows citizens to freely move across the participating states without the need to show and stamp passports. Similarly, third country nationals have to get a visa from one country and will be able to freely move throughout the other participating countries for the duration of their stay with limited restrictions. The EU framework has shown over the years that full labour mobility can yield various benefits from sharing of consular services, border coordination and services development. However, recently the issue of third country nationals and asylum seekers have threatened the framework as countries are distraught from the social and economic effects of sizeable numbers of immigrants, suggesting the need for a more cautious approach to full labour mobility.

The Australia–New Zealand Closer Economic Relations Agreement (ANZCERTA, 1993) provides for free movement, right to work and right of residence by permitting Australians and New Zealanders to live and work in

each other's countries for an indefinite period, subject to limited exceptions. This is also complemented by the Trans-Tasman Travel Arrangement(Austrilian government , 2016) which proffers to Australians and New Zealanders the right to live and work in each other's countries for an indefinite period.

Japan has a number of bilateral agreements where it confers the temporary stay for the movement of business persons or professionals. One of the key elements is that it includes movement of certain skilled personnel for employment purposes, in addition to the business visitors and other classes. Examples include; the Japan-Singapore Economic Partnership Agreement (EPA) opens up to engineers from Singapore, and the Japan-Philippines EPA opens up to engineers, nurses and other workers (Government of Japan, 2010). Japan's scheduling in the EPA's is strategic and illustrates how one can open up key sectors based on the country's economic and labour needs to meet the skills gap in the receiving country. The Australian- Thailand FTA where Australia has opened up to Thailand chefs and massage therapist to meet the demand of those services in their market also showcases and cements the above practice.

Under the Caribbean Community (CARICOM) Single Market and Economy (CSME), a system has been developed to provide for free movement of labour and free movement of services, with a focus on professional services. The Protocol on the Establishment, Services and Capital, 1998 provides for free movement of university graduates, other professionals and skilled persons, and selected occupations; as well as freedom of travel and exercise of a profession. This means that for certain categories of skilled workers a certificate is issued in one country and recognized in all others, and this allows a person to take up employment without further work permit requirements from the CARICOM States. The implementation of this has not been absolute, and has been met with various challenges but it provides an example of an effective selective approach on the movement of professional skilled persons.

The Asia-Pacific Economic Cooperation (APEC) has established a scheme to facilitate the entry of business visitors under the APEC Business Travel Card Scheme (APEC, 2016). The APEC Business Travel Card (ABTC) is for business people to gain streamlined entry to other economies. The ABTC allows business travellers pre-cleared, facilitated short-term entry with stays of two or three months on each arrival to participating member economies for up to a three-year period. The ABTC removes the need to individually apply for visas or entry permits, saving valuable time. Cardholders also benefit from faster immigration processing on arrival via access to fast-track entry and exit through special APEC lanes at major airports in participating economies. In itself, it does not provide right of entry, establishment or residence as one would still need to meet the conditions of entry. Nonetheless, it provides a good illustration of a focus on facilitation business persons, specifically.

Under the APEC Engineer scheme, once registered as an engineer, one granted the status equivalent to that in his home country as an engineer in the other participating economies. The designated fields include mechanics, electrical engineering, electronics, information and communications technology, and construction. This is similar to the Washington Accord, 1989 and relates to equivalence of qualifications and mutual recognition, and does not necessarily include the right to work and right of establishment. However, once mutual recognition agreements are in place, it will be relatively easier for one to apply for work and get a work permit. By clearly identifying certain categories of professionals where there will be mutual benefit in facilitating their movement,

countries can bilaterally or at a regional level enter into agreements that facilitate mutual recognition of qualifications and the movement of the professionals.

The North American Free Trade Agreement (NAFTA) provides for market access for certain groups of business persons on a temporary basis but limited to four categories; traders and investors, intra-company transferees, business visitors and professionals. While visas are still required, fees for processing applications are limited to the approximate cost of services rendered. The Agreement has a list of 62 professions set out in an Appendix 1603 which is the Designated List, identifying the specific category of professions for entry (Unites States Citizen and Immigration Services, 2016). The Agreement is limited to right of entry and the right to work and doesn't extend to establishment and residence. The NAFTA model has been subsequently used as a good practice by other agreements, especially in the definition, identification and scheduling of the specific categories and having specific conditions for each category. This allows greater clarity and flexibility in the arrangements as broad classifications usually result in the fears that are attached to full labour mobility provisions.

5.   **Conclusion and Recommedations**

The movement of person's regimes in Africa is centred on protectionism and security rather than on facilitating trade and the movement of persons. The implementation of COMESA Protocols and legislative frameworks on the movement of persons has been extremely slow in comparison with its regional counterparts. There is some level of convergence in terms of policy frameworks governing the movement of persons amongst the four RECs as all have provisions on the right of entry, right to work, right of establishment and residence.

The divergences are evident in the reluctance by Member States to implement most of the provisions on movement of persons which has inherently affected the much needed movement of professional services, movement of business persons and the temporary movement of persons for trade purposes. Whilst, ambitious full labour integration frameworks are the ultimate agenda, it is clear there is limited political will and holistic institutional policy frameworks at national and regional level to ensure their implementation. Selective and sectoral approaches such as agreements that focus on specific categories of business persons and professionals could be the solution for the current challenges to the operationalisation of mobility of persons' frameworks in the COMESA region.

This study confirms that there are various examples on the development of tailored frameworks on the movement of persons as an initial step to deepening integration that can be pursued by COMESA. The following are some of the policy suggestions that may be adopted by COMESA to advance its movement of persons and regional economic integration agenda:

Migration and specific agreements on the movement of professionals or market access for specific services sectors can actually facilitate trade and the much-needed development of skills in some sectors. Opening up labour markets for certain industries and occupations in which it is difficult to ensure a sufficient domestic labour supply, especially in sectors of inadequate supply, will enable transfer of skills , technology and growth of that sector. This should be effected in a balanced manner to ensure that there is limited brain drain from exporting countries.

COMESA could benefit from regimes that advance the free movement of persons by focusing on the movement of professional skills that offer benefits resulting from growth of regular migration. This should help the region to deal with irregular migration flows. COMESA should therefore focus on partial mobility arrangements for movement of specific categories of professionals as opposed to full labour mobility arrangements.

COMESA should accelerate the negotiations for trade in services, in recognition of the role and potential contribution of the trade services to the economic development of most Member States. In addition, the offers and schedules of commitment for Mode 4, should complement and not thwart the movement of persons liberalisation agenda.

There are various regional agreements that demonstrate the need to have specific agreements onthe movement of business persons as separate from the other classes of migration. COMESA has been advocating the development of a 'COMESA Business Visa', to facilitate and expedite the movement of specific categories of business persons in the region. Many businesses in the region already have business units in more than one country and the issuance of a multi-country visa system will facilitate the growth and expansion of businesses within the region. It is quite apparent from specific agreements cited above; NAFTA, Chapter 16, APEC Business Travel Card, Japan's Economic Partnerships Agreements and others that Agreements that are usually focused on specific categories of business persons or professionals can actually be implemented more effectively. The focus should be on an agreement that specifically looks at categroies of business persons or professionals, and creates a framework of how they can be facilitated to move across the region.

Meanwhile, the respective ministries in Member States should drive the ratification of Protocols within their countries by lobbying legislature and advocating for the distribution of resources to implement these Protocols.

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The Nexus between International Financial Integration and Trade in Financial Services in COMESA Region1

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Abstract

This study examines the relationship between three dimensions of financial policies: financial development, financial integration and trade in financial services; using panel Vector Autoregressive Model. The study found that domestic financial development is a base and international financial integration is the channel for improved trade in financial services. International financial integration granger causes trade in financial services and there is a bi-directional relationship between financial integration and trade in financial services. The study recommends that financial policies should be pursued simultaneously with domestic financial sector development and that there is a need for a protocol on capital movement in the COMESA region.

1.   Introduction

1.1   Background

The Common Market for Eastern and Southern Africa (COMESA) was originally established as the Preferential Trade Area (PTA) for Eastern and Southern Africa in 1981, mainly to promote trade in goods among member states through a reduction in trade barriers and infrastructure development. The PTA transformed into COMESA in 1994 with a long-term view of becoming a customs union, common market and ultimately an economic community. COMESA is the largest regional bloc in Africa with nineteen member states and an estimated population of over 389 million people. It has contributed to the growth of trade among member states and expansion in their incomes through trade and tariff harmonisation. More recently, attention has been extended to increasing intra-regional trade in services, through conclusion of negotiations in four priority sectors including financial services.

During the formative years of COMESA as the PTA in the 1980s, the financial sectors of Member States were underdeveloped with a few players in commercial banking, insurance and stock exchanges. Rampant barriers to entry, controls on interest rates and bank lending created financial repression.

Liberalisation in the financial sector in most Member States commenced with structural adjustment policies in the 1980s and 1990s. This resulted in more commercial banks and insurance companies being licensed and the establishment of stock exchanges. COMESA Members States have liberalised access to foreign banks, which has led to a rise in cross-border ownership of banks in particular, Barclays, Stanbic, and Standard Chartered have networks in half of the Member States.

The COMESA financial market has grown due to the expansion of pan-African banks like Standard Bank, Ecobank, United Bank of Africa, Bank of Africa, Kenya Commercial Bank, Equity and Fina Bank. The expansion of Kenyan, Zimbabwean and Malawian insurance companies into other COMESA Member States has also been instrumental in this growth. The expansion of financial institutions has enhanced financial integration in the region.

Although there are growth prospects for the African financial sector, several African countries' financial markets are still in their early stages, despite the fact that many significant improvements have taken place. Development of the financial sector promotes greater economic growth and enables greater export volumes, providing the platform for financial integration and potential for additional exports of financial services. The African financial services industry is expected to almost double its share of total GDP by 2020 (EFMA, KPMG, 2015).

Trade in financial services is the provision of financial services by a firm resident in one country to an individual or firm resident in another country (FINSIA, 2015). Financial integration implies the elimination of barriers for foreign financial institutions to offer financial services in the local market. This may suggest linking banking, equity and other types of financial markets. In this regard, one may loosely say financial integration is a process of enabling easier trade in financial services. 'Financial services' includes transactions in financial instruments, services encompassing deposit taking and lending, credit card services, clearing of payments, financial advice, financial asset management, and so on. In this regard trade in financial services can hardly be separated from

financial development.

To establish this relationship empirically therefore, is an important research issue. The problem of low levels of financial development may hinder trade in financial services and financial integration. Addressing this relationship as an empirical question allows policy makers to further use the estimates to gauge how much financial development is needed and how much liberalisation may be adequate, for improved trade in financial services, knowing trade in financial services also benefits both development and integration of the financial system. In addition, this is not an area that has received attention in empirical research, especially for African countries, although financial globalisation is a reality evident to all. This paper seeks to add to the literature on the issue.

The main objective of this study was to ascertain causality between International financial integration (IFI), domestic financial development and trade in financial services in COMESA Member States and specifically determined if:

   i. IFI causes an increase in regional trade in financial services or vice versa.

   ii. IFI causes financial sector development or vice versa.

   iii. Financial sector development causes an increase in regional trade in financial services or vice versa.

In pursuit of the above objectives, the study tested the following null hypotheses: IFI does not cause an increase in regional trade in financial services and vice versa; IFI does not cause financial sector development and vice versa; and financial sector development does not cause an increase in regional trade in financial services.

2. Conceptual Framework

International financial integration (IFI) can be global (financial globalisation), regional (RFI) or indeed bilateral. Financial globalization should facilitate efficient international allocation of capital, promote international risk sharing and better consumption smoothing ((Kose, Prasad, & Taylor, 2009). Access to foreign capital should increase investment and cause especially capital scarce developing countries, to have output benefits (Edison, et al., 2002). Other authors[1] propose indirect benefits of integration such as improved corporate and public governance, and incentives for greater macroeconomic policy discipline and domestic financial market development (Almekinders, Fukuda, Mourmouras, Zhou, & Zhou, 2015).

Chuku (2012), Senbet & Otchere (2006) and Ekpo & Afangide (2010), have shown that regional financial integration could be a strategic approach to Africa's accelerated development and structural transformation. It is expected that regional financial integration would enable participating regional economies to reap economies of scale. These would arise from the expansion of opportunities for financial intermediation, the creation of larger markets, which makes it more cost effective to improve financial infrastructure; efficiency; competition, and diversification, which leads to, increased capacity to withstand financial crisis. Financial integration improves

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1   Such as Gourinchas & Jeanne, 2004; Lewis, 1993;

macroeconomic and financial discipline even though it generates a higher risk of cross-border financial contagion.

There are no generally agreed measurement indicators for international financial integration. Financial markets include money markets, bond markets, equity markets and banking markets. There are flow measures of capital flows which include FDI inflows and outflows (as a share of GDP), portfolio investment (equities and debts) inflows (as a share of GDP), gross portfolio investment inflows and outflows (as a share of GDP), gross private capital flows (as a share of GDP). Stock measures are less sensitive to short-run fluctuations in capital flows which may be associated with factors that are unrelated to international financial integration, and may therefore provide more accurate indicators of international financial integration than capital flow measures. These include accumulated stock of liabilities and assets (as share of GDP) (Xuan Vinh, 2005).

There are also price-based and quantity-based indicators. Price-based measures could be viewed as a direct check of the law of one price on the condition that the compared assets have similar characteristics. The law of one price states that if assets have identical risks and returns, then they should be priced identically regardless of where they are transacted (Stavarek, Repkova, & Gajdosova, 2011). If assets have sufficiently similar characteristics, we can base these measures on direct price or yield comparisons. Rate spreads or asset return differentials can be used as an indicator of how far various market segments are from being fully integrated.

Similarly, beta convergence, a measure borrowed from the growth literature, is an indicator of the speed at which markets are integrating. In addition, measuring the degree of cross-border price or yield variation relative to the variability within individual countries may be informative with respect to the degree of integration in different markets (Babecky, Frait, Komarek, & Komarkova, 2009). In this study, a volume-based measure of international financial integration is used, that is, foreign assets and liabilities as a ratio of GDP for each country in the sample. Chart 1 shows the state of international financial integration in selected COMESA countries in the year 2005 and 2012.

Chart 1: IFI for COMESA countries, 2005 and 2012

Source: Author Computations

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Ekpo and Chuku (2016) defined Financial development as the process by which financial institutions and markets increase in size and influence to the rest of the economy. Through this process, financial intermediation, savings mobilisation and their allocation to investment by financial institutions, increases and facilitates economic growth. Low level of financial intermediation is characteristic of countries where there is financial oppression or restriction on the development and operations of financial institutions, which must be removed.

Financial services cover financial intermediation and auxiliary services, provided by banks, stock exchanges, factoring enterprises, credit card enterprises etc. They also cover financial intermediation service charges indirectly measured (FISIM) (WTO, 2007). These include insurance, credit, securities, portfolio management. Trade in financial services can take forms of cross-border trade, commercial presence, consumption abroad and movement of persons.

In a financially repressed economy, the saving and investment process can best be explained in terms of the Financial Repression Hypothesis (FRH). The FRH was put forward independently by McKinnon (1973) and Shaw (1973) who hypothesized for less developed countries (LDCs) that financial intermediaries (FIs) have an important role to play in the saving and investment process, and, therefore, economic growth. They hypothesized that saving is positively affected by the expected real return on money balances.

The drawbacks of financial integration exist, in a world with imperfect markets since financial integration may heighten a country's vulnerability to macroeconomic and financial crises. The African Development Bank (2013) recognised that some countries with relatively less developed financial systems, could lose out in the initial stages of RFI. This can be avoided through appropriate compensatory policies as part of RFI strategy for the member countries. A low degree of integration tends to be mirrored by lack of financial development (FINSIA, 2015). Notably, IFI in Chart 1 seems highest in Mauritius, which also happens to have one of highest levels of financial development in the COMESA region.

Liberalisation of trade in financial services can have positive effects on income and economic growth. Financial liberalisation improves financial intermediation, leading to efficient sectoral, inter-temporal and international resource allocation. It also improves the quality of financial services, making them more efficient and stable which results in lower prices for a range of financial services. According to African Development Bank (1994), beneficial changes from financial liberalisation occur as long as there is monetisation of the economy and substitution of barter as a mechanism of exchange; development of a sound commercial banking system with central bank supervision; development of financial markets and intermediaries; and integration of formal and informal money markets.

Improving the access of COMESA financial institutions to foreign markets would help exporters continue to expand and develop new markets. Liberalizing trade in financial services on a multifaceted basis as a region can help small and medium-sized financial institutions, many of which do not have special access arrangements with foreign countries, to enter foreign markets.

In Africa, all the 54 countries belong to a regional economic community (REC) with 42 belonging to more than one (AU, AfdB, UNECA, 2016). Although among the 8 REC's in Africa, COMESA had the second highest fully

liberalised tariff's (55 percent), second to EAC with 100 percent as at 2013 COMESA was in the bottom half of 32 performing regional trade agreements worldwide. Tariff liberalisation coupled with financial integration could play a significant role in boosting COMESA trade.

From the foregoing, financial sector development becomes critical to the integration agenda, which then becomes critical to improved trade in financial services. This is the argument being presented in this study (Chart 2).

Chart 2: Main argument of the paper
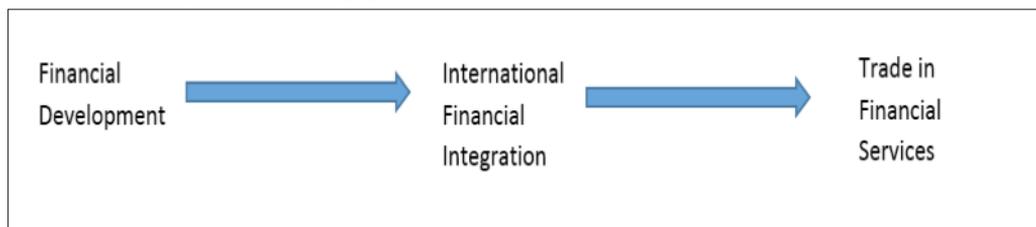
Increased participation in the formal financial sector will expand the value of the overall financial system. That increased participation is likely to arise from financial sector development. As the share of the formal financial sector increases through greater competition and thus inclusion, financial institutions contribute to better functioning of financial markets by reducing information asymmetries that would otherwise hinder the effectual intermediation of resources among savers and investors.

3.   Review of Literature

Innovations and new technologies have led to more financial integration and development, which has consequently led to increased trade in financial services. However, literature linking such causality among financial integration, development and trade in financial services is scanty. Literature on the COMESA region's trade in financial services has focused on how trade in financial services can improve the region.

Theoretical Literature

International financial integration may enhance efficiency of the domestic financial system through competition and importation of various financial services. In theory, one of the channels through which international financial integration boosts economic growth is deepening of domestic financial markets. Levine (2001) used this basis to evaluate how international financial openness accelerates economic growth by improving the functioning of domestic financial markets and the banks.

Kose, Prasad, & Taylor (2009) also observed that indirect impact of international financial integration on economic growth is realized mainly through financial development. Gregorio (1999), Klein & Olivei (2008) among others have examined the relationship between international financial integration and economic growth and its impact on development of domestic financial markets. Gregorio (1999) concluded that the beneficial effects of IFI flow mainly through fostering the development of financial system. Similar conclusions were drawn by Klein and Olevei (2008) in case of 21 OECD and 74 non-OECD countries. However, results of their studies are mainly driven

by developed countries.

An increasing number of studies have tested the applicability of the McKinnon-Shaw hypothesis to less developed countries (LDCs), especially the issue of positive interest elasticity of savings. Studies done in Asia, Africa and Latin America[2] have all provided support to the positive interest elasticity of savings in LDCs and the relevance of the financial repression hypothesis (FRH). However, other aspects of the FRH (the complementarity between investment and money balances and the positive effect of financial deepening on income growth) have not yet been sufficiently tested. In spite of this, the evidence from the different studies suggests that the FRH provides a sufficient theoretical basis for analysing savings in LDCs.

Empirical Literature

UN, ECA & AfDB (1987) studied the determinants of savings for twelve countries including Malawi. Income and export levels were found to be positively associated with savings in Malawi and the results were statistically significant. Tax revenue was found to be negatively associated with savings. This result, which was statistically significant and is consistent with the findings by the World Bank of a negative correlation between tax revenue and private savings. According to the World Bank report (Colaco, et al., 1985), for each one percent increase in tax revenue, there is a 2.8 percent fall in private savings. The study did not find a significant association between savings and external capital inflows, and between savings and the nominal rate of interest. With respect to external capital inflows, the association was positive, indicating that savings and capital inflows are complementary. As regards the nominal rate of interest, the association was negative. The national accounting concept of savings, which was used, includes non-financial variables that are not influenced by interest rates.

Jansen & Vennes (2006) analysed the possible gains from regional and multilateral liberalization of financial services trade for African countries taking into account the implications of such liberalization for financial regulation and capital account liberalization. The study found that these benefits are likely to be higher for multilateral than for regional liberalization, but that multilateral liberalization may also carry higher risks in terms of macroeconomic volatility.

Joseph & Schuknecht (1999) using a global perspective analysed linkages between financial services trade and growth using an OLS regression model. The study found a positive relationship between financial sector competition and financial sector openness, and between growth and financial sector competition. The study put emphasis on the nexus of integration and growth while overseeing the small details of how regional integration in financial services trade should relate to the exportation of financial services.

Gebrehiwot & Sayim, (2015), investigated the level of financial market integration in the COMESA regional market using monthly data for 2005 to 2013. They used Level-VAR procedure as proposed by Toda and Yamamato (1995) and included China and U.S. as leading global markets for comparison purposes. The study found that the level of financial market integration in the COMESA is not significant, and the markets were still fragmented and integration with China and the U.S. was found to be insignificant.

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2   Gupta, 1970; Abe et al., 1977; Fry, 1978; Yusuf and Peters, 1984; Williamson. 1968; Bandawe, 1981;Gondwe, 2002

Ekpo and Chuku (2016) examined the degree and timing of the integration process in selected African countries and considered the effect of financial integration on economic activity. They found that financial integration was associated with higher levels of growth and investments but not necessarily with total factor productivity.

Wong & Goh (2013) assessed the pattern of causality between outward foreign direct investment and the major external trade components for Singapore using the tri-variate Granger causality test. They found no evidence of causality between Singapore's FDI and trade in services.

Wakeman-Linn & Wagh (2008) explored the potential contribution of regional financial integration to financial sector growth and development in Sub-Saharan Africa (SSA). They found that financial integration contributes significantly to strengthening and developing SSA's financial markets.

Gries, Kraft, & Meierrieks (2008) using bivariate and trivariate vector autoregressive (VAR) studied causality evidence from Sub-Saharan Africa for the linkages between financial deepening, trade openness and economic development. They found that finance does not promote regional development.

4.   Data and Methodology

4.1   Methodology

The study used VAR and granger causality measure on a panel of 12 COMESA Member States. Assuming represents a vector of individual outcomes for country *i* across all time periods, then:

$$Y_i = \beta X_i + u_i \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

Where:

$T = 1, 2, \dots, T$

$Y_i{}' = y_{i,t1}, y_{i,t2}, \dots, y_{i,T}$

In order to know the nature and the direction of causality between the variables, granger causality test was used. This was followed by VAR regression of the variables of interest. According to Granger's definition of causality, a stationary time series Y_t is said to 'cause' another stationary time series X_t if – under the assumption that all other information is irrelevant – the inclusion of past values of Y_t significantly reduces the predictive error variance of X_t (Hartwig, 2009). In econometric practice, Granger-causality tests are carried out by regressing X_t on its own lags and on lags of Y_t. If the lags of Y_t are found to be statistically significant, then the null hypothesis that Y does not Granger-cause X can be rejected.

In this study, financial development was an assumed "common cause" between international financial integration and trade in financial services. If there is causality between financial integration and trade in financial services, it is assumed that financial development is a prerequisite to effective financial integration. We thus maintain a case of panel setting and conducted a pairwise causality test between the three variables. We proceeded by selecting a lag length systematically, then ran the panel VAR and granger causality tests.

Granger-causality test results are sensitive to the choice of lag length m in the time stationary VAR model. Following Andrews & Lu (2001) proposed consistent moment, we apply MMSC to the GMM estimator to select the pair of vectors that minimizes equation 2.

$$MMSC_{AIC,n}(k,p,q) = J_n(k^2p, k^2q) - 2k^2(|q| - |p|) \qquad \text{.......(2)}$$

$$MMSC_{BIC,n}(k,p,q) = J_n(k^2p, k^2q) - (|q| - |p|)k^2 \ln n \qquad \text{....(3)}$$

$$MMSC_{HQIC,n}(p,q) = J_n(k^2p, k^2q) - Rk^2(|q| - |p|) \ln n \quad , \qquad R > 2 \qquad \text{..(4)}$$

Where: is the statistic of over-identifying restriction for a -variate panel VAR of order and moment conditions based on lags of the dependent variables with sample size .

These require that the number of lags of the series be chosen such that the (2) Akaike information criterion (AIC) for the regression is minimized. Thus the fitted ADF regressions will have from 1 to specified number of lags and given the regression for which the AIC is minimized. This process was done for each panel so that different panels may use ADF regressions with different numbers of lags. Similarly, specifying lags BIC is just like specifying lags AIC, except that the Bayesian information criterion (BIC) is used instead of the AIC. While specifying lags HQIC is just like specifying lags AIC, except that the Hannan–Quinn information criterion is used instead of the AIC (Abrigo & Love, 2015); Stata Manual, 2013). These lag specifications are used from the stationary tests to regression results.

Panel VAR

The regression model was estimated using panel data in a bivariate setting, based on a general model as defined by (Abrigo and Love, 2015). This is expressed as follows:

$$\boldsymbol{Y_{it} = Y_{it-1}A_1 + Y_{it-2}A_2 + \cdots + Y_{it-p+1}A_{p-1} + Y_{it-p}A_p + X_{it}B + u_i + e_{it}} \qquad (5)$$

$$i \in \{1,2,\dots,N\}, t \in \{1,2,\dots,T_i\}$$

Where: is a vector of dependent variables, is a vector of exogenous covariates and and are vectors of dependent variable-specific panel fixed-effects and idiosyncratic errors, respectively. The matrices and the matrix are parameters to be estimated.

This study used three equations, two in which trade in financial services (TFS) is the dependent variable and one in which international financial integration (IFI) is dependent on financial sector development (FSD).

Granger causality

This study used a three-variable VAR specification, which gives three pairs of variables, which can be tested in both directions to give 6 tests with 36 possible combinations of outcomes. If a⟹c and c⟹b then omitting c from the VAR system could lead us to conclude that a⟹b.

Finally, stability condition of the estimated panel VAR is checked using eigen values.

4.2 Data

Data on trade in financial services is limited since most countries do not publish disaggregated services trade data. Financial integration has different dimensions, and this study uses a volume-based measure of international financial integration, that is, foreign assets and liabilities as a ratio of GDP for each country in the sample expressed as

$$IFIGDP_{it} = \frac{FA_{it} + FL_{it}}{GDP_{it}} \quad\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.(6)$$

Where:

-         $IFIGDP_{it}$ is international financial integration,

-         FA_{it} are financial assets for country i in year t

-         FL_{it} are international financial liabilities in country i in year t

Where FA and FL refer to the stocks of aggregate foreign assets and liabilities. Net foreign assets are the sum of foreign assets held by monetary authorities and deposit money banks, less their foreign liabilities. Data is in current local currency. This is used for each country and its integration with the globe.

The ratio of gross foreign assets and liabilities to GDP Data is the measure of financial integration. Data on trade in financial services is not disaggregated for COMESA and the proxy used for international trade in financial services expressed as a percentage of service exports (BoP). The financial development variable (FD) is proxied by credit to private sector expressed as percentage of GDP. Domestic credit provided by the financial sector includes all credit to various sectors on a gross basis, with the exception of credit to the central government, which is net. The general level of development in the banking sector is measured by the amount of bank credit to the private sector expressed as percentage of GDP.

Data was sourced from World Bank Development Indicators and Global Financial Development Database. The study used panel data from 2005 to 2012 for 12 COMESA Member States and eliminated the countries with missing observations.

5. Estimation Results

Descriptive Statistics

Table 1 shows summary statistics of the sample. Full table is in Appendix B.

Table 1: Summary Statistics of Variables

	Mean	Std. Dev.	Min	Max
IFI (%GDP)	0.20	0.29	-0.06	1.32
Domestic Credit (%GDP)	30.12	30.02	0.85	113.69
Trade in Fin Ser (%Service Exports)	4.73	8.95	0.004	75.00

Source: World Bank Statistics, Author computations

Chart 3 shows trend of the variables of interest with IFI being on the secondary axis. Although there is an upward trend among variables, IFI decreased in 2011 hence the need to investigate the direction of causality.

Chart 3: Trend Averages of Variables- 2005 to 2012
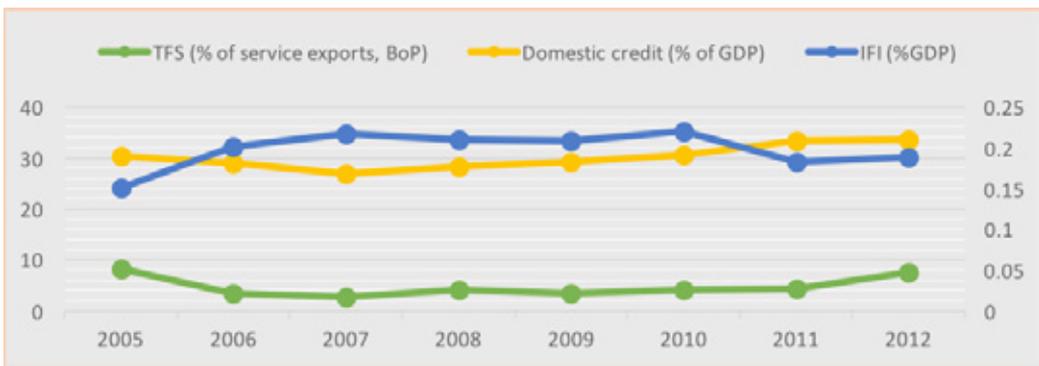
Source: Author computations

Stationary Tests and Cross-Sectional Correlation

The study used a Levin-Lin-Chu Test where by LLC bias-adjusted test statistic t for all the three variables of interest were found to be significantly less than zero. Hence we rejected the null hypothesis of a unit root. The results are expressed in Table 2.

Table 2: Levin – Lin- Chu Tests

	TFS	IFI	FD
Levin-Lin-Chu Adjusted t*	-10.74***	-8.30***	-7.30***

*: indicates significant at 10% level **: indicates significant at 5% level, ***: indicates significant at 1% level

Source: Author Computations

The study also applied the Fisher test in which four of the tests strongly rejected the null hypothesis that all the panels contained unit root as shown in Table 3.

Table 3: Unit Root Tests- Fisher

	TFS	IFI	FD
Inverse Chi-Squared (P)	49.52***	56.43***	60.21***
Inverse normal (Z)	-3.20***	-3.89***	-4.04***
Inverse Logit t (L*)	-3.11***	-3.86***	-4.12***
Modified Inverse chi-squared (Pm)	3.26***	4.22***	4.74***

* :indicates significant at 10% level **: indicates significant at 5% level, ***: indicates significant at 1% level

Source: Author Computations

The fisher tests also display that all four of the tests strongly reject the null hypothesis that all the panels contain unit roots. Both tests are consistent and therefore we conclude that the variables are stationary.

Selection of Lag length and Panel VAR results

Based on the three model selection criteria by Andrews and Lu (2001) and the over-all coefficient of determination, first-order panel VAR is the preferred model, since this has the smallest MBIC, MAIC and MQIC of equations 2 to 4 (See Appendix C). In this regard, the optimal models included the variables from the period t and t-1 period.

Using Abrigo and Love (2015) program in Stata, we conducted a panel VAR on the variables of interest. The results are reported in Table 4:

Table 4: PVAR Model Results

	Equation 1		Equation 2		Equation 3	
	TFS (t)	IFI (t)	IFI (t)	FSD (t)	TFS (t)	FSD (t)
TFS (L1)	0.12***	0.00			0.39**	0.40*
	(0.22)	(0.00)			(0.16)	(0.21)
IFI (L1)	20.60***	0.95***	0.15	16.67**		
	(2.98)	(0.12)	(0.34)	(7.01)		
FSD (L1)			-0.01**	0.53***	-0.18**	0.62***
			(0.01)	(0.13)	(0.08)	(0.09)

***, **, * denotes significance at 1%, 5% and 10% level; standard errors in parentheses.

Source: Author Computations

In this study the main variable of interest was trade in financial services (TFS). Our results show that trade in financial services is positively impacted by previous year's level of international financial integration (IFI) and is negatively impacted by previous year's level of domestic financial sector development. The coefficients were found to be statistically significant at 99 and 95 percent respectively.

IFI was found to be negatively impacted by previous years' level of domestic financial sector development (FSD), contrary to a priori expectations. This may be due to the level of financial development in the countries of interest. FSD appears to be a consequence of both TFS and IFI. This is consistent with earlier propositions that having attained sufficient level of financial development, integration and trade in financial services, feed back into the development of the financial sector.

These results are consistent with the main argument in this study. For trade in financial services to increase, there is need for countries to be more financially integrated which requires domestic financial sector reforms. Since financial sector development is a base, it may explain the negative sign on the coefficient implying negative impact of financial sector development on trade in financial services. Domestic financial development may not lead to increased trade in financial services directly, if the country is not integrated financially with other economies. Domestic improvements in the financial sector need to be supplemented with policies to open up the sector internationally in order to enhance trade in financial services. However, financial sector may later develop as a consequence of integration and international trade in financial services due to increased demand and entry of foreign banks among others, hence the positive coefficients on IFI and TFS .

Post-Estimation Tests

Our post estimation test confirmed that all the models used were stable over time since eigen values were found to lie within the unit circle for the three equations.

In order to determine consistency we further conducted Granger causality tests. Our results show that international financial integration and financial sector development granger cause trade in financial services. However from the VAR results we know the latter has a negative impact on the trade. From the VAR results we established that the latter trade in financial services does not granger cause international financial integration, but financial sector development does so. Both trade in services and integration granger cause financial sector development as presented in the VAR results. There is a bi-directional relationship between financial sector development and international financial integration. The impulse response functions are detailed in Appendix E.

6.   Conclusions

The study has analysed, panel data for 12 COMESA countries, in order to assess causality between trade in financial services, international financial integration and financial development. The empirical results reveal that international financial integration granger causes trade in financial services and that there is a bi-directional relationship between financial integration and trade in financial services. On the other hand, financial development had a negative impact on trade in services probably due to some low levels of financial development.

Trade in financial services and financial integration both cause domestic financial development. Therefore, domestic financial sector development is both a cause and a consequence of trade in financial services. Our findings reveal that developed financial systems could cause an increase in international financial integration.

This is important for countries with low financial sector development for they enjoy the benefits of financial integration. Thus in order to increase intra-regional trade in financial services, policy makers should consider existing levels of both integration and development of financial sector, and ensure policies are pursued concurrently. There is need for more attention to be given to regional financial policies in COMESA.

Member states may consider removing existing barriers to local financial development, such as access to formal financial services for individuals and firms and entry into the market, among others. On the financial integration front, there is need for liberalisation of both current and capital accounts to allow for free cross-border trade in financial services. There is need for a protocol on movement of capital in the region. These implications may be considered in the upcoming second phase of the Tripartite Free Trade Area negotiations. Based on individual Member States level of financial development, countries should make commitments on domestic financial policy reforms.

The limitations of the study could be traced on the limited data on financial integration and financial services intra-regional trade among COMESA countries. This highlights the need for such data to be compiled for policy making and policy tracking.

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Appendices

Appendix A: Countries in the sample

S/N	Country
1	Burundi
2	Comoros
3	Congo, Dem. Rep. of
4	Egypt
5	Kenya
6	Madagascar
7	Malawi
8	Mauritius
9	Sudan
10	Swaziland
11	Uganda
12	Zambia

Appendix B: Descriptive Statistics

Variable		Mean	Std. Dev.	Min	Max	Observations	
TFS	overall	4.726738	8.948809	0.004202	75.00098	N =	96
	between		4.818151	0.252195	17.23142	n =	12
	within		7.653572	-8.64704	62.4963	T =	8
IFIGDP	overall	0.197343	0.293887	-0.05769	1.323748	N =	96
	between		0.299547	-0.00421	1.108095	n =	12
	within		0.057033	-0.12393	0.412996	T =	8
FD	overall	30.12488	30.02362	0.849632	113.6883	N =	96
	between		30.78998	4.491874	104.8534	n =	12
	within		4.821732	18.81759	47.41689	T =	8

Appendix C: Choice of Lag Length

Equation 1: TFS and IFI

```
Selection order criteria
Sample:  5 - 7                                              No. of obs     =          36
                                                            No. of panels  =          12
                                                            Ave. no. of T  =       3.000
```

lag	CD	J	J pvalue	MBIC	MAIC	MQIC
1	.9967425	10.5037	.5718598	−32.49852	−13.4963	−20.12858
2	.997865	10.71101	.2186172	−17.95714	−5.288986	−9.71051
3	.9929085	2.200718	.6988979	−12.13336	−5.799282	−8.010045

First lag had the minimum values, hence selected in running the final regression results

Equation 2: IFI and FSD

```
Selection order criteria
Sample:  5 - 7                                              No. of obs     =          36
                                                            No. of panels  =          12
                                                            Ave. no. of T  =       3.000
```

lag	CD	J	J pvalue	MBIC	MAIC	MQIC
1	.998542	11.33861	.500144	−31.66362	−12.66139	−19.29367
2	.999606	5.066512	.7504442	−23.60164	−10.93349	−15.35501
3	.9997588	3.261806	.5150065	−11.07227	−4.738194	−6.948957

First lag had the minimum values, hence selected in running the final regression results

Equation 3: TFS and FSD

```
Selection order criteria
Sample:  5 - 7                                              No. of obs     =          36
                                                            No. of panels  =          12
                                                            Ave. no. of T  =       3.000
```

lag	CD	J	J pvalue	MBIC	MAIC	MQIC
1	.9972029	10.42101	.5790777	−32.58122	−13.57899	−20.21128
2	.9972571	7.568272	.4767358	−21.09988	−8.431728	−12.85325
3	.994356	.9306612	.9201213	−13.40341	−7.069339	−9.280101

First lag had the minimum values, hence selected in running the final regression results

Appendix D: Graphs for the roots of the companion matrix

Equation 1: TFS and IFI

Roots of the companion matrix

Equation 2: IFI and FSD

Roots of the companion matrix

Equation 3: TFS and FSD

Roots of the companion matrix
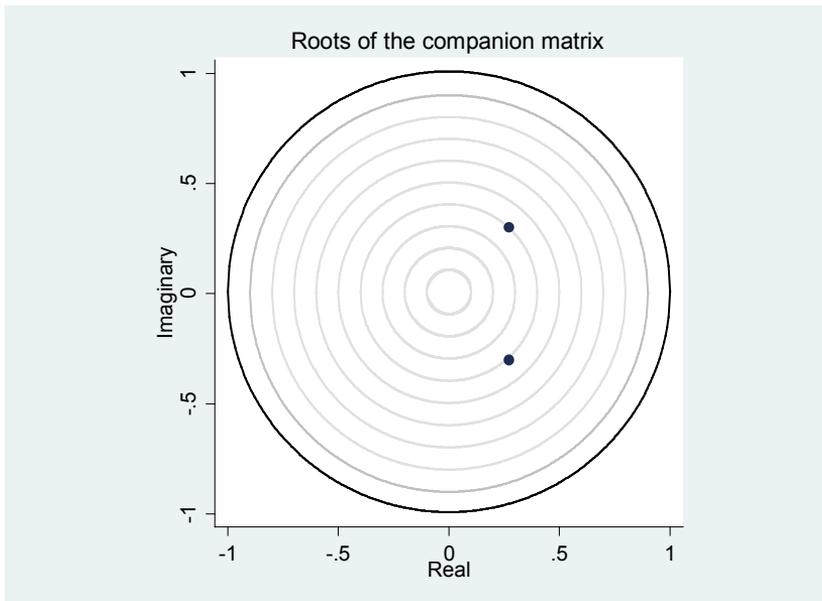
Appendix E: Impulse Response Functions

Equation 1: TFS and IFI

impulse : response
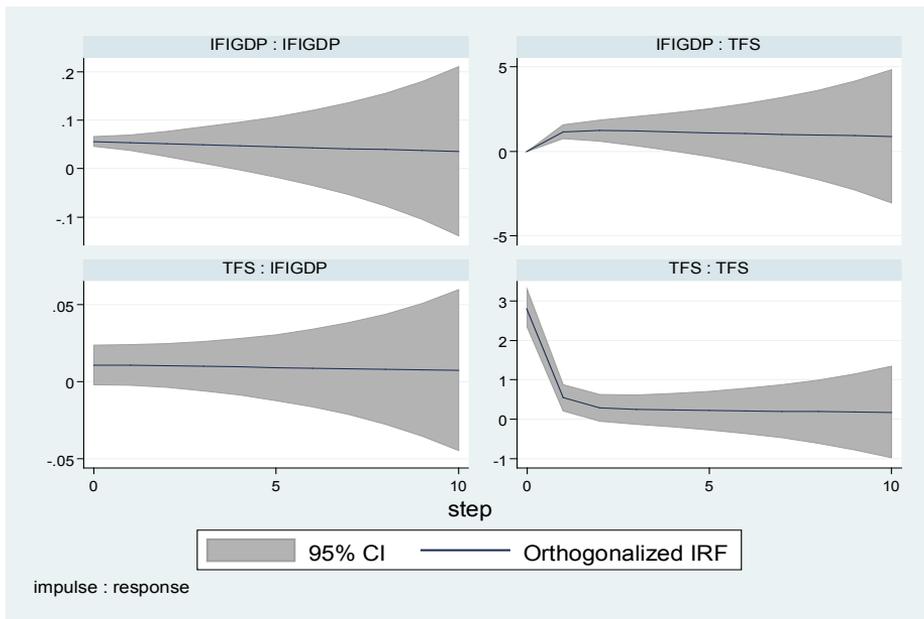
Equation 2: IFI and FSD
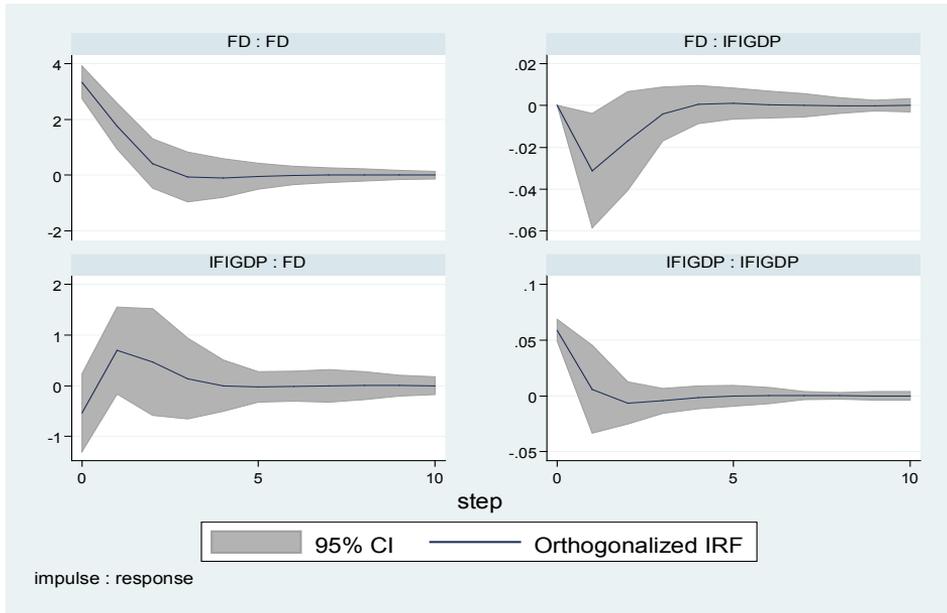
Equation 3: TFS and FSD
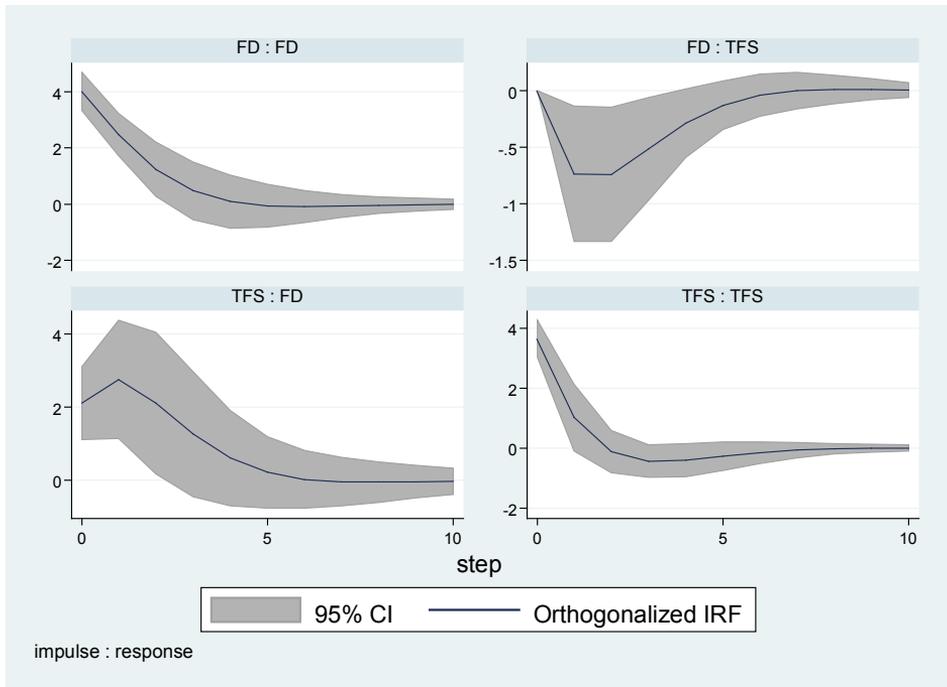
Transpacific Partnership Agreement: Implications For COMESA Member States' Trade With The USA Under AGOA

DR. ALBERT MAKOCHEKANWA

Abstract

The study analyzed the implication of the Transpacific Partnership agreement (TPP) on the trade of the COMESA AGOA eligible countries with the USA. The study used triangulation (mixed) methods to control for biases. The results show that TPP will not significantly affect the overall exports of COMESA AGOA eligible countries given that USA is not a major export destination for these countries. However, simulations from WITS-SMART model show that some specific product tariff lines such as textiles and apparels and non-textiles and apparels (non-T&A) are likely to be replaced by similar products from TPP countries. Exports from TPP countries of textiles and apparel exports are expected to increase by US$108 million, while non – textiles and apparel products by US$18 million. There are potential export markets from within the region for some of the product lines such as; HS0610343 (*Mens/boys trousers and shorts, of synthetic fibres, knitted*) for COMESA AGOA eligible countries. The COMESA AGOA eligible countries should explore alternative destination markets and strategies to boost their exports.

1   Introduction

The Transpacific Partnership (TPP) is a free trade agreement (FTA) among 12 Asian-Pacific countries, with both economic and strategic significance for participating and non-participating countries. The TPP has evolved from a more limited agreement among four countries concluded in 2006 into the current 12-country FTA agreement, with the United States joining the negotiations in 2008 and Japan in 2013. The 12 countries announced the conclusion of the TPP negotiations on 5th October 2015 and released the text of the agreement on 6th November 2015, after several years of ongoing talks. Trade ministers from the TPP countries signed the final agreement on February 4, 2016. Through the TPP, the participating countries seek to liberalize trade and investment and establish new rules and disciplines in the region beyond what exists in the World Trade Organization (WTO). The FTA is envisioned as a living agreement that will be open to future members and may become a vehicle to advance a wider Asia-Pacific free trade area.

Among COMESA countries, 11[1] are eligible to export to the USA under AGOA. The most successful exports to the US in the manufacturing category are textiles and apparel due to the "third country provision" which allows global sourcing of fabrics for making the textiles and apparels. The super-competitive countries in Asia were not getting the same duty free market access to the USA market thereby giving the African AGOA eligible countries a margin of preference. Vietnam being granted duty free access to the USA market has the potential to outcompete the exports of textile, apparel and other products from the COMESA.

A number of COMESA countries are vulnerable to preference erosion due to a combination of factors, including the export dependence on preference-granting partners, the magnitude of preferences for which a country is eligible, the export-product concentration, and the utilization of preferences. The robustness of a country's economic environment and the macroeconomic significance of the sectors dependent on the preferences are further important factors. Experience has however shown that the vulnerability to preference erosion rises with higher export-dependence on preference granting countries.

African Growth and Opportunity Act (AGOA)

The African Growth and Opportunity Act (AGOA) of 2000 expands the list of products which eligible Sub-Saharan African (SSA) countries may export to USA subject to zero import duty under the Generalized System of Preferences (GSP). While general GSP covers approximately 4,600 items, AGOA GSP applies to more than 6,400 items. AGOA GSP provisions have been extended and will be in effect until year 2025. Sub-Saharan African beneficiary countries are also exempted from competitive need limitations, which cap the GSP benefits available to beneficiaries in other regions.

AGOA provides duty-free and quota-free treatment for eligible apparel articles made in qualifying Sub-Saharan African countries originally to 30th September 2015, but was extended to 2025. Qualifying articles include: apparel made of USA yarns and fabrics; apparel made of sub-Saharan African (regional) yarns and fabrics, subject to a cap; apparel made in a designated lesser-developed country of third-country yarns and fabrics, subject to

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1   *These 11 are, Comoros, Djibouti, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Uganda and. Zambia,*

a cap; apparel made of yarns and fabrics not produced in commercial quantities in the United States; textile or textile articles originating entirely in one or more lesser-developed beneficiary sub-Saharan African countries; certain cashmere and merino wool sweaters; and eligible handloomed, handmade, or folklore articles, and ethnic printed fabrics.

4.1.2   The Transpacific Partnership (TPP) Agreement

The TPP agreement consists of 30 Chapters[2], ranging from market access (such as the elimination of tariff and nontariff barriers), to specific rules on various trade-related issues (such as intellectual property rights, regulatory issues, and labor and environmental standards)[3]. This study analyzes only the provisions of the agreement including the tariff phase down, especially for textiles and apparels which have direct impact on COMESA countries' trade with the USA under AGOA. The TPP agreement aims to; promote economic integration, liberalize trade and investment; strengthen competitiveness of businesses from TPP countries in global markets; and address future trade and investment challenges and opportunities.

The overall objective of the study was to analyze the Transpacific Partnership Agreement (TPP) and its implication for the trade of the COMESA AGOA eligible countries with the USA.

The study specifically sought to;

analyze of the provisions of the TPP agreement; determine the implications of the TPP on COMESA's trade with the USA under AGOA; and review options and propose actions to be taken by COMESA countries to mitigate the impact of the TPP.

Literature review

The economic effects of the TPP were investigated by Petri and Plummer (2016). Estimates from the study showed that the TPP would increase annual real incomes of Americans by $131 billion, or 0.5 percent of GDP, and the country's annual exports was forecasted to expand by $357 billion, or 9.1 percent of exports for the period up to 2030. In terms of employment, implementation of the TPP is expected to increase wages in USA economy though the employment level is expected to remain the same. Outside USA, global annual income gains by 2030 are expected to be $492 billion, including $465 billion for the 12 members of the TPP.

The analysis by Freund, Moran, and Oliver (2016) focused on the extent to which tariffs will be liberalized in the TPP. The authors indicate that a larger share of tariffs will be quickly eliminated, while the remaining will be liberalized over time, with some instances where they will be even significant delays. According to the study, the authors argues that given the fact that tariffs are already low in many TPP countries, the expected gains to emanate from tariff liberalization will be small. Nevertheless, emerging-market countries including Malaysia, Mexico, Peru, and Vietnam still have substantial room for liberalizing trade in goods.

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2   *See Annex 1*
3   *Tariff schedules and the text of the agreement can be accessed at* https://ustr.gov/trade-agreements/free-trade-agreements/trans-pacific-partnership/tpp-full-text.

The sectoral implications of the TPP agreement on the agriculture sector were investigated by Hendrix and Kotschwar (2016). Specifically the study analyzes the results of market access concessions in the agriculture sector following the implementation of the TPP agreement. The authors argues that implementation of TPP agreement will significantly liberalizes a host of agricultural products, surpassing the record of past free trade areas (FTAs). The research by Oliver (2016) assesses the auto sector, and argued that the TPP lowers tariffs and begins the process of mutual recognition of safety and emissions standards. The study concludes that the liberalization of high auto tariffs by Vietnam, Malaysia, and other signatories will open their markets to USA and Japanese automakers at a time when demand for cars in these countries is growing. But for large auto and auto parts producers, including the United States, much of the agreement protects the domestic industry through the use of rules of origin and long tariff expiration periods.

Rules of origin have been considered as key for Vietnam to benefit from access to the USA market. Elliott (2016) argues that for Vietnam the impact of TPP commitments in the textile and apparel sector will be limited by provisions on rules of origin similar to those in past trade agreements. Thus Vietnam and other key exporters will enjoy fewer benefits than they would have if tariffs had been eliminated altogether. Elliott concludes that for the textile and apparel sectors, at least, the TPP calls for trade that is managed rather than free.

Hufbauer (2016) argues that expanded services trade generates some of the largest potential TPP payoffs, especially for the USA economy, with improved access to the markets of Japan, Malaysia, and Vietnam in particular. Following the implementation of the TPP, USA service exports are estimated to increase by $149 billion. The author concludes that the TPP establishes a minimum floor of liberalization, which will eventually be achieved in ongoing plurilateral talks for a Trade in Services Agreement and agreed by future TPP members.

Gelpern (2016) looked at financial services, a sector where the United States is a net exporter. The TPP calls for greater access for certain financial services, some constraints on government provision of financial services, and procedural safeguards for regulated service providers. The TPP chapter does preserve the fundamental ability of national authorities to continue regulating in this area, however. The study concludes that permitted data localization requirements and other restrictions insisted on by Malaysia reflect the difficulties in applying trade disciplines to finance.

The investment provisions of the TPP and their impact on the USA economy were analysed by Moran and Oldenski (2016). In particular, the TPP's opening all sectors to foreign direct investment (FDI) except certain sectors on a so-called negative list will encourage greater FDI among member countries. Also likely to have a positive effect are the treaty's call for removing performance requirements, placing limits on state-owned enterprises, and establishing an investor-state dispute settlement (ISDS) provision.

3   Methodology

Empirical analysis of the effects of trade preferences erosion is confounded by the difficulty of identifying the specific impact of preferences as opposed to other factors. The observed changes in exports from recipients to the countries granting trade preferences after the latter has expanded the number of countries now eligible for the same or similar (equivalent) preference in same goods, for example, is not informative without controlling

for other factors.

Given the above, the study used triangulation (mixed) methods and various steps to achieve the objective whereby a number of complementary methods were employed. Triangulation (mixed method) technique was chosen in order to control for biases and enhance confidence in the findings and recommendations. Triangulation enabled cross-checking of systematically gathered data (both quantitative and qualitative) from multiple sources. To clearly ensure that all specific study activities were fully covered, each activity was conducted by employing a specific method(s).

The study conducted an analysis of other major products (besides textiles and apparel) which have been exported by COMESA eligible countries to USA under AGOA and which are likely to be affected by the coming into force of TPP Agreement. The study employed two approaches to get the list of these other products for each of the COMESA AGOA eligible country. First, the study used UNCOMTRADE Database, COMESA Database, WITS-SMART Database (of the World Bank), and United States International Trade Commission (USITC) Database, and profiled the various products at Harmonized Commodity Description and Coding (HS) System six digit level (HS-6-digit) that each of the countries have been exporting to the USA under this preferential scheme. To ensure that the analysis was not affected by outliers, the study undertook an analysis of the exports on an average of the three latest years from each COMESA AGOA exporter country. The same analysis was done for the eleven TPP countries only on major exported products which are also exported by COMESA AGOA eligible countries into the USA market under AGOA. The idea of this analysis was to get the status-quo of AGOA eligible products which have been exported to USA market for the latest past three years. For both COMESA and TPP countries, the share of AGOA eligible export products was calculated as a percentage of both the total exports for each of the countries to the USA market and the rest of the world (RoW) over the same period. This helped to identify whether exports to USA under AGOA constitutes a significant share of the respective countries' total exports to USA. Second, the study verified the list of exported products by reading reports, documents, relevant websites and other materials, which clearly show the exports of each COMESA eligible countries to USA under the AGOA.

The study further employed a partial equilibrium model, the World Integrated Trade Solution Software-Software for Market Analysis and Restrictions on Trade (WITS-SMART), to analyze the trade impact of TPP agreement[4]. The USA was the reporting country and the simulated scenario was that USA will reduce its import duties to zero for all products originating from TPP countries and all AGOA eligible products. The simulations provided estimates of the changes in exports from the TPP countries on each of the AGOA eligible products. The assumption used in the analysis is that in cases where there was an increase in trade, the study concluded that the absorption of more AGOA eligible products from TPP countries implied displacement of similar exports from COMESA AGOA countries (among others). For instance, if exports from TPP countries which are also AGOA eligible products, say product **X** were simulated to increase by $100, this was interpreted to imply that exports of AGOA eligible product **X** from COMESA countries were likely to decrease by a maximum of $100. In this case, there will be 100% displacement of COMESA AGOA eligible exports into USA by exports of the same product from TPP countries.

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4   *Given that they maybe more than 150 potential exporting countries to USA in each of the products that are being analyzed the study employed the* **all things being constant** *assumption! That is the study assumes that once the TPP agreement enters into force, only exports from COMESA AGOA eligible countries and those from TPP countries into USA are likely to change while exports from other countries (the world over) into USA will be assumed to remain constant.*

The study also employed the TradeMap analytical tool to identify a list of alternative markets for textile and apparel as well as each of the major COMESA export products currently exported to USA under AGOA. This list of alternative markets means an opportunity for other markets which COMESA countries can consider exporting to for products they are currently exporting to USA under AGOA. Second, the study conducted a critical analysis of literature on methods of dealing with preference erosion and derived lessons on how other countries that have lost their trade preferences have managed such a situation.

3.6   Data sources

The study used secondary data obtained from four sources: (i) UNCOMTRADE Database, (ii) COMESA Database, (iii) WITS-SMART Database (of the World Bank) and (iv) USITC Interactive database

4   Study Findings

4.1.3   Implications of TPP Agreement Textiles and Apparels

The study found that the agreement will have a negative impact on COMESA AGOA textiles and apparel exports. The will be in the form of product displacement similar products from TPP countries into the USA market.

The duty elimination schedules under the TPP agreement range from immediate duty free to a staged phase-out over 13 years. Specifically, apparel products, which represent 20% of total AGOA apparel exports, will become immediately duty-free from the TPP countries, including Vietnam, upon implementation of TPP (Ibid). Another 43% will remain subject to reduced duties, but are vulnerable because of special rules of origin. Altogether, two-thirds of the AGOA apparel exports will be at risk once TPP enters into force. Despite these phased approach, eventually all duties will be zero after 13 years.

Our findings further show that jeans from Vietnam will benefit from an "earned import allowance" program (EIA), pursuant to which Vietnam may earn the right to use third-country fabric denim (in addition to those on the short supply list) by using an equivalent volume of USA denim. Although the EIA program is subject to a cap set at approximately 25% of Vietnam's current jeans exports, the cost averaging resulting from the EIA program will make jeans from Vietnam even more competitive than they are already. This will make jeans from COMESA AGOA eligible countries uncompetitive in the USA market.

In terms of tariff phase downs, import duties on jeans from Vietnam and the other TPP countries will be immediately reduced by 35% and will be completely phased out in year 13. The combination of the immediate 35% duty reduction and access to third-country denim under both the EIA program and the short supply list will almost certainly result in a surge in jeans imports from Vietnam into the USA market (among other TPP countries), probably at the expense of Africa's jeans exports, which are approximately 28% of total AGOA apparel exports. To put this into perspective, in 2014 Vietnam exported five times as many jeans to the United States of America – on a duty-paid basis – as did all of Africa combined duty-free under AGOA. In short, TPP is likely to have a negative impact on COMESA countries exporting this AGOA largest apparel export product.

Cotton dress shirts and blouses are another important AGOA apparel export product, representing 17% of total AGOA apparel exports. Dress shirts will be subject to an immediate 50% cut in duties and shirting fabric is included in the short supply list, making AGOA shirt exports especially vulnerable to competition from Vietnam. In addition, a number of knitwear fabrics are also included in the short supply list. Knit shirts/blouses are the second largest AGOA apparel export product, accounting for 26% of total AGOA apparel exports. And to make matters worse, some knitwear products will be immediately duty-free under TPP, while others are subject to immediate duty reductions of 35% or 50%.

Together, the products subject to immediate duty free, short supply and the EIA program amount to 63% of total AGOA apparel exports. These products will be especially vulnerable to new competition from Vietnam under TPP, and COMESA AGOA eligible countries will be out-competed in the USA market.

In addition, the apparel exports from Sub-Saharan African (SSA), including COMESA AGOA eligible countries, have become much more concentrated since the expiration of the Multi-Fibre Agreement (MFA) on 1st January 2005 in a handful of products, especially cotton and man-made fiber (MMF) trousers, knit shirts and woven shirts, which together account for more than 90% of USA apparel imports from Africa. Apparel imports from China grew by 250% and imports from Vietnam by 200%. To worsen the case, much of this growth in imports from China occurred in those same products that matter most to Africa. Over the same period, apparel imports from Africa have declined by minus 42%

4.2.1   Products Exported COMESA AGOA Eligible Countries to USA

Table 1 provides summarized average annual (2013 to 2015) trade data of COMESA AGOA eligible countries, both to USA and to rest of the world (RoW). The exported products entered the USA market under AGOA as they are contained in the "Products eligible for duty free under AGOA" document. Djibouti and Seychelles were excluded from the analysis due to unavailability of data.

Table 1: Summary exports of COMESA AGOA eligible countries (US$ million)

		Textiles and apparels	Other commodities		
	Country	Top 10 to USA	Top 10 to USA	Total to USA	Total to RoW
1	Comoros	0	0	0.38	11.3
2	Ethiopia	2	163.3	185	4,245
3	Kenya	194	74.5	344	5,291
4	Madagascar	2.61	69	109	1,639
5	Malawi	7.4	50.42	60.6	1,192
6	Mauritius	188	54	242	1,836
7	Rwanda	0.137	9.05	10.6	444.9
8	Uganda	0.118	24.3	26.8	1,712
9	Zambia	0.028	6.4	11.4	9,882

10	Djibouti	n/a	n/a	n/a	n/a
11	Seychelles	n/a	n/a	n/a	n/a
	Total	**394.3**	**451.0**	**989.8**	**26,253**
	As % of RoW	**1.5**	**1.7**	**3.8**	**100**

Source: *Constructed using data from UNCOMTRADE Database*

Key: n/a = no data was available

The combined exports to USA by all the COMESA AGOA eligible countries averaged US$989.8 annually between 2013 and 2015, and USA accounted for 3.8% of global export trade for these countries. These low figures show that, in general, USA is not the major export market for COMESA AGOA eligible countries. The impact of the TPP agreement in terms of loss of potential market can however be felt in some specific export product lines. The combined annual total exports to the rest of the world by all the COMESA AGOA eligible countries amounts to US$26.253 billion, which is lower than the total exports of most TPP countries to USA.

The annual average exports of Comoros to the USA between 2012 and 2013 were US$370,000 out of a total of $11.3 million to the rest of the world (RoW). Comoros exported only two commodities to USA and these are HS090700 (*Cloves (whole fruit, cloves and ste*)) and HS330129 (*Essential oils other than those of*), and the country does not export any textile and apparel products to the USA. The data shows that USA is not an important export destination for Comoros. TPP between USA and its eleven partner countries may not have any significant costs in terms of lost market for Comoros exports to the USA.

Ethiopia's annual average exports to USA between 2013 and 2015 were around US$185 million out of a total of $4.245 billion to the rest of the world (RoW). Our findings show that USA may not be an important export destination for Ethiopia; USA absorbed 4.4% of the Ethiopia's total exports. TPP between USA and its eleven partner countries may not have any significant costs in terms of market loss for Ethiopian exports to the USA. The impact of the TPP agreement in terms of loss of potential market will be felt in some specific export product lines; HS621490 (*Shawls, scarves, mufflers, mantilla*) lead the country's textile and apparel exports to USA followed by tariff line HS 620520 (*Men's/boys' shirts (excl. knitted/c*). Ethiopia's textiles and apparel exports to USA represents 23.1 % of the country's total exports of the same products.USA is an important market for two product lines, HS120799 and HS640320 as it absorbs 59%, and 94.9%, respective of Ethiopia's global world of these two products.

Kenya's annual exports to USA in 2013 were worth $344 million accounting for 6.5% of Kenya's global exports. The TPP agreement between USA and its eleven partner countries will not have any significant costs in terms of lost market for Kenya's exports to the USA. The impact of the TPP agreement in terms of loss of potential market will be felt in some specific export product lines which include; HS620462 (*Women's/girls', trousers, bib & bra*) and HS620342 (*Men's/boys' trousers, bib & brace*). In these two product lines, Kenya exported goods worth $40 million and $32.4 million respectively to USA, and $42 million, and $33.5 million respective to the rest of the world. Thus USA is a very important market for these two products as it absorbs 95.3% and 96.6% respectively of Kenya total global exports in these two tariff lines.

Non-T&A products exported by Kenya to the USA under AGOA that are not likely to be affected by the TPP. Kenya's major (top 10) exports of non-T&A products to USA averages US$74.5 million annually. Therefore USA is not an important market for these products as it absorbed less than a quarter of Kenya's global exports in each of the 10 products.

Madagascar's annual exports to the USA were worth US$109 million accounting for 6.6% of its total exports compared to its global exports of around US$1.639 billion. These findings show that USA may not be an important exported market for Madagascar, and hence, the coming into being of the TPP agreement will likely have minimum costs in terms of lost market for Madagascar's exports to the USA market. The impact of the TPP agreement in terms of loss of potential market can however be felt in some specific export product lines namely HS611430 (*Garments, n.e.s., knitted/crocheted*) and HS610463 (*Women's/girls' trousers, bib & brac*) as USA absorbs 61.5%, and 52.9% of the Madagascar's global exports.

Other non-T&A products that are likely to be affected by the TPP agreement include product line HS750210 (*Nickel, not alloyed, unwrought*) followed by line HS90500 (*Vanilla*). In total, Madagascar's major exports of non-T&A products to USA averages US$69 million annually, while the global exports are US$949, implying that USA accounts for 7.3% of the country's total exports in these products.

Malawi's annual exports to the USA are worth $60.6 million accounting for 5.09% of Malawi's global exports. This shows that USA may not be an important export destination for Malawi hence the TPP agreement between USA and its eleven partner countries will not have any significant costs in terms of lost market for Malawi's exports. The impact of the TPP agreement in terms of loss of potential market can however be felt in some specific export product lines namely HS620690 (*Women's/girls' blouses, shirts & sh*), and HS610590 (*Men's/boys' shirts, knitted/crochet*) which accounts for 96.1%, and 67.5% of Malawi's global exports to USA in the two products respectively. Other non-T&A products that are likely to be affected by the TPP agreement include product line HS080290 (*Nuts, n.e.s. in 08.01 & 08.02, fres*) USA whose USA is an important market accounting for 62.8% of Malawi's global exports.

Mauritius' annual exports to the USA were worth $242 million accounting for 13% of Mauritius' global exports. This shows that USA may not be an important export destination for Mauritius therefore the TPP agreement will not have significant costs in terms of lost market for Mauritius' exports to the USA market. The impact of the TPP agreement in terms of loss of potential market can however be felt in some specific export product lines including HS611030 (*Jerseys, pullovers, cardigans, wais*); HS620520 (*Men's/boys' shirts (excl. knitted/c*) and HS620630 (*Women's/girls' blouses, shirts & sh*) which represents 98%, 83% and 60%, of Mauritius's global exports in the product lines respectively

Other non-T&A products that are likely to be affected by the TPP include product lines HS900311 (*Frames & mountings for spectacles/g*), and HS420310 (*Articles of apparel, of leather/com*) for which USA accounts for 86.2% and 58.3% respectively of Mauritius' global exports in these two products.

Rwanda's annual exports to USA were worth $10.6 million accounting for 2.4% of Rwanda's global exports. These findings indicate that USA may not be an important export destination for Rwanda therefore the TPP

agreement between USA and its eleven partner countries will not have significant costs in terms of market loss for Rwanda's exports The impact of the TPP agreement in terms of loss of potential market can however be felt in the following specific export product lines namely 620449 (Women's/girls' dresses (excl. knit), 621420 (Shawls, scarves, mufflers, mantilla), 610610 (Women's/girls' blouses, shirts & sh), 630259 (Table linen (excl. knitted/crochete), 620432 (Women's/girls' jackets & blazers (e), 621320 (Handkerchiefs, of cotton), and 630900 (Worn clothing & other worn articles). USA market absorbed at least 51% of Rwanda's global exports in these tariff lines. Other non-T&A products that are likely to be affected by the TPP include tariff lines HS 121190 (*Plants & parts of plants, incl. see*), and HS970300 (*Original sculptures & statuary, in*).The USA market is an important market tariff lines accounting for 82%, and 55.8% respectively of Rwanda's global exports in these two products.

Uganda's annual average exports to USA between 2013 and 2015 were around US$26.8 million representing 1.6% of its total exports. This shows that USA may not be an important export hence the TPP agreement between USA and its eleven partner countries will not have significant costs in terms of lost market for Uganda exports to the USA. The impact of the TPP agreement in terms of loss of potential market can however be felt in export product line HS630790 (*Other made-up textile articles, inc*). USA is a major market for Uganda's product line HS630790 (*Other made-up textile articles, inc*) which accounts accounting for 92.6% of the Uganda's global exports in the commodity.

Other non-T&A products that are likely to be affected by the TPP include product lines HS840710 (*Spark-ignition reciprocating/rotary*), and HS350110 (*Casein*). The USA market is an important export destination for the two product lines product lines account for 80%, and 54%, respectively of Uganda's global exports in these products.

Zambia annual exports to USA was worth US$11.4 million compared to its global exports of US$9.882 billion and accounts 0.12% of its total exports. These findings show that USA may not be an important export market for Zambia; hence the TPP agreement will likely not have any significant costs in terms of market loss for Zambia's exports to the USA market. The impact of the TPP agreement in terms of loss of potential market will not be felt in textile and apparel since annually, and for the past three years, Zambia has been exporting only one textile and apparel product line, HS630900 (*Worn clothing & other worn articles*)worth US$27800 to USA and US$240,000 to the global market. This represents 0.24% of the country's total exports to the USA market and 0.01% of the country's global exports of the same product line. Thus, USA is not an important market for Zambia's exports of this product line. Exports to the USA market accounted for 55.6% of the country's total exports to the same market, and 4.6% of Zambia's global exports in the same commodities. This shows that, for Zambia, exports to the USA market are largely skewed towards the top ten non-textiles and that USA is an important market for Zambia's exports in these products lines.

4.2.2   TPP countries' exports to USA

Currently USA is a major export market for two out of the 11 TPP countries. These two countries are Mexico and Canada. On annual average, Mexico and Canada export US$309.1 billion and US$284.3 billion worth of products to USA out of a total of US$380.7 billion and US$374.1 billion products respectively, destined for the

global market. For Mexico and Canada, USA absorbs 81.2% and 76% exports of these two countries, respectively. On the lower side, besides Australia, USA accounts for 0.3%, 6.7%, and 9.5% of total exports for Brunei, Singapore and Malaysia, respectively. Over the period 2013-2015, Australia exported goods worth US$9.7 billion to USA, while the export figure was US$187.8 billion to the rest of the world. These figures show that USA absorbs 5.2% of Australia's global merchandise exports. The USA is therefore not a major market for Australia. This situation is likely to change once the TPP agreement enters into force.

The TPP countries' exports to USA that are of interest to COMESA AGOA eligible countries are textiles and apparel; and non- textiles and apparel. The COMESA AGOA eligible countries textile and apparels exports to the USA market are equivalent to 6.5% of what TPP countries are currently exporting before the TPP agreement enters into effect.

Vietnam accounts for 79.8% of the tota TPP exports to the USA. Malaysia and Canada are other major competitors with 5.9% and 4.05% textiles and apparel exports respectively into the USA.

Japan will be the overall major competitor to COMESA AGOA eligible countries given that it accounts for 28.1% of combined TPP exports of both textiles and apparel exports; and non-textiles and apparel exports into USA.

4.2.3   A Simulation of COMESA exports to USA

Our findings from WITS-SMART model simulations found that once the TPP agreement is fully implemented with USA applying zero duty rates, TPP countries' total exports to USA will increase by US$5.2 billion. Japan will account for 73.7% of the total increase, while Vietnam and Brunei will not experience any increased exports to USA.

The results further show that (), the TPP countries are bound to increase their exports of, textiles and apparel; and non – textiles and apparel into USA market. This implies that the impact will be negative on COMESA AGOA eligible countries as their exports will be replaced by TPP countries who will be exporting same products into the USA. The exports from TPP countries of textiles and apparel exports are expected to increase by US$108 million, while non – textiles and apparel are projected to increase by US$18 million. This means that textiles and apparel exports; and non – textiles and apparel exports from COMESA AGOA eligible countries are expected to decline by 27.4% and 4%, receptively.

The increased textiles and apparel exports into USA are expected to be dominated by Malaysia and Japan, with the former accounting for 93.9% of the increase in exports and the latter 5.45%. Although Australia and New Zealand will contribute marginally (less than 1% each) towards increased textiles and apparel exports, exports of the same products from other TPP countries are projected to remain the same. Exports from Vietnam are projected to remain the same.

The results further show that Japan will account for the largest share of increased non – textiles and apparel exports to USA as it will supply 94.48% of the increased export trade in these products. Malaysia will provide

4.5% of the increased exports while New Zealand will account for close to 1%. The rest of TPP countries are not expected to increase their exports of non – textiles and apparel products into USA.

4.5 alternative Export destination markets for COMESA

To identify alternative export markets for both textiles and apparel, the study used TradeMap Database for 2015. The study identified the top alternative importing countries to be Japan, United Arab Emirates (UAE), United Kingdom(UK), Malaysia, Germany, Portugal, Thailand, Hong Kong, China, Italy, Singapore, France, Saudi Arabia, India, Netherlands and Russia among others.

4.5.2 Summary Conclusions and Policy Recommendations

This study undertook an assessment of the implications of the Transpacific Partnership agreement (TPP) between USA and its eleven partners on products exported by COMESA AGOA eligible countries into the USA. The study found that: Some provisions of the TPP agreement by virtue of encouraging intra-TPP trade are likely to negatively impact on exports from COMESA AGOA eligible countries into the USA market; the TPP is not going to significantly affect overall exports of COMESA AGOA eligible countries given that USA is not a major export destination for these countries. Some specific product tariff lines both textiles and apparels; and non-textiles and apparels are likely to be replaced by similar products from TPP countries;

Since AGOA has been extended to 2025, Member States should use ACTIF to lobby and negotiate with the US government to incentivize investors and buyers to continue investing and sourcing from COMESA to sustain the ongoing reforms in the cotton-textile chain that have continued to generate investment and prospects of employment opportunities and deepen the regional integration agenda at pan-African level.

COMESA-AGOA eligible countries should enter into mutual agreements to cooperate with TPP countries. Creation of joint ventures with TPP countries, in particular the Asian countries that produce textile and apparel. Member States should organize and host textile industry exhibitions to attract investors to come and set up plants within the COMESA-AGOA countries where inputs like quality cotton originates from as well as the availability of cheap labour. This will create an opportunity for fashion designers to find new materials and identify new markets for their products.

There is need for member States to lobby for the revision of the overall AGOA framework within the context of the global WTO commitments and proliferations of FTAs.

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ANNEX 1: TPP Agreement Chapters

Table A1: TPP Chapters

Chapter	Chapter Title
	Preamble
1	Initial provisions and general definitions
2	National treatment and market access for goods
3	Rules of origin and origin procedures
4	Textile and apparel goods
5	Customs administration and trade facilitation
6	Trade remedies
7	Sanitary and phytosanitary measures
8	Technical barriers to trade
9	Investment
10	Cross-border trade in services
11	Financial services
12	Temporary entry for business persons
13	Telecommunications
14	Electronic services
15	Government procurement
16	Competition policy
17	State-owned enterprises and designated monopolies
18	Intellectual property
19	Labour
20	Environment
21	Cooperation and capacity building
22	Competitiveness and business facilitation
23	Development
24	Small and medium sized enterprises
25	Regulatory coherence
26	Transparency and anti-corruption
27	Administrative and institutional provisions
28	Dispute settlement
29	Exceptions and general provisions
30	Final provisions

INFORMAL CROSS BORDER TRADE IN UGANDA: A CASE STUDY OF MPONDWE AND MUTUKULA CUSTOMS BORDER POSTS

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ABSTRACT

The study investigates the factors responsible for the increasing volume of informal cross border trade in Uganda with particular reference to Mpondwe and Mutukula customs stations. A Cross-Sectional survey design was used in studying sample informal traders in Mpondwe and Mutukula border posts. Primary data was collected using questionnaires and focus group discussions. The findings show a number of difficulties faced by informal cross border traders among them; too many documents, delays at the border, high clearing charges, high taxes, trade information vacuum, low level of education and low capital. The conclusion can also be drawn that poor trade facilitation and lack of adequate sensitization creates an information vacuum which increases the likelihood of small traders to trade informally. Border Authorities in the region should set up a joint committee between traders and border officials to address the existing mistrust as well as   reduce on the number of documents required from small traders by merging some of the documentation.

List of Acronyms

AGOA	African Growth and Opportunity Act
BOU	Bank of Uganda
CBI	Cross Border Initiative
CET	Common external tariff
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
EASSI	Eastern African Sub-regional Support Initiative for the Advancement of Women
ECOWAS	Economic Community for West African States
FTA	Free trade agreement
HS	Harmonised Commodity Description and Coding System
ICBT	Informal Cross Border Trade
IMF	International Monetary Fund
ITC	International Trade Centre
MENA	Middle East and NorthAfrica
NTB	Non-tariff barrier
OECD	Organisation for Economic Co-operation and Development
ROO	Rules of origin
RTA	Regional trade arrangement
SADC	Southern African Development Community
SMEs	Small and medium-sized enterprises
SPS	Sanitary and phyto sanitary measures
SSA	Sub-Saharan Africa
TBTs	Technical barriers to trade
UBOS	Uganda Bureau of Statistics
UNCTAD	United Nations Conference on Trade and Development
WITS	World Integrated Trade Solution
WTO	World Trade Organization

1.   **Introduction**

1.1   **Background**

Informal cross border trade refers to trade, which is not officially recorded (Njiwa, 2013). Informal cross-border trade (ICBT) forms a significant proportion of economic activity in Africa even though it is almost entirely undocumented (Nduru, 2004).

Traders in ICBT travel with their goods and in most cases do not enjoy the benefits accorded by the preferential trade agreements. ICBT in Uganda has been enhanced by the fact that the communities along the territorial boundaries share a lot in common both culturally and socially that is; traders speak the same or similar languages, inter-marry and own land on either side of the borders (UBOS, 2007).

There are three types of ICBT which include trade by informal(unregistered) firms totally avoiding official formalities, trade by formal(registered) firms which are fully evading trade related regulations and duties as well as trade by formal firms which are partially evading trade related regulations and duties by resorting to illegal practices such as under invoicing (reporting of lower quantity, weight and quality to pay lower tax), mis-declaration of country of origin, misclassification of products, bribery of custom officials etc (Macamo, 1999).

Table 1.1: Uganda's informal trade in Million US Dollars, 2010 to 2014

	2010	2011	2012	2013	2014
Informal Exports	528.3	355.8	453.7	421.3	414.6
Informal Imports	66.5	53.9	53.0	53.7	65.8
Total Informal Trade	**594.8**	**409.7**	**506.7**	**475.0**	**480.4**

Source: UBOS

Table 1.1 shows annual informal trade volumes between Uganda and its neighbours. Between 2011 and 2012 ICBT grew by 23.68% from US$ 409 million to US$ 506 million.

The goods mainly traded informally are non -processed products which include food stuffs like beans, maize and rice, non-food stuff such as hides and skins, paintings and handicrafts (Ogalo, 2010). Processed goods include industrial products; sugar, edible oils, clothing, dairy products, packaged beverages, soft drinks and juices. Manufactured and re-export goods comprise low quality processed goods from Asia such as electronic appliances, apparel and shoes. Contraband and counterfeit goods include fuels, cosmetics, pharmaceutical products, electronics and other household goods.

Women are the major players in ICBT in sub Saharan Africa. In Zimbabwe, women constitute 85 percent of the traders (Ndela, 2006) and in the Great Lakes Region, an estimated 85 percent of small-scale traders are women (Titeca and Kimanuka, 2012).

Notably, most of the ICBT traders are widows or breadwinners, depending solely on cross-border trade as a source of income (Ngungi, 2010). People with disabilities (PWDs) and the youth also form a significant proportion of ICBT participants.

Several studies have been carried out in Uganda to estimate the volume of informal trade flows. COMESA and EAC are implementing the Simplified Trade Regimes (STRs) in recognition of small scale informal cross border traders who find it difficult to meet conventional customs requirements. This notwithstanding little is known regarding factors that influence ICBT.

This study identifies factors responsible for the increasing volume of informal cross border trade in Uganda with particular reference to Mpondwe and Mutukula customs stations. Specifically the study sought to:

   i.   find out whether trade facilitation influences informal cross border trade.

   ii. establish the extent to which trade related information influences informal cross border trade.

   iii. examine the extent to which the level of education influences informal cross border trade.

   iv. find out the extent to which access to credit influences informal cross border trade.

   v.   Make policy recommendations and suggest how ICBT can be stimulated

Research questions

The study sought to answer the following research questions:

   to what extent does trade facilitation influence informal cross border trade;

   to what extent does limited trade information influence informal cross border trade;

   to what extent does level of education influence participation in Informal cross border trade; and

   to what extent does access to credit influences informal cross border trade.

Review of Literature

Literature identifies several theories of informality. The major ones include the legalist and rational choice theory.

2.1 Legalist Theory

The legalist theory states that it is the ethical attitude that holds the moral conduct (Shklar, 1964). The legalist approach is based on the neo-liberal school of thought. It argues that the informal sector is a result of excessive and inefficient government regulations. Kirshner (2009) investigates migration, informalisation and public space and finds that when people fail or find it hard to comply with un reasonable bureaucracy they tend to go informal.

2.2 Rational choice theory

The rational choice theory states that people calculate the likely costs and benefits of any action before deciding what to do (Scott, 1961). Gardener(2008) in his empirical analysis of the informal economy finds that individuals always act to maximize utility given the available information on the costs and benefits of such action. Rational choice theory was primarily developed to explain the behavior of humans but many disciplines have adopted and adapted it to fit in their respective fields. The rational choice theory suggests that there are many factors influencing the decisions of individuals to formalize or to stay informal. Schneider and Enste, (2002) suggests that it is not only the economic factors that should be looked into but also personal issues as well. Factors to consider include circumstantial characteristics such as norms and restrictions and personal characteristics of an individual such as motivation. They suggest that explanations of entry into the informal sector should be considered from other angles instead of focusing on economics.

2.3 Trade Facilitation on Informal cross border trade

According to the Nile Basin Initiative, there are many non-tariff trade barriers experienced at Busia and Malaba border points in Uganda, which lead to irregular practices for certification and levying of stamp fees. Traders are subjected to lengthy documentation procedures for issuing licenses, spending approximately 7 hours in queues while in Kenya they spend an average of 3 hours at customs offices. In addition, the report further reveals that formal traders with perishables and grains resort to the informal channels as a result of added costs arising from increased loading and off-loading costs as a major burden and impediment to trade. According to COMESA, traders have not been able to benefit from the duty- free and quota-free access in the COMESA market due to their inability to obtain the necessary documentation such as certificates of origin to enable them to qualify for duty-free status as key documents are issued in capital cities and large commercial centers, away from where actual cross-border trade is conducted.

Evdokia,(2009) stressed that the quality of road transport and communications infrastructure influences the patterns of informal and formal cross-border trade flows. The study further reveals, traders often choose to use the most effective and economical route, hence possibly avoiding formal border posts. This is supported by Brookings(2012) who revealed that 34% of the rural population in Sub-Saharan Africa live within 2 kilometers of a road that is passable in all weather, the roads in rural areas are unpaved, making vehicle operating costs about 50% higher.

UNECA,(2013) revealed that Africa excluding Northern Africa remains by far one of the two regions in the world where international trade is most expensive. Document requirements are also burdensome by international standards with an average of 8 and 9 different documents required for export and import respectively. Cost wise, importing activities are unduly disadvantaged in Africa excluding Northern Africa to the extent that the import of one standard container takes on average 37 days and costs US$ 2,567 compared to 22 days and US$ 958 in East Asia and Pacific, 19 days and USD 1,612 in Latin America and the Caribbean, and 33 days and US$ 1,736 in South Asia.

2.4 Market Information on informal cross border Trade

According to Moïsé, *et al* (2013) traders in developing countries have limited awareness of applicable standards. They further revealed that accessing a particular market entails collecting and digesting relevant information on the applicable requirements which is time consuming, especially given the scarcity of institutions in developing countries to facilitate standards awareness and adoption. Azam *et al*, (2012) stressed that lack of accurate and reliable market information on crops supply, demand and stocks discourage farmers and traders from taking additional risks, such as exporting to new markets. EAC, (2005) found that the lack of information on regulation compels many traders to engage in unrecorded trade across the borders.

Ogalo, (2010) found that informal cross border traders, especially small-scale traders, have little knowledge of the benefits of trading within EAC. The findings show that inadequate information on the existing trading opportunities along with there being no simplified written rules that the traders could refer to, makes it difficult for the traders, especially given their limited technical knowledge, to know their benefits and rights when trading within EAC. The study concluded that this has resulted in situations where customs officers exploit the traders' ignorance by demanding duties on goods that are not supposed to attract duties.

2.5 Level of Education on Informal cross border Trade

Lyles *et al*, (2004) found that managerial competencies measured by the education of the founder, managerial experience, entrepreneurial experience positively impact on performance of new ventures .

Wood, (2003) found that lack of education and training has reduced management capacity in SMEs in South Africa and was one of the reasons for their high failure rates. EASSI, (2012) established that 11% of the women informal cross border traders had no schooling while 26% and 11% had completed primary and secondary schooling respectively with an example of Busia border between Kenya and Uganda, where 23% of the women informal cross border traders had no schooling.

IFC,(2014) revealed that Small business owners in the Democratic Republic of Congo often lack the ability to supply large companies because they don't have adequate business management skills or access to the bank financing that could help their enterprise grow.This is supported by Titela and Kimanuka, (2012) who established that the general level of education among informal cross border traders is low with 26% of small traders having had no education at all, 53% having had no education beyond primary school and 21% having had education beyond primary school.

2.6 Access to credit and informal cross border Trade

According to Zhenbo Hou and Dirk, (2013), lack of sufficient credit faced by SMEs in developing countries lead to reliance on the most expensive sources of finance to support their trade transactions. In addition, lending to SMEs is severely constrained as a result of their lack of credit history, poor knowledge of trade finance and absence of adequate or acceptable forms of security and as a result they either face an absolute dearth of financing or where

it is available, are typically reliant on local currency loans and overdraft facilities to finance their trade operations, placing them at an enormous disadvantage in financing their imports and in transacting trade.

According to Atieno, (2001) 86% of traders got their initial capital for starting their enterprises from informal sources. Personal savings were the dominant source of credit, especially for initial capital, pointing to the limited ability of the financial markets to meet existing credit demand from certain borrowers and reinforcing the argument that small-scale rural based enterprises do not have access to the financial resources of the formal financial sector.

IFC, (2013) shows that 52% of women business owners meet their businesses' capital needs through private sources, such as personal savings, family and friends which are all difficult for growing businesses to leverage on. The report shows that 41% of the respondents reported challenges in accessing needed capital among whom 67% cited high interest rates as a hurdle they have encountered when seeking external financing, followed by lack of collateral guarantees at 36%.

World Bank, (2013) reported that 48% of firms identified access to finance as the biggest obstacle to growth, compared to 12% in 2006. The firms' perception of access to finance as an obstacle worsened between 2006 and 2013 despite the indicated improvement in the use of financial services by firms. ITC, (2015) revealed Women have less access to finance because they have less physical and reputational collateral. This may explain why they are concentrated in less capital-intensive firms.

World Bank (2015) showed that young and smaller firms are more likely to be denied a loan or a line of credit than firms who are more established or larger. Only 1.9 % of small firms have a loan or line of credit and this is attributed to the fact that SMEs are discouraged from applying for loans due to excessively high collateral requirements.

METHODOLOGY

3.1 Research design

To achieve the study objectives, a cross-sectional survey design was used in studying sample informal traders in Mutukula and Mpondwe border posts. Data was collected at one point in time from a selected sample using questionnaires and focus group discussions .

3.2 Selection of Border Posts

The selection of the sample stations was based on the significance of trade flows through the border posts; availability of customs offices and supporting government institutions such as immigration; police and other security organs; and other necessary infrastructure to support fieldwork.

3.3 Target Population

In this study, the target population was informal cross border traders operating around Mpondwe and Mutukula Customs border posts, two of the 35 customs stations which are the gazetted entry and exit points of Uganda, the commercial hubs used by thousands of people on foot and on bicycles, some through the gates, others through back roads. The stations were chosen because of the growing volume of informal cross border trade that has sprung up in the recent past.

3.3.1 Sample Size determination

The sample was formulated as follows:

$$n = \frac{Z^2_{a/2} * P * Q}{e^2}$$

Where;

n is the sample size

e is the permissible error

P is proportion of the population in support of the variable

Q = 1-P is proportion of the population not supporting the variable

For 95% Confidence interval, **a** = 5% and the corresponding Z value according to tables is 1.96

If **a** = 5 %, e = 7%, $z_{a/2}$ = 1.96, P = 0.5, Q= 0.5

$$n = \frac{1.9 * 1.9 * 0.5 * 0.5}{0.7 * 0.7}$$

n = 196

3.3.2 Sample Selection

The sampling frame included all existing informal cross border traders in various types of goods in the study. The basic assumption was that all informal cross border traders in the area had an equal chance of being included in the study. Data was collected from 196 informal traders. The numbers selected were based on the numerous socio-economic activities. Thus, informal cross border traders were chosen by random and partly purposive sampling in order to have a wide representation of all kinds of traders in the sample.

ue and unclear questions are eliminated or corrected.

3.6 Limitations of the study

Informal cross border trade in particular is a very sensitive topic when discussed by people who live on it. Everywhere respondents were concerned about why they were being asked questions and what the interest of the researcher really was. Real fear emanated from possibility of collected information being passed on to government authorities such as Customs and being arrested there after. Respondents from DRC feared security implications of their interviews, as most were not sure of their status even when they were found trading in different markets. "Anonymity" became the best strategy for getting information.

The study should have also been undertaken in all the customs border posts of Uganda but due to financial, material and time constraint, Mutukula and Mpondwe border posts were used as a case studies.

FINDINGS OF THE STUDY

4.1 Trade facilitation and Informal Cross Border Trade.

Figure 4.1 shows some of the trade facilitation indicators examined and the findings show that complex document requirements by customs topped the list of difficulties faced by informal cross border traders representing 27.55%. This was followed by the time delays at the border representing 24.49%, some 20.92% of respondents reported that a lot of bribes are solicited by numerous border officials and that the total amounts of bribes received to cross the border in a formal way were a significant proportion of expenses to their business. Some 19.39% said taxes payable increase the cost of crossing border on top of the other unofficial payments and 7.65% of the respondents cited other reasons including the multiple regulatory requirements demanded by border control agencies but which are issued from Kampala.

Figure 4.1 Trade Facilitation Indicators

|	Bribes	Delays at the Border	Taxes	Too Many Documents	Others
■%	20.92%	24.49%	19.39%	27.55%	7.65%
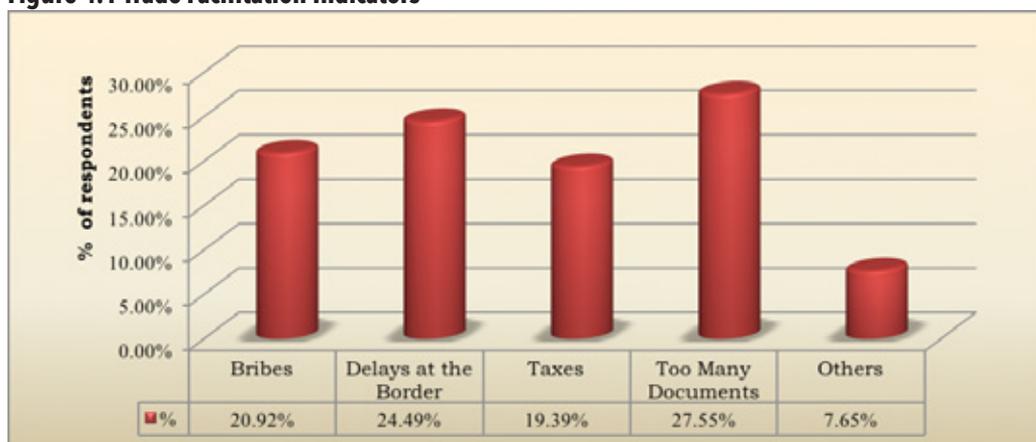
Source: Kugonza Julius

The findings of this study are corroborated by the Doing Business Report of 2014 that show that a trader needs 10

documents to import to Uganda and 7 documents to export from Uganda. It is important to recognize that delays and bottlenecks caused by border agency requirements can sometimes be a greater source of administrative costs and delays than Customs formalities. Restrictions such as tariffs on imports, quotas, exchange controls, export restrictions create incentives for informal activities.

4.2 Limited information and Informal Cross Border Trade

Figure 4.2 shows some of the different kinds of information needed by traders. Limited information on the documentation required during the clearance of goods at the borders was the greatest challenge rated at 29.08%. This is followed by limited information on the customs procedures particularly the clearing process rated at 23.47. This is may be because traders are not aware of the procedures for classifying and valuing of goods. Limited information on the taxes payable was rated at 20.92%. This suggests that traders are not aware of the different kinds of taxes chargeable even when such duties are not applicable. Limited information on markets was rated at 19.39%. This suggests that traders are not aware of the existing formal markets that could even attract better prices for their goods while 7.14% cited lack of other information especially on regulatory requirements for example quality standards, regional trade agreements which makes them unable to apply formal preferential tariff rates or tax exemptions for which they are eligible in the importing or exporting country.

Figure 4.2 Information availability Indicators

No. Of Traders	Info. on Markets	Info. on Documents	Info. on Taxes Payable	Info. On Customs Procedures	Others
	38	57	41	46	14
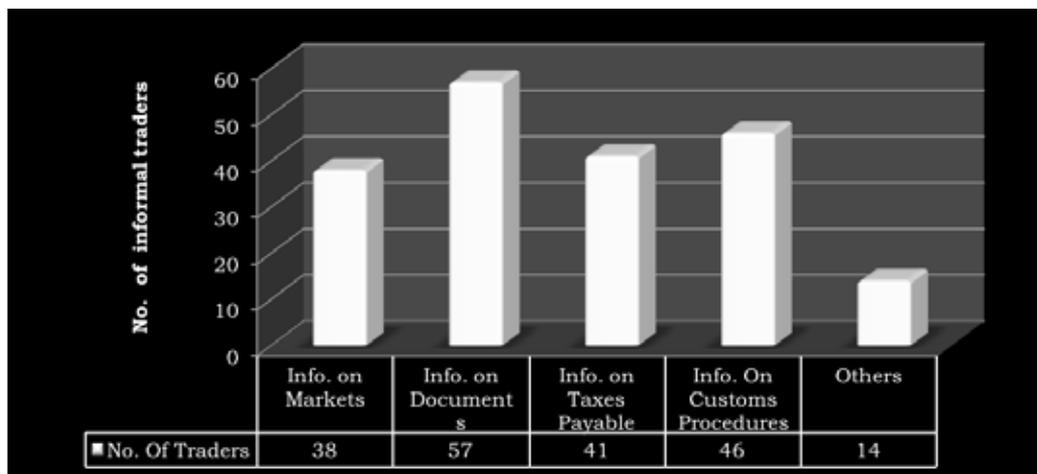
Source: Kugonza Julius

Limited market information on market access makes it difficult for informal cross border traders to take advantage of the market access opportunities available in regional market. These results are in line with other studies notably Lesser and Evdokia (2009), COMESA (2007), and EAC (2005). This suggests that when traders don't have information of customs procedures, policies, regulations, agreements, requirements and protocols for the facilitation of cross-border trade, they avoid customs by diverting to ICBT. This is enhanced by the fact that traders in ICBT operate outside normal market circles and therefore market information on prices, demand and supply is generally not available to them. They therefore rely on informal sometimes unreliable information networks.

4.3 Level of Education and Informal Cross Border Trade.

Table 4.3 shows that most traders (36.22%) had not attended any formal education and this affects them in their trade across borders since they may not be able to read or understand trade related documents and agreements, and this therefore induces them to trade informally. Those that had attended primary, secondary and post-secondary training were 28.57%, 21.43% and 13.78% respectively. Even though traders post-secondary education were 13.78%, their numbers were said to be on the rise as formal trade is becoming more sophisticated.

Table 4.3 Level of Education of the Traders

Education Level	No. of Respondents	Percentage of Respondents
Never Attended	71	36.22%
Attended Primary	56	28.57%
Attended Secondary	42	21.43%
Attended Tertiary	27	13.78%
Total	**196**	**100.00%**

Source: Kugonza Julius

Similar results have been reported in previous studies (see Titela and Kimanuka, 2012, and EASSI, 2012) who all found that low education levels lead many people around the border areas to informal cross border trade.

4.4 Access to Credit and Informal Cross Border Trade.

Figure 4.4 shows that personal savings are the major source of funding for trade activities at 37.24%, followed by money lenders at 26.53%, relatives particularly spouses at 17.86%. Some 11.22% of the respondents got credit from micro-credit organizations while 7.14% get credit from other forms like mutual trust.

Figure 4.4   Means of Access to Credit by Informal Traders
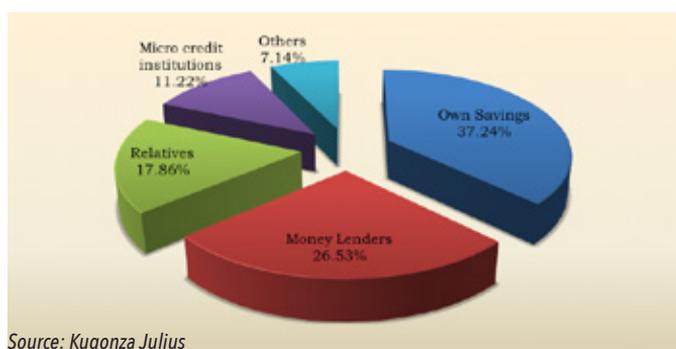
Source: Kugonza Julius

These results are in line with Kasekende and Opondo(2003), who argued that the development of enterprise is possible when there is ample access to finance and this is only possible if it is accessed at reasonable prices.

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Prior research documented that informal cross border trade accounts for a significant proportion of the intra regional trade. Consequently, the performance of the informal trade is closely associated with the performance of the economy.

Trade facilitation and trade related information were found to exert a considerable influence on informal cross border trade. It was therefore concluded that poor trade facilitation and trade related information increase the likelihood of trading informally.

The study established that level of schooling influence participation in ICBT at the border posts.

5.2 Policy Recommendations

The study recommends that trade facilitation constraints that need to be urgently addressed are the complex customs and administrative procedures and regulations, inefficient and costly transit systems as evident by numerous informal roadblocks along trade corridors, differences in rules of origin, trade documentation, and standards. There is need for political will and commitment to address trade facilitation issues.

There is for the Ministry of trade sets up a joint working committee between traders and custom officials to address the existing mistrust.

The Ministry of trade should develop a policy or strategy of information sharing on trade facilitation with traders and other government agencies.

 Regional integration initiatives should be mobilized to promote more regional policy harmonization to avoid the kind of distortions that set the ground for smuggling between member countries.

The Ministry of Finance and Revenue Authority should reduce the number of documents required from small traders by harmonizing and simplifying the documents.

There is need for Public-Private partnership that can reveal elements of a public-private bargain which stimulates public performance and private contributions to providing appropriate market information and financial services to support informal traders.

Examine trade policies for elements encouraging informal trade and pursue governance reforms, such as cross-checking between customs authorities that can make trading across borders more transparent.

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The Role of
Trade Facilitating
Infrastructure
in Promoting
Manufactured
Exports in the
COMESA Region

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Abstract

The paper estimates the impact of trade facilitating infrastructure on the performance of manufactured products of the COMESA, ASEAN and EAC blocs. We estimate elasticities using the gravity model to establish the proportion of economic infrastructure development required to generate a given proportion of exports of manufactured exports. The findings provide evidence that improvement in economic infrastructure generates gains in terms of export of manufactured exports. Furthermore, transparency and accountability, internet connectivity and telephone subscription improve the efficiency and business environment which supports exports of manufactured products. Finally, improvements in border infrastructure and transport efficiency enhance exports of manufactured goods. These findings suggest the need for the RECs to mobilize resources for investment in trade facilitating infrastructure.

1.0   Introduction

Trade facilitation is broadly defined as set of policies aimed at reducing export and import costs. It has been salient in the policy debate as the next key option to reduce trade costs in developing countries. Portugal-Perez and Wilson (2012) pioneered the quantification of infrastructure and categorized them into hard and soft infrastructure in the realm of trade facilitation. Hard infrastructure covers sea-ports, airports, roads and rail lines, which are all critical for connecting a country to the outside world. Less visible but no less important are the soft infrastructures of border and logistics management (shipping, air transport, telecommunications, business environment). Using a gravity model they demonstrated that improvement in trade facilitation increases chances of boosting merchandise exports.

According to Gutman *et al.* (2015) nowhere is infrastructure more crucial and potentially transformational than in sub-Saharan Africa. One of the main constraints to intra-African trade is inadequate infrastructure. As traditional trade barriers such as tariffs come down, trade facilitation reforms that address other impediments to trade in goods and services become even more important. It is evident that international trade can be made more efficient if countries remove complex and redundant administrative processes that affect, for example, efficiency of customs, the mobility of business people, payments and insurance, and standards and conformity assessment. As a consequence, trade facilitation is now part of the work programs of a number of international forums, including the World Trade Organization (WTO), the United Nations Conference on Trade and Development (UNCTAD), the World Customs Organization (WCO), as well as Regional Economic Communities (RECs). Table 1 illustrates the average regional transaction costs in international trade, specifically, the time and costs it takes to comply when exporting.

Table 1: **T**ransaction **C**osts in **I**nternational **T**rade, **R**egional **A**verages in 2016

Region	Time to export: Border compliance (hours)	Cost to export: Border compliance (USD)	Time to export: Documentary compliance (hours)	Cost to export: Documentary compliance (USD)
European Union	8	95	1	16
OECD High Income	15	160	5	36
South Asia	61	376	80	184
East Asia Pacific Islands	64	509	72	253
Middle East & North Africa	65	445	79	351
East African Community	70	376	68	166
Latin America & Caribbean	86	493	68	134
COMESA	101	403	112	378
Sub-Saharan Africa	108	542	97	246

Source: World Bank (2016)

In Table 1, COMESA and particularly Sub-Saharan Africa have the highest number of hours and compliance costs when exporting compared to Latin America and Caribbean and East Asia Pacific Islands. In terms of documentary requirements and the accompanying compliance costs COMESA and Sub-Saharan Africa take the most time and incur the highest costs.

Although the RECs in Africa are championing industrialisation to enhance intra-regional trade in manufactured products, the impediment to this course is the poor trade facilitative infrastructure. At both the continental and regional levels plans to establish pan-African trade pacts are well underway as part of a broader effort to increase intra-regional trade within the continent. However, the success of such initiatives partly depends on the level and stock of infrastructure development on the African continent.

1.2   Trade Facilitation Initiatives in COMESA

Article 70 of the Treaty establishing COMESA provides for Member States to embrace initiatives that facilitate trade and these include: reduction of the cost of documentation; adopting common procedures in trade; and capacity building in trade facilitation issues. Article 69 and 71 of the Treaty further provide for standardization of trade documentation and information; and simplification and harmonization of trade documents and procedures.[1]

COMESA has recognized infrastructure development as a priority and strategic focus area that requires special attention. A holistic and corridor based approach to infrastructure development has been adopted based on three key pillars, that is, policy and regulatory harmonization, development of priority regional physical infrastructure covering transport, information communications technologies (ICT) and energy. The transport sector covers civil aviation, surface transport (covering road and rail) and water transport covering maritime and inland water transport subsectors. The ICT comprises telecommunications, broadcasting and postal services subsectors, whilst energy covers electricity, fossil fuels and renewable energy subsectors. These will enhance trade facilitation in the region and spur industrialisation (COMESA, 2013).

At the same time, COMESA is in the process of developing a common industrial policy, in a bid to foster the economic transformation of the region through industrialization based on two pillars namely: national industrial policy coordination, and cooperation. It is meant to address the economic transformation of the COMESA region through an inclusive and sustainable industrialization based on value addition, local content and SMEs participation in the national, regional and global supply chain. It targets promotion of manufacturing through agro processing, leather and leather products, cotton and garments, mineral beneficiation, light engineering and pharmaceuticals.

According to Jouanjean *et al. (*2015), the overall development potential for improving trade facilitation infrastructure is quite high in COMESA given that half of the Member States are landlocked. The launch of the WTO negotiation round in 2004 brought trade facilitation to the foreground in the policy arena and increased the number of regional trade agreements that incorporated trade facilitation measures.

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1   http://www.comesa.int/what-we-do/#infrastructure

It follows from this, that as outlined in the COMESA, (2010) strategy[2], the approach to integration thus far has been focused on economic integration through the removal of trade and investment barriers. This approach has indeed reaped some dividends over the years, and while it will continue to be pursued, focus is now turning towards development-oriented integration, that is, trade facilitation is now becoming a bigger part of the COMESA agenda. This means that greater consideration will be given to factors that contribute to the supply side of integration, namely investment in the productive sectors (COMESA, MTSP, 2010-2015). COMESA thus recognises that industrialisation is a key driving force in the overall development process. In spite of this, COMESA's export earnings from the manufacturing industry remains very low, and the overall importance of the sector is in danger of waning as the services and mining sectors in a host of countries continue to grow in prominence (COMESA Business Council, 2013). The blanket liberalisation policies adopted by most of the COMESA Member States unsurprisingly resulted in the contraction of manufacturing activity and output especially in sectors that had previously been heavily protected. Even though in the long run the manufacturing share of GDP should grow, there is genuine concern that the level of de-industrialisation may not be so easily reversed (COMESA, 2010).

This paper estimates the impact of improving economic infrastructure on industrialisation in the COMESA region. There is a gap when it comes to analyzing the impact of trade facilitation on exports of manufactured goods, which is a measure of industrialization. We conduct a comparative analysis with East African Community (EAC) and the Association of Southern Eastern Asian Nations (ASEAN) to establish by what proportions the region needs to develop each set of economic infrastructure to increase the proportion of manufacturing exports. The impact of the variables on manufacturing exports is determined by the coefficients interpreted in form of elasticities. This enables us to establish the proportion of economic infrastructure development required to generate a given proportion of exports of manufacturing exports.

2.   Review of Literature

Soloaga *et al.* (2006) applied gravity models in their estimation of the impact of improvements in trade facilitation in Mexico. They found that Mexico's unilateral improvements in trade facilitation measures had the potential to increase manufacturing exports by US$31.8 billion, equivalent to 22.4 percent of the average export level for period 2000 - 2003. Using a gravity model, Wilson *et al.* (2004) investigated the relationship between trade facilitation and its impact on the flow of traded manufactured goods. They found that intra- Asia-Pacific Economic Cooperation (APEC) trade had the potential to increase its trade flows by up to 21 percent (US$254 billion). They further established that benefits attained from unilateral trade facilitation reforms are significantly large, and the ensuing gains are distinctly realised in exports. Abe and Wilson (2008) emphasised the importance of infrastructure and other institutional indicators for trade facilitation. They investigated a series of "soft" infrastructure indicators like institutional processes and transparency, among others and found that a reduction in corruption and an improvement in transparency in the low performing APEC countries leads to higher gains in trade.

Freund and Rocha (2011) found that transit delays have the biggest economic and most statistically significant

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2   http://about.comesa.int/index.php?option=com_content&view=article&id=78&Itemid=118

effect on African exports. Their results showed that even a one-day reduction in the time spent on inland travel resulted in a 7 percent increase in exports. Iwanow and Kirkpatricks (2008) found that policies directed at improving trade facilitation their chosen had a significant impact on manufacturing in African countries when compared to the impact yielded when the same policies are implemented in the rest of the world. In addition, Hoekman and Nicita (2008) argue that despite various measures to promote preferential access for low-income countries, both tariff and nontariff measures continue to be a significant source of trade restrictiveness.

Piermartini and Nordås (2004) estimated a gravity model with bilateral tariffs and indicators for the quality of infrastructure. Their findings showed that poor quality of infrastructure increases the risk of damaging goods thereby increasing the cost of the transaction. Dominguez-Torres and Fosters (2011) found that infrastructure constraints in Cameroon are potentially responsible for about 42 percent of the productivity gap faced by firms. Similarly, shipment holdups, overcrowding and congestion at the ports in Kenya were reported to have hindered the ability of firms to acquire imported production inputs, resulting in production losses and higher production costs (USITC, 2009).

These findings have important policy implications for developing countries many of whom are trying to industrialise. Although improvements in the quality of infrastructure can be quite costly in the short term, literature shows that there are areas in which significant improvements could be obtained at modest cost. Liberalisation of key infrastructural services like port and telecommunications has been found to have a significant impact on trade.

It does emerge that although a number of estimation methods are used, the results do not significantly vary and all point to the role of infrastructure in increasing the quantities of exports. It is also notable that, the gravity model dominates the estimation methodologies justifying its use in this study.

This paper seeks to explain how improvements in the various types of economic infrastructure would change exports of manufactured goods.

3. Methodology

3.1 Theoretical Foundations of the Gravity Equation

The paper uses the gravity model to estimate the impact of economic infrastructure on exports of manufactured goods by COMESA Member States. The gravity model was first applied to assess and analyse international trade flows was first applied in the 1960s by Tinbergen (1962) and Poyhonen (1963). Initially, the model lacked theoretical foundations for application to economic interchange and trade. This view does not hold anymore given the advancement made in the empirical work and literature (Krugman, 1980; Anderson, 1979; Bergstrand, 1985; 1989 Deardorff, 1995, 1998; Eaton and Kortum, 2002; Helpman *et al*. 2008; and Chaney, 2008).

3.2 Gravitational model

The standard gravity model explains bilateral trade flows (imports and exports) as a function of the trading

partners' market sizes and their bilateral barriers to trade. In general form of the model, trade flows between countries are explained by their economic size (GDP), population, geographical distance and a set of dummies. The model specification follows conventional paths widely used in the literature (see for example, Tinbergen, 1962; Poyhonen, 1963; Eita 2007, and UNCTAD, 2012). The general specification of the gravity model is expressed in equation (1).

$$ln(T_{ij})_t = \square_0 + \square_1 ln(Y_{ij})_t + \square_2 ln(P_{ij})_t + \square_3 ln(D_{ij}) + \square_k(DUM_{ij}) + \square_{ijt}\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

Where:

The dependent variables $ln(T_{ij})_t$ are trade flows;

$(X_{ij})_t$ is exports of a COMESA Member State (with subscript i indicating a COMESA Member State, j the trading partners and t time);

$Ln(Y_{ij})_t$ is the GDP per capita income of a COMESA Member State and the trading partners;

$ln(P_{ij})_t$ are the populations of a COMESA Member State and the trading partner's population, respectively;

$ln(D_{ij})$, measures the distance between the two capitals of a COMESA Member State and the trading partners; and

$ln(DUM_{ij})$ is a set of dummies that assume value of one and zero, and $\square_{ijt}$ is the error term.

Zarzoso and Lehmann (2003) added a number of variables to capture trade barriers that include: transport costs captured by distance between countries; countries being islands, landlocked and border dummies to reflect that transport costs increase with distance. It is expected that transport costs are higher for landlocked countries and islands, and are lower for neighbouring countries due to proximity. Information costs are generally captured by a dummy for common language between the trading partners (Nordås and Piermartini, 2004). It is equal to one if the trading partner is an island, landlocked, borders a COMESA Member State, has a common language with a COMESA Member State, respectively, and zero otherwise.

Bougheas *et al.* (1999) have demonstrated the limitation of the traditional gravity model which depends on only distance to model transport costs. In this case transport costs are not only a function of distance but also private and public infrastructure. Owing to this argument, the model is augmented with the introduction of infrastructure variables. They predict a positive relationship between the level of infrastructure and the volume of trade. This paper adopts infrastructure for a COMESA Member State by including set of indices as espoused by Portugal-Perez and Wilson (2012).

Following from UNCTAD and WTO (2012), the basic gravity model is expanded by adding other variables, which explain the impact of various policy issues on trade flows. Empirically, trade costs are traditionally captured as distance between two countries. However, additional variables are also used and these include dummies

for islands, landlocked countries and common borders. They reflect the fact that transport costs increase with distance and that they are higher for landlocked countries and islands but are lower for neighbouring countries. The coefficients for the land locked and islands dummy variables are expected to be negative while the common border is positive due to proximity.

Finally, we add the dummy variables for the different trading blocs (ASEAN, EAC and COMESA) We add Regional Trade Area dummy variables to capture belong to either EAC, COMESA or the ASEAN. UNCTAD (2012) and Cernat (2001) propose that if *i* and *j* are members of the RTA at time *t*, we assign them 1 and 0 otherwise. This dummy is intended to capture the increase in manufactured exports from among EAC, COMESA and ASEAN member countries as a result of RTA formation.

$$ln(T_{ijt}) = \beta_0 + \beta_1 ln(Y_{ij})_t + \beta_2 ln(P_{ij})_t + \beta_3 ln(D_i) + \beta_4(Documents_i)_t + \beta_5 ln(Time_i) + \beta_6 ln(Public_i)_t + \beta_7 ln(Telephone_i)_t + \beta_8 ln(Internet_i)_t + \beta_9 ln(Electricity_i)_t + \beta_{10} ln(All\_infr_i)_t + \beta_{11} ln(Road\_inf_i)_t + \beta_{12} ln(Air\_infra_i)_t + \beta_{13} ln(Port\_infra_i)_t + \beta_{14} ln(Rail\_infra_i)_t + \beta_{15}(Lang_{ij}) + \beta_{16}(Contiguity_{ij}) + \beta_{17}(Locked_i) + \beta_{18}(Island_i) + \beta_{19}(EAC_i) + \beta_{20}(ASEAN_i) + \beta_{21}(COMESA_i) + \varepsilon_{ijt} \ldots\ldots\ldots.2$$

3.3   The data

We obtained export trade data from the COMTRADE and World Integrated Trade Solutions (WITS) database. We included seventy countries that each of the COMESA Member States exports to. The data for distances were extracted from the distance calculator website[3] which is defined as direct distance between the capital cities of a pair of trading partners without taking into consideration the actual routes by either forms of transport. The per capita income population data and proportion of manufactured exports were taken from the World Bank Development Indicators (WDI) of the World Bank. The data on whether, a country is land locked or not, is an island or not, borders a trading partner or not and has the same official language or not were extracted from the Centre d'EtudesProspectivesetd'InformationsInternationales (CEPII)[4] gravity dataset. The analysis is done for the period 2001 to 2014. Finally we extracted data from the World Economic Forum and doing Business on quality of infrastructure. Table 2 is a summary of the variables and their *a priori expectation* in the estimation.

Table 2: The Type of Variables Used in the Estimation

	Variable	Type of variable	Relationship
1	CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high)	Continuous	Positive
2	Electric power consumption (kWh per capita)	Continuous	Positive
3	Fixed telephone subscriptions (per 100 people)	Continuous	Positive
4	GDP per capita (constant 2005 US$) exporters	Continuous	Positive

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3   http://www.timeanddate.com/worldclock/distanceresult.html?p1=115&p2=17
4   CEPII make available a "square" gravity dataset for all world pairs of countries, for the period 1948 to 2006. This dataset was generated by Keith Head, Thierry Mayer and John Ries to be used in the following paper: HEAD, K., T. MAYER AND J. RIES(2010)

5	GDP per capita (constant 2005 US$) importers	Continuous	Positive
6	Internet users (per 100 people)	Continuous	Positive
7	Population of the exporters	Continuous	Positive
8	Population of the importers	Continuous	Positive
9	Documents to export (number)	Continuous	Negative
10	Time to export (days)	Continuous	Negative
11	Quality of overall infrastructure (1=low to 7=high)	Continuous	Positive
12	Quality of roads infrastructure (1=low to 7=high)	Continuous	Positive
13	Quality of railroad infrastructure (1=low to 7=high)	Continuous	Positive
14	Quality of port infrastructure (1=low to 7=high)	Continuous	Positive
15	Quality of air transport infrastructure (1=low to 7=high)	Continuous	Positive
16	Distance between Cities of trading partners	Continuous	Positive
17	Contiguity (proximity of trading partners	Dummy	Positive
18	Exporter being landlocked	Dummy	Negative
19	Exporter being Island	Dummy	Negative
20	Belonging to the EAC	Dummy	Positive
21	Belonging to the COMESA	Dummy	Positive
22	Belonging to the ASEAN	Dummy	Positive

3.4   The Estimation Procedure

A very important property in panel data estimation is the individual effects which are treated either as fixed or random depending on conditions pertaining. The paper intended to estimate two models (Random Effects - RE and Fixed Effects -FE) using panel data for the period 2001-2014. On the other hand the FE is most appropriate for estimating trade flows between *ex ante* predetermined selection of countries (Eita, 2007). We subject the FE and RA models to the Hausman test. To determine whether the unique errors (u_i) are correlated with the repressors. Our results are significant at *P-value* is *0.2300,* and therefore we accept the null hypothesis that the preferred model for this exercise is the RE.

3.4.1   Diagnostic tests

We checked multi-collinearity by conducting the simple correlation test. Results show that the values of the correlation coefficients between explanatory variables are lower than 0.80. We therefore concluded that there is no serious problem. We conducted Unit root tests to determine a potentially co-integrated relationship between the variables. In the even that all the variables are stationary, the traditional estimation methods can be used. However if the variables are non-stationary, a test for co-integration is conducted. We conducted the Levin *et al.*

(2000)[5] test of panel unit roots that assume that the autoregressive parameters are common across countries. Levin, Lin and Chu (LLC) used a null hypothesis of a unit root that states that the panels contain unit roots and the alternative that the panels are stationary. The test results indicate that all variables are stationary at less than 1 percent (the null unit root is rejected). As a result of this the co-integration test is not required to estimate the model.

4.   Estimation Results

4.0   Introduction

4.1   Descriptive statistics

A number of variables were used in the estimation of the empirical model, however the presentation here only includes largely the infrastructure and exports (Table 3). Regional comparison of the average total value of exports for the period 2001-2014 demonstrates that the ASEAN region more than doubles the COMESA region although the latter has more Member States than the former. Regarding the average value of manufactured exports, the ASEAN region performance is more than 30 times than the COMESA region. This is as well reflected in the average proportion of manufactured exports, where the ASEAN region exports 53 percent manufactured products and the COMESA region only 28 percent. The statistics suggest that the COMESA region is less industrialised and needs to improve in this area.

For any country to industrialize, the consumption of electricity must be significant in the economy. The electric power consumption (kWh) per capita suggests that the COMESA region has a long way to go to reach minimum thresholds. Whereas, ASEAN is 2,382 kWh per capita, the COMESA region is only 437 kWh per capita, five times less. Since manufacturing requires high consumption of energy, there is need to generate and consume more energy for purposes of industrialization. The other infrastructures similarly suggest that the COMESA region is yet to reach the performance of the ASEAN region.

Table 3: Means of the model estimation variables

Variables	EAC	COMESA	ASEAN	All
Total value of exports	24,082	51,820	1,101,638	455,514
Value of manufactured exports	6,790	23,985	741,738	299,503
Proportion of manufactured exports	19	28	53	38
Electric per capita	71	437	2,382	1,181
Telephone	0.50	4.3	11.5	6.8
Per capita income of exporters	378	1,096	7,307	3,435
Per capita income of importers	15,383	15,697	17,331	16,311
Internet connectivity per 100	5.7	7.9	20	13

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5   Levin, A, Lin, C F and Chu (20020 Unit Root Tests in Panel Data: Asymptotic and Finite Sample Properties, Journal of Econometrics , 108. 1-1-24

Population of exporters	25,900,000	31,400,000	56,800,000	40,900,000
Population of importers	78,500,000	77,900,000	79,500,000	78,600,000
Public transparency	2.9	2.7	2.6	2.6
Number of documents to export	8.7	7.9	6.3	7.3
Time taken to export	36	36	23	31
Quality of overall infrastructure	3.0	3.2	3.9	3.4
Quality of roads infrastructure	2.9	3.2	4.0	3.5
Quality of rail infrastructure	1.2	1.6	2.6	2.1
Quality of port infrastructure	3.0	3.2	4.0	3.5
Distance between capital cities	5,427	5,735	8,150	6,689

4.2 Model estimation results

Table 4 reports estimates for the three regional models and the overall model that were run. Standard errors are presented below the coefficients and the stars are the levels of significance. The R^2 for all the models are significantly high for the overall, between and within except for general model for within. Given that the trade facilitation indicators are estimated as logs, the coefficients are interpreted as elasticities. The coefficients of physical infrastructure are significant and have the expected positive signs. This suggests that improving the stock of infrastructure has higher chances of increasing the exports of manufactured exports for all the regions. The trade volume is higher between partners in a regional trade agreement. Given the nature of commodities, contiguity, and being islands and landlocked do not significantly affect the trade in exports of manufactured commodities.

On the other hand increasing the number of export documents, increasing the number of days of exporting and the longer the distance between partners discourages and slows down the pace of trading, implicitly increasing the cost of exporting. The soft infrastructure of transparency, accountability and corruption illustrates that when these are improved, the volume of manufactured export goods increase among all the three regions. Internet connectivity and telephone subscription similarly increase the volume of exports of manufactured goods except for internet connectivity for the COMESA region.

The other variables in the model perform differently with some contradicting *a prior* expectation. Whereas the population of the exporters is significant for all the regions, it is negative for the COMESA region and positive for the EAC and ASEAN regions. The plausible explanation is that the COMESA region is likely to consume its manufactured products should it increase its population. The population of the importers does not exhibit significance for all the three regions. Whereas the per capita income of exporters for all the three regions show negative coefficients suggesting that increase in the incomes of residents reduces exports, which is plausible, the per capita income of importers is not significant. The results suggest that the COMESA and EAC regions by themselves are a potential market for manufactured products.

Table 4: Estimation results

	EAC	COMESA	ASEA	ALL
Ln_ quality road infrastructure	3.690***	2.157***	0.498*	2.395***
	0.293	0.137	0.234	0.0808
Ln_ quality rail infrastructure	0.227***	0.713***	0.292***	0.212***
	0.0579	0.0415	0.0518	0.0289
Ln_ quality port infrastructure	0.424***	0.168***	0.527***	0.497***
	0.0267	0.0375	0.124	0.0336
Ln_ quality air infrastructure	0.690***	2.829***	0.145	0.943***
	0.0389	0.069	0.0961	0.0303
Ln_ electricity per capita	0.228***	0.425***	1.386***	0.385***
	0.00909	0.0304	0.0278	0.0103
Ln_ telephone	0.367***	0.187***	0.438***	0.418***
	0.0229	0.0405	0.0168	0.0156
Ln_ internet connectivity	0.193***	0.0387	1.056***	0.324***
	0.00926	0.0198	0.015	0.0115
Ln_ public Transparency	1.324***	1.921***	0.885***	1.185***
	0.0698	0.0737	0.115	0.0416
Ln_ population exporters	2.830***	-1.624***	1.091***	-0.0156
	0.133	0.0475	0.0154	0.00934
Ln_ per capita exporters	-0.282***	-0.802***	-1.081***	-1.215***
	0.0806	0.0317	0.0484	0.0209
Ln_ per capita importers	0.00107	-0.00147	0.00202	-0.00335
	0.00137	0.00329	0.00246	0.00274
Ln_ population importers	0.0009	0.00263	0.000319	0.000751
	0.00084	0.00201	0.00146	0.00172
Ln_ number of document s	-0.307***	-1.667***	-1.993***	-0.688***
	0.0306	0.0855	0.0808	0.0585
Ln_ time to export	-0.631***	-1.528***	-0.824***	-0.307***
	0.0406	0.0788	0.0436	0.036
Contiguity	-0.00193	-0.0625*	0.00498	-0.024
	0.0127	0.0286	0.0303	0.0262

Landlocked	0.000275	0.0435*	-0.00195	0.0850***
	0.00791	*0.0191*	*0.0176*	*0.017*
island	0.000942	0.0386	-0.000993	0.00669
	0.00741	*0.0209*	*0.0154*	*0.0173*
Ln_ distance	-0.00234	-0.00343	-0.00126	-0.0313***
	0.00475	*0.00889*	*0.00654*	*0.00694*
EAC				0.529***
				0.0228
COMESA				0.783***
				0.0237
ASEAN				1.232***
				0.0291
_cons	-47.21***	39.70***	-0.897	8.782***
	2.121	*1.047*	*0.604*	*0.394*
r2				
r2_o	0.905	0.735	0.894	0.682
r2_b	1	0.976	1	0.867
r2_w	0.864	0.0256	0.668	0.0267

Standard errors in italics below coefficients

* p<0.05, ** p<0.01, *** p<0.001   Observations 22190

The estimated coefficients are transformed into elasticities given that they were estimated in logarithmic form. Using the elasticities estimated from the model, we can generate the percentage changes in exports of manufactured products resulting from investment in infrastructure. This is done for each of the infrastructure given that the elasticities are for each of them. Table 5 illustrates the change in the proportion of manufactured exports when the infrastructure is increased by 10 percent. The largest change given a ten percent increase in the stock of infrastructure is experienced on roads and this is mostly in the EAC and COMESA compared to the ASEAN. Overall the largest gain in percentage changes in exports of manufactured products is among the EAC regions and COMESA compared to the ASEAN. This can be explained by existing infrastructure gaps that are higher between the EAC and COMESA Member States compared to the ASEAN.

Table 5: Estimates of a ten % increase in the respective infrastructure on change in manufacturing exports

	EAC	COMESA	ASEAN	ALL
Quality road infrastructure	36.9	21.57	4.98	23.95
Quality rail infrastructure	2.27	7.13	2.92	2.12
Quality port infrastructure	4.24	1.68	5.27	4.97
Quality of air infrastructure	6.9	28.29	1.45	9.43
Electricity per capita	2.28	4.25	13.86	3.85
Telephone	3.67	1.87	4.38	4.18
Internet connectivity	1.93	0.387	10.56	3.24
Public Transparency	13.24	19.21	8.85	11.85
The number of documents to export	-3.07	-16.67	-19.93	-6.88
Time to export (days)	-6.31	-15.28	-8.24	-3.07
Distance between cities of trading partners	-0.0234	-0.0343	-0.0126	0.313

Given that most of the COMESA Member States are landlocked, investment in air transport will bear significant gains in manufactured exports of about 28 percent. Increasing electricity consumption per capita by 10 percent will increase the exports of manufactured exports by 4.5 percent in COMESA and 2.3 percent in the EAC, which is significantly lower than in the ASEAN region by 14 percent. Soft infrastructure equally play a significant role where increasing transparent and accountability and reducing corruption by 10 percent leads to an increase in manufactured exports by 19 percent in COMESA, 13 percent in the EAC and 9 percent in the ASEAN. Improving trade facilitation by reducing documents to export and reducing the number of days to export generate large gains in increasing exports of manufactured exports. A 10 percent reduction in the number of documents increases exports of manufactured goods by 3 percent in the EAC, 17 percent in COMESA and 20 percent in the ASEAN. On the other hand reducing the number of days to export by 10 percent leads to 6 percent increase in exports of manufactured products in the EAC, 15 in COMESA and 8 percent in the ASEAN.

To put the results in perspective, we discuss findings in comparison to previous studies. Overall, the results are in agreement with previous studies, only differing in magnitudes owing to the number of countries and the period involved. The conclusions by Hoekman & Nicita (2008) that non-tariff measures remain a significant source of trade restrictiveness for especially low-income counties are reflected in this paper. Similarly, like (Limao & Venables, 2001), the results demonstrate the role of infrastructure in promoting exports. More importantly, this paper contributes to the estimation of the quantities of different infrastructure required to generate given quantities of exports of manufactured exports as in the work of Portugal-Perez & Wilson (2012).

The results underscore institutions in mitigating the negative effects of public corruption as reported by Anderson & Marcoiller (2002). This is in agreement with Meon & Sekkat (2000) who argue that exports of manufactured

products are positively affected by control of corruption, the rule of law, government effectiveness and the lack of political violence. On the delays of goods in transit, the results agree with Djankov *et al.* (2010) and Freund & Rocha (2011), who argue that exports are extremely vulnerable and especially time sensitive products, such as perishable agricultural produce. In this case, improvements in on–the–border and behind-the border policies has the potential to generate higher returns in manufacturing exports performance as reported by Iwanow & Kirpatrick (2008).

Unlike other studies, this study suggests that increasing per capita income and the population of the COMESA region is beneficial as this generates a market for products. This is debatable, however, it is evident that some developing nations like China and India largely relied on their populations as primary markets before exporting. The fact that belonging to either, the EAC, COMESA or ASEAN increases the volume of manufactured exports is supported by the findings of Maur (2008), who suggested that national markets alone may fail to produce the full scale economies and the positive externalities of trade facilitation reforms. The study confirms what Fink *et al* (2005) reported that improving communication is associated with increase in bilateral trade.

5.   Conclusions and Policy Implication

Overall, the results show that improvement in the quality of economic infrastructure generates gains in terms of export of manufactured product of the COMESA and EAC regions. Within the entire range of economic infrastructure, hard physical infrastructure has the greatest impact on manufactured exports compared to soft infrastructure for all the regions. Furthermore, we found evidence that transparency and accountability; Internet connectivity and telephone subscription improve the efficiency and business environment which supports exports of manufactured products. Illustrative estimates show that improvements in infrastructure and border and transport efficiency which reduces the number of days and documents needed to export, further leads to more exports of manufactured goods. Given that increasing population within COMESA reduces exports of manufactured products, COMESA is a potential market for manufactured goods.

In summary, this paper provides policymakers with empirical information about the effectiveness of possible interventions in trade facilitating infrastructure that would enhance the growth in manufactured exports within the COMESA. The results suggest that investments in infrastructure development would lead to increase of exports of manufactured goods.

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Northern Corridor Infrastructure Project (NCIP) as an Engine for Regional Integration

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Abstract

This study analyse the role of infrastructure in enhancing regional integration in Northern Corridor Infrastructure Project (NCIP).

Six of the 10 fast growing economies are from Africa; similarly the region has recorded consistent economic growth for a decade. Despite marked economic growth in Africa countries, the continent is struggling in reaping the benefits of trade. Sub-Saharan Africa (SSA) share of world trade is limited to 2.1% in 2011. Infrastructure development is engine for economic growth and regional integration. However, the infrastructure development in African in general and Northern Corridor Infrastructure Project (NCIP) member countries particularly is in bad shape The objective of the study was to identify the determinants of trade performance in the NCIP and analyse the role of infrastructure in boosting regional integration.

The study used the augmented gravity model on panel data, both Pooled OLS and Random Effect Model (REM) are estimated. The Hausman specification test was done to choose the best model that fits the data. The study used secondary data for the analysis of trade performance in NCIP.

The coefficient of Income, transport cost(distance, air transport, etc) are found to be statistically significant co-efficient of estimated to be the direction shows as infrastructure is a regional integration bottleneck to regional integration and NCIP region has untapped trade potential.

1. **Introduction**

The state of a country's infrastructure is a major determinant of economic growth, social welfare, and trade. Land and maritime transport and electricity infrastructure are critical in enhancing the ability of sub-Saharan African (SSA) countries to produce and export the vast majority of goods destined for regional and global export markets. Poor infrastructure increases costs and compromises product quality and it equally contributes to the low competitiveness of the SSA industries. SSA countries rank at the bottom of all developing regions in terms of infrastructure performance and poor infrastructure has been pointed as a major obstacle for growth and poverty reduction across the region (World Bank 2013). One of Sub-Saharan Africa's top developmental challenges therefore continues to be the shortage of physical infrastructure. The world is eager to do business with Africa, but finds it difficult to access African markets, especially in the interior, due to poor infrastructure.

Deloitte (2012) analysed the impact of infrastructure development on trade in Africa and found that poor road, rail and harbour infrastructure adds 30 to 40 percent to the costs of goods traded among African countries.

Many countries in Africa are small in size and are land locked with fragmented market structure and poor infrastructure therefore penetrating these regions is difficult. With improved infrastructure, regional integration appears to be the most appropriate channel to overcome the pitfalls of fragmentation and landlockedness.

Integrating physical infrastructure is both a precursor to and an enabler for deeper economic integration. This would allow countries to gain economies of scale and harness regional benefits. Countries must build on successes; linking Africa to more external markets; and compensate the least fortunate while recognizing that benefits are not always evenly distributed (AfDB, 2011).

The main query is which model of integration works for Africa and at what level can regional integration boost trade and investment, and what issues should come first between trade and infrastructure? (AfDB, 2011).

The infrastructure deficit in Easter African region led to discussions at heads of state level on mechanisms to advance integration. Ethiopia accession to the league will boost the bloc and reshape the regional economy and politics, (NCIP, 2016). The formal entry of Ethiopia into the Northern Corridor Integration Projects initiative is driven by the comparative advantage that the country calculated.

 This new approach of prioritising hard infrastructure has been considered as better alternative to the dominant practice. Furthermore, the political will and determination of leader has contributed to the success. If countries are interlinked and interconnected through infrastructure both hard and soft, the prospects of growth in regional trade are high

A number of empirical studies have supported the role of infrastructure in boosting economic growth, enhancing competitiveness and boosting trade flow between countries. However, in Sub-Saharan Africa in general and NCIP in particular the relationship between infrastructure, economic growth and regional integration is a relatively less explored subject.

The cost of production and hence, competitiveness of most of African countries has largely been affected by the supply side constraints especially hard infrastructure such as, road, ports and airways, among others. Due to poor infrastructure in the Eastern and Central Africa region, cross-border trade and regional integration has been constrained significantly with intra-regional trade not exceeding 10 percent thereby creating a fragmented market.

Regional Economic Communities (RECs) in Eastern Africa and the continent at large has not progressed much by pursuing the traditional model of regional integration. This has acted to redirect attention towards alternative models of regional integration that consider infrastructure as a means of integration that helps to enhance trade as well as act as an end through integrated power trade and air transport among others.

Although NCIP has established to address the infrastructure deficit, smooth trade and logistic flow, there is also a move towards economic development agenda, which is forming an economic integration. One of the direct benefits from such integration for high volatile East African region is the peace and stability effect between trading partners. There is a greater tendency that well connected and integrated trading partners are less likely to go into war with each other. Hence, moving on to regional cooperation and integration will improve the livelihood of the poor in the region and boost economic progress.

Taking note of the infrastructure deficit in the region and the role of infrastructure integration in economic transformation of the region, the overall objective of the study is to analyse the determinants of trade in NCIP region and the role of infrastructure. While the specific objectives of the study are to;

i.   analyse affecting trade performance and regional integration in the NCIP

ii.   Analyse the role of infrastructure development on regional integration and trade flow in the NCIP, and

iii.   trade potential of NCIP member countries focusing on selected countries;

The study sought to answer the following questions:

i.   what are the determinants of intra-NCIP trade;

ii.   what is the role of infrastructure in regional integration in NCIP;

iii.   what is trade potential of the NCIP; and

iv.   what is the welfare impact of Ethiopia accession to NCIP .

2.   **Northern Corridor Infrastructure Project**

The NCIP initiative commenced on 25th June 2013 in Entebbe, Uganda at the meeting of the three Heads of states of Kenya , Rwanda and Uganda. The meeting resulted to the development of The Tripartite Infrastructure Initiative that later transcended to the Northern Corridor Integration Project (NCIP) with the graduation of South Sudan from observer to member status.

It is envisaged that infrastructural inter-connectivity in the corridor would lead to reduced cost of production and increased business and trading opportunities that could become an ingredient for creation of wealth and the reduction of poverty in the region (NCIP, 2015).What started as a tripartite initiative to speed up the flow of cargo, construction of SGR, crude oil pipeline and refined petroleum products' pipeline, has quickly expanded. Today, it includes extra Clusters that handle ICT, Oil Refinery, Political Federation, Financing, Power Generation, Transmission and Interconnectivity, Commodity Exchanges, Human Resource Capacity Building and Land.

In addition, there are also Clusters that handle Immigration, Trade, Tourism, Labour and Services, Single Customs Territory, Mutual Defence Cooperation, Mutual Peace and Security Cooperation and Airspace Management. Hence, although the northern Corridor was conceived to primarily focus on the development of infrastructure components which later transformed itself to the Northern Corridor and later into an Economic Development Corridor (EDC).

Each country created a special office to coordinate the Initiative. The NCIP has become a successful initiative mainly due to the direct involvement of the Heads of State. It is reducing the cost of doing business within the Region, thus making it competitive at the global level (NCIP, 2016).

It is envisaged that infrastructural inter-connectivity in the corridor would lead to reduced cost of production and increased business and trading opportunities that could become an ingredient for creation of wealth and the reduction of poverty in the region (NCIP, 2015).

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1.2 Rational for the Project

The rationale for this project arises from a number of in adequacies including

>   inefficiency of the ports;

> poor infrastructure along the corridor; and

> high cost of doing business;

2.3.1 Trade Performance among the NCIP Countries

Intra-NCIP trade grew from US$ 160 million in 1992 to about US$5.32 billion in 2013. Intra-NCIP export that was US $143 million in 1992 and grew US$ 3 billion in 2013, 98.7 Percent increase. Similarly intra -regional imports grew from US$ 16 million to US$2 billion over the same period

NCIP trade with SSA increased from US$ 304 million in 1992 to US$10 billion in 2013. Exports to SSA increased from US$216 million to US$5.5 billion while imports increased from US$ 88 .million to US$ 4.6 billion over the same period.
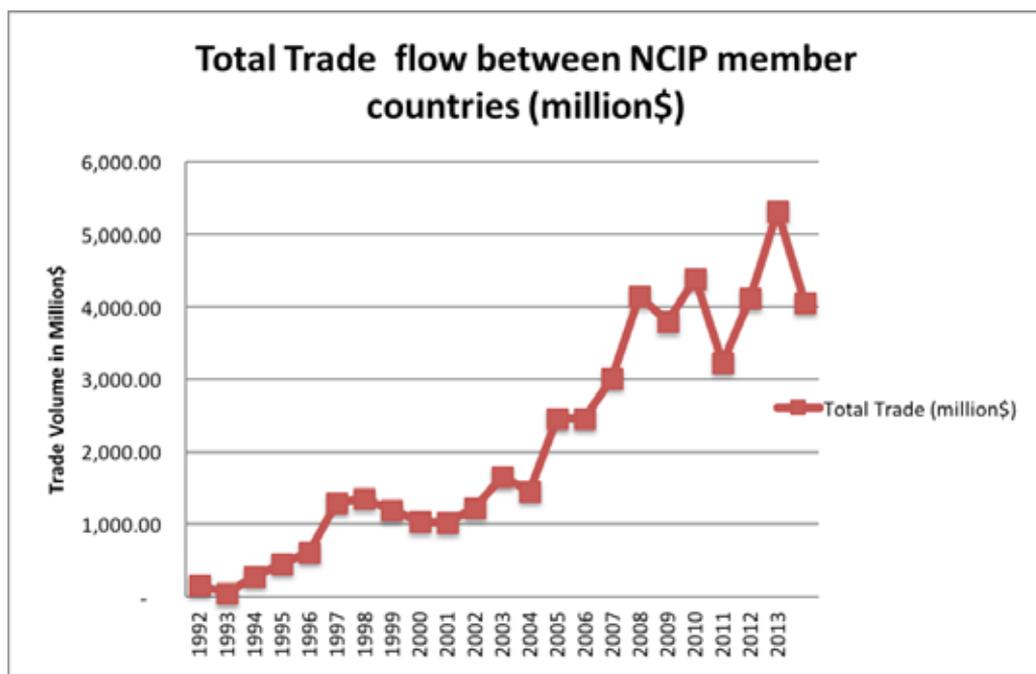
Source: UNCOMTRADE and authors computation

2.3.2. Infrastructure projects in NCIP

Transportation systems move goods and people to facilitate production and trade; communications systems move information and finance across borders for production and trade; and energy is required in the production and transportation of labour and goods to production and trade points. These elements of infrastructure are foundational to the cost of trade, the global competitiveness of each country and its development prospects

(UNECA,

Figure 2.2 Trends infrastructures Development in NCIP countries 2010).

Mobile subscribers per 100 people in NCIP
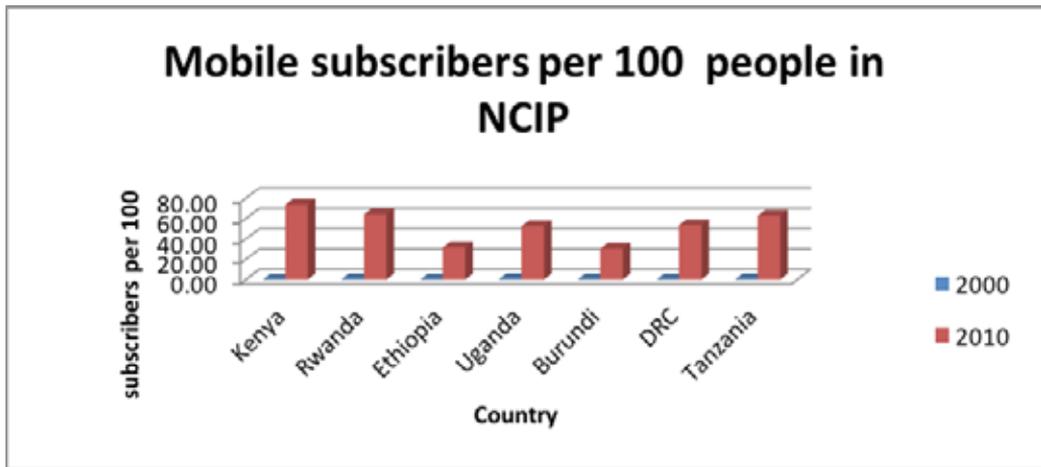
Source: World Bank World Development Indicators and Authors computation

Remarkable development in the infrastructure sector has been achieved in the telecom sector where access to mobile phone exploded over the last two decade's time in Africa in general and NCIP in particular. Mobile telephony was almost none-existent in most of the NCIP countries by 1992, but the number of mobile subscribers has increased from 30 people per 100 subscribers to 78 people per 100 subscribers in 2014.

Figure 2.3 Access to Electricity in NCIP Member States


Access to electricity in % 2012
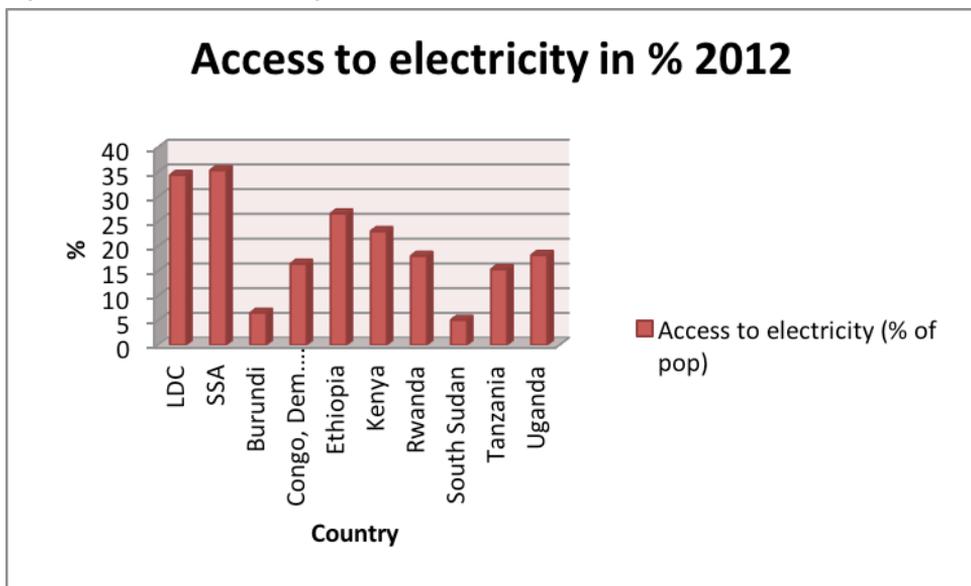
Source: World Bank World Development Indicators and Authors computation

The figure shows that the NCIP is a poor performer in regard to access to electricity. Burundi and South Sudan for instance had an access rate of less than 5 percent access to electricity by 2012. Ethiopia and Kenya has higher access by NCIP standards but this was still lower than the SSA average of 35% .

2.3.4. Ethiopia and NCIP

Ethiopia like many other countries in the region, trade less with NCIP members. Ethiopia's export to NCIP region was US$2 million in 2000 and increased to US $39.8 million in 2013 while its imports from the region increased from US $35 million to US$ 49 million over the same period (World Bank, 2016).

Figure 2.4 Trends in trade flow between Ethiopia and NCIP
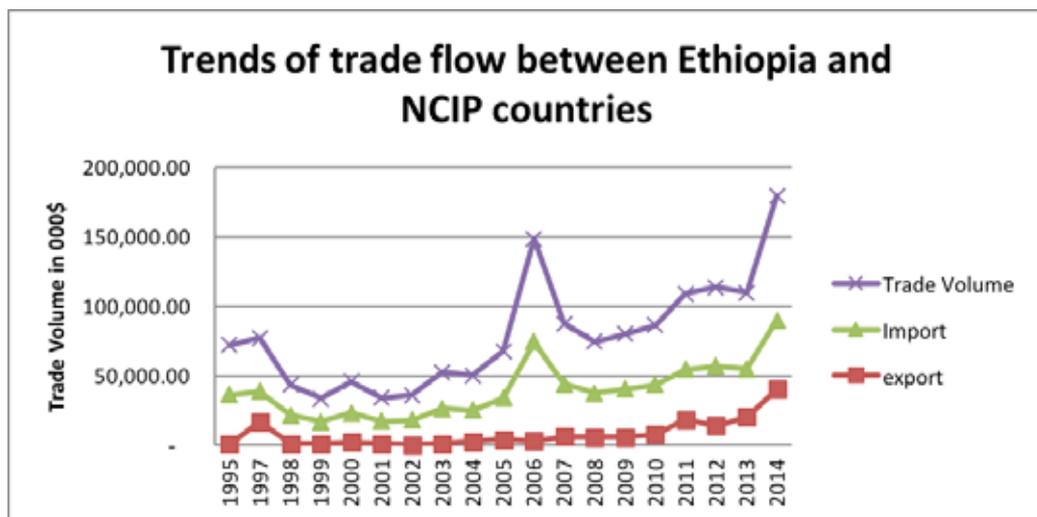
Source: World Bank/CIOMTRADE and authors computation

2.3.4. 1 Infrastructure in Ethiopia

Ethiopia is among the few African countries that are champions of infrastructure development ranging from road, power to railways. It has had dramatic changes over couple of years. Twenty years ago Ethiopia's power generation capacity did not exceed 300 Megawatts but today it is championing several power projects including the iconic Grand Ethiopia Renaissance Dam (GERD) with power generation capacity of at least 6500MW. It has already quadrupled its power generation capacity to over 2500 MW and in the coming 3-4 years the country is targeting a minimum power generation capacity of 12,000WM (GTP-II, 2015). Demand for electric power has shifted the trajectory of growth following the 2004 economic upgrading. Consequently the average annual electricity growth is estimated to grow by 24 percent however; the country's production capacity is not growing at the same pace. This trend soon will change when project on pipeline are complete. The government has

identified efficient use of energy as an area that requires more investment. County's hydro-power generating capacity alone exceeds 45,000WM and the current utilisation rate is less than 10 percent. Due to this, Ethiopia has identified infrastructure mainly power sector as its comparative advantage and it has developed a master plan of exporting electricity to neighbouring East African countries in the medium-term and the Northern African and Europe in the longer term. Revenue from sale of electricity is increasing over time (US$ 300 million) power is export to Djibouti and Sudan while the transmission line that connects Ethiopia to Kenya grid is near completion.

Figure 2.5 Trends in Infrastructure Development in Ethiopia
Source: *World Bank WDI and Authors computation*

Ethiopia's power consumption per capital that was about 20kwh in 1999 has increased over time to over 60kwh in 2013. Like many other countries in the region the major bottleneck to generation capacity in Ethiopia is inefficiency in the power sector where power losses have been a major challenge for poor economies struggling to break the vicious circle of poverty. Power losses as a share of total output have increased over time especially since 2009 reaching approximately 20 percent of the total output in 2013 (World Bank, 2016).

 In addition, the country is registering remarkable progress in the air transport. Ethiopia has an outstanding air transport system mainly due to its national carrier Ethiopian Air Lines which has transformed itself over time and is serving more than 85 destinations worldwide with the overwhelming share being in Africa. The carrier has engaged in rebuilding most of the airlines in Africa that went bankrupt due to several reasons and have developed world-class aviation academy where students from all corners of African are trained.

Air transport in million km as a proxy for level of air transport infrastructure shows that air transport has increased over time in Ethiopia from only about 94 million km in the year 1992 to more than 950 million km in 2014, showing an encouraging growth over time. However still there is huge room for improvement and the AU's flagship project of single African air transport market is a great opportunity that the aviation industry needs to act promptly on.

3.   **Literature**

This chapter provides a theoretical and empirical review of literature on the determinants of trade in regional integration and the role infrastructure in driving regional integration as well as impacts of RTAs on welfare development.

3.1. Theoretical Literature

Proliferation of Regional Trade Agreements (RTAs) among countries characterised by overlapping tendencies known as the 'spaghetti bowl' has generated debate on the future of the stalled multilateral process given the growing regionalism. RTAs have spread and deepened across both the North and South. Yeats (1997) raised empirical questions whether RTAs stimulate growth and investment, facilitate technology transfer, shift comparative advantage towards high value activities, induce political stability or divert trade to inefficient channels and undermine the multilateral trading system. Trade theories explain the sources and possible scenarios that

underpin this proliferation.

The classical trade theory put forward by Ricardo argues that trade raises a country's potential income (welfare) compared to autarky through specialization according to comparative advantage. Countries thus shift resources to production of goods where they efficiently produce and import goods where they are less efficient. However, the existence of tariff and non-tariff barriers distorts the final consumer price. Although the model explains the source of comparative advantage, which motivates countries to trade; it assumes that labour is the only factor of production which is not true. It assumes perfect competition and yet imperfection exists, and many countries are small and are price takers. Furthermore, the assumption that transport costs do not exist is unrealistic.

The Heckscher-Ohlin (H-O) model on the other hand, explains international trade based on the country's factor endowments, that is, the relative quantities of capital and labour available for production. It assumes that countries have access to the same technology. In this way, countries with relatively large quantities of labour will shift production to labour-intensive production and export these goods and import capital-intensive goods. This implies that developed countries that are capital intensive will always dominate developing countries that are likely to be labour intensive. This perhaps explains why South-South RTA dominated by production of labour intensive goods and importing capital-intensive products is likely to stall intra-trade. The model assumes that factors of production are only mobile within a country and immobile outside the country, implying that it is even more difficult for labour intensive countries to access capital-intensive technology.

A difference in price ratios is the major factor that steers trade once the barriers to trade are removed (Suranovic, 2010). According to the factor mobility theory price is the sole factor that leads international trade to reach equilibrium hence, optimal point will be attained when barriers to trade are removed and equal price ratio between trading countries is reached. Barriers to trade in this case include non-tariff factors such as supply-side constraints hugely present in developing countries in general and NCIP region in particular.

Pierre-Richard (2010) proposed a theory of long-run development where consistent public infrastructure spending so as to fill the infrastructure gap in developing countries serves as the main engine of growth. In addition, Infrastructure also affects the production of both commodities and health services. The degree of efficiency of infrastructure is non-linearly related to the stock of public capital that generates multiple- equilibrium. Hence, for developing region with huge infrastructure deficit the role of infrastructure in enhance trade and economic growth is enormous where the direction of benefit are both direct and indirect leading to multiple-equilibrium.

3.0.1   Theory of Infrastructure and Regional Development

Botrić and Šišinački, (2006) Analysed theory of infrastructure development and its impact on development outcome of Republic of Croatia by analysing three different theories, of which Croatia is pursuing. Accordingly the study classified theories related to the interaction between infrastructure and regional development in to a) theory which suggests that infrastructure follows regional development, b) theory which underlines the importance of infrastructure development as a factor behind inducing regional development and c) balanced development that equally emphasises the role of infrastructure and economic growth in the region. The microeconomic theory

that explains the dynamics of infrastructure and investment decision including location selection at firm level stipulate that infrastructural development affects the geographical distribution of economic activities and even when localised, infrastructure investment generates externalities that may diffuse quite far across the economy. Firm's decision on where to locate its plant bases serve as theory that explains the geographical distribution of economic activities. In the analysis of regional integration and international trade both transport costs and economies of scale economies are necessary for a location problem to arise: Costly transportation gives physical substance to the concept of geography and increasing returns generate an economic trade-off between the 'proximity' to customers and the 'concentration' of production in as few plants as possible(Ottaviano, 2008)

A common argument for big push approach for public infrastructure investment is that infrastructure services have a strong growth-promoting effect through their impact on production costs, the productivity of private inputs, and the rate of return on capital particularly when, to begin with, stocks of infrastructure assets are relatively low (Agénor, 2010).

Richardson and Jensen (2000) analysed regional integration in the European Union (EU) and the role of infrastructure. The study indicated that spatial differences in the EU cannot be reduced without a fundamental improvement of transport infrastructure and services to and within the regions.

However, at the beginning of the 1980s a developing countries especially those in Africa were failed to invest in infrastructure, because the scientific approach to infrastructure in the frame of economic development was initiated and implemented by the World Bank and other Multilateral institution . The reason for this is that standard cost benefit analysis (CBA), as an evaluation tool, considered only the direct benefits of infrastructure investments omitting a whole set of externalities. Additionally, many initiatives undertaken by the World Bank and similar organizations and institutions that promote economic development by investing into infrastructure projects have not fulfilled their goals; i.e. those investments did not achieve the foreseen results (Botrić and Šišinački, 2006)

3.2   Empirical Literature

Portugal-perez and Wilson (2012) analysed the relationship between trade facilitation and infrastructure development on export performance of 101 Developing countries and found that physical access to quality and improved physical infrastructure has significant and positive effect on export performance of countries.

Bougheas, Demetriades, and Morgenroth (1999), used the gravity model to analyse the effect of infrastructure on the volume of trade via its influence on transport cost. The findings show that infrastructure directly affects transport cost, which translates into competitiveness of the economy in the global market and that infrastructure had a significant and positive relationship to the volume of trade.

Ismail and Mahyidee (2015) analysed the relationship between development of the ICT sector and its impact on economic growth in the East African region. The study found that high cost of making a telephone call had a significant negative effect on bilateral trade flows and the impact of ICT tends to be higher for differentiated

products.

Swarray et al, (2014) found that poor and inadequate state of transportation network in West Africa undermined rapid progress of its regional development initiatives. Some of the problems faced by the transportation sector in West Africa included: poor linkages among transport modes;; landlockedness; and inefficiencies arising from protected transportation market. This partly explains why intra-West African trade stands at less than 10 percent of its regional GDP.

Geda (2002) tested the determinants for trade using COMESA as a case study. He found that good macroeconomic policies such as financial deepening and infrastructure development are important determinants of bilateral trade in Africa.

Pierre-Richard (2010) used the extended Cobb-Douglas production function and found that lack of infrastructure is a key obstacle to growth and development in many low-income countries including Sub- Saharan Africa.

Africa has a telecommunications penetration rate of about 3 per cent, compared with an average of 40 per cent in other parts of the world, and it has a very low penetration rate for broadband services; A better interconnected Africa, internally and with the rest of the world, would create larger markets and facilitate the achievement of the millennium development goals (MDGs) and SDGs (UNECA, 2010)

Simwaka (2006) analysed Malawi's trade flow using augmented gravity model and found that supply side constraints in general and infrastructure in particular were crucial factors in explaining Malawi's trade pattern.

4.   METHODOLOGY

Theoretical Foundations of the gravity Model

The gravity model was first applied in the analysis of international trade flows in the 1960s by Tinbergen (1962) and Poyhonen (1963). Since then, gravity model has been widely used in various economic disciplines to assess and forecast the impact of costs such as distance, as well as the size of an economy or group of economies on the intensity of international trade. However, the model has evolved over time and in the latter half of the 20[th]century, gravity model was widely used by other social science school of thought such as humanity to explain social issues like migration and other social flows in terms of gravitational forces of human interaction (Eita, 2007).

Different trade and economic models have tried to find the factors that affect trade performance of economies and their analysis was based on foundational theories of either micro or macroeconomics. The gravity model in economics was until recently an intellectual orphan, unconnected to the rich family of economic theory. The gravity model has been criticised for its short falls of not backing its concept on economic theories. This view does not hold anymore given the advancements made in the empirical works and literatures.

Anderson (1979) attempted to give a theoretical basis for gravity model. Anderson deployed the famous Armington Assumption in his model of analysis where goods are differentiated by country of origin. The underlying assumption of this theory is imperfect substitution thus; consumers in a country with a given price(s) will consume at least some of every good from every country owing to the existence of imperfect substitutability among goods. Given that all commodities are traded and all countries trade in equilibrium, national income is made of both home and foreign demand for the unique good that each country produces. As such, larger countries export and import more and trade costs that include transport and others reduce trade flows (Shinyekwa and Othieno, 2013).

Krugman (1980) developed the gravity model of international trade as it is embedded in a monopolistic competition theory. The model has identical countries that trade in differentiated goods because consumers have preference for variety of goods, thus overcoming the undesirable feature of Armington models that differentiate goods by location of production. Deardorff (1995, 1998) further demonstrates consistency of the gravity model with a wide range of trade models including the Heckscher-Ohlin-model, either with frictionless or with impeded trade. In addition, Eaton and Kortum (2002), and Helpman et al., (2008) derived a gravity-type equation from a Ricardian type of model. Finally, Chaney (2008) resorts to a theoretical model of international trade in differentiated goods with firm heterogeneity.

The gravity model of trade is derived from Newton's gravitational law in Physics, which postulates that a gravitational pull between two physical bodies is directly proportional to their mass and inversely proportional to their distance. Hence, taking note of the gravity theory of physics, Tinbergen (1962) developed gravity model in international trade. The gravity model of international trade has the following analogy; that the trade flow between two countries is proportional to market size (economic mass) commonly measured by GDP, and inversely related to cost of production in this case the distance between the country's respective centers of gravity (Armstrong, 2007).

The added value to gravity model is its parsimonious and tractable representation of economic interaction in many countries. Contrarily, most economic theories in general and that of international economic theory in particular made their strict assumption of two country cases, it is occasionally that some text books and theories extended the country assumption to three country cases with special features (Anderson, 2011).

The tractability of gravity model to many country cases is due to its modularity: the distribution of goods or factors across space is determined by gravity forces conditional on the size of economic activities at each location. Modularity readily allows for disaggregation by goods or regions at any scale and permits inference about trade costs not dependent on any particular model of production and market structure in full general equilibrium" (Anderson, 2011).

4.2   Modelling the Gravity Equation

The standard gravity model explains bilateral trade flows (imports and exports) as a function of the trading partners' market sizes and their bilateral barriers to trade. In general form, trade flows between countries are

explained by their economic size (GDP), population, geographical distance and a set of dummies. The model specification follows conventional paths widely used in the literature (Anderson, 2011)

Gravity law of mechanics pioneered by Newton stipulated that the gravitational force of attraction between two physical bodies is proportional to the product of each body's mass and inversely related to the square of the distance between their respective center's of gravity

……………………………………………………………………….(1)F= Force of gravity

M is measure of size or mass

G is Scaling constant

D is distance between Objects

Tinbergen (1962) and Poyhonen (1963) developed the gravity model of international trade. The resemblance of gravity model for trade is that trade flow between two countries is proportional to the product of each country's 'economic mass', commonly measured by size of market i.e. GDP of trading economies, divided by the distance between the same trading countries' for respective 'economic center's of gravity'.

……………………………………………………………………………………………*(1)*

Where

is trade flow between country I and country J;

is size of the economy commonly GDP of country I;

is GDP of country j; and

Distance between trading countries commonly the distance between the capital cities

From equation 2 and the formulation of gravity model the interaction between two masses i.e. GDP is multiplicative however overwhelming number of empirical studies tend to estimate the gravity parameter using log-linear form (Cardamone, 2010)

The log-linear form of the traditional gravity model can be expressed as

Where:

,,and are parameters of estimation

is an error term.

is GDP of country i at time t

is GDP of Country j at time t

is distance between country i and j

Due to the logarithmic nature of the coefficients they can be interpreted as elasticises. This study uses total trade as dependent variable and GDP of trading partner countries i and j as independent variable. The distance between the capital cities of the trading countries is used as a proxy for transportation costs.

Several studies have improved the orthodox gravity model of Tinbergen (1962), Tinbergen, Linneman (1966) developed augmented gravity by including variables such as population. Others have enriched the model by further including exchange rate, population and dummy variables such as culture and history among others.

In this study, will use augmented gravity equation along the lines of Nguyen's (2010) to derive a proper specification to suit the objectives of the study. The augmented specification can be expressed as follows;

Where;

are parameters of estimation: and

is the error term.

is natural logarithm of trade between country i and j at time t

is natural logarithm country i's GDP at time t

Natural logarithm country j's GDP at time t

Natural logarithm of exchange rate between i and j at time t

Natural logarithm of trade openness between i and j at time t

Natural logarithm manufacturing between country i and j at time t

Is natural logarithm of telecom subscription per100 in country i and j at time t

is distance between country i and j

is a dummy

Is disturbance term

4.3 Model Estimation

The study used panel data for its estimation. Panel data increases the efficiency of estimations due to its capacity to capture unobserved heterogeneous individual effects and their correlation with both time-varying and time-invariant observations and its ability to satisfy the six OLS assumptions.

Matyas (1997) stipulates that trade flow between trading partners are naturally represented through a three way specifications that are time, exporter and importer characteristics. And hence, exclusion of an important dimension of interaction and source of variation mainly time, could lead to inconsistent, inconclusive and misleading modelling results. Moreover, cross-sectional data captures the average interaction between the variable of interest and the dependent variable hence, missing the interaction over time while panel data have the privilege of capturing such dynamics.

Several studies have proven the superiority of panel data over cross-sectional data for instance Ghosh and Yamarik (2004) showed that gravity model based on cross-sectional data yield unstable results. To the contrary, Nowak-Lehmann et al. (2007) argued that gravity model panel data offer several advantages such as the possibility of capturing relationships over variables in time and observing individual effects between trading partners.

 The study used unit root test to ensure stationary of the data and Levin-Lin-Chu unit-root test to identify the existence of the unit roots. The model was estimated on panel data for 7 countries including Burundi, DRC, Kenya, Tanzania, Rwanda and Uganda for the period 1992-2014. Following the Hausman specification test Random effect model was estimated.

4.4. Estimating the Trade Potential

The study estimated the trade potential of NCIP trading partners focusing on trade potential of Ethiopia. In order to estimate Ethiopia's export potential within the proposed NCIP economic cooperation the difference between actual trade performance and estimated trade potential is simulated.

 Trade potential is calculated as the differences between the actual ( ) and predicted trade(). and potential

 is natural logarithm of trade between country i and j at time t

 is natural logarithm of GDP of country i

 is natural logarithm of GDP of country j

 is natural logarithm of distance between country i and j

In the first step, we estimated the model to get estimated coefficients. In the second step the estimated parameters are used to get the predicted Tij ;

is estimated trade potential

, ... Estimated parameters

Finally the trade potential was estimated as the gap between predicted and actual Tij. When actual trade- predicted trade is less-than zero a country has the potential to trade more based on their size of the economies and geographical.

4. 5.   Data Sources

The study used data from World Integrated Trade Solution (WITS), UNCOMTRADE, World Development Indicators (WDI). The dummy variables such as sharing of common border and landlocked were from authors' computation.

5.1   Results

The study used both OLS and Random effect model for its analysis. Fixed effect model was exempted because it will get rid of time-invariant variables such as distance, and landlockedness dummy. The study undertook a Hausman specification test between Fixed effect and Random effect and failed to reject the null hypothesis that Random effect model explains the data more, since prob>Chi^2=0.1835 is not less than 0.05, meaning the Random Effect Model is more appropriate for the data.

Results on determinants of trade flow in NCIP show that several factors affect trade flow within the NCIP including infrastructure as the backbone of trade. Similarly transport cost is found to hinder smooth flow of trade in the region. Result on estimation of trade potential within NCIP shows that there is greater room for more trade and investment potential between partner countries.

Table 5.1 Descriptive Statistics of the Panel Data

Variable	Obs	Mean	Std. Dev.	Minimum	Maximum
trade		690	9.00334 2.846881	1.68436	13.91144
GDP reporting		690	23.00435 .9700171	20.44042	24.8331
GDP partner		690	22.69358 1.157002	20.44042	24.8331
Import reporting	690	3.406089 .2815584	2.904879	4.453355	
Import partner		690	3.294988 .3146479	2.208389	4.171198
Manufacturing reporting 690	2.435522 .8739923	-.3650464	3.617985		
Manufacturing partner	690	13.91587 10.30569	.183135	3 7.2624	
Telecom reporting rep	690	.5159762 .3382579	.106894	1.667554	
Telecom partner	690	.4015134 .3287051	0	1.667554	
distance		690	6.953107 .6454158	5.19299	8.003115
Air transport reporting	690	2.728092 2.175443	-2.302585	6.85739	
Air transport Partner	690	1.86193 2.448913	-7.024289	6.85739	
Exchange		690	1182636 2.10e+07	.0024717	5.27e+08
Landlocked partner	690	.6 .4902533	0 1		
Landlocked reporting	690	.5666667 .4958951	0	1 *Author's computation*	

The summary statistics on table 1 depict the descriptive statistics of the data. Similar to the conventional expectation with regard to the stochastic variability of data, trade volume between trading partners in the NCIP arrangement have higher volatility compared to the GDP of trading partners where the standard deviation of trade volume from its mean is estimated to be more than 2.8 while income deviation from the mean of the

group was nearly 1. Moreover, the scatter plot annexed for the two variables (trade and Income measured by GDP) depicts that the two variables tend to go along the same direction hence, it is estimated that trade flow and economic size have a positive relationship while trade and geography tend to be apart from each other; the higher the market size is the higher trade flow will be and to the contrary the further the two economies the lesser the trading dynamics will be.

5.2 Determinants of Intra- NCIP trade

Table 5.2 shows that the model had a good fit with R-Squared (within) for Random effect of 0.51 meaning the models is able to explain more than 51 percent of factors that affect trade performance of trading partners.

Table 5.2 econometric results of panel random effect and pooled OLS regression for NCIP

	Pooled OLS	Random Effect
GDP Reporting	0.278***	0.707***
	(0.108)	(0.117)
GDP partner	0.616***	0.443***
	(0.078)	(0.109)
Import reporting	-0.928***	-0.210
	(0.273)	(0.165)
Import partner	0.478**	0.551***
	(0.232)	(0.155)
Manufacturing reporting	0.897***	0.176**
	(0.130)	(0.072)
Manufacturing partner	0.102***	0.030***
	(0.009)	(0.007)
Telecom reporting	0.210	-0.148
	(0.239)	(0.178)
Telecom partner	-1.143***	-0.203
	(0.243)	(0.204)
Distance	-1.872***	-1.887***
(0.132)	(0.269)	
Air transport rep	-0.141***	-0.128***
	(0.039)	(0.035)
Air transport par	-0.059*	0.013

	(0.031)	(0.026)
Exchange	0.000***	-0.000
	(0.000)	(0.000)
Landlocked part	1.069***	1.594***
	(0.145)	(0.352)
Landlocked repo	0.006	0.001
	(0.141)	(0.080)
Constant	-0.118	-6.664***
	(2.681)	(2.505)
R-Square	0.68	0.512
Observation	690	690

*Figures in parentheses are Standard Errors and * denotes the level of significance of coefficients*

The coefficient of GDP for both trading and reporting countries was positive at 1 percent significance level. The coefficient of openness was found to be positive and significant at 1 percent level of significance with an elasticity of 0.55. Since the coefficient is positive and significant, it implies that the more open the economies are, the more trade flows between them

The coefficient of trade complementarities (Manufacturing share) was positive and statistically significant at 5 percent for reporting country and 1 percent for partner countries implying that the higher the degree of trade complementarity in the NCIP region, the higher the volume of trade flows. This suggests that the differences in factor endowment difference between trading partners determines trade flows. Thus, it can be argued that the trade pattern in the NCIP bloc is consistent with a conventional Heckscher-Ohlin trade model with inter-industry trade.

The coefficient for bilateral exchange rate was negative contrary to the conventional expectation and not significant for Random effect model indicating overvaluation of the trading countries' currencies and its negative impact on trade flow in the region. Statistical insignificance of the variable could be explained by inelastic exchange rate to trade since most of the produce in the region are primary goods in nature.

The distance between capital cities of trading partners was found to be highly significant at 1 percent level of significance and negative sign supports the theory that distance is associated with transport and distribution costs in international trade.

Fixed line telecommunication subscription per 100 people was found to affect trade performance negatively. The same results were also obtained for air transport but the impact of the latter was found to be statistically significant.

Results from the study depicts that air transport like other transport mode is negatively affecting the trading bloc

and the impact is statistically significant with elasticity of 0.128 for reporting country.

Being landlocked alone affects trading patterns and it is argued that these countries' costs of production increase in order to access to sea ports hence, affecting trade negatively. However, it can be argued the other way round when countries are landlocked they tend to trade more than when they have sea ports' access hence, landlocked countries heavily rely on trade for most of their livelihood. The study also found out that when a country is landlocked it then tends to trade more showing its heavy reliance on trade.

5.3.   Prediction of Trade Potential in the NCIP

The policy makers on the circle have misconception of low or even no trade potential between countries that produce similar products. Taking note of this fact the study emphasis is on estimating trade potential of Ethiopia within the NCIP bloc and from the table 5.3 below its can be argued that Ethiopia has not tapped its trade potential with all NCIP member countries including the high trade flow countries such as Kenya although the pace of increase have decreased over time. The untapped potential has also increased for many of NCIP countries showing room for better improvements and integration.

Table 5.3 Ethiopia's Trade Potential with NCIP Countries

Year	Reporting partner pair	Trade potential
1992	Ethiopia- Burundi	.4773774
2013	Ethiopia- Burundi	-3.02401
1992	Ethiopia-DRC	-2.000107
2014	Ethiopia-DRC	-3.68072
1992	Ethiopia –Kenya	1.101869
2014	Ethiopia-Kenya	-.4980688
1992	Ethiopia-Rwanda	-2.615018
2014	Ethiopia-Rwanda	-.9137802
1992	Ethiopia-Tanzania	-.6489024
2014	Ethiopia-Tanzania	-2.609761
1992	Ethiopia-Uganda	-2.616262
2014	Ethiopia-Uganda	-1.504785

Source: *WB/COMTRADE 2016 and Authors computation*

5.3.2.   Kenya's Trade Potential with NCIP Member States

As trading and industrialisation hub in the Eastern African region since the colonial period Kenya is among

regional integration champions except some sectors. And the Kenya economy is relatively open in the region where policy makers push for deeper regional integration in the region to optimise the comparative advantages they are endowed with. Kenya acts as hub in the Eastern African community (EAC) pushing for deeper integration in the bloc. Although its trade with most of NCIP member states has increased substantially over time there is, still high room for improvement. Taking the global dynamics and fast growing economies in the region, the initiative of including infrastructure major bottleneck for trade in the region can be considered a good start. However, from the econometric model it seems that Kenya has exhausted its trade potential with countries such as Uganda, Rwanda and DRC while there is high-untapped market in Ethiopia and Kenya including the newly emerged south Sudan

Table 5.4 Kenya's Trade Potential with NCIP Countries

Year	Reporting partner pair	Trade potential
1992	Kenya –Burundi	-.082468
2014	Kenya-Burundi	-.1287727
1992	Kenya-DRC	-.2410431
2014	Kenya-DRC	.5407009
1992	Kenya-Ethiopia	.8493977
2014	Kenya-Ethiopia	-.0322084
1992	Kenya-Rwanda	.2122726
2014	Kenya-Rwanda	.5361414
1992	Kenya-Tanzania	-1.955009
2014	Kenya-Tanzania	-2.078534
1992	Kenya-Uganda	.6073771
2014	Kenya-Uganda	.1506348

Source: *WB/COMTRADE and Authors computation stata13*

6.   Conclusion and Policy Recommendations

The general objective of the study was to examine determinants of trade performance in the NCIP where special emphasis was given to infrastructure as a driving force for improved trade in the newly upgraded NCIP regional integration initiative. Study findings demonstrate that the gravitational attraction between trading partners economic size/income, transport cost measured by distance, and other infrastructures such as telecom and air transport are significant factors affecting trade flow in the NCIP bloc proving the conventional gravity model.

Hence, with regards to GDP an increase in the income of trading partner both reporting (exporter) and partner (importing) countries tend to increase intra-NCIP trade flow. Similarly transport costs have a negative sign depicting the cost attached to distance and poor infrastructure on trade flow among trading partners.

Share of manufacturing exports in the total merchandise exports turned positive and statistically significant supporting the Heckscher-Ohlin hypothesis of increase in trade flow as commodity composition differs among trading partners.

Openness of partner country is significant factor affecting trade in the region. More open an economy is the higher trade flow will is thus, reduction of tariff and other Non-Tariff Barriers to trade will enhance trade in the NCIP region.

The study findings show that NCIP as a bloc and Ethiopia in particular have untapped trade potential. These findings therefore suggest that both parties can maximise welfare by increasing trade. This suggests that there is room for deeper regional integration.

From the findings, we can conclude that deeper regional integration in NCIP is indeed based on economic merit. The findings reaffirm infrastructure as an engine for regional integration in NCIP and without which the regional integration agenda of NCIP would be compromised. The findings further confirm the existence of unexploited trade potential between Ethiopia in one hand and Tanzania and DRC on the other.

Regarding Kenya there is still room for enhancement of trade with NCIP countries although it seems that Kenya has exhausted its trade potential with Uganda and Rwanda throughout the study period.

6.2   Policy Recommendations

The recommendations arising from the findings of the study is as there are needs for deeper integration and utilization of untapped trade potentials. There is need for policy champions in NCIP bloc. The NCIP countries need to enhance and promote the on-going different Projects especially on transport and communication infrastructure networks to reduce transaction and transport costs.

There is also need for Ethiopia to fast-track its liberalisation processes. Government commitment to and adopt effective trade promotion measures to achieve trade potential level. Most of all, infrastructure is key to success and for infrastructure deficit countries of NCIP thus, advancement of investment in the sector be it government spending or through Public Private Partnership (PPP) is key for better integrated and sustained economic development.

Moreover, increasing intra-NCIP trade needs enhancing and promoting the on-going different Projects of NCIP transport and communication infrastructure networks between the members to reduce transaction and transport costs.

Furthermore, joining NCIP FTA would also serve as a stepping stone for strengthening itself to join the wider FTAs

including COMESA FTA and the on-going COMESA-EAC-SADC tripartite FTA

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Appendices

Annex A

Levin-Lin-Chu unit-root test for trade

Ho: Panels contain unit roots   Number of panels =   30

Ha: Panels are stationary   Number of periods =   23

AR parameter: Common   Asymptotics: N/T -> 0
Panel means: Included
Time trend: Not included

ADF regressions: 1 lag
LR variance: Bartlett kernel, 9.00 lags average (chosen by LLC)

          Statistic   p-value

 Unadjusted t   -6.5528
 Adjusted t*   -3.0944   0.0010

Decision: reject the null hypothesis, since the p-value is less than 0.05, meaning the panels are stationary

Rwanda Trade potential with NCIP countries

Year	Reporting partner pair	Trade potential
1992	Rwanda-Burundi	-4.915133
2014	Rwanda-Burundi	-2.137102
1992	Rwanda-DRC	-.0613613
2014	Rwanda-DRC	3.475064
1992	Rwanda- Ethiopia	-1.949714
2014	Rwanda-Ethiopia	-1.668696
1992	Rwanda-Kenya	.9605598
2014	Rwanda-Kenya	.3999624
1992	Rwanda-Tanzania	-.6080203
2014	Rwanda-Tanzania	2.115727
1992	Rwanda-Uganda	1.155014
2014	Rwanda-Uganda	1.996677

Annex A2

1.   Model speciation test: Hausman specification test

```
                 ———— Coefficients ————
                  (b)          (B)          (b-B)        sqrt(diag(V_b-V_B))
                  fixedef      randomef     Difference        S.E.

  gdprepocacu     1.12e-06     1.04e-06     8.23e-08          8.09e-08
   gdppartner     3.80e-06     3.78e-06     2.21e-08          8.75e-08
   importrepo     947.6414     903.9502     43.69125           40.867
  importpartn    -480.0757    -484.0935     4.017841           34.1839
      manurrep    2676.955     2846.266    -169.3107          112.1084
      manupart    3059.696     3198.045    -138.3489          96.09319
  exchangerate   -2.85e-07    -2.01e-06     1.72e-06             .
   telecomrep   -40817.44    -41585.82     768.3834          2282.481
   telecompar   -35950.95    -32639.14    -3311.811          2832.952
```

```
                 b = consistent under Ho and Ha; obtained from xtreg
         B = inconsistent under Ha, efficient under Ho; obtained from xtreg

     Test:  Ho:  difference in coefficients not systematic

                 chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                         =        8.83
             Prob>chi2 =     0.1835
             (V_b-V_B is not positive definite)
```

Decision: fail to reject the null hypothesis that random effect model explains the data more, since prob>-Chi2=0.1835 is not less than0.05, meaning the Random Effect Model is more appropriate for the data.

2.   Breusch and Pagan Lagrangian multiplier test for random effects

```
Estimated results:
                            Var        sd = sqrt(Var)

              trade |     2.45e+10          156554.5
                  e |     5.64e+09          75105.18
                  u |     9.74e+09          98677.59

   Test:    Var(u) = 0
                          chibar2(01) =   2264.24
                        Prob > chibar2 =    0.0000
```

Decision: Since the Prob>Chi2=0.000 is less than 0.05. Here the test fails to reject the null hypothesis and conclude that a random effect is appropriate. This is, evidence of significant differences across countries, therefore the model can't run a simple OLS regression