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Article

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African continental free trade area: Is there a trade potential for Côte d'Ivoire?

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Abstract: Many studies present the African Continental Free Trade Area (AfCFTA) as one of Africa's most new trade issues. Previous assessments show that this AfCFTA will catalyze Intra African trade. The cumulative impact on Côte d'Ivoire's exports in the long term is positive for other African countries without indicating potential partners. This study seeks to identify a potential partner to help policymakers to map out a better strategy. We use exports data from 2001 to 2016 on 45 African countries, and we compute an index to assess the gap. When asked if there are potential customers on the continent for Côte d'Ivoire from the perspective of the AfCFTA, it appears that yes. The results reveal great trade potentials for Côte d'Ivoire in Africa, at least in 25 countries. Among them, there are 8 Economic Community of West African States (ECOWAS) countries.

Subjects: International Trade (incl. trade agreements & tariffs); Development Economics; Political Economy

Keywords: Free trade agreements; trade potential; trade policy
Subjects: F02; F15; O40

1. Introduction

The African Continental Free Trade Area (AfCFTA) is a new attempt by the heads of state and government of the continent to strengthen economic unity. There have been several initiatives since the beginning of the 1960s. This African unit's creation covers several aspects, including commercial, financial, monetary and political, with better economic performance and improved populations' living conditions as the objectives. They have given rise to a proliferation of regional agreements on the continent, which has not yet produced the expected results despite its efforts.

Fe Doukouré Charles

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PUBLIC INTEREST STATEMENT

There are many experiences of regional trade agreements in Africa through the regional economic communities. Most of them are far from expected results in terms of increasing intra trade. But despite efforts to strengthen regional economic integration in Africa, trade performance among members is still below expected. These trade agreements have been established without knowing whether there is untapped trade potential between countries. This study analyses the untapped trade potential for Côte d'Ivoire with a view to the implementation of the continental free trade area. The proposed approach could help all countries on the continent enable the development of a coherent strategy to reinvigorate intra-African trade.

To remedy this situation, the African Union Commission has initiated the rationalization of regional economic communities in Africa to better trade integration. Despite the efforts made, the regional agreements in Africa have not yet produced the expected results. Many studies have been devoted to regional integration in Africa and, more specifically, to assess progress. Most of them highlighted the outcome in terms of trade growth. But the findings tell us that regional trade integration has an ambiguous effect on trade flows. Some studies argue that RTAs in Africa have a positive impact on trade flows between members countries, in line with the expected outcomes (Afesorgbor & Van Bergeijk, 2011; Carrère, 2004; Cathérine et al., 2013; Cernat, 2003; Coulibaly, 2007; Deme, 1995; Gammadigbe, 2017; Gbetnkom & Avom, 2005). Other studies show that RTAs in Africa have not increased trade flows (Chacha, 2008; Elbadawi, 1997; Foroutan & Pritchett, 1993; Gunning, 2001; Yang & Gupta, 2007). The facts seem to go along with this idea as it is noticed that Africa's share in the total world trade and the trade flow between member countries remain very low regarding the potentiality.

Several reasons could explain this situation, mainly economic and political factors. On the economic side, several authors point out products that are not complementary, insufficient infrastructure, minimal product differentiation, high costs discouraging imports, narrow markets and a lack of political commitment (Chacha, 2008; Fé, 2019; Francois & Manchin, 2013; Longo & Sekkat, 2004; Yang & Gupta, 2007). On the political side, the literature focuses on questions of sovereignty (Sylla, 2003), political tension (Longo & Sekkat, 2004), institution quality and good governance (Francois & Manchin, 2013; Levchenko, 2007).

The solutions to these obstacles could indeed be found in fine as policymakers do currently.

The African Development Bank (AfDB) has supported the implementation of several projects to strengthen integration. Moreover, "Integrate Africa" is one of the five priorities[1] of this institution's action plan.

The African Union Commission has also set a framework in which integration is a crucial issue through schedule 2063, the Africa we want. In this perspective, the African Continental Free Trade Area has been lunch. One of the expected outcomes is Africa's total trade intensification, particularly the trade between African countries without addressing an important issue related to the trade potential between countries. We think that a better analysis of the trade potential will play a key role in solving the total trade weakness between African countries. According to our knowledge, this issue has not been attempted before setting previous regional trade agreements. The contribution of this paper is double. First, it proposes an index, the trade potential gap index, which gives an insight into the level of the unexploited market for a country, here Côte d'Ivoire's export. It then catches policymakers' attention on the importance of evaluating trade potentials before setting RTAs and helping them better design a national to enhance trade gains.

This study assumes that if we know the trade potential, the level and the opportunities to create continental value chains, a free trade area will be (more) thriving. It tends to draw analysis for Côte d'Ivoire's export because it is designing the national AfCFTA strategy. This study aims to estimate the trade potential for Côte d'Ivoire with the rest of the continent in the context of the upcoming African Continental Free Trade Area. The research questions raised are: Are there any trade opportunities for Côte d'Ivoire in Africa? What are the potential markets in Africa which need policymakers' attention as far as the African Continental Free Trade Area is concerned? Does Côte d'Ivoire have still trade space on the Economic Community of West African States (ECOWAS) market?

The study evaluates trade potentials in two steps. First, a structural gravity model is estimated, and the predicted export value is computed. An index is then calculated by dividing the value of trade observed from the data by the expected value taken from estimating the structural gravity model (De

Benedictis & Vicarelli, 2005; Ghazi & Msadfa, 2016). After that, the trade potential gap index is computed to assess opportunities for Côte d'Ivoire's exports in each country partner. The finding reveals that there are unexploited trade opportunities on the ECOWAS market and the rest of the continent. The four more effective options are Lesotho (100%), Algeria (90%), Seychelles (88%) and Gabon (70%). In six countries, the gap is less than 20%. Among them, there are four ECOWAS countries (Benin, Gambia, Guinea and Niger). So, when designing the national African Continental Free Trade Area strategy, as it is done, Côte d'Ivoire could prioritize the issue of those markets by conducting an in-depth market analysis.

The paper is organized into five sections: introduction, literature review; methodology and data; presentation of results and discussion; conclusion and policy recommendations.

2. Free trade areas and trade flows: A review of theoretical and empirical literature

From a theoretical point of view, the objective of economic integration is to ensure better economic performance for member countries, through (i) the increase of trade flows, which allows the specialization and localization of production where it is carried out most efficiently, (ii) the increase in the size of the markets which enables the realization of economies of scale, the intensification of the competition (iii) the creation of an economic environment favourable to undertake economic activities (Gbaguidi, 2013).

As far as the increase of trade flows is concerned, Viner (1950) shows that a free trade agreement area leads to two effects: the trade creation effect and the trade diversion effect. The trade creation effect is explained mainly by the reduction of tariffs on trade flows between members. The total cost of good becomes cheaper when trading within the agreement because of the low tax. The trade diversion effect comes from a change of trade partners. The trade is diverted from a more efficient exporter towards a less efficient one by forming a free trade agreement area or a customs union. These two effects combined induces a new dynamic of trade flows under a free trade area. The more expected net trade creation effect could be positive if the trade creation effect is more than the trade diversion effect. Then the free trade area created leads to the expected outcome in terms of trade gains.

From an empirical perspective, the free trade area's effect on Africa's trade flows is quite ambiguous. Some studies reveal that Regional Trade Agreements (RTAs) in Africa have not increased trade flows (Chacha, 2008; Elbadawi, 1997; Foroutan & Pritchett, 1993; Gunning, 2001; Yang & Gupta, 2007). Many reasons have been highlighted to explain this situation. The literature focuses on the lack of economic infrastructure, trade policies management and coordination, the institution's quality, and the political environment. These factors are substantial obstacles to increase the trade between African countries and the total trade with the rest of the world. So, strengthening economic integration in Africa faces several constraints, including implementation constraints. These constraints are both economic, political, and institutional. Also, there is the question of the approach chosen by the countries involved in the integration process. Options range from step-by-step bilateral cooperation to larger-scale integration. After reviewing all these constraints, Geda and Kebret (2008) show that regional groups have had an insignificant effect on the bilateral trade flows. In Africa, problems of variation in the initial condition, compensation problems, real political commitment, cross-membership, policy harmonization, lack of diversification, and low private sector participation limit the regional blocs' performance. These problems seem to have created successful economic groups in Africa, a difficult task, despite its perceived importance in an increasingly globalized world. Analyzing the potential of intra-African trade, Geda and Kebret (2008) show that the the lack of export and import complementarities as well as the relative competitive position of African export supplier potential have undermined the efforts to advance intra-African trade. Export supply constraints limit export potential on the continent. Lifting these supply constraints requires an innovative approach with export competitiveness

and regional-focused diversification as key challenges, using regional economic communities (RECs) as vehicles.

Regional economic communities in Africa have very different trade performance. According to Darku and Appau (2015), COMESA and SADC's creation has led to a significant increase in trade among members. ECOWAS has increased intra-ECOWAS trade but in total has reduced intra-African trade. ECCAS has hurt both intra-ECCAS and extra-ECCAS bilateral trade flows. The pooling of productive forces within the free trade area should consider this heterogeneity of performance in implementing the continental free trade area.

On the contrary, several studies show a positive impact as we learn from the theoretical literature. This situation seems like a virtuous circle. In these studies, authors highlight the trade and the economic benefits of RTAs for the member countries, pointing out the trade creation effect. Carrère (2004), Ndong and Mboup (2015) show that African regional trade agreements have led to a significant increase in trade between the Member States and then in the currency zones, this impact is more effective.

Gbetnkom and Avom (2005) confirmed the result of Carrère (2004) for the WAEMU countries. They focused on the critical role played by the economic reforms implemented. In their view, these reforms work as catalysts for the trade creation effect in these RTAs even if the outcome is relatively low compared to the trade potential unexploited between members. Moreover, Musila (2005) finds that the intensity of the trade creation or diversion resulting from creating a free trade area varies by region and by period. Several factors could explain this situation: differences in technology, differences in endowments, a sector with high positive externality, low competitiveness, etc.

By removing all tariffs in trade between African countries, the African Continental Free Trade Area (AfCFTA) is expected to increase intra-African trade (Mevel & Karingi, 2012; Saygili et al., 2018). Although the effects on intra-regional trade are minor, Ngepah and Udeagha (2018) suggest that regional trade agreements in Africa have contributed to the improvement of intra-African trade. These authors show that the reduction of tariff barriers on trade in most regional economic communities in Africa has led to increases in trade between member countries with different levels. According to the authors, this difference in performance stems from the effectiveness of implementing the agreements by the respective member countries.

Analyzing the performance of countries in Sub-Saharan Africa about the integration process, Kamau (2010) shows that the disappointing situation of countries compared to other developing countries could be explained by the lack of a coherent framework for cooperation between countries and the lack of an effective mechanism for pooling regional productive resources. They also note the countries' inability to ensure access to larger markets and the high costs of trade between neighbouring countries.

But It remains possible to increase trade flows between a partner in a regional economic community in SSA. In a study on Ethiopia and COMESA member states, Makonnen and Lulie (2014) have pointed out that Ethiopia's accession to the COMESA free agreement has enabled it to increase its trade flows member countries. This increase in trade between Ethiopia and its partners is due to the opening of new trade routes and exploiting the economic growth opportunities offered by this accession: opportunities, the free movement of goods and services.

In fact, in another study assessing COMESA's trade performance, Ebaidalla and Yahia (2014) show that member countries are still far from their intra-trade potential and over the years, the

gap between potential and actual trade has narrowed during the past decade. This narrowing of the gap confirms that trade integration is strengthening within COMESA.

For Côte d'Ivoire, this AfCFTA will have a positive impact in the long term. Chauvin et al. (2016) evaluate the cumulative effects of the tariff elimination, a 50% reduction in the non-tariff barriers and a 30% reduction in the transaction costs in six sub-Saharan African countries. The cumulative impact on Côte d'Ivoire's exports value in the short term would be −2.28%, and in a long time, +46.87%. Unfortunately, this study doesn't tell us anything about the partner and the potential market share's size unexploited. According to this literature, creating a free trade area could expand trade flow between members. However, assessing the trade potential could help identify *ex-ante*, the trade partners with the high or low trade potential for Côte d'Ivoire. In the case of AfCFTA, previous studies have estimated the cumulative effect of Côte d'Ivoire's exports without indicating which country will be the leading partner to achieve this goal.

3. Methodology and data

3.1. Methodology

The trade potential is computed considering two steps in line with the method (Ghazi & Msadfa, 2016). The first step consists of estimating a structural gravity model. In the second step, the estimated trade potential value is derived from the previous estimation result.

Step 1: We estimate the following structural gravity model (Head & Mayer, 2014; Santos-Silva & Tenreyro, 2011; Santos-Silva & Tenreyro, 2006):

$$T_{ij,t} = exp\left[\beta_0 + \pi_{i,t} + \beta_E \ln(E_{it}) + \beta_Y \ln(Y_{jt}) + \beta_{DIST} \ln(DIST_{ij}) + \beta_{COL} COL_{ij} + \beta_{LANG} LANG_{ij} + \beta_{RTA} RTA_{ij} + \beta_{CNTG} CNTG_{ij} + \mu_{ij}\right] \times \varepsilon_{ijt} \quad \text{(equation1)}$$

$T_{ij,t}$ denotes the nominal Côte d'Ivoire's export value at time t. $\ln(E_{it})$ and $\ln(Y_{jt})$ are the logarithm of the GDP[2] of Côte d'Ivoire and the logarithm of the trade partner's GDP in Africa.

$\ln(DIST_{ij})$, represents the logarithm of the distance between trading partners, COL_{ij} is an indicator for the presence of colonial ties between countries, $LANG_{ij}$ denotes a dummy variable for the existence of a common official language between partners, $CNTG_{ij}$ is an indicator capturing the presence of contiguous borders between trading partners, and RTA_{ij} is a dummy variable that takes the value 1 if both partners are members of the same regional trade agreement and 0 if not. In this study, only ECOWAS.[3] has been considered in the estimation (see Appendix A: ***RTA_ECOWAS*** in the table of results)

The term $\pi_{i,t}$ denotes the set of time-varying and exporter-country dummies, which control the external multilateral resistances. Following Olivero and Yotov (2012), the multilateral resistance terms are accounted for by exporter-time and importer-time fixed effects in the gravity estimation. It is considered only an Exporter-time fixed impact because it is undertaken for one country vs multiple partners. Then Pairs fixed effects are included to account for the endogeneity of trade policy variables (Baier & Bergstrand, 2007).

This model (equation 1) is estimated using bilateral export data of Cote d'Ivoire towards African countries. The censored nature of such bilateral trade data implies that (the log linearized) OLS coefficients are biased. Thus, the model is estimated using the Pseudo Poisson Maximum Likelihood (PPML) method to address the OLS problems (Santos-Silva & Tenreyro, 2006). The PPML estimator is a convenient solution to the presence of zero trade flows when estimating the gravity model.

Step 2: with this estimated value, the export potential is calculated using the following formula (De Benedictis & Vicarelli, 2005; Ghazi & Msadfa, 2016):

$$X_{ij,t}^{P} = \frac{X_{ij,t}^{E}}{\hat{X}_{ij,t}^{e}} \times 100 \qquad \text{(equation2)}$$

with $X_{ij,t}^{P}$ the value of the potential in year t, $X_{ij,t}^{E}$ the value of exports observed and $\hat{X}_{ij,t}^{e}$ the value of exports estimated from the gravity model. A value of the index greater than 100% means that there are no unexploited trade potentials between partner at time t. While this index's value is lower than 100%, the exporting country could exploit trade opportunities with partner countries. Then, the trade potential gap index is computed as follows:

$$Potent_{gap}(ij,t) = 100 - X_{ij,t}^{P} \qquad \text{(equation3)}$$

Note, however, that this approach to assessing potential depends on the first step. In this analysis, an overall assessment of Côte d'Ivoire's export potential in 2016 is to be made to implement the free trade area. As this analysis does not consider a particular trade policy or reforms, the gravity model specification is a general form. A more detailed specification can be considered, depending on the context, the analysis framework, and the policy recommendations. Of the above, the proposed analysis remains a lead that could be amended and improved. Also, once potential customers are identified, it would be interesting to look at the growth markets.

3.2. Data source

The study covers a sample of 45 African countries, excluding Côte d'Ivoire from 2001 to 2016. We use annual data on the bilateral exports from the International Monetary Fund database, the Direction of Trade Statistics (DOTS). CEPII's *Geo-Dist* database reports data on time-invariant gravity variables (Distance, LANG, CNTG).

4. Findings and discussion

4.1. Descriptive statistics

Considering all exported products, from 2001 to 2016, Côte d'Ivoire's total exports to the world and Africa have increased (*Chart 1*: panel on the left-hand side). But from 2013, we notice a sudden drop due to a relative decrease in the export prices, mainly international cocoa prices.

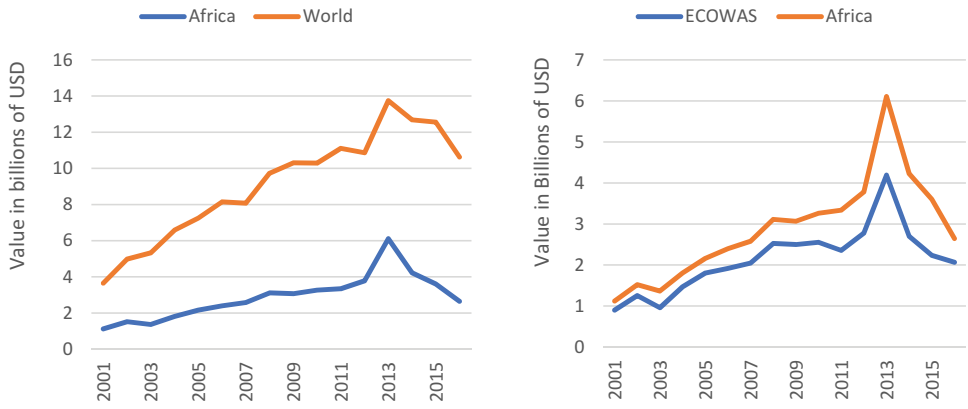
As *chart 1* shows, Côte d'Ivoire exports to Africa and ECOWAS have the same increasing trend (*Chart 1: p*anel on the right-hand side).

At the country level, the analysis in 2016 shows that Côte d'Ivoire conducts significant trade with some countries in Africa. Still, the share of Côte d'Ivoire's exports in Africa is relatively low (Map 1). Côte d'Ivoire's exports shared in Africa in 2016 is more than 5% only for Burkina Faso. This share varies between 1% and 5% for Mali, Nigeria and Ghana. In the rest of Africa, South Africa shows the same sight. Côte d'Ivoire's exports share for the other countries account for less than 1% of total exports (Map 1).

This map reveals that Côte d'Ivoire's main export destinations are ECOWAS and South Africa under current African market conditions. So, the African Continental Free Trade Agreement's implementation could carry out opportunities for other markets such as central Africa, East Africa, and North Africa. Is there any trade potential for Côte d'Ivoire in these regions?

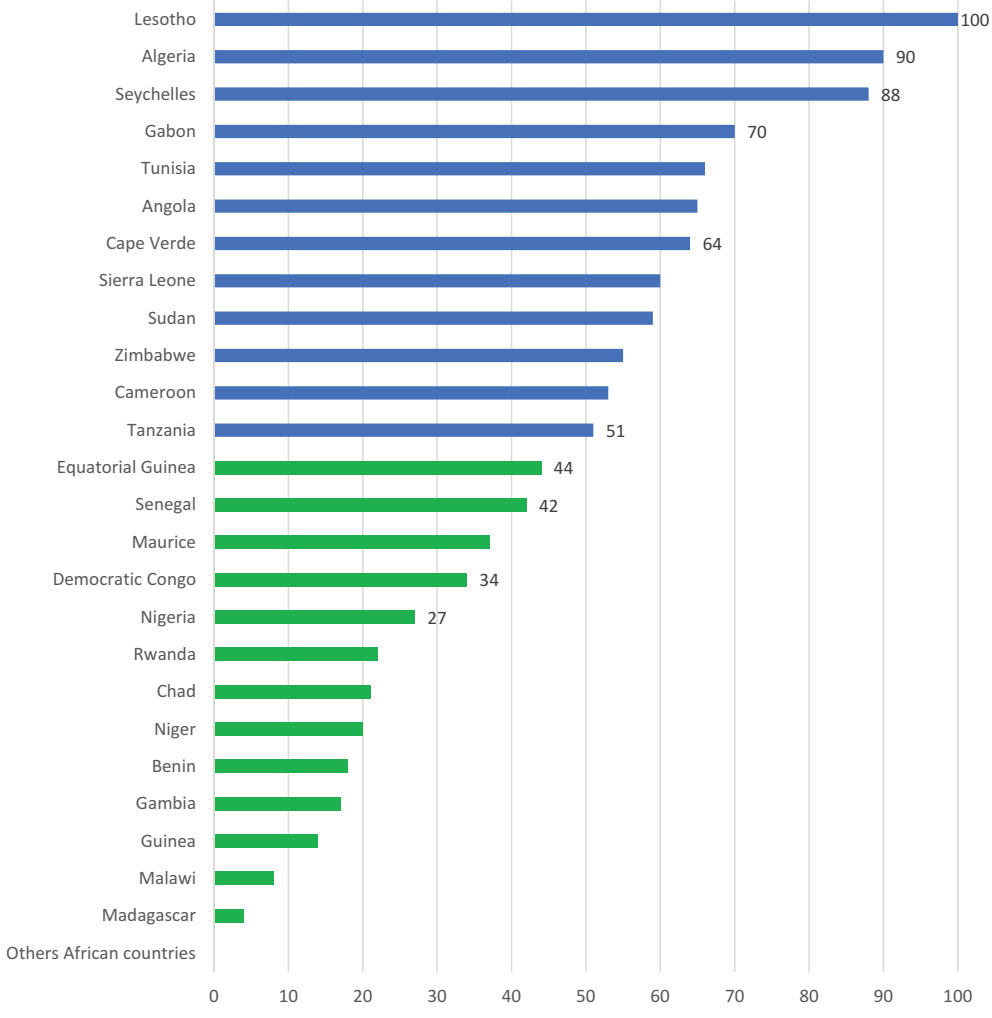
Chart 1. Côte d'Ivoire's exports in the world, Africa and ECOWAS.

Source: Authors, International Trade Centre (ITC) data



Map 1. Côte d'Ivoire's exports shared in Africa in 2016.

Source: International Trade Centre (ITC) data



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4.2. Trade potential for Côte d'Ivoire

Appendix A. presents the result of the gravity model. This result allows us to compute the predicted value of Côte d'Ivoire's exports in Africa. And in Appendix B., we can find the estimated trade potential for each country partner from 2012 to 2016 (see Appendix C for this list of countries included in the analysis). After computing the trade potential, chart 2 shows countries' list with the trade potentials unexploited by Côte d'Ivoire's exports in 2016: the potential trade gap.

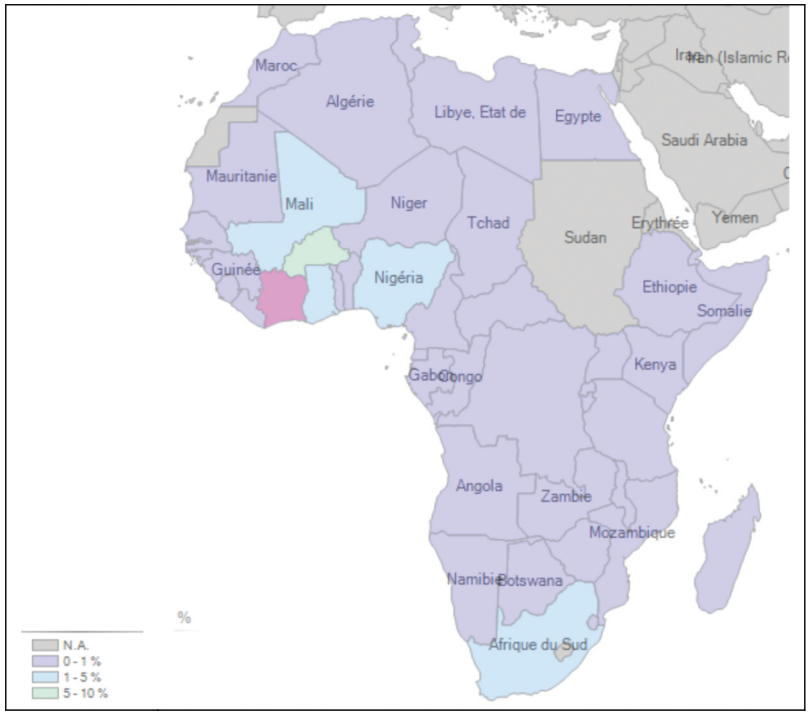
It appears that there are still potentials partners on the continent for Côte d'Ivoire. Thus, the analysis identifies three categories of partner countries: (i) countries with high export potential (trade potentials gap index >50%: blue colour); (ii) countries with a low export potential (50% $\leq$ trade potentials gap index<0: green colour) and (iii) countries where there is not any unexploited trade potential, so-called traditional market (trade potentials gap index <0: others African countries). There is a (great) trade potential for Côte d'Ivoire's exports for about 56% of partners out of the whole sample in the first and second categories. The four more significant opportunities are in Lesotho (100%), Algeria (90%), Seychelles (88%) and Gabon (70%). In six countries, the gap is less than 20%. Among them, there are four ECOWAS countries (Niger, Benin, Gambia and Guinea). These countries could be prioritized when designing a national strategy for implementing the African Continental Free Trade Area by conducting an in-depth market analysis.

5. Conclusion and policy implications

This study provides an assessment of the trade potential between Côte d'Ivoire and its partners on the continent. It identifies potential partners for Côte d'Ivoire in the run-up to the implementation of the AfCFTA. We use exports data from 2001 to 2016 on a sample of 45 African countries, and we compute an index to assess the gap. It appears that there are potential customers on the continent for Côte d'Ivoire from the perspective of the AfCFTA. Thus, the analysis identifies three categories of partner countries: (i) countries with high export potential (trade potentials gap index >50%: blue colour); (ii)

Chart 2. Trade potential gap for Côte d'Ivoire in 2016.

Source: Authors calculations



countries with a low export potential (50% $\leq$ trade potentials gap index<0: green colour) and (iii) countries where there is not any unexploited trade potential, so-called traditional market (trade potentials gap index <0: others African countries). There is a (great) trade potential for Côte d'Ivoire's exports for about 56% of partners out of the whole sample in the first and second categories. The four more significant opportunities are in Lesotho (100%), Algeria (90%), Seychelles (88%) and Gabon (70%). In six countries, the gap is less than 20%. Among them, there are four ECOWAS countries (Niger, Benin, Gambia and Guinea). Based on these results, the following recommendations can be made:

(i) For the promising market:

Analyze the conditions for access to these markets and build a coherent strategy

Support companies already on these markets to consolidate the gains

Conduct market studies to identify the product with a high potential

(ii) For the low potential market:

Pursue actions in favour of the conquest of a larger market share.

(1) Participate in fairs and other visibility events to advertise exportable offers and Ivorian products
(2) for the so-called traditional markets, in which Côte d'Ivoire is already present. It will be a matter of ensuring that the positioning of Ivorian products is maintained and improve product quality

An exciting extension of this study would be to carry out a scan of these potential markets. The aim will be to identify products with high export potential for Côte d'Ivoire, which will benefit from an advantage due to creating the African Continental Free Trade Area.

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Notes

1. *The High 5s are to: Light up and Power Africa; Feed Africa; Industrialize Africa; Integrate Africa; and Improve the Quality of Life for the People of Africa. These focus areas are essential in transforming the lives of the African people and therefore consistent with the United Nations agenda on Sustainable Development Goals (SDGs).*
2. GDP: Gross Domestic Product.
3. In line with African Union Commission, in West Africa the Regional Trade Agreement is ECOWAS.

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Appendix A. Results of estimations

Estimations methods	**OLS**		**PPML**	
Variables dependents	**Ln(Trade+1)**		**Exports**	
	(1)	(2)	(3)	(4)
ln_DIST	−3.87***	−3.43***	−0.72***	***−2.49******
	(0.00)	(0.00)	(0.00)	*(0.00)*
CNTG	−0.98***	1.43***	−0.11	***0.57****
	(0.00)	(0.00)	(0.47)	*(0.02)*
LANG	0.20	−2.76***	−0.40***	***−1.53******
	(0.61)	(0.00)	(0.00)	*(0.00)*
COL	1.61***	4.14***	0.47***	***1.98******
	(0.00)	(0.00)	(0.00)	*(0.00)*
RTA_ECOWAS	−0.01	0.10	2.13***	*0.43*
	(0.98)	(0.90)	(0.00)	*(0.68)*
ln_Y	0.54***	0.84***	1.07***	***0.80******
	(0.00)	(0.00)	(0.00)	*(0.00)*
ln_E	2.31***	1.53**	0.10	*−5.20*
	(0.00)	(0.04)	(0.69)	*(0.34)*
Constant	31.23***	29.73***	−0.03	*52.43*
	(0.00)	(0.00)	(0.99)	*(0.19)*
Observations	1,125	1,125	1,125	*1,125*
R-squared	0.32	0.72	0.33	*0.93*
Fix Effects				
Country Pairs	Not	Yes	Not	*Yes*
Exporter Time	Not	Yes	Not	*Yes*
RESET TEST				
Who 2				*0.55*
Prob > chi2				*0.4598*
Robust pval in parentheses,				
*** p < 0.01, ** p < 0.05, * p < 0.1				

Source: Author's calculations

Appendix B. Côte d'Ivoire's export potential from 2012 to 2016

Partner countries	2012	2013	2014	2015	2016
South Africa	142	109	308	171	223
Algeria	128	110	100	6	10
Angola	46	260	11	578	35
Benin	140	53	69	91	82
Botswana	0	0	0	98	340
Burkina Faso	94	90	126	156	177
Burundi	130	15	0	9	563
Cameroon	118	89	108	96	47
Cape Verde	29	8	30	1	36
Central Africa	76	115	148	133	662
Comoros	261	0	378	0	671
Congo	84	78	107	135	182
Democratic Republic of Congo	77	131	168	87	66
Egypt	118	87	113	92	102
Ethiopia	135	13	23	142	446
Gabon	33	664	22	36	30
Gambia	82	38	48	28	83
Ghana	78	154	70	88	123
Guinea	116	104	60	40	86
Guinea Bissau	21	67	15	77	322
Equatorial Guinea	71	78	96	108	56
Kenya	120	63	67	114	120
Lesotho	0	0	0	0	0
Madagascar	36	66	115	145	96
Malawi	107	549	64	0	92
Mali	90	87	106	162	204
Morocco	48	48	86	102	116
Mauritius	35	22	56	71	63
Mauritania	90	59	122	81	138
Mozambique	40	85	108	185	414
Namibia	243	70	21	278	1289
Niger	84	49	92	108	80
Nigeria	109	88	95	82	73

(*Continued*)

Partner countries	2012	2013	2014	2015	2016
Uganda	170	50	125	126	271
Rwanda	56	44	29	48	78
Senegal	117	65	87	47	58
Seychelles	21	6	45	50	12
Sierra Leone	126	41	39	122	40
Sudan	37	5	537	21	41
Tanzania	81	151	231	9	49
Chad	67	86	67	72	79
Togo	116	65	167	229	245
Tunisia	40	28	43	29	34
Zambia	84	165	147	120	106
Zimbabwe	210	110	297	50	45

Source: Author's calculations

Appendix C. Alphabet list of sample countries

Countries
(1) South Africa
(1) Algeria
(1) Angola
(1) Benin
(1) Botswana
(1) Burkina Faso
(1) Burundi
(1) Cameroon
(1) Cape Verde
(1) Central Africa
(1) Comoros
(1) Congo
(1) Democratic Republic of Congo
(1) Egypt
(1) Ethiopia
(1) Gabon
(1) The Gambia
(1) Ghana
(1) Guinea
(1) Guinea Bissau
(1) Equatorial Guinea
(1) Kenya
(1) Lesotho
(1) Madagascar
(1) Malawi
(1) Mali
(1) Morocco

(*Continued*)

Countries
(1) Mauritius
(1) Mauritania
(1) Mozambique
(1) Namibia
(1) Niger
(1) Nigeria
(1) Uganda
(1) Rwanda
(1) Senegal
(1) Seychelles
(1) Sierra Leone
(1) Sudan
(1) Tanzania
(1) Chad
(1) Togo
(1) Tunisia
(1) Zambia
(1) Zimbabwe

Source: The author

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