



**Thesis**

**By**

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**Covenant University,  
Ota, Nigeria**

**ANALYSIS OF INTERNATIONAL TRADE  
PERFORMANCE IN SELECTED SUB-  
SAHARAN AFRICAN COUNTRIES: IMPACT  
OF INSTITUTIONAL FRAMEWORK**

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**February, 2011**

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**Being Ph.D Thesis Submitted in Partial Fulfilment of the Requirements  
for the Award of the Degree of Doctor of Philosophy (Ph.D) in Economics  
of Covenant University, Ota, Nigeria**

**February, 2011**

DECLARATION

I, **Evans Stephen OSABUOHIEN**, declare that this thesis is my own original work and that no portion of the work referred to in the thesis has been or will be submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.



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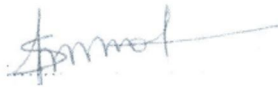


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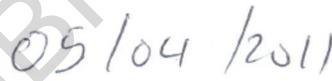
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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by Covenant University a thesis entitled: “Analysis of International Trade Performance in Selected Sub-Saharan African Countries: Impact of Institutional Framework” in partial fulfilment of the requirements for the degree of Doctor of Philosophy (Ph.D) in Economics of Covenant University, Ota, Nigeria.



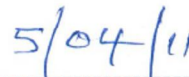
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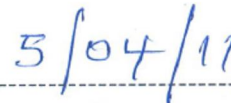
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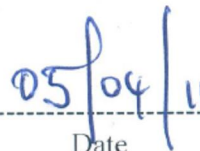
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## DEDICATION

This thesis is primarily dedicated to the Triune Godhead -Father, Son and Holy Spirit for His unfathomable and indefatigable hand of Love on me. It is equally my joy to dedicate it to the Son of my youth, the beginning of my strength and the excellence of my glory - Eustin Maduabuchukwu Evans-Osabuohien. God has used your coming to the family to launch me to an entirely different platform and made me taste the sweetness of answered prayers.

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## TABLE OF CONTENTS

Title Page.....	i
Declaration.....	ii
Certification .....	iii
Dedication.....	iv
Acknowledgements.....	v
Table of Contents.....	ix
List of Abbreviations.....	xiii
List of Figures.....	xvi
List of Tables.....	xvii
List of Appendices.....	xviii
Glossary of Terms.....	xix
Abstract.....	xxvi

### CHAPTER ONE : INTRODUCTION

1.1 Background of the Study.....	1
1.2 Statement of the Research Problem.....	5
1.3 Research Questions.....	8
1.4 Objectives of the Study.....	8
1.5 Research Hypotheses.....	9
1.6 Scope of the Study.....	9

1.7 Significance of the Study.....	10
1.8 Strucutre of the Study.....	12

**CHAPTER TWO: PATTERNS OF INTERNATIONAL TRADE AND  
INSTITUTIONAL FRAMEWORK IN SSA**

2.1 Introduction.....	14
2.2 Historical Perspective of International Trade performance and Institutional Framework in SSA Countries.....	15
2.3 Patterns of Trade Balance and Trade Integration in Selected Regions.....	21
2.4 Nature of International Trade in Selected Regions.....	24
2.5 Contribution of Export Categories to Gross Domestic Products in Selected Regions .....	26
2.6 Some Measures of Institutional Framework.....	30
2.7 Some Stylised Facts on Selected SSA Countries.....	33
2.8 Roles of WTO and Regional Economic Communities in SSA.....	35

**CHAPTER THREE: LITERATURE REVIEW**

3.1 Introduction.....	43
3.2 Review of Conventional Theories of International Trade.....	43
3.3 Review of Institutional Theories.....	46
3.4 Review of Definitional Issues on Institutions and International Trade.....	48
3.5 Review of Theoretical Issues of Institutions in Relation to Trade.....	53
3.6 Review of Empirical Issues on Institutions and International Trade.....	57

**CHAPTER FOUR: ANALYTICAL FRAMEWORK AND METHODOLOGY**

4.1 Introduction.....	69
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4.2 Analytical Framework.....	69
4.3 Formulation of Econometric Models.....	74
4.4 Estimation Techniques.....	79
4.5 Brief Note on Instrumental Variables.....	83
4.6 Sources of Data and Description of Variables.....	86

## CHAPTER FIVE: EMPIRICAL RESULTS ANDLYSES

5.1 Introduction.....	90
5.2 Descriptive Analysis of International Trade Performance.....	90
5.3 Summary Statistics of Major Variables.....	93
5.4.1 Estimation Results and Discussion.....	96
5.4.2.International Trade Performance, Economic Growth and Exchange Rate.....	96
5.4.3 International Trade Performance and Political Institutions.....	99
5.4.4 International Trade Performance and Economic Institutions.....	105
5.4.5 International Trade Performance and Financial Institutions.....	107
5.4.6.International Trade Performance, Trade Policies and 'Landlockedness.....	109
5.4.7.International Trade Performance, Human Capital and Infrastructures.....	111
5.5 Robustness of Results.....	113
5.6 Sensitivity Checks.....	116

## CHAPTER SIX:SUMMARY,RECOMMENDATIONS AND CONCLUSION

6.1 Introduction.....	120
6.2 Summary of Major Findings and Implications.....	120
6.3 Policy Recommendations.....	124

6.4 Conclusion.....	127
6.5 Limitations of Study and Suggestions for Further Research.....	130
References.....	132
Appendices.....	159

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## LIST OF ABBREVIATIONS

2SLS	Two-Stage Least Squares
AfDB	African Development Bank
Agrex	Agricultural Export
Apt	Applied Tariff including Preferences
AU	African Union
CC	Control of Corruption
CEPII	Centre d'Etudes Prospectives et d'Informations Internationales (English: Institute for Research on the International Economy)
CIM	Contract Intensive Money
Cod	Customs and Other Import Duties
COMESA	Common Market for Eastern and Southern Africa
CPIA	Country Policy and Institutional Assessment
EAC	East African Community
EAP	East Asia- Pacific
ECA	Europe and Central Asia
ECCAS	Economic Community of Central African States
ecogr	Economic growth rates
Ecoins	Economic Institutions
ECOWAS	Economic Community of West African States
EPS	Export Promotion Strategy
EPZs	Export Processing Zones
Exch	Real Effective Exchange Rate
FE	Fixed Effects
Findep	Financial Depth
Finst	Financial Institutions

Fmex	Fuel and Mining Export
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Products
GE	Government Effectiveness
Gethfra	Generalised Ethnolinguistic Fractionalisation
GMM	Generalised Method of Moments
HDI	Human Development Index
ICRG	International Country Risk Guide
IMF	International Monetary Fund
Infrac	Infrastructural development
IPRs	Intellectual Property Rights
ISI	Import-substitution Industrialisation Strategy
Itnet	Internet Users
Itrapf	International Trade Performance
IV	Instrumental Variable
LAC	Latin America and Caribbean
LDCs	Least Developed Countries
Legalor	Legal Origin and Formalism
Lockd	Landlocked Country
Logmeaug	Acemoglu et al Augmented Settlers' Mortality
Maex	Manufacturing Export
MFN	Most-favoured Nation
Mkpot	Market Potential
MENA	Middle East and North Africa
NIE	New Institutional Economics
NTBs	Non-Tariff Barriers
OLS	Ordinary Least Squares

Pcom	Personal Computers
Plr	Lending Rate
Poins	Political Institutions
PS	Political Stability
RE	Random Effects
RECs	Regional Economic Communities
RL	Rule of Law
RQ	Regulatory Quality
RTAs	Regional Trade Arrangements
SADC	Southern African Development Community
SAP	Structural Adjustment Programmes
SPS	Sanitary and Phytosanitary Standards
SSA	Sub-Saharan Africa
Svex	Service Export
Tel	Mobile and Fixed-line Telephone Subscribers
Toex	Total Export
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
UNDP	United Nations Development Programme
VA	Voice and Accountability
WDI	World Development Indicators
WEBS	World Business Environment Survey
WGI	World Governance Indicators
WTI	World Trade Indicators
WTO	World Trade Organisation



## LIST OF FIGURES

Figure	Page
Fig. 2.1 Trend in Total Export across Regions.....	27
Fig. 2.2 Trend in Manufactured Export across Regions.....	27
Fig. 2.3 Trend in Agricultural Export across Regions .....	28
Fig. 2.4 Trend in Fuel and Mining Export across Regions.....	28
Fig. 2.5 Trend in Service Export across Regions.....	30
Fig. 4.1 Institutional Framework and Interactions.....	70
Fig. 5.1 Trend in International Trade Performance Indicators.....	91

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## LIST OF TABLES

Table 2.1 Trade Balance as a % of GDP (1995-2008).....	22
Table 2.2 Trade Integration (Trade as a % of GDP) (1995-2008).....	23
Table 2.3 Number of Products Exported and Imported (1995-2007).....	24
Table 2.4 Ratio of Imported Products to Exported Products.....	25
Table 2.5 Measures of Institutional Framework (Respect for Institutions).....	31
Table 2.6 Measures of Institutional Framework (Government Actions).....	32
Table 2.7 Institutional Framework and International Trade Performance Indicators (1995-2009).....	34
Table 4.1 Description of Variables and their Sources.....	88
Table 5.1 Some Indicators of Trade Facilitations across the World.....	93
Table 5.2 Summary Statistics of Selected Variables.....	94
Table 5.3 Results for International Trade Performance Indicators.....	97
Table 5.4a Political Institutions and Total Export.....	100
Table 5.4b Political Institutions and Manufacturing Export.....	101
Table 5.4c Political Institutions and Agricultural Export.....	102
Table 5.4d Political Institutions and Fuel and Mining Export.....	103
Table 5.4e Political Institutions and Service Export.....	104
Table 5.5 Ranking of Political Institutional Indicators.....	105
Table 5.6 International Trade Performance and Economic Institutions.....	106
Table 5.7 International Trade Performance and Financial Institutions.....	108
Table 5.8 International Trade Performance and Trade Policies.....	110
Table 5.9 International Trade Performance and Human Capital and Infrastructure.....	112
Table 5.10 Sample of First Stage Regression Results.....	114
Table 5.11 Sensitivity Checks of Results.....	117

## LIST OF APPENDICES

Appendix	Page
Appendix I: Panel Data Structure and List of Selected Countries.....	159
Appendix II: Sample of Results with Time and Country Effects.....	160
Appendix III: Sample of Hausman Test.....	162
Appendix IV: Sample of 2SLS Result.....	163

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## GLOSSARY OF TERMS

1. **Balance of Trade:** This is the balance between exports and imports of a country.
2. **Bilateral Trade:** This is an agreement between two countries setting out the conditions under which trade between them will be conducted. If both parties are already WTO members enjoying the attendant non-discrimination, markets access and other benefits, the main additional reason for bilateral agreement may be a programme of bilateral trade facilitation and trade promotion activities. If one party is not a member of the WTO, the agreement will normally provide for MFN treatment and national treatment, protection of intellectual property rights, consultation and dispute settlement, and other principles and mechanisms necessary for ensuring smooth trade flows and the speedy resolution of problems. Bilateral agreement usually contain a provision for periodic reviews of trade developments at ministerial or official level.
3. **Common External Tariff:** This is the uniform tariff rates applied by members of a customs union against non-members. Members of a customs union agree to eliminate or phase out all tariffs among themselves. At the same time, they replace their individual tariffs with a single tariff applied to third countries. Membership of customs union may therefore entail an unchanged, higher or lower tariff by individual members on a given product. Under WTO rules, the resulting changes may not be used to increase the level of production overall. Free-trade areas do not have a common external tariff.
4. **Common Market:** It is a more developed type of customs union in which, in addition to the free movement of goods between member states, labour, capital and services can also move without restrictions. Common markets lead to highly integrated economies.
5. **Comparative Advantage:** It was first proposed by David Ricardo in 1817 that a country is more likely to export goods that it can produce relatively efficiently. A country's comparative advantage is reflected in its unsubsidised exports to world markets which is then said to be a country's revealed comparative advantage.
6. **Customs Union:** It is an area consisting of two or more individual countries or customs territories which remove all tariff and sometimes broader trade

impediments between them. The members making up the area then apply a common external tariff.

7. **De Facto and De Jure:** *de facto* is a Latin expression that means “by the fact”. In law, it means “in practice but not necessarily ordained by law”. While *de jure* implies “concerning the law” especially when referring to matters of law, standards and governance. Specifically, in legal parlance, *de facto* defines action of what happens in practice but *de jure* describes what the law states in principles.
8. **Economic Institutions:** Generally, they refer to network of commercial organisation (such as manufactures, producers, wholesalers, retailers, and buyers) that generate, distribute, and purchase goods and services. However, contextually, they are essential rules and principles that influence and shape incentives for economic agents in a society. They not only determine the level of economic growth potential of a country, they also determine the distribution of resources and economic gains in the country.
9. **Exchange Rates:** This is also known as the foreign-exchange rate or forex rate. It is the value of a foreign country’s currency in terms of the domestic country’s currency.
10. **Export:** It is a good or a service sold by residents of one country to residents of another in return, usually, for foreign exchange.
11. **Financial Institutions:** They are generally known as institutions that provides financial services for its clients. Contextually, they involve rules and regulations that are related to financial intermediations in a country. They are closely related to economic institutions; the major distinction is that financial institutions are essentially related to financial assets and financial intermediations.
12. **Free Trade Area:** It refers to as a group of two or more countries that have eliminated tariff and all or most non-tariff measures affecting trade among them. Participating countries usually continues to apply their existing tariffs on external goods.
13. **General Agreement on Tariffs and Trade (GATT):** This has been superseded as an international organisation by WTO. An updated General Agreement is now one of the WTO’s agreements. The GATT entered into force on 1 January 1948 as a provisional agreement and remained so until it was superseded by the WTO framework on 1 January 1995. It establishes multilateral obligations for trade in goods, including MFN treatment and

countervailing duties, customs valuable, import and export fees and formalities, marks of origin, quantitative restrictions, balance-of-payments provisions, subsidies, state trading enterprises, emergency action on imports (safeguards), customs unions and free-trade areas, among others.

14. **Import License:** It is a document issued by a national government authorizing the importation of certain goods into its country. It is regarded as a non-tariff barrier to trade when used as a way to discriminate against another country's goods in order to protect a domestic industry from foreign competition.
15. **Import Quota:** This entails restrictions or ceilings imposed by an importing country on the value or volume of certain products that may be bought from abroad. They are designed to protect domestic producers from the effects of lower-priced imported products. Imports quotas are a form of quantitative restriction.
16. **Import:** It refers to a good or a service bought by residents of one country from residents in another in return, normally, for foreign exchange.
17. **Institutions:** They are structures and mechanisms of social order and cooperation governing the behaviour of a set of individuals in a given human community. They are made up of formal regulations (e.g. rules, laws, constitutions), informal restraints (e.g. norms of behaviour, conventions, self-imposed codes of conduct), and their enforcement features. They are a central concern for law, the formal mechanism for political decision-making and enforcement.
18. **Intellectual Property:** It generally includes patents, trademarks, industrial designs, lay-out designs of integrated circuits, copyright, geographical indications and trade secrets.
19. **International Trade:** This generally refers to trade that essentially involves willing exchange of goods, services across national boundaries.
20. **Multilateral Trade Agreements:** These are inter-governmental agreements that are undertaken to expand and liberalise international trade under non-discriminatory, predictable and transparent conditions set out in an array of rights and obligations. The motivation for taking on these obligations is that all members will increase their welfare by adhering to a common standard of conduct in the management of their trade relations. Membership of this kind of agreement is open-ended, but countries wishing to accede usually have to demonstrate that their trade regimes are in keeping with the aims of

the agreement, and that the access conditions to their markets roughly match those of existing members.

21. **New Institutional Economics (NIE):** This incorporates a theory of institutions into economics by building on and extending neoclassical theory. NIE has developed as a movement within the social sciences, especially economics and political science, which brings theoretical and empirical research examining the role of institutions in economic growth.
22. **Non-Tariff Barriers (NTBs):** They are government measures other than tariffs that restrict trade flows. Example include quantitative restrictions, import licensing, voluntary restraint arrangements and variable levies.
23. **Political Institutions:** They are defined by the nature of political leadership structure or governance structure that is persistent in a given country. They deal with the way the political structure in a country influences the behaviour of individual in a society especially with the distribution of political power. Examples of political institutions include the form of government in a country (democracy or dictatorship), rule of law, and the extent of constraint of political power.
24. **Preferential Trade Area:** An agreement by which a group of countries agree to provide preferential treatment to selected goods originating from member states by a gradual reduction of tariffs over a given period of time, until a zero tariff level is attained. An example is Economic Community for West African States (ECOWAS).
25. **Real Effective Exchange Rate (REER) – (%change, +=appreciation):** This measures the nominal effective exchange rate which is measured by the value of a currency against a trade weighted average of a basket of selected foreign currencies, adjusted by the relative price index between the domestic and foreign countries. REER measures an effective or trade-weighted exchange rate based on real exchange rates instead of on nominal rates as in the case of nominal effective exchange rate.
26. **Real Exchange Rate:** This is the nominal exchange rate that takes the inflation differentials among the countries into account. It can be used as an indicator of competitiveness in the foreign trade of a country.
27. **Sub-Saharan Africa:** Generically, it is a geographical term that refers to the area of the African continent which lies south of the Sahara. A political definition of Sub-Saharan Africa, instead, covers all African Countries which are fully or partially located south of the Sahara.

28. **Tariff:** It involves a customs duty on merchandise imports, which can be levied either as an ad valorem tariff (percentage of value) or as a specific tariff. Tariffs give a price advantage to similar locally produced goods and raise revenues for the government. Tariffs are mostly levied on imports, but there are cases of tariffs on exports.
29. **Tradable and Non-Tradable:** Tradeables are goods and services that can be traded on international markets. In the case of services, this includes, for example, air travel, telecommunications and management consulting, but haircutting would not normally be considered a tradeable service. Non-tradeables are goods and services that are not, or only rarely, traded internationally because they are abundant and cheap everywhere or because the cost of support services needed for trading them would exceed the value of the product in the importing market.
30. **Trade Balance:** This is the difference between the monetary value of exports and imports of output in an economy over a certain period. It is the relationship between a nation's imports and exports.
31. **Trade Creation:** It is a criterion used for the assessment of the impact of free-trade areas and customs unions on others. Trade theory holds that the reduction of barriers to trade will lead to increased trade between members and non-members if external barriers are not raised at the same time. In practice, the validity of the argument is quite difficult to demonstrate for any given area because of the interplay of other factors, particularly secular changes such as technological advances, changing investment patterns, and so on.
32. **Trade Deficits:** This occurs when the value of one's imports exceeds the value of one's exports over a given period. Often, only merchandise trade is considered for this calculation. Taken in isolation, the existence of a trade deficit does not yield any useful insights about a country's economic health. However, it may be that a persistent trade deficit reflects some deficiencies in prevailing economic settings which need to be corrected. Sometimes the anxiety induced by a trade deficit simply reflects symptoms of mercantilism.
33. **Trade Diversion:** It is also known as trade deflection. One of the criteria used for the assessment of the impact of free-trade areas and customs unions. The creation of such bodies normally leads to the expansion of trade between its members, but economic theory postulates that a share of the increased trade experienced by participants is merely due to a redirection of their trade,



and not increased trade due to the arrangement. This effect can be demonstrated convincingly in models. In practice, trade diversion has always been difficult to isolate because of other factors. These include technological innovation, global reduction in tariffs, changes in investment policies, etc. See also trade creation.

34. **Trade Facilitation:** This involves the process of removing obstacles to the movement of goods across national borders. Examples include simplification of customs procedures, cooperation in quarantine matters, publication of trade directories, cooperation on technical standards, periodic discussion of trade issues, trade fairs, trade missions, and so on.
35. **Trade Intensity:** It is a measure of importance of trade to a given economy. It is the proportion of imports and exports of goods and services in relation to the total economy.
36. **Trade Liberalisation:** This is a general term for the gradual or complete removal of existing impediments to trade in goods and services. Free trade may be its ultimate aim, but more likely it is freer trade. Investment restriction may also be covered by this term if investment in the target market is necessary for effective markets access.
37. **Trade Policy:** It refers to the complete framework of laws, regulations, international agreements and negotiating stances adopted by government to achieve legally binding markets access for domestic firms. Trade policy also seeks to develop rules providing predictability and security for firms. Fundamental components of trade policy are most-favoured nation (MFN) treatment, national treatment, transparency and exchange of concessions.
38. **Trade Promotion:** It is the sum of activities that are designed to increase a country's trade. It involves the following: participation in trade fairs, trade missions, publicity campaigns, and so on.
39. **Trade Surplus:** This occurs when the value of a country's exports exceeds that of such a country's imports in a given period.
40. **Transaction Costs (TC):** These are costs used for the creation, maintenance, use, and change of institutions and organisations. TC include the costs of defining and measuring claims, costs of using and enforcing the rights specified, and costs of information, negotiation, and enforcement among others.
41. **World Trade Organisation (WTO):** This came into existence on 1<sup>st</sup> January 1995 as the successor to the GATT and its secretariat with 128

members. As at July, 2008, WTO members had increased to 153. The WTO is an organisation for the discussion, negotiation and resolution of trade issues covering goods, services and intellectual property. It has the functions of administering and implementing the multilateral and plurilateral trade agreements that constitute it, acting as a forum for multilateral trade negotiation, seeking to resolve trade disputes, overseeing national trade policies and cooperating with other international institutions involved in global economic policy-making.

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## ABSTRACT

Sub-Saharan Africa (SSA) with over 12.3% of the world's population contributed as little as 1.41% of world's total output in 2008. In terms of international trade, SSA region has performed below expectations. Its total, service and manufactured exports shares in world market on the average were at low values of 0.04%, 0.02% and 0.01% between 1995 and 2008, respectively. The values were far lower than the world average as well as what obtains in other developing regions such as Latin America and the Caribbean and Middle East and North Africa. On the other hand, SSA countries had low values on most measures of institutional quality, which were also lower than both the world average and other regions. For instance, the region's value for rule of law and regulatory quality in 2008 were -0.74 and -0.70 compared to the world average of -0.03 and -0.01, respectively.

The background information motivated this study with the main objective of investigating the impact of institutional framework on international trade performance of SSA countries. This objective was achieved using both descriptive and econometric analyses. The econometric analysis involved Fixed Effects model in a panel data format and Two-Stage Least Squares technique for the period 1996-2008 using 34 selected SSA countries. This approach was deemed appropriate given the fact that institutional variables had limited variation. Another reason was the imperativeness of employing some instrumental variables such as legal formation and settlers' mortality that influence institutional variables but are *orthogonal* to the indicators of international trade performance. The empirical models were formulated and estimated in the light of different categories of institutional framework and their impact on the indicators of international trade performance. The impacts

of other factors such as human capital and infrastructures on international trade performance were equally assessed.

The empirical analyses were carried out by *unbundling* institutional framework into three main pillars – political, economic and financial institutions as well as *unbundling* international trade performance by focusing on export performance of five major sectors, namely: total, manufacturing, agricultural, fuel and mining, and service exports. Thus, the ‘unbundled’ institutions were related to ‘unbundled’ international trade performance.

The study found that political institutional variables had positive and significant impact on the indicators of international trade performance with different levels of impact on the indicators of international trade performance. On economic institutions, it was found that the regional economic communities in Southern Africa, notably SADC was more relevant in promoting international trade performance especially manufacturing export compared to others. While, the indicators of financial institutions had significant impact on international trade performance especially service and manufacturing exports. It was also established that service export was more stable than other indicators of international trade performance while fuel and mining export exhibited the greatest instability. The study equally found that real exchange rate depreciation and trade policy did not significantly promote international trade performance in SSA countries. On the other hand, it was established that human capital had positive and significant impact on the indicators of international trade.

Several recommendations were made in the study. Some of them include the need to place more emphasis on service export to mitigate the adverse effects of external shocks. Also, there is need for policy measures that will ease

export-supply constraints as well as the pursuance of rule of law, which will enhance the level of contract enforcement. The strengthening of financial institutions; the improvement of the quality of human capital and regional economic communities in SSA that focus more on the provision of trade-related infrastructures in the region were equally recommended.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Sub-Saharan African (SSA) has 48 countries with over 12.3% of world's population in 2009. More than 67.4% (33 out of 49) of countries grouped as Least Developed Countries (LDCs) are located in SSA. The region contributed as little as 1.41% of world's total output in 2008 (World Population Reference Bureau, 2009; WTO, 2009; World Bank, 2010). The average per capita income of SSA in 2005 was US\$572 with average annual growth rate of 2.1% between 2000 and 2005 (World Bank, 2008; 2009). Also it has the combined Gross Domestic Products (GDP) of the same in value with that of Australia (Yang and Gupta, 2007). Some factors had been noted to account for the poor economic performance of the region, which include: weak political culture, corruption, devastating impacts of sicknesses and diseases especially malaria and HIV/AIDS, weak institutions, inadequate infrastructures, among others (Artadi and Sala-i-Martin, 2003; Ayogu, 2007; Vyllder, 2007; Fosu, 2008; Ike, 2009).

In the context of this poor economic performance, Olayiwola and Busari (2008) outlined economic growth episodes of SSA countries. The first was post-independence prosperity where some SSA countries inherited growing economies from the colonial regimes characterised by positive growth rates of real GDP and per capita GDP. Second was the growth episode that started in early 1970s where most SSA countries had poor economic outcomes that were characterised by negative growth in real GDP per capita, less favourable terms of trade, and so on. The last was between late 1970s and late 1990s with

macroeconomic instabilities in most of the SSA countries. The major reason, *inter alia*, which can be put forward for the reversal was inefficiency of institutions and mismanagement of the various economies (Collier and Gunning, 1999; Olayiwola and Busari, 2008). The third episode tallies with the period in which most of the countries were operating Import-substitution Industrialisation Strategy (ISI) as well as other forms of trade restrictions (Busari and Omoke, 2005; Aigbokhan and Ailemen, 2006). This poor economic performance also translates to poor performance in terms of international trade.

International trade performance can be defined as the extent to which a country (or region) is able to benefit from trade with the rest of the world. It can be measured using some indicators such as: share of trade in world market, trade balance, percentage of different categories of exports to GDP, real growth in total trade; trade per capita (Goode, 2004; UNCTAD, 2006; 2008a; UNECA, 2010; World Bank, 2010). Commenting on one of the indicators, Ajakaiye and Oyejide (2005) observed that Africa's share of world's merchandise exports declined by more than half, from about 6% in 1980 to 2.6% in 2004.

In terms of international trade, SSA countries have performed relatively low. For example, SSA had negative trade balance from 1995 to 2008. The region's trade balance as a percentage of GDP was -12.95% in 1995 and this deteriorated to -25.19% in 2008. The negative trade balance for SSA was worse than those of other regions as well as the global average (World Bank, 2010). The ratio of imported products to exported products (RMPXP) for SSA was far above those of other regions denoting merchandise trade deficit (World Bank, 2010). In 2007, the RMPXP for SSA was 1.90 compared to world

average (1.36); Latin America and the Caribbean (1.45); Middle East and North Africa (1.28); and East Asia-Pacific (1.14).

One of the major indicators of international trade performance is the performance of a country's export. In this study, emphasis is placed on export aspect of international trade. This is because export represents an injection to the exporting country and it is a source for foreign exchange earnings. Thus, an improvement in the exporting ability of a country can translate to a better international trade performance, *ceteris paribus*. The percentage share of exports in GDP of SSA was far lower than that of other developing regions such as Latin America and the Caribbean (LAC); and Middle East and North Africa (MENA). For instance, the percentage of manufacturing export in GDP in 2008 was 5.85% in SSA compared to the world average of 17.35%. In terms of service export, the percentage of service export in GDP was 7.72% in SSA, which was lower than 11.77% and 18.95% in 2008 for world average and MENA respectively (World Bank, 2008; 2010).

Another contextual issue is that while most developing countries in other regions especially Asia experienced trade diversification, exports from many African countries concentrated on primary products. For instance, the share of manufacturing products in total merchandise exports of developing countries increased from 35.1% in 1985 to 65.8% in 2004 and manufactured export in terms of world export increased from 14.5% in 1985 to 30.3% in 2005. The improvement in international trade outcomes of developing countries resulted from their diversified export markets. On the contrary, Africa's share of manufactured export in terms of total export decreased from 4.3% to 2.9% of total export during the same period. One of the factors attributed to this



development was Africa's failure to integrate into the world trade with appropriate institutional framework (Bacchatta, 2007).

Institutional framework can be defined as the set of humanly formulated arrangement that is capable of structuring political, economic and social interactions among economic actors. Hence, it is seen to have been crafted by human beings for the reduction of uncertainties in any exchange of economic values (North, 1991; 2005; Williamson, 2000; Grief, 2006). Available evidences have shown that most countries in SSA have weak institutional framework. For example, using rule of law with values which ranged from -2.5 (worst) to 2.5 (best), SSA had average values between -0.76 and -0.70 from 1996 to 2008. The values for SSA were lower than the global average that ranged from -0.09 to -0.03 within the same period (Kaufmann, Kraay, and Mastruzzi, 2008; 2009).

In terms of the level of regulatory framework SSA region had low values compared to others. For instance, between 1996 and 2008, the average values for SSA lied between -0.70 and -0.54 compared to the global average values that were from -0.11 to -0.02 during the same period. The values for SSA were not only below the world average, it was equally below those of other regions (Kaufmann et al, 2009). As observed for international trade performance, institutional framework in SSA is equally not impressive. This is based on the low values of rule of law and regulatory quality indicators of institutional framework observed for SSA that were lower than the global average and that of other regions of the world.

## **1.2 Statement of the Research Problem**

In 1970s, the basic philosophy of economic theory had been that the economic growth of a country (and region) depends mainly on the level of investment (Solow, 1957). Other scholars such as Romer (1986) and Lucas (1988) brought the concept of endogenous growth to the argument of economic growth. This was later made popular by the work of Mankiw, Romer and Weil (1992) with respect to the relevance of human capital to economic growth. Both the classical economists and the endogenous growth theorists seem to assume the institutional framework in countries as exogenous. However, the insufficient benefits that accrue to developing countries especially those in SSA region from the global economy suggest that there are other determinants of economic growth as well as trade not considered by the neoclassical theorists (Umo, 2001; Garba, 2003; Durlauf, Johnson and Temple, 2004; Ige, 2007).

One of the determinants of economic growth not considered by the neoclassical is institutional framework. There is ample evidence supporting the fact that no society can exist without some form of institutional framework. Nevertheless, the difference in the level of economic growth would, to some extent, be predicated upon the strength of the institutional framework (Fosu, Bates and Hoeffler 2006; Rodrik, 2008a; Khawaja, 2009; Akitoby and Stratmann, 2009). In other words, the nature of institutional framework in a country can be growth-inducing or growth-inhibiting. For example, the implication of the difference in institutions has been seen to account for the disparity in economic growth between Democratic Republic of Korea (North Korea) and the Republic of Korea (South Korea). The institutions in South Korea were seen to be supportive for rapid economic development through the inducement of investment compared to North Korea (Acemoglu and Robinson, 2008). A similar conclusion has been made between economic growth of

Botswana and Zambia. The fact that Botswana outperformed Zambia in terms of economic performance was as a result of quality of institutions, among other factors (Parsons and Robinson, 2006).

The nature of institutional framework in many SSA countries has resulted to state failures such as collapse of central administration (e.g. Somalia), insecurity of life and property (e.g. Zimbabwe), uncertainties, low infrastructural facilities and so on. These forms of institutional 'disfunctionalities' have worked against the region's developmental efforts with respect to international trade performance and economic growth (Ajayi, 2002; Iyoha, and Oriakhi, 2002; Artadi and Sala-i-martin, 2003; Garba, 2003; Aluko, 2004; Ike, 2009). This is because, coup plots, violent military take-over as well as ethnic conflicts, which have occurred in most SSA countries, are indications of weak institutional frameworks (Artadi and Sala-i-Martin, 2003; Fosu, 2003; Garba, 2003). This tends to point to the fact that the institutional framework in SSA countries may not be very supportive for economic activities when compared to other regions of the world. The above issue is exacerbated by non-resilient financial institutions in most of SSA countries, which are essential for providing financial resources for international trade (Papaioannou, 2009; Ojo, 2010).

Given the low level of international trade performance and institutional framework, the basic question is "can there be possible link between institutional framework and international trade performance in SSA"? Put differently, can the level of international trade performance in SSA countries be attributable to their institutional framework? The above questions were major research problems that motivated this study.

Furthermore, trade policies in most SSA countries had been characterised by high tariffs, inappropriate use of export and import licenses, indiscriminate use of import bans, and some forms of undue government interventions (Iyoha and Oriakhi, 2002; Aigbokhan and Ailemen, 2006). Most of these policy measures have not worked much in their favour in terms of enhancing international trade performance. For instance, despite the opportunity of access to the world market, most SSA countries still face a great deal of challenges. The membership of World Trade Organisation (WTO) and regional economic communities (RECs) such as Common Market for Eastern and Southern Africa (COMESA), Economic Community of West African States (ECOWAS), among others, has not resulted to substantial benefits.

Another issue worthy of mentioning is heavy reliance on exportation of primary commodities, which exhibits a major weakness in the terms of trade of SSA countries. For example, raw materials and petroleum products account for over 50% of international trade in most SSA countries, and petroleum products alone account for about 95% of Nigeria's total export, while raw materials comprise over 54% and 50% of international trade revenue in Mauritania and Zambia, respectively (Fongue, 2007). The key problem with this trade structure is essentially the high level of fluctuation that usually characterise prices of primary commodities at the world market (Hansson, 1993; Ndella, 1993; Fosu, 1996; 2003; Olomola, 2007). Some of the prominent factors that have resulted in low international trade performance of most SSA countries include weak institutional framework, limited stock of human capital, poor infrastructural facilities, and so on.

### **1.3 Research Questions**

In the process of analysing the implication of institutional framework on international trade performance, some pertinent research questions were raised. They include:

- i. What impact do political institutions have in determining the level of international trade performance in selected SSA countries?
- ii. What are the roles of economic institutions in influencing international trade performance in selected SSA countries?
- iii. What roles do financial institutions in selected SSA countries play in determining their international trade performance?
- iv. How relevant are trade policies in selected SSA countries in promoting their international trade performance?

### **1.4 Objectives of the Study**

The main objective of the study is to evaluate how institutional framework influences international trade performance in SSA countries. The specific objectives of the study are:

- i. To assess the impact of political institutions on international trade performance of selected SSA countries.
- ii. To evaluate the role of economic institutions in promoting international trade performance of selected SSA countries.
- iii. To investigate the influence of financial institutions on international trade performance of selected SSA Countries.
- iv. To examine the impact of trade policies on international trade performance in selected SSA countries.

## **1.5 Research Hypotheses**

Some research hypotheses were formulated in the course of the study in order to proffer answers to the research questions. They were stated only in their null form ( $H_0$ ) since the alternative hypotheses ( $H_a$ ) can easily be inferred from  $H_0$ . The research hypotheses include:

- i.  $H_0$ : Political institutions do not play significant roles in determining international trade performance in selected SSA countries.
- ii.  $H_0$ : Economic institutions do not exert any significant influence on international trade performance in selected SSA countries.
- iii.  $H_0$ : Financial institutions do not significantly influence international trade performance in selected SSA countries.
- iv.  $H_0$ : Trade policies in selected SSA countries do not have any significant relationship with their international trade performance.

## **1.6 Scope of the Study**

The study focused on selected countries in SSA. The choice of the countries was basically informed by availability of relevant data. The countries were made up of WTO members (both full members and observers) as at 23<sup>rd</sup> July, 2009 and non-WTO members (WTO, 2009). This was seen to be useful in order to capture the influence of WTO on international trade performance of the selected countries. The countries in SSA selected in the study include the following: Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Cote d'Ivoire, Ethiopia, Gabon, Gambia, Ghana, and Guinea. Others were: Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, South Africa, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe. In all, 34 countries were selected for this study out of 48 countries in SSA. This represents about 70.83% in number. In terms of real GDP and

population size, the chosen countries account for about 81.32% and 81.01%, respectively (International Financial Statistics, 2008; United Nations Statistical Division,2009).

The period covered by the study was from 1996 to 2008. The rationale for the choice of this period was based on the fact that World Governance Indicators (WGI) computed by Kaufmann, et al (2008; 2009), which was the major source of political institutional variables started in 1996. More so, it can be assumed that the operations of WTO started having full influence on the members the following year given the fact that the agreements was rectified and signed in 1995 (Oyejide and Njinkeu, 2007).

### **1.7 Significance of the Study**

In the period of 1990s there has been some measure of research interest with regard to the roles of institutions on the management of economies across the world. The significance of economic environments such as the effectiveness of monetary and fiscal policies, price stability, and secured property rights that are in tandem with efficient utilisation of resources have been found to exert some degrees of impacts on economic performance in some countries. In other words, the nature of institutional framework and policies in a country can determine such country's economic performance (Temple, 1999). This implies that when the institutional framework in a country is weak, it can lead to the occurrence of sub-optimal economic outcomes. Thus, institutions matter.

There are emerging views in economic growth and development literature that institutional factors play considerable influence in determining economic performance of countries (e.g. Garba, 2003; Gallo, Stegmann and Steagall, 2006; Acemoglu and Robinson, 2008a; Hassan, Wachtel and Zhou,2009).

Some efforts have been made by examining the link between institutions within countries in relation to democracy and economic growth. However, majority of extant studies have focused on the relationship between institutions and economic growth. In addition, evidences abound from literature that not much has been done in relating institutions to international trade performance. This is particularly crucial for SSA countries that usually have lower values in major trade and institutional indicators than other regions of the world. In the work by Meon and Sekkat (2008), they related international trade to institutions using a panel data (1990-2000) that covered mainly countries in America and Asia. In the sample of 59 countries only eight of them were in Africa. In their study they classified total export into manufacturing and non-manufacturing. Thus, there is the need to examine the impact of institutional framework on international trade performance using a sizable panel involving SSA countries. This is one of the areas this study makes its contribution to knowledge.

In another dimension, it has been noted that institutions may be endogenous; and as a result it will be needful to 'unbundle' them in order to appropriately capture their influence (Acemoglu and Johnson, 2005). Similarly, international trade performance may be too encompassing for general policy direction. This study observed that grouping total export simply into manufacturing and non-manufacturing would be too general. This is essential especially in SSA region where non-manufacturing export such as fuel and mining and agricultural export form bulk of their international trade basket.

In view of the above, this study extends previous works by categorising indicators of international trade performance as total, manufacturing, agricultural, fuel and mining, and services exports. Thus, it is essential to



‘unbundle’ both institutional framework and international trade performance. Hence, this study relates ‘unbundled’ international trade to ‘unbundled’ institutional framework. This is another area the study significantly differs from previous studies.

More so, the few works that relate the international trade performance to institutions focused mainly on political institutions aspect. Though political institutions are crucial, other segments of institutional framework are also relevant. Hence, this study incorporates economic and financial institutions in addition to political institutions, which were related to the ‘unbundled’ indicators of international trade performance. This also is an aspect that the study contributes to knowledge. This study therefore becomes significant in filling the aforementioned gaps by examining international trade performance in SSA within the context of institutional framework in the region. The focus of this study on international trade performance is based on the relevance of international trade on economies in a globalised world. Therefore, recommendations that will help to promote international trade performance of SSA countries are proffered in the study. Thus, researchers and policy-makers in the region as well as other similar regions especially the developing economies would find the output of the study relevant.

### **1.8 Structure of the Study**

The study is structured into six chapters. Next to this introductory chapter, which gives a general overview to the study, is chapter two. The chapter provides background information on some issues that relate to international trade performance and institutional framework in SSA. The essence of the chapter was to further provide the thematic base of the study. In addition,

discussions on SSA region were compared to other regions of the world in order to properly situate the scenario in SSA within the world context.

Chapter three presents a review of definitional, theoretical and empirical issues in international trade performance and institutional framework. It also discusses the concepts of institutions and New Institutional Economics (NIE) with respect to international trade. The fourth chapter presents the analytical framework used in the study, which conceptually linked institutional framework to international trade performance. Moreover, the empirical models for the study, techniques of estimation, brief note on instrumental variables as well as sources of data and variables description, were encapsulated in the chapter.

The fifth chapter presents empirical analyses and interpretation. It started with descriptive analysis that provided the trend of the indicators of international trade performance. The various indicators of institutional framework were presented in relation to the different indicators of international trade performance. The influence of trade policy and other factors such as human capital and infrastructural development indicators on international trade performance were equally presented in the chapter. The chapter equally reports some sensitivity and robustness checks of the empirical results. Finally, chapter six presents a summary of the major findings in the study, policy recommendations of findings, and conclusion. Suggestions for further research and limitations of the study were also presented.

## **CHAPTER TWO**

### **PATTERNS OF INTERNATIONAL TRADE AND INSTITUTIONAL FRAMEWORK IN SSA**

#### **2.1 Introduction**

Economic history especially in the 1960s and 1970s was characterised mostly by economic theorists who generally opined that the policy-making processes were done rationally by planners and managers of economies. It was equally believed that economic policy instruments in countries were chosen in an optimal fashion with a view to maximising the welfare of their citizenry (Soludo and Ogbu, 2004). Thus, the workings of an economy were assumed to be shaped by policy-makers who accomplished their vision of social welfare. The policy-makers were presumed to choose policies that would be in the interest of the public.

At any rate, evidences abound that human beings are not always 'angels nor saints' that will act in the best interest of others because ordinarily, human beings are self-seeking (Buchanan and Tullock, 1962; Oslen, 1971; Kimenyi, 2001; Adewole and Osabuohien, 2007). Thus, institutional framework becomes crucial for addressing the possibility of adverse selection in human activities. This means that when markets function perfectly, there would be presumably efficient allocation of resources. However, when efficient markets are not in view or they operate less than optimal, then there would be need for intervention to ensure better functioning of the economy (Lall, 2004). This is generally the bottom-line for the argument for institutional framework in a given system that involves human activities.

Relating institutional framework to international trade performance, trade policies and institutions that are required for efficient functioning of the trading system need to be put in place to have meaningful results. This has been noted in political economy as well as public choice theoretical frameworks (Becker, 1985). The public choice framework provides a way of incorporating utility maximisation concepts of traditional economics into policy-making process. It is based on the maxims that policy-makers tend to maximise their utility through the selection of policy mix that increase the possibility of continuing in the office. The public choice theory is similar to political theory of institutional development as enunciated by LaPorta et al (1999). Thus, the way and manner trade policies will be formulated and implemented will depend on the structure of a country in terms of frameworks that are operational, which will eventually have effects on the country's international trade performance.

This chapter provides background information on some key issues as they relate to international trade performance as well as institutional framework in SSA. The data employed were described using Tables and Figures with a view of providing a foreknowledge of what is being examined. The relevance of the chapter is to further provide the thematic base of the study. In addition, the analyses done on the SSA region were compared to other regions of the world. This is to properly situate the scenario in SSA in the world context. It starts with a brief overview of some trade policies and institutional framework that were related to international trade performance in SSA.

## **2.2 Historical Perspective of International Trade performance and Institutional Framework in SSA Countries**

This section presents dimensions of the possible links between international trade performance and institutional framework in SSA. It draws instances from

some of the countries in SSA. It is worthwhile to note that institutional framework at a given period in time can be corrective, promotional, regulatory, and supportive with regard to their roles in a country (de Rosa and Malyshev, 2008). For instance, rule of law as a component of the World Governance Indicators (WGI) can be said to be regulatory as well as corrective based on the fact that it stipulates actions and activities that are allowed in a given country. On the other hand, when an individual contravenes the provisions of the law, such an individual is brought to order by corrective measures such as fine and sanctions.

This study used decadal categorisation of institutional framework that relate to international trade to make the discourse systematic. It started from 1960s when most of the SSA countries had their political independence from their colonial masters. However, the policy frameworks that were noted had some overlaps as some spanned from one decade to another. In the 1960s, most SSA countries embarked on Import-substitution Industrialisation Strategy (ISI) with the major aim of correcting balance of payments challenges and trade outcomes. The ISI, which were still pursued in 1970s in some SSA countries, was designed for a country to reduce import dependence. The ISI, which has features of international trade and economic policies, is based on the need for a country (especially a developing one) to lessen foreign dependency through domestic production.

The ISI has some policy instruments that include the following: an active industrial policy of subsidising and coordinating production of desired substitutes; protective barriers to trade through the use of tariff; use of exchange rate to enhance the import of capital goods such as machinery that are essential for domestic manufacturing among others. It has been noted that

ISI was based on two underlying premises, namely: addressing the widening gap between rich and poor countries, given the absence of industry in the developing countries; and in order to industrialise, smaller countries required protection to the newly emerging manufacturing sector. These ideas were particularly influential in Latin America and some SSA countries (Baldwin, 2003; UNECA, 2010).

At any rate, the policy mix varies across countries/regions depending on their peculiar needs. For instance, in Brazil, the ISI process that spanned from 1930 until the end of the 1980s entailed currency devaluation as a means of enhancing exports and discouraging imports, which promoted the consumption of domestic products, as well as the introduction of differential exchange rates for importing capital goods and consumer goods (Werner, 1972; UNCTAD, 2005). However, the inability of most SSA economies to diversify their productive base as well as low level of technological advancement militated against the effectiveness of the ISI (Bhowon, Boodhoo and Chellapermal, 2004).

In Kenya and Mauritius, ISI was pursued as a means of promoting industrialisation after their independence. The main objectives of the ISI include the following: the pursuance of rapid industrial growth, reduction of deficit balance of payments challenges, and reduction of unemployment through job creation. The major policy instruments used were an overvalued exchange rate, high tariff barriers, import licensing, foreign exchange controls and quantitative restrictions to protect local industries (Gerrishon, Olewe-Nyunya, and Odhiambo, 2004).

The 1970s witnessed trade policy regimes that can be generally grouped as Export Promotion Strategy (EPS). The EPS was essentially prompted by an increasing recognition of the economic realities facing most of the countries in SSA. To this end, most of SSA countries made some attempts to focus on export-led promotion alternative to economic development as reflected in their various Development Plans of the late 1970s and early 1980s. For instance, in Kenya the Fourth Development Plan (1979-1984), advocated a more open strategy for the industrial sector in order to promote exports. It was designed to create a conducive environment for industries, through reforms in trade and industrial regimes. An example was the gradual replacement of quantitative restrictions with equivalent tariffs. Another measure was the introduction of a more liberal exchange rate policy and the strengthening of export promotion schemes (Foroutan, 1993; Gerrishon, Olewe-Nyunya, and Odhiambo, 2004).

At that time, several SSA countries had agriculture as the major component of their export baskets. Given the fact that most of their economies were not technologically equipped, they had challenges in processing and storing their products, which hampered their export competitiveness. The aftermath of this was the low performance of the countries in international trade. To curb the problem, Marketing Boards were established in most SSA countries with the aim of buying products from farmers and prepare such products for export. However, the effectiveness of the Marketing Boards was inhibited by corruption, inadequate finance, among others (Lall, 2004; Bhowon, Boodhoo and Chellapermal, 2004).

The institutional frameworks for international trade in 1980s in most SSA countries were to some extent influenced by the Bretton Woods Institutions – notably the World Bank and the International Monetary Fund (IMF). This

resulted from the fact that most of the SSA countries were indebted to them and to qualify for loan reschedule or additional loans, they were made to embark on economic restructuring. This led to the introduction of Structural Adjustment Programmes (SAP) in most SSA countries (Ajakaiye and Oyejide, 2005; Aknikugbe, 2008). The trade policies and institutional framework like other macroeconomic instruments were influenced by SAP.

During this era, some institutional and market oriented initiatives were also embarked on with a view to re-orienting the economy. Some of the initiatives such as export compensation scheme, import duty and value added tax remission schemes had some elements of changing ISI to EPS. This was based on the fact that they were crafted to improve export competitiveness. For instance, Mauritius in 1983 started the measures towards an export-led policy in its SAP, which include trade liberalisation, exchange rate management as well as export incentives (Bhowon, Boodhoo and Chellapermal, 2004). Nigeria had similar measures, which started in 1986 (Ogunrinola and Osabuohien, 2010).

After the 1980s that witnessed the SAP era, the 1990s did not totally jettison the programme but it was improved by what may be described as a mixed policy regime. Export-led industrialisation was equally pursued in the 1990s, which was characterised by the establishment of export processing zones (EPZs) in most SSA countries. For example, the law for the establishment of the EPZs in Nigeria was the Nigerian Export Processing Zones Authority Decree No. 63 of 1992. The decree empowered the Nigerian Export Processing Zones Authority to control the Nigerian EPZs programme and grant licences to operators in EPZs (Nigerian Export Promotion Council, 2010).



The EPZs were essentially designed to improve the export base of SSA countries in the world market by providing tax holidays and other incentives. They were also meant to provide economies of scale production as operators (companies) agglomerate at the EPZs. Infrastructures were equally meant to be provided at the EPZs to reduce cost of production, improve productivity and as a result engender export competitiveness. However, establishment of several EPZs in many SSA countries was on political ground against economic efficiency. This coupled with infrastructural challenges has been one of the reasons why the laudable objectives of the EPZs are far from been realised. For instance, in Nigeria and Kenya, what all the EPZs in the respective countries produce are far less in value than what is been produced in a community in China (Collier, 2009).

Given the increased recognition of export performance as vital agent of economic growth, the period after 1999 has witnessed the promotion of export capacities in many SSA countries. One of the measures was the need to improve export supply in SSA by reducing some of the inherent constraints (Bacchatta, 2007). The objective of promoting export supplies was to make SSA countries more competitive in international trade. The policy and institutional framework in this period can be described as New Trade and Industrial Strategy (Bhowon, Boodhoo and Chellapermal, 2004). This was based on the re-engineering of the existing trade and industrial policies, to develop new strategies that will enable SSA countries meet the challenges in the New World Economic Order and also benefit from international trade.

Institutional frameworks in terms of various policy options and strategies that could promote international trade performance in SSA countries have been initiated and in some cases implemented. However, their ineffectiveness has

been one of the factors accounting for the low international trade performance in SSA countries judging from some indicators. The respective periods mentioned had some peculiar features but in terms of policy changes, there were not too different from one another. It will be worthwhile to note that adequate coordination of policy and institutional instruments are essential in realising any policy objectives. For example, the Brazilian industrialisation process was based on a network that involved the government, private, and foreign actors. The first target was development of infrastructures and heavy industries, the second was manufacturing of consumer goods, while the third was production of durable goods like as automobiles, which witnessed the establishment of Volkswagen, Ford, General Motors and Mercedes in Brazil. This aspect of strong co-ordination is one of the missing links in most SSA countries.

### **2.3 Patterns of Trade Balance and Trade Integration in Selected Regions**

To appraise the level of international trade performance of a region some important indicators are usually employed. Some of them include: trade balance, trade integration, share of exports in world market, percentage of different components of exports to GDP, among others (Hoekman and Kostecki, 2001; Goode, 2004; UNCTAD, 2008; WTO, 2009; World Bank, 2010). Some of these indicators were used to assess the international trade performance in SSA in relation to other regions of the world. The other regions that comparisons were drawn from are as follows: East Asia and the Pacific (EAP); Europe and Central Asia (ECA); Latin America and the Caribbean (LAC); and Middle East and North Africa (MENA).

The world average (World) was equally presented in the Tables and Figures in order to give an indication of the positioning of SSA in the global perspective. The values of high income regions such as High Income Organisation for Economic Co-operation and Development (HI-OECDs) and Non-OECDs (HI-NonOECDs) were not presented to keep the analysis relatively comparative. The period of focus that information was used is 1995 to 2008 as provided in World Trade Indicators (World Bank, 2010).

To start with, the values of trade balance as a percentage of GDP for SSA and those of other regions are made are presented in Table 2.1.

**Table 2.1: Trade Balance as a % of GDP (1995-2008)**

Year/Region	SSA (%)	World (%)	EAP (%)	ECA (%)	LAC (%)	MENA (%)
1995	-12.95	-6.57	-5.35	-6.81	-5.30	-10.85
1996	-12.55	-6.79	-5.48	-9.87	-5.71	-8.71
1997	-10.13	-6.32	-5.02	-10.93	-7.52	-4.88
1998	-14.81	-8.06	-0.50	-13.21	-8.45	-9.25
1999	-11.17	-5.67	-0.54	-9.27	-6.78	-2.95
2000	-7.95	-3.75	-0.31	-7.51	-6.71	1.99
2001	-9.73	-4.90	-5.97	-7.61	-7.88	0.27
2002	-7.75	-4.32	-6.98	-8.89	-7.54	1.13
2003	-9.62	-4.56	-6.42	-9.51	-6.89	2.44
2004	-8.24	-4.29	-7.77	-9.20	-6.09	1.00
2005	-9.93	-5.04	-7.92	-8.83	-7.80	5.56
2006	-9.13	-4.06	-8.02	-10.07	-3.29	6.82
2007	-25.19	-7.95	-0.45	-8.42	1.65	-3.47
2008	-25.19	-8.21	-7.76	-9.95	1.81	-0.73

**Note:** EAP-East Asia and the Pacific; ECA-Europe and Central Asia; MENA-Middle East and North Africa; LAC-Latin America and Caribbean; SSA-Sub-Saharan Africa.

**Source:** World Bank (2010) *World Trade Indicators 2009/10*.

As can be seen in Table 2.1, most of the regions had negative trade balance all through the period (1995-2008) except MENA and LAC in few years. However, the percentage of negative trade balance to GDP for SSA was higher

than all other regions as well as the world average. For instance, it was -12.95% for SSA in 1995 while the values for EAP, ECA, LAC and MENA were -5.35%, -6.81%, -5.30% and -10.85% respectively. That of the world average was -6.57%. In 2007 and 2008, SSA region did not only have the worst value but the magnitude further deteriorated as it was moved to -25.19% from -9.13% in 2006. Thus, using trade balance an indicator of international trade performance denotes that SSA region lags behind other regions of the world.

**Table 2.2: Trade Integration (Trade as a % of GDP) (1995-2008)**

Year/Region	SSA (%)	World (%)	EAP (%)	ECA (%)	LAC (%)	MENA (%)
1995	76.37	84.63	92.67	75.59	87.97	77.58
1996	75.69	85.67	91.65	87.59	85.54	74.24
1997	74.04	86.16	97.27	89.57	87.19	70.31
1998	75.99	86.38	107.12	88.05	86.14	65.23
1999	74.52	86.21	106.99	87.77	85.41	64.68
2000	71.43	90.34	112.92	97.66	87.36	69.25
2001	76.75	89.95	108.32	97.79	83.93	69.50
2002	80.35	90.56	106.38	98.15	82.14	76.48
2003	75.66	90.27	111.43	101.59	85.50	80.94
2004	77.70	94.67	114.50	105.91	89.50	88.26
2005	82.00	97.96	117.39	107.08	93.60	93.62
2006	86.63	100.86	117.09	111.68	92.48	95.19
2007	88.38	98.20	116.13	105.03	90.23	96.96
2008	88.38	100.45	115.40	106.46	91.55	97.70

**Note and Source:** Same in Table 2.1

The study assessed trade integration computed as percentage of trade to GDP as another indicator of international trade performance as reported in Table 2.2. The Table revealed that SSA had values that were lower than the world average and other regions (except for MENA in some years). For example, in year 2008 the value for SSA was 88.38% while that of the world average was

100.45%. Those of other regions were as follows: EAP (115.40%), ECA (106.46%), LAC (91.55%) and MENA (97.70%). This gives an indication that SSA is the least integrated in international trade compared to other regions of the world.

## 2.4 Nature of International Trade in Selected Regions

To further buttress the issues with respect to international trade performance in SSA in relation to other regions, the study considered the number of traded products as an indicator. This is presented in Table 2.3.

**Table 2.3: Number of Products Exported and Imported (1995-2007)**

Year	Number of Products Exported						Number of Products Imported					
	SSA	World	EAP	ECA	LAC	MENA	SSA	World	EAP	ECA	LAC	MENA
1995	77	143	114	197	127	146	194	216	210	231	214	216
1996	77	143	119	201	133	143	193	218	214	230	221	213
1997	78	143	126	198	133	132	191	217	212	235	217	220
1998	85	145	121	195	133	146	197	220	212	236	218	222
1999	77	144	118	201	129	149	202	219	208	233	216	219
2000	85	143	112	197	132	151	197	217	202	233	219	221
2001	81	142	120	190	140	153	196	218	209	232	218	225
2002	86	147	120	193	141	162	196	220	212	235	219	227
2003	88	155	128	195	153	175	193	220	209	238	219	233
2004	92	155	127	202	146	173	196	221	207	241	220	233
2005	114	163	140	198	148	182	209	227	219	241	222	239
2006	113	168	153	211	154	186	214	229	226	241	223	239
2007	113	168	153	211	154	186	214	229	226	241	223	239

Note and Source: Same in Table 2.1

It could be observed from Table 2.3 that in terms of products imported and exported, SSA imported far more than it exported with a great difference in relative terms compared to other regions from 1995 to 2007. For example, SSA exported an average of 77 products but the number of imported products was far more than double the number of exported products in 1995. In 2007, SSA had 113 number of exported products compared to number of imported

products of 194. When the number of imported and exported products of SSA is compared with both world average and those of other regions presented in Table 2.3, SSA had the least.

The ratio of imported products to exported products was computed with a view to having a clearer assessment as reported in Table 2.4.

**Table 2.4: Ratio of Imported Products to Exported Products**

Year	SSA	World	EAP	ECA	LAC	MENA
1995	2.50	1.51	1.85	1.17	1.68	1.47
1996	2.50	1.52	1.80	1.15	1.66	1.49
1997	2.44	1.52	1.68	1.19	1.63	1.67
1998	2.30	1.51	1.75	1.21	1.64	1.52
1999	2.61	1.52	1.76	1.16	1.67	1.47
2000	2.33	1.52	1.80	1.18	1.65	1.46
2001	2.41	1.54	1.74	1.22	1.56	1.47
2002	2.27	1.49	1.76	1.22	1.55	1.40
2003	2.20	1.42	1.64	1.22	1.43	1.33
2004	2.12	1.43	1.63	1.19	1.51	1.34
2005	1.84	1.39	1.56	1.21	1.50	1.32
2006	1.90	1.36	1.48	1.14	1.45	1.28
2007	1.90	1.36	1.48	1.14	1.45	1.28

**Note:** The data for 2008 were not available

**Source:** Computed by the Researcher using data from World Trade Indicators.

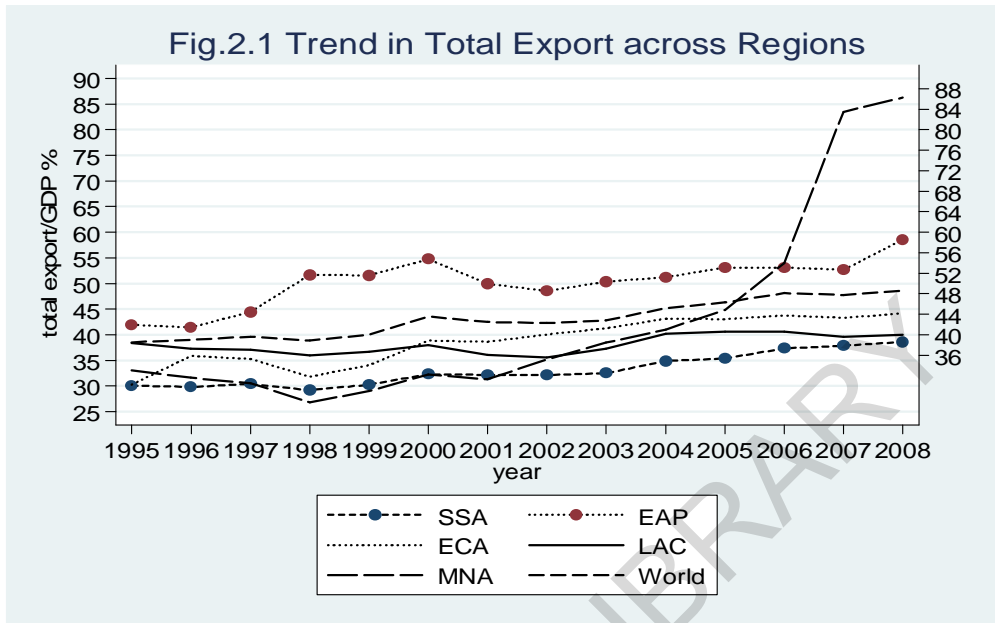
The values in the Table 2.4 clearly revealed that SSA has the greatest ratio of imported products to exported products all through the period (1995-2007). For instance, in 1995 the ratio of imported products to exported products for SSA was as high as 2.50 while that of the world average was 1.51. Those of other regions were 1.17, 1.47, 1.68, and 1.85 for MENA, ECA, LAC and EAP respectively. Similar pattern can be observed for other years.

The key fact that emanated from the discourse on Tables 2.1 to 2.4 was that international trade performance of the SSA region using the indicators of trade balance, trade integration, and the number of imported and exported products was lower than both the world average those of other regions. Therefore, the fundamental question that comes to mind is: why has SSA's region remained below other regions as well as world average? The answer to the above question is provided in the course of the study.

## **2.5 Contribution of Export Categories to Gross Domestic Products in Selected Regions**

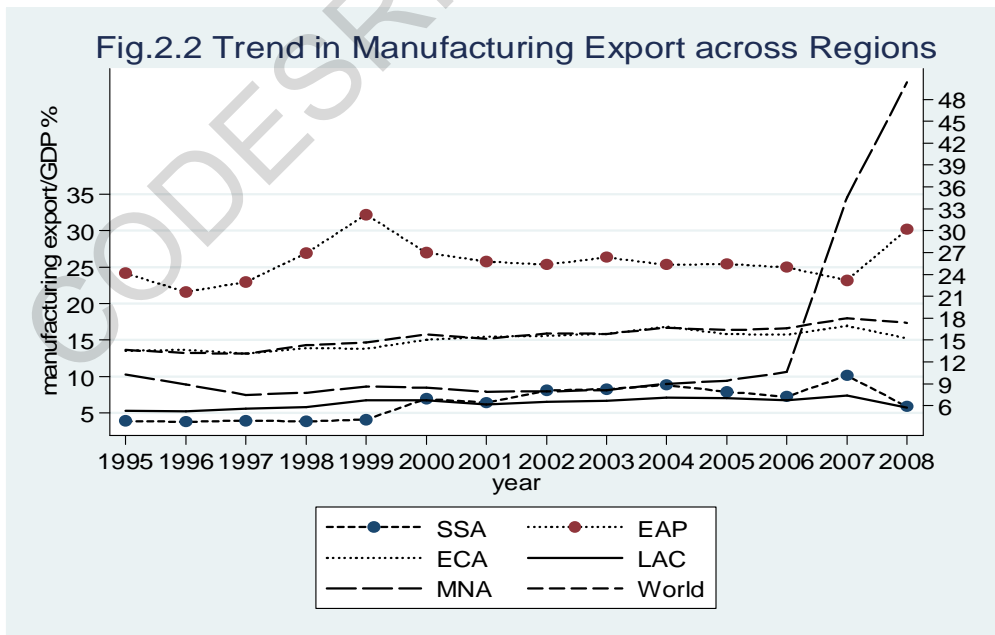
Another important indicator of international trade performance as discussed in this section is the contribution of different exports categories to the GDP. This international trade performance indicator is essential given the fact that it shows the magnitude of a country's export with respect to its economy. This section examines the respective categories of exports, namely: total, manufactured, services, agriculture, and fuel and mining, respectively. They are illustrated using graphical exposition as shown in Fig.2.1 to Fig.2.5.

For the contribution of total export to GDP, Fig.2.1 revealed the trend from 1995 to 2008 for SSA and other regions. As can be seen from Fig.2.1, the values remained below 38% all through the period for SSA. It was the lowest among all the regions except in 1998 when it was a little above MENA. A similar trend can be observed for the contribution of manufacturing export to the GDP where SSA remained the lowest among the regions from the beginning of the period to 2002 where it managed to scale above LAC.



**Note:** EAP-East Asia and the Pacific; ECA-Europe and Central Asia; MENA-Middle East and North Africa; LAC-Latin America and Caribbean; SSA-Sub-Saharan Africa. The values for each region, including the world, are the averages for the respective region. The same unit of measurement is applicable to the two vertical axes. Two vertical axes were used with a view to bringing out the values more clearly for easy comparison.

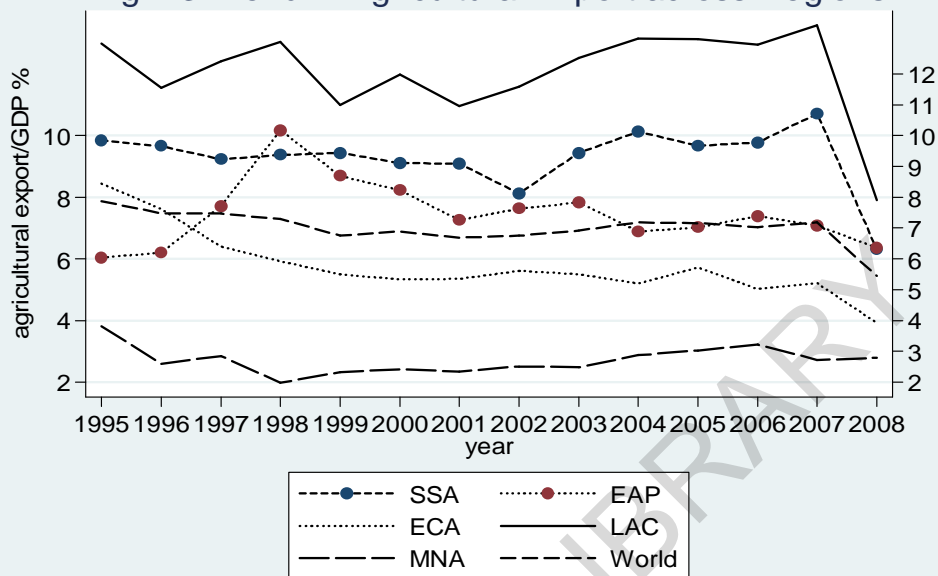
**Source:** Computed by the Researcher using data from World Bank (2010).



**Note and Source:** Same in Fig.2.1

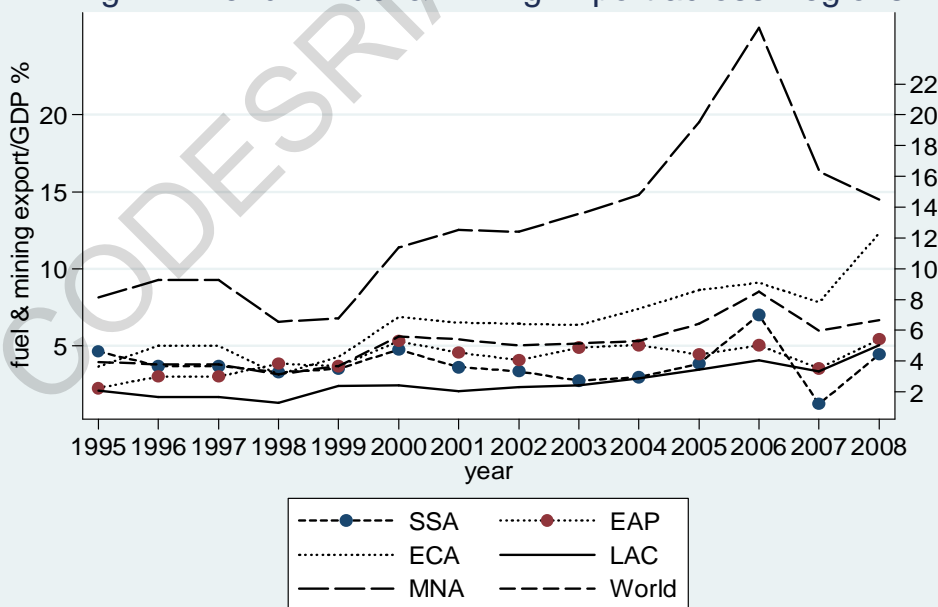


Fig.2.3 Trend in Agricultural Export across Regions



Note and Source: Same in Fig.2.1

Fig.2.4 Trend in Fuel & Mining Export across Regions

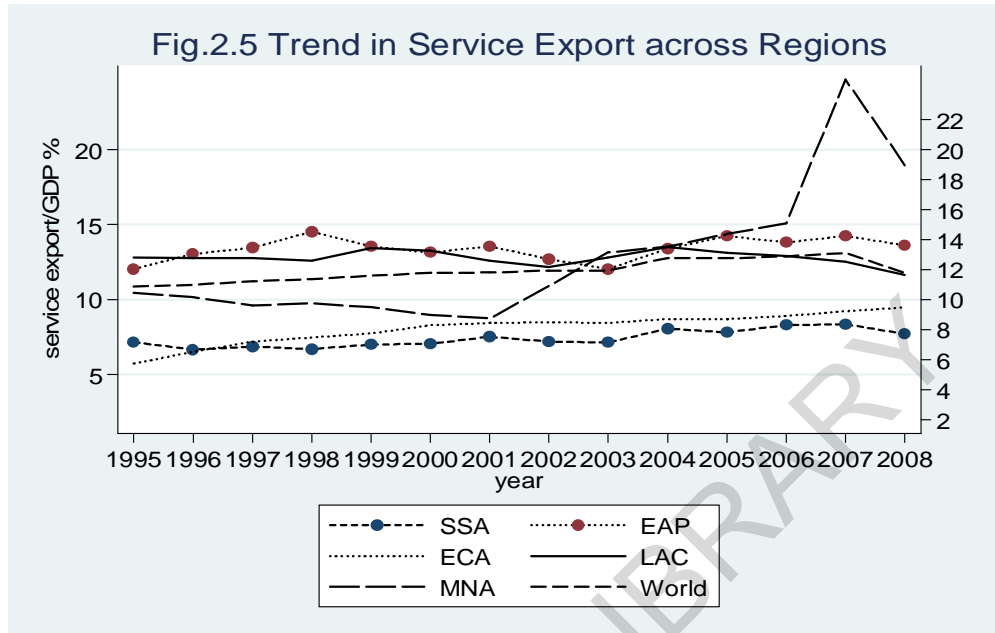


Note and Source: Same in Fig.2.1

However, the values were below 10% all through the period compared to the global average of 14% and 18% as shown in Fig. 2.2. A different picture can be seen for the proportion of agricultural export to GDP, where it was above the world average as shown in Fig.2.3.

Another important observation from Fig.2.3 is that the variability was more than those experienced by other export categories. The case for fuel and mining export is shown in Fig.2.4. Just like the trend seen in agricultural export, the value for the SSA region was above some regions like LAC up until 2007 where it became the least among the regions and below the global average. The fluctuations in some of the above mentioned indicators of international trade performance in the latter part of the period (especially 2007 and 2008) may be as a result of the effects of global economic crises that hit the world at that time. It might also have resulted from the use of bio-fuels in some developed countries that reduce their demand for fossil fuels. For instance, in USA ethanol production experienced an exponential growth in 2007 amounting up to 6500 million gallons (Earley, 2009).

Fig.2.5 brought to limelight that the ratio of service export to GDP for SSA was equally the lowest among all the regions between 1996 and 2008. The values ranged between 6% and 8%, which was lower than those of the global average that ranged between 10.87% and 13.11%.



**Note and Source:** Same in Fig.2.1

Figures 2.1 to 2.5 also show the ratio of the export categories to GDP as indicators of international trade performance for SSA countries. From the figures, it was clear that SSA did not only remain low but lagged behind both the world average and other regions in most of the years. The possible reason for this may be that SSA countries' participation in global trade has not resulted to significant improvement in their domestic economies (Ajakaiye and Oyejide, 2005). This study posed the question whether the low level of international trade performance in SSA can be related to the quality of institutional framework in the region? In view of this, the next section presents some measures of institutional framework.

## 2.6 Some Measures of Institutional Framework

This section presents some institutional indicators. These were sourced from the World Governance Indicator as computed by Kaufmann et al (2009). They

include: rule of law (RL), regulatory quality (RQ), control of corruption (CC), government effectiveness (GE), political stability/absence violence and terrorism (PS), voice and accountability (VA). Some of the measures of institutional framework are presented in Tables 2.5 and 2.6. Voice and accountability was not presented due to the fact that it was not in WTI and was not grouped by region in Kaufmann et al (2009). The period 1996-2008 was used because WGI started in 1996. Political stability/absence violence and terrorism is hereafter taken as political stability (PS) for sake of clarity.

**Table 2.5: Measures of Institutional Framework (Respect for Institutional Framework) (1996-2008)**

Region/Year	1996	1998	2000	2002	2003	2004	2005	2006	2007	2008
<b>Rule of Law (RL)</b>										
SSA	-0.76	-0.73	-0.72	-0.70	-0.73	-0.76	-0.76	-0.73	-0.74	-0.74
World	-0.09	-0.06	-0.06	-0.07	-0.05	-0.03	-0.04	-0.04	-0.03	-0.03
EAP	-0.41	-0.43	-0.43	-0.46	-0.32	-0.32	-0.16	-0.18	-0.21	-0.25
ECA	-0.44	-0.61	-0.66	-0.64	-0.65	-0.58	-0.58	-0.60	-0.53	-0.45
LAC	-0.30	-0.32	-0.27	-0.34	-0.30	-0.31	-0.34	-0.32	-0.33	-0.36
MENA	-0.58	-0.47	-0.45	-0.50	-0.50	-0.44	-0.52	-0.55	-0.56	-0.54
<b>Control of Corruption (CC)</b>										
SSA	-0.63	-0.63	-0.58	-0.59	-0.62	-0.67	-0.68	-0.64	-0.63	-0.62
World	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
EAP	-0.43	-0.52	-0.60	-0.59	-0.62	-0.50	-0.53	-0.57	-0.59	-0.57
ECA	-0.70	-0.61	-0.62	-0.66	-0.60	-0.62	-0.52	-0.49	-0.53	-0.48
LAC	-0.35	-0.20	-0.18	-0.23	-0.20	-0.19	-0.16	-0.15	-0.16	-0.12
MENA	-0.46	-0.53	-0.57	-0.48	-0.46	-0.49	-0.55	-0.60	-0.54	-0.62

**Note:** The values ranges from -2.5 (worst) to 2.5 (best) i.e. the higher the better. EAP-East Asia and the Pacific; ECA-Europe and Central Asia; MENA-Middle East and North Africa; LAC-Latin America and Caribbean; SSA-Sub-Saharan Africa. The values for each region, including the world, are the averages for the respective region. This means the value of a representative country in for the respective region.

**Source:** World Bank (2010) *World Trade Indicators 2009/10 based on Kaufmann et al (2009)*

In Table 2.5, the values of RL as well as CC for SSA were quite low and far lower than the world average and those of other regions. The figures for RL were even worse than those of CC. The RL revolved around the value of -0.70

to -0.76, while those for CC were -0.58 and -0.67. Similarly, the values for GE and RQ, which depict quality of government action as a measure of institutional framework, are presented in Table 2.6. The values for GE ranged from -0.66 and -0.79, which were lower than those of other regions as well as the world average. A similar picture can be observed for RQ where its values remained below global average within the same period.

**Table 2.6: Measures of Institutional Framework (Government Actions) (1996-2008)**

Region/Year	1996	1998	2000	2002	2003	2004	2005	2006	2007	2008
<b>Government Effectiveness (GE)</b>										
SSA	-0.66	-0.69	-0.72	-0.71	-0.71	-0.75	-0.78	-0.79	-0.76	-0.78
World	-0.04	-0.01	-0.01	-0.02	-0.01	0.00	-0.01	-0.01	-0.02	-0.01
EAP	-0.30	-0.49	-0.48	-0.47	-0.55	-0.53	-0.46	-0.46	-0.54	-0.53
ECA	-0.58	-0.49	-0.51	-0.48	-0.39	-0.37	-0.37	-0.34	-0.36	-0.31
LAC	-0.34	-0.11	-0.15	-0.25	-0.21	-0.20	-0.14	-0.13	-0.12	-0.10
MENA	-0.45	-0.68	-0.63	-0.58	-0.55	-0.53	-0.63	-0.63	-0.64	-0.61
<b>Regulatory Quality (RQ)</b>										
SSA	-0.65	-0.66	-0.64	-0.66	-0.69	-0.72	-0.75	-0.72	-0.73	-0.70
World	-0.05	-0.03	-0.03	-0.04	-0.04	-0.02	-0.02	-0.02	-0.01	-0.01
EAP	-0.35	-0.59	-0.61	-0.73	-0.77	-0.62	-0.56	-0.61	-0.63	-0.69
ECA	-0.59	-0.52	-0.49	-0.41	-0.38	-0.30	-0.32	-0.31	-0.20	-0.10
LAC	0.22	0.18	0.07	-0.06	-0.07	-0.12	-0.07	-0.06	-0.09	-0.12
MENA	-0.64	-0.85	-0.78	-0.78	-0.68	-0.66	-0.73	-0.72	-0.68	-0.63
<b>Political Stability / Absence of Terrorism (PS)</b>										
SSA	-0.56	-0.65	-0.70	-0.65	-0.60	-0.54	-0.56	-0.54	-0.57	-0.56
World	-0.11	-0.09	-0.09	-0.09	-0.04	-0.03	-0.03	-0.03	-0.03	-0.02
EAP	-0.04	0.02	-0.17	-0.09	0.07	0.13	0.20	0.14	0.14	0.10
ECA	-0.36	-0.48	-0.52	-0.41	-0.42	-0.53	-0.44	-0.36	-0.24	-0.13
LAC	-0.14	-0.15	-0.05	-0.18	-0.07	-0.03	-0.10	-0.10	-0.10	-0.13
MENA	-0.90	-0.90	-0.74	-0.83	-0.89	-0.94	-0.94	-0.97	-0.94	-0.91

Note and Source: Same in Table 2.5

In the lower part of Table 2.6, another measure of institutional framework namely, PS, was presented. Like others, the values were still very low and

quite lower than those of other regions as well as the global average. The above discourse points out that the quality of institutional framework in SSA is low. When this is juxtaposed with international trade performance that which was also low then can it be presumed that the low international trade performance can be related to the low institutional framework in SSA.

## **2.7 Some Stylised Facts on Selected SSA Countries**

Having assessed the position of SSA region within the global context in terms of international trade performance indicators and selected institutional framework indicators, this section gives some background on the selected SSA countries with a view to investigating if the countries with relatively better institutional framework will have better international trade performance. To achieve this, some other institutional indicators besides those of WGI mentioned above were chosen from institutional environment indicators in World Trade Indicators-WTI (World Bank, 2010). This study used 'Enforcing Contracts' and 'Starting Business' as reported in WTI under 'Ease of Doing Business' measure of institutional environment. This is because the ease or difficulty of carrying out business activities in a country will influence the level of production as well as her capacity to export, *ceteris paribus*.

The Enforcing Contract indicator shows the efficiency of a country's contract enforcement processes. It takes into account the evolution of a sale of goods dispute and tracking the time, cost, and number of procedures involved from the time a complainant files a lawsuit until it is concluded. It has a rank from 1 to 183 with a lower value representing poor contract enforcement process and institutional framework, *vice versa*. The Starting Business indicator indicates the bureaucratic and legal hurdles that an entrepreneur has to surmount in order

to establish and register a new firm. It is also ranked from 1 to 183 and lower ranks show less favourable institutional environment (World Bank, 2010).

The above indicators of institutional framework were compared with some other indicators of international trade performance. Real growth in total export and export share in the world market, which were selected from trade outcome indicators in WTI were used in comparison with the institutional framework.

**Table 2.7: Institutional Framework and International Trade Performance Indicators (1995-2009)**

Country	Enforcing Contract (Rank)	Starting Business (Rank)	Real Growth in Total Export (%)	Export Share of World Export (%)
Benin	176	149	2.56	0.01
Botswana	88	89	4.64	0.04
Burkina Faso	110	113	6.37	0.00
Burundi	164	130	15.25	0.00
Cameroon	173	170	4.53	0.03
Cape Verde	40	153	16.80	0.00
Central Africa Republic	171	157	3.64	0.00
Cote D'Ivoire	126	167	5.56	0.07
Ethiopia	67	108	11.09	0.01
Gabon	148	146	-1.68	0.04
Gambia	64	105	3.16	0.00
Ghana	49	138	6.40	0.03
Guinea	130	177	1.83	0.01
Kenya	114	116	2.62	0.05
Lesotho	105	129	10.21	0.00
Madagascar	154	46	5.62	0.01
Malawi	140	121	-1.38	0.01
Mali	149	149	9.67	0.01
Mauritania	84	153	7.07	0.01
Mauritius	73	9	3.97	0.04
Mozambique	133	123	14.40	0.01
Namibia	39	114	-0.03	0.02
Niger	135	158	4.87	0.00
Nigeria	92	96	2.91	0.29
Rwanda	45	49	15.81	0.00
Senegal	149	119	2.64	0.02
Seychelles	66	67	10.37	0.01
South Africa	83	56	4.28	0.51
Swaziland	129	153	4.70	0.02
Tanzania	32	109	8.80	0.02
Togo	153	177	4.66	0.01
Uganda	117	125	12.76	0.01
Zambia	87	83	17.28	0.02
Zimbabwe	75	153	1.83	0.03
<b>SSA Average</b>	<b>118</b>	<b>127</b>	<b>7.04</b>	<b>0.03</b>

**Note:** 0.00 in the last column does not mean a country had no export contribution; it may imply that value was less than 0.01 as the figures were rounded to two decimal places. SSA average represents the average for the entire Sub-Saharan African region not essentially the average of the countries presented.

**Source:** World Trade Indicators of the World Bank (2010).

The two respective indicators of institutional framework and measure of international trade performance were presented in Table 2.7 for the 34 selected SSA countries. The average value for the period 1995-2009 were presented as generated from WTI with a view to avoiding the challenge of omitted observation. A quick point that can be drawn from values in Table 2.7 is that there is a possible link between the institutional framework and international trade performance using the respective indicators presented. For instance, under the Enforcing Contract column, 19 countries out of the 34 presented had values that were lower than the SSA average rank of 118.

On a similar note, in the starting business indicator, 18 of the countries in Table 2.7 had values lower than the average for the region, which represents over 50%. The fact from the above is that the institutional framework in these selected countries was quite low. Comparing institutional framework with the presented international trade performance shown in Table 2.7, it was observed that for real growth in total export, 22 countries out of the 34 presented representing over 64% had values that were lower than the average of the region. In the export share of world market, 24 out of the total countries presented had values that were lower than the average for the SSA region average. The above facts point out that some measure of relationship possibly exists between institutional framework and international trade performance in SSA.

## **2.8 Roles of WTO and Regional Economic Communities in SSA**

In the international trade arena, a key institution that plays a major role in enhancing international trade participation among most countries of the world is the World Trade Organisation (WTO). The regional economic communities (RECs) can also play some important role in improving international trade



performance of member countries. This sub-section discusses the roles of WTO and RECs in SSA.

The WTO was established and became operational 1<sup>st</sup> January, 1995. It is one of the most influential international inter-governmental organisations with respect to economic globalisation (Rose, 2004). The origin of WTO has its roots in GATT (1947) and International Trade Organisation-ITO (1948) after the Second World War. This was when the issue of labour standards and trade was recognised, that unfair labour conditions with respect to production for export, can create difficulties in international trade (United Nations, 1948; Hansson, 1983). However, the statutes of ITO were not ratified and as a result, the GATT (1947) that was agreed upon as part of the discussions on establishing the ITO became the organisation that govern the liberalisation of international trade in the post-war era (Hansson,1983). Decisions, procedures and customary practices of the GATT guide the WTO in its actions. For instance, Article XVI: 1 of the WTO agreement states that except as otherwise provided under the Agreement or the Multilateral Trade Agreements, the WTO shall be guided by the procedures the contracting parties to GATT 1947 established in the framework of GATT 1947 (WTO, 2005a; 2005b;WTO, 2007).

The history of GATT began in December 1945 when USA invited its war-time allies to enter into negotiations to conclude a multilateral agreement for the reciprocal reduction of tariffs on trade in goods. At the end of USA's proposal, the United Nations Economic and Social Committee adopted a resolution with regard to reduction of tariff on trade in goods in February, 1946. At 1944 Bretton Woods Conference where IMF and the World Bank were established,

the need for a complementary and comparable international institution for trade was recognised (Jackson, 1998).

Over the years, through experimentation the GATT evolved to include some fairly elaborate procedures for conducting its business. GATT was able to reduce tariffs on trade in goods, in particular on industrial goods from developed countries. For instance, in eight negotiating rounds between 1947 and 1994, the average level of tariffs of developed countries on industrial products reduced from 40% to 4%. The first five rounds including Geneva (1947); Annecy (1949); Torquay (1951); Geneva (1956); Dillon (1960-1961) focused on tariff reduction. Others that followed like Kennedy Round (1964-1967) negotiations included other issues such as non-tariff barriers (NTBs), in which the GATT was less successful. Due to the fact that reduction of NTBs was complex, another institutional framework other than GATT became needful (WTO, 2005; 2007).

Another round– Tokyo Round (1973-1979) produced better results on NTBs, than the Kennedy Round. The Uruguay Round on Multilateral Trade Negotiations covered trade in goods, including agricultural products, trade in textiles and clothing and for the first time included trade in services known as *Ministerial Declaration of Punta del Este*. It was in February 1990 that the then Italian Trade Minister (Renato Ruggien) moved the first idea to establish a new international organisation for international trade. In April 1990, Canada formally proposed the establishment of ‘WTO’ to administer the different legal instruments related to international trade, including GATT, GATS and other lateral instruments. In similar manner, the European Community submitted a proposal in July 1993 for the establishment of a ‘Multilateral Trade

Organisation' (MTO) to strengthen GATT with a sound institutional framework to implement the 'ruler' of Uruguay Round.

Regardless of United States' moves at dissuading the European Community's efforts, by early 1993 most participants in the round were prepared to agree to the establishment of MTO. The United States formally agreed to the establishment of the new organisation on December 15, 1993 and advocated a change of name as a condition for its consent and suggested the name 'World Trade Organisation (WTO)' as earlier proposed by Canada. The proponents of International Trade Organisation (ITO) had opted for MTO as proposed by European Community. Finally, the agreement establishing the WTO was signed in Marrakesh in April 1994, which entered into force on 1<sup>st</sup> January 1995. It will be necessary to reiterate that GATT involved a set of rules agreed upon by countries; the WTO is an institutional body.

The ultimate objectives of WTO are as follows (WTO, 2005a):

- a) Increased standard of living;
- b) Attainment of full employment;
- c) Growth of real income and effective demand; and
- d) Expansion of production of and trade in goods and services.

However, the preamble stresses the importance of sustainable economic development and integration of developing countries and LDCs in the world trading systems, which were not in GATT 1947.

The primary function of WTO is to provide the common institutional framework for the conduct of trade relations among its members in matters related to the agreements and associated legal instruments included in the

Annexes to WTO Agreement (Article II:1). The specific assigned functions include the following, to:

- a) facilitate the implementation, administration and further the objectives of the agreement;
- b) provide the forum for negotiations among its members concerning their multilateral trade relations in matters, and resolve same under the agreement;
- c) administer the understanding rules and procedures governing the settlement of disputes;
- d) control the trade policy review mechanism (TPRM);
- e) cooperate as appropriate with IMF and World Bank; and
- f) provide technical assistance to developing countries.

The basic rules range from tariffs, import quotas and customs formulations to Intellectual Property Rights (IPRs), food safety regulations and national security measures. The basic rules and principles were categorised into the following (WTO, 2005a; 2007):

- a) principles of non-discrimination;
- b) rules on market access, including rules on transparency;
- c) regulations on unfair trade;
- d) guidelines on resolution of conflicts between trade liberalisation and other societal values and interests;
- e) procedures on special and differential treatment for developing countries;
- f) other key institutional treatment and procedural rules relating to decision-making and dispute settlement.

Besides the WTO that helps to facilitate international trade around the world, some trade groupings especially regional economic communities (RECs) also

known as regional trade arrangements (RTAs) exist in SSA that have been established to promote international trade performance. As noted by UNECA (2010) regionalism has proliferated in post-independence SSA countries but intra-regional trade in SSA have remained lower than projected. For instance, export to Economic Community of West African States (ECOWAS) Members as percentage of total export value was only 10.1% and that of the import from ECOWAS Members as percentage of total import value was 11.5% in 2007 (ECOWAS Commission, 2010).

The memberships of RECs are usually distributed across the geographical sub-regions, namely: Central, East, Southern, and West. A few of them cut across with membership from more than one geographical sub-region. However, there are eight RECs recognised by the African Union (AU). They include: Arab Maghreb Union -AMU; Common Market for Eastern and Southern Africa - COMESA; Community of Sahel-Saharan States (CEN-SAD); East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), Intergovernmental Authority on Development (IGAD), and Southern African Development Community (SADC) [UNECA, 2010; African Union Commission, 2011]. The activities of the eight RECs have been assessed with regard to their status and efforts in realising Free Trade Area and Customs Union. Five of them, namely: COMESA, ECCAS, ECOWAS, EAC and SADC were found to have launched RTAs, which are believed to improve intra-RECs trade flows (UNECA, 2010). Brief information on these five is provided.

The COMESA, which was founded in 1994, has 19 members. The members include: Angola, Burundi, Comoros, Democratic Republic of Congo, Djibouti,

Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, and Zimbabwe. On the other hand, the EAC is the regional intergovernmental organisation that involves Burundi, Kenya, Tanzania, Uganda, and Rwanda. The treaty that established EAC was signed on 30th November 1999 and entered into force on 7<sup>th</sup> July 2000 following its ratification by the three founding Members –Kenya, Uganda and Tanzania (African Union Commission, 2011).

The ECCAS was founded in 1983 with 11 members, including: Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, Rwanda, and Sao Tome Principe. The ECOWAS inaugurated in 1975 and it has 15 members, namely: Benin, Burkina Faso, Cape Verde, Cote D'Ivoire, Gambia, Ghana, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. While the SADC was established in 1992 with 14 members, namely: Angola, Botswana, Democratic Republic of Congo, Madagascar, Malawi, Mauritius, Mozambique, Lesotho, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe (UNCTAD, 2006; 2008a; WTO, 2008; 2009; UNECA, 2010; African Union Commission, 2011).

From the five RECs discussed above, all of them have been in existence prior to 1996 except the EAC. Hence, this study focused on four of them that have been in operations within the period of the study, namely COMESA, ECCAS, ECOWAS, and SADC. Though there is the issue of multiple memberships in few of the RECs, it will not portend a serious challenge given the fact that this study is interested in assessing their roles as they relate to economic institutions.

The RECs essentially exist to help the region maximise their benefits of engaging in international trade and minimise possible costs that are involved. This is usually pursued through the reduction of trade restrictions and creation of market access. However, the effectiveness of their roles depends on some other factors (Oyejide, 1997; Elbadawi, 1997; Oyejide and Njinkeu, 2007). For example, Yang and Gupta (2007) noted that RTAs in Africa have not been effective in promoting trade due to external trade barriers and low level of resource harmonisation among members.

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## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1 Introduction**

This chapter reviews extant literature with regard to international trade theories, definitional and empirical issues in institutional framework and international trade performance. It starts off with brief review of conventional theories of international trade.

#### **3.2 Review of Conventional Theories of International Trade**

There are a number of international trade theories that explain the factors that determine a country's performance in international trade. International trade theories involve different models of international trade that have been developed to underscore the different views relating to exchange of goods and services across national boundaries.

The first early international trade theory was mercantilism, which is at times referred to as classical theory of international trade (Appleyard, Field and Cobb, 2010). Prior to the 18<sup>th</sup> century, mercantilism posits that countries should encourage exports in order to maximise their gains from the international trade. Though the mercantilist theory is an old trade theory, its features still persist in modern politics and trade policies of some countries.

Following the classical international trade theory was the neoclassical theory. The neoclassical theory of international trade was championed by Adam Smith who developed the theory of absolute advantage. The theory of absolute



advantage was the first to explain why unrestricted free trade is beneficial to a country. It argues that *the invisible hand* of the market mechanism, rather than government policy, should determine what a country exports and imports (Krugman, 1983; Pugel, 2008). The theory of absolute advantage maintained that tariffs and quotas should not restrict international trade flow; rather international trade should be dictated by the market forces. Unlike mercantilism, Smith argued that a country should concentrate on production of goods in which it has absolute advantage, which negates the mercantilist idea that international trade is a zero-sum game (Pugel, 2008). In the process of time, two international trade theories have been developed from the absolute advantage theory. The first was the Ricardian comparative advantage, while the other was developed by Eli Hecksher and Bertil Ohlin, which is simply known as *Heckscher-Ohlin* theory of international trade (Appleyard, Field and Cobb, 2010).

The Ricardian theory of international trade was built on the maxim of comparative cost advantage. The underlying principle of comparative advantage is that countries involved in international trade should specialise on the production of goods and services and export the products in which they have comparative (or relative cost) advantage and should import the goods and services in which they have comparative disadvantage (Pugel, 2008). The Ricardian theory of international trade argues that through such specialisation, there will be the possibility that greater benefits will accrue to countries that are involved. It has been debated that the theory of comparative advantage has assumptions that limit its application to the real world phenomenon. For instance, the assumption that countries are obsessed by the maximisation of production and consumption and not by other issues such as the welfare of

workers and consumers was unrealistic (Stiglitz, 2002; Hare, 2004; Pugel, 2008).

The Heckscher-Ohlin theory (also called factor proportions theory) was developed in the early 20<sup>th</sup> Century. It has the basic principle that countries should produce and export goods that require factors that they have in abundance and import goods that require resources which they have in short supply. The Heckscher-Ohlin theory differs from both absolute advantage and comparative advantage in terms its submission that a country should specialise production and export using the factors that they are most abundantly endowed. For instance, Leontief (1953) tested the validity of the Heckscher-Ohlin theory where it was revealed that the United States was more abundantly endowed in capital compared to other countries. This means that the United States should export capital-intensive goods and import labour-intensive goods.

In recent times especially the 21<sup>st</sup> century, there have been some modifications with regard to the empirical application of international trade theories. One of the most popular one is the gravity model of trade, which provides an empirical explanation of international trade. The gravity model submits that countries' economic size and distance between trading countries are the main factors that determine their pattern of international trade (Appleyard, Field and Cobb, 2010). From the foregoing, it could be observed that international trade theories deal with issues that influence international trade, emphases were not on institutional framework.

### **3.3 Review of Institutional Theories**

The major theories of institutions are the New Institutional Economics (NIE) theory and LaPorta et al (1999) theories of institutional development. The NIE theory is often seen as a new development in economic thoughts based on institutional economics and some of the principles of neo-classical economics (Natal, 2001). NIE has been applied in varying contexts. For instance, Greif (1998) engaged it as non-technologically determined controls that can influence social interactions through the provision of incentives to maintain regularity in human behaviour.

The NIE theory posits that economic activities that individuals engage in can be influenced by some social and legal relationships that exist among them. Thus, NIE embraces other areas outside the immediate domain of economics like political science and sociology as well as the interaction they can exert on economic outcomes (Williamson, 2000; Greif, 2006). This is what makes institutions to be an area of economics that has made economics more closely in touch with other social science disciplines as they can be subjected to economic analysis.

The basic assumptions of NIE that can be related to trade can be grouped into three. They are assumptions on: a) individuals; b) how and why individuals engage in contract; and c) how individuals govern collective actions (Natal, 2001). The underlying fact on the three assumptions is that there is need for some institutional framework mechanism that can regulate behaviour of economic agents because individuals can be opportunistic (Akerlof, 1970). There have been some arguments on the assumptions of NIE in terms of institutional change and predictability. However, the tenet of NIE is still

relevant especially when evaluating the roles of institutions in economic relations, including international trade.

The LaPorta et al (1999) theories of institutional development centre on factors that can lead to the formation and persistence of a given institutional framework in a society. The theories of institutional development can be classified into three based on their structural composition, namely: economic, political, and cultural institutional theories. The economic theory of institutional framework posits that institutions are essentially crafted when it is efficient to create them. The connotation of this is that institutions are mostly created by economic actors when the perceived social benefits of such creation significantly exceed the perceived transaction costs that are associated with their creation.

Political theory of institutional development as enunciated by LaPorta et al (1999) hinges fundamentally on redistribution of societal resources much more than economic efficiency. The basic maxim of the political of institutional development is that institutions are fashioned by those that have political powers in such a way that they can stay in power with a view to extracting economic rents. This is very ubiquitous in a multi-ethnic society where there is the existence of conflict of interests between voters of different groups and their representatives in the parliament. The conflict of interests is with regard to skirmish of policy preferences, which can result to a number of inefficient public policies that are based on political *logrolling* and compensation of political allegiances instead of efficiency (Persson, Roland and Tabellini, 2003; Adewole and Osabuohien, 2007). The last category of institutional development theory is the cultural theory of institutional development. The cultural theory of institutional development postulates that a given society will

usually hold beliefs that can shape collective actions of the constituting human agents.

Another theory which is related to LaPorta et al (1999) theories of institutional development especially the political theory of institutional development is the public choice theory. The public choice theory is based on the incorporation of utility maximisation concepts of traditional economics into policy-making process. Its main belief is the fact that policy-makers will tend to maximise their utility by selecting policy mix that will increase the possibility of continuing in the office (Becker, 1985). This is quite similar to LaPorta et al (1999) political theory of institutional development as both public choice theory and political theory of institutional development recognise the rent-seeking inclinations of political leaders.

This study employs the institutional theories especially LaPorta et al (1999) theories of institutional development and NIE as theoretical foundation to investigate how institutional framework exert impact on international trade performance.

### **3.4 Review of Definitional Issues on Institutions and International Trade**

Institutions have been seen to play key roles in the management of economies in the last two decades. This was due to the fact that political economic literature has supported the view that economic agents that are involved in transactions are not only influenced by economic variables (especially price) but also by a host of other factors that are classified as institutions (Natal, 2001). North (1991) defined institutions as the humanly formulated constraints that structure political, economic and social interactions, which consist of both

informal constraints (such as sanctions, taboos, customs, traditions and codes of conduct) and formal rules (like constitutions, laws, and property rights). Institutions have been crafted by man to create a peaceful habitation and reduce uncertainty in the exchange of values.

Institutions create the choice pattern that affects not only transactions and production costs but also the likelihood of engaging in economic activities (Ike, 1977; 1984; Williamson, 2000; Rodrik, 2008b). Institutions can reduce or increase transaction costs because they determine the nature of exchange. They form a link for connecting the past with the present and the future- a kind of path dependency. Institutions provide the incentive structure of any economy because they create the structure that shapes the direction of economic change towards growth, stagnation, or decline (Matthews, 1986; North, 1991).

According to North (1991), history is largely a story of institutional evolution in which the historical performance of an economy can be understood as part of a sequential story. The major focus of the literature on institutions and transaction costs has been on institutions as efficient solutions to problems of organisation in a competitive framework (Matthews, 1986; North, 1991; 1994; Williamson, 2000).

On the other hand, Greif (1998), using the term 'Historical Comparative Institutional Analysis' (HCIA) defined institutions as non-technologically determined constraints that can influence social interactions and provide incentives that will maintain regularity in human behaviour. Though the HCIA relied considerably on past events in explaining human relations, it is closely related to NIE in terms of acknowledgement of both formal and informal institutions. For instance, the essence of HCIA is the examination of the factors

determining the relevant rules of the game, the forces that make these rules self-enforcing on behaviour of individuals involved. These factors are also encapsulated within NIE framework.

In addition, the formal institutions which generally entail rules and regulations that control the existence of a system can be grouped into two, namely: economic and political institutions. However, for the purpose of this study, a third category, which is financial institution is been explored. This is given the important role of financial institutions in the provision of financial resources for international trading activities (Papaioannou, 2009). Economic institutions are essential for economic growth in a country due to their influence in shaping incentives for various economic actors in a society (Acemoglu and Robinson, 2008). Economic institutions not only determine the level of economic growth potential of a country, they also determine the distribution of resources and economic gains in the country (IMF, 2005). This is because they influence physical and human capital investments, technological innovations and the organisation of production (World Bank, 2002).

The political institutions deal with the way the political structure in a country influences the behaviour of agents in the society especially with the distribution of political power (*de jure and de facto*). Examples of political institutions include the form of government in a country (democracy or dictatorship), rule of law and the extent of constraint of political power (Olomola, 2007; Acemoglu and Robinson, 2008; Hassan, Wachtel and Zhou, 2009; Acemoglu, 2010).

Matthews (1986) noted that institutions have become one of the liveliest areas in economics. Thus, it can be inferred that institutions are essential and their

influence can be subjected to economic analysis. This is because institutions involve sets of formal and informal rules on how economic agents behave. The bottom-line of economic agents' behaviour in this regard is to make *Pareto-efficient* choices in the midst of alternatives (LaPorta et al, 1999). This means that NIE would become popular as the roles institutions play in economic life is better understood and appreciated.

When institutional factors are not handled properly in a given transaction, there would be contractual incompleteness with added problems of opportunism in form of adverse selection, moral hazard, shirking, among others. This is because economic agents involved in economic activities may not reliably disclose true position or situation of events upon request neither would they be willing to fulfil all forms of contracts when not supported by credible rules. In other words, contracts are not self-enforcing and humans may not act in the best interest of others. This may be one of the reasons why witnesses that appear in the law courts are made to swear an oath to *tell the whole truth and nothing but the truth* (Williamson, 2000). This may also be the rationale why guarantors and witnesses are usually needed when serious contractual arrangements like employment, lending and hire purchases are to be made. Thus, some form of institutional arrangement is needed to make humans adhere to commitments. In this wise, parties to contract who look ahead and observe potential flaws would certainly seek to work out contractual adjustments, which will make them enjoy some advantages over those who are myopic on the terms or leave their fate to chance.

Other possible sources of contractual hazards include bilateral dependence; weak property rights especially intellectual property rights (IPRs), failure of probity, and so on. These have propensities to compromise contractual



integrity and cause some form of distortions (Coase, 1992). For instance, the relevance of contract enforcement and credible contracting have been found valid for commercial contracting in Vietnam (McMillan and Woodruff, 1999) and contract farming in Kenya (Grosh, 1994). Thus, without appropriate institutions no market economy of any significance is possible (Coase, 1992).

The significance of economic environments such as monetary and price stability, secure property rights, and openness to international exchange that is consistent with the development and efficient use of resources have been found to exert positive impacts on countries' economic growth. In other words, inappropriate institutional arrangements and policies in a country can lead to sub-optimal performance (Temple, 1999). This may be the relevance of international trade organs such as WTO and various RECs with a view to harmonising policies that improve the members' gains from international trade.

In as much as it is not always possible to have such benign public officers, it becomes imperative to put in place institutional constraints on public officers and technocrats, which will minimise the extraction of rent from the state and thereby improve its performance (Gonzalez de lara, Greif and Jha, 2008). More so, Adewole (2006) related the issue of unemployment in Nigeria to the quality and perception (altruistic or individualistic tendency) of the managers of the country's economy as dictated by the quality of institutions. The author noted that general macroeconomic problems and unemployment in particular are indications of institutional weaknesses. In this way, the use of fiscal and monetary policy instruments without taking into cognisance the institutional framework may lead to policy failures.

From the foregoing, it can be summarised that institutional framework are humanly formulated arrangements that is capable of structuring political, economic and social interactions among economic agents. Thus, institutions in précis entail rules and regulations put in place by human beings in order to reduce uncertainties in the exchange of economic values by controlling the behaviour of individuals in a given human interactions.

### **3.5 Review of Theoretical Issues of Institutions in Relation to Trade**

The early forms of economies were conceived as local exchange within a small community. Trade usually expands beyond this kind of community scene to the region; longer distances and eventually to the rest of the world (international). At each developmental stage, economies have elements of increasing specialisation, division of labour, and more efficient technological usage. The story of gradual evolution from local autarky to specialisation and division of labour was derived from the German historical school of thought (Sheptun, 2005). Specialisation is elementary whereby self-reliance is one of the key features of most individuals. Limited level of community trade exists within a given social network of informalities, which determined the local exchange of goods and services (North, 1991). Thus, the transaction costs that associate limited trade are low because people have somewhat intimacy with one another due to repeated transaction.

As trade continues to expand, the likelihood for conflicts over the exchange of values becomes a source of concern- an issue that has to be considered before engaging in trade. The size of the market increased and transaction costs also increased markedly due to the existence of multifaceted social networks. In this case, more resources have to be employed in order to enforce rules and orders for effective trade to take place. In the absence of a state that can

enforce contracts; religious and cultural beliefs can also exert some measure of standards for the conduct of those involved in the process (North, 1991; 1994). However, their effectiveness in lowering the costs of transacting depends on the degree to which the laid down guidelines were followed. With time, some economies of scale and specialisation would emerge as a major characteristic of the trade relation. This has been noted in early Britain where overseas ventures were pursued through trade expansion and joint stock corporations (Gonzalez de lara, Greif and Jha, 2008).

The growth of long distance trade usually poses two distinct transaction cost problems (North, 1994). One is the traditional problem of agency- the costliness of measuring performance where the influence of kinship determines the outcome of such agreements (or contracts). As the size and volume of trade expands, the problems of 'agencification' would become a significant constraint to trade. The second problem consists of contract negotiation and enforcement where there is no readily accessible way to achieve agreements and ensure contract enforcements. Negotiation and enforcement with other parts of the world involve the development of standardised weights and measures, units of account, a medium of exchange, merchant law courts, and enclaves of foreign merchants, among others (Williamson, 2000).

The expansion of the market normally entails more specialised producers. Economies of scale would result in the hierarchy of organisations with workers working either in a central workplace or in a sequential production process. Occupational distribution of the population would reflect a considerable increase in the proportion of the labour force that is engaged in manufacturing and services, though the predominance in agriculture still exists. These evolving stages also reflect a significant shift towards societal urbanisation.

These kinds of societies would need effective, impersonal contract enforcement due to personal attachments. Isolations are no longer effective as more complex and impersonal modes of exchange occur (North, 1991; Williamson, 2000).

To establish a realistic commitment to property rights, protection would require either a leader that exercises forbearance and restraint in using coercion, or the restraint on the ability to avert illogical seizure of assets. For example, it has been found that in countries where political institutions have considerable discretionary powers in the allocation of resources relative to market institutions considerable efforts would be used in capturing political powers. This will lead to the dissipation of financial, physical and intellectual resources and thereby leaving diminutive resources needed to create suitable conditions for development (Adewole and Osabuohien, 2007).

In the last stage where specialisation has increased, agricultural activities require a small percentage of the labour force<sup>1</sup>. Economies of scale here apply to large-scale organisation, not only in manufacturing but also in agriculture. Thus, individuals live by taking part in a specialised function and relying on a network of interconnection to provide the large amount of goods and services necessary for them. The occupational distribution of the labour force is expected to shift progressively from dominance by agriculture to manufacturing, and eventually to services (Matthews, 1986; Williamson, 2000).

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<sup>1</sup> Even in this modern era, the prevalence of agriculture and primary production as reflected by the percentage of labour force that engage in them, still exist in SSA, which points out the deficient transformation in the process of time.

In this final stage, specialisation requires increasing percentages of the resources of the society to be engaged in transacting, so that the transaction sector rises to be a large percentage of GDP. This is so because specialisation in international trade, finance, transport, communication, banking, insurance and so on, involves an increasing proportion of the labour force. Therefore, highly specialised modes of transaction and organisations will emerge. Specialisation and division of labour across countries would require institutions and organisations to safeguard property rights across different international boundaries in order for markets to take place with trustworthy obligation of all the agents or actors that are involved (North, 1994).

The essential issue in the processes mentioned above is whether information costs and economies of scale together with the development of improved enforcement of contracts will permit and encourage more complicated forms of exchange. It also include whether organisations have the incentives to acquire knowledge and information that will induce them to evolve in more socially productive directions. Robinson and Torvik (2005) noted that patronage activities that characterised governance in SSA were direct results of faulty political arrangements that made government the main organ responsible for the allocation of resources.

Specific innovations and particular institutional framework evolved from interaction between fundamental economic forces include the economies of scale associated with a growing volume of trade. Similar to economies of scale is the development of improved mechanisms to enforce contracts at lower costs, which entails institutions. For instance, in the Netherlands there are different innovations and institutions that coalesce to create the precursor of the efficient modern set of markets, which makes the growth of exchange and

commerce possible (North, 1991). In this formulation, countries with a more open immigration policy will, *ceteris paribus*, attract more business people *vis-à-vis* international trade. In the institutional accounts given earlier, the direction and forms of economic activities by individuals and organisations reflected the opportunities created by the basic institutional framework of customs, religious precepts, and formal rules as well as the effectiveness of enforcement (Williamson, 2000). Thus, those involved in international trade are usually constrained by the institutional framework (North, 1994).

Intellectual property rights (IPRs) is another issue in international trade as a result of the expanded authority of WTO (Nwajiuba and Nwosu, 2007). The IPRs are the rights given to people over their intellectual creations or innovations. Different forms of IPRs are patents for innovations, trade marks for brand identity, designs for products appearance and copy rights for materials such as films, music, among others. As trade related aspects of intellectual property rights (TRIPs) agreements were signed by the government of most countries including the SSA countries with the formation of WTO, IPRs had been given a global perspective. This is a great challenge to the SSA as TRIPs do not recognise indigenous knowledge of seeds and plants since they were not included in the treaty. This is a serious issue given the fact that in SSA the agricultural sector still employs of over 50% of the labour force (UNCTAD, 2006; 2008a).

### **3.6 Review of Empirical Issues on Institutions and International Trade**

Some economists have tried to look at the link between institutions within countries especially developing countries in relation to democracy and economic growth using cross-national studies (Barro, 1996; Boko, 2002).

Building on aggregate production function, Kagochi, Tackie, and Thompson (2007) examined a specific developing country-Nigeria, using economic freedom index and political freedom index as proxy for institutional framework in the country and established that political freedom was significant while economic freedom was not statistically significant in explaining economic growth. They suggested the need for the Nigerian government to pursue policies that would create favourable political environment in order to enhance her performance.

On the other hand, Baba (1997) focused on democracy and institutions and argued that democracy will ensure the development of institutions, which will in turn guarantee the transparent policy making process and thereby promote economic growth. This is because fallouts of sound institutional arrangements like protection of property rights and effective rule of law are important for economic growth as well as trade as the productive capacity of countries would be enhanced. Feige (1990) applied the framework of NIE and conceptualised the metric for measuring the dimensions of each underground activity based on the aggregate income generated by the activity and highlighted four specific underground economies, which include: the illegal economy; the unreported economy; the unrecorded economy; and the informal economy. Kimenyi (2006) also used the NIE concept in determining how ethnic groups influence choice of collective actions especially in relations to public goods provisions.

Kimenyi (2001) observed that from 1960 to 1982, about 80% of the 45 independent SSA countries had experienced *coup d'états*. This situation and trend will always occur and result in intense competition for political power, where political institutions are allowed the luxury of unrestrained power in the allocation of national output. The regime of one party system and personal rule

in many African countries was as a result of institutional weaknesses that fail to put a limit on the expenditure profile of government and made it the main centre of resource allocation. Sala-i-Martin and Subramanian (2003) had substantiated this for Nigeria, when they noted that one of the reasons for the existence of natural *resource curse* in the country was the prevalence of weak institutional framework.

The limited form of private sector activities depends essentially on government patronage for survival (Robinson and Torvik, 2005). This is so because in the absence of strong institutional framework, reduced governance cost would only happen when a set of benign public officers is at the helm of the countries' affairs. It has also been noted that institutional factors, especially civil liberties' index and revolution have a strong influence on a state's fragility, after accounting for economic, demographic and geographic factors (Balioune-Lutz, 2009; Bertocchi and Guerzoni, 2010).

Acemoglu, Johnson and Robinson (2001a) have shown that weak institutional framework in a country might encourage *coup d'etat* and revolutions that could lead to political and economic instability. In other words, institutional failures may make economic adjustment difficult. Just as Rodrik (1999) argued that countries with weak institutional framework are unable to deal with major economic shocks and identified the major shocks with those that took place during the 1970s. Rodrik (1999) made submission that the inability to deal with, or adjust to global economic changes contributed to the low economic growth performance of many less developed countries during the 1980s and 1990s especially in terms of international trade performance. Also Johnson et al (2000) observed that among the emerging markets that are open to capital flows, the ones with weaker institutional frameworks (political and financial)



experienced more severe economic crises during the late 1990s. In general, the argument is that it is the inability of institutionally weak societies to deal with their own economic shocks and, perhaps more importantly, their political shocks that has fuelled their economic crises (Olayiwola and Busari, 2008).

Grosh (1994) applied the concept of NIE to contract farming between a farmer and a firm that will process and/or market the farmer's crop in Africa drawing evidence from Kenya. The practice, according to the author, which is a growing phenomenon in Africa, is sustained as a result of institutional arrangement between farmers and parastatal processing firms and the terms of the contracts between smallholders and parastatals. McMillan and Woodruff (1999) made similar empirical finding that contract enforcement and credible contracting were essential for commercial contracting in Vietnam. Similarly, Ramestteiner (2002) used the concept of NIE to the role of government in forest certification in Austria. The author suggested that the task of the government should include the encouragement of private sector by promoting transparency and standard practices.

Yang and Gupta (2007) observed that regional trade arrangements in Africa have not been effective in promoting trade (including foreign direct investment-FDI) due to external trade barriers and low level of resource harmonisation amongst member countries. Other reasons that were attributed to low international trade performance of African countries were small size of markets, poor transport facilities and high trading costs, double taxation, which have made them benefit marginally from the potential benefits of trade. Yang and Gupta (2007) suggest the need for African countries to undertake a broad-based trade liberalisation and streamlining existing regional trade arrangements as well as improving in infrastructure to facilitate trade in order to benefit more

from trading. Ayogu (2007) made similar observation that infrastructure is crucial for the promotion of economic activities including trade.

The extent to which countries can manage initial and possible revenue losses from trade liberalisation can be influenced by their macroeconomic policies and their level of economic development. In this regard, Agbeyegbe, Stotsky and WoldeMariam (2004) have shown that trade liberalisation in SSA may not have a considerable relevance on total revenues if it is not accompanied by sound monetary and exchange rate policies. On a similar note, Baunsgaard and Keen (2004) provided empirical evidence using panel data for 125 countries between 1975 and 2000 that high-income countries usually recover easily from loss of international trade revenues, while middle-income countries can recover about 35 to 55% of revenues, low-income countries like SSA recover none. The study was unable to find evidence to support the notion that the presence of a value-added tax makes it easier to offset revenue losses from trade liberalisation.

The African share in global trade was observed to have declined from about 4% in the 1970s to about 2% in 2007 (World Bank, 2008b). The trend was similar when oil export was excluded and a good indicator of Africa's weak competitiveness is its poor performance in manufacturing export. For example, between 1970 and 2003, Africa's share in world manufacturing export revolved around 0.5% all through (Yang and Gupta, 2007). Other studies such as Foroutan and Pritchett (1993), Coe and Hoffmaister (1999), Rodrik (1999), Subramanian and Tamirisa (2003) have equally established that the declining share of African products in world trade can be attributed to its growth of income, size of population, geography, and most importantly the nature of economic policy.

Ng and Yeats (2002) have also argued that Africa should diversify away from traditional exports or continue to suffer from a decline in the terms of trade and slow growth of demand for these exports. Consequently, Africa's competitiveness declined sharply during the 1980s before this deterioration slowed in the 1990s. However, it did not show major decline during the period 2000–2005. Its concentration in commodities has helped boost its exports for the first time since the 1970s based on constant market analysis, which suggest that Africa's export competitiveness is closely linked to its overall economic performance (Ng and Yeats, 2002; Usman,2005).

Oyejide (2007) noted that a reduction in real exchange rate overvaluations could improve exports relative to GDP. This is because overvaluation of the domestic currency would act as tax on exports and thereby inhibit their prices compared to the prices of domestic products. In this case, changes in the real exchange rate may be induced by policy changes in some areas such as: international trade, fiscal and monetary policies, capital movements, and autonomous shifts in the terms of trade. Meanwhile, an increase in import restrictions raises the domestic price of importables relative to those of exportables and domestic products. In USA, Bahmani-Oskooee and Ratha (2004) found real exchange rate depreciation to have significant effect on the long-run trade balance from major trading partners. However, in Cote d'Ivoire, real exchange depreciation did not have any significant effect trade especially manufacturing despite currency devaluation of 1994 (Diomonde and Kone,

2008). The difference in the examples above may be that USA might have met the Marshall-Lerner condition<sup>2</sup>.

It has been shown also that major trade policy reforms in many developing countries are often strongly connected with corresponding reforms of exchange rate policy and changes in the external terms of trade will affect the prices of tradables relative to those of non-tradables (Busari and Olayiwola, 1999; Oyejide, 2007). Making reference to the Nigeria scenario, Alege and Ogun (2004) reached a similar conclusion that trade policies are usually inconsistent despite of various trade reforms. The authors made a case for the promotion of duty-free inputs importation to enhance the productivity of the manufacturing sector.

In furtherance, Fosu (2003) examined the influence of political instability on export performance in 30 SSA countries using various coups incidences ('successful' coups, abortive coups, and coup plots) from 1967 to 1986. The author, building on the augmented production function, found that unstable political environment adversely affects export performance through competitiveness. On the other hand, it was equally established that the political instability plays more crucial role in export than in overall growth of GDP, which denotes that the effect of political instability was more detrimental on exports than overall GDP. This may be one of the reasons why the average annual growth rate of SSA merchandise exports between 1967 and 1986 was 3.5% compared to that of the developing countries of 4.6% (World Bank, 1989).

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<sup>2</sup> The Marshall-Lerner condition simply states that for a currency devaluation policy to have a significant and positive effect on international trade performance (especially trade balance); the sum of price elasticities of export and import in absolute terms must be greater than one (Appleyard, Field and Cobb, 2010).

Allan (2004) used data from Global Trade Analysis Project (GTAP) within the framework of general equilibrium model to analyse selected scenarios of tariff and subsidy reductions. The author observed that the extent of government provisions in vegetable production and trade was not as high as other farm sections such as meat and dairy products. With respect to horticultural products, it was found that the degree of liberalisation as witnessed by the roles of Central and South America, and Middle East and North Africa as exporters, the EU15 and the rest of Europe, US and Japan as major importers; can be expected to increase horticultural products.

In another dimension, the effects of institutional quality was examined on trade by Meon and Sekkat (2008) with panel data from 1990 to 2000 for about 59 countries mainly in the America's and Asia and eight from Africa, namely: Cameroon, Cote d'Ivoire, Ghana, Malawi, Nigeria, South Africa, Uganda and Zambia. The authors, using a fixed effects model along with instrumental variables, established that export of manufactured products were positively affected by control of corruption, rule of law, government effectiveness, and lack of political violence. They categorised total exports into manufactured and non-manufactured as percentage of GDP and were related to real effective exchange rate, and GDP growth rates of trading partners. Their model was estimated and then the country fixed effects were regressed on set of time-invariant variables, namely: measure of a country's market potential, index of institutional quality that includes the six governance indicators. The authors found that among the institutional variables used, control of corruption exerted more effects on export of manufactured products compared to non-manufactured and total exports. However, the authors were cautious given the fact that the World Governance Indicators (WGI) used did not have sufficient

time-dimension. Hence, they called for further research to examine more on trade-institutions nexus.

Besides focusing mainly on SSA countries, this present study fills the observed gap in Meon and Sekkat (2008) in two major ways. The first was the further classification of exports into five categories, namely: total, manufacturing, agricultural, fuel and mining, and service exports as percentage of GDP to measure international trade performance. The second important extension of extant literature was the inclusion of other indicators of institutional framework, namely: economic and financial institutions in addition to political institutions.

In furtherance, using a model involving 145 countries in a panel spanning from 1984 to 2002 and governance indicators from international country risk guide Lavalley (2005) examined the influence of proximity and quality of institutions on trade. The author noted that institutional proximity tends to increase trade. Lavalley (2005) added that corruption in both importing and exporting countries acts as barrier to bilateral exports, which is harmful to trade especially in a situation of weak bureaucratic quality. On the other hand, Levchenko (2004) built on Grossmann-Hart-Moore framework of contract incompleteness to assess the quality of contract enforcement, property rights, and shareholder protection (as forms of institutional quality) with a sample that covered 389 industries in 117 countries averaged for the period 1980-1998. The study submitted that interactions between institutions and trade are imperative and as such the type of effects that prevail will require further research.

Taking the issue the other way round, Wanchek (2009) appraised the influence of international trade on institutional quality. Using industry level data from Central and Eastern Europe and Former Soviet Union for year 2000, the study ascertained that international trade played a key role in influencing institutions (measured with freedom indices). This was based on the fact that businesses predicting their potential to export would tend to lobby for more credible institutions in order to reduce transaction costs that are related to exports. This was similar to Levchenko (2008)'s submission that international trade impact on the quality of institutions (from Kaufmann et al, 2005 data set). The author established using a sample of 141 countries for the period 1996-2000 that in a situation of similar technology, countries that trade together would be made to improve the quality of their institutions.

In addition, Dollar and Kraay (2009) used rule of law (from Kaufmann et al, 2002) as a measure of institution and ratio of trade to GDP on cross-country level of 168 for the average period of 2000-2001. The study found that changes in trade and changes in institutional quality had substantial effect of trade on growth and thus suggest the possibility of a joint role for trade and institutions on growth. Contrarily, Segura-Cayuela (2006) added that poor countries may not have benefited from international trade due to the fact that increase in trade may lead to weak political institutions especially in societies with weak policies. The author's submission was based on average data on trade from Penn World Table and institution data from Polity IV.

It is argued that institutions are somehow difficult to measure (Rodrik, 2005). However, there are a number of institutional indicators that have been devised to compare the quality of institutions and governance across the globe. The popular ones include: World Governance Indicators (WGI) involving six

parameters as compiled for the World Bank by Kaufmann, Kraay and Mastruzzi (2008; 2009); corruption perception index of Transparency International (employed by Dahlstrom, 2009); and political and economic freedom index of the Freedom House (used by Kagochi *et al*, 2007). Others include: global competitiveness index of the World Economic Forum; political constraint - POLCON index as computed by Henisz (2010); International Country Risk Guide (ICRG) political risk rating (used by Papaioannou,2009); Polity IV governance and institutions indicator; Country Policy and Institutional Assessment (CPIA); World Business Environment Survey (WBES) of the World Bank (applied by Thede and Gustafson,2009), among others.

Some of the institutional quality indicators mentioned above (namely: CPIA, ICRG and WEBS,) are quite recent and cover a sizeable number of countries just like WGI. However, they do not cover most of the SSA countries within the period of study. The intention of this study is not to compare the relative appropriateness of these institutional indicators but employ the most suitable in terms of coverage and comprehensiveness. This study used WGI for political institutions given its coverage especially for SSA countries.

One important point from the empirical literature reviewed is that there is possible interaction between international trade and institutional quality. In addition, the interaction between international trade and institutional framework could run from trade to institutions, on one hand and institutions to trade, on the other. Furthermore, institutional framework can influence international trade performance indirectly. This suggests the possibility of institutional framework being endogenous, which was taken care of in the estimation technique with the use of instrumental variables in this study.



Another notable observation was that most empirical studies in the area of international trade and institutions did not cover substantially SSA countries. In other words, it was observed that not much empirical work has been done in relating the role of institutional framework to international trade performance in SSA. Thus, this present study differed markedly in this regard as attention is focused mainly on SSA countries. In addition, the period (1996-2008) covered by this study was very different from the previous studies as the most recent extant empirical literature worked on period that ended in 2002. The above were the main gaps that this study was poised to fill.

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## **CHAPTER FOUR**

### **ANALYTICAL FRAMEWORK AND METHODOLOGY**

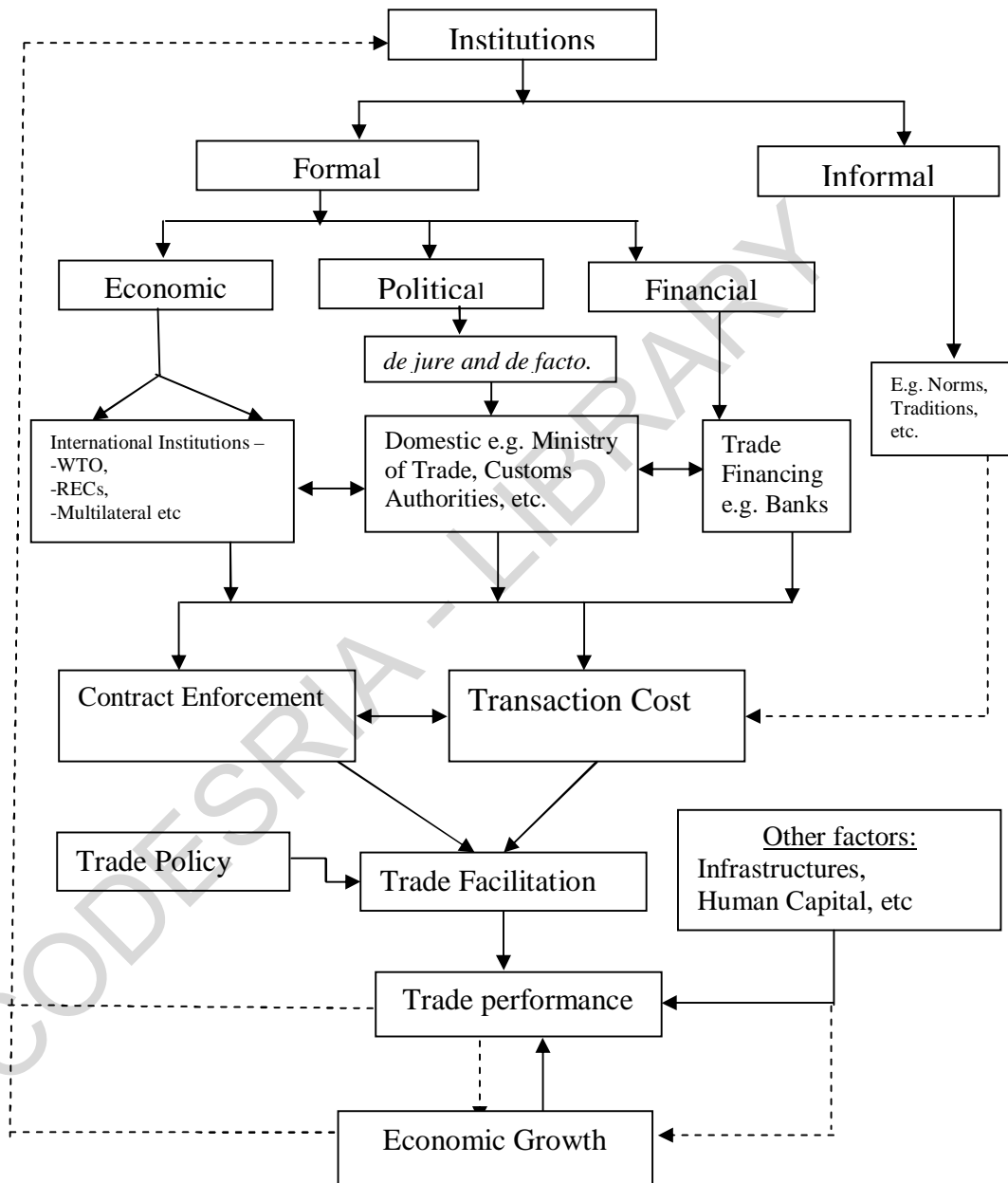
#### **4.1 Introduction**

This chapter presents the analytical framework for the study with the basic aim of conceptually link international trade performance to institutional framework. More so, the empirical models for the study were formulated in this chapter. The chapter equally discussed the technique of estimation for the model, the instrumental variables employed as well as sources of data.

#### **4.2 Analytical Framework**

As discussed in the previous chapter, a number of international trade theories that explain the factors that determines a countries performance on international trade exist. However, it was observed that most of the international trade theories were concerned with issues that influence international trade with little or emphasis on institutional framework. Thus, this study engaged LaPorta et al (1999) theories of institutional development and New Institutional Economics (NIE) as theoretical foundation in examining the impact of institutional framework on international trade performance. This was done by linking the transmission mechanisms from institutional framework to international trade performance. This is illustrated in Figure. 4.1.

**Fig. 4.1 Institutional Framework and Interactions**



**Source:** Compiled by the Researcher

**Note:** The dashed lines are not given much discussion given the focus of the study that explains international trade performance within institutional frameworks; however, it is expedient to note that these issues are essential

From Figure 4.1, two broad forms of institutions can be identified- namely: informal and formal (North, 1991; Greif, 1998). The informal involves basic human rules (usually not written down) that guide the behaviour of individuals in a given society. Examples of informal institutions include: norms, traditions, culture, and so on (North, 1991; North, 2005; Greif, 2006). The formal institutions comprise laid down rules (usually written) that outline contractual obligations among the parties involved. Acemoglu and Robinson (2008) classified formal institutions into political and economic; however, this study highlights another category, namely: financial institutions. The reason for this is the crucial role that financial institutions play in international trade performance. For instance, the availability of credit facilities to exporters would have some influence on their exporting capacities.

In terms of the channels and mechanisms of institutional framework on international trade performance, the nature of the institutional framework will have some effects on contract enforcement as depicted in Figure 4.1. For example, when institutions are weak there would be ineffective contract enforcement compared to a situation of strong institutional framework. On the other hand, the level to which contracts are enforced would have effects on transaction costs. Thus, having 'good type agent' will reduce the cost of transacting (Greif, 2006).

Similarly, economic institutions can have international coverage (e.g. WTO and RECs) and domestic dimensions (e.g. Ministry of trade etc). In this study, membership of WTO and regional economic communities (RECs) are underscored as key examples of economic institutions. On the other hand, financial institutions consist of those institutions that help to enhance international trade participation especially with regard to the provision of

credit facilities and payments for international trade activities. This study captures financial institutions by the prevailing lending rate in the countries, contract intensive money (*CIM*) and financial depth in the economies. The rationale for this is that the prevailing Lending Rate, level of *CIM* as well as depth of the financial institutions in a country would influence the accessibility and willingness of economic agents to borrow financial resources (Clague et al, 1999). This will exert some influence on level of international trade performance.

Basically, the more effective the nature of contract enforcement, the lower would be the level of transaction costs. For instance, when individuals that are involved in a given transaction understand the underlying rules/laws, it will influence contract enforcement. This is because there will be better predictability of the actions of participants, which will reduce transaction costs. This may be the reason, among other things, why the services of specialists such as lawyers are usually required when parties are entering into contracts. This is to help situate the terms of the contract in order to reduce transaction costs and contractual hazards that might result from adverse selection.

A reduced transaction cost will boost the level of economic activities by reducing the risks and uncertainties involved in doing business and as a result influence the economic growth, and by extension international trade. In other words, transaction costs would have influence on the overall economic performance of a country. This is because, the higher the transaction cost, the more costly it would be to undertake economic activities. This means that high transaction costs would lead to higher cost of doing business, which will lower the level of economic activities, *ceteris paribus*. On the other hand, trade policy will influence trade facilitation as it gives direction to the activities of

those that are engaged in trade, which will affect the level of international trade performance.

As can be observed in Figure 4.1, there are other factors such as infrastructure and human capital that will possibly influence the performance of international trade (Lyakurwa, 2007). This is given the role that infrastructure and human capital can play in the trading process especially with respect to communication which is essential to transaction cost. However, given the fact that this study is focused on the influence of institutional framework on international trade, these factors are not given much emphasis.

In addition, the level of economic growth (economic activities) has some influence on the performance of international trade, export level for example. It has equally been noted in the empirical literature reviewed (e.g. Lavalley, 2005) that countries that have a better level of international trade would experience better economic performance. This means that increased economic growth would lead to better international trade performance because increased economic activities in the country will lead to better trading activities (Rodrik, 1998). Furthermore, better international trade can provide an important stimulus to industrialisation and economic growth (Akinkugbe, 2008). On the other hand, there is the possibility of trade and economic performances exerting some influence on the quality of institutions in a country (Levchenko, 2008). These inter-relationships are captured in the framework depicted in Figure 4.1. However, given the focus of the study, these inter-relationships are not given much attention.

This study essentially focused on formal institutions in the formulated model. However, the use of instrumental variables such as ethnolinguistic

fractionalisation, legal origin and formalism was employed to capture some aspects of informal institutions especially with respect to their influence on formal institutions. This is further explained later in Section 4.5.

### 4.3 Formulation of Econometric Models

The econometric models of the study relate international trade performance indicators (*ITRAPF*) to institutional framework. It also incorporates other factors such as economic growth, real effective exchange rate that have been noted to have some influence on international trade performance. The model greatly extends the works of Fosu (2003) and Meon and Sekkat (2008). In the process of adapting and extending the models of Fosu (2003) and Meon and Sekkat (2008), this study categorises international trade performance (*ITRAPF*) into five indicators, namely: total export (*toex*); manufactured export (*maex*); agricultural export (*agreex*); fuel and mining export (*fmex*); and service export (*svex*).

The functional relationship between the indicators of international trade performance (*ITRAPF*) and other deterministic factors are stated in equation (4.1) in a nonlinear and implicit form as:

$$ITRAPF = f(EXCH, ECOGR_{(-1)}, U) \quad (4.1)$$

The explicit form of equation (4.1) is stated as follows:

$$ITRAPF = \beta_0 EXCH^{\beta_1} ECOGR_{(-1)}^{\beta_2} U \quad (4.2)$$

Equation (4.2) is linearised by taking logarithmic transformation of both sides of the equation. Writing the variables in their lower cases and stating the resulting transformed equation in a panel data format involving time and space dimensions lead to equation (4.3). This transformation is considered essential

with a view to applying the classical Ordinary Least Squares (OLS) estimation technique. However, a cursory inspection of data on *ECOGR* indicates that some countries had negative values and taking absolute values of the periods with negative values will change the implication<sup>3</sup>. As a result, the logarithmic transformation of *ECOGR* was not taken. A similar process was done by Meon and Sekkat (2008) for GDP growth rates of country *i*'s partners (*RYP*), though they did not state this reason.

$$\ln(itrapf^j)_{it} = B_0^j + B_1 \ln exch_{it} + B_2 ecogr_{i(t-1)} + \delta_t + e_{it} \quad (4.3)$$

where:

$itrapf^j$ : various components of international trade performance i.e.  $j = 1, \dots, 5$ ; implying total (*toex*), manufacturing (*maex*), agricultural (*agreex*), fuel and mining (*fmex*), and services exports (*svex*). This gives rise to five (5) different equations.

$B_0^j$ : country fixed effects.

*exch*: real effective exchange rate. It measures an effective or trade-weighted exchange rate based on real exchange rates instead of nominal rates.

$ecogr_{i(t-1)}$ : lagged economic growth rate. The lagged values of the economic growth are used to avoid possible feedback effects since international trade performance and economic growth are not contemporaneously measured. Hence, this study used the lagged growth rates and not partners' growth as done by Meon and Sekkat (2008)<sup>4</sup>.

<sup>3</sup> For instance, if the growth rate for a given country in a particular year was -5.2, taking the absolute value of 5.2 will completely change the real economic phenomenon.

<sup>4</sup> This is because market potential will in a way control for partners' growth influence. More importantly, this study is interested on the promotion of international trade performance of SSA countries and as a result it is expected that improvement in their economies should improve their capacity to trade. An alternative to this would have been the use of growth rates of the respective international trade performance categories, but these were not available for most of the sectors in most of the countries. Moreover, the values for the outputs from the



$\delta_t$ : time effect capturing the trend in the data. This study presupposes that including time effects will help to pick omitted shocks that affect international trade performance across the countries in a similar manner (Dollar and Kraay, 2003)<sup>5</sup>.

$e$ :  $\log U$  denoting the error terms that is assumed to be identically and independently distributed with mean zero and constant variance, i.e.  $iid N(0, \delta^2)$ .

The expectation is that:  $B_1 < 0$  and  $B_2 > 0$ . This is with the understanding that an appreciation of real exchange rate would imply less competitiveness for the exporting country. While a positive sign of economic growth would signal better productivity which will lead to increase in capacity to export, *ceteris paribus*.

The respective country fixed effects ( $B_{0i}^j$ ) generated in equation (4.3) for the five categories of international trade performance indicators are used in the second aspect of the estimation process, which help in obtaining heteroscedastic consistent estimates (Meon and Sekkat, 2008). This is stated in equation (4.4) below:

$$B_{0i}^j = \lambda_0 + \lambda_1 \ln(Mkpot_i) + \lambda_2 \ln(Inst_i^k) + e_i \quad (4.4)$$

where:

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sectors that would have helped in the computation of their growth rates were also not available for most SSA countries within the period of the study. In addition, economic growth shows the rate at which an economy improves or decays over a given period. Thus, this study is able to know whether the growth (decay) of selected countries enhances (decreases) their international trade performance. Thus, the issue of multicollinearity does not portend a serious problem. In fact this was confirmed from correlation matrix carried out, not reported.

<sup>5</sup> A check was performed on the model with/without time effects, the one with time effect performed relatively better. A sample of results with time effects as well as country effects is reported in the Appendix.

*Mkpot* :market potential as defined that controls for the closeness of a country to other markets.

$Inst_i^k$  :the various measures of institutional quality classified into three (3) frameworks – political, economic, and financial i.e.  $k = 1-3$ .

The *a priori* expectation is that:  $\lambda_i > 0$  ( $i = 0, 1, 2$ ). This denotes the fact that an improvement in institutional quality will result in better international trade performance.

In capturing the influence of political institutions on international trade performance, this study, like Meon and Sekkat (2008), used WGI institutional quality as defined by Kaufmann et al (2008; 2009)'s six indicators. Thus, equation (4.4) can be restated by further simplification as:

$$B_{0i}^j = a_0 + a_1 \ln(Mkpot_i) + a_2 \ln(poins^x_i) + e_i \quad (4.4a)$$

where:

*poins*: are the political institutional quality and  $x$  are the different aspects of political institutions, namely: voice and accountability (*VA*); political stability (*PS*); government effectiveness (*GE*); regulatory quality (*RQ*); rule of law (*RL*); and control of corruption (*CC*). That is:  $x = 1... 6$ .

The economic institutional aspect (*ecoins*) is captured by WTO membership and membership of regional economic communities (RECs) in SSA in capturing the influence of the various RECs on the members' international trade performance (Njinkeu, Wilson and Fosso, 2008). Thus, equation (4.4) can be rewritten in equation (4.4b) as:

$$B_{0i}^j = b_0 + b_1 \ln(Mkpot_i) + b_2 ecoins^y_i + e_i \quad (4.4b)$$

where:

*ecoins*: are the different aspects of economic institutions, namely : *WTO* and *RECs*. The *RECs* in SSA selected include: COMESA, ECCAS, ECOWAS

and SADC. The choice was based on the AU's recognition and those that have launched RTAs (UNECA, 2010; African Union Commission, 2011). Logarithmic transformation on economic institutions was not taken due to the fact that there were dummy variables.

The last category of institutional framework in the study is financial institutions (*finst*). They are measured by contract intensive money (*cim*), the prevailing lending rate in the countries (*plr*) and financial depth in the economies (*findep*). Thus, equation (4.4) is modified as:

$$B_{oi}^j = c_0 + c_1 \ln(Mkpot_i) + c_2 \ln(finst_i^z) + e_i \quad (4.4c)$$

where:

*finst*: are the measures of financial institutions, namely: contract intensive money (*cim*), prevailing lending rate (*plr*), and financial depth (*findep*). i.e.  $z = 1-3$ .

Furthermore, trade policy (*TRP*) was captured by applied tariff including preferences (*apt*), and customs and other import duties (*cod*). In addition to institutional variables, the study introduced landlocked dummy referred to as 'landlockedness' (*lockd*) is represented in equation (4.5) along with trade policy indicators.

$$B_{oi}^j = \theta_0 + \theta_1 \ln(Mkpqi) + \theta_2 \ln(trp_i^m) + \theta_3 lockd + e_i \quad (4.5)$$

where:

*trp*: are the measures of trade policy, namely: applied tariff (*apt*), and customs and other import duties (*cod*), i.e.  $m = 1$  and  $2$ .

The coefficients of trade policy variables ( $\theta_2$ ) are expected to positive while that of *lockd* is expected to be negative (i.e.  $\theta_3 < 0$ ). This because tariff and customs duties are imposed on imported goods to discourage importation and

improve export capacity, while ‘landlockedness’ increases transaction costs such as transportation, which will negatively affect international trade performance.

Lastly, other factors that could influence international trade performance apart from the various institutional framework and trade policy were also examined. This is given the role that human capital and infrastructures can play in international trading activities. These are shown in equations (4.6) and (4.7):

$$B^j_{\alpha} = \phi_0 + \phi_1 \ln(Mkpot_i) + \phi_2 \ln(hdi_i) + e_i \quad (4.6)$$

$$B^j_{\alpha} = \psi_0 + \psi_1 \ln(Mkpot_i) + \psi_2 \ln(infrad^n_i) + e_i \quad (4.7)$$

where:

*hdi*: is the human development index capturing human capital development.

*infrad*: is the measure of infrastructural development captured by number of telephone users per 100 population (*tel*), personal computers per 100 population (*pcom*), and internet users per 100 population (*itnet*). i.e.  $n = 1-3$ .

The coefficients of *hdi* and *infrad* are expected to be greater than zero. This is given the understanding that better human development indicator as well as better infrastructural development should lead to better performance in international trade.

#### 4.4 Estimation Techniques

The estimation techniques employed in the study were in two phases. The first phase used panel data fixed effects (FE) model to obtain the country fixed effects for the time variant variables, which were used in the second aspect. The aim of the FE was to obtain the country fixed effects. Also the time effects were equally included to have a more robust model. In addition, the ordinary

least square (OLS) was estimated as a starting point and for robustness checks. Another alternative to this would have been the use of generalised method moments (GMM) technique, which can also handle the issue of measurement error. However, this can be explored in further studies.

The descriptive analyses of the main variables were presented before the econometric results in order to have a fore knowledge of their patterns. Furthermore, this study used panel data analysis as variables were defined based on annual data for the period and across 34 countries selected in SSA, which was estimated using STATA 10.1 Statistical Software. In the panel model, there is the advantage of possibly controlling for unobserved fixed effects. It equally helps in providing sufficient degree of freedom in analyses. Panel data are said to be repeated observations on the same cross-section, typically of individual variables that are observed for several time periods (Pesaran, Shin and Smith, 2000; Wooldridge, 2003; Baum, 2006).

Panel data analysis is an important method of longitudinal data analysis because it allows for a number of regression analyses in both spatial (units) and temporal (time) dimensions. It also provides a major means to longitudinally analyse the data especially when the data are from different sources and the time series are rather short for separate time series analysis. Another advantage of panel data regression technique is that the combination of time series with cross-section data usually improves the quality and quantity of data which may not be possible when using only one of them (Gujarati, 2003; Wooldridge, 2003; Gujarati and Porter, 2009). Also in panel data analytical method both spatial and temporal dimensions are involved in the regression estimation process. Panel data framework is usually structured in a particular manner as presented in the Appendix.

The advantages of using panel data are highlighted as follows, it:

- i) gives more informative data, more variability, less co-linearity among variables, more degrees of freedom, and more efficiency. This is because it combines time series of cross-section observations.
- ii) can detect and measure effects that simply cannot be observed when using only cross-section or time series data.
- iii) minimises the bias that might result from aggregation of individual units into broad aggregates. This is due to the fact that data are made available for several units in a panel data setting.
- iv) helps to take care of heterogeneity in the estimation process because it allows for individual/specific variable assessment.
- v) helps in handling more complicated behavioural models such as technological change, which may not be easy with only cross-section or time series data.
- vi) is better suited when a study is dealing with the dynamics of change such as turnover because it involves the repeated cross section of observations.

The aforementioned advantages of using panel data notwithstanding, there are some estimation and inference problems. In view of the fact that panel data involve cross-section and time dimensions, the problems that are associated with cross-sectional and time series data such as the issues of heteroscedasticity and autocorrelation, respectively are encountered. Another possible problem that can be faced when dealing with panel data is the issue of cross-correlation in individual units at the same point in time.

In the FE technique, the intercept in the regression model is allowed to vary across space (individuals) as a result of the fact that each cross-sectional unit

may have some special characteristics. The FE technique is very suitable in cases where the individual specific intercept may be correlated with one or more regressors and especially when the number of observations ( $N$ ) is not too large. Thus, the  $\mu_i$  are assumed to be fixed parameters to be estimated and the remaining disturbances stochastic with  $v_{it}$  identically independently distributed with zero mean and constant variance, *i.e.*  $iid N(0, \sigma^2)$ . In this regard, the regressors ( $X_{it}$ ) are taken to be independent of the  $v_{it}$  for  $i$  and  $t$  (Baltagi, 2005; Baum, 2006; Gujarati and Porter, 2009). This is shown in equation (4.8) below:

$$y_{it} = \alpha_i + \beta x_{it} + u_{it} \quad (4.8)$$

The constant term,  $\alpha_i$  are random that help to capture unobserved heterogeneity and  $y_{it}$  is the dependent variable. Therefore, the mean of the error term can be stated as:

$$E[u_{it} | \alpha_i, x_{it}, \dots, x_{it}] = 0 \quad \text{where } t = 1, \dots, T \quad (4.9)$$

The second aspect of the econometric analyses deals with the use of instrumental variable (IV) also known as two-stage least squares (2SLS). The choice of the technique was informed by the need to solve the problems of endogeneity and measurement errors. In other words, the institutional variables can be perceived to be endogenous as stated in equations 4.4a-c. Thus, there is need to identify (instrumental) variables that are correlated with the institutional variables but directly uncorrelated with indicators of international trade performance. This is commonly referred to as *orthogonality* assumption. Several of these instrumental variables have been mentioned in literature such as distance from the equator, ethnolinguistic fractionalisation, and settlers' mortality by Acemoglu, Johnson and Robinson- AJR (and the augmented

version) among others<sup>6</sup>. A brief discussion of the instrumental variables used in the study is presented in the next section.

#### **4.5 Brief Note on Instrumental Variables**

The use of instrumental variables for institutional indicators in econometric analysis have been documented in literature ( Djankov et al, 2002; Acemoglu and Johnson, 2005; Papaioannu, 2009). A number of instrumental variables have been specified such as: distance from the equator (equator); ethnolinguistic fractionalisation; fraction of population that speaks English, French or a major European language. Others are: religious affiliation especially Catholics, Muslims and Protestants (La Porta et al, 1999; Bossert, D'Ambrosio and Laferrara, 2006); settlers' mortality and the augmented version; legal origin and legal formalism (Du, 2010); latitude; area; among others.

The choice of valid instruments is usually determined by examining the results of the first stage especially the F-statistic, which has a rule of thumb of 10 when using 2SLS estimation technique (Staiger and Stock, 1997; Papaioannu, 2009). The optimal instruments can also be determined with Sargan and Basman tests (Baum, 2006). To avoid having a 'weak' instrument, the instrumental variables employed should be highly correlated with the regressors (in this case institutional framework) but directly uncorrelated with the dependent variables (international trade performance).

In respect of the five indicators of international trade performance used in this study, choice was made in favour of ethnolinguistic fractionalisation/its

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<sup>6</sup> Some of them are provided by Hopkins (2006) at <http://public.gettysburg.edu/~mhopkins/datasets.html>.



generalised version (*ethfra*), settlers' mortality and the augmented version (*logemaug*), and legal origin (*legalor*)<sup>7</sup>. The choice these instrumental variables was based on some reasons. First, instruments like latitude, area, and distance from the equator may have some measure of influence on some trade performance indicators especially agricultural export. This is because distance to equator, latitude and area will affect agricultural productivity, which might affect its trade potential.

The second reason is that in most SSA countries, religious affiliation has great interaction with the ethnicity, as it is not uncommon to see a given religion dominant in some ethnic groups than others. For example, among the Hausa ethnic group in Niger Republic and Nigeria, Muslims are dominant. To this end, *ethfra* will almost capture the religious influence. The third and easily placed reason is that in SSA, there are two major legal origins, namely: English (common law) and French (civil law). The legal origin has great influence in their major official languages. For instance, La Porta et al (1999) classified legal origin into English, French, German, Scandinavian, and Socialist. SSA countries belong either to the English (*englaw*) or French (*frenlaw*) dichotomy as revealed by their study.

In similar line of envisaging, the nature of legal formation will determine the extent of barriers to entry as the legal framework in the country will influence entry and other procedural issues. This has been varied by LaPorta et al (1999),

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<sup>7</sup> *ethfra* was referred to politically relevant ethnic group (PREG) by Posner (2004). This study assessed the difference between *ethfra* and *PREG* in the First Stage Least Squares results of the 2SLS, the latter performed relatively better on the average than the former. Hence, resolve was made to use *PREG* as augmented version (*gethfra*). In addition, *gethfra* is more encompassing than just official language as it entail show fractionalized a society is, among others. This also applies to legal formalism.

though their study was in relation to government performance. It can easily be seen that their measure of government performance is tantamount to government effectiveness of World Governance Indicators (WGI). To avoid the shortcoming of having too many instruments as cautioned by Roodman (2009), this study resolved to three instrumental variables. The chosen instrumental variables include: ethnolinguistic fractionalisation with the generalised version (*gethra*), legal formalism and origin - English and French dichotomy (*legalor*) and settler's mortality and its augmented version (*logmeaug*).

In view of the above factors that could influence institutions, equation (4.10) can be formulated for the First Stage regression of the 2SLS as:

$$Inst_i^k = f(gethra, legalor, logmeaug, u) \quad (4.10)$$

Equation (4.10) is expressed in explicit form as:

$$\ln(Inst_i^k) = \chi_0 + \chi_1 gethra + \chi_2 legalor + \chi_3 logmeaug + e_i \quad (4.11)$$

where:

*Inst<sub>i</sub><sup>k</sup>*: the various measures of institutional framework earlier defined.

*gethra*: ethnolinguistic fractionalisation with the generalised version.

*legalor*: legal formalism and origin - English and French dichotomy.

*logmeaug*: settler's mortality and its augmented version.

The coefficient of *gethra* is expected to be negative (i.e.  $\chi_1 < 0$ ) based on the fact that a more ethnically fractionalised society will result in weak institutions. The sign of  $\chi_2$  and  $\chi_3$  cannot easily be stated *apriori* because it will depend on the quality of institutions left behind by colonisers in the selected SSA countries.

From the above discourse, equation (4.11) can be substituted into the respective institutional framework depicted in equations 4.4a-c in the previous section. This will result in the extended models in equations 4.12a-c for political, economic and financial institutional framework as shown below:

$$B_{0i}^j = a_0 + a_1 \ln(Mkpot_i) + a_2 \ln(poins^x_i = \chi_0 + \chi_1 gethra + \chi_2 legalor + \chi_3 logmeaug) + e_i \quad (4.12a)$$

$$B_{0i}^j = b_0 + b_1 \ln(Mkpot_i) + b_2 \ln(ecoins^y_i = \chi_0 + \chi_1 gethra + \chi_2 legalor + \chi_3 logmeaug) + e_i \quad (4.12b)$$

$$B_{0i}^j = c_0 + c_1 \ln(Mkpot_i) + c_2 \ln(finst^z_i = \chi_0 + \chi_1 gethra + \chi_2 legalor + \chi_3 logmeaug) + e_i \quad (4.12c)$$

The level of ethnolinguistic fractionalisation can influence the level of voice and accountability. Also legal origin and formalism would affect the time taken to resolve a court case and procedural complexity that are akin to rule of law of World Governance Indicators (WGI), which is important for trade (Djankov, Freund and Pham, 2010). The measure of legal origin will influence the nature of legal system and time and procedures involving a dispute. The settlers' mortality will have some effects on the quality of institutions that colonisers left behind. It has been argued that the regions where European Colonizers found 'lucrative' to extract 'economic rent', they have established good institutions, contrary to other areas that were not found so 'lucrative' (Acemoglu, Johnson and Robinson, 2001). Furthermore, ethnolinguistic fractionalisation can influence the perception and willingness of a country to make the needed political/institutional changes.

#### **4.6 Sources of Data and Description of Variables**

The data used in the study for estimation process were obtained from secondary sources. The sources would include: World Trade Indicators (WTI, 2010) dataset of the World Bank, World Development Indicator (WDI) of the

World Bank, World Governance Indicators (WGI) computed by Kaufmann, Kraay and Mastruzzi (2008; 2009) for the World Bank, and International Trade Statistics of WTO (2008; 2009).

The data for international trade performance indicators and trade policy variables were obtained from WTI and WDI. The data for political institutional indicators were obtained from WGI. These are standardised on a scale of -2.5 to +2.5 with a maximum value of +2.5 indicating excellent quality and a minimum value of -2.5 indicating very poor quality. Earlier version of WGI has been used by Sala-i-Martin and Subramanian (2003). Following the approach of Meon and Sekkat (2008), the figures for political institutional variables WGI were rescaled. This was done by adding 3.5 to the original values, which means that the rescaled values will range from 1 to 6. This was done to remove difficulties encountered when negative values are used in their logarithmic form during estimation process. This rescaling was considered appropriate as higher values still indicate stronger institutional framework, *vice versa*. To avoid possible multicollinearity, the respective indicators of political institutions were estimated in step-wise.

The measures of infrastructural development (*infrad*) are represented by: number of telephone -fixed and mobile users per 100 population (*tel*), personal computers per 100 population (*pcom*), and internet users per 100 population (*itnet*), which were sourced from WDI. The period covered by the study was from 1996 to 2008 due to the fact that World Governance Indicators (WGI) as computed by Kaufmann, Kraay, and Mastruzzi (2007; 2008) started in 1996. More so, the WTO agreement was rectified 1<sup>st</sup> January, 1995 (Oyejide and Njinkeu, 2007) and it can be presumed that its operation started in earnest the following year. The descriptions of the variables used in the study are

summarised in Table 4.1. The Table also include the sources of data and *a priori* expectation of the variables.

**Table 4.1: Description of Variables and Sources of Data**

<i>Variable</i>	<i>Description</i>	<i>Source</i>
<i>Dependent Variables ( international trade performance indicators - itrpf)</i>		
<i>Toex</i>	Total export	World Trade Indicators (WTI) 2009/2010
<i>Maex</i>	Manufacturing export	
<i>Agrex</i>	Agricultural export	
<i>Fmex</i>	Fuel and mining export	
<i>Svex</i>	Services export	
These five indicators of international trade performance were taken as percentage of GDP. This is to adjust for the difference in economic size of the selected countries in similar manner like Meon and Sekkat (2008).		
<i>Macroeconomic Variables</i>		
<i>Exch</i>	Real effective exchange rate. It is measured by the value of a given country's currency against a trade weighted average of a basket of selected foreign currencies, adjusted by the relative price index between the domestic and foreign countries. It is measured at year 2000 constant prices.	World Development Indicators (WDI)
<i>Ecogr</i>	Economic growth rates.	
<i>Political Institutions (poins)Variables</i>		
<i>RL</i>	Rule of law- captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence.	World Governance Indicators (WGI) of the World Bank
<i>VA</i>	Voice and accountability- measures the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, association, and a free media.	
<i>RQ</i>	Regulatory quality- shows the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	
<i>CC</i>	Control of corruption- shows the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption.	
<i>GE</i>	Government effectiveness- measure the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.	
<i>PS</i>	Political stability - measures the likelihood that the government will be destabilised or overthrown by unconstitutional or violent means.	
The values were available for all the period except for 1997, 1999 and 2001. The original values, which are standardised on a scale of -2.5 to +2.5 with higher values indicating better institutional quality, were rescaled by the addition of 3.5 in order to have logarithmic transformation.		
<i>Financial Institutions(finst) Variables</i>		
<i>Cim</i>	Contract intensive money- measured as broad money supply (M2) less currency outside the banking system (C) divided by M2 {i.e. CIM= (M2-C)/M2}. It measures how institutional quality influences the choice of people to hold money in contract intensive form (M2-C) or cash.	International Financial Statistics (IFS) and WDI
<i>plr</i>	Lending interest rate capturing the level of access of credit facility in the countries	
<i>findep</i>	Financial deepening in the country- measured as commercial banks' lending to private sector	

	divided by GDP. It captures the level to which financial institutions are able to provide financial resources for economic activities.	
<i>Economic Institutions(ecoins) Variables</i>		
<i>Wto</i>	Dummy for WTO membership as at July 2008;1 for members,0 elsewhere	
<i>Comesa</i>	Dummy for Common Market for Eastern and Southern Africa;1 for members,0 elsewhere	
<i>Eccas</i>	Dummy for Economic Community of Central African States;1 for members,0 elsewhere	International Trade Statistics (2008; 2009);
<i>Ecowas</i>	Dummy for Economic Community of West African States; 1 for members,0 elsewhere	UNECA (2010).
<i>Sadc</i>	Dummy for Southern African Development Community;1 for members,0 elsewhere	
<i>Trade Policies (TRP) Variables</i>		
<i>Apt</i>	Applied Tariff including preferences –all goods – measured as the average of the applied tariff rates including preferential rates, available at HS 6-digit product level in a country’s customs schedule	WTI and WDI
<i>Cod</i>	Customs and Other Import Duties – measured as a percentage of total tax revenues.	
<i>Human Capital and Infrastructural Development Indicators</i>		
<i>hdi</i>	Human Development Index –captures human capital. It ranges from 0 (worst) to 1 (best) with 0.5 as average.	Human Development Reports (various issues) and WDI
<i>Itnet</i>	Internet users (per 100 people)	
<i>Tel</i>	Mobile and fixed-line telephone subscribers (per 100 people)	
<i>Pcom</i>	Personal computers (per 100 people)	
<i>Market potential, landlockedness and Instrumental Variables</i>		
<i>Mkpot</i>	Market potential measured as the inverse-distance weighted average of a country’s partners GDP.	CEPII; Porta et al (1999);
<i>Lockd</i>	Dummy for ‘landlockedness’. Countries that are landlocked are represented as 1, 0 otherwise. Augmented/generalised ethnolinguistic fractionalisation. It is the average value of five different indices of ethnolinguistic fractionalisation - i) the probability that two randomly selected persons from a given country will not belong to the same ethnolinguistic group; ii) probability that randomly selected individuals speaking different languages; iii) probability of two randomly selected individuals do not speak the same language; iv) percentage of population not speaking the official language ;and v) percentage of population not speaking the most widely used language. The values ranges from 0 (0%) to 1 (100%).	Acemoglu, Johnson and Robinson (2001); and Hopkins (2006).
<i>Gethfra</i>		
<i>Logmeaug</i>	log of AJR augmented settlers’ mortality.	
<i>Legalor</i>	Legal origin and formalism. It measures the legal origin of the Company Law or Commercial Code of a country.	

**Note:** The *a priori* expectation of all the independent variables are positive (+) except for *exch* and *lockd* that are expected to be negative (-).

## CHAPTER FIVE

### EMPIRICAL RESULTS AND ANALYSES

#### 5.1 Introduction

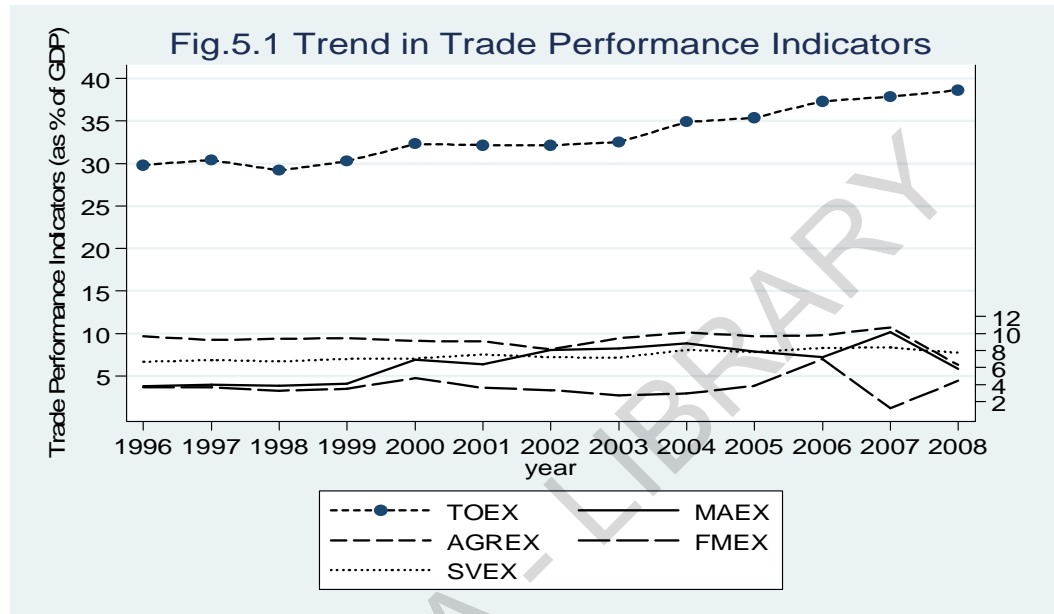
This chapter presents and discusses empirical results of the study. The discussion started with descriptive analysis and summary statistics, which provided trend analysis of basic indicators of international trade performance and institutional framework in the selected SSA countries. The chapter also provided some robustness and sensitivity checks using some test statistics in order to ensure that the estimated results are reliable for meaningful inferences.

#### 5.2 Descriptive Analysis of International Trade Performance

The list of the 34 selected SSA countries based on their sub-regional grouping is provided in Table A1.2 in the Appendix. The Table also contains each country's identifier as used in the estimation. The five indicators of international trade performance, namely: total (*toex*), manufacturing (*maex*), agricultural (*agrex*), fuel and mining (*fmex*), and service (*svex*) exports are plotted in Fig.5.1. This is done with a view to examining the trend as well as carrying out a comparative analysis of these indicators.

As shown in Fig.5.1, all the indicators of international trade performance except total export were below 12% of GDP all through the period from 1996 to 2008. Their values as percentage of GDP revolved around 2% to 10% with the exception of agricultural export that was more than 10% in 2007, but subsequently decreased to about 6% in 2008. Service export appeared more stable than the other indicators of international trade performance as can be observed from its values that ranged between 6.8% and 8.4%. This means that

countries that trade (export) predominantly service products will experience less shocks than others that are engaged in other forms of exports.



**Note:** Toex; Maex; Agrex; Fmex; Svex, represent total; manufacturing; agricultural; fuel and mining; and service exports. The same unit of measurement is applicable to the two vertical axes. Two vertical axes were used for easy comparison.

**Source:** Computed by the Researcher.

On the other hand, fuel and mining export had the greatest fluctuations especially between 2005 and 2008 where the values fluctuated between 2.9% and 7.0%. The reason for this scenario may not be unconnected with the changes in the global demand for fuel within this period. The basic implication of this instability is that SSA countries that are highly dependent on fuel and mining export are prone to unfavourable shocks in the global market compared to others. This finding clearly attests to the fact that a major challenge facing many African countries in the global market is the exportation of mainly primary products (Fosu, 1996; Olayiwola and Osabuohien, 2009).



Fig. 5.1 also depicts that the contribution of agricultural and manufacturing exports as indicators of international trade performance exhibited a considerable level of fluctuation between 2001 and 2008. For instance, agricultural export decreased from 9.1% in 2001 to 8.1% in 2002. It increased to 10.1% in 2004 and fell to 9.7% in 2005; though it increased to 10.7% in 2007, it eventually decreased to 6.3% in 2008. Manufacturing export had a similar pattern with agricultural export between 2007 and 2008 as it decreased from 10.1% in 2007 to 5.8% in 2008. One of the reasons that can be adduced for the sharp decline (i.e. 10.1% to 5.8% for *maex* and 10.7% to 6.3% for *agrex*) in the later years for these indicators of international trade performance may be related to the global economic downturn that hit the world market at that time. This is coupled with the fact that the export capacities of most SSA countries are not as competitive compared to the rest of the world as a result of constraints such as bureaucratic challenges.

These constraints and bureaucratic challenges are depicted by trade facilitation measures. As shown in Table 5.1, the indicators used were: the number of documents required for exports, the number of days required to prepare goods for export and the cost involved in exporting a container.

Table 5.1 revealed that the measures of trade facilitation had more constraints in SSA than those of other regions as well as world average. The Table brought out the fact that it takes an average of 36.07 days to process export document in SSA compared to the world average of 25.76 days, which implies more export constraints. Similarly, Table 5.1 revealed that it cost about twice to export a container from SSA compared to East Asia-Pacific. The issue here is that there are more constraints to export in SSA countries when compared to other regions including developing ones.

**Table 5.1: Some Indicators of Trade Facilitations across the World**

Region	No. of Documents for Export	Days for Export	Cost to Export (US\$ per Container)
	1995-2009	1995-2009	1995-2009
Sub-Saharan Africa	8.12	36.07	1,770.50
South Asia	8.40	33.95	1,261.30
Latin America and Caribbean	7.01	21.56	1,166.40
Middle East and North Africa	7.15	28.37	1,162.40
East Asia-Pacific	7.14	26.21	950.00
World Average	6.91	25.76	1,288.60

**Note:** The figures represent the average for the period. This was done in order to avoid the issue of omitted observations.

**Source:** World Bank (2010)

### 5.3 Summary Statistics of Major Variables

Summary statistics of key variables are presented in Table 5.2. The Table revealed that the mean value for total export was 34.22% of GDP. An examination of other indicators of international trade performance brought out the fact that fuel and mining export had the lowest mean value (5.73% of GDP) but it had the highest level of standard deviation. The implication of this observation is that among the indicators of international trade performance, besides total export, fuel and mining export contributed the least to GDP but exhibited the greatest variation. This finding might have resulted from the fact that fuel and mining sector in most SSA countries are highly capital intensive and also their outputs are exported with little or no processing (Olomola, 2007; Fongue, 2007). Thus, the needed multiplier effects that would have permeated the domestic economies in terms of employment, among others, are minimal.

The mean values of the rest international trade performance indicators were 6.18%, 7.82% and 8.07% for manufacturing, agricultural and service exports, respectively. Thus, ranking the indicators of international trade performance in terms of their contribution to GDP using their mean values revealed that the

highest was service export followed by agricultural, manufacturing and fuel and mining exports.

**Table 5.2: Summary Statistics of Selected Variables**

	Variables (Units of Measurement)	Mean	Std. Dev.	Observations
<i>Dependent</i>	Fuel and Mining Export (% of GDP)	5.73	10.76	334
	Manufacturing Export (% of GDP)	6.18	10.28	369
	Agricultural Export (% of GDP)	7.82	7.03	366
	Service Export (% of GDP)	8.07	6.61	441
	Total Export (% of GDP)	34.22	21.79	441
<i>Political Institutions*</i>	Rule of Law	2.97	0.61	340
	Government Effectiveness	2.98	0.57	340
	Control of Corruption	3.03	0.56	340
	Voice and Accountability	3.08	0.69	340
	Regulatory Quality	3.13	0.62	340
	Political Stability	3.14	0.86	340
<i>Financial Institutions</i>	Contract Intensive Money (Index)	0.77	0.14	395
	Financial Depth (Index)	0.19	0.17	396
	Lending Rate (%)	25.92	46.62	312
<i>Macroeconomic</i>	Real Effective Exchange Rate (Index)	105.14	21.19	390
	Economic Growth (%)	4.26	3.65	441
<i>Trade Policies</i>	Average Applied Tariff (%)	14.47	5.74	227
	Customs and other Import Duties (% of total tax revenue)	26.24	15.63	171
<i>Human Capital &amp; Infrastructural Development</i>	Human Development Index (Index)	0.49	0.13	382
	Internet Users (per 100 persons)	6.72	28.29	435
	Personal Computers (per 100 persons)	4.72	15.67	337
	Telephone Users (per 100 persons)	12.12	18.50	427

\*The original values of political institutions variables ranged from -2.5 to +2.5; higher values indicating better institutional quality, but the rescaled values ranged from 1 to 6. Economic institutions are not presented due to the fact that they are dummy variables.

**Source:** Computed by the Researcher.

With respect to the institutional variables, the values in Table 5.2 revealed that all the six indicators of political institutions were far lower than the average value of 3.5. As reported in Table 5.2, rule of law (*RL*) was the lowest with the mean value of 2.97, which was followed by government effectiveness (*GE*) that had the average value of 2.98. Control of corruption (*CC*) and voice and

accountability (*VA*) had the respective mean values of 3.03 and 3.08, while the average values for regulatory quality (*RQ*) and political stability (*PS*) were 3.13 and 3.14, respectively. This implies that the political institutional environment of the selected SSA countries is not quite conducive for economic activities.

Table 5.2 also documents the financial institutional variables. The average lending rate was at a high value of 25.92%, which implies that the rate might not induce the propensity to borrow from the formal financial system. This may in turn lead to the reduction of the level of investment including international trading activities. This is based on the fact that lending rate and investment are inversely related. On the other hand, the depth of financial intermediation had a mean value of 0.19, which indicates that the credit to the private sector as a ratio of GDP was low. The implication of this finding is that financial intermediations in the selected SSA countries are not sufficiently deep for improved trading activities. This may be linked to the predominance of informal financial activities in many SSA countries.

As reported in Table 5.2, the mean value growth rate in the selected SSA countries was 4.26 while the average values of the two measures of trade policy, applied tariff and custom and excise duties were 14.47% and 26.70%, respectively. This gives an indication that trade policy measures are rather high in SSA, which denotes some form of restrictiveness. Furthermore, the mean value of indicators of human capital was 0.49 while the indicators infrastructural development had average values of 6.72 per 100 persons for internet users, 4.72 persons for personal computers and 12.12 per 100 persons. The values were quite very low and given the fact infrastructure are essential for international trade participation with respect to transactions. The

implication of this is that there is the existence of low level of infrastructural provisions in the selected SSA countries, which will increase transaction costs that are associated with export of goods and services.

#### **5.4.1 Empirical Results and Discussion**

The empirical results of this study obtained from the estimation of the formulated models are reported and discussed in this section. The main purpose of the empirical analysis was to test the stated hypotheses with regard to ascertaining the determinants of the different indicators of international trade performance. The estimation process was carried out in two main aspects using FE and 2SLS. The FE technique examined the factors that are time-varying while the 2SLS examined the determinants of international trade performance that have limited time variation with emphasis on indicators of institutional framework, namely: political, economic and financial institutions.

#### **5.4.2 International Trade Performance, Economic Growth and Exchange Rate**

The interaction between the five indicators of international trade performance and economic growth as well as real effective exchange rate is presented in Table 5.3. The starting point of the empirical analysis was the Ordinary Least Squares (OLS). This was done for the purpose of robustness checks. The FE results are documented in Table 5.3 and discussed in this section, while those of the OLS are addressed in the robustness and sensitivity checks section.

As shown in Table 5.3, the previous economic growth had the expected positive sign for all the indicators of international trade performance except for agricultural export. However, in terms of significance, it was not significant at 10%. This means that an increase in economic growth in a given period has the

potential to enhance international trade performance for the next period (except for agricultural export) but such potential was not significant for the selected SSA countries.

**Table 5.3: Results for International Trade Performance Indicators**

*Dependent Variables: The Indicators of International Trade Performance, namely: Total (Toex), Manufacturing, maex, Agricultural (Agrex), Fuel and Mining (Fmex), and Service Exports (Svex)*

<i>Regressor</i>	<i>Toex</i>		<i>Maex</i>		<i>Agrex</i>		<i>Fmex</i>		<i>Svex</i>	
	<i>OLS</i>	<i>FE</i>	<i>OLS</i>	<i>FE</i>	<i>OLS</i>	<i>FE</i>	<i>OLS</i>	<i>FE</i>	<i>OLS</i>	<i>FE</i>
<i>Lnexch</i>	-0.042 <sup>a</sup> (.000)	0.576 <sup>a</sup> (.000)	-0.123 <sup>a</sup> (.001)	1.086 <sup>a</sup> (.001)	-0.056 <sup>b</sup> (.027)	0.169 (.263)	0.027 (.571)	1.326 <sup>a</sup> (.006)	-0.023 (.197)	0.878 <sup>a</sup> (.000)
<i>L.ecogr</i>	-0.026 <sup>a</sup> (.006)	0.037 (.417)	-0.075 <sup>b</sup> (.021)	0.008 (.570)	-0.019 (.382)	-0.003 (.597)	-0.055 (.190)	0.035 (.131)	0.014 (.321)	0.005 (.342)
<i>Lnmkpot</i>	0.082 <sup>a</sup> (.008)		0.377 <sup>a</sup> (.000)		-0.112 (.108)		1.110 <sup>a</sup> (.000)		-0.018 (.702)	
<i>LnRL</i>	0.646 (.144)		-1.608 (.295)		0.553 (.558)		-6.535 <sup>a</sup> (.001)		3.857 <sup>a</sup> (.000)	
<i>LnVA</i>	-0.678 <sup>a</sup> (.007)		-0.036 (.967)		-0.872 (.133)		-2.650 (.017)		-0.663 <sup>c</sup> (.089)	
<i>LnRQ</i>	-0.374 <sup>c</sup> (.077)		2.813 <sup>a</sup> (.000)		0.163 (.748)		1.085 (.247)		-2.187 <sup>a</sup> (.000)	
<i>LnCC</i>	-0.219 (.563)		3.151 <sup>b</sup> (.014)		-0.720 (.400)		0.139 (.930)		-1.593 (.008)	
<i>LnGE</i>	0.761 <sup>c</sup> (.071)		-1.374 (.334)		0.614 (.513)		1.765 (.359)		2.207 <sup>a</sup> (.001)	
<i>LnPS</i>	0.769 <sup>a</sup> (.000)		0.936 <sup>c</sup> (.099)		0.107 (.779)		2.510 <sup>a</sup> (.001)		0.043 (.873)	
<i>Constant</i>	2.752 <sup>a</sup> (0.00)	3.756 <sup>a</sup> (.000)	-2.900 <sup>a</sup> (.001)	1.415 <sup>a</sup> (.000)	2.192 <sup>a</sup> (.000)	1.882 <sup>a</sup> (.000)	4.116 <sup>a</sup> (.000)	0.488 (.446)	-0.213 (.955)	2.547 <sup>a</sup> (.000)
<i>R<sup>2</sup></i>	0.385	0.328	0.308	0.232	0.115	0.041	0.464	0.108	0.482	0.173
<i>Time effect</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Countries</i>	34	34	34	34	34	34	34	34	34	34
<i>Obsv.</i>	325	392	287	330	275	327	264	314	324	390

**Notes:** Ln and L.- logarithm and lag operator. Probability values are in parenthesis. OLS -Ordinary Least Squares; FE -fixed effects. The R<sup>2</sup> in OLS is the adjusted and that of FE is within. Superscripts a,b, and c mean significant at 1, 5 and 10%, respectively. Coefficients of time effect were not reported for brevity sake; however, a sample of results that contains them is presented in the Appendix.

**Source:** Estimated by the Researcher.

This implies that economic growth in the selected SSA countries have not significantly promoted their international trade performance within the period of this study, which might have resulted from the fact that most SSA countries usually experience slow economic growth. This finding tends to substantiate the observation of Bacchatta (2007) that poor economic performance and low

development in Africa accounts for one of the factors why the continent experienced low share in world market.

The real effective exchange rate had significant positive impact on all the indicators of international trade performance except agricultural export. This is rather contrary to the expected negative influence. The basic implication of this finding is that depreciation of the real exchange rate may not lead to an inducement of international trade performance in the selected SSA countries. This seems to be at variance with Bahmani-Oskooee and Ratha (2004) who found real exchange rate depreciation to have significant effect on the long-run trade balance in USA. However, it supports the submission of Diomonde and Kone (2008) that real exchange depreciation did not have significant effect on trade in Cote d'Ivoire.

The above finding might also be connected to the fact that most SSA countries' export commodities especially those of fuel and mining, which are not essentially determined by the level of exchange rate. This is given the oligopolistic tendencies that are latent in the sector where there exist few exporting companies (mainly trans-national where their policies are tilted towards those that are available in their parent companies). More so, since most of the countries depend on imports of inputs needed for production especially the manufacturing sector, so unguided depreciation will increase cost, which will make exports less competitive. Thus, the Marshal-Lerner condition for the effectiveness of real exchange rate depreciation in promoting international trade have not been satisfied in the selected SSA countries.

### 5.4.3 International Trade Performance and Political Institutions

The interaction between the indicators of international trade performance and the various aspects of political institutions are presented in Tables 5.4(a-e). The dependent variables were the respective country fixed effects obtained for the five indicators of international trade performance. Column *A* represents equations without the use of instrumental variables, while column *B* is with instrumental variables. The empirical discussion is focussed on results of the equations with instrumental variables because they performed better than those without instrumental variables<sup>8</sup>.

The relationship between total export and the six political institutional variables are reported in Table 5.4a. As can be observed from the Table, the respective measures of political institutions had positive and significant influence on total export except regulatory quality (RQ). This gives the implication that improving the political institutional environment will lead to the enhancement of total export in the selected SSA countries, *ceteris paribus*. This finding tends to reinforce the observation of Fosu (2003) that political instability had adverse effects on exports.

A look at the magnitude of the influence of the political institutional variables on total export revealed that the rule of law (*RL*) exerted the greatest impact, which was followed by voice and accountability (*VA*), government effectiveness (*GE*), control of corruption (*CC*), and political stability (*PS*).

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<sup>8</sup> Discussion was not made on market potential to keep the analysis focused. However, from the results, there were some indications that market potential had significant and positive influence in some of the indicators of international trade performance except for agricultural export, which might have resulted from the predominance of small-scale farming in many SSA countries. Thus, the indicators of international trade performance would be better explained by other explanatory variables especially measures of institutional framework.



Thus, to promote total export, it is not only imperative to ensure political stability but other categories of institutional framework especially rule of law.

**Table 5.4a: Political Institutions and Total Export**

Dependent Variable: Total Export (Toex).												
Regressor	A		B		A		B		A		B	
<i>Lnmkpot</i>	0.009 (.918)	0.102 (.407)	-0.127 (.169)	0.358 <sup>b</sup> (.029)	-0.054 (.568)	0.081 (.147)	0.002 (.985)	0.085 (.418)	-0.171 <sup>c</sup> (.053)	0.348 <sup>b</sup> (.015)	0.050 (.587)	0.297 <sup>c</sup> (.064)
<i>LnRL</i>	3.775 <sup>a</sup> (.000)	4.673 <sup>a</sup> (.000)										
<i>LnVA</i>			2.526 <sup>a</sup> (.000)	4.607 <sup>a</sup> (.000)								
<i>LnRQ</i>					-0.268 (.670)	0.970 (.447)						
<i>LnCC</i>							4.447 <sup>a</sup> (.000)	3.443 <sup>a</sup> (.002)				
<i>LnGE</i>									4.042 <sup>a</sup> (.000)	4.422 <sup>a</sup> (.000)		
<i>LnPS</i>											2.201 <sup>a</sup> (.000)	3.025 <sup>a</sup> (.006)
<i>R<sup>2</sup></i>	0.136	0.121	0.075	0.180	0.025	0.019	0.139	0.095	0.163	0.153	0.110	0.089
<i>Instruments</i>	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
<i>Sargan-P</i>		0.364		0.248		0.157		0.488		0.272		0.303
<i>Countries</i>	34	34	34	34	34	34	34	34	34	34	34	34

**Notes:** Instrumental variables - logemaug, gethfra and legalor. Columns A and B are without and with instrumental variables, respectively. Probability values are in parenthesis. The p-values from Sargan and Bassman tests were almost the same, hence only the former (Sargan-P) is reported. Constants were included in all the 2SLS estimations but not reported for brevity sake. A sample of complete result from 2SLS is presented in the Appendix. Superscripts a,b, and c mean significant at 1, 5 and 10%, respectively.

**Source:** Estimated by the Researcher.

In Table 5.4b it was shown that all the six measures of political institutions had positive and significant impact on manufacturing export. This implies that improvement on the political institutional factors will engender an increase in the level of manufacturing export in the selected SSA countries. From their coefficients, it was observed that rule of law exhibited the greatest influence on manufacturing export, which was followed by government effectiveness, control of corruption, political stability, regulatory quality, and voice and accountability. In the work of Meon and Sekkat (2008) control of corruption, rule of law, government effectiveness, and political stability were seen to be relevant for manufacturing export. The difference between the finding of this study and that of Meon and Sekkat (2008) may be as a result of the difference in the countries and period studied.

**Table 5.4b: Political Institutions and Manufacturing Export**

Regressor	Dependent Variable: Manufacturing Export (Maex).											
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Lnmkpot</i>	0.389 <sup>b</sup> (.017)	0.335 (.167)	0.174 (.304)	-0.391 (.205)	0.259 (.136)	0.253 (.262)	0.344 <sup>b</sup> (.031)	0.280 (.151)	0.092 (.257)	0.599 <sup>c</sup> (.060)	0.458 <sup>a</sup> (.006)	0.597 <sup>a</sup> (.007)
<i>LnRL</i>	4.184 <sup>a</sup> (.000)	4.963 <sup>a</sup> (.000)										
<i>LnVA</i>			3.338 <sup>a</sup> (.000)	4.137 <sup>a</sup> (.000)								
<i>LnRQ</i>					2.395 <sup>b</sup> (.043)	4.506 <sup>a</sup> (.004)						
<i>LnCC</i>							4.122 <sup>a</sup> (.000)	4.567 <sup>a</sup> (.000)				
<i>LnGE</i>									4.760 <sup>a</sup> (.000)	4.859 <sup>a</sup> (.000)		
<i>LnPS</i>											3.505 <sup>a</sup> (.000)	4.515 <sup>a</sup> (.001)
<i>R<sup>2</sup></i>	0.137	0.122	0.090	0.186	0.026	0.141	0.172	0.183	0.145	0.163	0.112	0.089
<i>Instruments</i>	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
<i>Sargan-P</i>		0.272		0.314		0.221		0.294		0.288		0.303
<i>Countries</i>	34	34	34	34	34	34	34	34	34	34	34	34

Note and Source: Same as in Table 5.4a.

The relationship between agricultural export and the political institutional variables are reported in Table 5.4c. From the values in the Table, it was observed that the six indicators of political institutions had positive and significant impact on agricultural export in the selected SSA countries. With regard to their level of influence, it was revealed that government effectiveness had the greatest impact, which was closely followed by voice and accountability, control of corruption, rule of law, regulatory quality, and political stability. The implication of this finding is that the pursuance of favourable political institutions especially government effectiveness will help in improving the level of agricultural export in the selected SSA countries. This might be related to the fact that agricultural products are perishable and as a result, effectiveness in the regulatory environment is essential in terms of adequate processing and storage facilities as well as distribution.

**Table 5.4c: Political Institutions and Agricultural Export**

Regressor	Dependent Variable: Agricultural Export (Agrex).											
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Lnmpot</i>	-0.145 <sup>b</sup> (.021)	-0.017 <sup>b</sup> (.028)	-0.169 <sup>a</sup> (.009)	-0.325 <sup>a</sup> (.001)	-0.142 <sup>b</sup> (.027)	-0.206 <sup>b</sup> (.012)	-0.152 <sup>b</sup> (.016)	-0.192 <sup>a</sup> (.007)	-0.191 <sup>a</sup> (.003)	-0.394 <sup>a</sup> (.000)	-0.133 <sup>b</sup> (.036)	-0.099 <sup>c</sup> (.088)
<i>LnRL</i>	0.879 <sup>b</sup> (.032)	3.339 <sup>a</sup> (.001)										
<i>LnVA</i>			0.441 <sup>a</sup> (.000)	3.919 <sup>a</sup> (.000)								
<i>LnRQ</i>					-0.486 (.158)	3.116 <sup>b</sup> (.027)						
<i>LnCC</i>							1.123 <sup>b</sup> (.017)	3.658 <sup>a</sup> (.001)				
<i>LnGE</i>									1.077 <sup>b</sup> (.012)	3.963 <sup>a</sup> (.000)		
<i>LnPS</i>											0.572 <sup>b</sup> (.029)	2.783 <sup>b</sup> (.010)
<i>R<sup>2</sup></i>	0.057	0.112	0.039	0.098	0.026	0.141	0.047	0.058	0.049	0.068	0.044	0.069
<i>Instruments</i>	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
<i>Sargan-P</i>		0.491		0.184		0.221		0.218		0.519		0.148
<i>Countries</i>	34	34	34	34	34	34	34	34	34	34	34	34

Note and Source: Same as in Table 5.4a.

Table 5.4d reports the interaction between fuel and mining export and the measures of political institutions. It could be observed from the Table that the political institutional variables, with the exception of regulatory quality, had positive and significant influence on fuel and mining export. In terms of their magnitude of impact, it was revealed that among the political institutional variables, voice and accountability had the greatest influence, which was followed by political stability, government effectiveness, rule of law, and control of corruption. The basic economic implication of this finding is that political institutions especially voice and accountability are very important in promoting fuel and mining export in the selected SSA countries. This finding can be supported by the Niger Delta issue in Nigeria where there are agitations by the indigenes for more accountability of rich oil deposits in their area (Dike, 2004; UNDP, 2006).

**Table 5.4d: Political Institutions and Fuel and Mining Export**

<i>Dependent Variable: Fuel and Mining Export (Fmex).</i>												
<i>Regressor</i>	<i>A</i>		<i>B</i>		<i>A</i>		<i>B</i>		<i>A</i>		<i>B</i>	
<i>Lnmkpot</i>	0.998 <sup>a</sup> (.000)	0.908 <sup>a</sup> (.001)	0.943 <sup>a</sup> (.000)	0.354 (.124)	0.021 <sup>a</sup> (.000)	1.022 <sup>a</sup> (.000)	0.964 <sup>a</sup> (.000)	0.880 <sup>a</sup> (.000)	0.841 <sup>a</sup> (.000)	0.297 (.115)	1.042 <sup>a</sup> (.000)	0.924 (.088)
<i>LnRL</i>	1.837 (.185)	3.623 <sup>a</sup> (.022)										
<i>LnVA</i>			0.592 (.641)	4.993 <sup>a</sup> (.006)								
<i>LnRQ</i>					-2.687 <sup>c</sup> (.065)	-2.245 (.187)						
<i>LnCC</i>							3.042 <sup>b</sup> (.012)	3.106 <sup>b</sup> (.040)				
<i>LnGE</i>									3.447 <sup>b</sup> (.021)	4.200 <sup>a</sup> (.004)		
<i>LnPS</i>											2.084 <sup>b</sup> (.019)	4.844 <sup>a</sup> (.008)
<i>R<sup>2</sup></i>	0.081	0.113	0.082	0.097	0.095	0.104	0.099	0.171	0.103	0.082	0.103	0.074
<i>Instruments</i>	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
<i>Sargan-P</i>		0.472		0.175		0.178		0.479		0.409		0.195
<i>Countries</i>	34	34	34	34	34	34	34	34	34	34	34	34

Note and Source: Same as in Table 5.4a

The relationship between the last indicator of international trade performance – service export and the measures of political institutions is presented in Table 5.4e. The results indicated that the six political institutional variables had positive and significant impact on service export except for regulatory quality. The coefficients of the political institutional variables revealed the fact that the most influential among them was control of corruption followed by government effectiveness, voice and accountability, rule of law and political stability. This finding implies that pragmatic control of corruption with sincerity as well as promoting effectiveness in government, among others, would enhance the tradability of service export in the selected SSA countries. This is particularly essential for SSA countries that are landlocked given the fact that the export of services like e-commerce does not require much logistics in transportation compared to other export categories. This may be due to the fact that the sector is still emerging and its growth depends on institutional quality (Soludo and Ogbu, 2004).

**Table 5.4e: Political Institutions and Service Export**

Regressor	Dependent Variable: Service Export (Svex).											
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Lnmkpot</i>	-0.057 <sup>a</sup> (.000)	0.126 (.151)	-0.304 <sup>b</sup> (.029)	0.584 <sup>b</sup> (.018)	-0.173 (.124)	0.060 (.173)	-0.074 (.134)	0.081 (.167)	-0.371 <sup>a</sup> (.005)	0.581 <sup>a</sup> (.006)	-0.012 (.239)	0.267 (.156)
<i>LnRL</i>	2.709 <sup>a</sup> (.000)	3.611 <sup>a</sup> (.000)										
<i>LnVA</i>			3.471 <sup>a</sup> (.000)	3.986 <sup>a</sup> (.000)								
<i>LnRQ</i>					-0.752 (.143)	1.395 (.152)						
<i>LnCC</i>							3.438 <sup>a</sup> (.000)	4.383 <sup>a</sup> (.000)				
<i>LnGE</i>									3.684 <sup>b</sup> (.021)	4.235 <sup>a</sup> (.004)		
<i>LnPS</i>											2.411 <sup>a</sup> (.000)	2.330 <sup>c</sup> (.069)
<i>R</i> <sup>2</sup>	0.188	0.121	0.105	0.085	0.088	0.090	0.172	0.118	0.208	0.158	0.117	0.054
<i>Instruments</i>	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
<i>Sargan-P</i>		0.242		0.129		0.126		0.346		0.185		0.284
<i>Countries</i>	34	34	34	34	34	34	34	34	34	34	34	34

Note and Source: Same as in Table 5.4a

The major finding made from the interaction between indicators of international trade performance and political institutional variables was that different measures of political institutional quality exert different degrees of impact on the indicators of international trade performance. This does not only support Acemoglu and Johnson (2005)'s maxim of *unbundling* institutions in assessing their influence but also it is essential to *unbundle* the different indicators of international trade to accentuate international trade-institutional framework nexus. This is summarised in Table 5.5.

From Table 5.5, one can observe that the rule of law was most important determinant of total and manufacturing exports but it was the fourth determinant of agricultural, fuel and mining, and service exports. Government effectiveness was a major factor for consideration for agricultural export but it was the second determinant of manufacturing and service exports, and third determinant of fuel and mining export.

**Table 5.5: Ranking of Political Institutional Indicators**

<i>Trade /Rank</i>	<i>1<sup>st</sup></i>	<i>2<sup>nd</sup></i>	<i>3<sup>rd</sup></i>	<i>4<sup>th</sup></i>	<i>5<sup>th</sup></i>	<i>6<sup>th</sup></i>
<i>Total Export</i>	Rule of Law	Voice & Accountability	Govt. Effectiveness	Control of corruption	Political stability	*Regulatory Quality
<i>Manufacturing Export</i>	Rule of Law	Govt. Effectiveness	Control of Corruption	Political Stability	Regulatory Quality	Voice & Accountability
<i>Agricultural Export</i>	Govt. Effectiveness	Voice & accountability	Control of Corruption	Rule of Law	Regulatory Quality	Political Stability
<i>Fuel &amp; Mining Export</i>	Voice & Accountability	Political Stability	Govt. Effectiveness	Rule of Law	Control of Corruption	*Regulatory Quality
<i>Service Export</i>	Control of Corruption	Govt. Effectiveness	Voice & Accountability	Rule of Law	Political Stability	*Regulatory Quality

**Note:** \*Regulatory Quality was not significant for total, fuel and mining, and service exports. The rank in this Table is a summary of the relevance of political institutional variables (*poins*), which was generated from Tables 5.4a-e. The major aim is to see, at a glance, which aspect of *poins* exhibit greater influence on the respective indicators of international trade performance.

**Source:** Compiled by the Researcher from the estimated results.

On the other hand, voice and accountability was the most important determinant of fuel and mining export, but it was the second determinant of total and agricultural exports, and third determinant of service export. For control of corruption, it was the most important determinant of service export; however, it was the third determinant of manufacturing and agricultural exports and the fourth determinant of total export. The issue above may arise due to difference in sectoral characteristics. For example, the level of contract enforcement required for transactions in manufacturing export differs from service and agricultural exports.

#### **5.4.4 International Trade Performance and Economic Institutions**

This sub-section presents and discusses the influence of economic institutions (proxied by *wto* and dummies for various RECs in SSA) and indicators of international trade performance. Instrumental variables were used for *wto* but not for the respective RECs given the fact that the RECs are the various regional bodies while *wto* is somewhat external to the region. As a result it

would be necessary to find out if internal institutional framework can influence its effects. The results are reported in Table 5.6.

**Table 5.6: International Trade Performance and Economic Institutions**

*Dependent Variables: The Indicators of International Trade Performance, namely: Total (Toex), Manufacturing, maex, Agricultural (Agrex), Fuel and Mining (Fmex), and Service Exports (Svex)*

Regressors	Toex		Maex		Agrex		Fmex		Svex	
	A	B	A	B	A	B	A	B	A	B
<i>Lnmkpot</i>	-0.149 <sup>c</sup> (.055)	-0.179 <sup>b</sup> (.047)	0.080 (.611)	-0.065 (.760)	-0.266 <sup>a</sup> (.000)	-0.263 <sup>a</sup> (.000)	0.895 <sup>a</sup> (.000)	0.864 <sup>a</sup> (.000)	-0.212 <sup>b</sup> (.048)	0.212 (.108)
<i>Wto</i>	-2.249 <sup>a</sup> (.000)	-2.384 <sup>b</sup> (.037)	-2.199 <sup>a</sup> (.004)	-5.153 <sup>a</sup> (.004)	-0.684 <sup>c</sup> (.056)	0.945 (.250)	-3.576 <sup>a</sup> (.007)	-6.961 <sup>b</sup> (.022)	-4.310 <sup>a</sup> (.000)	-6.040 <sup>a</sup> (.000)
<i>comesa</i>	0.518 <sup>c</sup> (.078)	0.586 (.207)	2.486 <sup>a</sup> (.000)	4.076 <sup>a</sup> (.000)	0.661 <sup>a</sup> (.005)	0.448 (.191)	0.466 (.550)	2.118 <sup>c</sup> (.058)	0.561 <sup>a</sup> (.182)	0.810 (.232)
<i>eccas</i>	-1.197 <sup>a</sup> (.008)	-0.996 <sup>c</sup> (.090)	-1.678 <sup>b</sup> (.026)	-1.276 (.178)	-1.191 <sup>a</sup> (.000)	-0.976 <sup>b</sup> (.018)	-1.192 (.304)	1.844 (.175)	-0.823 <sup>a</sup> (.210)	-0.199 (.833)
<i>ecowas</i>	3.166 <sup>a</sup> (.000)	3.857 <sup>a</sup> (.000)	4.848 <sup>a</sup> (.000)	6.420 <sup>a</sup> (.000)	-0.561 (.111)	-0.192 (.678)	5.448 <sup>a</sup> (.000)	6.820 <sup>a</sup> (.000)	4.651 (.000)	5.737 <sup>a</sup> (.000)
<i>Sadc</i>	1.586 <sup>a</sup> (.000)	1.790 <sup>a</sup> (.000)	3.964 <sup>a</sup> (.000)	4.627 <sup>a</sup> (.000)	0.416 (.116)	0.555 <sup>c</sup> (.089)	3.723 <sup>a</sup> (.000)	4.258 <sup>a</sup> (.000)	2.339 <sup>a</sup> (.000)	2.891 <sup>b</sup> (.000)
<i>R<sup>2</sup></i>	0.479	0.415	0.525	0.456	0.261	0.163	0.382	0.388	0.492	0.398
<i>Instruments</i>	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
<i>Sargan-P</i>		0.209		0.422		0.149		0.259		0.297

**Notes:** Instrumental variables - logemaug, gethfra and legalor. Columns A and B are without and with instrumental variables, respectively. Probability values are in parenthesis. P-values from Sargan and Bassman tests were almost the same, hence only the former (Sargan-P) is reported. Constants were included in all 2SLS estimations but not reported for brevity sake. Superscripts a,b, and c mean significant at 1, 5 and 10%, respectively.

**Source:** Estimated by the Researcher.

From the results presented in Table 5.6, the influence of economic institutions on the indicators of international trade performance revealed that the respective RECs presented have varying degrees of influence on the five indicators of international trade performance. The results underscored that *wto*, and Economic Community of Central African States (*eccas*) came out with a surprising contrary sign in some of the international trade performance indicators. Other RECs had the expected positive sign.

Considering their respective level of significance, one can observe that WTO membership (*wto*) and the Economic Community of West African States (*ecowas*) were significant except for agricultural export (*agrex*), while the *eccas* was only significant for total export and agricultural export. On the other

hand, the Southern African Development Community (*sadc*) was significant for all the indicators of international trade performance.

It could also be observed from the magnitude of the economic institutional variables that the Southern African REC (notably *sadc*) was much more relevant in promoting international trade performance in SSA. In addition, within the indicators of international trade performance, SADC seem to promote manufacturing export most followed by fuel and mining export. The difference between economic institutional variables and the indicators of international trade performance can be linked to the different rules and regulations that are operational in the respective RECs. The contrary sign observed for *wto* and *eccas* may be as a result of the fact that membership of SSA countries in these bodies have not exerted much significant impact on their international trade performance. For example, some rules such as rule of origin as well as Sanitary and Phytosanitary Standards (SPS) measures have been argued to pose some constraints on African export capacity and hence, limit their potential in international trade (Biggs, 2007; Lyakurwa, 2007).

#### **5.4.5 International Trade Performance and Financial Institutions**

The results of the impact financial institutional variables on the five indicators of international trade performance are presented in Table 5.7 and discussed in this sub-section. In the estimation process, instrumental variables were used for contract intensive money (*cim*) as informed by Clague et al (1999). This was considered necessary because the level of institutional framework can influence to some extent the enforceability of contracts and as a result influence the level of international trade performance.



**Table 5.7: International Trade Performance and Financial Institutions**

*Dependent Variables: The Indicators of International Trade Performance, namely: Total (Toex), Manufacturing, maex, Agricultural (Agrex), Fuel and Mining (Fmex), and Service Exports (Svex)*

<i>Regressors</i>	<i>Toex</i>		<i>Maex</i>		<i>Agrex</i>		<i>Fmex</i>		<i>Svex</i>	
	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>	<i>A</i>	<i>B</i>
<i>Lnmkpot</i>	-0.289 <sup>a</sup> (.000)	-0.386 <sup>b</sup> (.003)	-0.039 (.749)	0.538 <sup>c</sup> (.087)	-0.313 <sup>a</sup> (.000)	-0.616 <sup>a</sup> (.000)	0.633 <sup>a</sup> (.000)	0.520 <sup>a</sup> (.000)	-0.559 <sup>a</sup> (.000)	0.728 <sup>a</sup> (.000)
<i>Lncim</i>	2.941 <sup>a</sup> (.000)	4.648 <sup>a</sup> (.001)	1.770 <sup>b</sup> (.025)	2.509 <sup>a</sup> (.007)	2.017 <sup>a</sup> (.000)	2.160 <sup>a</sup> (.003)	1.876 <sup>b</sup> (.024)	2.085 <sup>b</sup> (.030)	1.362 <sup>a</sup> (.000)	2.925 <sup>a</sup> (.000)
<i>Lnlpr</i>	-0.897 <sup>a</sup> (.000)	-1.233 <sup>b</sup> (.000)	-1.375 <sup>a</sup> (.000)	-1.796 <sup>b</sup> (.015)	-0.312 <sup>b</sup> (.042)	-0.032 (.229)	-2.048 <sup>a</sup> (.000)	-1.790 <sup>a</sup> (.000)	-0.685 <sup>a</sup> (.003)	-1.122 <sup>b</sup> (.034)
<i>Lnfindep</i>	0.764 <sup>a</sup> (.000)	0.331 (.288)	1.670 <sup>a</sup> (.000)	0.458 (.500)	-0.042 (.706)	-0.680 <sup>c</sup> (.067)	1.400 <sup>a</sup> (.000)	1.304 <sup>a</sup> (.000)	1.144 <sup>a</sup> (.000)	0.424 (.334)
<i>R<sup>2</sup></i>	0.418	0.396	0.264	0.086	0.222	0.143	0.327	0.141	0.434	0.102
<i>Instruments</i>	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
<i>Sargan-P</i>		0.321		0.259		0.320		0.249		0.227

Notes and source are the same as in Table 5.6.

The results in Table 5.7 revealed that contract intensive money had the expected positive and significant impact on all the five indicators of international trade performance. The coefficient of contract intensive money gave the indication that it exerted the greatest influence on total export, which was followed by service, manufacturing, agricultural and fuel and mining exports. For depth of financial service in the economies, it had the expected positive sign except for agricultural export. However, in terms of influence, it was only significant for fuel and mining export. On the other hand, the last financial institutional variable – lending rate had the expected negative sign and was significant for all the indicators of international trade performance with the exception of agricultural export.

The discrepancy observed for agricultural export might have resulted from the fact that financial institutions did not induce the agricultural sector development as the financial service providers may prefer extending financial resources to other sectors of the economy like services. This can also be traced to the fact that the agricultural sector has relatively longer gestation period with respect to the time required for investment compared to other sectors.

Similarly, the fact that depth of the financial sector was observed to be only significant for fuel and mining export underscored the fact that in most SSA countries, providers of financial services are interested in the financing of fuel and mining export much more than other categories of exports (Sanusi, 2009). This is not too out of place as it has been seen that in SSA (especially Nigeria) providers of financial facilities usually favour the exports of crude oil, which is a sign of the less resilient nature of the financial institutions. This has been mentioned as one of the reasons for the weakness of the financial sector in Nigeria (Ojo, 2007; 2010).

Furthermore, the positive and significant impact observed for contract intensive money on all the indicators of international trade performance has the implication that enforcement of contracts is very crucial for international trade performance. This means that to enhance international trade performance in the selected SSA countries, the pursuance of contracts enforcement is a veritable tool. This may emanate from the understanding that contract enforceability makes each of the parties involved in a given transaction involving international trade to be optimistic as the challenges of moral hazards and adverse selection are reduced (Papaioannou, 2009). In addition, adequate modalities for enforcing contracts will reduce general transaction costs, which will improve export capacities and competitiveness.

#### **5.4.6 International Trade Performance, Trade Policies and ‘Landlockedness’**

The influence of trade policies as measured by applied tariff, and custom and excise duties on the indicators of international trade performance is presented in Table 5.8 and discussed in this sub-section. The Table also contains the

interaction between landlocked dummy simply referred as ‘landlockedness’ (*lockd*) and the indicators of international trade performance.

**Table 5.8: International Trade Performance and Trade Policies**

*Dependent Variables: The Indicators of International Trade Performance, namely: Total (Toex), Manufacturing, maex, Agricultural (Agrex), Fuel and Mining (Fmex), and Service Exports (Svex)*

<i>Regressor</i>	<i>Toex</i>	<i>Maex</i>	<i>Agrex</i>	<i>Fmex</i>	<i>Svex</i>
<i>Lnmkpot</i>	-0.280 (.197)	0.418 <sup>c</sup> (.201)	-0.142 (.122)	0.732 <sup>b</sup> (.189)	-0.479 (.134)
<i>Lnapt</i>	-0.220 (.668)	-0.339 (.662)	0.047 (.461)	0.151 (.792)	-0.241 (.545)
<i>Lncod</i>	-0.330 (.428)	-0.502 (.425)	0.103 (.564)	-0.767 (.449)	-0.440 (.474)
<i>Lockd</i>	-2.181 <sup>a</sup> (.000)	-4.016 <sup>a</sup> (.000)	-2.179 <sup>a</sup> (.000)	-4.527 <sup>a</sup> (.000)	-1.492 <sup>a</sup> (.000)
<i>Constant</i>	2.106 (.124)	3.745 <sup>c</sup> (.058)	0.309 (.180)	3.264 (.143)	2.930 (.161)
<i>R<sup>2</sup></i>	0.222	0.366	0.364	0.266	0.255
<i>F-stat.</i>	6.850	11.400	11.300	7.160	8.19
<i>(p-value)</i>	(.000)	(.000)	(.000)	(.000)	(.000)

**Notes:** Probability values are in parenthesis. Instruments were not because, as discussed in preceding chapter, they were meant for indicators of institutional framework. Superscripts a,b, and c mean significant at 1, 5 and 10%, respectively.

**Source:** Estimated by the Researcher.

From the values in Table 5.8, applied tariff as a measure of trade policy had the expected positive sign for only agricultural and fuel and mining exports. However, with respect to the impact it was not significant for any of the indicators of international trade performance. For the other measure of trade policy -custom and excise duties, it had a negative sign for all the indicators of international trade performance except for agricultural export but it was significant for none of them. This finding suggests that trade policy measures in the selected SSA countries did not exert significant influence on the indicators of international trade performance. This might have resulted from inappropriate use of trade policies in most the SSA countries (Iyoha and Oriakhi, 2002)<sup>9</sup>.

<sup>9</sup> This is interpreted with some caution as the trade policy variables had some missing values.

On the other hand, ‘landlockedness’ had the expected negative sign as can be observed in Table 5.8. In terms of impact, it was significant for all the indicators of international trade performance. The implication of the above finding is that landlocked countries experienced lower international trade performance than coastal countries that are easily navigated. This is not unexpected as landlocked countries will have increased cost of transportation, which will adversely influence their export competitiveness (Wanchek, 2009; Bertocchi, and Guerzoni, 2010). Furthermore, the results revealed that the impact of landlockedness was greatest for fuel and mining export, followed by manufacturing export. It had the least impact on service export. The basic economic implication of this observation is that fuel and mining export requires high transport cost and logistics followed by manufacturing export. Therefore, it means that for the landlocked countries in SSA, the promotion of service export will help to reduce some of the militating effects of ‘landlockedness’.

#### **5.4.7 International Trade Performance, Human Capital and Infrastructures**

The impact of human capital development on the indicators of international trade performance is presented in Table 5.9. The Table also reports the influence of infrastructural development proxied by the number of personal computers (*pecom*), internet users (*itnet*) and telephone subscribers (*tel*) on the indicators of international trade performance.

As can be seen in Table 5.9, human capital development had the expected positive and significant influence on all the indicators of international trade performance. With respect to the magnitude it is reflected from the results that

human capital had the greatest impact on manufacturing export followed by service, fuel and mining, total and agricultural exports.

**Table 5.9: International Trade Performance and Human Capital and Infrastructures**

*Dependent Variables: the respective indicators of International Trade Performance, namely: Total (Toex), Manufacturing, maex, Agricultural (Agrex), Fuel and Mining (Fmex), and Service Exports (Svex)*

Regressors	Toex		Maex		Agrex		Fmex		Svex	
	I	II	I	II	I	II	I	II	I	II
<i>lnmkpot</i>	-0.130 <sup>c</sup> (.094)	-0.066 (.494)	0.084 (.538)	0.201 (.239)	-0.189 <sup>a</sup> (.001)	-0.085 (.186)	0.754 <sup>a</sup> (.000)	0.909 <sup>a</sup> (.000)	-0.292 <sup>b</sup> (.011)	-0.121 (.267)
<i>Lnhdi</i>	1.934 <sup>a</sup> (.000)		3.866 <sup>a</sup> (.000)		1.091 <sup>a</sup> (.000)		2.796 <sup>a</sup> (.000)		3.813 <sup>a</sup> (.000)	
<i>lnitnet</i>		0.260 <sup>c</sup> (.095)		0.196 (.506)		0.355 <sup>a</sup> (.001)		0.176 (.662)		0.413 <sup>a</sup> (.002)
<i>lnpcom</i>		0.206 (.200)		0.427 (.155)		0.108 (.342)		0.586 (.146)		0.358 (.121)
<i>Lntel</i>		0.129 (.364)		0.662 <sup>a</sup> (.010)		0.104 (.279)		0.276 (.440)		0.114 (.584)
R <sup>2</sup>	0.213	0.195	0.193	0.142	0.063	0.104	0.154	0.132	0.207	0.207

Notes and Source: Same with Table 5.8.

This implies that improvement in human capital development will help to enhance the level of international trade performance especially manufacturing and service exports in the selected SSA countries. This is substantiated by the fact that human capital plays essential roles in the process of trade negotiations and other aspects of international trade such as policy formulation and implementation (World Bank, 2002; Olayiwola and Osabuohien, 2009). Thus, to boost the level of international trade performance in SSA countries, the role of quality development of human capital cannot be overemphasised.

Furthermore, the results in Table 5.9 revealed that all the measures of infrastructural development had the expected positive sign. However, with regard to their level of significance, internet usage had significant impact on service and agricultural exports, while the number of telephone subscription was only significant for manufacturing export. The implication of this finding is that efforts made towards the improvement of internet facilities in the

selected SSA countries will help to improve their service exports. Similarly, increase in telephone subscription in the selected countries will boost their manufacturing export. This finding corroborates Ayogu (2007) who found that increased *teledensity* engendered economic activities. Thus, access to information made possible through the use of internet as well as telephone usage has the ability of creating opportunities across the world, which can promote international trade especially for service export.

### **5.5 Robustness of Results**

To examine the robustness of the estimates, first the estimation process started with OLS as presented in Table 5.3. The OLS results indicated that out of the six political institutional variables, voice and accountability, regulatory quality, government effectiveness, and political stability influenced total export. For manufacturing export, it was regulatory quality, control of corruption, and political stability, while none of them had any effects on agricultural export. For fuel and mining export, it was rule of law, voice and accountability and political stability but for service export all of them had influence except political stability.

A glance at real effective exchange rate and previous economic growth rate in Table 5.3, gave the indication that the OLS results supported the effectiveness of real exchange rate depreciation for total export, manufacturing and agricultural exports, while previous economic growth was seen to be counter-productive for total and manufacturing exports. The OLS results appear inconsistent and biased compared to the fixed effects (FE) estimates as earlier mentioned. The above analysis is further buttressed by the sample of FE estimation in Table A2.1 in the Appendix where the value of the F-test of

110.46 (in the very last row), which was significant at 1% indicates the appropriateness of the FE technique.

The study equally carried out Hausman test to determine the choice to be made between FE and random effects (RE). As would be expected, the test reported in Table A3.1 in the Appendix indicates that the results from FE were more efficient than that of RE. At any rate, given the fact that the study had the interest of obtaining country fixed effects that were relevant in the second aspect of the estimation, it would have still been appropriate to make a choice in favour of FE (Leyaro and Morrissey, 2010).

**Table 5.10: Sample of First Stage Regression Results**

*Dependent variables: The indicators of Political Institutional Framework, namely: Rule of Law (RL), Voice and Accountability (VA), Regulatory Quality (RQ), Control of Corruption (CC), Government Effectiveness (GE), and Political Stability (PS).*

<i>Regressors</i>	<i>RL</i>	<i>VA</i>	<i>RQ</i>	<i>CC</i>	<i>GE</i>	<i>PS</i>
<i>Legalor</i>	0.686 <sup>a</sup> (.008)	0.099 <sup>a</sup> (.001)	0.020 <sup>a</sup> (.000)	-1.608 (.295)	0.079 <sup>a</sup> (.000)	0.046 (.106)
<i>Logemaug</i>	-0.045 <sup>a</sup> (.000)	-0.033 <sup>a</sup> (.000)	-0.034 <sup>a</sup> (.001)	-0.049 <sup>a</sup> (.000)	-0.046 <sup>a</sup> (.000)	-0.039 <sup>b</sup> (.018)
<i>Gethfra</i>	-0.012 <sup>b</sup> (.027)	-0.035 <sup>a</sup> (.000)	-.032 <sup>a</sup> (.001)	-0.018 <sup>a</sup> (.002)	-0.022 <sup>a</sup> (.001)	-0.026 <sup>b</sup> (.045)
<i>F-value</i>	11.86 <sup>a</sup> (.000)	14.49 <sup>a</sup> (.000)	9.87 <sup>b</sup> (.015)	17.86 <sup>a</sup> (.000)	21.07 <sup>a</sup> (.000)	12.32 <sup>a</sup> (.006)
<i>R<sup>2</sup></i>	0.153	0.178	0.097	0.207	0.299	0.099

*Number of countries is the same with main results. Constant terms were included but not reported: gethfra which was referred to as augmented ethnolinguistic fractionalisation, which Posner,2004 calls politically relevant ethnic group- PREG) performed better than the usual one, hence it was used. This First Stage Regression results were those from total export; others had similar pattern and were not reported to avoid too many Tables.*

**Source:** Estimated by the Researcher.

Moreover, the results in Tables 5.4(a-e) in the 2SLS as well as the sample of the First Stage regression results in Table 5.10 also affirmed that the OLS results were not reliable. This is critical given the fact that the results in the First Stage regression revealed that the chosen instrumental variables were significant in explaining the respective measures of institutional framework. Thus, not taking instrumental variables into consideration will result in biased

estimates. For instance, the OLS estimate for rule of law in Table 5.3 was not significant but, in column *B* of Table 5.4a, it was not only significant but the coefficients increased. Similarly, for agricultural export none of them was significant in the OLS estimates but in Table 5.4c (column *B*) they all became significant.

In addition, the probability of Sargan statistics (Sargan-P) in the lower part of Tables 5.4(a-e), 5.6 and 5.7 implied that the null hypothesis of no over-identification of the instruments cannot be rejected at the usual levels. In consonance with the above, the sample of the First Stage regression results in Table 5.10 had F-values that were approximately equal to and greater than the rule of thumb of 10 (Papaioannou, 2009). This equally confirms that the instrumental variables were good for the institutional framework.

The coefficients of the instrumental variables indicated that settlers' mortality and the augmented ethnolinguistic fractionalisation had negative and significant influence on the institutional framework in SSA, but legal origin and formalism had positive influence except for control of corruption. Both English and French legal origins were estimated but they were almost perfectly correlated, as a result one of them was used to avoid the challenge of multicollinearity and reported as legal origin (*legalor*). Thus, a more ethnically fractionalised society is more prone to the possibility of weak institutional quality than others. This is crucial for SSA where many of the countries have a high degree of ethnolinguistic fractionalisation.

Moreover, when instrumental variables were used, the influence of the institutional framework for most of the export categories increased indicating the imperativeness of using the chosen instrumental variables. For example,



the coefficient for rule of law increased from 3.775 to 4.673 for total export and from 2.709 to 3.611 for service export as can be seen in the second row of Tables 5.4a and 5.4e, respectively. The use of instruments was observed by Meon and Sekat (2008) but they only found ethnolinguistic fractionalisation valid. The conclusion in this section is that the various tests carried out support the fact that the estimated results were robust and can be relied upon for useful inferences.

## 5.6 Sensitivity Checks

In addition to the above checks on the robustness of the estimated results, the study also examined the sensitivity of the results. This was achieved by estimating a sample of the political institutional variable (rule of law *-RL*) and a measure of financial institution (contract intensive money *-cim*). The aim of the sensitivity check was to examine the variation of the magnitudes of the institutional variables in terms of their influence on the indicators of international trade performance. This was carried out by estimating all the 34 selected SSA countries in the study (*SSA*), then excluding South Africa (*Less ZAF*) and Nigeria (*Less NGA*)<sup>10</sup>.

Estimation was equally carried out for only the least developed countries (*LDCs*) in the study. Countries in the study that are in the *LDCs* category are indicated in Table A1.2 in the Appendix. The reason for this was based on the need to ascertain whether the selected institutional variables in the *LDCs* had the same measure of influence with the entire sample. It was also considered expedient to examine these checks given the fact that some international

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<sup>10</sup> A similar sensitivity check was carried out excluding Botswana but there was no significant difference; hence, it was not reported.

agencies especially the African Development Bank (AfDB, 2008), usually discuss African data by classifying North Africa, SSA, and SSA less ZAF.

**Table 5.11: Sensitivity Checks of Results**

<i>Dependent Variables: The indicators of International Trade Performance, namely: Total (Toex), Manufacturing, maex, Agricultural (Agrex), Fuel and Mining (Fmex), and Service Exports (Svex)</i>								
<i>Regressors</i>	<i>Sample of Political Institutions</i>				<i>Sample of Financial Institutions</i>			
	<i>ALL</i>	<i>Less ZAF</i>	<i>Less NGA</i>	<i>LDCs</i>	<i>ALL</i>	<i>Less ZAF</i>	<i>Less NGA</i>	<i>LDCs</i>
<b><i>Toex</i></b>								
<i>LnRL</i>	4.673 <sup>a</sup> (.000)	6.508 <sup>a</sup> (.000)	7.002 <sup>a</sup> (.000)	3.940 <sup>a</sup> (.000)				
<i>Lncim</i>					4.648 <sup>a</sup> (.001)	3.927 <sup>a</sup> (.000)	4.948 <sup>a</sup> (.000)	3.212 <sup>a</sup> (.000)
<i>R<sup>2</sup></i>	0.121	0.096	0.099	0.219	0.318	0.348	0.319	0.449
<b><i>Maex</i></b>								
<i>LnRL</i>	4.963 <sup>a</sup> (.000)	6.387 <sup>a</sup> (.001)	6.462 <sup>a</sup> (.000)	1.751 <sup>a</sup> (.010)				
<i>Lncim</i>					2.509 <sup>a</sup> (.007)	1.991 <sup>a</sup> (.000)	1.764 <sup>b</sup> (.018)	1.192 <sup>a</sup> (.001)
<i>R<sup>2</sup></i>	0.108	0.076	0.085	0.239	0.323	0.349	0.330	0.428
<b><i>Agrex</i></b>								
<i>LnRL</i>	3.339 <sup>a</sup> (.001)	4.513 <sup>a</sup> (.002)	2.246 <sup>b</sup> (.027)	0.358 (.569)				
<i>Lncim</i>					2.160 <sup>a</sup> (.003)	2.017 <sup>a</sup> (.000)	1.913 <sup>b</sup> (.011)	0.911 <sup>a</sup> (.000)
<i>R<sup>2</sup></i>	0.112	0.071	0.082	0.092	0.314	0.340	0.322	0.423
<b><i>Fmex</i></b>								
<i>LnRL</i>	3.623 <sup>b</sup> (.022)	4.998 <sup>b</sup> (.037)	6.162 <sup>a</sup> (.009)	0.091 (.909)				
<i>Lncim</i>					2.085 <sup>a</sup> (.003)	0.892 <sup>b</sup> (.023)	2.821 <sup>b</sup> (.013)	1.937 <sup>a</sup> (.004)
<i>R<sup>2</sup></i>	0.113	0.080	0.086	0.262	0.330	0.358	0.338	0.443
<b><i>Svex</i></b>								
<i>LnRL</i>	3.611 <sup>a</sup> (.000)	5.079 <sup>a</sup> (.000)	5.813 <sup>a</sup> (.000)	2.752 <sup>a</sup> (.000)				
<i>Lncim</i>					2.295 <sup>a</sup> (.000)	2.010 <sup>a</sup> (.000)	2.376 <sup>a</sup> (.000)	1.436 <sup>a</sup> (.000)
<i>R<sup>2</sup></i>	0.121	0.098	0.098	0.216	0.322	0.353	0.323	0.329

**Notes:** ZAF : South Africa; NGA: Nigeria; LDCs : Least Developed Countries. In the 2SLS equations, instrumental variables were used. Only the coefficients of the variables (institutional) were reported to bring out the comparison clearly.

**Source:** computed by the Researcher.

Furthermore, South Africa has been known to have a different growth pattern compared to other SSA countries. That of Nigeria was done given her high population, which is about 18.31% of that of the SSA region and 15.32% of

that of the entire African continent as well as her reliance on petroleum exports (Olomola, 2009; World Population Reference Bureau, 2009). Thus, the sensitivity check was equally done to ensure that there was no considerable influence of outliers in the results.

As shown in Table 5.11, the sensitivity checks points out that using rule of law as a sample of political institutional variable, there was not much difference with regard to the level of significance when the estimation was done without South Africa and Nigeria. As can be seen, rule of law was significant for all the indicators of international trade performance. This denotes that South Africa and Nigeria did not exert outlier effects in the estimated results. Their coefficients also indicated that the changes in the magnitude were marginal.

When only the LDCs were estimated, there was appreciable difference in both significance and magnitude of the coefficients. For example, rule of law was not significant for agricultural export as well as fuel and mining export. Also the magnitude decreased from 4.963 for all SSA to 1.751 for manufacturing export for LDCs. The implication of the aforementioned observation is that institutional variables were significant for the sampled SSA countries; such level of significance has marked variation for the LDCs in SSA. This may not be unconnected to the structure of their economies in terms of adaptation to shocks and institutional changes.

For the sample of financial institutions, the figures in Table 5.11 clearly indicated that contract intensive money was significant in all (i.e. *All, Less ZAF, Less NGA, and LDCs*) across all the indicators of international trade performance. It can also be observed that there was not much difference in terms of significance and magnitude of influence when South Africa and

Nigeria were excluded from the sample, respectively. This equally affirmed that South Africa and Nigeria did not exhibit possible outlier problems in the estimated results. On the other hand, when the estimation was done for only LDCs, there were some noticeable differences in magnitude. For instance, in agricultural export the magnitude decreased more than two-fold from 2.160 to 0.911 for SSA and LDCs, respectively. Therefore, one can interpret the scenario to mean that financial institutions are relevant in improving international trade performance in SSA countries as well as LDCs; but it is quite less in the former than the latter. This also may be as a result of the difference in the institutional framework of the economies.

## **CHAPTER SIX**

### **SUMMARY, RECOMMENDATIONS AND CONCLUSION**

#### **6.1 Introduction**

This chapter presents a summary of the major findings in the study, policy recommendations of the findings and conclusion. In addition, limitations of the study and suggestions for further research were also presented.

#### **6.2 Summary of Major Findings and Implications**

This study, which was basically motivated by the low level of international trade performance and institutional framework in SSA, had the major objective of investigating the impact of institutional framework on international trade performance as elucidated in the first chapter. This was achieved by *unbundling* international trade performance into five different indicators, namely: total, manufacturing, agricultural, fuel and mining, and service exports as well as institutional framework into political, economic and financial institutions. It was this *unbundling* that made the study unique as discussed in chapter four after presenting some patterns of international trade and institutional framework in the second chapter and establishing the gaps in the literature in chapter three. The fifth chapter presented and discussed the descriptive and empirical results of the study as well as some robustness and sensitivity tests where the robustness of the empirical results was ascertained.

From the results, a summary of the major findings and their implications are highlighted in this section.

At the first instance, the descriptive analysis established that service export was more stable than the rest indicators of international trade performance

while fuel and mining export exhibited the greatest fluctuation followed by agricultural export. This was based on the fact that service export had the least variability in the mean values compared to other international trade performance indicators especially fuel and mining export. The implication of this is that countries that export more of service products will face less instability in the event of unfavourable shocks in the world market while countries that export mostly fuel and mining products would be most adversely affected by shocks in the international market.

The study also found that an increase in economic growth in a given period has the ability of promoting the indicators of international trade performance except agricultural export in SSA countries but such potential is yet to be tapped. The above finding implies that economic growth in SSA countries have not significantly induced their international trade performance, which may be as a result of slow economic growth. It was equally established that real exchange rate depreciation did not significantly promote international trade performance in SSA countries. The implication of this is that the policy of exchange rate depreciation will not yield much result especially with respect to promoting international trade performance.

In terms of institutional framework, the variables of political institution were found to have positive and significant impact on the indicators of international trade performance in the selected SSA countries. Nevertheless, the study established that the different measures of political institutional quality exert varying degrees of influence on the respective indicators of international trade performance. Thus, there is the need to *unbundle* both institutions and international trade to appropriately examine the impact of institutional framework in international trade performance. In this regard, the study found

that rule of law was most important determinant of total and manufacturing exports but it was the fourth determinant of agricultural, fuel and mining, and service exports. Correspondingly, government effectiveness was found to be the major determinant of agricultural export but it was the second determinant of manufacturing and service exports, and third determinant of fuel and mining export. Furthermore, voice and accountability was seen to be the most important determinant of fuel and mining export, but it was the second determinant of total and agricultural exports, and third determinant of service export. It was equally established that control of corruption exerted the greatest impact on service export. However, it was the third determinant of manufacturing and agricultural exports and the fourth determinant of total export. This difference in their levels of impact may be as a result of the difference in the characteristics of the various indicators of international trade performance.

The implication of the above finding is that the level of contract enforcement and procedures required for transactions differ from one trade sector to the other. For example, in agricultural export, small scale entrepreneurs may be involved, which suggests less requirement for contract enforcement compared to manufacturing and fuel and mining exports that involve a great deal of procedures and contract enforceability as a result of reliance on credit facilities as well as compliance to rules and regulations.

Turning to the impact of economic institutions on the indicators of international trade performance, it was found that the different measures of economic institutions had different influence on the indicators of international trade performance. This might have arisen from the difference in the rules and regulations that are formulated and implemented by the different regional

economic communities (RECs) in SSA. One of the main differences noted was that the RECs in Southern Africa, notably SADC was quite more relevant in promoting international trade performance especially manufacturing export compared to others.

On the influence of financial institutions in SSA countries on their international trade performance, the study found that contract intensive money had positive and significant impact on all the indicators of international trade performance. It had the greatest influence on total export followed by service, manufacturing, agricultural and fuel and mining exports. On the other hand, the depth of financial services in SSA countries had the expected positive sign but it was mainly significant for fuel and mining export. The basic implication of this finding is that financial institutions are very important in promoting international trade performance in SSA countries. This is based on the need for financial services such as credit facilities and payment systems that aid the processes of international trade transactions.

Apart from the institutional framework, the study also examined the relevance of trade policies to international trade performance of SSA. It was found that trade policy variables, namely: applied tariff and custom and excise duties were not significant determinants of international trade performance. This finding suggests that trade policy in the selected SSA countries may not be a very effective tool useful for the promotion of international trade performance. This does not mean outright jettisoning of trade policy measures but they should be complemented with measures that will ease export-supply constraints. On the other hand, landlocked countries performed less than coastal countries in the context of international trade. This means that landlocked countries experience lower international trade performance than



coastal countries as landlocked countries will have increased cost of transportation, which will adversely influence their export competitiveness. The basic economic implication of this is that landlocked countries require high transport costs and logistics more than coastal countries. Thus, the landlocked countries need economic integration with coastal countries to reduce effects of this militating factor.

Finally, the study found that human capital had positive and significant impact on all the indicators of international trade performance with the greatest influence on manufacturing export followed by service, fuel and mining, total and agricultural exports. This means that improvement in human capital development will help to promote international trade performance especially manufacturing and service exports in the selected SSA countries. Furthermore, it was established that all the measures of infrastructural development had positive sign but internet usage had significant influence on service and agricultural exports, while the number of telephone subscription was only significant for manufacturing export. This implies that provision of internet facilities will improve the performance of SSA countries in international trade especially service export, while the improvement of telephone provision will enhance the level of manufacturing export.

### **6.3 Policy Recommendations**

Based on the findings of this study, some recommendations that are relevant to international trade promotion in SSA are made in this section. First and foremost, there is urgent need for SSA countries to place more emphasis on the export of service products and make efforts to deemphasise the export of fuel and mining export. This will help to improve their export performance

especially with respect to mitigating the adverse effects of possible external shocks in the domestic economy. This can be a long-term policy measure given the time required to adjust the composition of export baskets. The component of service export such as e-commerce through the use information technology, which does not have so much transaction costs, can be a better starting point for SSA countries especially the landlocked countries. However, in the main time more efforts and awareness should be created on the essence of promoting service export. This does not imply that SSA countries should downplay other categories of export but there is the need to increase the contribution of service export in the total trade of SSA countries.

Another policy recommendation is that efforts that will promote a sustained economic growth in SSA countries will improve international trade performance. Similarly, there is the need for SSA countries to place emphasis on policy measures that will ease export-supply constraints not only relying on exchange rate depreciation. The rationale for this is that even with a depreciated exchange rate, countries can only export to the rest of the world what they produce, and can be traded.

Given the finding that different variables of political institutions exert different degrees of impact on the indicators of international trade performance, it is recommended that a given institutional framework should be used where it is most relevant. Thus, it is imperative that the respective governments of SSA countries employ the institutional framework that ranked the highest in a given sector as the focal point for that very sector. This is also applicable for donor agencies that before carrying out development assistance in SSA countries, an understanding of a crucial institutional quality in a given sector is important. For instance, to improve the participation of SSA countries in service export,

enhancing the control of corruption is most appropriate compared to agricultural export where improvement in government effectiveness is most relevant.

In addition, there is the need to ensure that contracts are made easily enforceable. This is a very important factor to improve international trade performance of SSA countries. The reason for this is that the economic agents involved in international trade will be more confident in a given transaction as they are sure that moral hazards and adverse selection challenges are reduced. Moreover, foreign trade partners will be more inclined to engage in international trade transactions with countries that are reputed for contract enforcement. In view of this, the pursuance of rule of law and speedy delivery of judgement in the courts of law in SSA countries, which will promote the level of contract enforcement cannot be over emphasised. Thus, the institution of effective contract enforcement procedures will lead to reduction of transaction costs and eventually improve the level of international trade performance of the region. Policy measures that will strengthen financial institutions in SSA countries are also recommended. This is given the important roles that financial institutions play in international trade transactions.

Furthermore, as human capital plays a crucial role in enhancing international trade performance of SSA countries, the improvement of the quality as well as the stock of human capital in the region is highly recommended. Some of the approaches entail the training and retraining of experts in international trade such as trade lawyers, economists, among others, in SSA countries. A well-informed and trained crop of persons that participate in international trade negotiations, policy formulation and implementation are essential. This is most

crucial in this 21<sup>st</sup> century that is mostly knowledge driven. Thus, engaging experts that are conversant with the rapidly changing policy environments and the global issues would be very needful in enhancing international trade performance of SSA.

The study also recommends the provision of internet facilities to ensure better flow of information in order to improve the performance of SSA countries in international trade. Akin to this policy measure is the need to improve the level of telephone provision in the region. Given the usefulness of affordable and effective communication in enhancing the performance of manufacturing, the provision of these facilities will go a long way in promoting international trade performance. The roles of the regional economic communities are very important in this respect. Thus, the regional economic communities need not focus merely on trade policies such as tariff reduction but the provision of trade-related infrastructures in the region. This will reduce transaction costs and improve international trade competitiveness of Member States in the long-run. Some of the regions such as ECOWAS already have it in their agenda but acceleration of the process to ensure the realisation is equally recommended.

#### **6.4 Conclusion**

At the wake of 1990s, there has been increased interest on institutions and their influence on different aspects of countries' economic life. As was elucidated in the study, though there have been increased research efforts on institutions, most of the studies relate institutions to economic growth, investment, among others. This, *inter alia*, was what inspired this particular study. In effect, the study in literature exploration observed that not much research has been done in relating institutional framework to international trade performance

especially in SSA. Few studies that have related institutional framework to international trade performance were done mostly for countries in Americas, Asia and Europe.

In addition, SSA performs less than other regions of the world, such as: East Asia-Pacific; Europe and Central Asia; Latin America and the Caribbean; and Middle East and North Africa, in most of the international trade performance indicators. The performance of SSA was not only less than those of other regions; it is equally lower than the world average. On another hand, SSA region has low values in the various measures of institutional framework. The SSA's figures on institutional quality are both lower than those of other regions as well as the world average.

In view of the above observations, this study used a sample of 34 countries in SSA for the period 1996-2008 to empirically evaluate the impact of institutional framework on international trade performance. In achieving the objectives, the study engaged data obtained from World Development Indicators, World Governance Indicators, World Trade Indicators, among others, in different aspects of the estimation process. The first aspect of the econometric estimation process involved the use of panel data analytical technique based on fixed effects model. The rationale for this choice was to have country's fixed effects that were further engaged in the second aspect of the estimation.

The second aspect of the estimation process employed the Two-Stage Least Squares technique. This was deemed appropriate given the fact that the variables that involved institutional quality had little time variation. Another reason was the imperativeness of employing some instrumental variables such

as legal origin/formation and ethnolinguistic fractionalisation that influence institutional variables but are orthogonal to the indicators of international trade performance. Based on the above techniques of analysis, the formulated models were estimated in the light of different categories of institutional framework and their influence on the indicators international trade performance. Other factors besides institutional framework such as human capital and infrastructure development were equally assessed with respect to their influence on international trade performance.

Conclusively, the study has been able to examine the impact of institutional framework on the level of international trade performance of the selected SSA countries. It has made contribution by increasing the level of empirical research in the areas of international trade and institutions especially in SSA. Several findings were made from the analyses. One notable finding that made the study distinct from the previous research efforts was that different aspects of institutional framework had varying degrees of impacts for the different indicators of international trade performance. Thus, it is expedient to *unbundle* not only institutional framework but *unbundling* international trade performance in order to appropriately appraise international trade-institutional framework interactions. Some recommendations were made on how to improve international trade performance of SSA countries, which include the need to place more emphasis on service export to mitigate the adverse effects of external shocks. A related recommendation was policy measures that will ease export-supply constraints as well as the pursuance of rule of law, which will enhance the level of contract enforcement. The strengthening of financial institutions and the improvement of the quality of human capital in SSA countries were also recommended. The study also recommended the need for

regional economic communities in SSA to focus more on the provision of trade-related infrastructures in the region.

### **6.5 Limitations of the Study and Suggestions for Further Research**

This study did not use the usual gravity model given the fact that the focus was not on direction of trade but international trade performance and institutional framework. Also efforts were made to use the growth rates of the specific sectors (e.g. agricultural growth rate for agricultural export equation) but the data were not available for most of the sectors across the selected countries. Hence, the study used lagged economic growth rate as the best alternative. This will not hamper the validity of the results from the study given the fact that international trade performance indicators were not estimated with economic growth in contemporaneous manner. Further studies can investigate the influence of institutions on international trade performance using the growth rates of the respective sectors to complement this very study.

Instrumental variables are quite crucial to institutional framework with regard to properly assessing their influence on international trade performance. Several instrumental variables exist in the literature. However, the study used three, namely: legal origin/formation, ethnolinguistic fractionalisation, and augmented settlers' mortality due to the fact that others like distance from the equator, area of the country, latitude were seen not to meet the *orthogonality* condition with respect to some indicators of international trade performance especially agricultural export. Hence, they were dropped. Future empirical works that want to evaluate the relevance of institutional quality, which are not dealing with agricultural sector can consider some of these other instrumental variables to ascertain which of them are most relevant to a given institution.

The influence of international trade participation on institutional framework can be taken up in further research. This study did not cover this aspect in the empirical analyses but was mentioned in analytical framework in order to keep the focus. This area, which involves taking this study the other way round, will entail examining the impact of international trade on institutional framework. Thus, it will be essential for further research to empirically investigate whether a country's involvement in international trade has significant influence on its institutional quality. The generalised method of moments (GMM) estimation technique can also be employed with a view to making comparison with the fixed effects and instrumental variables techniques.

The study attempted embarking on some field visits to some countries like Botswana, which have been known to be a success story in terms of institutional framework in SSA with basic aim of examining her trade capacity as influenced by her institutional quality. However, the exercise became elusive as a result of some limitations like adequate funding. Therefore, this research effort can be complemented by examining a single country or two countries in comparative manner, to carry out an in-depth case study. In line with the saying that 'institutions are better studied than examined' this exercise will further help in adequately providing better appraisal of the role of institutions in a given country.



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## APPENDICES

### Appendix I: Panel Data Structure and List of Selected Countries

**Table A1.1 Structure of arranging Panel Data**

i	t	y	x
1	1	y <sub>11</sub>	x <sub>11</sub>
1	2	y <sub>12</sub>	x <sub>12</sub>
2	1	y <sub>21</sub>	x <sub>21</sub>
2	2	y <sub>22</sub>	x <sub>22</sub>
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
N	1	y <sub>N1</sub>	x <sub>N1</sub>
N	2	y <sub>N2</sub>	x <sub>N2</sub>

**Table A1.2 List of Countries and their Identifier (id)**

id	Central	Id	East	Id	Southern	id	West
1	Cameron	4	*Burundi	17	Botswana	22	*Benin
2	*Central African Rep.	5	*Ethiopia	18	*Lesotho	23	*Burkina Faso
3	Gabon	6	Kenya	19	Namibia	24	Cape Verde
		7	*Madagascar	20	South Africa	25	Cote d'Ivoire
		8	*Malawi	21	Swaziland	26	*Gambia
		9	Mauritius			27	Ghana
		10	*Mozambique			28	*Guinea
		11	*Rwanda			29	*Mali
		12	Seychelles			30	*Mauritania
		13	*Tanzania			31	*Niger
		14	*Uganda			32	Nigeria
		15	*Zambia			33	*Senegal
		16	Zimbabwe			34	*Togo

**Note:** \* - Least Developed Countries (LDCs).

**Source:** UNCTAD (2009) *Handbook of Statistics*;  
WTO (2009) *International Trade Statistics*.

## Appendix II: Sample of Results with Time and Country Effects

**Table A2.1 Fixed Effects Results with Time Effects**

```
. xtreg Lntoex Lnexch L.ecogr yr*,fe
```

Fixed-effects (within) regression  
Group variable: id

Number of obs = 392  
Number of groups = 34

R-sq: within = 0.3281  
between = 0.1370  
overall = 0.1174

Obs per group: min = 5  
avg = 11.5  
max = 12

F(13,345) = 11.43  
Prob > F = 0.0000

corr(u\_i, Xb) = -0.9544

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Lntoex						
Lnexch	.5763736	.0648593	8.89	0.000	.3890041	.644143
ecogr						
L1.	.0365842	.0319362	1.15	0.254	-.0609731	.0646562
yr1	(dropped)					
yr2	-.0271578	.0454252	-0.60	0.550	-.1165029	.0621873
yr3	-.0996236	.0453389	-2.20	0.029	-.1887989	-.0104482
yr4	-.1387746	.0452399	-3.07	0.002	-.2277554	-.0497938
yr5	-.0904938	.0457487	-1.98	0.049	-.1804751	-.0005124
yr6	-.0816212	.0457178	-1.79	0.075	-.1715419	.0082996
yr7	-.0805214	.0451445	-1.78	0.075	-.1693145	.0082717
yr8	(dropped)					
yr9	.1254923	.0450636	2.78	0.006	.0368583	.2141263
yr10	.1782512	.0457149	3.90	0.000	.0883361	.2681662
yr11	.275804	.0480304	5.74	0.000	.1813347	.3702734
yr12	.2679069	.0508583	5.27	0.000	.1678755	.3679383
yr13	.3564085	.0558273	6.38	0.000	.2466037	.4662133
_cons	3.681098	.0568761	64.72	0.000	3.569231	3.792966
sigma_u	2.0500561					
sigma_e	.18222584					
rho	.99216082	(fraction of variance due to u_i)				

F test that all u\_i=0: F(33, 345) = 110.46 Prob > F = 0.0000

**Notes:** The sample result was based on the first measure of international trade performance, total export.

**Table A2.2 Results with both Time and Country Effects**

reg Lntoex Lnexch L(1/2).ecogr yr\* count\*

Source	SS	df	MS	Number of obs =	359
Model	114.074776	45	2.53499502	F( 45, 313) =	26.43
Residual	30.0226536	313	.095919021	Prob > F	= 0.0000
				R-squared	= 0.7917
				Adj R-squared	= 0.7617
Total	144.097429	358	.402506786	Root MSE	= .30971

Lntoex	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Lnexch	.2671086	.1169759	2.28	0.023	.0369502 .4972671
ecogr					
L1.	-.0046476	.0057314	-0.81	0.418	-.0159246 .0066294
L2.	-.0081081	.005539	-1.46	0.144	-.0190065 .0027903
yr1	(dropped)				
yr2	(dropped)				
yr3	-.3597785	.0946485	-3.80	0.000	-.5460062 -.1735509
yr4	-.3802681	.1002658	-3.79	0.000	-.5775482 -.1829879
yr5	-.3223184	.1057075	-3.05	0.002	-.5303056 -.1143312
yr6	-.3117192	.1084094	-2.88	0.004	-.5250225 -.098416
yr7	-.3258602	.1040192	-3.13	0.002	-.5305254 -.1211949
yr8	-.2769507	.0967009	-2.86	0.004	-.4672167 -.0866847
yr9	-.1807042	.0924373	-1.95	0.051	-.3625812 .0011728
yr10	-.1262609	.0880059	-1.43	0.152	-.2994188 .046897
yr11	-.0415504	.0847916	-0.49	0.624	-.208384 .1252832
yr12	-.0654407	.0825218	-0.79	0.428	-.2278084 .096927
yr13	(dropped)				
count1	-1.532238	.5254507	-2.92	0.004	-2.566101 -.4983764
count2	-2.387769	.5266771	-4.53	0.000	-3.424044 -1.351494
count3	-.4829812	.4463559	-1.08	0.280	-1.361219 .3952562
count4	-2.285579	.3783934	-6.04	0.000	-3.030096 -1.541063
count6	-.9975381	.2880397	-3.46	0.001	-1.564277 -.4307991
count7	-.9983894	.3346386	-2.98	0.003	-1.656815 -.3399638
count8	-.3143713	.12	-2.62	0.009	-.55048 -.0782626
count9	.242118	.1777998	1.36	0.174	-.1077159 .5919518
count10	-.603467	.1744564	-3.46	0.001	-.9467225 -.2602116
count11	-2.36074	.4583104	-5.15	0.000	-3.262499 -1.458982
count13	-1.470473	.4048208	-3.63	0.000	-2.266987 -.6739588
count14	-2.325025	.6435553	-3.61	0.000	-3.591266 -1.058783
count15	-1.259943	.5228101	-2.41	0.017	-2.288609 -.231276
count16	2.003578	.9129229	2.19	0.029	.2073362 3.799819
count17	.5942242	.1625278	3.66	0.000	.274439 .9140095
count18	.3572311	.131533	2.72	0.007	.0984305 .6160317
count19	.1773913	.1152181	1.54	0.125	-.0493086 .4040911
count20	-.1636099	.1160359	-1.41	0.160	-.3919188 .0646991
count21	.9217197	.1162992	7.93	0.000	.6928926 1.150547
count22	-1.511148	.4390618	-3.44	0.001	-2.375034 -.6472626
count23	-2.437281	.5233521	-4.66	0.000	-3.467014 -1.407548
count24	-.4109767	.1833315	-2.24	0.026	-.7716945 -.0502588
count25	-.8932208	.5105176	-1.75	0.081	-1.897701 .1112594
count26	.265124	.1191471	2.23	0.027	.0306934 .4995545
count27	3.011957	1.267402	2.38	0.018	.5182523 5.505661
count28	-1.766038	.6263434	-2.82	0.005	-2.998414 -.5336623
count29	-1.210023	.4509825	-2.68	0.008	-2.097363 -.3226823
count30	-.7898595	.4018753	-1.97	0.050	-1.580578 .0008592
count31	-1.812922	.4785084	-3.79	0.000	-2.754422 -.8714223
count32	-.4939373	.3276168	-1.51	0.133	-1.138547 .1506724
count33	-1.376113	.5215582	-2.64	0.009	-2.402317 -.3499098
count34	-.8323044	.3900892	-2.13	0.034	-1.599833 -.0647759
_cons	4.55559	.3724921	12.23	0.000	3.822685 5.288495

Note: yr\* and count\* represent the respective time and country effects.

### Appendix III: Sample of Hausman Test

Table A3.1 Hausman Test between FE and RE

hausman fix ran, sigmamore

V_B)	---- Coefficients ----		(b-B)	sqrt(diag(V_b-
	(b)	(B)		
	fix2	ran2	Difference	S.E.
Lnexch	.5760991	.0298036	.5462956	.0698033
L.ecogr	.0026719	.0031101	-.0004382	.0002738
L2.ecogr	.0005842	-.000204	.0007882	.0002623
yr3	-.4816246	-.2525033	-.2291212	.0293113
yr4	-.5242029	-.249114	-.2750889	.0352003
yr5	-.4784181	-.1655168	-.3129013	.0400639
yr6	-.4698392	-.138903	-.3309362	.0424194
yr7	-.4669862	-.1677563	-.2992298	.0383605
yr8	-.3756863	-.141225	-.2344613	.0301205
yr9	-.2467254	-.0610773	-.1856481	.0239187
yr10	-.1944786	-.0367626	-.157716	.0202579
yr11	-.0922501	.0170209	-.1092709	.0140192
yr12	-.0978115	-.037007	-.0608044	.0077934

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(7) = (b-B)'[(V\_b-V\_B)^(-1)](b-B)  
 = 6.16  
 Prob>chi2 = 0.2106  
 (V\_b-V\_B is not positive definite)

## Appendix IV: Sample of 2SLS Result

**Table A4.1 Sample of Complete Result from 2SLS and Sargan Test**

```
ivregress 2sls countfixsvex Lnmkpot Lnplr Lnfindep (Lncim = englaw gethfra
logemaug),first small
```

First-stage regressions

```
Number of obs = 195
F( 6, 188) = 16.24
Prob > F = 0.0000
R-squared = 0.3413
Adj R-squared = 0.3203
Root MSE = 0.2289
```

Lncim	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Lnmkpot	.0205418	.0143721	1.43	0.155	-.0078095 .0488932
Lnplr	.030058	.0386426	0.78	0.438	-.0461708 .1062869
Lnfindep	.1189007	.0239578	4.96	0.000	.07164 .1661613
legalor	.1421251	.0399213	3.56	0.000	.0633738 .2208764
gethfra	-.0129249	.0411369	-3.14	0.001	-.0313179 .0231677
logemaug	-.0374697	.0136471	-2.75	0.007	-.0643908 -.0105485
_cons	-.0543608	.128566	-0.42	0.673	-.3079782 .1992566

Instrumental variables (2SLS) regression

Source	SS	df	MS	Number of obs =	195
Model	-194.499908	4	-48.6249769	F( 4, 190) =	22.53
Residual	1550.30131	190	8.1594806	Prob > F =	0.0000
Total	1355.80141	194	6.98866705	R-squared =	0.1088
				Adj R-squared =	0.1021
				Root MSE =	2.8565

countfixsvex	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Lncim	2.92463	0.530786	5.51	0.000	1.294191 4.55506
Lnmkpot	-.7282605	.1625581	-4.48	0.000	-0.160175 -.9503462
Lnplr	1.1217	.5241589	2.14	0.034	1.0775881 1.956412
Lnfindep	.4241334	.4327891	0.98	0.334	-.6307826 1.033451
_cons	.1661547	1.452604	0.11	0.909	-2.699147 3.031457

Instrumented: Lncim

Instruments: Lnmkpot Lnplr Lnfindep legalor gethfra logemaug

. estat overid

Tests of overidentifying restrictions:

```
Sargan (score) chi2(2) = 2.96637 (p = 0.2269)
Basman chi2(2) = 2.90406 (p = 0.2341)
```

**Note:** This sample was from the interaction between service export and financial institutional indicators. Other 2SLS results for other export categories and institutional framework had these general features.