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**Article**

## African Continental Free Trade Area (AFCTA) and intra export promotion: The role of digitalization

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# AFRICAN CONTINENTAL FREE TRADE AREA (AFCFTA) AND INTRA EXPORT PROMOTION: THE ROLE OF DIGITALIZATION

*Kwami Ossadzifo Wonyra<sup>1</sup> And Honoré Tenakoua<sup>2</sup>*

## **Abstract**

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*This paper investigates the impact of the digitalization on intra Africa export. We construct panel data model for 53 African countries covering the period 2005 to 2017 and estimates the model with GMM technique. The results show positive and significant effect of digitalization variables on intra Africa export denoting the important role that access to the internet and telephone can help to achieve the objectives of AfCFTA. African countries should make more competitive their telecommunications sector to reduce costs and to enhance the quality of services. Also, these countries are encouraged to foster the use of ICT as well as improve investments in this sector. An effective liberalization of the telecommunications sector at the continental level with specific commitment can be a good solution to attract investment and promote digitalization for African industrialization and structural transformation.*

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**Key Words:** AfCFTA, intra Africa export, digitalization.

**JEL:** F13; F14; F15.

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## 1.0 INTRODUCTION

In recent decades, the difficulties of giving birth to multilateral trade agreements and especially the implementation of Article XXIV of the GATT and Article V of the GATS have contributed to the propagation of regional trade agreements. Regional integration of Africa's economies has long been at the forefront of the agenda of African leaders. It represents an opportunity for African countries to ensure an equitable allocation of the gains from trade liberalization and therefore to ensure a coherent and equitable economic development among countries. In this quest for prosperity, African countries have embarked on a number of overlapping initiatives to create an enabling environment for development. However, regional integration is not a simple process; it requires a willingness for sustained cooperation and actions within groups to achieve regional integration "de jure".

Recognizing that intra-African trade is key to economic transformation of the continent, in January 2012, at the 18<sup>th</sup> summit of the Assembly of Heads of State and Government held in Addis Ababa, it was agreed upon the creation of a Continental Free Trade Area (CFTA) by 2017. During the summit, an Action Plan on Boosting Intra-African Trade (BIAT) was adopted and covers seven areas: trade policy, trade facilitation, productive capacity, trade related infrastructure, trade finance, trade information, and factor market integration.

The export potential of Africa is undermined by a significant dependence on primary commodities, which account for about 70 per cent of extra-African exports; manufactured goods account for only 15 per cent of extra-African exports. The dependence on primary commodity exports makes the continent vulnerable to external shocks such as volatile commodity prices. Crude oil exports constitute more than half of all extra-African exports and crude oil prices are a strong driver of overall export value. The value of the total exports of Africa, at \$400 billion, has decreased since 2010, mainly driven by lower crude oil prices. In 2019, intra-African merchandise exports totaled \$70 billion and accounted for 14.4 per cent of total exports from Africa. In 2000–2019, Africa had the highest level of export dependence on the rest of the world and the lowest share of intraregional exports in total exports, compared with other regions, except Oceania. Countries in Africa trade more manufactured and agricultural commodities between themselves and fewer extractive commodities than with the rest of the world. This is because most mineral and metal refining activities take place outside of the continent (UNCTAD, 2021).

Trade facilitation's aim is to simplify, regularize and standardize procedures in order to reduce delays and bottleneck costs while enhancing reliability for both business and governments. There are three main reasons that explain the importance of Information Communication Technology (ICTs) in trade facilitation: First, ICTs helps improving transparency and accountability, lessening the cost of human interfaces, eliminating delays and alleviating corruption between traders and government officials; secondly, ICTs fosters the coordination in trade management process, between different actors both within countries and across national borders; and lastly, they provide companies with better information and knowledge about business processes and markets, resulting in a low-risk, better shipping management and better access to new markets (UNESCAP, 2012). But do ICTs promote regional trade in Africa zone?

Bekkers et al. (2018) analyze the potential effect of expected technological changes, focusing on trends like robotization, large data and artificial intelligence as well as additive technology (3D printing) and e-commerce. They result show that, robotization is expected to change the factor intensity of production, thus affecting the pattern of international specialization. The results show also the important effects that 3D printing could have on the size and structure of international trade, leading to a shift from trade in physical goods to digital trade, and e-commerce will reduce trade costs

and increase productivity in retail sectors. Even though some researches focused on digitalization and international trade or intra-regional trade, there is a lack of studies assessing the effect of digitalization on intraregional trade in Africa related to the implementation of the Continental Free Trade Area (AfCFTA).

This paper aims at assessing the effect of ICTs on regional trade in Africa. To cope with this, we will build panel data for fifty-three countries from 2005 to 2017. We use a dynamic panel estimation method which accounts for the path-dependent nature of the trade flows. The results show that the digitalization affect significantly the intra Africa export denoting their important role in the context of AfCFTA implementation. It is therefore appropriate that African countries should make more competitive their telecommunications sector to reduce costs and to enhance the quality of services.

The rest of the paper is presented as follow. The section 2 reviews the literature. The section 3 presents the AfCFTA schema of liberalization and some related issues; the conceptual framework, the empirical approach and data are presented in section 4; the next section covers the results and discussion and, the last section concludes.

## **2.0 LITERATURE REVIEW**

In the last few decades, researchers have been interested in the relationship between ICT or digitalization and international trade. Using time-series and cross-section regressions, Freund and Weinhold (2002, 2004) discover that the upsurge in the relative number of web hosts in a country has led to a significant expansion in export growth in the late 1990s.

Tang (2006) analyses the effects of the use of various telecom means on US imports of differentiated goods over the period 1975 to 2000. the study confirms a significant impact of US imports of differentiated goods following the adoption of fixed telephones, mobile telephones and internet connections in exporting countries. Indeed, the author finds that increasing the rate of internet adoption by exporters at 10% increases at 1% the total US exports of goods.

Joseph and Parayil (2008) observe that the implementation of the Information Technology Agreement (ITA) has enhanced trade liberalization in both developing and developed countries.

Ahmad et al. (2011) uses a gravity model analysis with a time series between periods 1980 to 2008 to estimate the effect of internet and mobile phone subscriptions, personal computers and internet users in Malaysia. mobile and fixed-line telephone' subscribers as well as personal computers and internet users are significant and positively linked to the value of bilateral trade between Malaysia and its trading partners.

According to the study of Mattes et al (2012), EU trade can be enhanced if both trading partners reveal advanced ICT endowments, which supports the expected network effects. moreover, they observe trade diversion effects from less to highly ICT developed countries.

Nguenkwe (2016) inspects the impact of ICTs infrastructure on the bilateral trade. The study covers 13 ECOWAS countries from 2005 to 2012. The ICT development index is the interest variable of this study. The results reveal that the ICTs infrastructure in importers' countries impact significantly and positively the trade in ECOWAS. The PPML estimator was used to estimate the gravity model and it is robust one.

Xing (2017) notes that the improved access to modern ICT and the adoption of e-business applications speed up bilateral trade flows at different levels. Additionally, it was observed that high-speed Internet and secure servers are crucial in unlocking e-commerce potential in developing countries. In the same line, Abelianskya and Hilbert (2017), estimating an augmented gravity model, reveal a positive correlation between exports with both ICT quantity and quality. They also discover that the quality of data speed is more important for developing countries than the number of ICT subscriptions.

In their analysis based on descriptive statistics, Maiti and Kayal (2017) inquire the indirect impact of digitalization on the overall trade growth in India through India's services sector and MSME segment. Their findings denote a strong effect of digitalization on the inclusive growth of the overall Indian economy and trade.

Mattes et al (2012) investigate how the deployment and use of ICT infrastructure at the national level influences trade flows within the European Union (EU) and between EU and its major trading partners. Their findings indicate that ICTs have a significant impact on EU trade. Specifically, they find that trade is strengthened if both trading partners have advanced ICT endowments. Besides, the findings reveal trade diversion effects from less developed to highly developed countries in ICT.

Unanimously, the findings show that ICTs are positively correlated with the international trade. The results prove further that the bilateral exports are affected by the digitalization in both developing and developed countries. The digital trade contributes to increase more the trade flows between countries and participates also to reduce the trade cost. The analysis approach used by the majority of researches is based on gravity model with different specifications according to the aims of each paper. Otherwise, the Pseudo-Poisson Maximum Likelihood (PPML), the Ordinary Least Squares (OLS) and other estimators are used in the different papers cited above.

### **3.0 AFRICAN INTRA TRADE AND THE SCOPE OF THE AFRICAN CONTINENTAL FREE TRADE AREA**

#### **3.1 AfCFTA liberalization scheme**

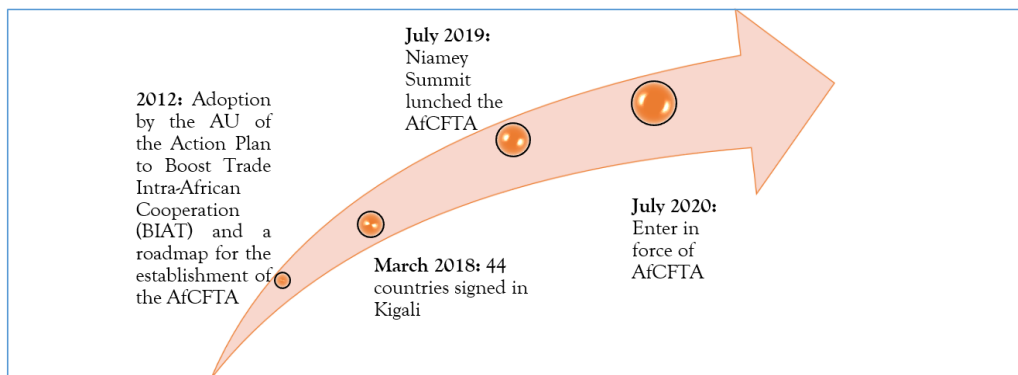
Under the AfCFTA, member countries have established a mechanism to guide the liberalization of trade in goods (CAE, 2018). The AfCFTA's objective is to establish an African region where goods move between countries free of tariff barriers. The timetable for the liberalization of the AfCFTA accounts for differences in the stages of development in the African countries. Three categories of countries are classified: (i) countries not belonging to the category of least developed countries (LDCs), (ii) least developed countries and (iii) countries called the Group of Seven: Djibouti, Ethiopia, Madagascar, Malawi, Sudan, Zambia and Zimbabwe. The period for full liberalization differs from one category of the country to another and from one type of product to another.

However, it should be noted that some products are excluded from the liberalisation scheme, they are grouped under the term "excluded products". No Member State is bound by an obligation to reduce the trade barriers it has erected to protect the sectors of products that Members have agreed to classify as excluded products in that category.

Then comes the products characterized by sensitive products. According to the schedule, these products must follow a linear tariff reduction until barriers are fully reduced to a zero rate within 10 years for countries that do not belong to the least developed countries category. The deadline for the least developed countries is 13 years, identical to that of the Group of Seven countries.

Finally, a specific liberalization scheme is provided for products identified as "non-sensitive". This category will also have to undergo linear tariff reductions; however, liberalization differs from one type of country to another. For countries that are not considered LDCs, they are required to eliminate trade barriers on non-sensitive products within 5 years. As for the LDCs, they have an additional 5 years to achieve full liberalization. However, the Group of Seven countries will have to follow a less restrictive two-phase procedure. Initially, they will have to reduce barriers to more than 85% within 10 years and then total liberalization will have to take place over a maximum period of 15 years. If the deadlines are met, the reform of the AfCFTA should be fully implemented by 2035. The advent of the COVID-19 pandemic jeopardized the planned implementation. Thus, the AfCFTA became officially operational on January 1, 2021 with the establishment of the secretariat in Accra and the process of developing national and regional implementation strategies.

**Fig 2: AfCFTA timeframe**



*Source: Author*

### 3.2 Stylized facts on intra-African trade

The Africa's share of world trade is simply about 3%. The continent's annual exports and imports have been relatively stable (about \$500 billion) over the period 2010-2016. It should be noted that in recent years, imports have slightly exceeded exports. Intra-African trade is needed for the continent's economic development and integration.

Mineral fuels and mineral oils are the major traded products and they are more prevalent in exports: between 2012 and 2016, the share of mineral oils reached from 57% of total exports, to 34%. It should be noted that the decline in oil market prices and mineral trade had a significant impact on the decline in exports between 2012 and 2016. Concerning imports, in 2016, mineral fuels and mineral oils accounted for 12% of total imports. Mineral fuels are followed by machinery and mechanical equipment, electrical machinery and equipment, sound recording and reproducing equipment and vehicles.

Table 1 shows Africa's main trading partners from 2013 to 2019. It appears that the continent trades more with the European Union (EU) than with other trading partners, followed by China, the United States and India. From 2013 to 2019, more than a third of Africa's imports came from the EU. Africa's imports from China have been increasing in recent years. From 14.02% in 2013, they reached 19.15% in 2019. This data shows that African trade is turning more towards China and other Asian partners as the volume of imports from the EU has decreased between 2013 and 2019.

In the context of the AfCFTA, the continent needs to focus on preferential agreements and partnerships with key partners to take advantage of the opening. On the export side, the bulk of the continent's exports are to the EU. As a net exporter of raw materials, Africa must, within the framework of AfCFTA, put in place a process of industrialization and structural transformation to transform its raw materials into finished products and support nascent industries to be competitive internationally.

**Table 1. Export and import shares of Africa**

Partner countries	Imports (in percentage of total imports of Africa)						
	2013	2014	2015	2016	2017	2018	2019
European Union 28	37.6	36.3	37.1	36.8	37.1	34.9	34.0
China	14.0	15.2	16.7	17.1	17.1	17.8	19.2
India	5.5	5.5	4.9	5.0	5.1	5.1	6.3
United States	6.3	6.8	6.1	6.1	5.8	5.9	6.2
Japan	2.7	2.6	2.5	2.5	2.6	2.2	2.4
Brazil	2.2	1.9	1.9	2.0	2.3	2.0	1.8
Thailand	1.5	1.7	1.5	1.5	1.6	1.6	1.5
Singapore	1.2	1.6	1.7	1.5	0.9	1.2	0.9
Switzerland	1.7	1.1	0.9	0.8	0.8	0.8	0.8
Canada	0.8	0.9	0.9	0.8	0.8	0.8	0.8
Partner countries	Extra-African Trade - Exports (in percentage)						
	2013	2014	2015	2016	2017	2018	2019
European Union 28	44.1	48.3	43.7	41.0	39.7	40.2	40.5
China	14.0	12.7	11.6	9.9	14.3	15.6	15.6
India	6.5	7.8	8.1	7.0	7.7	8.0	8.0
United States	7.5	7.1	6.0	8.3	7.5	6.3	6.2
Japan	2.1	2.7	2.5	2.0	1.8	1.8	1.8
Brazil	3.1	3.2	2.1	1.4	1.3	1.5	1.4
Canada	2.3	1.6	1.4	1.5	1.5	1.3	1.3
Singapore	0.7	1.0	1.2	1.5	1.4	1.5	1.3
Thailand	0.3	0.6	0.3	0.4	0.5	0.8	0.7

Source: AUSTAT, 2020.

The agreement on the AfCFTA will change the rules of the game to stimulate intra-African trade. In consequence to this agreement, the intra-African trade value would increase from 15% (US\$50 billion) to 25% (US\$70 billion) in 2040 compared to the "without the AfCFTA" scenario, depending on liberalization efforts (ECA, 2017).

The share of intra-African trade is projected to increase from about 40% to more than 50% between the beginning of the reform implementation and 2040, depending on the ambition of liberalization, assuming the elimination of tariffs on goods only.

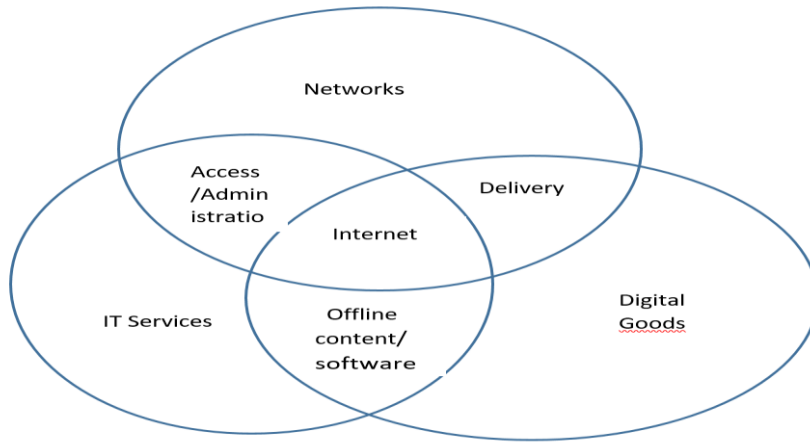
The more ambitious the trade liberalization, the greater the expansion of intra-African trade will be. In itself, a dual qualification approach to liberalizing trade in goods as part of the reform of the AfCFTA would result in a greater number of trade benefits than the one based on tariff lines.

#### 4.0 METHOD AND DATA

##### 4.1 Conceptual framework

Digitalization is happening worldwide, driven by internet progress. Even though, it is a “global village”, there are different digitalization models based on country-specifics. Our study develops a conceptual framework that focuses on the interdependencies between macroeconomic models of open economies and networks.

**Fig 3: Interdependencies between macroeconomic variables and networks, it services, and digital goods**



Source: Author

##### 4.2 Model and data

Typically, the literature review dealing with intra-regional trade issues indicates that the gravity model is widely used (Anderson and Van Wincoop, 2003; Piermartini and Teh 2005). However, in the case of this research, given that we have aggregate data (from World Development indicators, UNCTAD database, AU Stats) on intra-African exports, we adopt a linear modeling of the following form:

$$\text{Intrade}_{i,t} = \alpha_0 + \alpha_1 \text{Intrade}_{i,t-1} + \alpha_2 \text{DIGITAL}_{i,t} + \sum_j X_{ijt} \delta_j + \theta_i + \mu_{i,t} \quad [2]$$

Where Intrade is the volume of intra African exports within regional economic communities, DIGITAL denotes to Internet and telephone use. The term  $X'$  is a vector for control variables,  $\theta_i$  is an unobserved individual effect, and  $\mu_{i,t}$  is an unobserved white noise disturbance. The control variables are human capital, the size of the population, the non-tariff measures, the Human capital,



GDP per capita, Gross fixed capital formation and the quality of infrastructures. Our dataset comprises 53 African countries from 2005 to 2017.

The static models are the pooled ordinary least squares (POLS) which do not allow for heterogeneities across the panels and the fixed effects (FE) model which recognises panel heterogeneities while the dynamic model is the systems generalised method of moments (sys-GMM). **The sys-GMM estimator is designed for short panel analysis** and has the following assumptions about the data-generating process which includes the fact that the process may be dynamic, with current realisations of the dependent variable influenced by past ones in addition to the fact that the regressors are not strictly exogenous and may be correlated with past and possibly current realisations of the error term. Econometric analysis is carried out on the full sample as well as for the sub-sample of regions. The POLS which is the baseline model is used to estimate the full and sub-samples, while the **FE and sys-GMM approaches are used only on the full sample as they are not feasible for sub-sample regressions due to the small number of observations**. The sys-GMM specification includes the lagged GDP as a regressor.

**Table 2: Description of variables and their expected sign**

Variables	Description	Expected sign
Cellular subscriptions	Mobile cellular subscriptions (per 100 people)	+
Employment	Employment to population ratio, 15+, total (%)	+/-
FBCF (% of GDP)	Gross fixed capital formation (% of GDP)	+
GDP per capita	GDP per capita (constant 2010 US\$)	+
IDE, inflow	Foreign direct investment, net inflows (% of GDP)	+
Ind diver exp	Export diversification index	+
Internet Servers	Secure Internet servers	+
Internet Using	Individuals using the Internet (% of population)	+
Population	Population, total	+
Rail lines	Rail lines (total route-km)	+
Telephone subscriptions (per 100)	Fixed telephone subscriptions (per 100 people)	+
Non-tariff measures	Technical barriers, safety guards, SPS, Export subsidies	+/-

Source: Author

## 5.0 RESULTS AND DISCUSSION

### 5.1 Descriptive statistics

Descriptive statistics show that over the period 2005 to 2017, the 53 African countries considered had a performance in terms of intra-African trade which is estimated at 1.20e+06 USD. The standard deviation indicates a disparate distribution around the average indicating an uneven participation of African countries in intra-African trade. This is justified by the economic performance and structure of African economies. As proof, on average, the export diversification index is 0.76, indicating a low level of diversification of African economies. With regard to digitalization, the use of telecommunications services, namely fixed-line telephone, mobile telephone, Internet and secure

Internet servers, is effective. Data on non-tariff measures show that over the period 2005 to 2017, African countries used enough technical standards, anti-dumping measures, technical barriers, safeguard measures, quotas and export subsidies.

The matrix of correlation shows a positive dependency between internet server and Africa intra export. This result is due to the fact that internet services are essentials for transactions and trade platforms that facilitate electronic commerce and payment. The use of telephone is positively correlated to intra Africa export.

**Table 3: Descriptive statistics**

Variables	Mean	S.D.	Min	Max
Employment	59.799	14.173	35.236	87.818
Tel subscriptions	5.35e+05	1.44e+06	2.34 e+03	1.19e+07
FDI_inflow	5.167	8.797	-6.057	103.337
GDP_capita	2622.960	3346.435	213.406	20333.941
internet_secuserver	6494.750	57886.311	2235.750	6.95e+05
second_enrolgross	42.237	24.576	5.481	113.707
export_diversification	0.758	0.087	0.454	0.935
export_intraafrica	1.20e+06	3.01e+06	143.841	2.76e+07
Sanitary and Phyto Sanitary	19.132	28.556	1.000	126.000
Technical Barriers to Trade	58.556	141.138	1.000	889.000
Anti-dumping	25.565	9.923	13.000	34.000
Safeguard	2.927	1.209	1.000	5.000
Quantitative restrictions	7.655	3.180	2.000	15.000
Tariff Rate Quotas	36.821	19.016	13.000	53.000
Exports Subsidies	62.000	0.000	62.000	62.000

*Source: Author's calculation*

## 5.2 Results and discussion

The results (Table 4) show positive effect of telephone and internet access on intra Africa export performance. The positive effect of the digitalization can be explained by the fact that the intra Africa trade focused on manufacturing goods and for the payment and the delivery to consumer, this trade use electronic payment, mobile bank and the use of internet platform for E-commerce. In another way, telecommunication services used as digitalization index are nowadays considered like inputs for all others productive sectors either agriculture, manufacturing or services sectors. This result is consistent with those of Mattes *et al* (2012) for European Union. In the case of ECOWAS zone, Nguenke (2016) showed that the ICT's infrastructure in importer countries impact significantly and positively the trade in ECOWAS. In the OECD, Xing (2017) discovered that improved access to modern ICT and the adoption of e-business applications foster bilateral trade flows. Maiti and Kayal (2017) show the indirect impact of digitalization on the overall trade growth in India through India's services sector.

On the strength of these results, the African Continental Free Trade Area, for its success, will have to place particular emphasis on the digitalization of African economies by introducing more competition

in the telecommunications sector. Moreover, for a better promotion of intra-African trade, it will be necessary to promote E-trade as an important axis of the AfCFTA on the margins of the challenges of diversification and the elimination of non-tariff barriers.

In this respect, Afreximbank's initiatives for the development of electronic payment instruments should be encouraged in order to overcome the difficulties of traditional payment instruments with our payments offered by banks on the African continent. In addition, the development of platforms aimed at providing information on market access opportunities on the African continent will make it possible to promote intra-African trade alongside the technological challenge that must be overcome.

**Table 4: Econometric Estimation results**

VARIABLES	Model 1	Model 2	Model 3
lGDPPerCapita	0.419*** (0.0147)	0.631*** (0.0186)	1.112*** (0.0243)
ltelSub	0.358*** (0.0141)	0.276*** (0.0163)	0.221*** (0.0152)
linternet_SERVER	0.0570*** (0.00754)	0.0473*** (0.00782)	-0.00785 (0.00751)
lfdiinflow		0.130*** (0.0158)	0.0657*** (0.0151)
lHK_Second		-0.467*** (0.0292)	-0.333*** (0.0277)
lrailline	-0.402*** (0.0145)	-0.223*** (0.0163)	-0.155*** (0.0167)
lFBCF		-0.128*** (0.0478)	0.136*** (0.0458)
lpop	0.502*** (0.0107)	0.768*** (0.0167)	0.940*** (0.0170)
lemploy		-1.037*** (0.0558)	1.032*** (0.0917)
lsubsidies_Export			-3.997*** (0.150)
lquota_tariff			-0.271*** (0.0282)
lsafeguards			0.140*** (0.0356)
ldumping			0.566*** (0.0498)
ltechnical_bt			-0.00695 (0.0101)
lsanitaryps			0.0133 (0.0152)
Observations	634	602	602
Number of ids	53	53	53
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

Source: Author

## 6.0 FINAL REMARKS

In July 2020, the AfCFTA will enter in force. The expectation of the African AfCFTA is to increase by up to 52.3% the intra African trade share as a result of tariff reductions. It is expected also that if non-tariff barriers and trade facilitations are tackled, this will double potentially intra African trade (Mevel and Karingi 2013). According to estimations using trade costs data, improving trade facilitation between countries in Africa will have additional implications such as doubling intra-African trade. The unskilled workers as well as skilled workers in the agriculture and non-agriculture real wages are estimated to increase. With the AfCFTA, it is anticipated a shift employment from agriculture towards non-agriculture sectors. To achieve these objectives, the digitalization has to play a first rank role in this process of continental integration.

The aim of this paper is to assess the effect of the digitalization on intra-Africa export. We construct panel data with 53 African countries covering the period 2005 to 2017. The method of GMM is used to estimate our econometric model. The results showed a positive and significant effect of digitalization variables of intra Africa export denoting the important role that a good access to internet and telephone can play a key role in terms of achievement of AfCFTA's goals. Africa countries should make more competitive their telecommunications sector to reduce cost and to enhance the quality of services. Additionally, Africa countries must promote the use of ICT and enhance the investment in this sector. As recommendation, African countries must take specific commitment in the telecommunications sector in order to liberalize in continental level especially in the next step of services sector negotiations.

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Table 4: Matrix of correlation

	TELEPHONE USE	FDI	GDP Per capita	INTERNET SERVER	HUMAN CAPITAL	EXPORT DIVERSIFICATION	INTRA AFRICA EXPORT	SPS	TECHNICAL BARRIERS	ANTI-DUMPING	SAFEGUARD	QUOTA
TELEPHONE USE	1.00											
FDI	-0.09	1.00										
GDP Per capita	0.12	-0.01	1.00									
INTERNET SERVER	0.03	0.05	0.03	1.00								
HUMAN CAPITAL	0.22	-0.04	0.25	0.08	1.00							
EXPORT DIVERSIFICATION	-0.44	0.01	-0.04	-0.08	-0.31	1.00						
INTRA AFRICA EXPORT	0.43	-0.11	0.17	0.09	0.20	-0.33	1.00					
SPS	0.07	0.01	-0.12	-0.05	-0.09	-0.11	-0.06	1.00				
TECHNICAL BARRIERS	0.06	-0.01	-0.02	-0.03	0.06	-0.10	0.11	0.54	1.00			
ANTI DUMPING	-0.08	0.12	0.06	0.09	0.13	0.01	0.13	-0.26	-0.02	1.00		
SAFEGUARD	-0.07	0.08	0.03	0.01	0.06	0.06	-0.01	-0.02	0.16	0.21	1.00	
QUOTA	-0.03	-0.04	-0.06	-0.05	-0.14	0.07	-0.07	-0.06	-0.29	-0.17	-0.44	1.00

Source: Authors