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.
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 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 & Msadfo, 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 economics 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 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.

Gbetalokam 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, Ngipah 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):

\[
T_{it} = \exp\left(\beta_0 + \alpha_1 t + \beta_2 \ln(E_k) + \beta_3 \ln(Y_k) + \beta_4 \ln(DIST_j) + \beta_5 \ln(DIST_{ij}) + \beta_6 \ln(COL_j) + \mu_{i} \times \delta_{it}\right)
\]

where \(T_{it}\) denotes the nominal Côte d’Ivoire’s export value at time \(t\). \(\ln(E_k)\) and \(\ln(Y_k)\) are the logarithm
of the GDP\(^2\) of Côte d’Ivoire and the logarithm of the trade partner’s GDP in Africa.

\(\ln(DIST_j)\), represents the logarithm of the distance between trading partners, \(COL_j\) is an indicator for
the presence of colonial ties between countries, \(LANG_j\) 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 \(RTA_j\) 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 \(x_{it}\) 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):

\[
X_{ij}^p = \frac{X_{ij}^E}{X_{ij}^g} \times 100
\]  
(equation 2)

with \(X_{ij}^p\) the value of the potential in year \(t\), \(X_{ij}^E\) the value of exports observed and \(X_{ij}^g\) 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:

\[
Potent_{gap}(ij, t) = 100 - X_{ij}^p
\]  
(equation 3)

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: panel 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% < 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)
countries with a low export potential ($50\% \leq \text{trade potentials gap index} < 0$: 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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2. GDP: Gross Domestic Product.
3. In line with African Union Commission, in West Africa the Regional Trade Agreement is ECOWAS.

**Notes**

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Appendix A. Results of estimations

| Estimations methods | OLS | PPML |
|---------------------|-----|------|
| Variables dependents | Ln(Trade+1) | Exports |
| ln_DIST             | (1) | (2) | (3) | (4) |
|                    | −3.87*** | −3.43*** | −0.72*** | −2.69*** |
|                    | (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_ECOVAS          | −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               |      |      |      |      |
| Prob > chi2         | 0.55 |      |      |      |
| 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

Charles, Cogent Economics & Finance (2021), 9: 1915932
https://doi.org/10.1080/23322039.2021.1915932
### 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
