

Does Intra-Africa Regional Trade Cooperation Enhance Export Survival?

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By

Dr. Dick Nuwamanya Kamuganga¹,

Graduate Institute of International and Development Studies, Geneva

Abstract

Sustainable export expansion is a key priority for all African countries to achieve sustainable economic growth. In this paper, I examine effects of intra-regional trade cooperation on sustainability of Africa's exports (export survival) within Africa and to the rest of the world. I also use a stratified Cox Proportional Hazard Model to econometrically evaluate the effects of a variety of trade costs, policy shocks, and export experience on the duration of export relationships for 53 African countries for the period 1995 to 2009. Results suggest that: (i) regional trade cooperation (integration) initiatives in Africa have non-negligible effects on enhancing Africa's export survival. The results also show that the depth of regional integration matters on lowering Africa's export hazard rates relative to countries that are not in any regional cooperation. Secondly, the interaction effects between regional integration and a variety of trade costs shows, for instance; costs to export, time to export and customs procedures effects on hazard rates diminish with the depth of regional integration over time; and (ii) factors such as costs to export, transit delays (time to export), procedures to export, financial depth and institutional and policy biases against exports provide a natural framework for explaining the observable high hazard rates for African exports. These factors increase the probability of export failure in all African regional groups. Finally, I find that exporting experience to the regional markets significantly reduces African exports hazard rates.

Key words: regional integration, product survival, trade relationships.

JEL classification: F14, F15, C14, C41

¹International Economics Section, Graduate Institute of International and Development Studies, Avenue de la Paix 11A, 1202 Genève, Switzerland. Email : Dick.kamuganga@graduateinstitute.ch

1. Introduction

Why doesn't Africa sustain its export expansion along the existing products, new products to existing and new markets? The standard explanation in the literature on African export performance is that African countries have continuously exported single commodity products that are vulnerable to price volatility in international markets². Indeed, many empirical studies point to Africa's failure to discover new products and new markets and hence diversifying into value added products³. This means that empirical research on Africa's trade performance has followed the same pattern. It has focused on determinants of export growth in terms of volume and value along the intensive and extensive margins neglecting the crucial channel of export survival and sustainance once export relationships are established. In light of this, policy focus on export growth in African countries has been pressed on promotion of diversification of export basket composition and destination markets emphasizing market access initiatives including unilateral trade preferences and exemptions from multilateral trade obligations. This means there is limited empirical literature on what factors drive or restrict sustainance of an export relationship once established in Africa. Additionally, the effects of intra-regional trade cooperation on export survival in Africa have not been explored.

The primary purpose of this paper is to explore whether intra-African regional trade cooperation increases the likelihood of export relationships to survive longer once established at exporter-product-market level. It also explores the other underlying factors that restrict or enhance the survival of an African export relationship at exporter-product-market level once established. Recent empirical work by Besedes and Prusa (2006a b) Nitsch (2009), Brenton et al (2009) inter alia, suggest that overall trade relationships are short lived and can depend on country, product and market characteristics as well as trade costs. In a different context here, understanding the underlying reasons for high export failure rates for African export relationships is of particular importance to policy makers in Africa as policies of enhancing export survival may differ substantially from policies of increasing market penetration (market access for African exports).

² See OECD (2003)

³ See inter alia (Sachs and Warner (2001), Isham *et al.*(2002), Wood and Mayer (1998))

The implicit research hypothesis is that high hazard rates for African export relationships may reflect structural challenges of poor infrastructure-therefore high trade costs, a variety of bureaucratic frictions, poor business environment, weak economic institutions and policy bias against exports. High hazard rates for African export may also reflect Africa's comparative advantage in low-technology homogenous products⁴. I specifically attempt to answer three related research questions: First, does regional trade cooperation has an effect on these factors or does regional trade cooperation help reduce these hazard rates for African exports?; second, what factors underlie Africa's high hazard rates (high risk rates of export failure) of export relationships; and third, do African traditional exports to traditional markets have a longer life than non-traditional exports to non-traditional markets? I attempt to find distinctive regional characteristics in Africa that affect the duration of African countries export relationships once established. I explore to what extent these distinct regional characteristics within regional trade cooperation enhance the chances of an export relationship to survive longer (i.e. to reduce the hazard rates).

I use a comprehensive dataset that I assemble on regional trade cooperation in Africa. I assemble a dataset of 12 African regional groupings at different stages of trade cooperation⁵. I use this dataset to investigate distinctive regional characteristics that affect chances of African countries export survival for longer periods. I also group the sample of exporting countries into landlocked and maritime (coastal) countries and product groups into 21 sectors at HS 2 digit level. I also use Harmonized System (HS) 6 digit product level bilateral trade data for 53 African countries exporting to 191 markets around the world including intra-African trade for a period of 1995-2009. Moreover, I utilize a recent dataset (WDI-2011) on a variety of trade costs in Africa (i.e., costs to export, cost of doing business, time to export, customs procedures, and distance to the nearest port of shipments). The choice of the sample period is dictated by the

⁴ Research on trade duration shows that homogenous commodities have shorter spells than differentiated products (see Besedes and Prusa (2006a) Inter alia)

⁵ (i) Monetary Union as most advanced stage of trade cooperation (ii) Common Market in which free flow of goods and services is permitted as well as flow of capital, labor among member countries (iii) Customs Union in which member states have removed trade barriers amongst themselves and impose a common external tariff on third parties (iv) Preferential Trade Area in which member states impose a preferential tariff on each others goods and services and have varying trade policy instruments on third markets; (v) not yet in force regional trade initiatives/under negotiations; (vi) the rest of the world (including those African countries that have no ongoing preferential trade arrangement between them).

availability of relatively better bilateral trade data but also by the fact that I use relatively new datasets on the variety of trade costs and business environment internally in African countries.

In the first step of my analysis, I use semi-parametric techniques to compute some stylized facts for the sample of the African countries exporters. The results show that export failure is phenomenal in Africa. The average survival rate for each of the regions considered is 35 percent for the first year. That is only 35 percent of export relationships initiated survive their first year of establishment. This implies an average hazard rate of 65 percent across the region i.e., 65 percent of export relationships initiated in Africa fail in the first year of their initiation (see table 2.2 for survival rates by region). With regard to intra-African export survival rates, these are slightly higher (36 percent) than survival rate for African exports to the rest of the world (ROW, 34 percent) for the first year of export relationship establishment. The median duration of an African export relationship is 1 year while the mean is only 2.08 years compared to 3 years for the rest of the regions (see Brenton *et al* (2009)). Just 2 percent of the (new) African export relationships last up to 10 years and 0.5 percent until the end of the sample period (15 years) in all of the regions under consideration. The results also show that observed hazard rate patterns are reduced as African countries enter into deeper regional trade cooperation initiatives. Figure 2.3 shows the corresponding survival rates plotted against time for each of the regions involved.

I also find considerable heterogeneity across sectors. Unlike other authors (for instance, Nitsch (2009)) who finds high hazard rates for homogenous goods, in my sample more homogenous sectors 1-5 largely exported to neighboring regions and African traditional exports have the highest survival rates compared to more differentiated sectors in HS 84-85 (electrical machinery) or HS 90-92 (optical instruments, clocks and watches etc) which have the least survival rates indicating that manufactured African countries exports are outcompeted in international markets (see table 2.4). Even sector 11 (textiles and textile products) has relatively low survival rates, 37 percent of export relationship survive their first year of establishment in this sector. That is some sectors to some destinations have relatively short survival times or high hazard rates than others. Besedes and Prusa (2006b) and Nitsch (2009) *inter alia* find that survival rates are higher for differentiated products than for homogenous products. The results

show the peculiarity of African exports in this case. The duration of African exports is higher for traditional exports than for non-traditional exports i.e. the relatively value added exports.

This would signify that Africa's failure to expand and diversify its exports could be related to this short time span of its export relationship in the differentiated sectors of its exports. Export expansion can take place at least through three channels (see Stibart *et al.* 2011): first, through expansion along the existing trade relationships (intensive margin); second, along the new-product and new-market margins (extensive margin) and third, along sustenance of exports both on the extensive and intensive margins of trade. These statistics suggest that African export expansion could be limited along the third channel due to these high hazard rates which could in turn be attributed partly to internal challenges rather than the nature of markets in which the products are exported. That is the hazard rates have much to do with the origin of the exports than the destination of the export products. I will test this conjecture econometrically.

In the second step of my analysis, I use a stratified Cox Proportional Hazard model (1972) and various techniques for robustness checks to answer my research questions. I estimate the hazard rate function for each region using semi-parametric techniques stratified at product-country pair level, and the results show that African export relationship hazard rates are associated with higher varieties of trade costs, i.e., trade costs have significant effects on the probability of an African export relationship surviving. They also show that export costs, time to export and cost of doing business are significantly more important in explaining the short survival spans of African exports than policy shocks, financial depth and institutional frictions. More importantly the results tend to suggest that regional trade cooperation tends to enhance Africa's export relationship survival. Both in my benchmark results which contains the factors that may influence export survival i.e., including geographical and policy variables and the regional integration dummies for Monetary Union (MU), Common Market (CM), Customs Union (CU) and Free Trade Area (FTA) and others. The regional trade cooperation dummies are statistically and economically significant and non-negligibly enhance the chances of survival of Africa's export relationships. These results are robust when I interact the regional grouping

dummies with cost to export, time to export and cost of doing business. Thus the results tend to suggest that deeper trade cooperation is essential for Africa's export survival.

Besides, regional trade cooperation, policy variables such as exchange rate misalignment, financial depth and institutional quality do increase hazard rates for Africa's export survival. I also confirm Brenton et al's (2009) finding that export experience (unlike Brenton & his coauthors, I use product-specific experience and market specific experience as a measure of export experience), that is exporting a same product to new markets or new products to existing markets strongly enhance the chances of an African export relationship. Thus, I have provided product-country level evidence of factors that inhibit Africa's export survival. In particular, I have shown that deeper regional trade cooperation have non-negligibly increased the probability that African export relationships last longer.

In terms of policy importance, the findings suggest a need to compliment policy focus on promoting export growth by encouraging sustainable export relationships of existing and new exports i.e., policy focus should also be put on sustaining export relationships once established.

The rest of the paper is organized in 6 parts as follows. The next part reviews related literature. In part 3, I present the prima facie evidence from the data and discuss data characteristics, define the variables that I will have to deal with in the econometric estimation of the determinants of hazard rates for African export relationships. In part 4, I present the empirical strategy, and part 5 presents results and discussions. The final part of the paper contains my concluding remarks.

2. Literature

Theoretical literature on determinants of trade duration is still nascent. There is limited theoretical research on the determinants of how long an export relationship is supposed to last once it's established i.e., determinants of exit from the export market or import market. Vernon (1966) and Grossman and Helpman (1991) studied the patterns of specialization and attribute them to the life cycle of a product, the diffusion of technology or differences in factor accumulation but none of these factors explain the dynamics of the survival of a typical trade relationship (i.e., export survival).

Baldwin and Krugman (1989) theoretically explain the persistence effects of large exchange rate shock on trade flows, in which large exchange rate fluctuations lead to entry or exit decisions that are not reversed when the currency is returned to its previous level. In a larger sense these authors demonstrate the effects of exchange rate shocks on the persistence of trade.

Baldwin (1988) shows that if market-entry costs are sunk, exchange rate shocks can alter domestic market structure and thereby cause hysteresis of trade. Baldwin (1990)'s model on hysteresis of trade shows that in presence of market entry costs, exchange rate overvaluation leads to additional entry by foreign firms and these firms do not exit when the exchange rate shock passes. The central idea of this work on hysteresis of trade and exchange rate pass through effects trade (i.e., Baldwin and Krugman, 1989; Baldwin, 1988; Baldwin, 1990, Dixit, 1989) is the existence of sunk market entry costs, in which firms tend to serve an export market relatively over long periods of time. For instance in Baldwin and Krugman 1989, Baldwin 1988 and 1990, large exchange rate shocks lead to entry of new firms in the market which then do not exit after the shocks have passed because firms have invested in marketing, research and development, reputation and distribution networks. So these models emphasize the entry fixed costs as key determinants of firms export status and persistence.

The next strand of literature on export status is empirical at firm level on export performance and has focused on the role of market entry costs in export decision. The leading authors here inter alia: Tybout and James (1997), Bernard and Jensen (1999, 2004) show that presence of sunk costs plays a significant role in a firm's decision to export. Tybout and James (1997) use a dynamic probit model to investigate the exit and entry decision patterns of Columbian manufacturing firms from 1981 to 1989. The authors control for firms past export status and show that exporting history matters.

Similarly Bernard and Jensen (2004), using a slightly different linear probability empirical framework with a panel of U.S. manufacturing plants, find statistically and economically significant effects of entry costs, and that being an exporter today increases the probability of being an exporter tomorrow by 36 percent. This literature provides evidence on the importance

of entry fixed costs for export status, and therefore influencing the duration of trading relationships.

Recent work by Irarrazabal and Opromolla (2009) has provided additional insights on the theory of entry and exit into export markets. They introduce uncertainty and sunk costs in a trade model with heterogeneous firms and where firm productivity evolves stochastically. They define a band of inaction like in Dixit (1989) and test using simulations how a cut in fixed costs and sunk costs could affect exporters and non-exporters status. Their results show that a reduction in a per-period fixed costs increases persistence in export status for exporters but decreases persistence for non-exporters. The central idea of this result is that as fixed costs decline, the probability that an exporter would be able to cover his fixed costs increases. On the other hand a reduction in sunk costs decreases the persistence in export status of exporters and non-exporters. They compare survival rates resulting from their simulations for both scenarios and observe that survival rates are larger when there sunk costs.

Rauch and Watson (2003) provide some of the theoretical insights on the dynamics of trade duration between developed countries (DCs) buyers and less developing countries` (LDCs) suppliers. They show that search costs do matter in initiation and sustainance of trade relationships. In their model, the authors demonstrate that the persistence of a trade relationship will depend on the initial trade value (i.e., the model predicts that the length of a trade relationship is positively correlated with the initial amount of the transaction and that the propensity to start low value transactions increases with the cost of search and decreases with the probability that the current or new supplier will be able to fulfill the large order successfully after training (with reliability)), an initial learning and confidence building i.e., stages of matching a buyer and a supplier, a buyer investing in the supplier to deepen their relationship. If confidence and trust are not established, the relationship fails and the buyer re-searches for another supplier. The three steps are buyer-supplier matching, relationship deepening and (or) rematch. These authors note that buyers start with small purchases because of uncertainty surrounding the new supplier. Orders increase with deepening relationship between the buyer and supplier with respect to meet expectations on part of the buyer. In the African sample the initial transactions are generally very low.

Thus in search models, trade is a connection between buyers and sellers and is a search process, and because of its costliness, trade is terminated at some point in time, firms stop searching for alternative partners even if they have not yet found the perfect partner. Rauch (2001) emphasizes, networks help to reduce such partner-related search costs because network members have thorough knowledge of each others characteristics and more importantly, “their members are engaged in repeated exchange that helps sustain cooperation.

Among the empirical papers on the dynamics of trade duration include: Besedes and Prusa (2006a, b), Besedes (2008), they test some of the main predictions of the Rauch-Watson model using data on imports from the United States at the Tariff Schedule 8-digit level and at the HS 10 digit level. Other empirical findings include work by Nitsch (2009), Fugazza and Molina (2009), and Besedes and Blyde (2010), all document similar stylized facts on trade duration. The authors document evidence that trade duration is indeed very dynamic and brief across the board. They also find that among other things, it’s affected by country characteristics, product characteristics, trade costs as well as market characteristics and structure (see Nitsch, 2009 for instance).

Besedes and Prusa (2006a, b) show that duration of trade relationships face higher hazard rates for homogenous goods than for differentiated goods⁶. Their results also suggest that short trading relationships tend to be those transactions of low-value. Besedes (2008) focuses on the persistence of short and small valued relationships by applying Rauch-Watson search model. In this framework, the buyers, i.e., importers start with small purchases because of the uncertainty surrounding the supplier. Orders increase with increasing confidence and certainty of the supplier’s ability to fulfill the buyer’s expectations. Shepherd (2007) offers insights for alternative explanation for low export values at the beginning of the export activity that could be related to traditional product cycle i.e., discovery, rapid growth, maturation and decline. The author argues that most of the new products do not get into the maturation stage.

Fugazza and Molina (2009) follow empirical strategy adopted in Besedes and Prusa (2006b), to explore the patterns and determinants of trade duration for a set of 96 countries over the period 1995-2005. They analyze the sequence of export status at the HS 6-digit level

⁶ In Besedes and Prusa (2006a) authors find that non-OECD countries have relatively shorter durations of trade than OECD countries.

using the semi-parametric Cox survival model controlling for factors possibly influencing export survival. Their results indicate that trading relationships involving developed and emerging economies face lower hazard rates than those involving developing countries. Second, their results suggest that the relationship between trade duration and the type of product portrays the degree of competition/information patterns characterizing traded products. Third, export size appears to be positively correlated with exports survival. Finally, export fixed costs do affect trade duration, but their effect decreases with time and with export size.

Nitsch (2009) finds that survival probabilities are affected by exporter characteristics, product type and market structure. He shows that duration of exporting a product to Germany is longer for products obtained from countries that are economically large and geographically close to Germany. Brenton *et al.*, (2010) perform analysis of a cross country bilateral export flows at product level. They found export activity to be perilous especially for low income countries. Their empirical results confirm the significance of a range of product- as well as country specific factors in determining the survival of new export flows. They also find that experience for exporting the same product to other markets or different products to the same market is found to strongly increase the chance of export survival. They show selected African countries to have relatively higher hazard rates than other regions of the world. In this research, I do investigate the underlying reasons for these higher hazard rates.

Cadot *et al.*, (2011) use transactions level export data for four African countries (Malawi, Mali, Senegal and Tanzania) and they document high degree of experimentation at the extensive margin associated with low survival rates. They find that survival probabilities rise with the number of firms exporting the same product to the same destination from the same country, pointing towards the existence of cross-firm synergies. They also find that more diversified firms in terms of products, but even more in terms of markets, are more likely to be successful and survive beyond the first year. This is the only empirical paper that has dealt with the sample on Africa.

This paper has three key empirical differences with the cited papers. First, overall, none of the cited papers focuses specifically on the underlying factors for low survival rates for African countries. Specifically, it will be the central duty of this paper to explore what factors are

responsible for Africa's high hazard rates of its exports at product-country level for the period 1995-2009. Secondly, this paper studies the effects of intra-regional trade cooperation on African exports. Thirdly, the paper is largely concerned with the extension of the cited papers above to an African sample at product-country pair level, and studies the underlying factors for high hazard rates for export relationships.

3. Data

3.1 Summary Statistics

I summarize the data I have assembled here (see appendix A for a detailed description). I use product level data (HS 6 digit level bilateral trade flows) from 53 African countries, for the period 1995-2009⁷. The core dataset used consists of approximately 15.35 million observations of annual bilateral trade flows between 12 intra-African region groupings and the rest of the world (ROW). The unit of analysis is product-country pair; I investigate bilateral export relationships for 53 African countries to 191 markets for a period of 1995 to 2009. These data are obtained from BACI CEPII international trade database, based on COMTRADE⁸. BACI provides harmonized bilateral trade data. They use different harmonization procedures (see Gaulier et al 2007), it reconciles mirror flows, thus providing a more complete and refined geographical coverage of trade flows at product level. This dataset therefore represents a relatively more accurate representation of bilateral trade matrix for African countries appropriate for this research on export relationship duration for African countries. The data is summarized in table 2.6. Figure 2.1 illustrates the histogram of trade values (USD: 1000) for the whole sample.

⁷ I do urge caution in interpretation of the current results on two major accounts with respect to this level disaggregation. First, possible minor changes in product specification leading to product reclassification of an otherwise identical product, there by resulting in a recorded failure of an export relationship. Second, African countries suffer severe statistical capacity problems to report data to UN COMTRADE, so I anticipate underreporting, missing trade etc to affect my analysis and results.

⁸ BACI international trade database has been painstakingly constructed to provide near accurate representation of bilateral trade flows for countries reporting trade to the UN COMTRADE database (see Gaulier et al 2007 for details of BACI data construction).

3.2 Description and definition of variables

Infrastructure related trade cost variables

Cost to export: this variable is obtained from World Bank Development Indicators (WDI, 2011). It is measured in USD per container⁹. All the fees associated with completing the procedures to export. These include costs for documents, administrative fees for customs clearance, and technical control, customs broker fees, terminal handling charges and inland transport. Only official costs are recorded (see WDI, 2011).

Time to export: this variable is the number of days taken to export a container. It is recorded in calendar days (source WDI, 2011). The procedure for its calculation starts from the moment it is initiated and runs until exporting activity is completed¹⁰. The waiting time between procedures—for example, during unloading of the cargo is included in the measure.

Cost of doing business: cost to register a business is normalized by presenting it as a percentage of gross national income (GNI) per capita (Source WDI, 2011).

Procedures to export: Documents to export are all documents required per shipment by government ministries, customs authorities, port and container terminals, health and technical control agencies, and banks to export goods. Documents renewed annually and not requiring renewal per shipment is excluded (source WDI, 2011). This variable is taken as a measure of bureaucratic frictions in the export activity.

Regional trade cooperation variables

Monetary Union: this is a dummy that takes the value of 1 if the African trading partners are in a monetary union cooperation and zero for the rest of the partners¹¹. I expect this variable to carry a negative sign in all the specifications (source: various sources).

⁹ The cost measures the fees levied on a 20-foot container in U.S. dollars. The cost measure does not include tariffs or trade taxes. Several assumptions are made for the business surveyed: has 60 or more employees; is located in the country's most populous city; is a private, limited liability company. It does not operate within an export processing zone or an industrial estate with special export or import privileges; is domestically owned with no foreign ownership; exports more than 10% of its sales. Assumptions about the traded goods

¹⁰ It is assumed that neither exporter nor the importer wastes time and that each commits to completing each remaining procedure without delay. Procedures that can be completed in parallel are measures as simultaneous.

¹¹ I have 4 monetary unions, comprising of more than a 3rd of African countries.

Common Market: This is a dummy that takes the value of 1 if the African trading partners are in a Common Market and zero for the rest of the trading partners. I expect this variable to carry a negative sign in all specifications implying being in a common market promotes export relationship survival (Source: WTO RTA database).

Customs Union: This is a dummy that takes the value of 1 if the African trading partners are in a Customs Union and Zero for the rest of the trading partners. I expect this variable to carry a negative sign in all specifications implying being in a common market promotes export relationship survival (Source: WTO RTA database).

Preferential Trade Area: This is a dummy that takes the value of 1 if the African trading partners are in a preferential trade area or negotiating a preferential trade area and zero for the rest of the trading partners. I expect this variable to carry a negative sign in all specifications implying being in a preferential trade area reduces the hazard rates of African exports (Source: WTO RTA database).

Export experience: I define export experience to be both product and market specific i.e., a variable indicating whether the exporting country already exports the given product to other countries within the regional grouping and market experience signifies whether an export has previously exported to this market. I expect a negative coefficient on this variable as export experience enhances Africa's export survival (source: Own calculation).

Rule of Law and bureaucratic friction variables

Institutions: I use various measures of institutional quality of the exporting African country. The most robust one is the polity IV index provided by the polity IV project on political regimes and characteristics. The "Polity Score" captures the regime authority spectrum on a 21-point scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy) for a typical country. It's a measure of regime type and in my specifications I use it to proxy the quality of the bureaucracy to support entrepreneurial activity, the rule of law and business contract enforcement. It's hard to predict the influence of this variable on the survival rates of African exports. But autocratic regimes should signify inefficient bureaucracies that do not support business activities and therefore bad institutions increase the hazard rates of African export relationships.

Conflict: This is a variable taking a value of 1 if a country has suffered a conflict or is in a conflict during the sample period or zero otherwise. Like regime type, I expect the coefficient on the hazard rate to be positive, implying an increase in the chances of an export relationship failing for countries are at war or their trading partners.

Policy Shock Variables

Exchange rate misalignment: the variable is a measure of deviation from the trend of the bilateral nominal exchange rate, I use an absolute value of deviation from the trend for the 15 years (Source WDI, 2011 and own calculations). The effects of this variable on the hazard rates of African exports can go either way.

Financial depth: Domestic credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment (WDI, 2011). For some countries these claims include credit to public enterprises. I use private credit to GDP ratio as the measure of financial depth (Source: WDI, 2011).

Foreign direct investment: foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in the African exporting economy. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balances of payments (source WDI, 2011). Data are in current U.S. dollars.

Market access variables

Unilateral preferences: This is a variable that takes a value of 1 if an exporter in the sample is eligible for unilateral preference within the QUAD¹², (the traditional major trading partners) with other African countries, and zero otherwise. I expect a negative coefficient on this variable as unilateral preferences are likely to reduce fixed costs of foreign market entry and therefore, make it easy for enterprise to start export activity within the preference granting countries (Source: UN TRAINS).

¹² The QUAD is a group of Africa's traditional trading partners. This is comprised of Canada, European Union, Japan and the United States. They have traditionally offered unilateral trade preferences, to many African beneficiary countries.

Product level tariff: I use effectively applied product level tariff, the data is taken from UN TRAINS database. The database includes the *ad valorem*, specific, and estimated *ad valorem* equivalent tariffs based on the most-favored nation (MFN) status. In addition, I carefully take into account product and country eligibility to these unilateral trade preferences and the applicable tariffs under these programs. If a country/good qualifies for more than one preference program, I use the minimum tariff of all qualifying programs.

3.3 Stylized Facts

I use semi-parametric methods to explore the data i.e., using simple graphical representation and tabulation to examine the differences in hazard rates (or survival rates) across the exporting regions (and compare intra-African and inter-Africa rest of the world-ROW hazard rates) for each of product-country pairs and across sectors for HS 2 digit level data. I define a trade episode or a spell as the number of years in which a typical product-country pair export relationship lasts. That is, for each product-country pair, I define a spell's start and ending dates (by year) for a specific export relationship. I have censored spells that begin 1995 (left censored) and those that end in 2009 as right censored¹³. Notice that a spell is allowed to start and end at different years within the sample period i.e., a relationship can begin 1995 and end in 1997 between Uganda and China and another one between Uganda exporting coffee to Canada begin 1998 and end in 2004. Spells for specific export relationship beginning independently at anytime and end anytime during the sample period¹⁴. Table 2.5 provides an overview of the distribution of export flows for the African sample 1995-2009. In column 1 the table shows the evolution of export relationships for the full sample of African countries from 1995 to 2009. Column 2 shows the annual products exported per year. Column 3 shows the evolution of the average number of products exported to each partner. Column 4 shows the number of partners per year and column 5 shows the evolution of the average number of destinations for each product. Overall, the picture painted here is a relatively significant

¹³ I can not be absolutely certain that spells that begin 1995 are as a result of a start of new export relationships or continuing from the previous years before 1995. Similarly I cannot be certain that spells that end in 2009 are as a result of end of sample or truly it's because the export relationship is ending at this particular time.

¹⁴ In my sample, the maximum length of a spell is 14 years. An event when African exporter fails to exports to its partner is called a "failure".

improvement in the export performance over the years in the sample period. For instance the export relationships more than doubled over the years and so is the average number of products exported to each partner.

Figure 2.1 presents a histogram of positive trade observations by size of groups. The figure shows that almost 80 percent of trade flows in the African trade matrix are “zero flows”. This implies that only 20 percent of Africa’s potential bilateral trade relationships are positive trade flows. Also all Africa trade relationships fall below the mark of USD 100,000 at product level. In addition, to this, I present more descriptive statistics of Africa’s export relationships pair wise. Table 2.1 presents descriptive statistics for each regional grouping. That is number of spells per region at the beginning of the sample period 1995 and at end of sample period in 2009. It also shows the annual death rate per region. Notice that overall across the regions, the birth and deaths are very high but there are observable differences. For the full sample i.e., exports to the rest of the world and itself (un-split sample), the deaths are relatively smaller than the average death rates across the regions. Secondly, the death rates for countries in monetary unions are relatively lower than those of Common market which are in turn lower than those of the Customs Union and those of countries in a preferential trade arrangement (or negotiating a trade arrangement). The regional grouping with highest annual death rate is CEN-SEAD with 60 annual death rates and the least is SACU with 25 percent. Third, the birth rates also take similar patterns according to the stage of regional integration.

Figure 2.2 shows the survival probability over time for intra-Africa exports and African exports to the rest of the world (ROW). In figure 2.2, intra-Africa export relationships have slightly higher survival rates than the export relationships to the rest of the world (ROW). Similarly, figures 2.3 and 2.4 shows coastal and landlocked countries; and survival rates by regional grouping respectively. The graphs show that the probability of death of export relationship is high in the first years of the export relationship discovery but decreases over time. Figure 2.3 shows the survival rates for maritime and landlocked exporters, it shows that maritime exporters have relatively higher survival rates than the landlocked exporters.

Table 2.2 shows the annual survival rates for each of the above regions. Once again, whole sample survival rates lie between the average of the intra-African trade sample (36 percent of initiated export relationship survives for their first year) and ROW sample survival rate is 34 percent of export relationships destined outside Africa survive their first year of initiation. Within intra-African region, again SACU (a quasi-monetary union, but a complete customs union since 1993) has the highest survival rate at 49 percent, followed by SADC and then UMA. Overall, deeply integrated regions have higher survival rates than those negotiating or not yet in any regional negotiating initiatives. I do test these stylized facts econometrically in the next part of the paper. Notice also that there is no survival completely to the end of the sample period. Relative to other regions studied so far, only 2 percent of African export relationships survive to the 10th year.

Table 2.3 shows the survival rates based on countries at the coast and for landlocked countries. Survival rates for coastal countries (36 percent) are higher than for landlocked countries (25 percent). This implies only 25 percent of African landlocked countries truly survive their first year of an export relationship and by the end of 10th year of exports it's only 1 percent of these relationships that still exist compared to 2 percent for the maritime members. This confirms stylized factors presented in literature on the challenges of landlocked developing countries (see Faye *et al.* (2004) for the analysis of challenges of landlocked countries). It's clear that maritime countries also have higher survival rates than their landlocked counterparts throughout the period of analysis. This once again is suggestive of inland domestic costs to export, time to export and customs procedures which are more significant for countries that are landlocked. Notice that the survivor function for deeper regional initiatives lies above those less integrated regions and also that maritime countries survivor functions lies above that of landlocked countries.

Table 2.4 shows survival rates by product sectors. Within sectors (HS 2 digit bilateral trade flows) there are observable differences regarding the survival rates. Take for instance, traditional African exports; sector 4 chapters 16 to 24 (which consist of prepared foodstuffs, beverages and spirits, tobacco) and sector 5 which is HS chapter 25-27 (which consist of mineral products, including mineral fuels etc) have the highest survival rates. Within this group are

traditional commodity exports like coffee, tea, cocoa, crude petroleum products - the major traditional African commodity exports. So it's not a surprise that these sectors have the highest survival rates of 42 and 40 percent of all export relationships in these sectors survive at the end of their first year. They are followed by vegetable products (sector 2-HS chapter 6-14). Within sector 2 the survival rate is 41 percent in the first year of an established export relationship. For the rest of the sectors as indicated in the table, the average survival rate for each sector is around 35 percent. Notice also the average survival rate across the sectors for the fifth year of African export relationship is only 8 percent. That is only 8 percent of export relationship established at the beginning of the sample survival until their fifth year. At this stage mineral products have the highest survival rate of 11 percent.

As shown in these tables I can infer 4 stylized facts about this data: First, results seem to suggest that African exports last longer when Africa exports to itself than to other region; second, there is considerable heterogeneity within African regional groupings depending on the depth of integration as well as within sectors for African exports and African traditional exports have long survival rates compared to other sectors; third; regional trade cooperation seem to affect survival rates of African exports i.e., enhance export survival. That is export relationships die faster in the less integrated regions, landlocked countries and they survive longest in the maritime countries and more advanced integrated regions; and fourth, I can infer that infrastructure related export costs appear to be one of the most important determinant of Africa's export relationships, other papers have found a significant influence of trade costs proxied by geographical distance on incidence of non-zero trade (see Baldwin and Harrigan (2007) for U.S. product level analysis.

Other authors (see inter alia Besedes and Prusa (2006a), Nitsch (2009) Fuggaza and Molina (2009)) have reported that short duration of trade may be explained by the small value of many trade transactions. Since in a large portion of my sample the transactions are very small (90% of African trade transactions are less than USD 5000), I have conducted the analysis with all the transactions included otherwise my observations would be drastically reduced. Overall, I can afford to ignore the size of the individual transactions since my major focus of analysis is on

whether regional integration really enhances the survival of the volume of trade as well as the trade duration.

This prima facie evidence would point to infrastructure related trade costs, inland procedures as major culprits in restricting Africa's export survival rates. I now turn to test empirically these stylized facts with an econometric specification below based on Stratified Cox Proportional Hazard model (1972). My conjecture here is that the differences in the average survival rates across the regions as destinations of Africa's exports might not be solely the result of specialization patterns but other factors might be playing a role as well. This is explored further using econometric tools in the next part of the paper.

4. Empirical Framework/Methodology

My empirical analysis is motivated by the desire to understand the underlying reasons for high hazard rates for African countries exports and whether regional trade cooperation has an effect on these factors consequently enhancing Africa's export relationship survival.

4.1 Empirical specification

The prima facie evidence in the previous part of the paper pointed to a number of peculiarities in the data for my sample. In this part, I concentrate on investigating the factors that may be restricting or enhancing export relationships survival within each region and also endeavor to explain the differences in survival rates within the region. I am particularly interested in the differences in each of the stages of regional integration as well as the differences between landlocked countries and their maritime counterparts.

Following Besedes and Prusa (2006a, 2006b) Blyde (2008) and Nitsch (2009), I use the continuous time proportional hazard (PH) model proposed by Cox (1972) for my benchmark results and preferred specification. I estimate a simple stratified Cox proportional hazard model version in which I exclude left censored observations. I stratify the sample by product-country pair, or HS 2 product categories or by regional grouping (in which case I report the results accordingly). This implies that I allow the baseline hazards to vary across the geographical

region, the product categories, sectors, or chapters of products in the analysis i.e., I allow a separate baseline hazard function for each of the product group.

I use the hazard rate function for my analysis. The hazard rate $h(t)$ is the ratio of the probability of failure for an export relationship to the probability of its survival.

$$h(t) = \frac{f(t)}{S(t)}$$

This can be interpreted to mean a risk of a failure of an export relationship by time t . I am interested in understanding the underlying factors that influence the probability of failure for African exports both in intra-Africa trade as well as Africa's exports to the rest of the world.

Formally, the estimation equation takes the following form: I start with a baseline hazard function -that is $h_0(t)$. I then want to model the influence of some covariates X on this baseline hazard

So I specify an exponential hazard function as

$$h(t) = h_0(t) \exp(X_i \beta)$$

The baseline hazard then corresponds to the case where $X = 0$. It is shifted up or down by an order of proportionality with changes in X

Where h is the hazard rate (the ratio of the probability of failure to the probability of survival) at time (t) in the Cox model and h_0 is the base hazard rate i.e. the risk at $x_i(t) = 0$. By assumption $h_0(t)$ is unknown but uniform across the group (for instance in across product categories) and is left unparametrized. x_i is a vector of covariates representing the characteristics of individual i , and β is a vector of coefficients, accounting for the effects of those characteristics.

Since the model I run is a stratified general Cox (SC) model it can be specified as:

$$h_g(t, X) = h_{0g} \exp[\beta_1 X_1 + \dots \beta_p X_p]$$

Where $g = 1, \dots, k^*$ strata defined from Z^*

Notice that there are same coefficients for each of stratum β_1, \dots, β_p . but the baseline hazard functions $h_{0g}(t)$ may be different for each stratum. X_1, \dots, X_p directly included in the model, but Z^* appear only through the different baseline hazard functions.

I also run an alternative interaction model:

$$h_g(t) = h_{0g}(t) \left[\beta_1^* X_1 + \dots + \beta_p^* + \sum_{j=1}^{k^*-1} \sum_{i=1}^p \beta_{ij}^* X_i Z_j^* \right] \text{ where the } \beta^* \text{ do not involve } g \text{ }^{15}$$

I estimate the above as a log-linear version of this specification.

I group my sample into four major regional groups and therefore use 4 sets of variables to conduct my analysis i.e., first, I have a variable as a Monetary Union. It is a dummy taking a value of 1 if a country belongs to a monetary union /single currency of some sort and zero otherwise. I also include a variable to reflect the number of years this country `s membership in the monetary union. This is also the case for the other 3 variables based on these regional groupings. That is (ii) Common Market, a dummy taking value of 1 if a country is in a Common Market and Zero otherwise; (iii) Customs Union; and the (iv) a preferential trade area (PTA). I examine the interplay of potential factors that restrict Africa's export survival, estimating a stratified Cox proportional hazard model (like other authors in this case that include Nitsch, 2009 on the duration of Germany imports etc)

5. Results

Table 2.7 presents my benchmark results with robust standard errors by clustering at country-pair product level. In column 1, I present the key variables of interest alone. I begin with 4 variables that may help describe the regional trade cooperation in enhancing export relationship survival apart from the determinants of international trade flows, and apart from features of the product-country pair. All the coefficients on the regional trade cooperation

¹⁵

variables carry the expected signs and are statistically and economically significant except the coefficient on the preferential trade areas (PTA). This would imply that regional trade cooperation reduces the probability of failure for African exports. The Common market and Customs union results are more significant and robust throughout various specifications.

The coefficient on Preferential Trade Agreements (PTA) carries a counterintuitive sign. It implies that Africa's preferential trade agreements enhance rather than reduce hazard rates in Africa. Similarly, Brenton et al (2010) in their specifications in a different framework from mine included a dummy for PTA to indicate a presence of a preferential trade agreement between the exporter and the importer, and they found the coefficient on the PTA increased the hazard rates significantly. They attribute this counterintuitive result to their possible definition of their relevant variable that is the fact that the reference year for the dummy is the starting year of the trade relationship. This implied that trade flows, which are subject to a trade agreement, only after they are initiated, is recorded as not being subject to the agreement. They also argue that this surprising finding could be that some agreements actually facilitate bilateral trade whereas others merely exist on paper. In this research, my conjecture is that this result is a result of the fact that most of the PTAs are currently under negotiations and therefore the protocols are not yet fully into force and therefore the benefits of the PTAs are not yet fully harnessed by the members i.e., the business networking effects, information frictions still exist and border bureaucracies are not harmonized yet. Ideally, one would like to distinguish the effects of each form of regional trade cooperation on export survival, evidence of which I present here.

Considering other covariates, column 9 presents estimation results when the full set of covariates is included:

Does rule of law and conflict affect export survival in Africa? In all my specifications, the measure for institutions is statistically significant and carries the expected sign. An indication that regime type as a proxy of quality and strength of institutions that support entrepreneurial activities does matter for the hazard rates of African export relationships. Since most of African countries have poor institutions and contract enforceability may not be up to

standard to guarantee predictable standards on the suppliers' side. Ranjan and Lee (2007) work shows that the poor contract enforceability affects the volume of trade in their framework, the degree of contract enforceability in the country is proxied by an index of the rule of law provided by the international country risk guide (ICRG) database. In the current study, I use an alternative measure of the quality of institutions as the polity index provided by the polity IV project on political regimes and characteristics.

In the case of conflict, the conflict dummy unambiguously hurts the probability of export survival for African export relationships. The coefficient on this variable carries an expected sign, and is significant in all specifications. Overall, conflict and regime type seem to increase the hazard rates of African export relationships. The evidence strongly supports the prediction that hazard rates are higher for countries in conflict or have experienced conflict during the sample period.

Does financial sector development affect the survival of African export relationship survival? My null hypothesis is that sustaining an export relationship is not correlated with various characteristics of the financial systems within African countries exporting to their trading partners. I test the hypothesis using private credit to GDP ratio as the measure of financial depth in African exporting countries. The coefficient on this variable indicates a positive effect on the hazard rates of African exports. Signifying that financial underdevelopment in Africa could have a crucial role in restricting Africa's export relationship survival. However, the sign of the coefficient is not stable. In some specifications, it carries a negative sign. Intuitively, underdeveloped financial system in which firms are unable to access financial resources for export activity or entrepreneurial start ups especially in times of financial stress can force exporters out of business thus terminating export relationships untimely. Additionally, financial depth is bound to influence entrepreneurial activity through the cost of financial services. That is regional interest rates-regional cost of borrowing are the highest in Africa relative to other regions which imposes extra costs on business and are likely to determine if the firm persist in the export market or exits untimely.

Do unilateral trade preferences affect Africa's export survival? I include a measure of unilateral preferences based on exporter eligibility and product eligibility for any of these preferences granted by the QUAD countries¹⁶. These are the traditional major African trading partners. The coefficient of the unilateral trade preference dummy is negative but statistically insignificant. This would imply that unilateral trade preferences do not matter for the hazard rates for African products. Previous studies have shown that unilateral trade preferences have anti-diversification effects (see Gamberoni (2007), Debaere and Mostashari (2010)).

Does export experience matter for export survival? My null hypothesis is that export experience has no effect on the survival of export relationship in Africa. I included both the product specific experience, i.e., a variable indicating whether the exporting country already exports the given product to other countries within the regional group and market specific experience. They are both significant and carry a negative sign indicating that export experience for a specific product or market experience do matter and reduce hazard rates significantly for African export relationships. Qualitatively similar results have been obtained by other authors *inter alia* Brenton *et al.* (2009), Faguzza and Molina (2009).

The coefficient of 0.97 and 0.336 on product and market experience respectively signifies that the regional nature of exporting experience matters. The coefficient on the export product experience can be interpreted to mean that 100 percent increase in total exports of products within the same HS 6 digit product category implies a 97 percentage points in reduced hazard rates.

This would also signify existence of learning effects specific to the product and to the region of destination of these exports that help exporters to sustain their export relationships. This results means that export experience whether product or market specific significantly reduces the chances of an export relationship failure, that is reduces the hazard rates for exports. Even when I have used a different measure of export experience from the other

¹⁶ The QUAD is a group of Africa's traditional trading partners. This is comprised of Canada, European Union, Japan and United States. They have traditionally offered unilateral trade preferences to many African beneficiary countries.

authors, the results are qualitatively similar, that export experience of a given product and to a given market is essential in sustaining the survival of an export relationship.

Overall this result on export experience complements the finding of Roberts and Tybout (1997), Brenton *et al* (2010) who show that experience matters for the initiation of trade flows as well. This result particularly makes a strong case for sustainance of export growth in the African region and intra-regional trade cooperation. It suggests that African exporters should not look too far when trying to expand exports of their products to additional markets and that existing exporters can assist new exporters through network effects i.e., sharing of regional knowledge and information of a network of suppliers and buyers.

Do policy shocks influence Africa's export relationship survival? I use exchange rate misalignment to test the effects of policy biases on Africa export relationship survival. The result show varied effects of exchange rate misalignment on the hazard rates for African export relationships. The variable is a measure of deviation from the trend of the bilateral nominal exchange rate. I use an absolute value from the deviation of the trend for the 15 years. The results on this variable are not robust, in some specifications; it seems to have a negative effect on hazard rates while in some specifications it seems to have positive effects. The estimated coefficient on exchange rate misalignment suggests that a foreign depreciation (i.e., an increase in the foreign country's real exchange rate) is associated with higher hazard rates, a result that is possible due to non-linearity in the effect of exchange rate volatility on survival.

Normally, a decrease in the exporter's exchange rate during the life time of the export relationship implies that the importer's purchasing power in the exporter's currency rises. This implies that naturally, the exporter's products become more attractive and export relationships here are likely to be sustained. Intuitively, the length of an export relationship is likely to be affected by the movements of relative prices. That is an overvalued currency, as most of African countries currencies were artificially overvalued in the 90s, for example reduces the competitiveness of exports for the exporters in the African country. Conversely, an undervalued currency reduces the purchasing power of Africa's trading partners.

Foreign Direct Investment (FDI): Contrary to existing literature (see *interliq*, Kemme *et al* (2009), on foreign direct investments export performance and export of differentiated products, the coefficient on FDI is positive and statistically and economically significant, indicating that FDI in Africa has a positive effect on hazard rates for African exports. . Strangely, this result emerges even when the stylized facts show that actually African traditional exports have higher survival rates than the differentiated products (see survival rates by HS 2), in other words this results goes contrary to theory and the stylized facts from the data on African sample.

Preferred specifications

Does infrastructure related trade costs restrict Africa's export relationship survival? In this part of the analysis, I present the important part of this empirical analysis: Testing the main hypothesis on impact of infrastructure related trade costs and the regional trade cooperation on export relationship survival for African exports. Recall there are 4 varieties of infrastructure related trade frictions indentified in my dataset: (i) costs to export; (ii) cost of doing business; (iii) time to export; and (iv) procedures to export.

In table 2.7a to table 2.7d, I present a variety of specifications taking into account the effects of infrastructure and bureaucratic related trade frictional costs (costs to export, cost of doing business, time to export and procedures to export) at country pair level. I also present results from specifications in which I interact the key covariates of interest to provide evidence for changes within the regional cooperation initiatives. The goal here is to understand whether regional trade cooperation influences these infrastructure and bureaucratic related trade frictions in the region, ease the search process i.e., if the factors affecting the survival of export relationship act differently within the regional integration initiatives. These specifications come at the cost of small sample size since for some variables only a limited number of observations are available. In each table, in column 1 I present level effects of the covariate of interest, together with the regional grouping covariates and see their effects on the hazard rates for African exports. In column 2 and 3 of each table I present the interaction effects and report the changes in the sign and magnitudes of the coefficients.

Table 2.7a shows the level and interaction effects of the cost of doing business in Africa on the hazard rates of African export relationships. In column 1 are the level effects of cost of doing business. The sign on cost of doing business coefficient is positive and significant implying that the cost of doing business increases the hazard rates for African exports.

Are the effects of cost of doing business declining with regional cooperation?

In column 2 I present the interaction effects of regional groupings and cost of doing business. If regional trade cooperation reduces cost of doing business in Africa, I would expect a reduction on its effect on hazard rates for African exports. Indeed except the coefficients on the common market and preferential trade area dummies which are statistically significant and positive implying no change in the negative effects of the cost of doing business and thus reduce the hazard rates of African exports, the rest of the results of the variables indicate what is expected. This result suggests that bad business environment create bias against exports of existing products and initiation of new exports and may undermine opportunities for export growth. Considering this result, regional trade cooperation seems to increase the survival rates for African exports. That is the interacted variables for Monetary Union and Customs Union dummies are negatively related to the hazard rates for African exports. This implies that regional integration initiatives may play a role in reducing costs of doing business and enhancing the chances of survival for each of the export relationship in the region.

A rather persistent unexpected result is the sign and magnitude of the coefficient on the PTA. It implies PTAs are not helpful in raising survival rates of the export relationship survivals. In terms of the changes in the significance, magnitude of these interaction factors, demonstrates the significance of regional trade cooperation in enhancing sustaining of export survival. All tests of significance of interaction effects were significant at least at 5 percent level.

I also interact the institutions variable with the stage of integration variable. For this interaction, the results are mixed. With exception of the monetary union dummy, it seems that regional trade cooperation reverses the effects of weak institutions across the board as the impact of the interaction effects is negatively correlated to the hazard rates of African export relationships.

Are the effects of costs to export declining with regional cooperation?

In table 2.7b I repeat the similar specifications above but with the variable of interest now being the cost to export. In column 1 result are for level effects and the rest of the columns are interaction effects. Notice the coefficient on costs to export is highly statistically significant and carries expected sign. Costs to export do increase hazard rates for African exports. Its effect does not change when I interact with regional variables. Except for the customs union dummy whose coefficient is negative and statistically significant. This would imply the interaction effects of this variable enhance the survival of Africa's export relationships. It's possible that costs to export are driven by the pervasiveness of poor infrastructure in Africa implying that even if countries regionally integrate, the exporting firms will still be experiencing the same hurdles within the region thus the observed interaction effects. Similarly, here I also interact the institutions and stage of integration variables. Now it's only the customs union and PTA coefficients that are statistically significant and carry the expected signs.

Intuitively, I expect costs to export to be a key driver of high hazard rates of African export relationships. Costs to export is crucially based on distance, distance increases export costs in a number of dimensions; it increases the time and the costs of delivering a product to the market. The longer the distance covered by the shipment, the higher the cost of delivering a product to the market. The longer the distance covered by the shipment, the higher the chances of potential interruptions or delays which might prompt cancellations of subsequent orders. Direct measures of transport costs would have been more appropriate but unfortunately data on African exporters shipping costs and freight costs is very scanty and patchy (very few countries report detailed information on shipping costs as part of their trade data statistics).

Are the effects of time to export declining with regional cooperation?

In table 2.7c, I present results for the level effects of time to export and interaction effects for regional integration. I notice similar and robust results as in above. The level effects of time to export increase hazard rates for African export relationship, implying that the long the exports are delayed at the border or in transit, the higher the chances are that some of the export relationships will be terminated (similar findings in different framework have been found

by Freund and Rocha (2010) that transit delays is a key reason for failure of African export expansion at the extensive margin). The interaction effects work well for the monetary union, Customs Union and PTA (i.e., in these regional groupings, imply there is a reduction in transit delays) and therefore a reduction in the hazard rates for African export relationship. For example numerous roadblocks, customs checks and procedures, unwarranted differing national product standards and product regulations show up as export costs in terms of export delays may act to contain export diversification by limiting regional trade flows and the experience in exporting to the respective trading partner.

I test the significance of the interaction effects and the interaction effects for time to export and regional trade cooperation were significantly different from zero at least at 5 percent level of significance.

Are the effects of procedures to export declining with regional cooperation?

In table 2.7d, I present results for the level effects and interaction effects for procedures to export-number of documents to export. In column 1, the level effects of procedures to export shows that it increases the hazard rates and therefore reduces survival rates of African exports. The result shows the importance of procedures to export, it's highly significant and carries an expected sign i.e., high the number of procedures to export (number of documentation required) the high the chances of an export relationship failing (increases hazard rates for African exports). Being in a monetary union and customs union does reverse these negative effects on probability of export survival but not so in the common market and preferential trade area.

Are the effects of financial underdevelopment declining with regional cooperation?

Table 2.7e presents the results for the level effects and interaction effects for financial development. In column 1, the level effects of financial development indicate a hazard enhancing effect. The coefficient carries a positive sign and is statistically significant. However, the interaction effects produce significantly mixed results. For instance the coefficients on monetary union and common market interaction would signify an increased hazard rate for African export relationships. This means that regional trade cooperation in Africa has not

created the necessary financial networks to support export activities and entrepreneurial participation in the region. In the case of the customs union, an interaction between the measure of financial development and regional cooperation yields a negative and significant coefficient, signifying that being in the customs union increases a chance of a pooled financial resources and reduction in information frictions regarding funding for export activities and therefore increasing the chance of African export survival.

Are the effects of market access declining with regional cooperation?

Product level tariff: I do include effectively applied tariff at product level to control for changes in market access at regional level as well as exports to the rest of the world. Table 2.7f presents the results of effects of market access in a regional cooperation context. The results on product level tariff show that reduction in tariffs indeed increases the chance of an export relationship survival. This result also confirms the significant role played by deeper regional trade cooperation, since deeper cooperation involves tariff cutting amongst the members of a regional grouping. For a given product, an increase in the tariff should lead some foreign firms to exit since higher tariffs raise the costs of servicing the market. Though the data on tariffs at product level is quite poor and including this variable significantly reduces my sample. But these results are indicative of the importance of removal of intra-regional trade frictions and attaining of a regional market in expanding African exports. Additionally, trade agreements restrict competition from countries outside the agreement thereby making the partnership more stable.

In terms of other conventional determinants of bilateral trade flows, I do control for market size using sum of GDP for the trading partners in an export relationship. For economic similarity, I use absolute difference in GDP per capita to control for tastes and preferences among trading partners. The results are as those reported in conventional determinants of bilateral trade flows in the gravity model, i.e., the larger the sum of GDP of trading partners, and indicator of market size, the more likelihood for an export relationship will survive longer (similar results have been obtained by Nitsch(2009)). That is hazard rates for African exports are largely reduced when the sum of the GDP of trading partners is very large signifying a large market size. Earlier research (see inter alia Baldwin and Harrigan (2007), Blyde (2008) and

Brenton et al.(2010) have reported the importance of economic size of both trading partners in contributing to facilitating disappearance of zero flows in their trade matrix as well as their trade flow survival.

Similarly, I find economic similarity between trading partners (measured by the absolute difference in GDP per capita) to significantly reduce the hazard rates of African export relationships. The measure of economic dissimilarity is between the partner countries is the differences GDP of the exporter and importer countries. It's also statistically significant, carries the expected sign in all specifications.

Therefore, I have argued and tested for three effects of regional trade cooperation in Africa on export duration: First, **reduction in infrastructure related trade frictional costs effects**-mainly transmitted through reduction in border procedures, harmonization of documentation, product standards and elimination of border tariffs etc; secondly, **reduction in bureaucratic and information frictions and other trade cost frictions**, because of regional networks (regional trade cooperation initiatives act as platforms for networking among business community i.e., buyer seller networks become reinforced and increasing certainty between importers and suppliers (see Allen (2011)) for analysis on the role of information frictions in international trade); the third effect of regional integration and duration of exports is through the **learning effects**- since evidence shows that export experience is important for export survival, its possible that hazard rates diminish with time because of learning by exporting and since most of African countries have similar product standards.

Using various techniques, I have presented results that show that hazard rates are indeed affected by infrastructure related regional trade frictions, financial depth, and institutional quality and bureaucratic frictions as well as policy biases against exports in Africa. I have presented results of the regional trade cooperation specific effects on Africa's export relationship survival. I have also presented evidence that shows that regional trade cooperation initiatives significantly increase the probability of Africa's export relationship survival. I included the standard determinants of bilateral trade volumes within my preferred specification as well.

These empirical results could reflect one of the following stylized facts i.e., regional trade cooperation could have one of the three specific effects: first, an increase in the depth of regional trade cooperation could signify a reduction in search costs, reduction in border delays, and reduction in shipping costs effectively making it profitable to export within the region and thus sustaining product-country pair export relationship once it has been established; the second effect could result in also reduction of search costs via the network effects of the regional trade cooperation in which case a deeper regional trade cooperation signifies, the buyer seller partnership is easy to make since, trade frictions, information frictions are significantly reduced; and the third effect could also result in landlocked countries having easy access to port facilities through their regional neighbors which also would significantly reduce the transitional delays and hence likely enhance the survival probabilities of perishable exports from landlocked countries.

The empirical evidence emerging from this analysis supports the hypothesis that regional trade cooperation is important in reducing Africa's export relationship hazard rates, through reducing infrastructure related trade costs that affect exports between partner states. Also possibly through reducing border procedures, increasing information flow, harmonization of standards etc. improves regional institutions and trade facilitation in the region. Alternatively, regional trade cooperation contributes to the factors that facilitate the search process for instance business networks, buyer seller networks etc that correspond with a higher probability of export relationship survival. These changes consequently increase profitability for the exporters and therefore sustaining export relationships once initiated.

Overall, the results strongly confirm my expectations. Hazard rates significantly are negatively related with the stage of economic trade cooperation of each of the regional grouping. In terms of Africa's traditional exports and traditional markets, export relationships have lower hazard rates when the market size is large, this would imply that larger African trading partners tend to serve as African markets for a longer period of time (similar case for importers of traditional African exports, for instance, cocoa, tea, coffee, petroleum products tend to serve as African markets for a long time).

5.1 Robustness checks

In the first check, I use data based on only new products/ i.e., involves focusing on new export activities only. The results are presented in table 2.8a columns 1-7. The first column presents results of the key variables of regional trade cooperation under investigation. In the second, column I present the benchmark results as in main specification. In the third column to seventh column, I control for a variety of infrastructure related trade frictions and bureaucratic frictions. For space purposes, I do not report the results for specifications involving interaction effects. But the results are qualitatively similar to those of my preferred specification. The estimates indicate no change qualitatively, providing the needed proof that the findings are robust.

The coefficients on the cost of doing business, time to export, costs to export and procedures to exports covariates suggest that, the higher these costs are the stronger the effect on the hazard rates, or the likelihood of an African export relationship to fail, that is the larger the negative effect on the survival of an export relationship.

In the second check, I use data adjusted for one year gaps (following Blyde (2008)), this time focusing on interaction effects. The results are presented in table 2.8b columns 1-4. The estimates indicate one year gap adjustments do not alter the results in any significant way. The empirical results remain qualitatively unchanged.

My third test involves using a linear probability model to test the significance of my covariates on determining the length of a typical spell for a typical product-country pair export relationship. The results are shown in table 2.8c column 1-4. The results are very much in line with those of my preferred specification. In sum, it turns out that the estimation results are remarkably robust across different samples and specifications. As in previous specifications, the time interaction term indicates that the effect of fixed export costs diminishes over time and this is consistent across regressions.

6. Conclusion

Why do African export relationships fail? Answering this question has been one of the primary goals of this paper. Using simple semi-parametric techniques and a Cox proportional hazard model (1972), I show that the length of Africa's export relationship is restricted by infrastructure related trade costs, negative policy shocks, informational and bureaucratic frictions as well as institutional weakness. I also find evidence that financial depth, poor institutions; conflicts do increase hazard rates for African exports. I also control for market size, geographical distance, and economic similarity and find that these factors do play an important role in Africa's export survival. I find that African export trade relationships have a very short life, with the median duration of exporting a product just 1 year and average length of 2.08 years. In doing so, I contribute to the empirical literature on understanding the underlying factors that explain high failure rates for African export relationships.

Does regional trade cooperation enhance Africa's export relationship survival? I also study the effects of regional trade cooperation on the duration of African export relationships. I show empirical evidence that intra-regional trade cooperation in Africa reduces significantly the effects of a number of these trade frictions, implying that deeper and increased trade cooperation would sustain Africa's export expansion.

This evidence suggests that export costs, cost of doing business, border and transit delays have non-negligible effects on the hazard rates of African exports. However, their effects are reversed when I interact these variables with the regional integration variables. Furthermore, I find interaction effects significantly reversing the negative effects of the variables. Furthermore, evidence suggests that regional trade cooperation is helping to reduce the effects of these factors i.e., more integration leading to less border delays and transit delays, and lower cost of doing business is reducing the hazard rates for African exports.

Does export experience help enhance the chances of export relationship survival in Africa?

The results also show significant effects of export experience on increasing the chances of African export relationship survival. Using a measure of product specific experience in a given market, the results show that export experience increases the chances of African export survival in a given market. Combined with the result on regional trade cooperation effects, this would imply learning effects for African countries. It implies that African countries do learn to export to their regional neighbors and also extend the length of their export relationships through these learning effects. Within sectors, Africa's traditional exports display the longest durations, but also intra-African exports have relatively longer durations than exports to the rest of the world.

What implications does the paper have for public policy in Africa? There are 4 lessons that can be drawn from this study: first, the associated low hazard rates for deeper regional trade cooperation initiatives suggests an opportunity for public policy interventions that are aimed at further deepening the regional trade cooperation in Africa. The strategy that seeks to increase and sustain export growth rates should involve enhancement of regional trade cooperation efforts since the results show that regional trade cooperation depth is a non-negligible driver of Africa's export survival. For instance, I found that monetary unions have a relative higher survival rates and bigger effects on hazard rates than that of the Common Market, which in turn had bigger effects than those of the Customs Union, and which in turn have bigger effects than those of a Free Trade Area.

Secondly, since African exports are characterized by small firms and small values of exports, regional integration provides an opportunity of encouraging progression from export of small consignments to bigger consignments and larger firms thereby increasing the impact on export growth (See Rauch (2010) on the effects of institutional changes favoring smaller rather than larger firms, he argues such changes are likely to have relatively small impact on export growth).

Thirdly, it means that policy focusing only on entry into exporting will miss a fundamental aspect of the dynamics of exporting (see Brenton et al (2010)). A strategy that seeks to increase

and sustain export growth rates should address constraints to export survival both at the extensive and intensive margin of African trade.

Fourth, this paper provides the first step in examining the role of intra-Africa trade cooperation in Africa's export expansion. A fruitful direction of future research would be to examine how further regional integration affects trade survival in contexts such as manufacturing, where products are differentiated and firms have regional market power.

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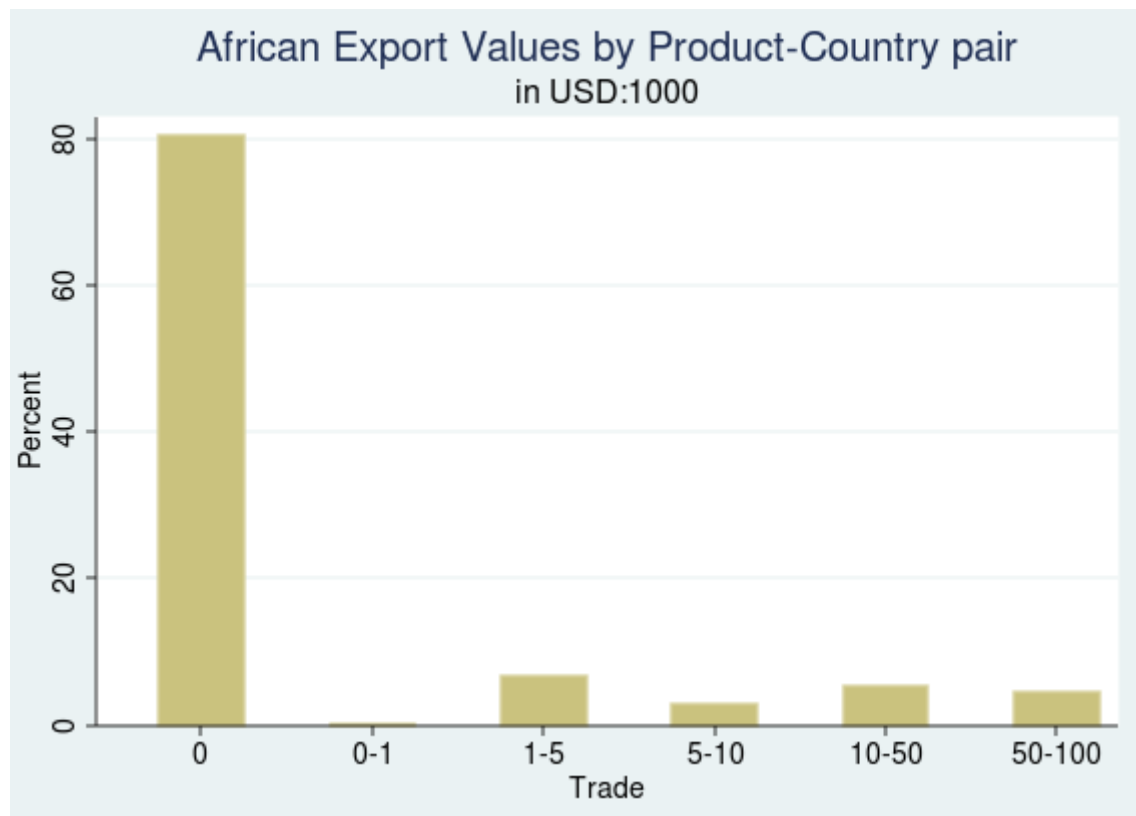
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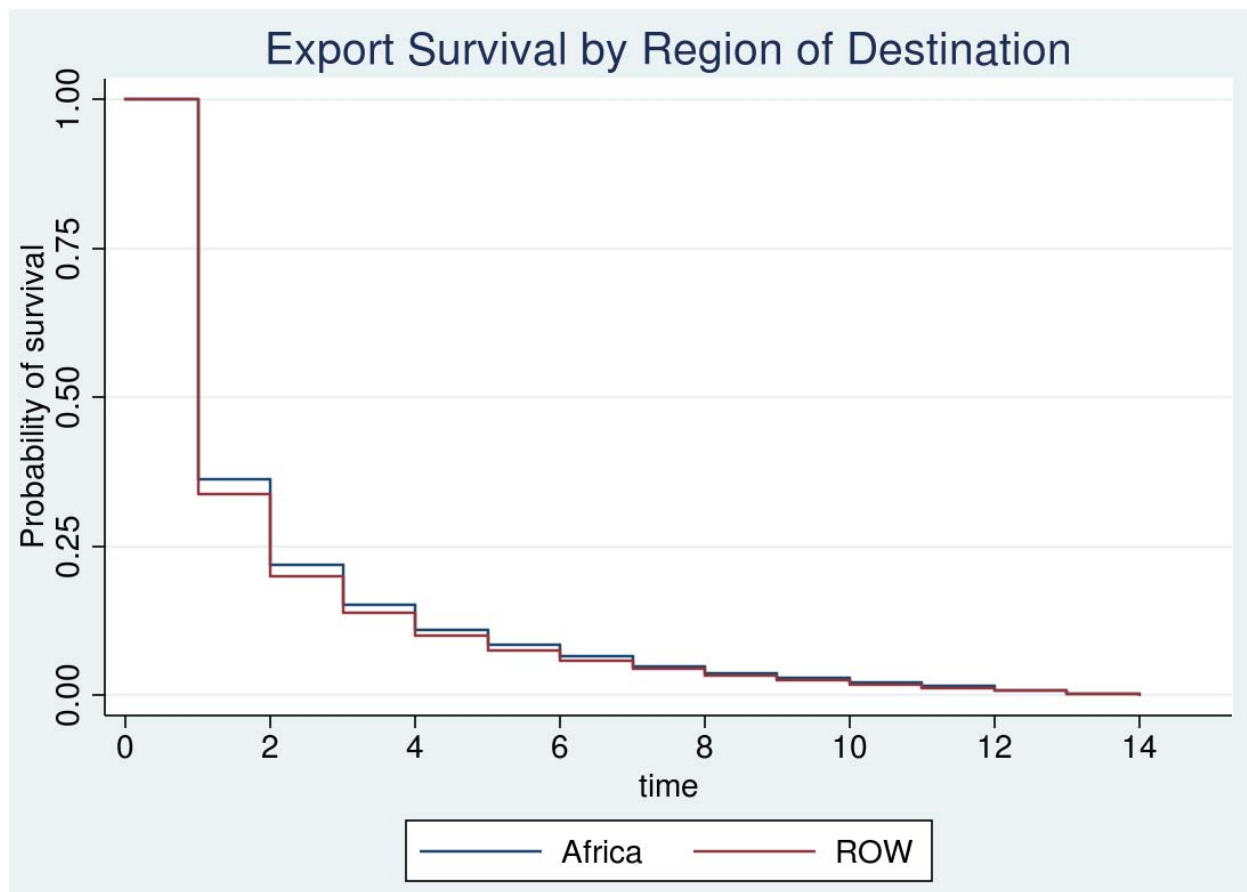
Tables and Figures:

Figure 2.1: Histogram for the export values (USD: 1000) for African countries



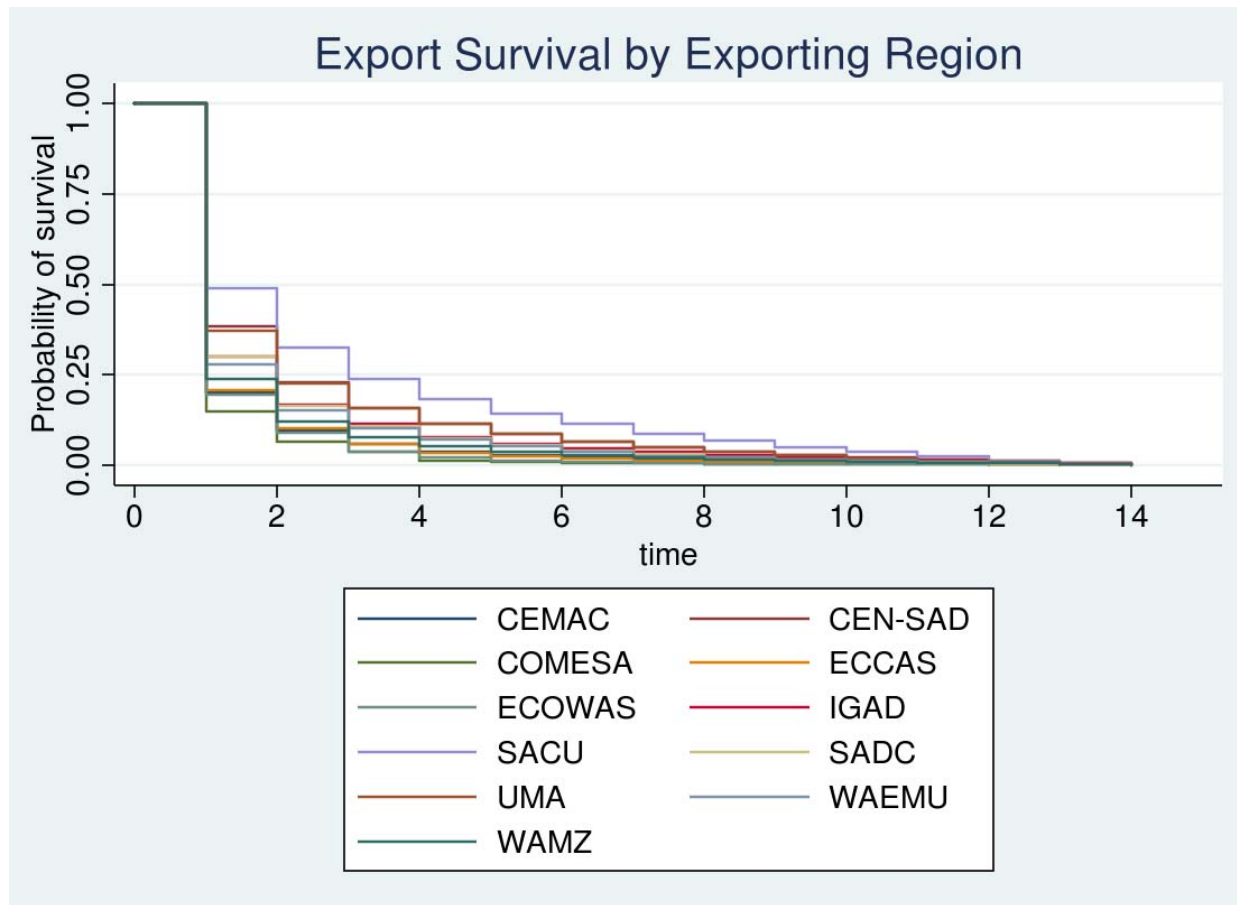
Notes: This histogram shows the distribution of positive trade observations. Almost 80 percent of potential trade flows at product level in Africa’s trade matrix are “Zero flows”. Trade is reported in 1000S of USD. This implies that only 20 percent of Africa’s bilateral trade relationships are positive trade flows. Also all Africa trade relationships fall below the mark of USD: 100,000 at product level.

Figure 2.2 Export Survivals by Region (destination of exports)



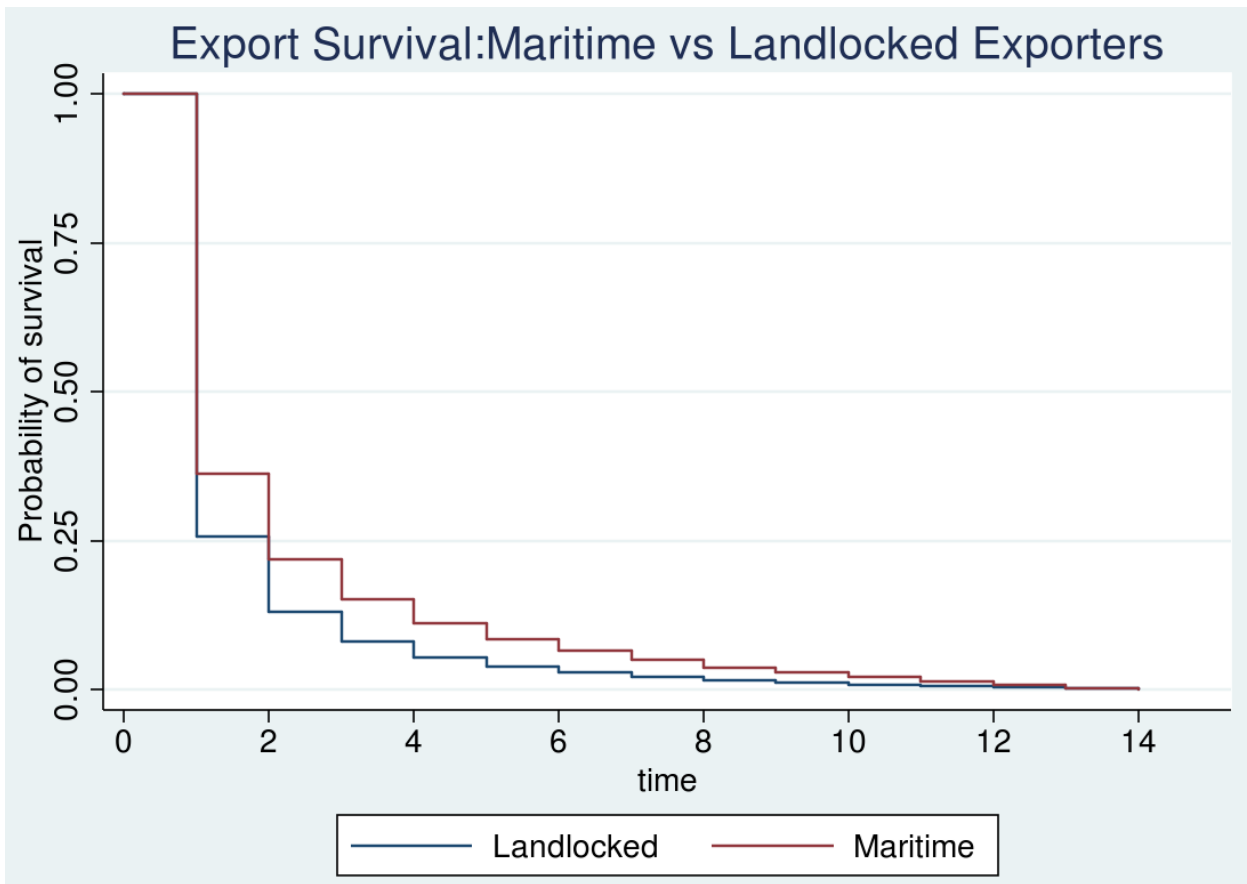
Notes: This graph shows that intra-Africa export relationships have slightly higher survival probabilities than African exports to the rest of the world.

Figure 2.3 Export Survivals by Exporting Region



Notes: This figure shows export survival probabilities within intra-African regional trade cooperation. Southern Africa Customs (SACU) the world’s oldest customs union which is composed of Botswana, Namibia, Lesotho, South Africa and Swaziland has the highest survival probabilities of its exports. It also shows that less integrated regions like COMESA and ECCAS have low survival probabilities of their exports. In general, regions in deeper regional trade cooperation have relatively higher survival rates of their exports than less integrated regional grouping. This figure can be read simultaneously with table 2.2.

Figure 2.4 Export Survival: Maritime vs. Landlocked Exporters



Notes: This figure shows that coastal African countries have significantly higher export survival rates than the landlocked African countries.

Table 2.1: Annual Birth & Death per Regional Grouping

Region	Number of spells	Export relationships Total	1995	2009	Annual Death Rate	Annual Birth Rates
COMESA	5642	101852	37476	48978	42%	43%
EAC	3093	52621	3330	37014	42%	47%
ECOWAS	4373	32847	20643	25582	37%	41%
SADC	4272	197968	102679	142662	30%	43%
SACU	2582	147250	92156	112089	24%	44%
CEN-SAD	7353	101852	32847	49386	46%	43%
ECCAS	2106	19055	11004	10698	51%	42%
IGAD	2313	52621	13446	32905	36%	42%
UMA	2522	68069	54263	58732	29%	44%
WAEMU	3136	32847	11122	28159	46%	44%
CEMAC	1478	11004	6141	7281	51%	45%
WAMZ	1824	28368	20423	25582	45%	47%
WAEMU	2940	32847	21381	28159	52%	45%
Landlocked	4241	26221	13446	15342	60%	51%
Maritime	5989	230815	52621	82402	35%	60%
Africa	10230	257036	66067	97744	38%	45%
ROW	7681	147250	42156	56089	33%	45%

Notes: Column 1 shows the maximum number of spells for each of the regional grouping. Column 2 shows the total export relationships per region. Column 3 and 4 show the export relationships at the beginning and end of the sample respectively. While column 5 and 6 report the average annual death and birth rates respectively. It shows that maritime countries have the highest birth rates and also among the countries with least average death rates.

Table 2.2 Survival Rates for Regional Groupings

Year	SACU	SADC	UMA	EAC	COMESA	CEN-SAD	IGAD	WAEMU	ECOWAS	WAMZ	ECCAS	CEMAC	Africa	ROW
1	49%	41%	37%	32%	32%	32%	30%	28%	26%	24%	20%	20%	36%	34%
2	32%	25%	23%	18%	18%	19%	17%	15%	14%	12%	10%	9%	22%	20%
3	24%	18%	16%	12%	12%	13%	11%	10%	9%	8%	6%	6%	15%	14%
4	18%	14%	12%	8%	8%	9%	8%	7%	6%	5%	3%	4%	11%	10%
5	14%	10%	9%	6%	6%	7%	6%	5%	4%	4%	2%	3%	8%	8%
6	11%	8%	7%	5%	5%	5%	5%	4%	3%	3%	2%	2%	6%	6%
7	9%	6%	5%	4%	3%	4%	3%	3%	2%	2%	1%	2%	5%	4%
8	7%	5%	4%	3%	3%	3%	3%	2%	2%	1%	1%	1%	4%	3%
9	5%	3%	3%	2%	2%	2%	2%	1%	1%	1%	1%	1%	3%	2%
10	4%	2%	2%	2%	1%	2%	2%	1%	1%	1%	1%	1%	2%	2%
11	2%	2%	1%	2%	1%	1%	2%	1%	1%	1%	0%	0%	1%	1%
12	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%	1%	1%
13	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Notes: This table shows the survival rates for each regional grouping. It is clearly seen that Southern Africa Customs Union (SACU), Southern Africa Development Community (SADC) the Arab Maghreb Union and Intra-Africa export relationships have the highest export survival rates.

Table 2.3 Survival Rates for Maritime and Landlocked countries

Year	Maritime	Landlocked
1	36%	25%
2	22%	13%
3	15%	8%
4	11%	5%
5	9%	4%
6	7%	3%
7	5%	2%
8	4%	2%
9	3%	1%
10	2%	1%
11	1%	0%
12	1%	0%
13	0%	0%
14	0%	0%
15	0%	0%

Notes: The table shows that coastal Africa countries have higher survival rates than the landlocked African countries, by a factor of 11 percent in the first year of initiation of the export relationships.

Table 2.4 Survival Rates by product sectors

Year	HS 01-05	HS 06-14	HS 15	HS 16-24	HS 25-27	HS 28-38	HS 39-40	HS 41-43	HS 44-46	HS 47-49	HS 50-63
1	38%	41%	35%	42%	40%	36%	36%	38%	40%	36%	37%
2	23%	25%	20%	27%	25%	22%	22%	22%	25%	21%	22%
3	16%	18%	13%	19%	18%	15%	15%	15%	18%	15%	16%
4	11%	14%	10%	14%	14%	11%	11%	11%	13%	11%	11%
5	8%	11%	8%	11%	11%	9%	8%	8%	10%	8%	8%
6	6%	8%	6%	8%	8%	7%	6%	6%	8%	6%	6%
7	5%	6%	4%	6%	6%	5%	5%	4%	6%	5%	5%
8	4%	5%	3%	5%	5%	4%	4%	3%	5%	4%	4%
9	3%	4%	2%	4%	4%	3%	3%	2%	4%	3%	3%
10	2%	3%	1%	3%	3%	2%	2%	1%	3%	2%	2%
11	1%	2%	1%	2%	2%	1%	1%	1%	2%	1%	1%
12	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Notes: This table shows survival rates of products categories aggregated at HS 2 digit level and grouped into sectors. Sector 4 which is composed of HS chapter 16-24 has the highest survival rates. It's composed of prepared food stuffs, beverages, spirits and tobacco to a large extent traded intra-regionally. It's followed by sector 5 which is composed of Africa's traditional commodity exports like coffee, tea, cocoa and crude petroleum products. The message from this table is there is heterogeneity within the product categories of African exports and traditional exports have higher survival rates than non-traditional exports or value added products signifying a limited opportunity for African countries to expand their products sustainably along the extensive margin of trade.

Table 2.4 Survival Rates by product sectors

Year	HS 64-67	HS 68-70	HS 71	HS 72-83	HS 84-85	HS 86-89	HS 90-92	HS 93	HS 94-96	HS 97
1	37%	36%	36%	35%	29%	31%	28%	29%	34%	36%
2	22%	22%	20%	21%	16%	17%	15%	16%	20%	22%
3	15%	15%	14%	14%	10%	12%	10%	10%	14%	15%
4	11%	12%	10%	10%	7%	8%	7%	7%	10%	11%
5	8%	9%	8%	8%	6%	6%	5%	6%	8%	8%
6	6%	7%	6%	6%	4%	4%	4%	4%	6%	6%
7	5%	5%	4%	5%	3%	3%	3%	2%	5%	5%
8	4%	4%	3%	3%	2%	2%	2%	2%	4%	4%
9	3%	3%	2%	3%	2%	2%	2%	1%	3%	3%
10	2%	2%	2%	2%	1%	1%	1%	1%	2%	2%
11	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
12	1%	1%	1%	1%	0%	1%	0%	0%	1%	1%
13	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Table 2.5: Diversification of exports (HS 6-digit level data)

Year	Number of trade relationships	Products		Partners	
		Total	Average Number of products exported to each partner	Total	Average number of destination markets for each product
1995	99245	3238	1103	90	31
1996	113337	3436	1200	94	33
1997	135324	3748	1389	97	36
1998	146255	3941	1506	97	37
1999	155521	4086	1570	99	38
2000	170193	4299	1716	99	40
2001	175923	4369	1772	99	40
2002	201833	4717	2005	101	43
2003	230981	5028	2187	106	46
2004	238816	5098	2189	109	47
2005	253327	5188	2459	103	49
2006	255700	5208	2336	109	49
2007	266597	5213	2446	109	51
2008	278825	5221	2638	106	53
2009	247165	5036	2318	107	49

Notes: Column 1 shows the total number of trade relationships for the whole sample, column 2 shows the products exported annually, column 3 shows the average number of products exported to each partner, column 4 shows the number destination markets and column 5 reports the average number of markets each product is exported. Overall, the table shows a rise in Africa's export expansion both on product and market margins.

Table 2.6: Summary Statistics of Key explanatory variables

Full Sample	Statistics	Tariff	FDI inflows	Exchange Rate Misalignment	Financial Depth	Trade Facilitation	Export Costs	Customs Procedures	Cost of Doing Business	Time to Export	Cost to Export	Documentation	Cost of Doing Business
Landlocked	mean	7.73	1473.10	108.63	0.10	29.94	527.07	3.26	357.58	48.67	2400.26	8.41	357.58
	p50	3.00	867.97	104.91	0.07	29.79	234.33	3.31	125.90	47.00	2098.00	8.00	125.90
	sd	12.18	1698.53	25.10	0.05	2.15	679.12	0.39	1032.10	7.54	866.94	1.91	1032.10
	min	0.00	15.84	62.60	0.03	26.00	0.00	1.94	10.10	32.00	1050.00	6.00	10.10
	max	630.00	7603.90	179.28	0.25	37.42	5497.00	3.89	6375.50	78.00	5497.00	14.00	6375.50
	range	630.00	7588.06	116.69	0.22	11.41	5497.00	1.95	6365.40	46.00	4447.00	8.00	6365.40
Maritime	mean	9.76	21319.71	103.96	0.40	22.19	226.17	3.76	68.33	25.21	1150.48	7.46	68.33
	p50	5.00	11649.40	100.56	0.45	22.81	88.42	3.76	20.00	26.00	1087.00	8.00	20.00
	sd	13.79	27829.82	24.16	0.24	3.21	314.20	0.57	150.64	9.04	438.22	1.71	150.64
	min	0.00	0.00	67.53	0.00	16.79	0.00	2.60	0.00	11.00	463.00	4.00	0.00
	max	3000.00	117434.15	597.36	0.87	32.57	3733.00	5.10	2051.50	69.00	3733.00	14.00	2051.50
	range	3000.00	117434.15	529.83	0.87	15.78	3733.00	2.50	2051.50	58.00	3270.00	10.00	2051.50

Notes: This table reports the summary statistics of the key explanatory variables. The table shows heterogeneity within the values of some of the explanatory variables depending on whether the country is coastal or landlocked.

Table 2.7: Bench mark results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dep. Var.: Hazard Rate									
Monetary Union	-0.012*** (0.003)	-0.005 (0.003)	-0.034 (0.004)	-0.032 (0.004)	-0.029 (0.004)	-0.032 (0.004)	-0.031 (0.004)	-0.025 (0.004)	-0.016* (0.004)
Common Market	-0.235*** (0.005)	-0.248*** (0.006)	-0.298*** (0.006)	-0.300*** (0.006)	-0.293*** (0.006)	-0.273*** (0.006)	-0.273*** (0.006)	-0.276*** (0.006)	-0.271*** (0.006)
Customs Union	-0.294*** (0.012)	-0.339*** (0.014)	-0.470*** (0.016)	-0.470*** (0.016)	-0.457*** (0.016)	-0.459*** (0.016)	-0.453*** (0.016)	-0.441*** (0.016)	-0.427*** (0.016)
Preferential Trade Area	0.045* (0.003)	0.051*** (0.004)	0.023*** (0.004)	0.024*** (0.004)	0.029*** (0.004)	0.023*** (0.004)	0.023*** (0.004)	0.026*** (0.004)	0.029** (0.004)
Polity index		0.002* (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)	0.003*** (0.000)
Financial Depth			0.354** (0.019)	0.368*** (0.019)	0.484*** (0.020)	0.387*** (0.020)	0.391*** (0.020)	0.428*** (0.020)	0.363 (0.020)
Unilateral preferences				-0.067 (0.004)	-0.064 (0.004)	-0.077* (0.004)	-0.075** (0.004)	-0.074 (0.005)	-0.069* (0.005)
Conflict Dummy					0.095*** (0.002)	0.100*** (0.002)	0.099*** (0.002)	0.096*** (0.002)	0.080*** (0.002)
Exchange rate Misalignment						0.181*** (0.003)	-0.179 (0.003)	-0.176* (0.003)	0.174* (0.003)
Export Experience							-0.974*** (0.004)	-0.928*** (0.004)	-0.926*** (0.004)
Market Experience								-0.330*** (0.001)	-0.328*** (0.001)
FDI inflows									0.093*** (0.002)
Observations	9250650.000	7758811.000	7156517.000	7156517.000	7156517.000	7156517.000	7156517.000	7156517.000	7115195.000
	* p<0.05	** p<0.01							

Notes: The dependent variable is the hazard rate. The unit of observation is the product-country pair. A positive sign on the coefficient signifies an increase in the probability of an export relationship failure (increase in hazard rate), a negative coefficient signifies an increased probability of export relationship survival (i.e., the covariate is negatively correlated with the hazard rate and positively correlated with export relationship survival). Stars indicate level of statistical significance: *** p<0.001 **p<0.01 * p<0.05

Table 2.7a: Level and Interaction effects of cost of doing business

	(1)	(2)	(3)
Dep. Var.: Hazard Rate			
Monetary Union	-0.078*** (0.007)	-0.326*** (0.023)	-0.252*** (0.024)
Common Market	-0.182*** (0.015)	1.111*** (0.054)	1.119*** (0.055)
Customs Union	-0.111*** (0.017)	1.408*** (0.134)	1.493*** (0.138)
Preferential Trade Area	-0.124*** (0.007)	0.285*** (0.025)	0.202*** (0.026)
Polity index	0.009*** (0.000)	0.009*** (0.000)	0.012*** (0.000)
Financial Depth	2.161*** (0.070)	2.319*** (0.070)	2.366*** (0.070)
Conflict Dummy	0.075*** (0.006)	0.073*** (0.006)	0.073*** (0.006)
Exchange Rate Misalignment	-1.024*** (0.025)	-0.997*** (0.025)	-0.998*** (0.026)
Export Experience	-2.224*** (0.013)	-2.221*** (0.013)	-2.221*** (0.013)
Market Experience	-0.528*** (0.003)	-0.529*** (0.003)	-0.529*** (0.003)
FDI inflows	0.093*** (0.010)	0.086*** (0.011)	0.089*** (0.011)
Cost of Doing Business	0.002*** (0.005)	0.029*** (0.005)	0.029*** (0.005)
MU*Cost of Doing Business		-0.112*** (0.006)	-0.130*** (0.006)
CM*Cost of Doing Business		0.057*** (0.005)	0.054*** (0.006)
CU*Cost of Doing Business		-0.273*** (0.025)	-0.249*** (0.026)
PTA*Cost of Doing Business		0.341*** (0.013)	0.296*** (0.014)
MU*Polity Index			0.017*** (0.001)
CM*Polity Index			-0.011*** (0.001)
CU*Polity Index			-0.033*** (0.003)
PTA*Polity Index			-0.011*** (0.002)
Observations	2834223.000	2834223.000	2834223.000
	* p<0.05	** p<0.01	*** p<0.001

Notes: column 1 indicate the level effects of cost of doing business. Column 2 the interaction effects all significant atleast 5 percent level. Column 3 indicate interaction effects including institutions. Standard errors are reported in parentheses. Stars indicate level of statistical significance: *** p<0.001 **p<0.01 * p<0.05

Table 2.7b level and interaction effects of costs to export

	(1)	(2)	(3)
Dep. Var.: Hazard Rate			
Monetary Union	0.119*** (0.014)	-1.270*** (0.222)	-1.465*** (0.227)
Common Market	0.069 (0.045)	5.000*** (0.531)	5.396*** (0.538)
Customs Union	-0.415*** (0.065)	-10.382*** (0.969)	-22.024*** (1.917)
Preferential Trade Area	0.419 (0.016)	0.524 (0.369)	-0.449 (0.402)
Polity index	0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Financial Depth	0.833*** (0.137)	-0.656*** (0.137)	0.753*** (0.138)
Conflict Dummy	0.144*** (0.029)	0.185*** (0.028)	0.181*** (0.028)
Exchange rate misalignment	-0.095 (0.073)	0.164* (0.075)	0.216** (0.075)
Export experience	-4.756*** (0.027)	-4.753*** (0.027)	-4.751*** (0.027)
Market experience	-0.729*** (0.006)	-0.728*** (0.006)	-0.727*** (0.006)
FDI inflows	0.059* (0.026)	0.071** (0.026)	0.078** (0.026)
Costs to Export	0.129*** (0.020)	0.146*** (0.021)	0.149*** (0.021)
MU* Costs to export		0.129* (0.053)	-0.000 (0.058)
CM*Costs to export		0.195*** (0.032)	0.219*** (0.032)
CU*Costs to export		-0.439*** (0.143)	-0.443*** (0.302)
PTA*Costs to export		0.690*** (0.073)	0.728*** (0.074)
MU*Polity index			0.011** (0.004)
CM*Polity index			0.004 (0.004)
CU*Polity index			-0.626*** (0.044)
PTA*Polity index			-0.022*** (0.005)
Observations	1643331.000	1643331.000	1643331.000
	* p<0.05	** p<0.01	*** p<0.001

Notes: The dependent variable is the hazard rate. Column 1 indicates the level effects of cost to export. Column 2 the interaction effects with regional cooperation, all interaction effects are significantly different from zero except for monetary union and costs to export. Standard errors are in parentheses. Stars indicate level of statistical significance: *** p<0.001 **p<0.01 * p<0.05

Table 2.7c level and interaction effects of time to export

	(1)	(2)	(3)
Dep. Var.: Hazard Rate			
Monetary Union	0.124*** (0.014)	-1.228*** (0.130)	-1.375*** (0.132)
Common Market	0.075 (0.045)	4.573*** (0.274)	4.911*** (0.278)
Customs Union	-0.399*** (0.065)	-19.617*** (1.524)	-20.993*** (1.682)
Preferential Trade Area	-0.430*** (0.016)	0.975*** (0.171)	0.873*** (0.185)
Polity index	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Financial Depth	1.166*** (0.137)	0.727*** (0.140)	0.764*** (0.140)
Conflict Dummy	0.130*** (0.029)	0.153*** (0.029)	0.149*** (0.029)
Exchange rate misalignment	0.160* (0.073)	0.341*** (0.073)	0.368*** (0.074)
Export experience	-4.759*** (0.027)	-4.754*** (0.027)	-4.753*** (0.027)
Market experience	-0.726*** (0.006)	-0.727*** (0.006)	-0.727*** (0.006)
FDI inflows	0.052* (0.026)	0.069** (0.026)	0.071** (0.026)
Time to export	0.156*** (0.023)	0.235*** (0.023)	0.214*** (0.023)
MU*time to export		-0.395*** (0.052)	-0.363*** (0.055)
CM*time to export		-0.378* (0.038)	0.402 (0.038)
CU*time to export		-5.126*** (0.408)	-5.603*** (0.451)
PTA*time to export		-1.536*** (0.089)	-1.570*** (0.089)
MU*polity index			-0.005 (0.004)
CM*polity index			0.013*** (0.004)
CU*polity index			-0.127*** (0.017)
PTA*polity index			-0.035*** (0.005)
Observations	1643331.000	1643331.000	1643331.000
	* p<0.05	** p<0.01	*** p<0.001

Notes: Column 1 reports level effects of time to export. Column 2 reports interaction effects of time to export with the stage of regional cooperation-all effects are significant atleast 5 percent level. Standards errors are reported in parentheses.

Table 2.7d level and interaction effects of procedures to export

	(1)	(2)	(3)
Dep. Var.: Hazard Rate			
Monetary Union	-0.106 (0.014)	-0.049* (0.022)	-0.379*** (0.074)
Common Market	0.102* (0.046)	-4.213*** (0.455)	-4.785*** (0.459)
Customs Union	-0.343*** (0.066)	-0.226** (0.078)	22.737*** (2.019)
Preferential Trade Area	-0.497*** (0.020)	-0.428*** (0.025)	-1.461*** (0.228)
Polity index	0.002 (0.001)	0.002 (0.001)	0.000 (0.001)
Financial Depth	1.034*** (0.137)	0.785*** (0.139)	0.789*** (0.139)
Conflict Dummy	0.149*** (0.029)	0.150*** (0.029)	0.182*** (0.029)
Exchange rate misalignment	-0.123 (0.072)	-0.160* (0.072)	-0.117 (0.072)
Export experience	-4.756*** (0.027)	-4.753*** (0.027)	-4.749*** (0.027)
Market experience	-0.729*** (0.006)	-0.729*** (0.006)	-0.728*** (0.006)
FDI inflows	0.063* (0.026)	0.065* (0.026)	0.086** (0.026)
Procedures to export	0.066*** (0.014)	0.042** (0.014)	0.064*** (0.014)
MU*procedures to export			-0.121*** (0.025)
CM*procedures to export			0.047*** (0.010)
CU*procedures to export			-2.710*** (0.235)
PTA*procedures to export		0.501*** (0.051)	0.567*** (0.051)
MU*polity index	0.011*** (0.002)	0.005 (0.004)	0.007 (0.004)
CM*polity index		0.005 (0.003)	0.006 (0.003)
CU*polity index		-0.038** (0.013)	-0.947*** (0.078)
PTA*polity index		-0.026*** (0.005)	-0.025*** (0.005)
Observations	1643331.000	1643331.000	1643331.000
	* p<0.05	** p<0.01	*** p<0.001

Notes:. Column 1 reports level effects of procedures to export. Column 2 interaction effects for institutions and column 3 interaction effects for procedures to export with regional cooperation. The unit of observation is an exporter-product-product year quadruplet. Clustered standard errors in parentheses, stars indicate statistical significance: *** p<0.001, ** p<0.01, * p<0.05

Table 2.7e level and interaction effects of financial depth

	(1)	(2)	(3)
Dep. Var.: Hazard Rate			
Monetary Union	-0.017*** (0.004)	-0.078*** (0.007)	-0.143*** (0.007)
Common Market	-0.269*** (0.006)	-0.512*** (0.016)	-0.517*** (0.018)
Customs Union	-0.427*** (0.016)	-0.266*** (0.037)	-0.316*** (0.038)
Preferential Trade Area	0.028*** (0.004)	-0.085*** (0.009)	0.005 (0.011)
Polity index	0.003*** (0.000)	0.003*** (0.000)	0.005*** (0.000)
Conflict dummy	0.081*** (0.002)	0.082*** (0.002)	0.083*** (0.002)
Exchange rate misalignment	-0.172* (0.003)	-0.171 (0.003)	-0.171 (0.003)
Product experience	-0.926*** (0.004)	-0.926*** (0.004)	-0.926*** (0.004)
Market experience	-0.328*** (0.001)	-0.328*** (0.001)	-0.328*** (0.001)
FDI inflow	0.094*** (0.002)	0.093*** (0.002)	0.092*** (0.002)
Financial Depth	0.350*** (0.020)	0.350*** (0.020)	0.375*** (0.020)
MU*financial depth		0.141*** (0.011)	0.076*** (0.011)
CM*financial depth		0.083*** (0.009)	0.094*** (0.009)
CU*financial depth		-0.241** (0.053)	-0.078* (0.055)
PTA*financial depth		0.294*** (0.017)	0.258*** (0.017)
MU*polity index			-0.003*** (0.000)
CM*polity index			-0.010*** (0.000)
CU*polity index			-0.019*** (0.003)
PTA*polity index			0.003*** (0.001)
Observations	7115195.000	7115195.000	7115195.000
	* p<0.05	** p<0.01	*** p<0.001

Notes: Column 1 reports level effects of financial depth. Column 2 reports interaction effects-significant at least 5 percent level except for the customs union. Standard errors in parentheses, stars indicate statistical significance: *** p<0.001, ** p<0.01, * p<0.05.

Table 2.7f: Level and interaction effects of product level tariff

	(1)	(2)	(3)
Dep. Var.: Hazard Rate			
Monetary Union	-0.017 (0.023)	-0.001 (0.026)	-0.043 (0.033)
Common Market	0.468* (0.187)	1.016 (0.635)	1.237 (0.659)
Customs Union	-0.470*** (0.062)	-0.305*** (0.069)	-0.411*** (0.107)
Preferential Trade Area	0.091 (0.167)	0.277 (0.182)	0.393* (0.195)
Polity index	0.006*** (0.002)	0.006*** (0.002)	0.009*** (0.002)
Financial Depth	-0.537*** (0.131)	-0.555*** (0.131)	-0.561*** (0.131)
Conflict Dummy	0.060** (0.023)	0.058* (0.023)	0.059** (0.023)
Exchange rate misalignment	0.063** (0.020)	0.061** (0.020)	0.056** (0.020)
Export experience	0.004 (0.010)	0.004 (0.010)	0.004 (0.010)
Market experience	0.003 (0.023)	0.003 (0.023)	0.003 (0.023)
FDI inflows	0.072*** (0.017)	0.073*** (0.017)	0.070*** (0.017)
Tariff	0.001 (0.001)	0.002* (0.001)	0.002** (0.001)
MU*tariff		-0.020*** (0.005)	-0.022*** (0.006)
CM*tariff		-0.002 (0.001)	-0.002 (0.001)
CU*tariff		-0.011 (0.025)	-0.009 (0.025)
PTA*tariff		0.008 (0.006)	0.009 (0.006)
MU*polity index			0.033 (0.021)
CM*polity index			0.008* (0.004)
CU*polity index			-0.100 (0.127)
PTA*polity index			0.029 (0.017)
Observations	182165.000	182165.000	182165.000
	* p<0.05	** p<0.01	*** p<0.001

Notes:. column 1 shows the level effects of product level tariff, which is not significant. Column 2 shows the interaction effects with stage of regional cooperation-only monetary union has a significant effects at 5 percent level. Clustered standard errors are in parentheses, stars indicate statistical significance: *** p<0.001, ** p<0.01, * p<0.05.

Table 2.8a: Robustness checks for benchmark results

	(1)	(2)	(3)	(4)	(6)	(7)
Dep. Var.: Hazard Rates						
Monetary Union	-0.062*** (0.003)	-0.045*** (0.004)	0.002 (0.007)	0.001 (0.007)	0.000 (0.007)	-0.010 (0.007)
Common Market	-0.160*** (0.006)	-0.067*** (0.012)	0.086** (0.027)	0.089*** (0.027)	0.089*** (0.027)	0.077** (0.026)
Customs Union	-0.124*** (0.008)	-0.355*** (0.013)	-1.031*** (0.031)	-1.036*** (0.031)	-1.036*** (0.031)	-1.054*** (0.032)
Preferential Trade Area	0.032*** (0.003)	-0.101*** (0.005)	-0.174*** (0.008)	-0.172*** (0.008)	-0.171*** (0.008)	-0.160*** (0.008)
Financial Depth		0.173*** (0.030)	0.986*** (0.048)	1.005*** (0.048)	1.014*** (0.047)	0.559*** (0.052)
Institutions		0.003*** (0.000)	0.003*** (0.000)	0.005*** (0.000)	0.003*** (0.000)	0.004*** (0.000)
Conflict Dummy		0.019*** (0.004)	-0.102*** (0.008)	-0.102*** (0.008)	-0.102*** (0.008)	-0.112*** (0.008)
Exchange rate Misalignment		-0.134*** (0.012)	0.474*** (0.021)	0.465*** (0.021)	0.465*** (0.021)	0.354*** (0.021)
Unilateral Preference dummy		0.017 (0.027)	-0.324* (0.043)	-0.327 (0.043)	-0.331 (0.043)	-0.299* (0.043)
Export Experience		-2.596*** (0.010)	-3.860*** (0.018)	-3.860*** (0.018)	-3.860*** (0.018)	-3.859*** (0.018)
Market Experience		-0.424*** (0.002)	-0.453*** (0.003)	-0.453*** (0.003)	-0.453*** (0.003)	-0.455*** (0.003)
FDI Inflows		-0.074*** (0.005)	-0.006 (0.007)	-0.005 (0.007)	-0.006 (0.007)	-0.014* (0.006)
Cost of Doing Business		-0.053*** (0.003)				-0.143*** (0.005)
Time to Export			-0.040*** (0.010)			0.041*** (0.010)
Cost to Export				-0.015 (0.009)		0.026** (0.010)
Procedures to Export					-0.014*** (0.004)	-0.011** (0.004)
N	1253379.000	1019390.000	1000502.000	945018.000	945018.000	945018.000
	* p<0.05	** p<0.01	*** p<0.001			

Notes: in this specification, I use only new export relationships. Column 1 indicates the effects of key variables of interest-effects of stages of regional trade cooperation. Results are qualitatively similar to results in my benchmark specification. Clustered standard errors are in parentheses, stars indicate statistical significance: *** p<0.001, ** p<0.01, * p<0.05.

Robustness Checks

Table 2.8b: LPM Specification. Benchmark: Level Effects

	(1)	(2)	(3)	(4)
Dep. Var.: Spell length				
Monetary Union	0.058* (0.067)	0.002** (0.114)	0.065 (0.076)	0.074*** (0.078)
Common Market	0.096 (0.143)	0.097 (0.017)	0.071 (0.119)	0.089* (0.133)
Customs Union	1.196* (0.051)	0.568** (0.002)	1.164** (0.012)	1.164*** (0.001)
Preferential Trade Area	0.087 (0.060)	0.119 (0.105)	0.084 (0.088)	0.123 (0.078)
Polity index	-0.005 (0.002)	-0.004 (0.007)	-0.006 (0.003)	-0.004 (0.003)
Financial Depth	1.777** (0.003)	0.842 (0.602)	1.586 (0.320)	1.778 (0.280)
Conflict dummy	-0.049*** (0.287)	-0.191*** (0.048)	-0.085*** (0.263)	-0.069*** (0.290)
Exchange rate misalignment	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
FDI inflow	-0.081* (0.102)	-0.197*** (0.028)	-0.047*** (0.092)	-0.091*** (0.083)
Cost to export	-0.034* (0.172)			
Cost of doing business		-0.001*** (0.045)		
Time to export			-0.240** (0.066)	
Procedures to Export				-0.111** (0.026)
Constant	23.384 (14.427)	2.535 (2.025)	19.529 (9.893)	25.388 (11.961)
Observations	2176836.000	3693834.000	2176836.000	2176836.000
R Sq.	0.825	0.718	0.825	0.825
	* p<0.05	** p<0.01	*** p<0.001	

Notes: In this specification, I use a linear probability specification; the dependent variable is spell length of each export relationship. A positive coefficient implies that the covariates enhance the chances of export relationship survival. Clustered standard errors are in parentheses, stars indicate statistical significance: *** p<0.001, ** p<0.01, * p<0.05.

Table 2.8c: LPM Specification: Interaction Effects

Dep. Spell Length	(1)	(2)	(3)	(4)	(5)
Monetary Union	0.019 (0.087)	0.064** (0.022)	1.866*** (0.150)	0.117* (0.046)	0.160** (0.051)
Common Market	1.717*** (0.184)	1.378*** (0.072)	3.263*** (0.416)	2.840*** (0.327)	2.826*** (0.383)
Customs Union	2.820* (1.402)	0.371 (0.266)	1.379* (0.642)	0.310 (0.239)	6.347*** (0.455)
Preferential Trade Area	0.034 (0.125)	0.334*** (0.028)	1.326*** (0.278)	1.144*** (0.137)	4.101*** (0.217)
Time to export	-0.212*** (0.018)				
MU*time to export	0.008 (0.038)				
CM*time to export	-0.018 (0.025)				
CU*time to export	1.059** (0.372)				
FTA*time to export	0.566*** (0.062)				
Polity index	-0.006*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)
Financial Depth	-1.426* (0.080)	0.466 (0.054)	1.762 (0.080)	1.584 (0.080)	1.228 (0.085)
Conflict dummy	-0.084*** (0.024)	-0.191*** (0.009)	-0.065** (0.024)	-0.084*** (0.024)	-0.081*** (0.024)
exchange rate misalignment	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
FDI inflows	-0.055*** (0.015)	-0.181*** (0.010)	-0.075*** (0.015)	-0.090*** (0.015)	-0.104*** (0.015)
Cost of doing business		-0.041*** (0.007)			
MU*cost of doing business		0.133*** (0.008)			
CM*cost of doing business		-0.006 (0.006)			
CU*cost of doing business		0.007 (0.050)			
PTA*cost of doing business		0.335*** (0.018)			
Cost to export			0.056*** (0.016)		
MU*cost to export			0.197*** (0.040)		
CM*cost to export			-0.272*** (0.021)		
CU*cost to export			-0.018 (0.091)		
PTA*cost to export			0.444*** (0.058)		
Procedures to export				0.125*** (0.011)	0.131*** (0.011)
MU*procedures to export				0.118*** (0.015)	0.380*** (0.021)
CM*procedures to export				-0.009 (0.006)	-0.017** (0.006)
CU*procedures to export				-0.198*** (0.035)	-0.416*** (0.051)
PTA*procedures to export				0.329*** (0.036)	0.288*** (0.038)
MU*polity index					-0.022*** (0.003)
CM*polity index					0.002 (0.002)
CU*polity index					0.316*** (0.033)
PTA*polity index					0.007 (0.006)
MU*Years of effective cooperation					-0.029*** (0.003)
CM*Years of effective cooperation					-0.000 (0.002)
CU* Years of effective cooperation					0.313*** (0.019)
PTA* Years of effective cooperation					-0.029*** (0.007)
Constant	18.102*** (1.669)	1.698* (0.823)	22.060*** (1.637)	24.096*** (1.651)	21.622*** (1.656)
Observations	2176836.000	3693834.000	2176836.000	2176836.000	2176836.000
R.Sq.	0.825	0.718	0.825	0.825	0.825

* p<0.05 ** p<0.01 *** p<0.001

Notes: this is linear probability specification with interaction effects. A positive coefficient implies that the covariates enhance the chances of export relationship survival. Clustered standard errors are in parentheses, stars indicate statistical significance: *** p<0.001, ** p<0.01, * p<0.05.

Table 2.9: Regional grouping by stage of trade cooperation

Monetary Union & Pseudo Monetary Union Blocs					
Regional Block	Block Membership	Member`s Year of Entry [FTA]	Member`s Year of Entry [Customs Union]	Member`s Year of entry [Common Market]	Member`s Year of entry [Monetary Union]
UEMOA	Benin				1994
	Burkina Faso				1994
	Ivory Coast				1994
	Guinea-Bissau				1997
	Mali				1994
	Niger				1994
	Senegal				1994
	Togo				1994
CMA	Lesotho				1993
	South Africa				1993
	Swaziland				1993
	Namibia				1993
CEMAC (UDEAC)	Cameroon				1999
	Central African Rep.				1999
	Chad				1999
	Congo				1999
	Equatorial Guinea				1999
	Gabon				1999
	Sao Tome & Principe				1999

Notes: This includes West African Economic and Monetary Union (UEMOA), CFA is the common currency; The Common Monetary Area of Southern Africa (CMA) uses the rand as the common currency i.e., the currencies of Lesotho, Namibia and Swaziland are linked one for one with the South African Rand; The Economic and Monetary Community of Central Africa (CEMAC) uses the Central Africa CFA as the common currency.

Common Market Blocs		
SACU	Botswana	November 11, 1994
	Lesotho	November 11, 1994
	Namibia	November 11, 1994
	South Africa	November 11, 1994
	Swaziland	November 11, 1994
EAC	Burundi	1st July 2010
	Kenya	1st July 2010
	Rwanda	1st July 2010
	Tanzania	1st July 2010
	Uganda	1st July 2010

Notes: Southern Africa Customs Union (SACU) and East African Community Common Market (EAC).

Customs Union Blocs

Regional Block	Block Membership	Member's Year of Entry [FTA]	Member's Year of Entry [Customs Union]	Member's Year of entry [Common Market]	Member's Year of entry [Monetary Union]
COMESA	Angola				
	Burundi	21-Dec-81	31st October, 2000		
	Comoros	21-Dec-81	31st October, 2000		
	Dem. Rep. Congo	21-Dec-81	31st October, 2000		
	Djibouti	21-Dec-81	31st October, 2000		
	Egypt	06-Jan-99	31st October, 2000		
	Eritrea	1994	31st October, 2000		
	Ethiopia	21-Dec-81	31st October, 2000		
	Kenya	21-Dec-81	31st October, 2000		
	Libya	03-Jun-05	31st October, 2000		
	Madagascar	21-Dec-81	31st October, 2000		
	Malawi	21-Dec-81	31st October, 2000		
	Mauritius	21-Dec-81	31st October, 2000		
	Namibia		31st October, 2000		
	Rwanda	21-Dec-81	1st January 2004		
	Seychelles	2001	31st October, 2000		
	Sudan	21-Dec-81	31st October, 2000		
	Swaziland	21-Dec-81	31st October, 2000		
	Tanzania		31st October, 2000		
	Uganda	21-Dec-81	31st October, 2000		
	Zambia	21-Dec-81	31st October, 2000		
	Zimbabwe	21-Dec-81	31st October, 2000		

Notes: Common Market for Eastern and Southern Africa (COMESA).

ECOWAS	Benin	1975	24-Jul-93		
	Burkina Faso	1975	24-Jul-93		
	Cape Verde	1977	24-Jul-93		
	Ivory Coast	1975	24-Jul-93		
	Gambia	1975	24-Jul-93		
	Ghana	1975	24-Jul-93		
	Guinea	1975	24-Jul-93		
	Guinea-Bissau	1975	24-Jul-93		
	Liberia	1975	24-Jul-93		
	Mali	1975	24-Jul-93		
	Mauritania	1975	24-Jul-93		
	Niger	1975	24-Jul-93		
	Nigeria	1975	24-Jul-93		
	Senegal	1975	24-Jul-93		
	Sierra Leone	1975	24-Jul-93		
	Togo	1975	24-Jul-93		

Notes: Economic Community of West African States (ECOWAS)

Preferential Trade Areas

Regional Block	Block Membership	Member's Year of Entry [FTA]	Member's Year of Entry [Customs Union]	Member's Year of entry [Common Market]	Member's Year of entry [Monetary Union]
SADC	Angola		1992	01-Sep-00	
	Botswana		1992	01-Sep-00	
	Dem. Rep. Congo		1997	01-Sep-00	
	Lesotho		1992	01-Sep-00	
	Malawi		1992	01-Sep-00	
	Mauritius		1995	01-Sep-00	
	Madagascar		2005	01-Sep-00	
	Mozambique		1992	01-Sep-00	
	Namibia		1992	01-Sep-00	
	Seychelles		15-Sep-07	01-Sep-00	
	South Africa		1994	01-Sep-00	
	Swaziland		1992	01-Sep-00	
	Tanzania		1992	01-Sep-00	
	Zambia		1992	01-Sep-00	
	Zimbabwe		1992	01-Sep-00	

Notes: Southern African Development Community (SADC)

CEN-SAD	Benin			
	Burkina Faso	4th February 1998		
	Chad			
	Côte d'Ivoire			
	Egypt			
	Ghana			
	Guinea Bissau			
	Mali			
	Niger			
	Sudan			
	Central African Rep.		Apr-99	
	Eritrea		Apr-99	
	Senegal		Feb-00	
	Djibouti		Feb-00	
	Gambia		Feb-00	
	Liberia			
	Libya			
	Morocco			
Nigeria				
Sierra Leone				
Somali				
Togo				
Tunisia				

Notes: Community of Sahel-Saharan States.

IGAD	Djibouti	1996
	Ethiopia	1996
	Kenya	1996
	Somalia	1996
	Sudan	1996
	Uganda	1996

Notes: Intergovernmental Authority on Development.

UMA	Algeria	1990
	Libya	1990
	Morocco	1990
	Tunisia	1990

Notes: Arab Maghreb Union

WAMZ	Gambia	2015(planned)
	Ghana	
	Guinea	
	Liberia	
	Nigeria	
	Sierra Leone	

Notes: West African Monetary Zone, on course to introduce a single currency by 2015.

ECCAS (CEEAC)	Angola	06-Feb-98
	Burundi	07-Feb-98
	Cameroon	08-Feb-98
	Central African Rep.	09-Feb-98
	Chad	10-Feb-98
	Congo	11-Feb-98
	Dem. Rep. Congo	12-Feb-98
	Equatorial Guinea	13-Feb-98
	Gabon	14-Feb-98
	Rwanda	15-Feb-98
Sao Tome & Principe	16-Feb-98	

Notes: Economic Community of Central African States.