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Survey of AfCFTA Impact Studies with special attention given to the estimation and implementation of Non-Tariffs Measures (NTM)s from the agreements.

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Outline:

I. Introduction……..

1.1 Relevance of the Research…..…….

1.2 Research Problem Statement, Questions and Hypothesis…….

II. The current state of trade in Africa……

III. Key elements of the AfCFTA……..……

IV. Literature review on approaches to measuring the costs of non-tariff measures …….…….....

V. A systematic comparison of empirical studies on the AFCFTA studies that used Econometrics Methods…….

VI. A systematic comparison of empirical studies on the AfCFTA impact assessment studies that used Computable General Equilibrium Methods including data choices……..……..

6.1 General characteristics of AfCFTA impact studies……..

6.2 NTMs modelling choices/approaches in each AfCFTA impact study……..

6.3 Comparisons of trade costs reductions and welfare implications in each AfCFTA impact study……..

VII. Impact of estimated trade cost reductions on predicted welfare effects

(incl sensitivity analysis)……

VIII. Conclusion…….……...

IX. References

DRAFT - NOT FOR PUBLICATION

I. Introduction:

The advent of the African Continental Free Area (AfCFTA), which entered into force on 30 May 2019 and progressed into an operational phase on 7 July 2019, at an African Union (AU) summit in Niger marked a momentous milestone for economic integration of Africa. According to Article 23 of the Agreement, entry into force occurs 30 days after the 22nd instrument of ratification is deposited with the Chairperson of the African Union Commission (AUC) – the designated depositary for this purpose. As at 5 February 2021, 36 countries[1] have deposited their instruments of ratification. The Agreement which began trading on 01 January 2021, brings onboard a market of 1.3 Billion people and a gross domestic product (GDP) of $3.4 trillion, across 55 African Union Member States[2].

The AfCFTA which was signed by African Heads of State and Government in March 2018, in Kigali, Rwanda is much wider in scope and ambition than traditional free trade areas. The overall objectives include creating a single continental market for goods and services – with free movement of businesspeople and investments, thus laying the foundations for the establishment of a Continental Customs Union (CCU) and eventually the African Economic Community (AEC). In addition, the Agreement intends to promote the attainment of sustainable and inclusive socio-economic development, gender equality and structural transformation of African economies in line with the African Union Agenda 2063 and the United Nations Sustainable Development Goals (SDGs).

Furthermore, the agreement is being pursued based on its potential to boost intra-African trade, stimulate investment and innovation, improve food security, enhance economic growth and export diversification, and rationalize the overlapping trade regimes of the main regional economic communities (RECs).[3] The growing momentum of Africa's AfCFTA-anchored regional integration agenda stems from the underlying principles of traditional trade theory which has been long been associated with positive income and welfare gains[4]. Despite a divergent view advancing that trade and growth links are less clear[5], recent literature on firm-heterogeneity finds positive effects between trade and growth[6]. Given the potential gains of increased trade, African countries are pursuing trade liberalization agenda to achieve growth and alleviate poverty. Because poverty remains Africa's greatest challenge, the link between trade liberalization, growth and poverty alleviation is crucial. In that regard, the main issue on

[1] Ghana, Kenya, Rwanda, Niger, Chad, Eswatini, Guinea, Côte d'Ivoire, Mali, Namibia, South Africa, Congo, Rep., Djibouti, Mauritania, Uganda, Senegal, Togo, Egypt, Ethiopia, Gambia, Sahrawi Arab Democratic Rep., Sierra Leone, Zimbabwe, Burkina Faso, São Tomé & Príncipe, Equatorial Guinea, Gabon, Mauritius, Central African Rep., Angola, Lesotho, Tunisia, Cameroon, Nigeria, Malawi and Zambia

[2] Eritrea is yet to sign the AfCFTA Agreement

[3] ECA (United Nations Economic Commission for Africa), AU (African Union) and AfDB (African Development Bank). 2017. Assessing Regional Integration in Africa VIII: Bringing the CFTA About

[4] See the survey in Rojas-Romagosa, H. and K. Berden (2017). "Multi-product and multi-sector analysis of trade in the Arab region within the framework of SDGs," Final Report. Paper commissioned by the UNDP's Regional Bureau for Arab States (RBAS). United Nations Development Programme. August 2017.

[5] Rodriguez, F., & Rodrik, D. (2001). Trade policy and economic growth: a skeptic's guide to the cross-national evidence. In NBER Macroeconomics Annual 2000, Volume 15 (pp. 261-338). MIT Press

[6] Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. Econometrica, 71(6):1695–1725

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the agenda of many African countries is that: will trade liberalization of the continent enhance the welfare of citizens, as predicted by economic theory?

1.1 Relevance

In a global context of trade liberalization, where States seek to intensify trade for products for which they have comparative advantages, African countries are lagging behind and are struggling to find the necessary outcomes for their take-off compared to other continents (Asia, Americans and Europeans) who have considerably liberalized their trade. It is for the sake of intensifying intra-African trade and allowing member countries to reap the benefits of this liberalization but especially the creation of jobs and reduce poverty excabarated by the COVID pandemic that the African Union Summit approved on March 21, 2018 in Kigali, the agreement to establish the AfCFTA.

Empirical studies on AfCFTA using computable general equilibrium (CGE) by Mevel and Karingi (2012), Jensen and Sandrey (2015), UNCTAD (2015a and 2015b), Chauvin, V., Ramos, M., & Porto, G. (2016), Mureverwi, B. (2016), Vanzetti, D., Peters, R, Knebel, C. (2018), International Monetary Fund (IMF) (2019), and World Bank (WB) (2020) finds overall welfare gains from combined tariff elimination accompanied by trade facilitation measures and reduction in non-tarriffs measures (NTMs). Other studies that have used partial equilibrium approach by (Geda and Yimer (2019), Makochekwana and Dongo (2019), and Tanyi (2015) indicates that the AfCFTA has a trade creation effect while also leading to the possibility of trade diversion. On a net basis, the gravity model analysis found a positive effect of the proposed free trade area on trade creation.

Overall, both partial and general equilibrium analysis observes that gains from the Agreement are expected to be distributed unequally among regions and countries due to differences in, inter alia, their economic sizes, levels of diversification of exports, infrastructures and levels of tariff revenue losses. Whereas, the research studies conclude that trade flows are significantly enhanced with the establishment of AfCFTA, they also highlight that the magnitude could be higher if tariff liberalisation is coupled with infrastructure development in the widest sense, and removal of non-tariffs measures (NTMs) as part of the broader trade facilitation processes.

It is well noted that free trade or even free trade agreement is an agreement signed between two or more States within the framework of international trade through the elimination of tariff barriers (customs duties) or any national regulations likely to obstruct the import of goods, services, capital, etc. The agreement allows member countries to specialize in the production of goods and services for which they have a comparative advantage and to exploit economies of scale, thanks to the removal of non-tariff barriers, which makes it possible to boost productivity and growth (Parshotam, 2018). In addition to the creation of regional supply chains (Heuser and Matoo, 2007), it also promotes structural transformations by ensuring the diffusion of knowledge and technologies (IMF, 2016).

Grounded on the above stated strong theoretical foundations, the AfCTA which entered into force after ratification by the 22nd member state is one of the largest free trade areas in terms of the number of member states. While African integration was initially motivated by political discourse around Pan-Africanism, economic considerations now seem to have taken over. Trade integration offers possibilities for the industrialization of African states. This will make

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it possible to move from the status of countries exporting raw materials to countries exporting high added value manufactured products. Knowing the link among productivity, job creation and poverty reduction provides a potential framework for Africa to turn the page on underdevelopment through economic integration and trade.

Since tariff levels are generally low for many African countries negotiating a deep free trade area (FTA) such as the AfCFTA due to existing regional FTAs, the largest impact in this agreement will most likely come from changes in NTMs and other flanking broad trade facilitations measures. Thus, the proper estimation of expected trade cost reductions associated with provisions on NTMs becomes a critical element for assessing the potential economic impacts of AfCFTA. Unlike tariffs, NTMs are not straightforwardly quantifiable, not necessarily easy to model, and information about them is hard to collect. In this paper, we provide a detailed overview of the different approaches used to calculate the trade cost reductions of NTM-provisions in the AfCFTA impact studies todate and their associated welfare effects. Furthermore, analysis of the varying sectors and regions, tariffs shocks/assumptions and other policy changes including scenarios and aggregation levels will be examined to provide a critical analysis of impacts of AfCFTA for informed policy making.

This paper adds value to the research by providing a survey of AfCFTA impact studies todate with special attention given to the estimation and implementation of NTMs from the agreements in order to gauge the representativeness of studies to the African realities. In addition, an analysis of methods employed to quantify NTMs and their differences has a direct bearing on the AfCFTA negotiations and the predicated welfare effects. The main objective in the quantification of NTMs is to produce price effects estimates and translate them into ad valorem equivalent measures (AVEs). Therefore, one the main tasks of a trade economists asked to predict the welfare effects of the AfCFTA is to translate the NTM-provisions into overall welfare effects. This can be achieved in two steps. First, the particular NTM-provisions need to be translated into trade cost reductions, and second, welfare effects of the trade cost reductions are calculated with a general equilibrium model. This means the calculation of NTMs has a direct bearing on the welfare effects of the FTA.[7]

From the point of view of gaining a better understanding of the importance of NTMs, their impact on trade flows and welfare and of what to do about them, this paper deals with three related questions that should help guide policies towards NTMs:

1. How important are NTMs, i.e. what impact they have on AfCFTA trade flows? Which have been identified as most significant (across sectors, countries)?
2. What are different modelling approaches to measuring the effects of NTMs on AfCFTA?
3. Which NTMs are justifiable, and for those that are not (some say NTBs, or uninformative rather than informative NTMs) what can be done?
4. What approaches have been or could be used to remove NTBs?

This paper is structured as follows; the second and next section gives an overview of the current trade structure in Africa as well as the main trade-related constraints faced by Africa today. Section 3 presents the key elements of the AfCFTA. Literature review on past approaches to

[7] Bekkers E. and Rojas-Romagosa H, 2018. The welfare effects of free trade agreements in quantitative trade models: A comparison of studies about Transatlantic Trade and Investment Partnership. https://onlinelibrary.wiley.com/doi/epdf/10.1111/twec.12670

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measuring the costs of NTMs trade cost reductions calculations within gravity and general equilibrium models including data sources are discussed in Section 4.

Section 5 provides a systematic comparison of empirical studies on the AFCFTA studies that uses econometrics methods. A systematic comparison of empirical studies of the different approaches to calculate the trade cost reductions of NTM-provisions in AfCFTA impact studies using the CGEM and their associated welfare effects is presented in Section 6. Section 7 addresses the potential impact of estimated trade cost reductions on predicted welfare effects in AfCFTA. Section 8 concludes and indicates some possible areas for further study.

II. Key elements of the AfCFTA

In January 2012, fifty-four African countries agreed to establish the Continental Free Trade Area (CFTA) then during the 18th Ordinary Session of the Assembly of Heads of State and Government of the African Union (AU) in Addis Ababa, Ethiopia. The member States aim at launching the CFTA by the end of 2017 and create a single market for goods and services. True to their ambition, the African Heads of States and Governments signed the historic AfCFTA on 21st March 2018 in Kigali Rwanda. The agreement has ambitious long-term goals in deepening integration among AU member States, promoting the African Economic Community as envisaged in the 1991 Abuja Treaty of the Organization of African Unity and realizing Africa's Agenda 2063 to build a prosperous and united Africa. Among the main objectives of the AfCFTA are the facilitation, harmonization and better coordination of trade regimes as well as the elimination of challenges associated with multiple and overlapping trade agreements across the continent. It is hoped that integrated African economies can strengthen competitiveness of the local industries, realise economies of scale for domestic producers, better allocate resources and attract foreign direct investments.

The AfCFTA builds on negotiations of the Tripartite Free Trade Area (TFTA), composed of the Southern African Development Community (SADC), the Common Market for Eastern and Southern Africa (COMESA), and the East African Community (EAC) and other regional economic Commissions (RECs). In general, the agreement aims at achieving the following general objectives: (1) deepening economic integration in Africa in accordance with Agenda 2063;(2) creating a continental customs union; (3) liberalizing intra-African trade; (4) resolving the challenges of overlapping memberships in RECs (5) enhancing competitiveness; (6) contributing to the movement of capital and natural persons and facilitating investment; (7) promoting sustainable and inclusive socio-economic development, gender equality and structural transformation; and (8) promoting industrialization. Due to preserving the acqui principle, the AfCFTA also seeks to build on the level of integration attained by existing RECs, which are expected to contribute to its institutional structure. In the long run, the RECs' trade functions are expected to be consolidated at the continental level.

Specifically, AfCFTA has seven specific objectives and these are to: (i) eliminate tariffs and non-tariff barriers to trade in goods progressively; (ii) liberalize trade in services progressively; (iii) cooperate on investment, intellectual property rights and competition policy; (iv) cooperate on all trade-related areas; (v) cooperate on customs matters and the implementation of trade facilitation measures; (vi) establish a mechanism for the settlement of disputes concerning members' rights and obligations; and (vii) establish and maintain an institutional framework for the implementation and administration of the AfCFTA.

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Phase 1 of the negotiations focused on three protocols: trade in goods with its 9 annexes, trade in services with its 3 annexes and dispute settlement (see Table 2). Phase 2 negotiations focuses on the protocols on competition, intellectual property rights and investment. The Protocol on Trade in Goods aims to boost intra-African trade in goods through progressive elimination of tariffs and non-tariff barriers, enhanced efficiency of customs procedures, trade facilitation and transit. It seeks to facilitate trade in goods via enhanced cooperation in the areas of technical barriers to trade and sanitary and phytosanitary measures as well as development of continental and value chains.

Through successive rounds of negotiations in trade in goods, African State Parties agreed to remove at least 90 percent of their tariffs on goods over a period of between 5 and 15 years, depending on whether a country is classified as "developing" or "least developed". The remaining 10 percent is divided between sensitive products (7 percent), for which State Parties are given a longer liberalization timeframe, and excluded products (3 percent), which will be exempt from liberalization altogether and remain under each Member States' existing tariffs. African countries that ratify the agreement consent to liberalize 90% of tariff lines. Least Developed Countries (LDCs) are expected to accomplish this over a 10-year period, with sensitive products, of up to 7% of tariff lines, will be fully liberalized over 13 years for LDCs.

Table 2: African Continental Free Trade Area; Key Features

Agreement establishing the African Continental free trade Area	Protocol on Trade in Goods (90%)	i). Elimination of duties and quantitative restrictions on imports ii). Imports shall be treated no less favorably than domestic products iii). Elimination of non-tariff iv). Rules of origin v). Cooperation on customs authorities vii). Trade facilitation and transit viii). Trade remedies, protections for infant industries and general exceptions ix). Cooperation over product standards and regulations x). Technical assistance, capacity-building and cooperation
	Protocol on Trade in Services	i). Transparency of service regulations ii). Mutual recognition of standards, licensing and certification of services suppliers iii). Progressive liberalization of services sector iv). Service suppliers shall be treated no less favorably than domestic suppliers in liberalized sectors v). Provision for general and security exceptions
	Protocol on Dispute settlement	i). Rules and procedures for settlement of disputes within the AfCFTA
	Phase II Negotiations	i). Intellectual properties rights ii). Investment iii). Competition policies iv). E-Commerce (E-Commerce is under consideration for inclusion in phase 2)

Source: Agreement Establishing the AfCFTA: AUC Documents

Annex 4 to the Agreement provides institutional structures for the progressive elimination of NTBs; a general categorization of NTBs; reporting and monitoring tools; and facilitation of resolution of identified NTBs. The five additional instruments that will support AfCFTA operationalization includes; 1) rules of origin, which ensure that products traded within the market actually originate from within the continent and are therefore subject to tariff preferences; 2) an online portal for tariff negotiations, which facilitates discussions between

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states, customs unions and regional groupings on tariff liberalization; 3) an online mechanism for monitoring, reporting and elimination of non-tariff barriers (NTBs); 4) a pan-African payment and settlement system, which makes it possible for African companies to clear and settle intra-African trade transactions in their local currencies; and 5) the African Trade Observatory, which will provide stakeholders up-to-date and reliable trade data, as well as information about exporters and importers in countries.

The Protocol on Trade in Services aims to create a single services market through progressive liberalisation and elimination of barriers to trade in services across the African continent. It covers all services in any sector except services supplied in the exercise of governmental authority – services that are supplied not for commercial purposes or in competition with one or more service suppliers. Procurement by governmental agencies for governmental purposes and not with a view to commercial re-sale are excluded from the scope of this Protocol.[8] On the liberalization of trade in services, member countries have also agreed to a request-and-offer approach, based on seven identified priority sectors: logistics and transport, financial services, tourism, professional services, energy services, construction, and communications.

Several Phase I issues still to be finalized including schedules of tariff concessions, schedules of services commitments, and rules of origin (RoO). The first step to operationalize the AfCFTA will be to finalize tariff concessions in goods, RoO and schedules of specific commitments for trade in services. African countries, especially those who recently ratified the Treaty would need to conclude their schedules rapidly. Other secondary technical work remains on components of the AfCFTA includes guidelines on infant industries, guidelines and a manual on rules of origin, regulations for goods produced under special economic zones and guidelines on the implementation of trade remedies.

The United Nations Economic Commission for Africa (ECA) is playing a key role in providing support to the AfCFTA process. ECA is collaborating with the African Union Commission (AUC) and various partners to advocate for AU Member States' AfCFTA ratification and implementation, sensitization around the AfCFTA and technical support to the negotiations. The technical support includes help with the preparation of negotiating texts and liberalization modalities, and assistance in developing tariff offers for the East African Community (EAC) and Economic Community of Central African States as well as development of AfCFTA strategies and conducting of capacity building initiatives within countries and RECs.

The adoption, signing and ratification of the AfCFTA Agreement is not sufficient for bringing about the intended results of the AfCFTA. Implementation of the AfCFTA Agreement and the associated legal instruments is equally important. Essentially, state parties are responsible for implementing their rights and obligations under the AfCFTA Agreement. However, the AfCFTA Agreement establishes oversight and administrative institutions (independent from existing AU institutions) to assist with the implementation of the Agreement. The Assembly of the AU Heads of State and Government (HOSG) is responsible for the overall oversight and strategic policy guidance on the AfCFTA. The Council of African Ministers responsible for Trade, established by the Assembly of the AU HOSG, provides strategic trade policy oversight and ensure effective implementation and enforcement of the AfCFTA Agreement. The

[8] Talkmore Chidede, (2015). The legal and institutional architecture of the Agreement Establishing the African Continental Free Trade Area. https://www.tralac.org/discussions/article/12838-the-legal-and-institutional-architecture-of-the-agreement-establishing-the-african-continental-free-trade-area.html

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Council's decisions are binding on state parties. The Committee of Senior Trade Officials implements the Council's decisions. The Committee is responsible for the development of programmes and action plans for the implementation of the AfCFTA Agreement.

The AfCFTA Secretariat is an autonomous body within the AU System with an independent legal personality. It has a mandate to oversee, coordinate, facilitate and support the implementation and enforcement of the AfCFTA Agreement, and decisions of the oversight institutions. As of February, 41 State Parties had submitted their schedules of tariff concessions, including customs unions members from the Central African Economic and Monetary Community, the Southern Africa Customs Union, the EAC and the Economic Community of West African States. However, not all customs processes are fully in place. Only a few countries, such as Cameroon, Egypt, Ghana and South Africa, have in place the needed customs procedures as required by the relevant AfCFTA provisions. Nonetheless, businesses have started to respond to the AfCFTA market: Ethiopian Airlines, DHL and the African Electronic Trade Group partnered to ship the first goods under the AfCFTA. On 1 January 2021, the African Electronic Trade Group transported goods produced in eSwatini to various countries that had signed and ratified the AfCFTA, including South Africa and Ethiopia.[9]

Protocols and annexes of the AfCFTA Agreement create several committees to assist with the implementation of specific matters under the Agreement. These include the Committee for Trade in Services, Committee for Trade in Goods, AU Sub-Committee of the Directors General of Customs, Sub-Committee on Trade Facilitation, Committee on Rules of Origin, Committee for Technical Barriers to Trade, Committee for Non-Tariff Barriers, Committee on Trade Remedies, Committee on Sanitary and Phytosanitary Measures, and Dispute Settlement Body.

Phase Two of negotiations on Intellectual Property, Investment and Competition Policy are still expected to be concluded by December 2021 as guided by HOSG. However, competition policy has be pushed back to be negotiated with Phase III issues of Digital technology and E-commence while E-commerce has now been pushed forward to be negotiated with Phase II Issues.

III. The current landscape and state of trade in Africa

As with most regional integration schemes, the underlying economic rationale of the AfCFTA agreement is to provide greater opportunities to reap economies of scale, efficiency through greater competition and specialization, a more attractive internal market for investment (both foreign and domestic), and an acceleration of intra-regional trade and stimulate economic growth and lift people out of poverty.[10]

This approach is particularly attractive as it would synthesize in one single metric the impact of an instrument with multiple dimensions often interrelated with each other.

[9] David Luke, Judith Ameso, Mahlet Girma Bekele (2021). On implementing the AfCFTA in 2021. https://trade4devnews.enhancedif.org/en/op-ed/implementing-afcfta-2021

[10] African Union Summit 2018

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This study intends to conduct an analysis on different approaches to calculate trade cost reductions of non-tariffs measures (NTM) provisions, in addition to the 90 per-cent tariff reduction agreed by State Parties.

IV. Literature review on approaches to measuring the costs of non-tariff measures

The previous subsection has equipped us with the necessary tools to understand Africa trade landscape including the trade pattern in the global context. It is in the context of such global trade pattern and the African place in it that the potential impact of the proposed AfCFTA needs to be understood. Recent studies have examined the potential impact of the AfCFTA. These studies came up with results that show similarity between short and long run periods but with significant differences among them as well. This is partly attributed to the nature of the modelling approach employed and their coverage differences between the two approaches to calculate the reduction in trade costs as a result of NTM provisions in FTAs: the bottom-up approach and top-down approach. To compare the expected trade cost reductions in the two approaches, we must calculate the ad valorem equivalents of the introduction of an AfCFTA.

The term non-tariff measures are defined to include export restraints and production and export subsidies, or measures with similar effect, not just import restraints. This is the term most widely used in GATT and UNCTAD, although textbooks generally prefer the terms barriers or distortions.[11] Perhaps the most theoretically satisfying definition is that of Baldwin (1970a), who defines non-tariff distortion as any measure (public or private) that causes internationally traded goods and services, or resources devoted to the production of these goods and services, to be allocated in such a way as to reduce potential real world income.

The elimination of NTMs is identified as one of the main objectives of the AfCFTA. The AfCFTA legal instruments – the Agreement, Protocol on Trade in Goods and Annex 5 of the Protocol on Trade in Goods – contain provisions dealing with the 'progressive elimination' of NTBs in the AfCFTA.

V. Overview of studies on AfCFTA: A systematic comparison of empirical studies on the AFCFTA studies that used partial equilibrium approach

This section provides a brief introduction to the different studies that will be compared in this chapter. In general, the studies can be divided between CGE-based models and structural gravity (SG) models. After this overview, we conduct a more systematic comparison of the way trade cost reductions are modelled in each AfCFTA study.

The study by Tanyi (2015) investigated the continuous efforts made by African Heads of States and Governments of the African Union (AU) in promoting the AU Agenda 2063 in seeking to harness the continent's comparative advantages on its youthful population, emerging middle-

[11] The reason why the Geneva agencies have adopted the term measures is to avoid some of the measurement and judgemental problems associated with the terms distortions and barriers. As UNCTAD has explained it, measures encompasses all trade policy instruments, even though their restrictiveness or effects, if any, may vary between countries applying the measures or at different points of time in a specific country; for example, if the world price of a product rises above the domestic support price, a variable levy would not be applied, although the mechanism remains in force. A quota may be greater than import demand, implying no restrictiveness

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class consumers, rich natural resources and young labour force capable of transforming Africa in the next 50 years. The undeniable benefits of inter and intra-African trade, trade facilitation, the gradual dismantling of tariff barriers across African borders and their sensitive impacts on national sovereignty and a multiple of geopolitical regional trade arrangements were reviewed in the study in an effort to address current challenges hindering Africa's regional integration and sustainable development. The research applied an augmented multi-linear gravity model regression analysis to portray the positive and unexploited trade potentials of African regional markets in promoting trade integration on the "acquis" of existing regional initiatives.

Special attention was given to the Association of South East Asian Nation (ASEAN) Free Trade Area (FTA) alongside existing regional FTA initiatives in Africa (such as the South-Eastern African Tripartite FTA) as benchmarks on the basis of their socio-economic and political similarities, languages, infrastructures, colonial heritages and variable geometry resemblance to the AfCFTA. An exclusive out-of-sample benchmark approach was employed on the gravity model to empirically test for autocorrelation between the selected dependent and independent variables (Trade flow, Gross Domestic Product, Population, and geographical distance between countries). The paper's methodology involved applying beta estimated coefficients on a sample of 15 randomly selected African countries per region (from the 5 regions) for an evaluation period of 18 years. Result of the study show projectable gains that can be generated from the establishment of a Pan-African Continental FTA with practical steps of maximizing Africa's rich populated markets.[12]

VI. A systematic comparison of empirical studies on the AfCFTA impact assessment studies that used General Equilibrium Methods including data choices

The most influential and mostly cited economic analysis of AfCFTA has been the ECA study (Mevel and Karingi, 2012) based on GTAP and WB's LINKAGE type CGE model called the MIRAGE model and the GTAP database. The model assumes the elasticity approach to the balance of payment in its closure as well as perfect competition, constant return to scale and perfectly elastic export supply. This study examined two policy scenarios. In scenario 1 two FTA regions: East & Southern (E&S) and North, West and Central (N, W&C) are assumed. In scenario 2 one continental region is assumed. The implementation of the AfCFTA is then examined. This is estimated to increase total African exports by US$ 17.6billion (2.8 percent increase from the base run) with two FTAs; and to an increase of US$ 25.3 billion (4.0 percent increase to the baseline) when a single AfCFTA is applied to a single region. Given intra-Africa trade is 14.6 percent of the total African trade; this translates to an increase of US$ 2.57 billion in intra-Africa exports in scenario 1 (and about US$ 3.7 billion in scenario 2). If the 2.8 and 4 percent increases are used, instead, this entails an increase in intra-Africa exports of US$ 2 billion and US$ 2.9 billion, respectively.[13]

A comprehensive and cohesive analysis of the likely effects of an AfCFTA in six African countries was conducted by Chauvin et al (2016). In terms of methodology, the study employed

[12] Makochekanwa and Dongo (2019). Assessing the welfare implications and export trade potential of the African Continental Free Trade Area (AfCFTA) on member countries. African Economic Research Consortium (AERC)

[13] Geda and Yimer (2019). The Trade Effects of the African Continental Free Trade Area (AfCFTA): An Empirical Analysis. African Economic Research Consortium (AERC)

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a recursive-dynamic, multi-region and multi-sector CGEM, the MIRAGE-e CGE model. According to the authors, the advantage of CGE models is that they capture not only the direct but also the indirect effects of the shocks behind this type of agreements. The analysis considered four incremental liberalisation scenarios. The first scenario consisted the elimination of tariffs for agricultural goods, while the second scenario added the elimination of tariffs on manufactured goods. The third scenario added a fifty percent reduction in non-tariff measures (NTMs) with the last scenario considering a thirty percent reduction in transaction costs associated with time. The result indicated trade, growth and welfare gains for each African country because of the implementation of an AfCFTA would depend on the modalities of trade liberalisation. The research found that the AfCFTA would lead to asymmetric changes in trade patterns among African countries and within countries across sectors. Finally, the authors found that the short-run impacts of AfCFTA were generally very small while the long-run impacts were instead positive. However, there were heterogeneity in the welfare effects in each country and across countries.

The Global Trade Analysis Project (GTAP) CGE model employed by Saygili et al (2017) study starts off with a benefit of regional integration in the long run by estimating cost and benefits of tariff reduction in four different scenarios. The results indicated significant welfare gains, output and employment expansion, and intra-African trade growth in the long run noting that levels of protection provided by non-tariffs are much higher on average than those provided by tarriffs. Gains are not distributed equally among member States. The research indicated that in the short-run, countries are likely to bear some tariff revenue losses and adjustment costs which may not be distributed uniformly across the African continent. Both, costs and benefits are likely to be reduced if sensitive products are exempted from liberalization. The authors argue that sufficient flanking measures and flexibilities are needed to mitigate the costs of adjustment in member States. Thus, these sector-specific trade barriers (regulation in services, geographical indication of origin and investment) together with nontariff measures explain the overall sensitivity in the AfCFTA negotiations.

VII. Impact of estimated trade cost reductions on predicted welfare effects

VIII. Conclusions

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