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## Integration along the Abuja road map - A progress report

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# Integration along the Abuja road map

## A progress report

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### Abstract

This paper reviews integration among the eight African Regional Economic Communities by comparing their characteristics and progress with three other South–South Regional Integration Arrangements. Three conclusions emerge: (i) slow progress towards meeting overly ambitious objectives; (ii) small changes in the destination of trade across all Regional Economic Communities, indicative of persistent high trade costs and few new manufactures products destined for geographically close markets; and (iii) compared with other South–South Regional Integration Arrangements, the Regional Economic Communities include a high number of provisions not covered in World Trade Organization negotiations, but these have low legal enforceability. Reasons for this slow progress are explored in the paper.

**Keywords:** gravity model, Regional Economic Communities, Regional Integration Arrangements, trade costs

**JEL classification:** F13, F55, F63

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## Acronyms and abbreviations

ADOT	Average distance of trade
ADR	Average distance ratio
AEC	African Economic Community
AGOA	Africa Growth Opportunity Act
AMU	Arab Maghreb Union
ANDEAN	Community of countries in South America in a customs union
ASEAN	Association of Southeast Asian Nations
AU	African Union
C	Coastal
CEMAC	Economic and Monetary Community of Central African States
CEN-SAD	Community of Sahel-Saharan States
CET	Common external tariff
CMU	Customs and Monetary Union
CPU	Customs and Political Union
COMESA	Common Market for Eastern and Southern Africa
CU	Customs Union
DRC	Democratic Republic of the Congo
EAC	East African Community
EBA	Everything but Arms
ECCAS	Economic Community for Central African States
ECOWAS	Economic Community of West African States
ELF	Ethno-linguistic fractionalization
EPA	Economic Partnership Agreement
EPEU	Environmental, Political and Economic Union
EU	European Union
FE	Fixed effect
FTA	Free Trade Area
GATS	General Agreement on Trade in Services
GDP	Gross domestic product
IGAD	Intergovernmental Authority on Development
LDC	Least developed countries
LL	Landlocked
MERCOSUR	Mercado Commun del Sur
MFN	Most favoured nation

N-N	North-North
NTB	Non-tariff barrier
OAU	Organization for African Unity
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary least squares
PAFTA	Pan Arab Free Trade Area
PEU	Political and Economic Union
POL	Polarization
PTA	Preferential trade agreement (here describes all forms of RIAs)
REC	Regional Economic Community
RIA	Regional Integration Agreement
RoO	Rules of origin
RTA	Regional trade agreement
SACU	Southern African Customs Union
SADC	Southern African Development Community
SPM	Supplementary Protection Measure
S-S	South-South
SSA	Sub-Saharan Africa
TCI	Trade Complementarity Index
TFTA	Tripartite FTA
TRIMS	Agreement on Trade-Related Investment Measures
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
WAEMU	West African Economic and Monetary Union (Union Economique et Monétaire Ouest Africaine (UEMOA))
UNECA	UN Economic Commission for Africa
US	United States
WGI	Worldwide Governance Indicators
WTO	World Trade Organization

## 1. Background: a diversity of integration agreements

Regional Integration Arrangements (RIAs) in Africa (but particularly in Sub-Saharan Africa (SSA)) have their roots in the political forces determined by the colonial legacy, which resulted in a configuration of highly heterogeneous states along multiple dimensions (ethno-linguistic, religious, biological) and artificial boundaries (splitting tribes, disregarding natural boundaries like rivers or mountains)—a great challenge for countries wishing to integrate. These heterogeneities, documented in the paper, indicate the extent of the challenge and point to an implementation conundrum. On the one hand, because of these diversities—e.g. landlocked and coastal countries—potential gains from closer economic integration are large. On the other hand, realizing these gains requires policy coordination and the scarce financial resources necessary for compensation among countries with large differences in expected gains from closer integration. The establishment of supranational entities to carry out this integration requires a delegation of authority which in turn requires trust and implementation capabilities. Trust is difficult to build under any circumstances but is particularly so in Africa’s landscape of great diversity. This progress report documents these obstacles and recognizes that African RIAs take place in an environment of weak implementation capabilities and over-stretched scarce human resources.

The proposed approach towards pan-African unity and continental industrialization was to be by the division of the continent into Regional Economic Communities (RECs) that would, through closer economic and political ties, constitute a united economy—the African Economic Community (AEC). In Africa as a whole, but in SSA in particular, the RECs were to be the ‘building blocs’ of the hoped-for African Union in the immediate post-colonial era and now they are central to implementing the New Partnership for Africa’s Development. In short, the RECs were to be, and continue to be, the glue that will cement African unity. For this reason, we examine progress towards integration at the REC level even though there is widespread overlap across RECs (the eight RECs are indicated in bold in Table 1)<sup>1</sup>. On average, each country belongs to two RECs with several countries belonging to three RECs and Kenya belonging to four. Moreover, integration has not always taken place at the REC level (i.e. members of the francophone West African Economic and Monetary Union (WAEMU) and Economic and Monetary Community of Central African States (CEMAC) monetary unions are members of RECs but are not considered as RECs by the United Nations Economic Commission for Africa (UNECA) so they are not included here).

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<sup>1</sup> See tables at end of the paper.

In some cases, RIAs have focused on promoting regional cooperation (security, humanitarian issues, agricultural research, and other issues) rather than on an exchange of preferences.<sup>2</sup> By and large, however, RECs were built around a reciprocal reduction of tariffs and non-tariff barriers (NTBs), so the terms preferential trade agreements (PTAs), free trade areas (FTAs), regional trade agreements (RTAs), and RECs are used interchangeably to describe the exchange of preferences, and the term RIA covers all aspects of integration agreements.

Several annual reports from UNECA (UNECA 2012, 2013, 2015, 2016) and case studies in Brenton and Isisk (2012) have evaluated the progress at integration across the continent along different dimensions. Some of these reports evaluate progress at the country or sector level (e.g. setting regulations for a sector at the REC level),<sup>3</sup> others at the REC level (e.g. UNECA yearly reports), and yet others at the RTA level. However, they do not always correspond to the RECs. In other contributions, Melo and Tsikata (2015) have emphasized how political motives and the uneven distribution of gains have trumped any quest for efficiency gains across Africa's RECs. Newfarmer (2017) has documented how these integration efforts have fallen short of their ambitious objectives yet concludes that provision of regional public goods has the promise to contribute to peace and prosperity across the continent. Other contributions have emphasized the role of services in SSA's structural transformation. Dihel and Goswami (2016) document a booming trade in services, both formal and informal, across the continent, with substantial contributions to gross domestic product (GDP) growth, job creation, poverty reduction, and gender parity. They show preliminary evidence of a positive association between the use of services as intermediate inputs and participation in agribusiness and apparel supply chains, lending support to the view that services provide SSA countries with an opportunity to diversify, thereby expanding the export basket, but also to industrialize without 'smokestacks'.

Here we review the ambitious objectives and the slow progress at integration by comparing the eight African RECs with three other South-South RIAs (ANDEAN, Association of Southeast Asian Nations (ASEAN), and MERCOSUR) to assess whether conditions and progress have differed across the RECs. Throughout, the focus on manufactures since industrialization is the overarching challenge facing Africa. The paper emphasizes two dimensions of regional integration that have been largely neglected: the role of services and the related issue of breadth (large membership) versus depth (deeper integration among a smaller membership).

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<sup>2</sup> The main non-preferential regional integration groupings are: (a) Economic Community of the Great Lakes Countries (1976) (Democratic Republic of the Congo (DRC), Rwanda, and Burundi), with a focus on cooperation on mining, agricultural research, and energy; (b) International Conference on the Great Lakes (2000) (Angola, Burundi, Central African Republic, Republic of Congo, the DRC, Kenya, Uganda, Rwanda, Republic of South Sudan, Sudan, Tanzania, and Zambia), with a focus on peace, democracy, and humanitarian issues; (c) Mano River Union (reactivated 2004) (Liberia, Sierra Leone, Guinea, and Cote d'Ivoire (2008)) to promote trade integration as well as health after the Ebola crisis of 2015; (d) Integrated Development Authority of Liptaka-Gourma (1970) (Burkina Faso Mali, Niger) to develop the promotion of minerals, energy, hydraulics (2004), and security (2014).

<sup>3</sup> The issue of the appropriate level of regulatory standards in RECs and the trade-offs of upgrading regulatory standards to Western levels are not addressed here. See Jensen and Keyzer's (2012) for a cost-benefit analysis of setting a milk standard in the EAC. Disdier et al. (2015) give evidence that the harmonization of technical standards by the southern partner with the northern partner's standards increases its exports to the North and leads to trade deflection with the South.

The paper proceeds as follows. Section 2 reviews the two phases of integration across the RECs set up by the Organization for African Unity (OAU). Section 3 contrasts economic, cultural, and institutional indicators that have been shown to be important in the outcomes of RIAs and explores the correlations of trade patterns with these indicators. The remaining sections report on evaluation. Section 4 reports on trade patterns, starting with before-and-after comparisons of trade shares and then estimating bilateral trade costs to conclude with panel gravity estimates to detect the effects of RTA and World Trade Organization (WTO) memberships on bilateral trade in manufactures for a large sample of countries covering the 1967–2013 period. Section 5 discusses design: the trade-off between ‘breadth’ (large membership) and ‘depth’ (small membership with deeper integration). Section 6 concludes.

## **2. Progress at integration: a first look at overly ambitious RECs**

An early phase of integration started during the first decades of independence under the Lagos Plan of Action, an initiative of the OAU (now the African Union (AU) since 2002). Adopted by the heads of states in 1980 in response to the Berg report (World Bank 1981) that advocated an outward-looking development strategy, this inward-looking initiative was built around three RECs: The Economic Community of West African States (ECOWAS); Common Market for Eastern and Southern Africa (COMESA), the Economic Community for Central African States (ECCAS), and, later, the Arab Maghreb Union (AMU).

This early phase of integration largely failed as the leaders of these young independent states, still establishing independence from their former colonial masters, were reluctant to encourage the erosion of national sovereignty. As reviewed by Melo and Tsikata (2015: Table 1), with the exception of integration in the franc zone, implementation never reached FTA status, let alone deeper integration. Absence of compensation funds at the regional level was a major reason for this lack of implementation.<sup>4</sup>

### **2.1. Objectives under the Abuja Treaty**

Regional cooperation began in earnest with the Abuja Treaty (operational in 1994) that created the AEC, which was to culminate in an AU through variable geometry whereby the RECs would integrate at different speeds following a ‘Minimum Integration Program’ along six stages for the eight RECs listed in Table 1.<sup>5</sup> As recognized by UNECA in its yearly reports, progress has been slow. UNECA (2012:13) notes ‘...despite current initiatives, results remain mixed. Whereas certain RECs have achieved tangible outcomes...others have had relatively disappointing results’. That report

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<sup>4</sup> Foroutan (1992) gives examples of how, in the absence of central funding to compensate losers from integration in West Africa, the ‘protection needs’ of the industrial products of the least-advantaged partners were met by preferential customs duties (e.g. the ‘taxe de coopération régionale’).

<sup>5</sup> The six successive stages (number of years in parenthesis) set up at the Abuja Treaty are : (i) strengthen the RECs (5); (ii) eliminate tariffs and NTBs (8); (iii) FTA and customs union (CU) in each REC (10); (iv) continental CU (2); (v) continental common market (4); (vi) continental economic and monetary union (5), with stage (iv) to be reached in 2017.

underscores difficulties in harmonizing, monitoring, and assessing projects and programmes designed to boost integration. The report points out that while some regions have made progress in setting up FTAs (e.g. COMESA, East African Community (EAC), and Southern African Development Community (SADC)), others have lagged in varying degrees (e.g. ECOWAS). In conclusion, eliminating tariffs and NTBs has been—and often continues to be—particularly difficult.

All RECs have ambitious and wide-ranging objectives that reflect the desire to accommodate the heterogeneity of interests across members. In addition to promoting industrialization, examples of the wide range of objectives (more in Melo and Tsikata 2015) include: harmonizing regulations and policies—Agadir Agreement, customs unions (COMESA, EAC, Gulf Cooperation Council); promoting democracy—Southern African Customs Union (SACU); and expanding the development of the least developed members—Pan Arab Free Trade Area (PAFTA) and SACU.<sup>6</sup> With 11 of its 15 members being least developed countries (LDCs), ECOWAS has great heterogeneity. Indeed, LDCs benefit from greater preferential market access in the United States (US) and the European Union (EU) through the Africa Growth Opportunity Act (AGOA) and Everything but Arms (EBA) initiatives that are not available for non-LDC members. Nonetheless, the ECOWAS treaty calls for the establishment of a West African parliament, an economic and social council, and an ECOWAS court of justice to enforce community decisions. The community is also formally assigned the responsibility of preventing and settling regional conflicts, which clearly indicates the importance of political objectives.

Finally, to complete this tour of integration initiatives across the continent, we mention the Tripartite FTA involving 26 countries in the EAC, COMESA, and SADC, which is supposed to culminate in a Continental FTA by 2017. Its objectives are: (i) removing tariffs and NTBs, and implementing trade facilitation measures to include a harmonization of rules of origin (RoO);<sup>7</sup> (ii) applying the subsidiarity principle to infrastructure to improve the transport network; and (iii) fostering industrial development. However, to keep momentum going and to accommodate the diversity of interests among partners, negotiations to set up a ‘single undertaking’ to establish a proper FTA veered towards a ‘variable geometry’ to allow the co-existence of different trading arrangements. Initiated in 2008, the TFTA was signed in 2015 and was to be launched in July 2016 after a 12-month period to complete the negotiations, during which period agreement was to be reached on the removal of duties on between 65 per cent and 85 per cent of the tariff lines.

The parties failed to reach an agreement in their negotiations in June 2016. Although the blocs reached a common position on the proportion of tariff lines to be liberalized, they failed to agree on the common external tariff (CET) to be applied on sensitive products (e.g. maize, wheat, sugar,

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<sup>6</sup> Article 5 of the EAC Treaty reads ‘the Partner States undertake to establish.... a Customs Union, a Common Market, subsequently a Monetary Union and ultimately a Political Federation...’.

<sup>7</sup> RoO are necessary to prevent ‘trade deflection’ in FTAs—i.e. importing from the low-tariff partner and selling in the high-tariff partner. Everywhere, RoO have been unnecessarily complex and to the benefit of the strong lobbies in the inefficient industries in the strongest partner in the FTA. (Erasmus et al. (2006) show how the RoO in SADC were largely imposed by South African protectionist lobbies).



textiles, and cement) that were all viewed as essential for the development of domestic industries. Under the 'variable geometry' approach, the EAC has agreed to liberalize 37 per cent of its 5,600 tariff lines and the SADC CU is to liberalize 60 per cent of its 7,000 tariff lines. COMESA has 5,000 tariff lines, but, since it is not really a CU, those members that are not part of the EAC or SADC have been allowed to negotiate individually. Among the sticking points at the negotiations was South Africa's reluctance to open its markets to SACU members for a number of products (maize, wheat, electronics). In the end, the negotiators differed on the treatment to be given on a 'sensitive list' of products for protection (maize, cement, sugar, second-hand clothes, spirits, plastics, electronic equipment, etc.).

## **2.2. Implementation difficulties**

This 'big development' agenda across RECs, recalls the EU integration model. This linear integration model is in fact imported from the European model of integration where the bet was that creating similar institutional bodies focusing on consensus decision-making would lead to a reduction in 'heterogeneity costs' across the different European populations (Spolaore 2015). This integration process over a 50-year period involved the creation of 13 institutions (and an institution regrouping four inter-institutional bodies). This building of institutions rested on a high implementation capability.

African RIAs have copied the European model, setting up a large number of institutions at early stages of integration. ECOWAS has six institutions, ten specialized agencies, and two private sector organizations. COMESA has 11 institutions and EAC has eight institutions. This attempt at accelerated integration via transplanted best practices appears symptomatic of a 'capability trap' 'where [systems] adopt organizational forms that are successful elsewhere to hide their dysfunction' (Pritchett et al. 2013: 2).

Two examples illustrate implementation difficulties. When adopting Supplementary Protection Measures (SPM) (C/REG.1/09/13) to allow for temporary duty (up to five years) above the corresponding five-band CET rate adopted by the ECOWAS CU in 2015, the directive specified that SPMs were for (most favoured nation) MFN tariffs that were above the CET rate. The directive did not envisage that SPMs could also apply to MFN tariffs below the CET rate. As shown by Melo et al. (2014), in addition to this omission in an official directive (even assuming this was an omission), for a country like Liberia where three-quarters of tariffs outside the CET band are on the low side, applying the conditions in the directive would force a substantial increase in applied tariffs during the transition period for key intermediates (e.g. zinc) and consumer goods (e.g. rice).

A second example of an implementation capability trap is provided by the conclusions of the report of the 2014 meeting of the Council of Ministers of the 19 COMESA members that took stock of progress in implementing the CU adopted in 2009 (COMESA 2014). Taking a tally of the 217 decisions reported in the Common Market gazette from 2009 to 2012, the report notes that 13 per cent of decisions were not addressed to any party. Regarding the signing and ratification of

COMESA instruments that were to be carried out from 2009 to 2012, 75 per cent (of the 12 instruments) had been signed by the majority but only five instruments had been ratified, and only nine of 19 members had signed the COMESA Treaty (COMESA 2014: Tables 1 and 2). Likewise, the report notes little progress in enacting the key Common Market legislation (Common Tariff Nomenclature, Common External Tariff and Common Market Customs Management Regulations). As an example of implementation difficulties, Malawi reported that adopting the CET would result in a large loss of tax revenue (trade taxes account for 35 per cent of tax revenue) while other states with more than 50 per cent of tariff lines at zero rate, some of which are bound at that level at the WTO, were concerned about the possibility of eventual negotiations at the WTO for adopting the envisaged CET.

It is hard to escape the conclusion that the RECs have been overly ambitious in relation to implementation capabilities. The next section gives indicators of the difficulties in realizing this integration agenda.

### **3. The landscape: economic, cultural, and institutional indicators**

African RECs display much diversity across economic, cultural, and institutional dimensions. Indicators of this diversity are summarized in Table 1. As a benchmark, the bottom rows of the table also report these indicators for three other South-South RTAs: MERCOSUR, a CU that could be compared to the EAC; ASEAN, an FTA with large membership that might serve as a comparator for COMESA or ECOWAS; and ANDEAN also a CU with a smaller membership that could also serve as a benchmark for the EAC.

Table 1, column 1 gives the name, type of agreement, year of initiation of negotiations, and year of signature (the year of signature is used as the break point for the before–after comparisons reported in section 4). Column 2 gives membership broken down along coastal (C), landlocked (LL), and LDC and non-LDC membership. These three indicators capture difficulties at implementation. A large membership requires more coordination for implementation. Diversity of membership involving coastal and landlocked countries indicates conflicts of interest. Venables (2011) shows that an FTA between an LL and a C country can give rise to trade creation for LL and to trade diversion for C if both are price-takers on world markets and LL does not have access to the world market. In this set-up, the wage is lower in LL because of diminishing returns that are absent in C which has access to world markets. The FTA gives LL access to C so its terms-of-trade improve. With labour mobility under deep integration, labour would migrate from LL to C, closing the wage gap. Mixed LDC and non-LDC membership is another type of diversity that results in conflicting interests in negotiations for reciprocal FTAs. During the Economic Partnership Agreements (EPAs) involving the EU and former colonies, non-LDCs had an interest in maintaining market access while LDCs already had full market access under the EBA.<sup>8</sup>

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<sup>8</sup> Melo and Régolo (2014) discuss the different position of Kenya and other LDC EAC members in their EPA negotiations.

The remaining columns give average values at the RIA level (coefficient of variation in parenthesis) for the proxy indicators capturing economic, cultural, and institutional characteristics. Large values for a coefficient of variation for GDP are suggestive of gains from scale economies (e.g. Paraguay and Brazil) and large values for per capita income are an indicator of the need for compensation (e.g. Laos and Singapore in ASEAN).

### 3.1 Economic indicators

Table 1, columns 3 to 6 display economic indicators used in describing the RIAs. Column 3 gives an indicator of the importance of natural resources in exports. With the exception of the EAC and ASEAN, on average, fuels, ores, and metals account for between one-third and one-half of merchandise exports in all RIAs, including the comparators. Since minerals are exported outside the region, regional integration would not be expected to elicit a strong supply response unless it is in the form of new products (see evidence in section 5.3). Table 1, column 4 shows low scores for the Trade Complementarity Index (TCI) values for all RIAs including those in the comparator group (a low average score in a regional grouping indicates that countries are exporting similar baskets, hence lack complementarity). The scores are low especially when compared with the corresponding value of 41.7 when the EU started to integrate in 1962. With higher values, ASEAN and MERCOSUR appear to have displayed greater complementarity. To sum up, along these dimensions, the RECs have similar characteristics with the comparator groups.

Excluding the large 29-member Community of Sahel-Saharan States (CEN-SAD) group that includes Egypt, Nigeria, and other resource-rich countries, the RECs stand out by their small economic size (Table 1, column 5). GDP is about one-third to one-fifth that of its comparators in spite of a usually large membership. As a benchmark, excluding CEN-SAD, the GDP of ANDEAN (US\$917.5 billion) is only 50 per cent larger than SADC, the largest REC. High coefficient-of-variation values for GDP are observed for ECOWAS, ANDEAN, EAC, and the Intergovernmental Authority on Development (IGAD) compared with the other groups. This suggests that deep integration would likely be accompanied by strong agglomeration effects towards the larger members. Size dispersion also suggests that the interests of small countries will not carry the day in formulating external trade policy when integration moves beyond FTA status, with external trade policy becoming more protectionist as was the case when ECOWAS became a CU.

Relative to the comparators, African RECs stand out as a result of their lower average per capita income (Table 1, column 6)—in most cases around one-third or less than that of the comparator group. ASEAN stands out with a high per capita income and little dispersion. Per capita dispersion is also low in COMESA. Together with the dispersion in economic size, these large dispersions in per capita income suggest that any deep integration will necessitate large within-REC transfers. Barring budgetary means to do so, countries will naturally try to find ways to avoid deep integration.

High dispersion in indicators of geography and economic size combined with a low average per capita income across most RECs suggest limited implementation capability.

### 3.2 Indicators of trust and institutions

Recent contributions have established that trust and institutions are two other important characteristics in explaining trade patterns. Proxies for these characteristics are summarized in Table 1, columns 7 to 10. Starting with trust, the literature on the roots of development reviewed by Spolaore and Wacziarg (2016) gives support to the importance of the inheritance transmission mechanisms via biological factors (genetic distance) and cultural factors (sharing a language, a religious faith) in explaining current performance (i.e. GDP) and hence indirectly trade, which is co-determined with GDP. They also report suggestive evidence that these characteristics matter more than location (geography) as determinants of current levels of development.

Table 1, column 7 reports the population weighted average genetic distance,  $F_s^w$ , between country pairs within each PTA. The measure captures the length of time since two populations became separated from each other.<sup>9</sup> Genetic distance is negatively correlated with trust which, in turn, is positively correlated with bilateral trade.<sup>10</sup> The  $F_s^w$  values are low for EAC, ASEAN, and ECOWAS but high for COMESA, CEN-SAD (where conflicts are widespread), and MERCOSUR. Ethno-linguistic fractionalization (ELF) in column 8 and polarization (POL) in column 9 also serve as proxies for trust. ELF is maximized when each individual belongs to a different group while POL measures political cleavages by comparing the relative size of different groups. POL takes a maximum value when groups are of the same size. In general, with the exception of AMU, the African RECs have higher average ELF values than comparators, suggesting less trust. High average values are also observed for the POL indicator across most RECs.

These proxy indicators of trust are very rough. Values within and across RIAs generally do not reveal clear patterns suggestive of the importance of trust for the success of regional integration. As mentioned above, Spolaore (2015) notes that the European project of integration was built on the expectation that different European populations and policy makers, by learning to interact and cooperate on economic and institutional matters, would generally converge in values, norms, and preferences leading to an 'endogenous' reduction in 'heterogeneity costs' to facilitate further integration in more sensitive political areas. This was certainly among the objectives of African RECs, sometimes explicitly in the objectives of the agreement. For example, ECOWAS has brought together Francophone WAEMU with two Lusophone and five Anglophone countries in a common REC. This involved three different legal and linguistic colonial traditions, which, according to some have fomented what Metzger (2008: 25, cited in Engel and Jouenjean 2015) has described as 'the well-known antagonism between the English-speaking and French-speaking West Africa'. Whether

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<sup>9</sup> The greatest genetic distance in the Spolaore and Wacziarg (2016) sample is 0.4573, between Mbuti Pygmies and Papua New Guineans, while the smallest is between Danish and English (0.0021). Genetic distance provides no effect of genes on productivity (i.e. a 'genetic effect'). Rather, it is a measure of the importance of inter-generationally transmitted traits including traits that are transmitted culturally across generations (Spolaore and Wacziarg (2016: 18)).

<sup>10</sup> Guiso et al. (2009) show that somatic distance (height, cephalic index, and hair colour) is negatively correlated with bilateral trust which, in turn, is positively correlated with bilateral trade. Felbermayr and Toubal (2010) separate the preference channel from the trade cost channel on European bilateral trade and find that one-third of the trade cost effect is due to the preference (affinity) effect.

or not the antagonisms were reduced by integration, according to the indicator values in columns 8 to 9, ECOWAS has below-average trust, and difficulties in making progress at integration are amply documented (see e.g. Engel and Jouenjean 2015).

Domestic institutions also matter for comparative advantage. Traditional indicators of comparative advantage used in evaluating RTAs (e.g. the TCI in Table 1, column 4) implicitly assume that the gains from trade (and integration) are reflected in comparative advantage measures captured by technology, innovation, and capital accumulation in the tradition of Ricardo and Heckscher-Ohlin. Evidence is now accumulating that current-day trade, at least for sophisticated manufactures (and some agricultural products), is now considered to be largely co-determined by the quality of contracting institutions and technology and factor endowments. Countries with better domestic institutions (as captured by the rule of law) have a revealed comparative advantage in 'institutionally dependent' goods (e.g. surgical appliances, packaging machinery). Nunn and Trefler (2015) summarize results from several studies exploring the correlates of the patterns of revealed comparative advantage for manufactures. After controlling for factor endowments, they show that indicators of the contract intensity of production across markets, when entered interactively with indicators of governance, are all statistically significant indicators of the patterns of revealed comparative advantage at the two-digit ISIC level for a group of 83 countries. Countries with better indicator values of governance have a revealed comparative advantage in contract-intensive activities. These results suggest that African countries will be high-cost producers of goods requiring relationship-specific investments, especially so once one recognizes that initial conditions reflected in past trade patterns influence the quality of current institutions.<sup>11</sup>

Finally, Table 1, column 10 reports average values for the rule of law component in the Worldwide Governance Indicators (WGI). The index, an average of indicators, summarizes people's perceptions about the ensemble of variables capturing the quality of contract enforcement, property rights, and the courts, all of which are generally viewed as important for countries wishing to integrate. Taken as another indicator of implementation capability, African (and other South-South (S-S)) RIAs would have below-average implementation capability. With a score of -0.11, close to the mean for all countries, ASEAN stands out as the grouping with the highest implementation capability.

### **3.3 Correlates of bilateral trade in manufactures**

A key feature of trade data is that bilateral exports [imports] rise approximately proportionately to the economic size of the importing [exporting] country, especially so for middle- and high-income countries. Economic size (usually captured by GDP) is a proxy for the 'capabilities' of exporting countries to all destinations and import 'characteristics' of the destination market from all sources (Head and Mayer 2014). When distance is included as a proxy for trade costs along with the

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<sup>11</sup> During the three-corner Atlantic trade from the seventeenth to nineteenth centuries, Africa was exchanging slaves for manufactures. Nunn and Trefler (2015) report evidence that this pattern of trade led to a deterioration of domestic institutions and property rights. Repeated interactions and kin- and ethnic-based networks can only be poor substitutes for more formal institutions needed for contract-intensive manufactures.

traditional gravity variables, cross-section estimates return coefficient estimates for GDPs and distance close to unity (Head and Mayer 2014: Table 4) and estimates of the elasticity of trade flows to distance in the range (-0.8, -1.4). Table 2 checks the robustness of these estimates for 144 low-income countries by restricting the sample to S-S trade flows.<sup>12</sup> Estimates are only reported for bilateral trade in manufactures where trust and the quality of institutions are likely to matter most.<sup>13</sup>

Estimates in equation (1) include fixed effects for origin ( $\beta_o$ ) and destination ( $\beta_d$ ) countries. These FEs control for all country-specific omitted variables (e.g. island, landlocked, or the quality of physical infrastructure and logistics, or one country is a WTO member). The FEs also control for the variables in Table 1 that are not dyadic (e.g. ELF, POL, and WGI indicators). Genetic distance,  $F_s$ , serving as a proxy for trust is included along with two trade policy variables (both countries in the same RTA and members of the WTO). The sample is for manufactures only, since this is the main focus of the paper and, unless mentioned, results are for S-S trade only. Estimates are carried out under ordinary least squares (OLS) and with the Eaton-Kortum Tobit (Eaton and Kortum 2001) which includes zero value observations that are omitted under OLS.

$$\ln X_{o,d} = \alpha + \beta_o + \beta_d + \sum_{j=1}^4 GRAV_j + \beta_1 RTA_{o,d} + \beta_2 WTO_{o,d} + \beta_3 \ln F_{s,o,d} + \epsilon_{o,d} \quad (1)$$

Results are reported in Table 2. Coefficients of interest are the coefficient on distance which serves as a proxy for all trade costs and on the trade policy variables.

As a benchmark, Table 2, column 1 reports coefficients from the 'naïve' gravity model. Coefficient signs and significance levels are as expected, with the GDP coefficient estimates close to unity. These estimates do not control for the multilateral resistance terms that belong in the theory-based gravity equation. Starting with column 2, all estimates include country FEs. The column 2 estimate for distance is higher as would be expected if the multilateral resistance terms are the only source of bias (see the Monte Carlo experiments in Head and Mayer (2014)). Column 3 introduces weighted bilateral genetic distance,  $F_s$ , the proxy measure for trust. The coefficient is significant with the expected negative sign and its inclusion reduces the coefficient value of the distance coefficient since  $F_s$  is correlated with distance ( $\rho=0.40$ ). Column 5 adds the WTO dummy which is insignificant. And in column 6, partnership in an RTA is associated with a significantly higher volume of bilateral trade. However, because of the difficulty of controlling for endogeneity

<sup>12</sup> The S-S sample uses the same definition as in WTO (2011) i.e. a 'South' country is a country with lower, lower-middle or upper-middle income, as defined by the World Bank.

<sup>13</sup> This amounts to imposing unitary income elasticities restrictions which have no effect on the estimated RTA coefficient (Baier and Bergstrand 2007: Table 5). Results similar to those reported in Table 2 obtain when estimations are carried out for all trade.

in a cross-section, we defer comments on these coefficients to the corresponding ones in Table 4 but note that the trust proxy estimate is stable and remains significant.<sup>14</sup>

Before interpreting the distance coefficient estimates as a rough guide to trade costs, one must deal with the importance of zero observations (43 per cent of observations are omitted under OLS) and the possibility of heteroskedacity. To deal with zero flows, Table 2, columns 4 and 7 report estimates with the Eaton-Kortum Tobit estimator (Eaton and Kortum 2001) which includes zero trade flows. Both columns return much larger estimates for the distance coefficient. These estimates capture the observation that far-away partners do not trade. Other coefficients retain their sign and significance levels, except for the common border. When we use the Poisson-Pseudo Maximum Likelihood estimator proposed by Santos Silva and Tenreyro (2006) which also corrects for heteroskedacity, similar patterns are obtained across the North-North (N-N) and S-S samples.<sup>15</sup>

It is instructive to contrast these results with the corresponding one for N-N trade (full results not reported here to save space). In spite of a sample a quarter in size, the overall fit is tighter and, while the PTA coefficient is of similar size and significance, genetic distance is not significant and the distance coefficient estimate is stable and in the range (-1.3, -1.5) a much lower estimate than for the S-S sample in Table 2 (-1.4, -2.8). Thus a doubling of trade costs (as proxied by the distance coefficient estimate) would reduce bilateral trade to 35 per cent [14 per cent] of its value at the mean distance for (N-N) [S-S].<sup>16</sup> These high estimates probably capture omitted unobservables, including the gains from the reduction in uncertainty provided by an agreement (see Limaõ (2016)) and the importance of depth of agreements (see Table 5), but these very rough estimates capture the observation that the low volume of bilateral trade for S-S countries reflects significantly higher trade costs in S-S trade PTAs.

To sum up so far, the discussion around the indicators in Table 1 and the correlation results in Table 2 give support to the importance of indicators of culture, trust, and institutions in bilateral trade as well as economic indicators as co-determinants of bilateral trade. These have been overlooked in progress reports on integration in low-income countries.

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<sup>14</sup> For later discussion of Table 4 results, the RTA coefficient estimates corresponding to those in columns 6 and 7 but without genetic distance are 0.844 (0.09) and 0.633 (.167) (which are larger than the corresponding estimates in columns 2 and 3 of Table 4 as they are closer to long run estimates).

<sup>15</sup> Results are similar with the same pattern of signs and significance levels, but coefficient values are lower than those obtained with the Eaton-Kortum Tobit estimator reported in table 2.

<sup>16</sup> The formula is  $\left(\frac{T_1}{T_0}\right) = \left(\frac{D_1}{D_0}\right)^\theta$  where  $\theta$  is the estimated coefficient elasticity of distance at the mean (7009) [8389]. So doubling distance reduces trade to (35 per cent) [14 per cent] for (N-N) [S-S] sample.

## 4. Detecting the effects of RECs on trade costs and trade

Table 2 suggests that trade costs are high in S-S trade in manufactures and that proxies capturing trust and institutions may be significant correlates of the bilateral trade, but they do not speak to the effects of RIAs on trade. This section checks for evidence of changes in the intensity of bilateral trade among the RECs following implementation. Because reducing barriers to trade takes time to implement and effects take time to show up in the data, comparisons are for five-year and ten-year periods after the signature of the agreement relative to an average of two years before the agreement. Section 4.1 compares trade shares before and after implementation of the RIAs. Section 4.2 compares before and after average distance of trade (ADOT) on the grounds that a more rapid reduction in trade costs with partners should be reflected in geographically closer trade. It also compares the destination of new manufactures relative to products that have been exported previously on a sustained basis. Finally, using data covering the 1967–2012 period, section 4.3 looks for evidence that RIAs have, on average, increased bilateral trade (after controlling for several country and time-specific omitted factors that may affect bilateral trade patterns).

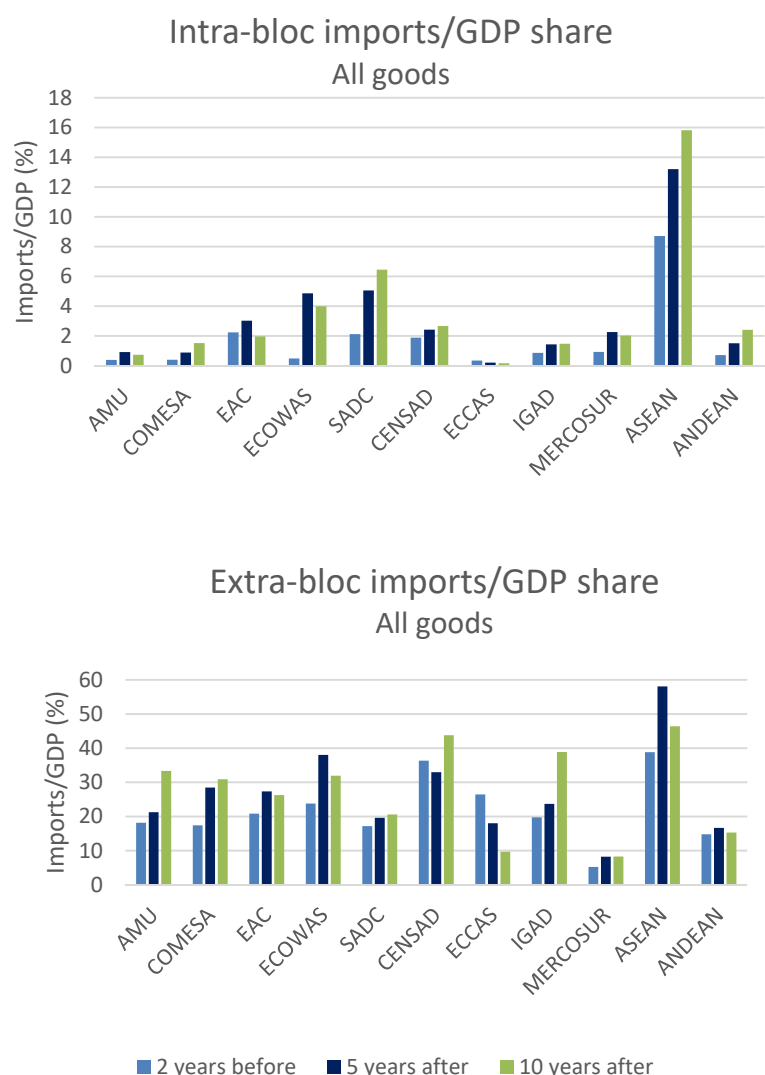
### 4.1 Intra- and extra-regional trade patterns

Figure 1 shows the evolution of trade shares before and after trade integration. Figure 1(a) shows intra-bloc and Figure 1(b) extra-bloc import shares. ASEAN stands out as the most open bloc with an average openness to trade of over 50 per cent of GDP. The share of intra-regional trade grows after integration but the extra-bloc share also increases—an indication of open regionalism. By contrast, the share of intra-bloc imports remains very low throughout for all RECs in spite of increases for SADC and ECOWAS. For all African RECs, ten years on, intra-bloc imports hover in the 2 to 4 per cent range. However, a similar pattern is also observed for ANDEAN and MERCOSUR. For all RIAs, with the exception of MERCOSUR and ANDEAN, openness as measured by the share of extra-bloc imports in GDP increases ten years after the start of integration

This first peek at the data indicates an increase in overall openness, a reflection that, worldwide, the elasticity of trade to GDP rose from around 2 in 1960 to 3 until the financial crisis of 2008/09, but it gives no evidence that this rise was driven by rising intra-bloc trade.



**Figure 1: Intra and extra-regional patterns: 2 years before and 5 and 10 years after integration (all goods)**



**Source:** Authors' calculations using Comtrade (mirror data) (United Nations 2016) and World Development Indicators (GDP) data (World Bank 2016).

#### 4.2 Trade cost estimates and the pattern of trade in new products

Another way of apprehending progress is to compare observed trade flows with those predicted by a frictionless gravity world in which each good would have the same price everywhere. Comparing the value of the average distance ratio (ADR) among RTA members,  $ADR^{RTA}$ , before and after integration is a first proxy measure of changes in trade costs induced by the ensemble of integration measures.

The ADR is the ratio of the observed average distance of trade,  $ADOT^{RTA}$  to the potential ADR,  $ADR^{RTA,P}$  given by the ratio of the product of the partners' GDPs to the world GDP:

$$ADR^{RTA} \equiv \frac{ADOT^{RTA}}{ADOT^{RTA,P}} < 1 \quad (2)$$

If trade costs among partners are falling more rapidly than trade costs with non-partners, then RTA partners entering a trade agreement would trade more with each other after integration so one would expect  $ADOT^{RTA}$  to fall after integration while potential trade would not be expected to change much. In that case if (o) [1] indicates (before) [after] the RTA comes into effect, one would observe:

$$ADR_0^{RTA} < ADR_1^{RTA} \quad (3)$$

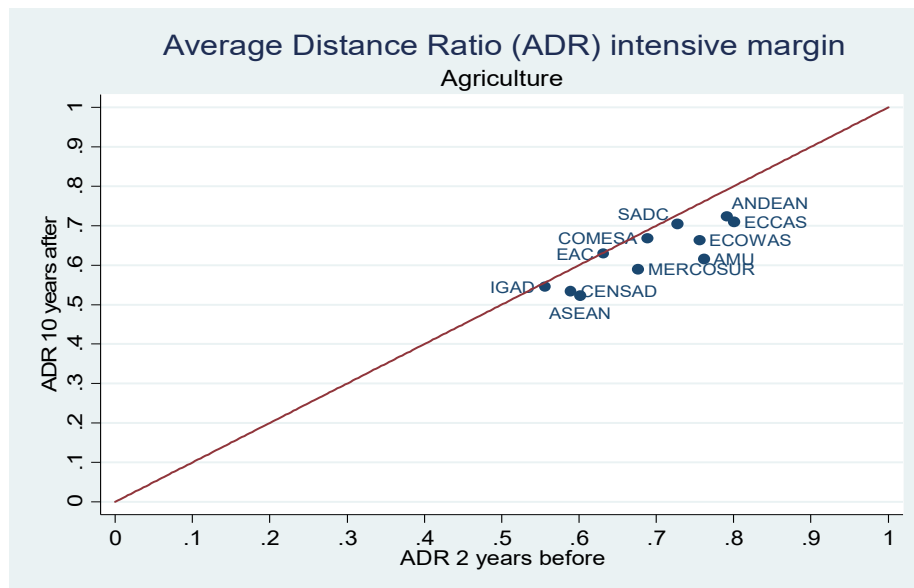
Figure 2 reports the values of these ratios for the intensive margin of trade (i.e. across partners) with positive bilateral trade around the time of the agreement and ten years after signature (similar results not reported here obtain for five years after signature). As in Figure 2, to iron out fluctuations, each point is a two-year average, two years before the signature of the agreement, and a two-year average, ten years after the signature of the agreement.<sup>17</sup> Since the ADRs prior to integration are on the horizontal axis, if (3) holds, then points would be below the 45° line.

Figure 2 reveals several patterns. First, confirming the estimates in Table 2, trade costs are important as shown by the departure of the ADRs from unity (which would correspond to a frictionless world according to the gravity model). The ADR across RIAs is in the (0.5–0.8) range for agriculture and for manufactures. Second, rather surprisingly at first (because reduction in barriers to trade in agriculture are often left off the agenda of reduction in trade barriers), all the ratios are below the diagonal for agriculture but are scattered around the 45° line for manufactures suggesting that trade costs among RTA partners fell more for agriculture than for manufactures. However, this pattern could reflect the slow progress at trade liberalization for agricultural products multilaterally during the Uruguay round, where there was no reduction in trade barriers in agriculture especially for high-income countries, leaving room for progress on a preferential basis for low-income countries. Third, the patterns for manufactures are generally plausible. For example, MERCOSUR and the EAC are below the 45° line signifying—according to the gravity model—that the distance of trade among RIA partners is falling after integration. This would be the case if, under cost-minimizing trade, trade costs among partners are falling more rapidly than trade costs with non-members.

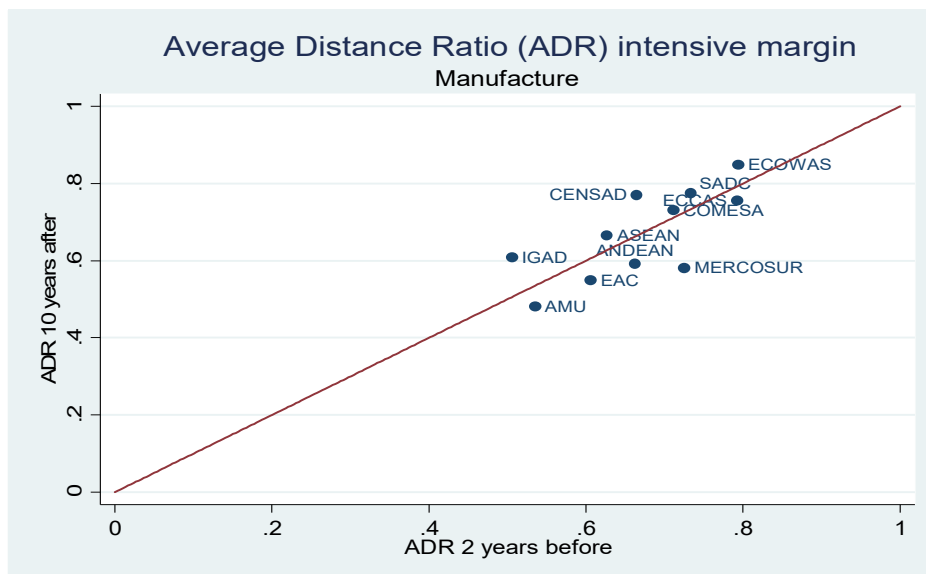
<sup>17</sup> When there is expansion in membership during the period (e.g. Burundi and Rwanda joined the EAC in 2008), calculations are restricted to the original members in the group.

**Figure 2: Average distance of trade by RTA before and 10 years after integration**

**2(a): Agriculture**



**2(b): Manufactures**



**Note:** ADR is the ratio of the average observed distance for existing trade flows before integration to the average distance predicted under frictionless trade. Maximum ADR value is 1. Observations below (above) the 45° line, represent a shift towards geographically closer (further away) partners after integration.

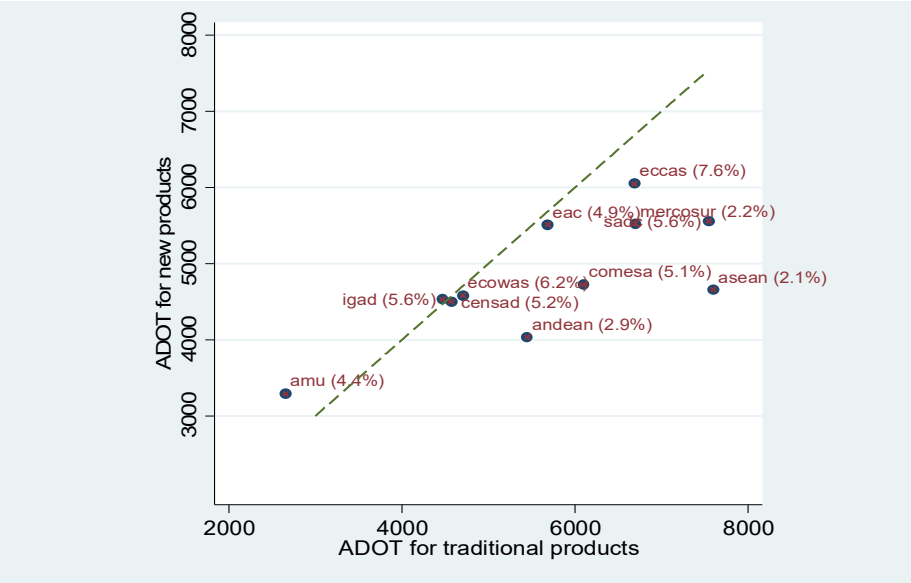
**Source:** Authors' estimates.

Table 3 and Figure 3 carry out a similar before–after ‘event analysis’ for newly exported manufactures at the HS-4 level (new products exported for at least three years over the 2000–08 period relative to manufactures exported throughout 1995 to 1999). Table 3 shows that the average number of traded goods in the RECs is about half that in the three comparator groups. The data also show that larger RIAs are, on average, more diversified and so are RIAs with a higher

average per capita income.<sup>18</sup> Table 3 shows some catching up as the percentage increase in new goods is over twice as large as the three comparators.

Figure 3 compares the average distance of partners for new manufactures versus manufactures previously exported. All points except AMU are on or below the 45° line. All new manufactures are shipped to closer destinations than traditional goods, a confirmation of the observed pattern of regionalization of trade among developing countries. This might reflect characteristics of the products, knowledge of demand, trust, or similar institutions, all of which could translate into lower trade costs. This small increase in number of products is consistent with the very low levels of intra-industry trade in African PTAs reported by Brulhart (2009).<sup>19</sup>

**Figure 3: The regionalization of trade in new manufactured products**



**Note:** New products are defined as products that were exported for at least 3 years during 2000 to 2008 relative to products that were exported throughout 1995 to 2000. As an example, for SADC the average distance of trade of (traditional) [new] products (7,549) [5,556] kms.

**Source:** Authors' calculations from HS-4 level COMTRADE (mirror data) over the 1995–2008 period (United Nations 2016).

Régolo (2013) explored the correlates of this robust observation across a larger sample of countries. She established that for almost all the countries in her sample, newly exported goods (over a period of three or more years) were only sold on markets with low trade costs (i.e. close, contiguous, or part of an RTA) relative to traditionally exported goods. Moreover, she also documented that even when the newly exported goods reached the maximum age of ten, they were still substantially exported towards geographically and culturally closer destinations than the

<sup>18</sup> The correlation coefficient GDP-number of products is 0.71 and the correlation GDP p.c. and number of products exported is 0.74.

<sup>19</sup> Intra-industry trade shares (internal, external) as a share of trade: EU-15(46.6;24.5); CEMAC (1.2;0.1) WAEMU (0.9;0.4); EAC (0.3;0.4); SACU (0.3;9.0).

destinations of traditional goods. For new products, breaking into distant markets is difficult—a likely reflection of the persistence of the trust and institutional factors discussed in section 3.

### 4.3 Bilateral trade in manufactures under the RECs

As a final exercise, we ask whether, after controlling for a range of intervening factors, REC and/or WTO membership increases bilateral trade in manufactures for our sample of countries over the 1967–2012 period. Estimates cover eight periods of three years each:<sup>20</sup>

$$\ln X_{o,d,t} = \alpha_{o,t} + \beta_{d,t} + \mu_t + \phi_{o,d} + \gamma RTA_{o,d} + \lambda WTO_{o,d,t} + \epsilon_{o,d,t} \quad (4)$$

Specification (4) follows Baier and Bergstrand (2007) and includes three sets of FEs: (i) time FEs ( $\mu_t$ ) that control for shocks common to all countries; (ii) exporter ( $\alpha_t$ ) and importer ( $\beta_t$ ) time-varying FEs that control for all country-specific time-varying omitted variables; and (iii) time-invariant bilateral FEs ( $\phi$ ). In interpreting estimates from (4), this amounts to assuming that all PTAs are drawn from the same sample so the estimates amount to an ‘average treatment effect’. Besides having to interpret what the  $\gamma$  and  $\lambda$  coefficients actually capture, this leaves the possibility of endogeneity due to time-varying omitted variables or to the depth of an RTA which likely varies over time (see Baier and Bergstrand (2007) and Limaõ (2016)) and internal trade costs that are not taken into account (Yotov 2012).

Estimates for bilateral trade in manufactures are reported in Table 4. Columns 1 to 3 report estimates for the sample covering only S-S trade (and RIAs) and columns 4 to 7 include all countries. Estimates in columns 1 and 3 do not control for omitted bilateral bias.<sup>21</sup> Comparing across columns, besides the expected result that the contiguity and common language have the expected signs, three results stand out. First, the PTA coefficient is always larger when estimated on the S-S sample—for example, comparing columns 1 and 3  $\{\lambda_{SS} = 1.1; \lambda_{ALL} = 0.46\}$ . This result is robust to the inclusion of bilateral fixed effects and, as expected from Table 2, is also amplified when taking into account the zero observations with the Eaton-Kortum Tobit estimates  $\{\lambda_{SS} = 1.6; \lambda_{ALL} = 0.83\}$ . Second, the distance coefficient estimate is also larger for the S-S only sample, especially when taking into account zero trade flows. Third, as shown by Eicher and Henn (2011), the WTO coefficient is not robust to the inclusion of bilateral FEs.

Subject to the identifying restrictions holding, the estimates in Table 4 translate into an average additional trade in manufactures due to belonging to an RIA, i.e. to one of the nine RECs and the three comparator groups. Taking columns 2 and 5 as the most plausible estimate, RIA partnership translates into an increase in bilateral trade of (45 per cent) [27 per cent]  $\{e^{0.372} - 1 = 45 \text{ per cent}; e^{0.242} - 1 = 27 \text{ per cent}\}$ .

<sup>20</sup> Estimates with five-year intervals yield similar results.

<sup>21</sup> As in Limaõ (2016: Table 2), including bilateral FEs in addition to time FEs reduces the estimate of  $\lambda$ .

And since the same trade cost function is assumed to hold for all countries in the population, under the theoretical models giving rise to the gravity equation, the average tariff equivalent ( $\tau^{AVE}$ ) is given by:

$$\tau^{AVE} = e^{\lambda/\epsilon} - 1$$

where a value of  $\epsilon=5$  is a representative estimate of the estimates in the literature (e.g. Limaõ 2016). Taking the estimates in columns 2 and 3, and 5 and 6 gives estimates of the partial trade effect of eliminating tariffs and NTBs of (13.2 per cent) [8.4 per cent] for columns (2) and [5] and (74 per cent) [52 per cent] for columns (3) and [6]. In view of the earlier patterns in section 4.1 and 4.2 that revealed small changes in trade patterns, these estimates are most likely biased on the high side in that they capture other effects of RIAs, though one can retain from the exploration here that trade costs remain high and that RIAs have brought an increase in trade in manufactures among the RECs.

## 5. Building the RECs: breadth vs depth

If RTAs have an important function by increasing the opportunity cost of conflicts (Martin et al. 2008, 2012) from an economic standpoint, serious integration agreements are attempts between sovereign states to reciprocally renounce on some states' rights while confronting lobbying activities. As emphasized by Melo and Tsikata (2015: 231), common decision-making internalizes cross-border spillovers but it at the cost of moving the common policy away from its preferred national policy (i.e. a loss of national sovereignty). In Africa, spillovers are important as transport and communications infrastructure are under-provided, but the ethno-linguistic diversity across 'artificial' borders documented in Table 1 suggests strong differences in policy preferences. This heterogeneity hinders the supply of public goods through the adoption of common regional policies. How have the RECs opted between emphasis on the 'depth' of integration (deeper provisions) and 'breadth' (larger membership)? Opting for more breadth requires more compromises because of heterogeneity of membership. Greater depth is conducive to the provision of public goods while expanded membership (greater 'breadth' through expanded membership) tackles the tyranny of small markets that has always faced African countries.<sup>22</sup>

### 5.1 Size of membership and the plight of small countries: Liberia vs Rwanda

An example of the contrast between 'depth' and 'breadth' is the relatively deep integration in the EAC which initially involved integration among three members prior to an extension to five members in 2009 after customs union status had been reached in 2005. While this left the newcomers, Burundi and Rwanda, with the obligation to adopt the three-band CET (0%-15%-25%) and a 'sensitive' item list (66 products exempt from the three-band tariff schedule with tariffs up to

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<sup>22</sup> At purchasing power parity prices, the combined GDP of SSA countries (including South Africa), is about 85 per cent of Germany's GDP.

70 per cent), they joined a CU with a relatively transparent trade policy where emphasis on removing NTBs was taken seriously. By contrast, Liberia joined the five-band (0%-15%-25%-35%) CET at a time when the ECOWAS Trade Liberalization scheme adopted in 1994 is yet to be implemented. Not only is the CET protectionist with a tariff band at 35 per cent, but it also has an exception list of 300 products (of which 200 were on Nigeria's import ban list). In effect, Liberia has been left with very limited room to manoeuvre during the implementation phase of the CET, being forced to adopt a CET that will disproportionately increase the cost of living for the urban and rural poor after taking into account the special protection measures allowed on 3 per cent of the tariff lines during a five-year transition period (Melo and Laski 2014).

## 5.2 How deep are African RTAs?

From 2000 to 2015, 194 PTAs notified to the WTO have come into force, of which 64 per cent also include provisions on services trade, whereas 90 per cent of the 81 PTAs in force prior to 2000 featured provisions dealing exclusively with trade in goods (Egger and Shingal 2016). This extension of coverage to services reflects the increasing importance of services as complementary inputs into production and of the slow progress at trade liberalization in services at the multilateral level. Here we compare the depth of integration measures in SSA RTAs relative to other S-S RTAs following the tally in Horn et al. (2010) who classify coverage into two broad categories: those that are covered by the WTO negotiations, for which the issue is how much further does the RTA go beyond WTO negotiations (the WTO+ category); and those that are not covered in the WTO negotiations (the WTO-X category). For each category, when the provision is covered (denoted AC for area covered), the provisions are further categorized according to their degree of legal enforceability based on the wording in the provision (e.g. 'parties shall cooperate' is deemed not legally enforceable while 'neither party may expropriate or nationalize a covered investment...' is deemed legally enforceable (i.e. indicated by LE in Figure 4). This approach has been extended by Hoffman et al. (2017) to include 279 RTAs over the 1985–2015 period.

Figure 4 summarizes a tally of the count of provisions for the 117 S-S RTAs, focusing on comparisons between 7 SSA (of which 5 are RECs) and other (108) S-S RTAs. Not surprisingly, legal enforceability is much higher for WTO+ than for the WTO-X provisions that are not covered in the WTO. Lumping all the WTO+ provisions, the aggregate coverage ratio (across all categories) is only slightly lower (58 per cent vs 64 per cent) in SSA RTAs than in other S-S RTAs, but the legal enforceability is significantly lower. As to the WTO-X provisions (not covered by WTO negotiations), coverage is more than twice as high in African RTAs, but, at 5 per cent, the legal enforceability is as low as in other S-S RTAs. Interestingly, on average, legal enforceability is always lower for African RTAs than for other S-S RTAs. The high coverage ratio of WTO-X provisions in SSA RTAs could reflect a combination of three factors: (i) high coverage inspired by coverage in EU agreements where RIAs are the main diplomatic arm of the EU which does not have a foreign policy so to speak;<sup>23</sup> (ii) a way

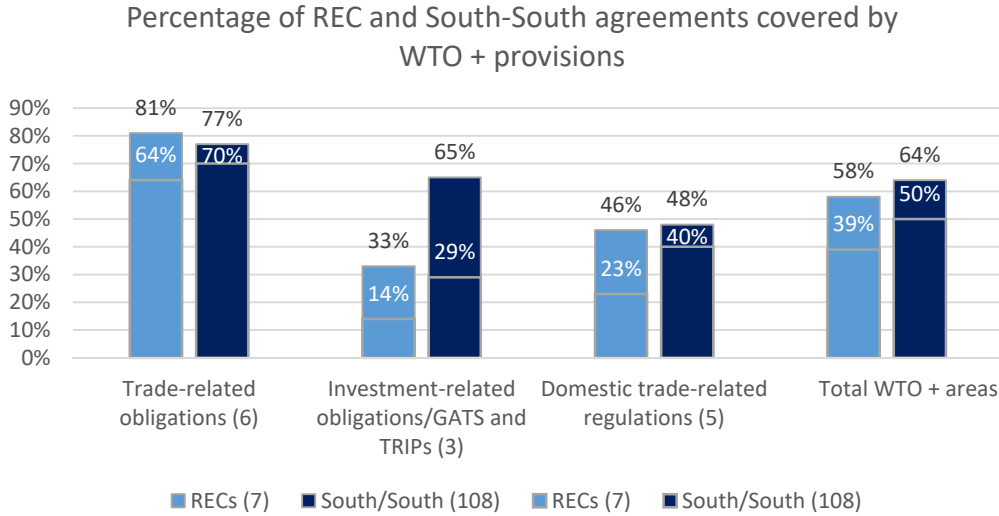
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<sup>23</sup> In their comparison of WTO-X areas in EU and US FTAs, Horn et al. (2010) note that 75 per cent (of 310 provisions) in EU agreements are non-enforceable while 85 per cent (of 82 provisions) are enforceable in US agreements.

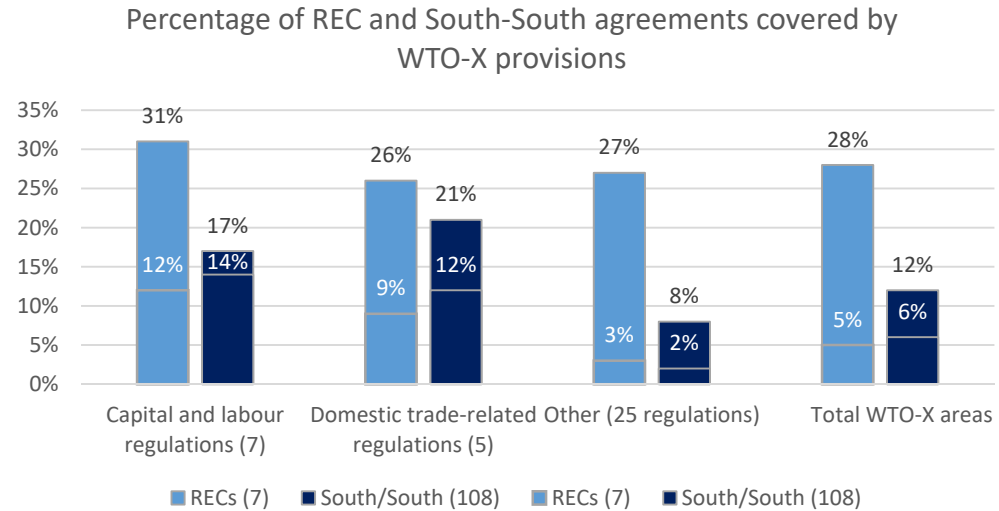
to build trust by including preferences of all participants; and (iii) a sign of diplomacy among countries with large differences in preferences. This is akin to the ‘universalism’ problem in the politics of rent-sharing in RTAs where every government wants a share of the spoils when voting on protection so that all countries vote for measures that are not in their interest in exchange for getting the support of other members for measures they benefit from (Schiff and Winters 2003: 87).

**Figure 4: A comparison of coverage of provisions across South–South RTAs: African RTAs vs other South–South RTAs**

**4(a) Average coverage of WTO+ provisions by category of obligations:**



**4(b) Average coverage of WTO-X provisions by category of obligations:**



**Note:** African RTAs: CEMAC, COMESA, EAC, ECOWAS, SACU, SADC, and WAEMU. Percentages are by category of provisions covered distinguishing those that are legally enforceable. For example, in Figure 4(b) for the 7 African RECs, of a total of 49=7X7 possible coverage for capital and labour requirements, 31 per cent (i.e. 15) provisions are covered with 12 per cent (i.e. 6) deemed legally enforceable..

**Source:** Authors’ calculations from data base in Hoffman et al. (2017).



Producer services (transportation, accounting, ICT, consulting, financial) are all complementary inputs in the production function and hence necessary to expand the production of intermediate and final goods. Many are specialized inputs. Access is needed to a wide range of varieties from domestic and foreign suppliers. In Figure 4, regulations fall under the following categories: investment-related obligations, domestic trade-related regulations, and capital and labour regulations. For all these categories, on average, the African RTAs have lower enforceability than in other S-S agreements. This is particularly so for the investment-related obligations (General Agreement on Trade in Services (GATS), Agreement on Trade-Related Investment Measures (TRIMs), Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs)) which have lower coverage and lower enforceability.

As a check of the potential importance of depth of integration for participation in supply chain trade, Table 5 reports panel regressions of bilateral trade in parts and components that are exchanged in supply chains for our sample of S-S RIAs over the 1980–2014 period. To control for omitted variables, the full set of FEs is included in all regressions with three measures of depth: all provisions, core provisions (WTO<sup>+</sup> provisions plus competition and movement of capital), and the percentage of provisions covered. The estimates in columns 1 to 3 indicate that all three measures are significant along with the WTO and PTA dummies. The results are robust to the inclusion of zero observations with the Eaton-Kortum Tobit estimator reported in columns 4 to 6. While the inclusion of dummies controls for omitted variable bias, the results could also reflect that it is participation in supply chain trade that has pushed countries to integrate more deeply. In any case, the results suggest that deep integration, including WTO membership, is important for supply chain trade.

## 6. Conclusions

The RECs have been the driving force at integration across the African continent where small fragmented and isolated economies with a very unequal distribution of economic resources and geographic characteristics make a compelling case for integration on a regional basis to exploit scale economies, reap efficiency gains, and reduce the thickness borders. This review started by documenting the obstacles to progress resulting from the large heterogeneity across the continent. We looked for signs of integration in producer services which are complementary for manufacturing and key for the prospects of industrialization without ‘smokestacks’ emphasized in the project.

The review suggests three takeaways. First, progress has been slow towards meeting overly ambitious objectives suggestive of an implementation capability trap. Second, since their inception, reorganization in the pattern of trade in manufactures towards REC partners has been small, suggesting that regional trade costs have not fallen, at least relative to non-regional trade costs. This persistence of high trade costs has been accompanied by few new manufactures destined to geographically close markets. Third, compared with other South–South RIAs, the RECs

have moved towards deeper integration by including a high number of provisions not covered in WTO negotiations. However, these provisions have low legal enforceability. Reasons for this low progress are explored in the paper.

From a broader perspective, this progress report questions Africa's 'old regionalism' approach where the building of RECs still continues to be built around an exchange of market access seeking to build vertically integrated production chains on a regional basis rather than participating in the growth of trade in tasks where integration takes place on a horizontal basis. With the worldwide reduction in trade costs and the subsequent horizontal fragmentation of production, logistics, and services, activities have become necessary to participate in the rapidly expanding exchange of intermediate goods (i.e. trade in tasks). Participation in 'value chains' requires not only access to imported intermediates at world prices, but also access to the services (transportation, accounting, ICT, consulting, financial) that are essential in the production of intermediate and final goods. Econometric estimates indicate that participation in the RECs has contributed to intensifying bilateral trade in manufactures, and deep integration covering services contributes to intensifying trade in parts and components that are part of the worldwide delocalization of tasks. Tackling the removal of barriers to trade in goods and trade in services remains a challenge for successful integration in the RECs.

## References

- Baier, S., and J. Bergstrand (2007). 'Do Free Trade Agreements Actually Increase Members' International Trade'. *Journal of International Economics*, 71: 72–95.
- Brenton, P., and G. Isisk (2012). *De-Fragmenting Africa: Deepening Regional Trade Integration in Goods and Services*. Washington, DC: World Bank
- Brulhart, M. (2009). 'An Account of Global Intra-Industry Trade 1962–2006'. *The World Economy*, 32(3): 401–59.
- COMESA (2014). 'Report of the Thirty Second Meeting of the Council of Ministers'. Available at: <http://www.trademarksa.org/publications/thirty-second-meeting-comesa-council-ministers> (accessed in July 2016).
- Desmet, K., I. Ortuño-Ortin, and R. Wacziarg (2009). 'The Political Economy of Ethnolinguistic Cleavages'. NBER Working Paper No. 15360. Cambridge, MA: National Bureau of Economic Research.
- Dihel, N., and A.G. Goswami (2016). *From Hair Stylists and Teachers to Accountants and Doctors: the Unexplored Potential for Trade in Services in Africa*. Washington, DC: World Bank.
- Disdier, A.-C., L. Fontagné, and O. Cadot (2015). 'North-South Standards Harmonization and International Trade'. *The World Bank Economic Review*, 29(2): 327–52.
- Eaton, J., and S. Kortum (2001). 'Trade in Capital Goods'. *European Economic Review*, 45(7): 1195–235.
- Egger, P., and A. Shingal (2016). 'Granting Preferential Market Access in Services Sequentially versus Jointly with Goods'. Mimeo.
- Eicher, T., and C. Henn (2011). 'In Search of WTO Trade Effects: Preferential Trade Agreements Promote Trade Strongly but Unevenly'. *Journal of International Economics*, 83(2): 137–53.
- Engel, J., and M.-A. Jouenjean (2015). 'Political and Economic Constraints to the ECOWAS Regional Economic Integration Process and Opportunities for Donor Engagement'. Available at: <https://www.gov.uk/dfid-research-outputs/political-and-economic-constraints-to-the-ecowas-regional-economic-integration-process-and-opportunities-for-donor-engagement> (accessed in July 2016).
- Erasmus, H., F. Flatters, and R. Kirk (2006). 'Rules of Origin as Tools for Development: Some Lessons from SADC'. In O. Cadot, A. Estevadeordal, A. Suwa-Eisenmann, and T. Verdier (eds), *The Origin of Goods. Rules of Origin in Regional Trade Agreements*. Oxford: Oxford University Press.
- Felbermayr, G., and F. Toubal (2010). 'Cultural Proximity and Trade'. *European Economic Review*, 54: 279–93.
- Foroutan, F. (1992). 'Regional Integration in Sub-Saharan Africa: Past Experience and Future Prospects. In J. de Melo and A. Panagariya (eds), *New Dimensions in Regional Integration*. Cambridge: Cambridge University Press.
- Guiso, L., P. Sapienza, and L. Zingales (2009). 'Cultural Biases in Economic Exchange'. *Quarterly Journal of Economics*, 124(3): 1095–131.
- Horn, H., P. Mavroidis, and A. Sapir (2010). 'Beyond the WTO: An Anatomy of EU and US Preferential Trade Agreements'. *The World Economy*, 23(11): 1565–88.

- Head, K., and T. Mayer (2014). 'Gravity Equations: Workhorse, Toolkit, and Cookbook'. In G. Gopinath, E. Helpman, and K. Rogoff (eds), *Handbook of International Economics*, vol. 4. Amsterdam: North-Holland.
- Hoffman, C., A. Osnago, and M. Ruta (2017). 'Horizontal Depth: A New Data Base on the Content of Preferential Trade Agreements'. Policy Research Working Paper No. 7981. Washington, DC: The World Bank.
- Jensen, M., and J. Keyzer (2012). 'Standards Harmonization and Trade: The Case of the East African Community'. In O. Cadot and M. Malouche (eds), *Non-Tariff Measures: A Fresh Look at Trade Policy's New Frontier*. Washington, DC: World Bank and CEPR.
- Limaõ, N. (2016). 'Preferential Trade Agreements'. In K. Bagwell and R.W. Staiger (eds), *Handbook of Commercial Policy*. Amsterdam: North-Holland.
- Martin, P., T. Mayer, and M. Thoenig (2008). 'Make Trade, not War'. *Review of Economic Studies*, 75(3): 865–900.
- Martin, P., T. Mayer, and M. Thoenig (2012). 'The Geography of Conflicts and Regional Trade Agreements'. *American Journal: Macroeconomics*, 4(4): 1–35.
- Melo, J. de, and A. Laski (2014). 'Will West Africa's CET Protect Consumers?'. Blog. Available at: <http://www.theigc.org/blog/will-west-africas-common-external-tariff-protect-consumers/> (accessed in July 2016).
- Melo, J. de, A. Laski, and A. Mancellari (2014). 'Preparing for the ECOWAS CET: Options for Liberia'. IGC Working Paper. London: International Growth Centre.
- Melo, J. de, and Y. Tsikata (2015). 'Regional Integration in Africa: Challenges and Prospects'. Chapter 11 in C. Monga and J. Lin (eds), *The Oxford Handbook of Africa and Economics*. Oxford: Oxford University Press.
- Melo, J. de, and J. Régolo (2014). 'The African Economic Partnership Agreements with the EU: Reflections Inspired by the Case of the East African Community'. *Journal of African Trade*, 1(1): 15–24.
- Metzger, M. (2008). 'Regional Cooperation and Integration in Sub-Saharan Africa'. UNCTAD Discussion Paper No. 189. Geneva: United Nations Conference on Trade and Development.
- Newfarmer, R. (2017). *From Small Markets to Collective Action: Regional Cooperation, Public Goods and Development in Africa*. Mimeo
- Nunn, N., and D. Trefler (2014). 'Domestic Institutions as a Source of Comparative Advantage'. In G. Gopinath, E. Helpman, and K. Rogoff (eds), *Handbook of International Economics*, Vol.4. Amsterdam: North-Holland.
- Pritchett, L., M. Woolcock, and M. Andrews (2013). 'Looking Like a State: Techniques of Persistent Failures in State Capability for Implementation'. *The Journal of Development Studies*, 49(1): 1–18.
- Régolo, J. (2013). 'Manufacturing Export Diversification and Regionalization of Trade: Which Destinations for Newly Exported Goods'. Doctoral Thesis. Geneva: University of Geneva,
- Santos Silva, J.M.C. and S. Teneyro (2006) 'The Log of Gravity'. *The Review of Economics and Statistics*, 88(4): 641–58
- Schiff M., and A. Winters (2003). *Regional Integration and Development*. Washington, DC: The International Bank for Reconstruction and Development/The World Bank.
- Spolaore, E. (2015). 'The Political Economy of European Integration'. In H. Badinger and V. Nitsch (eds), *Handbook of European Integration*. Abingdon: Routledge

- Spolaore E., and R. Wacziarg (2016). 'Ancestry, Language and Culture'. In V. Ginsburgh and S. Weber (eds), *The Palgrave Handbook of Economics and Language*. London: Palgrave Macmillan
- UNECA (2012). 'Assessing Regional Integration in Africa (ARIAIV) Towards an African Continental Free Trade'. ECA Policy Research Report. Addis Ababa: Economic Commission for Africa.
- UNECA (2013). 'Assessing Regional Integration IV'. ECA Policy Research Report. Addis Ababa: Economic Commission for Africa.
- UNECA (2015). 'Industrializing Through Trade'. ECA Policy Research Report. Addis Ababa: Economic Commission for Africa.
- UNECA (2016). *Africa Regional Integration Index—Report 2016*. Addis Ababa: Economic Commission for Africa.
- United Nations (2016). 'Comtrade Database'. Available at: <http://comtrade.un.org/> (accessed in July 2016).
- Venables, A. (2011). 'Economic Integration in Remote Resource-Rich Regions'. In R. Barro and J.W. Lee (eds), *Costs and Benefits of Economic Integration in Asia*. Oxford: Oxford University Press.
- World Bank (1981). *Accelerated Development in Sub-Saharan Africa: A Plan for Action*. Washington, DC: World Bank.
- World Bank (2016). *World Development Indicators*. Available at: <http://wdi.worldbank.org> (accessed in July 2016).
- WTO (2011). *World Trade Report 2011. The WTO and Preferential Trade Agreements: from Co-existence to Coherence*. Geneva: World Trade Organization.
- Yotov, Y. (2012). 'A Simple Solution to the Distance Puzzle in International Trade'. *Economics Letters*, 117(3): 794–98.

## Tables

**Table 1 Characteristics of Africa's Regional Integration Agreements**

Col (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<b>(RECs in bold)</b> Type of agreement [year originated, year signed]	<b>(Total)</b> [LL] {LDC}	<b>Indicators</b>							
		<b>Economic, biological, culture, institutions</b>							
		<b>Natural Capital<sup>a</sup></b>	<b>TCI<sup>b</sup></b>	<b>GDP<sup>a</sup></b>	<b>GDP per capita</b>	<b>Gen. Dist.</b>	<b>ELF</b>	<b>POL</b>	<b>WGI<sup>d</sup></b>
		Fuels <sup>c</sup>	TCI	Cur. US\$ bil.	Cur. US\$	Fs <sup>w</sup>	ELF	POL	
<b>(AMU)</b> , FTA [1988, 1989]	(5) {1}	51.4 (0.82)	15	377.5 (0.78)	4,930 (0.83)	0.03	0.27	0.44	-0.69
<b>(COMESA)</b> , CU [1965, 1993]	(19) [8] {11}	22.1 (1.05)	17	542.3 (1.77)	2,485 (1.45)	0.08	0.55	0.51	-0.64
<b>(EAC)</b> , CU [1999, 1999]	(5) [3] {4}	17.3 (1.12)	19	93.6 (0.70)	630 (0.51)	0.01	0.56	0.15	-0.59
<b>(ECOWAS)</b> , CU [1965, 1975/1993]	(15) [3] {11}	35.5 (0.97)	22	486.6 (2.88)	961 (0.88)	0.03	0.77	0.46	-0.62
<b>(SADC)</b> , FTA [1980, 1986]	(15) [6] {2}	32.2 (0.72)	17	607.2 (2.34)	3,393 (1.00)	0.07	0.63	0.47	-0.34
<b>(CEN-SAD)</b> , FTA [n.a., 1998]	(29) [6] {20}	31.0 (0.95)	20	1,037.7 (2.04)	1,574 (1.46)	0.07	0.67	0.50	-0.84
<b>(ECCAS)</b> , CU [1983, 1985]	(11) [3] {7}	44.9 (0.70)	16	184.15 (1.29)	4,268 (1.62)	0.02	0.72	0.333	-1.14
<b>(IGAD)</b> , EPEU [1986, 1996]	(7) [1] {5}	4.0 (0.62)	16	159 (0.92)	862 (0.53)	0.05	0.68	0.51	-1.01
ANDEAN Com., CU [n.a., 1987]	(5) {0}	74.0 (0.21)	18	917.5 (0.84)	6,298 (0.69)	0.10	0.28	0.39	-1.00
ASEAN, FTA [n.a., 1992]	(10) {3}	25.6 (1.22)	25	1,984.6 (1.15)	10,508 (1.55)	0.04	0.60	0.53	-0.11
MERCOSUR CU [1985, 1991]	(4) [1] {0}	39.0 (1.02)	21	2,695.1 (1.54)	9,154.3 (0.43)	0.08	0.23	0.34	-0.69

**Notes:** See the list of acronyms and abbreviations of regional agreements. LL= Landlocked; FTA (Free Trade Area), CU (Customs Union), CMU (Customs and Monetary Union), CPU (Customs and Political Union), PEU (Political and Economic Union), EPEU (Environmental, Political and Economic Union). a/ All averages are simple averages. Coefficient of variation in parenthesis, GDP at market price, current US\$ (2010); b/Trade Complementarity Index. TCI<sub>max</sub>=100 indicates ideal partners. Low score indicates countries export similar products. TCI of the EU= 41.7 in 1962. c/ Fuels ores & metals. d/ Rule of law from the WGI indicators (2012).

Variables and sources: Genetic distance (Fs): Spolaore and Wacziarg (2016). A higher value means further distance. (ELF) Ethno-linguistic fractionalization; Polarization (POL): for both indices, a higher value indicates greater cleavages (Desmet et al. 2009). Fuel, ores, and metals (share of merchandise exports in 2013 GDP and GDP per capita in current US\$).

WGI is rule of law are from the World Development Indicators. Values are assumed to be normally distributed, centred at zero with standard deviation of 1

**Table 2: Correlates of bilateral trade 2012 (manufactures, South–South)**

VARIABLES	(1) OLS with GDP	(2) OLS with FE	(3) OLS with FE	(4) EK Tobit with FE	(5) OLS with FE	(6) OLS with FE	(7) EK Tobit with FE
Ln(distance)	-1.390*** (0.0450)	-1.743*** (0.0424)	-1.620*** (0.0476)	-2.897*** (0.0834)	-1.619*** (0.0477)	-1.471*** (0.0509)	-2.828*** (0.0881)
Common language	1.349*** (0.0847)	1.472*** (0.0815)	1.406*** (0.0852)	2.096*** (0.145)	1.405*** (0.0853)	1.352*** (0.0846)	2.082*** (0.144)
Common border	1.681*** (0.172)	1.338*** (0.178)	1.256*** (0.184)	0.290 (0.378)	1.255*** (0.184)	1.083*** (0.182)	0.103 (0.379)
Ln(GDP exp.)	1.251*** (0.0143)						
Ln(GDP imp)	0.868*** (0.0144)						
Ln(Genetic dist.)			-0.258*** (0.0359)	-0.357*** (0.0611)	-0.258*** (0.0359)	-0.238*** (0.0357)	-0.347*** (0.0607)
WTO					0.0983 (0.269)	0.0409 (0.273)	-0.657 (0.400)
PTA						0.780*** (0.0945)	0.552*** (0.170)
Constant	-26.60*** (0.684)			28.56*** (1.060)			28.42*** (1.184)
Observations	10,798	11,328	10,176	16,277	10,176	10,046	16,022
R-squared	0.528	0.672	0.679		0.679	0.687	
Fixed Effects (FE) importer	no	yes	yes	yes	yes	yes	yes
exporter	no	yes	yes	yes	yes	yes	yes

**Note:** Robust standard errors in parentheses, clustered at country-pair level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. EK Tobit: Eaton-Kortum Tobit.

**Source:** Authors' estimates.

**Table 3: New goods traded by RIA over 2000 to 2008 (averages by REC over the 2000–08 period)**

Country	Averages by REC and year over the 2000–2008 period		
	Number new	Number traded	% new goods
ECOWAS	21.6	347.9	6.2%
EAC	24.3	491	4.9%
SADC	21.6	381.3	5.6%
COMESA	15.6	355.6	5.1%
IGAD	19.29	339.8	5.6%
AMU	21	471.6	4.4%
CEN-SAD	18.8	360.2	5.2%
ECCAS	14.2	187.2	7.6%
ANDEAN	21.8	740.2	2.9%
ASEAN	15.6	720.1	2.1%
MERCOSUR	15.5	705.2	2.2%

**Notes:** Author's calculations from HS-4 level (1,084 products) using COMTRADE data (mirrored). At this level of aggregation, high-income countries exported an average of around 1,000 (out of a possible 1,052 products) during the period.

**Source:** Authors' estimates.

**Table 4: Estimates of the trade effects of RECS on trade in manufactures**

SAMPLE	(1)	(2)	(3)	(4)	(5)	(6)
	OLS Manufactures S-S trade only	OLS Manufactures S-S trade only	EK Tobit Manufactures S-S trade only	OLS Manufactures All countries	OLS Manufactures All countries	EK Tobit Manufactures All countries
PTA	1.053*** (0.0640)	0.372*** (0.0549)	1.647*** (0.149)	0.464*** (0.0383)	0.242*** (0.0279)	0.828*** (0.0849)
WTO	0.331*** (0.0726)	0.0660 (0.0658)	1.282*** (0.0711)	0.234*** (0.0526)	0.0835* (0.0449)	1.213*** (0.0452)
Ln(distance)	-1.473*** (0.0316)		-2.738*** (0.0631)	-1.450*** (0.0213)		-1.986*** (0.0402)
Com. language	0.808*** (0.113)		-0.498* (0.259)	0.554*** (0.113)		-0.828*** (0.275)
Com. border	1.042*** (0.0505)		2.565*** (0.103)	0.900*** (0.0379)		2.051*** (0.0701)
Ln(GDP exp.)			2.192*** (0.0156)			1.946*** (0.00911)
Ln(GDP imp)			1.702*** (0.0165)			1.538*** (0.00929)
Constant			-55.56*** (0.859)			-50.82*** (0.515)
Observations	92,773	92,026	190,318	256,395	256,901	380,056
R-squared	0.639	0.754		0.729	0.822	
Fixed Effects(FE) year	yes	yes	yes	yes	yes	yes
importer	no	no	no	no	no	no
exporter	no	no	no	no	no	no
importer*year	yes	yes	no	yes	yes	no
exporter*year	yes	yes	no	yes	yes	no
bilateral	no	yes	no	no	yes	no

**Note:** Robust standard errors in parentheses, clustered at country-pair level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. EK Tobit: Eaton-Kortum Tobit.

**Source:** Authors' estimates.



**Table 5: Depth of integration and trade in components and parts. Panel (1982–2012)<sup>a</sup>**

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) EK Tobit	(5) EK Tobit	(6) EK Tobit
PTA	0.832*** (0.0446)	0.827*** (0.0460)	0.832*** (0.0446)	1.182*** (0.0867)	1.103*** (0.0919)	1.182*** (0.0867)
WTO	0.398*** (0.0695)	0.399*** (0.0694)	0.398*** (0.0695)	1.393*** (0.0442)	1.391*** (0.0442)	1.393*** (0.0442)
Ln(distance)				-1.920*** (0.0366)	-1.920*** (0.0367)	-1.920*** (0.0366)
Com. language				-0.376* (0.218)	-0.382* (0.218)	-0.376* (0.218)
Com. border				2.056*** (0.0662)	2.058*** (0.0661)	2.056*** (0.0662)
Ln(GDP exp.)				2.273*** (0.00953)	2.272*** (0.00952)	2.273*** (0.00953)
Ln(GDP imp)				1.372*** (0.00980)	1.371*** (0.00979)	1.372*** (0.00980)
WTO+ and WTO-X provisions (sum)	0.0106*** (0.00145)			0.00821** (0.00397)		
WTO+ provisions (sum)		0.0238*** (0.00376)			0.0317*** (0.0104)	
Nb. of prov. / Max. nb. of provisions			0.552*** (0.0753)			0.427** (0.207)
Constant				-62.80*** (0.496)	-62.76*** (0.496)	-62.80*** (0.496)
Observations	149,469	149,469	149,469	323,777	323,777	323,777
R-squared	0.842	0.842	0.842			
Fixed Effects (FE) year	yes	yes	yes	yes	yes	yes
importer	no	no	no	no	no	no
exporter	no	no	no	no	no	no
importer*year	yes	yes	yes	no	no	no
exporter*year	yes	yes	yes	no	no	no
bilateral	yes	yes	yes	no	no	no

**Notes:** Robust standard errors in parentheses, clustered at country-pair level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. EK Tobit: Eaton-Kortum Tobit

<sup>a</sup> Three-year panel. Components and parts defined as sections 42 (parts and components of capital goods) and 43 (part and accessories of transport equipment) of the BEC and code 65 of the SITC (textiles).

**Source:** Authors' estimates.



*“Sur quoi la fondera-t-il l'économie du monde qu'il veut gouverner? Sera-ce sur le caprice de chaque particulier? Quelle confusion! Sera-ce sur la justice? Il l'ignore.”*

Pascal

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