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Working Paper No. 2011/65

The Effects of the European Union's and China's Trade Agreements on Africa's Exports

Olayinka Idowu Kareem[1] and Fatima Olanike Kareem[2]

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Abstract

Empirical studies have shown that trade agreements have different effects on countries based on their level of development, especially in trade potentials. There have been several trade agreements between North-South and South-South countries, which are accompanied with different outcomes based on output, macroeconomic stability and compliance with the agreements reached. This study evaluates the effects of Africa's trade agreements with the European Union (EU) and China on Africa's exports. This study found that trade agreements in both trade relations have not brought any significant increment to Africa's exports and that more market access conditions exist in South markets than in the North markets.

Keywords: trade agreements, exports, panel data
JEL classification: F10, F13, C23

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1 The problem

The potential of developing countries to achieve rapid and sustainable economic growth and reductions in the level of poverty in part depend on their integration into global markets. These potential gains from global trade could be achieved if all participating countries can limit their barriers to trade through effective trade agreements, so as to encourage the free flow of goods and services. In reality, this is often not the case as there are various market access barriers to some key exports of developing countries, which make it difficult for them to take full advantage of the opportunities that abound in global trade.

In international trade theory of comparative cost advantage, countries are advised to specialize in the production of commodities in which they have comparative cost advantage over other countries. This will enable countries to gain from international trade. African exports prior to this time (during 1950s and 1960s) have performed well in terms of the volume and number of products, while the issue of market access barriers to their exports in the markets of their trading partners did not arise. Though, Africa has its strength in the production of primary products that attract fewer restrictions in the developed nations' markets (especially in the markets of their colonial masters), the continent has however gained from trade in which the returns serve as the bulk of their foreign exchange during these periods.

However, recently the developed countries have found it appropriate to engage in backward integration (that is, to encourage the production of primary products for the use of the industrial sector of their economies) that will reduce the import bills they pay to their trading partners. It is as a result of this that the developed countries started encouraging the production of primary products, especially agricultural products, which attracted some supports and subsidies that distort international prices of these commodities. These subsidies and supports led imports from African countries to be less competitive, coupled with the fact that these developed countries imposed restrictions on agricultural exports access to their markets.

So far, there has been a divergence of opinions as to the extent that regional trade agreements have been able to minimize the trade barriers on Africa's exports, and thereby enhance her exports in global trade. While one school of thought believes that the trade agreements have not contributed to Africa's exports to both developed and developing countries, thereby reducing the income level and employment rate, another argued that even if Africa's exports were allowed free access to developed countries' markets through trade agreements, the continent would lack the ability to produce to meet the demand due to Africa's supply constraints.

Some studies[1] have been carried out on the effects of regional trade agreements in the North-South and South-South markets, many of which ascertained the extent that Africa has gained from these trade agreements. The studies that modelled the actual distortions to trade due to market access restrictions focused on trade mostly between developed and developing countries, i.e. North-South trade and in particular for sub-Saharan Africa. It is against this

[1] See Sanguinetti et al. (2000); Schiff and Wang (2006); Mayda and Steinberg (2008); El-Rayyes (2007).

background that this study intends to determine the effects of trade agreements in the EU and China on Africa's exports.

2 Review of the literature

Several studies have been conducted to show the extent to which trade agreements among developing and developed countries have enhanced trade flows among them. Some of these are in the form of bilateral and multilateral trade agreements; a few of these studies are reviewed below.

Using commodity-level evidence from the Common Market for Eastern and Southern Africa (COMESA) Mayda and Steinberg (2008) examined whether South-South trade agreements increase trade. They opined that there has been a proliferation of trade agreements between South-South countries, yet the impact of these agreements is largely unknown. Their study examines the static effects of South-South preferential agreements stemming from changes in trade patterns. They estimate the impact of the Common Market for Eastern and Southern Africa (COMESA) on Uganda's imports between 1994 and 2003. Detailed import and tariff data at the six-digit harmonized system level were used for more than 1000 commodities. Based on the difference-in-difference estimation strategy, the study finds that this is in contrast to evidence from aggregate statistics; COMESA's preferential tariff liberalization has not considerably increased Uganda's trade with member countries on average across sectors. The effects, however, are heterogeneous across sectors. They concluded that there is no evidence of trade diversion effects.

Abdoulahi (2005) examines the progress report on regional integration efforts in Africa towards the promotion of intra-African trade. He argues that the growth of intra-regional trade has been a major pre-occupation of African countries and regional economic communities in their efforts to integrate regional economies. Despite the importance accorded to this issue, and the adoption of several regional trade agreements, the total proportion of trade between the regional economic communities remains weak. The study thus presents an overview of efforts made by African countries and their regional economic communities to promote intra-African trade through the implementation of trade liberation schemes as well as the corresponding impact on intra-regional trade. He also presents the measures and mechanisms as well as a minimal programme to be implemented in order to achieve the objective of expanding intra-African trade.

Radalet (1997) examines the potential for success for trade-focused regional trade integration agreements in sub-Saharan Africa, with a particular focus on Southern Africa. He surveyed the existing literature on regional integration and attempts to distil the most relevant lessons about success and failure for the current integration initiatives in the region. He finds that there is little reason to expect significant economic gains from formal trade agreements at this time. Such agreements, in and of themselves, are unlikely to yield appreciable benefits unless they are preceded by decisions within member countries to follow more general open trade strategies. Indeed, it is possible that they could be detrimental to the economies involved, either because they might encourage import substitution on a regional basis or simply because they absorb scarce administrative and financial resources. More open trade policies coupled with more disciplined fiscal and monetary policies, perhaps augmented by regional co-operation efforts on transportation and communications infrastructure, appears to be a more promising initial strategy.

Sanguinetti et al. (2004) investigate the impact of South-South preferential trade agreements on industrial development. Specifically, this study intends to fill the gap in the empirical literature by looking at the effects of the establishment of MERCOSUR on manufacturing production patterns in Argentina, Brazil and Uruguay over the period 1985-98. The study finds that deepened preferential trade liberalization has fostered a reshaping of manufacturing production according to regional comparative advantage in labour and skilled labour. Also, declining internal tariffs have weakened agglomeration forces determined by the distribution of market sizes. The study's analysis is based on the generalized method of moment (GMM) estimation technique, which allows correction for endogeneity and serial correlation problems.

El-Rayyes (2007) examines the trade and regional integration between Mediterranean Partner Countries (MPC). The study opines that increasing trade between MPCs over the past six years bodes well for the Barcelona Declaration's stated goal of increasing South-South regional integration in the Mediterranean region. The descriptive analysis shows that intra-regional trade between Arab MPCs has increased by 462 per cent over the past six years while trade among MPCs as a whole has increased by 169 per cent. Although such figures are impressive, it is important to note they are partially an artefact of the fact that trade between these countries started from a low base. However, it is likely that these high rates of intra-regional trade growth will slow down considerably in coming years. The study concludes that there is potential for increased trade between MPCs.

Grupe and Kusic (2005) study the conditions with which intra-regional cooperation in the western Balkans could foster economic progress. They believe that to gain considerable profits from regional economic integration, trans-national linkages on a microeconomics level as the emergence of cross border alliances, joint efforts to conquer West European markets or co-operation in research and development to enhance innovation are needed. Gains from a regional trade agreement, thus, will be indirect in nature vis-à-vis long-term profits, and will result only from overcoming the aversions against regional partnerships and from the re-emergence of mutual trust.

3 Africa's exports performance

Tables 1 to 3 show Africa's exports to the rest of the world in absolute, share and growth terms between 1980 and 2006. Though Africa's exports are high in absolute terms, Africa's share of world exports is relatively low. In 1980, African countries exported about US$119 billion worth of commodities, representing about 6 per cent of world exports in that year. However, in 1990, the value of exports dropped to about US$107 billion, or 3 per cent of the world exports. The continent's exports regained an upward trend in 1995, when it recorded over US$112 billion but still only representing 2 per cent of world exports. Africa's exports value increased to US$231 billion in 2004 and later rose to US$332.8 billion in 2006, which is 2.5 per cent and about 2.8 per cent, respectively, of the global exports. Thus, the share of Africa's exports in world exports is not only very low but it depicts an unstable trend.

With respect to the growth of Africa's exports, the continent's exports have only grown haphazardly over time. It can be observed that Africa recorded negative growth in 1990 (-8.47 per cent). In 2000, it recorded a positive growth of about 31 per cent on the preceding years. The continent recorded a negative growth rate of over 5 per cent in 2001. However,

periods after 2001 recorded positive growth rates of Africa's exports, but these growth rates have been oscillating. This means that in absolute terms, Africa's exports value have been increasing at a decreasing rate.

Table 1: Exports value by region (US$ billion)

Region	1980	1990	1995	2000	2001	2002	2003	2004	2005	2006
World	2032.1	3478.6	5168.9	6444.1	6177.4	6472.6	7526.9	9167.1	10440.8	11982.9
Developed Countries	1327.6	2506.4	3606.6	4229.8	4095.2	4237.9	4884.5	5761.2	6291.9	7085.0
Developing Countries	597.6	842.9	1427.0	2044.6	1910.6	2052.4	2410.6	3090.7	3780.5	4409.0
Developed America*	293.5	521.8	777.0	1058.9	989.0	945.8	998.0	1123.5	1267.0	1442.6
Developed Asia**	136.0	299.2	462.2	510.7	432.5	446.1	503.6	604.3	639.7	691.0
EU	870.7	1636.3	2300.7	2583.1	2596.6	2766.6	3294.9	3926.6	4259.7	4805.4
Africa	119.0	107.0	112.5	147.2	138.6	146.4	178.4	231.3	298.0	332.8
Developing America	111.2	143.8	225.2	361.1	341.9	346.65	380.6	470.5	566.8	680.0
Developing Asia	365.0	589.3	1084.8	1532.3	1426.8	1556.0	1847.0	2383.8	2879.7	3389.5
Oceania	233.5	280.3	454.5	405.7	335.4	339.7	450.9	508.7	591.1	668.8

Note: *includes Bermuda, Canada, Greenland, Saint Pierre and Miquelon, and US; **includes Israel and Japan.

Source: Authors' compilation from UNCTAD Handbook of Statistics (2007).

Table 2: Share of exports by region (%)

Region	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006
World	100.0	100	100	100	100	100	100	100	100	100	100
Developed Countries	65.3	66.4	72.1	69.8	65.6	66.2	65.5	64.9	62.8	60.3	59.1
Developing Countries	29.4	25.4	24.2	27.6	31.7	31.0	31.7	32.0	33.7	35.9	36.8
Developed America	14.5	15.7	15.0	15.0	16.4	16.0	14.6	13.3	12.3	12.1	12.0
Developed Asia	6.7	9.3	8.6	8.9	7.9	7.0	6.9	6.7	6.6	6.1	5.8
EU	42.9	41.9	47.0	44.5	40.1	42.0	42.7	43.8	42.8	40.8	40.1
Africa	5.9	4.2	3.1	2.1	2.3	2.2	2.3	2.4	2.5	2.9	2.8
Developing America	5.5	5.5	4.1	4.4	5.6	5.6	5.4	5.1	5.1	5.4	5.7
Developing Asia	18.0	15.6	16.9	21.0	23.8	23.1	24.0	24.5	26.0	27.6	28.3
Oceania	0.12	0.10	0.08	0.09	0.06	0.06	0.05	0.06	0.055	0.057	0.056

Source: Authors' compilation from UNCTAD Handbook of Statistics (2007)

Table 3: Growth rate of exports by region (%)

Region	1980	1995	2000	2001	2002	2003	2004	2005	2006
World	71.2	48.6	24.7	-4.1	4.8	16.3	21.8	13.9	14.8
Developed Countries	88.8	43.9	17.3	-3.2	3.5	15.3	18.0	9.2	12.6
Developing Countries	41.1	69.3	43.3	-6.6	7.4	17.5	28.2	21.4	17.6
EU	87.9	40.6	12.3	5.2	4.4	19.1	19.2	8.5	12.8
Africa	-8.5	5.1	30.8	-5.8	5.7	21.8	29.7	28.8	11.7
America	29.3	56.6	60.4	-5.3	1.4	9.8	23.6	20.5	20.0
Asia	61.44	-81.59	41.24	-6.88	9.06	18.70	29.06	20.81	17.70
Oceania	20.0	62.2	-10.7	-17.3	1.3	32.7	12.8	16.2	13.1

Source: Authors' compilation from UNCTAD Handbook of Statistics (2007).

4 Regional trade performance by trade groups

There have been several trade talks between countries all over the world that eventually culminated into bilateral, multilateral and plulateral trade agreements. These agreements are sometimes within the sub-region, e.g. Western Africa, Southern Africa, Northern America, etc. which then lead to trade groups, e.g. ECOWAS, COMESA, SADC, FTAA etc. The essence of these trade alignments is to enhance and promote trade among members of the groups. Also, sometimes, the trade agreements cover the whole region, e.g. African Union (AU) New Partnership for African Development (NEPAD) or are between regions of the world e.g. African, Caribbean and Pacific (ACP) regions. The main aim is to increase the trade relations among them through reduction in trade and non-trade barriers in member countries.

Table 4: Intra-trade of trade groups (US$ million)

Trade Group	**1980**	**1990**	**1995**	**2000**	**2004**	**2005**	**Type of Trade**
CEPL	2	7	8	10	19	22	South-South Trade
COMESA	555	889	1025	1328	2294	2716	South-South Trade
ECCAS	89	163	163	191	238	272	South-South Trade
ECOWAS	661	1532	1875	2715	4366	5497	South-South Trade
MRU	7	0	1	5	6	6	South-South Trade
SADC	106	1070	4190	4383	6589	7585	South-South Trade
CEMAC*	75	139	120	96	174	198	South-South Trade
UEMOA	460	621	560	741	1233	1390	South-South Trade
UMA	109	958	1109	1094	1375	1926	South-South Trade
FTAA	167719	300694	525317	855646	967638	1110713	South-North Trade
NAFTA	102218	226273	394472	676142	737591	824550	North-North Trade
ASEAN	12413	27365	79544	98000	141934	165064	South-South Trade
EU	490029	1028801	1394152	1618916	2499933	2666398	North-North Trade
ACP	2351	4565	9596	11970	19418	22952	South-South Trade

Note: See Appendix 1 for definition of acronyms. * Formerly UDEAC.

Source: Authors' compilation from UNCTAD Handbook of Statistics (2006).

Africa has nine such trade groups that are spread across the sub-regions and also between sub-regions. Each trade group tends to promote trade among its member so as to accelerate the level of growth in each country's economy to enable poverty reduction. These trade

groups encourage trade among themselves since access to developed markets have not been easy, and so, in essence, have enhanced trade among developing countries (South-South trade). Table 4 indicates the level of intra-trade among these trade groups and other trade groups outside Africa. From the table, MRU has the lowest trade among their members. In 1980, the level of trade that took place among member countries was US$7 million, while in 1990 they recorded no trade at all, but by 2005, the figure had increased to US$6 million. CEPL has followed as another least-traded group with the level of trade in 1980 at US$2 million, just 0.1 per cent of the trade group's total exports, though the share of the trade among themselves increased to 1.3 per cent of the total exports of the group.

Table 5: Intra-trade of groups as percentage of total exports of each group

Trade Group	1980	1990	1995	2000	2004	2005	Type of Trade
CEPL	0.1	0.5	0.5	0.8	1.2	1.3	South-South Trade
COMESA	5.7	6.3	6.0	5.1	5.7	4.9	South-South Trade
ECCAS	1.4	1.4	1.5	1.1	0.9	0.6	South-South Trade
ECOWAS	9.6	8.0	9.0	7.6	9.3	9.3	South-South Trade
MRU	0.8	0.0	0.1	0.4	0.3	0.3	South-South Trade
SADC	0.4	3.1	10.7	9.4	9.7	9.1	South-South Trade
CEMAC*	1.6	2.3	2.1	1.0	1.2	0.9	South-South Trade
UEMOA	9.6	13.0	10.3	13.1	12.9	13.4	South-South Trade
UMA	0.3	2.9	3.8	2.3	1.9	20	South-South Trade
FTAA	43.4	46.6	52.5	60.7	60.0	60.3	South-North Trade
NAFTA	33.6	41.4	46.2	55.7	55.9	55.8	North-North Trade
ASEAN	17.4	18.9	24.5	23.0	25.8	26.2	South-South Trade
EU	61.8	67.4	66.4	67.2	67.3	66.5	North-North Trade
ACP	40	6.3	11.1	10.4	11.7	11.0	South-South Trade

Note: See Appendix 1 for definition of acronyms. * Formerly UDEAC.

Source: Authors' compilation from UNCTAD Handbook of Statistics (2006).

ECOWAS had the highest trade among their trade group in 1980, and by 1990 they recorded US$661 million and N1.5 billion, which is 9.6 per cent and 8 per cent of the total exports for these years respectively. However, from 1995 up till the year 2005, SADC had the highest intra-trade in the continent. For instance, in 1995, SADC posted US$4.2 billion as their total intra-trade, which is about 12 per cent of the total exports of the trade group. The total value of intra-trade among countries in the SADC continues to increase over time while the share of the intra-trade in the total exports of SADC has been oscillating. For example, SADC intra-trade increased from over US$4.3 billion in 2000 to US$7.5 billion in 2005. Meanwhile, the share of this intra-trade from the total exports of the trade group declined from about 11 per cent in 1995 to 9 per cent in 2005 (see Table 5). Another prominent trade group in Africa that trade among themselves is the UEMOA. This trade group recorded US$460 million worth of trade among themselves and by 2000; this had risen to US$741 million, and later increased to about US$1.4 billion in 2005. This trade group though in nominal values of their intra-trade did not match those of ECOWAS, SADC or even UMA, but in terms of share this intra-trade group happens to have the highest as its share increased from 9.6 per cent in 1980 to 10.3 per cent in 1995, and later rose to 13.4 per cent of the total exports in the group in 2005. Contrary to this, the UMA saw an increase in its share of intra-trade in the total exports

of the group from 0.3 per cent in 1980 to 3.8 per cent in 1995; by 2005 it has declined to 2 per cent (see Table 5).

The implication of the above is that although African countries have been trading among themselves and there has been a growth in the nominal value of this trade, their share of total exports has declined over time. This simply means that Africa has not been trading with Africa, and that most of Africa's trade is with the rest of the world. Also, it can be deduced that Africa has not been forthcoming in the promotion of South-South trade, which is as a result of the trade restrictions being imposed by some countries.

In contrast to the above, intra-trade in other continents of the world is increasing both in terms of its value and its share in total exports. For instance, FTAA recorded US$167.7 billion worth of intra-trade in 1980, which is over 43 per cent of its total exports. In 1990, the intra-trade had increased to about US$301 billion and by 2000 it had risen to over US$855 billion. By 2005 it had increased to over US$1.1 trillion. The share of their intra-trade also increased from about 47 per cent in 1990 to 52.5 per cent in 1995; it later rose to 60 per cent in 2005. NAFTA also followed this trend as they increased the share of their intra-trade from their total exports from over 33 per cent in 1980 to 46 per cent in 1995, rising to about 56 per cent in 2005. ASEAN recorded 17 per cent as its intra-trade share from their total exports in 1980, which later increased to about 19 per cent in 1990. By 2000 it had risen to 23 per cent and to 26 per cent in 2005. The EU countries have been trading very well among themselves over the years (as shown in Table 5) and for 1980 recorded that about 62 per cent of their total exports were from trade among themselves. This rose to 67 per cent in 2000, but later declined to less than 67 per cent in 2005. Trade among ACP countries also saw an increasing share from their total exports. In 1980, the share of the trade among themselves was 4 per cent, but by 1990 it had risen to 6 per cent and by 2005 to 11 per cent.

The basic thing to deduce from this is that other continents have been trading among themselves; even the trade between Africa and other continents (ACP) has been increasing over the years. This means that trade between North-North countries have been growing, which indicates that developed countries always trade among themselves and this trade constitutes a very large proportion of their total exports at any given time. The reason for this increased trade in North-North, especially in EU and NAFTA is that these trade groups were able to secure a reduction in trade restrictions among their member countries, which in turned enhanced trade in the groups. It can also be seen in Table 5 that in America both the developed and developing countries often trade together. This is seen in the proportion of the trade among FTAA member countries in the total exports of the trade group. This means that in America, South-North trade is highly encouraged and promoted. The South-South trade also received a boost in the Asian countries as most of these countries trade among themselves; this is seen in the contribution of ASEAN intra-trade in total exports in the trade group. Intra-trade between African, Caribbean and Pacific countries though has been growing over the years; its share in ACP total exports is still low and needs to be enhanced by promoting further trade among these countries by reducing any barriers that hinder the movement of commodities among the member countries.

5 Africa's exports to the European Union and China

It is pertinent at this point to show the trend in Africa's exports to the European Union and China, having seen the performance of Africa's exports in relation to other continents as well

Figure 1: Africa's exports to the EU and China

Source: Authors' computations from IMF Direction of Trade Statistics.

Figure 2: China and the EU's exports to Africa

Source: Authors' computations from IMF Direction of Trade Statistics.

as the intra-regional exports. Figure 1 indicates that in 1990, Africa exported over US$47 billion worth of commodities to the EU, while only US$357 million worth of commodities were taken to China. Due to crises that engulfed most African countries in the 1990s, Africa's exports dropped to about US$39 billion in 1993, while that of China increased to US$740 million. However, by 2000, Africa's exports to the EU had risen to about US$62 billion, while China's had reached US$5 billion. This increasing trend continued and seven years

later Africa's exports to the EU recorded about US$129 billion, while that of China had risen to over US$34 billion in the same period. An interesting thing to note in this trend is that Africa had been exporting to the EU more than to China and it is only in recent years that there has been a tremendous and significant increase in the continent's exports to China. The rate of increase in exports to China is remarkable in that since 1999 it has doubled, which shows that there has been gradual shift in the direction of Africa's exports.

In terms of the EU and China's exports to Africa, Figure 2 shows that China exported over US$1 billion worth of commodities to Africa in 1990, while the corresponding EU exports to the continent was about US$42 billion. By 2000, China has exported over US$4 billion to Africa, while the EU brought US$50 billion worth of commodities. Furthermore, China recorded about US$32 billion worth of exports to Africa, while the EU in the same year recorded about US$120 billion worth of exports.

Figure 3: Africa's exports to and imports from China

Source: Authors' computations from IMF Direction of Trade Statistics.

Figure 3 shows both Africa's exports to China and her imports from China. It can be seen that in 1990 to around 1999/2000, Africa imported more from China than it exported to the Chinese market, which means that Africa has a trade deficit with China for the period. However, from 2003-07, Africa's exports to China supersede her imports, indicating a trade surplus with respect to her trade with China.

Figure 4: Africa's exports to and imports from the EU

Source: Authors' computations from IMF Direction of Trade Statistics.

For the EU markets, Figure 4 shows that there has been oscillation between Africa's exports and imports to and from the EU. From 1990 to 1993, Africa's exports supersede her imports from the EU, which indicates a trade surplus. The trade surplus that Africa recorded with the EU was vivid from the year 2000-07. This means that exports to the EU have been on the increase from 2000, due to the non-reciprocity trade preference granted for most African countries to EU markets.

6 Some trade agreements with Africa

Trade preference is an arrangement or agreement between countries whereby they agree to allow trade to flow with little or no trade restrictions. Generally, it is developed countries that grant trade preferences to developing economies. Many developing countries, especially Africa, enjoy easier access to developed markets through preferential trade schemes. These are traded either through unilateral or bilateral non-reciprocal schemes, such as Generalized System of Preferences (GSP), through reciprocal free trade agreements or through regional integration agreements such as the EU Mediterranean agreements.

6.1 Non-reciprocal trade agreements

Under a Most Favoured Nation (MFN) agreement one country will extend to another the lowest tariff rates it applies to any country. However, a country is under no obligation to extend MFN treatment to another country unless they are both members of the WTO, or the MFN status is specified in an agreement between them. Countries not receiving EU or US MFN status are subject to higher rates.

6.2 Generalized System of Preferences (GSP)

These are preferential access schemes that allow products coming from developing countries lower tariffs than those under MFN status. Under the GSPs, the developing countries are not allowed to reciprocate, unlike the preferential trading agreements such as NAFTA—a regional free trade agreement. There are several types of GSP:

The basic GSP scheme;
Special trade preferences with selected group of developing countries;
and 'Super GSP' for LDCs.

In the GSP scheme, the EU grants important concessions to 180 developing countries. In the EU, the degree of reduction of the MFN rate varies with the level of 'sensitivity' of the product. In other words, this depends on the degree to which an import competes with EU temperate products like dairy produce, beef, cereals and oil seeds. The 2001-04 case provides an additional 5 per cent tariff reduction for countries who meet additional environmental and labour conditions. Even so, an expulsion provision has also been built in for those countries that seriously and systematically violate minimum labour standards.

6.3 EU trade preference

The EU has a complex and intricate web of trade preference in addition to GSP. Among them are the Global Mediterranean Policy, Europe Agreements, and the EU-ACP Cotonou Partnership Agreement. These concessions are granted to different countries, products, markets and sessions. Preference access may involve tariff preferences within tariff rate quotas (TRQs), tariff preferences outside allocated TRQs and/or tariff preferences with no quantitative restrictions. There are three classifications of EU grants preferences to different groups of countries:

LDCs that are not African Caribbean and Pacific (ACP) members.
ACP countries (this is divided into LDC and non-LDC countries).
Non-ACP developing countries that benefit from GSP treatment and FTA preferences, granted to Eastern Europe and Mediterranean countries.

The EU has been the largest market for Africa's exports; given this, they have granted two special preferences that are significant. They are:

6.4 Everything But Arms (EBA) For LDCs

The EU Council adopted the EBA proposal on the 5th March 2001; it is the most generous trade preference schemes in their portfolio: duty and quota-free access is granted to 49 LDCs for all imports except arms and ammunitions (25 tariff lines of arms trade was left out). Moreover, preference access was extended for 919 agricultural products including fruits and vegetables (fresh as well as processed), meat, cereals, vegetable oils, beverages and dairy products (919 tariff lines). This concession has made the EBA a more attractive scheme than the EU-ACP Cotonou preferences in terms of tariff treatment, product coverage and tariff advantages. The EBA initiative will also provide LDCs with greater stability. This is because the EU undertook to maintain this special preferential treatment for an unlimited period of time. This scheme is not subject to periodic reviews as occurs with the basic GSP scheme.

Banana, rice and sugar were initially excluded from EBA schemes, because they were considered to be sensitive (these products are of particular interest to Africa). These products were not given immediate unlimited duty-free treatment, but it was planned that gradual liberalization will be given to them by stages. The duties on banana will be eliminated by using a 20 per cent annual reduction, starting from 1st of January 2002 and eliminated at the latest on 1st January 2006. Imports of sugar and rice by the EU from LDCs are subject to transition arrangements until 2009. Then after 2009, the option of a safeguard will exist if imports become a significant threat to domestic products EU-ACP Lome Convention (now Cotonou Partnership Agreement).

Under the successor agreement to the Lome convention, the preferential tariff rates to developing countries are referred to as the EU-ACP Cotonou Partnership Agreement, which was signed in June 2000. They are applicable to 77 African, Caribbean and Pacific Countries. This trade regime ended on 31 December 2007, and Economic Partnership Agreement (EPA) is still under negotiation, although some very few countries have agreed to it

Within the EU-ACP Cotonou Partnership Agreement, African countries were granted 80 per cent duty-free access for most agricultural products (UNCTAD 2002). They include, for example, exotic fresh fruits and vegetables, as well as raw/semi-processed tropical beverages. Exceptions apply to a limited number of agricultural products that are subject to the common market organisation of the EU. Based on these, they allowed only a reduction of the *ad valorem* component of the tariff, e.g. some higher valued processed products (i.e. some types of fruit juice such as orange and grape juice). This agreement also provides significant tariff advantages to Africa, in the form of MFN and GSP rates, but excluding the EBA. There is about 25 per cent average tariff advantages for MFN rates to Africa, especially SSA. Thus, there was a request from the EU to the WTO for a waiver for the continuation of these preferences up until the end of 2007, before they replace it with a new reciprocal arrangement in January 2008 (EPA).

The EU-ACP Cotonou Partnership Agreement makes provision for the introduction of a new Regional Economic Partnership Agreements (REPAs) that must be negotiated between the EU and the regional grouping of ACP countries in 2008. These EPAs will provide for free reciprocal trade exchanges, compatible with WTO rules (Jabati 2003). This agreement (EU-ACP Cotonou Partnership Agreement) allows for cooperation between EU and ACP in trade-related areas such as competition policy, intellectual property rights, standards of certification, sanitary and phytosanitary measures, trade and environment, trade and labour standards, consumer policy and public health.

6.5 EU-South Africa Free Trade Development and Co-operation Agreement (TDCA)

This agreement was signed by the EU and South Africa on 11th October 1999 with the aim of gradually establishing FTA. Based on this, the EU has secured agreement to eliminate tariffs on 83 per cent of current EU agricultural exports to the Southern African Customs Union Market (SACU). The time frame to liberalize is twelve years. South Africa was only granted duty-free access for 61 per cent of current agricultural products to the EU market. The EU has been given a ten-year phasing in period for tariff reductions. The EU was also able to avoid making any commitments that placed effective restrictions on the use of export refunds

in support of duty-free EU agricultural and processed agricultural product exports to South Africa.

6.6 EU-ACP Economic Partnership Agreement

This intends to be a reciprocal agreement between the European Union and African, Caribbean and Pacific countries on areas of mutual agreements. This agreement is still being negotiated, though some countries have acceded to it.

6.7 China's trade agreements with Africa

China has adopted an African policy that tends to ensure more accessibility of African products to Chinese markets. Also, China has the intention of granting duty-free treatment to some goods from the least developed African countries, with the view to expanding and balancing bilateral trade and optimizing trade structure.

In 2006, during the first Forum of China-Africa Cooperation (FOCAC) in Beijing, trade agreements were signed to strengthen the relationship. The agreements included 16 separate deals between Chinese companies and twelve African countries.

China and South Africa signed agreements on economic and technical co-operation in 2007. This is to allow protocols on sanitary conditions for the exports of grapes and tobacco from South Africa to China as well as the import of pears and apples from China to South Africa. China also signed a trade agreement with Senegal, which offers a zero tariff treatment to more than 400 categories of goods imported from Senegal. This trade agreement will enhance their bilateral trade and economic ties to a new stage and foster a people-to-people exchange between these countries.

In the last quarter of 2009, China and 15 English speaking African countries signed a trade and co-operation agreement that would enhance a cost-effective business environment. Prior to this, China signed an agreement with seven French-speaking African countries on trade promotion and co-operation. And in November 2009, Nigeria signed an agreement with China to stop the inflow of sub-standard, counterfeit and fake products from China.

7 The theoretical framework

According to Fletcher (2005), the new trade theory has damaged old theories concerning dynamic gains from free trade in two ways: first, because conventional trade theory must rely upon general ideas of how economies function, new trade theory has exposed the dubious assumptions that it makes in this area. It relies on primitive, simplistic and outdated economic ideas that are no longer taken seriously in other parts of the discipline; second, because anything that conventional trade theory says happens must happen by means of a specific mechanism, it has investigated what these mechanisms must be and has discovered that many do not come in detail, no matter how plausible they seem when described casually or in the abstract.

For example, free trade is touted as increasing the entrepreneurial vigour of an economy. New trade theorists have discovered that for this to actually be true, up-to-date models of entrepreneurship reveal that certain strict conditions must be met. Without them, it is just as easy for foreign imports to destroy the incentives for entrepreneurship in the affected industry.

This problem is worse in many third world and newly industrializing countries where the ready availability of imports may kill off whole sectors of the economy before they can mature to the point where they can handle competition. New trade theory is not just about America, but has crucial implications concerning the rest of the world's rush to free trade as well. The third world was promised a lot in the neo-liberal 90s, which has not materialized and new trade theory has some answers as to why, for example, many supposed benefits of free trade-like technological innovations are lost to third world nations because they lack the indigenous ability to 'digest' these supposed gifts.

Conventional trade theory also claims that free trade benefits economies by increasing economies of scale as it opens up wider markets. New trade theory has probed this claim and found that it is true only if certain strict conditions are met. For example, it requires that industries in which there are increasing returns to scale expand after trade liberalization. If these industries merely lose sales to foreign competition, then returns to scale go into reverse. Similarly, conventional trade theory claims that free trade enhances technological dynamism. Unfortunately, this is based on the casual assumption that increased competition necessarily increases dynamism. Thus, it is well established that the relationship between competition and innovation is a lot more complex than that.

The new trade theory is the theory that based international trade on economies of scale and imperfect competition. The theory tends to relax the two major assumptions of the no-trade model or the Heckscher-Ohlin (H-O) model as follows:
While the H-O theory assumed constant returns to scale (CRS), international trade can also be based on increasing returns to scale (IRS).

Relaxing the assumption of perfect competition can also lead to new trade theory. About half of the trade in manufactured goods among industrialized nations is based on product differentiation and economies of scale, which are not easily reconciled with the H-O factor endowment model. Thus, to explain intra-industry trade, we need new trade theories.

Underlying the application of the monopolistic competition model to trade is the idea that trade increases market size. In the industries where there are economies of scale, both the variety of goods that a country can produce and the scale of its production are constrained by the size of the market. By trading with each other, and therefore forming an integrated world market that is bigger than any individual national market, nations are able to loosen the constraints. Each country can specialize in producing a narrower range of products than it would in the absence of trade; yet by buying goods that it does not make from other countries, each nation can simultaneously increase the variety of goods available to its consumers. As a result, trade offers an opportunity for mutual gain even when countries do not differ in their resources or technology.

Suppose for example that there are two countries, each with an annual market for one million automobiles. By trading with each other, these countries can create a combined market of two

million automobiles. In this combined market, more varieties of automobiles can be produced at lower average costs than in either market alone (by economies of scale).

The monopolistic competition model can be used to show how trade improves the trade-off between scale and variety that individual nations face. In developing a general model of trade under imperfect competition, we need to have a representation of consumer choice that treats product differentiation. The most popular model in the literature is that of Dixit and Stiglitz (1977). There are n varieties of the same goods with prices P_j, where j = 1, --- , n. The assumed structure of preferences is such that consumers make decisions in two steps. First, determining their total expenditure on all the varieties of the goods together, and second, dividing the expenditure between varieties. Utility derived from consumption of all varieties of the differentiated product is given by the sub-utility function:

$$U = \left[\sum_j X_j^{(\sigma-1)/\sigma} \right]^{\sigma/(\sigma-1)} \quad \text{---------- (1)}$$

Where $\sigma > 1$

Expenditure on all varieties is then a constant elasticity function only of a price index $P = p$ ($p_1, \ldots, p_n$) of the individual variety prices, with demand elasticity denoted as μ. Demand for variety χ_j is a constant elasticity function of the price of the variety relative to the price index and of the price index itself:

$$X_j = a\left(P_j / P\right)^{-\sigma_p - m - \mu} \quad \text{---------- (2)}$$

Where α is the elasticity of demand with respect to the price of the variety itself, is greater than the aggregate demand elasticity μ.

8 The model

In this study, we specify a specific form of a gravity type. The model for this study is adapted from the empirical work of Mayer and Zignago (2005) who modelled market access in global and regional trade through trade agreements using a border-effect methodology. The modifications that our study has done to the work of Mayer and Zignago (2005) is by including trade agreement variables as well as trade policy variables with which trade agreements tend to adjust. The theoretical underpinning of the gravity type will occur in almost every trade model with full specialization, as shown by Evenett and Keller (2003).

Let us assume that the consumers in country i is assumed to have a two-level utility function where the upper level is a Cobb-Douglas with expenditure parameter u_i, which gives rise to a fixed expenditure share out of the income, y_i. The lower level utility function on the other hand is a constant elasticity of substitution (CES) aggregate of differentiated varieties produced in the considered industry, with σ representing an inverse index of product differentiation.

$$U_i = \left(\sum_{j=1}^{N} \sum_{h=1}^{N_j} \left(a_{ij} c_{ijh} \right)^{\frac{\sigma-}{\sigma}1} \right)^{\frac{\sigma}{\sigma-1}} \qquad (1)$$

The CES structure usually indicates the love for variety, based on the fact that the consumers are willing to consume all the available varieties. Our study shall deal with a situation where the consumers have different preferences over varieties depending on bias. The consumers' preference parameter in country *i* for varieties produced in *j* is denoted a_{ij} .

Given the fact that most of these varieties are produced in foreign countries, there is need to model trade cost, τ_{ij} that ought to be *ad valorem*, and incurred by the consumer when the good is transported from country *j* to country *i*. The delivered price p_{ij} faced by consumers in *i* for products from *j* is therefore the product of the mill price p_j and the trade cost. The trade costs include all transaction costs associated with the movement of goods across the space and natural borders. The demand for a representative variety produced in *j* is denoted as c_{ij}, which the demand function derived from this system gives the bilateral total imports by country *i* from country *j* for a given industry.

$$M_{ij} = \eta_j P_{ij} C_{ij} = \eta_j a_{ij}^{\sigma-1} P_j^{1-\sigma} \tau_{ij}^{1-\sigma} \mu_i Y_i P_i^{\sigma-1} \qquad (2)$$

where $P_i = \left(\sum_{\kappa} \eta_\kappa a_{i\kappa}^{\sigma-1} P_\kappa^{1-\sigma} \tau_{i\kappa}^{1-\sigma} \right)^{1/(1-\sigma)}$ is the 'price index' in each location.

From equation (2), one could see that trade costs influence demand when there is a high elasticity of substitution, σ . Based on Head and Mayer (2000), we take the ratio of m_{ij} over m_{ii}, country *i*'s imports from itself, the $\mu_i y_i p_i^{\sigma-1}$ term then drops and we are left with relative numbers of firms, relative preferences, and relative costs in country *i* and *j*.

$$\frac{m_{ij}}{m_{ii}} = \left(\frac{n_j}{n_i} \right) \left(\frac{a_{ij}}{a_{ii}} \right)^{\sigma-1} \left(\frac{P_j}{P_i} \right)^{1-\sigma} \left(\frac{T_{ij}}{T_{ii}} \right)^{\sigma\sigma-1} \qquad (3)$$

In order to estimate equation (3), the model must be specified fully by adopting the supply-side features of the monopolistic competition model. Hence, the firms producing q_j in country *j* employ l_j workers in an IRS production function $l_j = F + rq_j$, where F is fixed (labour) costs, and *r* is the inverse productivity of firms. The profits are $\lambda_j = p_j q_j - w_j \left(F + rq_j \right)$, where w_j is the wage rate in *j*. Thus, the equilibrium output of each representative firm is, $q_j = \frac{F(\sigma - 1)}{r}$.

We assume an identical technology that is $q_j \equiv q, \nu_j = 1 \cdots N$ and V_j is the value of production for the considered industry in *j*, $\upsilon_j = qp_j n_j$, from equation (3):

$$\frac{n_j}{n_i} = \frac{\upsilon_j}{\upsilon_i} \frac{p_i}{p_j} \qquad (4)$$

Also, the functional forms of trade cost (τ_{ij}) and preferences (a_{ij}) have to be specified in order to get an estimable equation. The trade costs are function of distance (d_{ij}, which proxies for

transport cost) and 'border-related' costs that consist of tariffs and non-tariff barriers (NTBs) (these include quantitative restrictions, administrative burden, sanitary measures, etc.). The *ad valorem* equivalent of all border-related costs brc_{ij} is given as:

$$\tau_{ij} \equiv d_{ij}^{\delta}\left(1+brc_{ij}\right) \qquad (5)$$

We shall allow the border-related costs to be flexible in this study, since our aim is to assess a possible North-South divide in market access; we then need to allow for different levels of broadly defined protection in each (North-South and South-South) direction. Also of importance is the issue of effect of regionalism, which we are going to control in the assessment of North markets' access by Southern exporters. Further, we observed some of the actual protection that is taking place between importing and exporting countries (tariffs and NTBs). We shall include measures of market access initiatives in order to determine the extent to which these initiatives would impact on African exports.

Generally, we assume that the following structure for border-related costs that vary across country pairs depends on the direction of the flow of a given pair:

$$1+brc_{ij} \equiv \left(1+t_{ij}\right)\left(1+ntb_{ij}\right)\left(\exp\left[\eta E_{ij}+\theta RTA_{ij}+\vartheta NS_{ij}+\varphi SN_{ij}\right]\right) \qquad (6)$$

From this specification, t_{ij} denotes the *ad valorem* bilateral tariffs, ntb_{ij} is a frequency index of NTBs. RTA_{ij} is a dummy variable set equal to 1 when $i(\neq_j)$ and j belongs to a regional integration agreement and zero otherwise. We expect all the parameters to be positive, which denote tariff equivalent of non-tariff barriers. We also expect $\theta > 0$ to be the lowest of those parameters, which will be true if all national borders impose transaction costs, with the minimum burden of those costs being between RTA members.

The preferences have a random component e_{ij}, and a systemic preference component for goods produced in the home country, β. The home bias is assumed to be mitigated by the share of a common language.

$$a_{ij} \equiv \exp\left[e_{ij}-\left(\beta-\lambda L_{ij}\right)\left(E_{ij}+NS_{ij}+SN_{ij}\right)\right] \qquad (7)$$

L_{ij} is set equal to 1 when two different countries share the same language. When L_{ij} switches from 0 to 1, home bias changes from β to β - λ.

Therefore, based on all the above, we obtain an estimable equation from the monopolistic competition equation of Krugman (1980):

$$\begin{aligned} In\left(\frac{m_{ij}}{m_{ii}}\right) &= -(\sigma-1)[\beta+\eta]+In\left(\frac{\upsilon_j}{\upsilon_i}\right)-\sigma In\left(\frac{P_j}{P_i}\right)-(\sigma-1)In\left(1+t_{ij}\right)-(\sigma-1)In\left(1+ntb_{ij}\right)-(\sigma-1)\delta \\ In\left(\frac{d_{ij}}{d_{ii}}\right) &+(\sigma-1)\lambda L_{ij}-(\sigma-1)\left[\theta_1-\eta_1\right]RTA_{ij}+\in_{ij} \end{aligned} \qquad (8)$$

where $\in_{ij}=(\sigma-1)\left(e_{ij}-e_{ii}\right)$

$\left(-(\sigma-1)[\beta+\eta]\right)$ is the constant of equation (8) and it gives the border effect of international trade for countries that belong to the same group, the South for instance. This includes both the level of protection of the importing country (η) and the case of any home bias of consumer (β). The coefficients of measures of RTA indicate the effects that the regional trade agreements had on African exports. The data for the study covers the period 1990-2006. The main sources of the data are the World Integrated Trade Solution (WITS) database, the International Trade Centre (ITC), the World Trade Organisation (WTO) and the United Nations Conference on Trade and Development (UNCTAD).

8.1 Estimation techniques

As we have said earlier, this study shall make use of generalized method of moment panel data analytical methods with the test of the panel data properties and panel granger causality. These methods would allow us to estimate our regression equations for the whole of Africa and the sub-groups as identified earlier.

The reason for the use of the panel data technique in the gravity model is based on the several benefits of the technique as identified by Hsiao (1985, 1986), Klevmarken (1989) and Solon (1989: 486-96,). They believed it could be used to control for individual heterogeneity, it provides more informative data, more variability, less collinearity among the chosen variables, more degree of freedom and more efficiency. They are better able to identify and measure effects that are simply not detectable in pure cross-section or pure time-series data, such as OLS.

The basic class of specification of these models is given as:

$$Y_{it} = f\left(X_{it}, \beta\right) + \delta_i + \gamma_t + \in_{it} \qquad (1)$$

This leading case involves a linear conditional mean specification, so that we have:

$$Y_{it} = \alpha + X_{it}\beta_{it} + \delta_i + \gamma_t + \in_{it} \qquad (2)$$

Where Y_{it} stands for the dependent variable, X_{it} is a K – vector of regressors and $\in_{it}$ are the error terms for i = 1, 2, …, M cross-sectional units observed for dated periods t = 1, 2, …, T. The α represents the model constant, while the δ_i and γ_t represent the fixed and random effects, respectively. Identification obviously requires that the β coefficients have restrictions placed upon them. They may be divided into sets of common (cross-section and periods), cross-section specific, and period specific regressor parameters.

This panel estimation technique will enable us to estimate panel equations using linear or non-linear squares or instrumental variables (system of equations), with correction for the fixed or random effects in both the cross-section and period dimensions, AR errors, generalized least square (GLS) weighting, and that of robust standard error. In addition to the above, the generalized method of moment (GMM) will be used to estimate the specification with various system weighting matrices. It should be noted that apart from the above basis for panel data analysis, panel equations allow us to specify equations in general form and also permits specification of non-linear coefficients mean equations with additive effects. Panel equations do not automatically allow for β coefficients that vary across-sections or period, but one may create interaction variables that permit such variation.

9 Research findings

The outcome of this research starts with the descriptive analysis of the variables used. The Africa-EU trade model indicates that the average ratio of imports is 0.00040, while the ratio of outputs between these trading partners in the period under consideration is 0.0021. The average ratio of prices is 0.9288; that of tariffs 5.8733 per cent and the non-tariff barrier is 0.5333. The average language between these partners shows that 90 per cent of the countries in Africa speak the same language with the European countries, while the mean distance is 5579.5, and at least 60 per cent of these countries have regional trade agreements with the EU. Also, 93 per cent of them have colonial affiliation with the European countries. The difference between the predicted values and actual values of the variables is very limited except for distance that has a wide difference[2].

The South-South trade model between Africa and China shows that the average ratio of imports is 1.16E-07, while the ratio of output is 0.0282 and the ratio of prices between these trading partners is 0.9510. The average tariffs imposed by China on products that are of importance to Africa is 21.35 per cent in the period under review, while the non-tariff barriers is 1.0667, which means that about 107 per cent of non-tariff barriers were imposed on goods that are of importance to Africa. These are from sanitary and phytosanitary measures, technical barriers and safeguard measures. The descriptive results also show that only 7 per cent of African countries have language similarities and only 10 per cent have some colonial affiliation with China, which means these two variables represent problems for trade between these partners. The distance between Africa and China on average is 10662.1, while only 20 per cent of countries in Africa signed regional trade agreements with China in order to boost trade between them. Contrary to previous models, tariffs have a slightly high variance, while distance as usual is in variation with the predicted value.

9.1 The results

The results of the panel-gravity models used in this study are presented below. The estimates of the panel-gravity models are done through GMM. Using the GMM to estimate the models, we present two different estimates of the GMM, these are: no effect and random effect. We have decided to estimate the random effect due to the fact that the models for this study are gravity models that have dummy variables for which a fixed effect estimator will be inappropriate (see Baltagi, 2001 and Greene 2003). The fixed effect estimator cannot estimate the effect of any time-invariant variable like sex, race, language, religion, colonial links, schooling, etc. because they will be wiped out by the Q transformation, the deviation from means transformation.

When modelling their trade relations, using the no effect estimate, relative output between the EU and Africa is an important variable to consider. The results show relative output has a significant positive slope in the model indicating that the absorptive capacity of the EU to exports from Africa is about 12 per cent, which is the highest in this study. The relative prices conform to the *a priori* expectation, indicating that an increase in the relative prices will reduce the access of African exports to the EU, though it is statistically insignificant (see Table 6).

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[2] See Appendix 2.

Table 6: Panel GMM result (Africa-EU)

Variable	No Effects	Random Effects
Routput	0.1172 (11.17)[c]	0.1247 (2.10)[b]
Rprices	-1.77E-05 (-0.75)	-2.15E-05 (-1.10)
Tariffs	-0.0002 (-0.78)	-0.0002 (-1.96)[b]
NTB	-0.0001 (-0.33)	-7.72E-05 (-8.25)[c]
Distance	-4.30E-08 (-12.05)[c]	-4.91E-08 (-4.69)[c]
Language	-0.0005 (-8.71)[c]	-0.00004 (-4.63)[c]
RTA	-0.0006 (-0.60)	-0..0005 (-16.03)[c]
Colonial	1.02E-05 (0.09)	-4.95E-05 (-6.80)[c]
Constant	0.0024 (1.06)	0.0021 (2.83)
Adj. R^2	0.74	0.49
Std. Error	0.0004	0.0003
D. Watson	0.31	0.43
J.Statistic	52.19	41.72

Note: The figures in parentheses are the t-statistic. The superscripts c, b and a indicate 1%, 5%, and 10% levels of significance, respectively.

Source: Authors' computations.

Both tariffs and the non-tariff barriers (NTB) have the required slope, that is they conform to *a priori* expectations. These results indicate that the EU allowed African exports greater access than any other country chosen in this study. This is because the slopes of tariffs and NTB show that the EU encourages the importation of African products to their domestic economies by lowering the tariffs and the non-tariff barriers to such products. The reason behind these encouraging trade relations is that the EU has signed some agreements, in particular non-reciprocal trade preference agreements, which allow African products access to the EU without mandating African countries to reciprocate. Distance here is significant to the model and shows that trade could be discouraged if the trading partners are far away from each other. Language shows that when trading partners do not speak the same language might present a barrier that will affect trade. Though the magnitude of the reduction in trade is small, 0.05 per cent, it is statistically significant. Colonial affiliation between Africa and the EU will propel trade between them. This means that the EU often trades more with those countries in Africa that they have some colonial affiliation with or that they colonized. This could be seen in the relationship between francophone African countries and France.

We discovered that there has been a considerable level of integration among African countries in this model. Though it is insignificant the magnitude is over 0.2 per cent. However, the regional trade agreement within the continent and between the EU as a trading

partner has not yielded any genuine trade to the continent. This might be due essentially to Africa's supply constraints.

In the random effects, the estimate confirms the results of the no effect estimator, but here the random effect was able to establish significance to those that hitherto were insignificant. For instance, tariffs and NTB were not significant in the no effect model, but are now significant. Also, RTA and level of integration (constant) were not significant until now. Lastly, a major difference is with the colonial affiliation, that previously was positively sloped but now has a statistically significant negative relationship with trade, indicating that it is one of the determinants of trade between the EU and Africa. A reason for this is that the majority of African countries' colonial masters were from the EU, so this is a factor that will determine their trade with Africa.

Furthermore, in the trade between Africa and China, as is shown in Table 7, relative output is significant and positively related to China's imports from all African countries. What this means is that, as relative output increases, there will be additional African products that have access to the Chinese markets. Relative prices also depicts some trend, as it is significantly positively related to Chinese imports from Africa.

Tariffs, the measure of trade restrictions, indicates that as African products gain more access to Chinese markets there will be a rise in the rate of tariffs imposed, which is due to the fact that the government of China might want to raise revenue or protect domestic producers from the influx of foreign products. However, non-tariff barriers reduce with the increase in access of products from Africa to China. This might be due to the fact that some of the non-tariff barriers have been (to?) quantify tariffs and so as to reduce the difficulties associated with NTBs that are acknowledged to be more painful and to inhibit trade more than other tariffs.

Language is an enhancing factor that will propel trade if both trading parties speak a similar language. Distance has the required sign and shows that it is a factor to be considered in any trade relation because it could serve as hindrance to trade. Colonial links also propel trade between Africa and China. That is, any country in Africa that has colonial affiliation with China will have more access to her markets.

The estimate of regional integration (constant) indicates that there is no integration within African countries in their trade with China, while their involvement and participation in regional trade agreements has brought about additional trade and market access to countries in Africa.

In terms of the random effects, the estimator shows that there is an inverse relationship between relative output and China's imports of African products. That is, the more the relative outputs increase, the lower the level of market access to African products in Chinese markets, and this is statistically significant. Relative price is significant and does not conform to the *a priori* expectation. The positive slope of its coefficient indicates that the higher the market access of African products to the Chinese market the more the relative prices paid by the consumers of the products in China, due to the tariffs imposed.

The degree of association between tariffs and China's imports of African products is positive and insignificant, which demonstrates that as the access of African products to the Chinese economy increased, the products were then confronted with higher tariffs. This reason for the increase in tariffs might be to reduce the volume of the products coming into China so as not

to make the Chinese economy a dumping ground for frivolous products. However, non-tariff barriers for African products are reduced and minimized as the imports to China from Africa increase. This reduction in NTB might be due to multilateral negotiation and agreements between African countries and China.

Table 7: Panel GMM Result (Africa – China)

Variable	**No Effects**	**Random Effects**
Routput	2.25E-06 (6.27)[c]	-3.03E-06 (-4.67)[c]
Rprices	2.75E-07 (55.74)[c]	1.94E-04 (24.20)[c]
Tariffs	1.47E-05 (0.69)	4.15E-05 (0.85)
NTB	-1.22E-05 (-0.68)	-3.31E-07 (-0.83)
Distance	-4.41E-05 (-0.84)	-2.64E-06 (-1.07)
Language	9.04E-05 (1.76)[a]	3.89E-05 (1.70)[a]
RTA	1.15E-05 (0.69)	3.37E-06 (0.98)
Colonial	2.62E-06 (2.25)[b]	-1.74E-06 (-2.16)[b]
Constant	-2.05E-05 (-0.70)	-3.02E-05 (-0.37)
Adj. R^2	0.89	0.48
Std. Error	0.9926	3.00E-06
D. Watson	1.97	1.58
J.Statistic	0.0318	0.09

Note: The figures in parentheses are the t-statistic. The superscripts c, b and a indicate 1%, 5%, and 10% level of significance respectively.

Source: Authors' computations.

Distance serves as hindrance to the market access of African products to the Chinese economy. This means that the greater the distance between African countries and China, the more African exporters are discouraged from trading with China; this ultimately reduces market access. This is statistically significant and conforms to the *a priori* expectation of the study. Language similarity between African countries and China will increase the trade and market access of products from Africa to the Chinese markets. This also means that there is no language barrier between Africa and China in the course of transacting business. However, colonial links between Africa and China have nothing to do with their trade relations or the access of African products to the Chinese markets.

There is no integration within African countries in the case of China's trade relations with Africa. That is, Africa's quest to access markets in China, has not led to integration within African countries. This implies that there has not been intra-trade within the continent which could have led to trade creation and intra-regional integration. However, the regional trade agreements that African countries have assented to have had a positive impact in their access to Chinese markets.

10 Conclusion

This study has tried to evaluate the effects of Africa's trade agreements with the EU and China on Africa's exports. We have shown empirically, using descriptive analysis and econometric methods, the effects of these trade agreements on Africa's exporting access to both the North and South markets. Thus, at this juncture it is important to note that the objective of this study has been adequately achieved and accomplished, that is, we have shown the effect of trade agreements on Africa's exports to the North (EU) and South countries (China).

Therefore, we conclude that African exports have not gained access to both the North and South countries, due not only to the inadequate implementation of trade agreements, which has led to trade restrictions being imposed on African products, but is also to the fact that Africa has a low and inadequate production capacity. So despite gaining access to trading partners' markets, African production capacity is unable to meet the demand from these markets. We also emphasize the fact that products of relevance to African countries are confronted with higher trade restrictions, mostly from Southern as opposed to developed countries, which have not granted appropriate trade preferences to African countries. This means that there are more market access conditions in South-South trade than in the North-South trade, confirming the results of Mayer and Zignago (2005), and Hammouda et al. (2005).

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Appendix 1: Definition of acronyms

CEPL – Economic Community of the Great Lakes Countries
COMESA – Common Market for Eastern and Southern Africa
ECCAS – Economic Community of Central African States
ECOWAS – Economic Community of West African States
MRU – Mano River Union
SADC – Southern African Development Community
CEMAC – Economic and Monetary Community of Central Africa
UEMOA – West African Economic and Monetary Union
ASEAN – Association of South – East Asian Nations
EU – European Union
ACP – African, Caribbean, Pacific Countries
MERCOSUR – Mercado Comun del Sur

Appendix 2

Table A: Descriptive: Africa-EU

	RIMPORT	ROUTPUT	RPRICES	TARIFFS	NTB	LANGUAGE	DISTANCE	RTA	COLONIAL
Mean	0.000389	0.002136	0.928837	5.873333	0.533333	0.900000	5579.503	0.600000	0.933333
Median	9.97E-05	0.000724	0.945806	5.800000	1.000000	1.000000	5108.035	1.000000	1.000000
Maximum	0.004364	0.022560	13.65054	8.100000	1.000000	1.000000	9187.470	1.000000	1.000000
Minimum	6.17E-07	5.24E-05	8.84E-07	4.100000	0.000000	0.000000	1722.730	0.000000	0.000000
Std. Dev.	0.000676	0.003886	0.925489	1.504766	0.499443	0.300334	2017.125	0.490443	0.249721
Skewness	2.876177	3.379202	8.909403	0.201682	-0.133631	-2.666667	0.054004	-0.408248	-3.474396
Kurtosis	12.55414	15.11121	104.2617	1.323727	1.017857	8.111111	2.493103	1.166667	13.07143
Jarque-Bera	2331.958	3606.700	198214.6	55.73611	75.00598	1023.148	5.036435	75.52083	2807.239
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.080603	0.000000	0.000000
Sum	0.175230	0.961420	417.9769	2643.000	240.0000	405.0000	2510776.	270.0000	420.0000
Sum Sq. Dev.	0.000205	0.006781	384.5818	1016.680	112.0000	40.50000	1.83E+09	108.0000	28.00000
Observations	450	450	450	450	450	450	450	450	450

Table B: Descriptive: Africa – China

	RIMPORT	ROUTPUT	RPRICES	TARIFFS	NTB	LANGUAGE	DISTANCE	RTA	COLONIAL
Mean	1.16E-07	0.028228	0.950986	21.35333	1.066667	0.068966	10662.10	0.200000	0.103448
Median	9.24E-09	0.009350	0.917617	14.30000	0.000000	0.000000	10853.00	0.000000	0.000000
Maximum	3.78E-06	0.454289	15.93631	42.50000	3.000000	1.000000	13349.00	1.000000	1.000000
Minimum	0.000000	0.000532	1.14E-06	5.600000	0.000000	0.000000	7742.000	0.000000	0.000000
Std. Dev.	3.59E-07	0.055740	0.959519	12.00652	1.390444	0.253687	1455.162	0.400461	0.304894
Skewness	5.435851	4.494120	11.87335	0.433382	0.627338	3.402069	-0.142537	1.500000	2.604237
Kurtosis	39.83416	27.63033	169.4238	1.726482	1.460437	12.57407	2.352969	3.250000	7.782051
Jarque-Bera	26733.45	12459.88	512226.8	43.01293	71.49347	2500.510	9.060963	164.2578	906.1815
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.010775	0.000000	0.000000
Sum	5.06E-05	12.27905	413.6789	9288.700	464.0000	30.00000	4638015.	87.00000	45.00000
Sum Sq. Dev.	5.60E-11	1.348395	399.5733	62563.94	839.0667	27.93103	9.19E+08	69.60000	40.34483
Observations	435	435	435	435	435	435	435	435	435