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Assessing Trade Dynamics and Competitive Positioning within the AfCFTA Amidist Deglobalization

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ABSTRACT
Amid the global retreat from interconnected markets, the African Continental Free Trade Area (AfCFTA) appears as a critical counterforce, promising to redefine economic integration in Africa. This study assesses the trade dynamics of eight member countries of the AfCFTA, considered the first initiatives of the trade agreement, tagged Guided Trade Initiative (GTI). The study measured the Trade Intensity Index (TII) and the Revealed Comparative Advantage (RCA) to estimate the trade intensity and competitive advantage among the selected countries. The study later applied the gravity model to estimate expected trade flows and competitive positioning based on economic sizes (GDP) and distances among the member countries within the period 2012 to 2022. The result shows resilience but weak trade flows among GTI countries which could be attributed to geopolitical trade factors, weak infrastructure, and economic factors. The study provides recommendations to strengthen the AfCFTA that promotes increased market activities, economic, and regional integration toward sustainable development.
Keywords: AfCFTA, Free trade, Gravity model, Regional integration, Trade intensity

RÉSUMÉ
Dans un contexte de recul global des marchés interconnectés, la Zone de Libre-Échange Continentale Africaine (ZLECAf) se présente comme une force contrebalançante essentielle, promettant de redéfinir l'intégration économique en Afrique. Cette étude évalue la dynamique commerciale de huit pays membres de la ZLECAf, considérés comme les premières initiatives de l'accord commercial, dénommées Initiative de Commerce Pilote (ICP). L'étude a mesuré l'Indice d'Intensité Commerciale (IIC) et l'Avantage Comparatif Révélé (ACR) pour estimer l'intensité commerciale et l'avantage commerciaux attendus et le positionnement concurrentiel parmi les pays sélectionnés. Le modèle de gravité a ensuite été appliqué pour estimer les flux concurrentiel basé sur la taille économique (PIB) et les distances entre les pays membres sur la période 2012-2022. Les résultats montrent une résilience mais des flux commerciaux faibles parmi les pays de l'ICP, ce qui peut être attribué à des facteurs géopolitiques, des infrastructures faibles et des facteurs économiques. L'étude propose des recommandations pour renforcer la ZLECAf afin de promouvoir une augmentation des activités de marché, une intégration économique et régionale pour un développement durable.

Mots clés: ZLECAf, Libre-échange, Modèle de gravité, Intégration régionale, Intensité commerciale

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INTRODUCTION

The increase in global trade activities over the past decades led to the famous phrase 'the world is a global village'. In hindsight, this phrase does not depict or represent current global trade trends as we are ushered into the era of deglobalization and fragmentation as a result of geopolitical conflicts and shifts toward regional trade agreements. With less global integration, there have been disruptions in the supply chain posing other macroeconomic issues such as food insecurity, inflation, and unemployment in many countries.

A report by IMF (2023), shows that the cost of fragmentation can result in a 7 percent reduction in global output, or a loss estimate of about $ 7.4 trillion. The cost of fragmentation is expected to severely hit developing countries mostly in Africa, as their market share and diversity are lower compared to more developed nations. However, the ratification of the AfCFTA provides an opportunity for African countries to increase trading activities and economic integration amidst the era of deglobalization. This economic integration has a higher potential to accelerate trade and induce a sustainable increase in the economic output of member countries (Tafirenyika, 2020). This is aligned with the Eighteenth Ordinary Session of the Member State African Union assembly in 2012, whose main objective is to boost intra-African trade (African Union, 2018).

As of early January 2021, 54 member countries had ratified the agreement of the AfCFTA of which, 48 economies have been integrated into the Free Trade Agreement (FTA) except for 6 member countries classified as Least Developed Countries (Ethiopia, Malawi, Sudan, Madagascar, Zambia, and Zimbabwe) known as the G6 (Daniel, 2023). The categorization of economies was done to provide ample time (15 years) for the least developed countries to gain some competitive edge and cushion against the financial loss as a result of lower tariffs imposition. Hence, to achieve the objective of increased trade activities, the AfCFTA aims to remove 97% tariff within 15 years of inception (Daniel, 2023). To participate and trade within the AfCFTA, goods and services must abide by the Rules of origin (RoO) criteria. That is every listed goods traded under the AfCFTA will have lower tariffs under the AfCFTA, considering the production process or extraction of the goods have RoO from the 54 member countries. Albeit the ratification and commencement of the AfCFTA, a report from UNECA (2024), shows that African countries trade less amongst themselves compared to the rest of the world. To put it in context intra-Africa trade has declined from 14.5% in 2021 to 13.7% in 2022. In the same period total exports and imports declined by 0.33% and 0.72%, respectively.

To support the implementation of the AfCFTA and enhance trade among member countries, the AfCFTA Secretariat launched the Guided Trade Initiative (GTI) in September 2022, initially involving eight member countries (Cameroon, Egypt, Ghana, Kenya, Mauritius, Rwanda, Tanzania, and Tunisia) before expanding to 24 members in 2024 (International Trade Administration, 2024). The following are samples of the scope of products traded under the GTI: mushrooms, flowers, biopesticides, powdered milk, fish oil, frozen tuna, mineral and chemical fertilizers, essential oils, packaged moringa, fortified maize porridge, honey, nut butter, fruit jams, tea, coffee, meat products, beverages, flour and maize meal, pasta, and fabric. By analysing trade flows under the GTI, this study applies the Trade Intensity Index (TII) and Revealed Comparative Advantage (RCA) to assess the extent of trade integration and competitive advantages among participating countries. Furthermore, the study examines the extent to which tariff reductions under AfCFTA, contingent on product-specific Rules of Origin (RoO), influence trade performance within the GTI framework.

METHODOLOGY

This study employs the Trade Intensity Index (TII) to assess trade intensity among GTI countries and applies Balassa (1965), Revealed Comparative Advantage (RCA) to determine their relative trade advantages for selected goods within the AfCFTA framework. The gravity model is an instrumental tool for analysing bilateral trade flows, incorporating economic size and geographic distance. This study spans 10 years (2012–2022), enabling a pre- and post-ratification analysis of the trade agreement. Data were sourced from the World Integrated Trade Solutions (WITS), UNCOMTRADE the World Trade Organization and CEPII (A world economy research database for the gravity model). The WITS analytical software

facilitated trade intensity comparisons and RCA estimation. The Generalized Linear Model (GLM), utilising Poisson regression, was employed to estimate coefficients, with analysis conducted using R. Traded products under the GTI were classified according to the 2017 Harmonized Commodity and Coding System (HS code) administered by the World Customs Organization (WCO).

RESULTS and DISCUSSION

The result and discussion session are presented in two folds. Firstly, we present the findings from measuring the trade intensity and the relative comparative advantage of some selected goods among the GTI countries. Later, we present the findings of the gravity model for each of the GTI member countries.

Summary of Trade Intensity and Comparative Advantage

There was a slight decline in trade intensity from 2019 to 2023. The 2019 median TII ranges between 168.07 to 293.4 whilst the 2023 median TII ranges between 100.05 to 252.45. We assume that the decline in trade intensity can be attributed to the negative COVID-19 impact on trade. Nevertheless, some bilateral trade intensifies amongst the GTI after AfCFTA ratification. At the initial stage of the GTI, the comparison of the selected traded goods among these countries shows promising signs of increased trade activities amongst AfCFTA member countries. The results of the RCA identify whether the eight GTI countries have a comparative advantage in exporting a particular product compared to the world's average. Table 1 shows the rankings amongst the GTI countries based on their trade value and RCA value for the selected products under AfCFTA.

Table 1. Comparative Advantage of Key Export in GTI Countries

Rank	Country	Product	Partner	Trade Value (US$1000)	RCA Value
1	Kenya	Vegetables	Egypt	300,718.98	6.34
2	Egypt	Minerals	Ghana	159,828.28	24.29
3	Mauritius	Food Products	Various	51,521.52	9.69
4	Tanzania	Wood	Various	21,540.21	2.88
5	Ghana	Food Products	Egypt	8,284.34	17.57
6	Tunisia	Machine & Electrical	Egypt	14,670.21	2.99
7	Rwanda	Vegetables	Egypt	459.49	6.38
8	Cameroon	Wood	Egypt	515.9	9.62

Source: Authors' compilation

Table 2. Egypt Gravity Model Result

Variable	**Coefficient**	**p-value**	**Explanation**
Intercept	40.0460	-	Baseline level
GDP	1.8206	0.000	↑ GDP associated with↑ trade flow.
Population	-0.8180	0.000	↑ Population associated with ↓ trade flow.
Exchange rate	-0.1051	0.000	↑ Exchange rate associated with ↓ trade flow.
Distance	-6.234	0.000	↑Distance associated with ↓ trade flow.
FTA	-1.8974	0.000	FTA associated with ↓ trade flow
Common language	-1.8974	0.000	Common language associated with ↓ trade flow
Obs.	76		
Pseudo R^2	0.733		
MSE	1.367		

Source: Authors' compilation

From Tables 1 and 2, we can deduce the domineering economic advantage in trade value terms for Egypt amongst all other GTI countries as shown in Table 1 with high trade values with Kenya, Ghana, Tunisia, Rwanda, and Cameroon. Kenya also has a comparative advantage over other GTI countries in the selected goods as reflected by its high RCA value. The benefits of having specialization and the ability to reach a diversified market cannot be overlooked as Mauritius and Tanzania seem to benefit from specialization in the export of food products and wood respectively. Tunisia seems to benefit from close trade relations with Egypt, benefiting from exporting machines and electrical goods that have high trade values. This is in contrast with Rwanda and Cameroon exporting goods to Egypt at lower trade value hence, lower comparative advantage. To further explore the dynamics of these trade values, we consider the analysis of the gravity model between these countries. The application of the Generalised Linear Model (GLM) using Poisson Regression to measure the gravity model allows room to deal with non-linear or normal distribution assumptions associated with OLS (Ghosh and Basu, 2014; Maya Santi and Wiyono, 2021). However, caution needs to be taken in resolving issues with multicollinearity. The study applied the Variance Inflation Factor (VIF) to test for multicollinearity while ridge regression was used to resolve issues of overfitting.

Summary of the Gravity model result. The gravity model for Cameroon appears to be non-significant and the negative association of GDP with trade flow is counterintuitive and does not align with the theoretical framework of the gravity model.

The gravity model result for Egypt is aligned with the theoretical framework for the model with a positive association; a 1% increase in GDP and 1.8% increase in trade flow while trade decreases by 6.2% with a 1% increase in distance. Similarly, an increase in the population and a favourable exchange rate can stimulate an increase in domestic consumption leading to a subsequent decrease in trade flow by 0.8% and 0.11% respectively. It is counterintuitive for the dummy variables to have a negative relationship with trade flow. However, this is expected considering the trade relations with all other GTI countries. Egypt does not have an existing FTA or share a common language with the other GTI countries except for Tunisia. This factor may have contributed to the negative association with trade flows. Table 3 presents the gravity model result for Ghana.

Ghana also conforms to the theoretical framework for the gravity model. A 1% increase in GDP leads to a 2.0% increase in trade flow. While a 1% increase in distance results in a 4.2% decline in trade flow. Considering Ghana is isolated amongst the GTI in regard to the regional bloc, there seems to be low trading activities. However, sharing a common language with some GTI countries contributes to increased trade activities. Table 4 presents the gravity model result for Kenya.

Table 3. Ghana Gravity Model Result

Variable	**Coefficient**	**p-value**	**Explanation**
Intercept	1.4291	-	Baseline level
GDP	2.0305	0.000	↑ GDP associated with↑ trade flow.
Population	-0.1160	0.000	↑ Population associated with ↓ trade flow.
Exchange rate	-1.3586	0.000	↑ Exchange rate associated with ↓ trade flow.
Distance	-4.2149	0.000	↑Distance associated with ↓ trade flow.
Common colony	-3.2620	0.000	Common colony associated with ↓ trade flow
Common language	7.2041	0.000	Common language associated with ↑ trade flow
Obs.	76		
Pseudo R^2	0.502		
MSE	2.388		

Source: Authors' compilation

Table 4. Kenya Gravity Model Result

Variable	Coefficient	p-value	Explanation
Intercept	1.4078	-	Baseline level
GDP	2.8778	0.001	↑ GDP associated with↑ trade flow.
Population	-1.8032	0.000	↑ Population associated with ↓ trade flow.
Exchange rate	0.1532	0.000	↑ Exchange rate associated with ↑ trade flow.
Distance	-3.3473	0.000	↑Distance associated with ↓ trade flow.
FTA	-2.5948	0.001	FTA associated with ↓ trade flow.
Common colony	-0.3803	0.000	Common colony associated with ↓ trade flow
Common language	0.9249	0.000	Common language associated with ↑ trade flow
Obs.	69		
Pseudo R^2	0.653		
MSE	2.70		

Source: Authors' compilation

Kenya, also regarded as one of the largest economies in East Africa, benefits from increased trade flows as GDP increases. However, distance from other GTI countries reflects a negative coefficient, indicating a fall in trading activities. Similarly, no benefits from having FTA or colonies, having a common language is a contributing factor to increased trading activities. Table 5 presents the gravity model result for Mauritius.

A 1% rise in GDP contributes to a 1.6% increase in trade flow in Mauritius while a 1% increase in distance contributes to a 2.6% decline in trade flow. This again is in line with the guiding framework of the gravity model. However, the dummy variables; common colony and common language do not contribute to trade flow, while population increase and stronger exchange rate result in a decline in trade flows. Table 6 presents the gravity model result for Rwanda.

The gravity model for Rwanda shows that the country benefits from 2.3% in trade flow as GDP increases by 1% and most significantly, as a member of COMESA and EAC, the FTA is a contributing factor to its trade flows. Similar to Rwanda's gravity model is the Tanzania gravity model as shown in Table 7.

The gravity model for Tanzania (Table 7) shows that the country all the dummy variables selected for this model are associated with an increase in trade flows. This speaks to the benefits of Tanzania's strong relationship with a larger economy like Kenya, sharing a common language, colony, and FTA. The decline in trade flow as a result of distance is as low as 1.1% which is relatively lower in comparison with other GTI countries. Table 8 presents the gravity model for Tunisia.

Table 5. Mauritius Gravity Model Result

Variable	Coefficient	p-value	Explanation
Intercept	0.7672	-	Baseline level
GDP	1.5658	0.000	↑ GDP associated with↑ trade flow.
Population	-0.0776	0.000	↑ Population associated with ↓ trade flow.
Exchange rate	-0.0105	0.000	↑ Exchange rate associated with ↓ trade flow.
Distance	-2.6041	0.000	↑Distance associated with ↓ trade flow.
Common colony	-0.7668	0.000	Common colony associated with ↓ trade flow
Common language	-0.8049	0.000	Common language associated with ↓trade flow
Obs.	76		
Pseudo R^2	0.859		
MSE	1.18		

Source: Authors' compilation

Table 6. Rwanda Gravity Model Result

Variable	Coefficient	p-value	Explanation
Intercept	0.6828	-	Baseline level
GDP	2.2942	0.001	↑ GDP associated with↑ trade flow.
Population	-1.3054	0.000	↑ Population associated with ↓ trade flow.
Exchange rate	0.3455	0.000	↑ Exchange rate associated with ↑ trade flow.
Distance	-2.4677	0.000	↑Distance associated with ↓ trade flow.
FTA	2.3469	0.001	FTA associated with ↑ trade flow.
Common colony	2.3469	0.000	Common colony associated with ↑ trade flow
Common language	-4.2385	0.000	Common language associated with ↓ trade flow
Obs.	76		
Pseudo R^2	0.685		
MSE	2.21		

Source: Authors' compilation

Table 7. Tanzania Gravity Model Result

Variable	Coefficient	p-value	Explanation
Intercept	0.1380	-	Baseline level
GDP	1.5446	0.001	↑ GDP associated with↑ trade flow.
Population	-0.8061	0.000	↑ Population associated with ↓ trade flow.
Exchange rate	0.0499	0.000	↑ Exchange rate associated with ↑ trade flow.
Distance	-1.1326	0.000	↑Distance associated with ↓ trade flow.
FTA	1.0634	0.001	FTA associated with ↑ trade flow.
Common colony	1.0634	0.000	Common colony associated with ↑ trade flow
Common language	1.0634	0.000	Common language associated with ↑ trade flow
Obs.	77		
Pseudo R^2	0.788		
MSE	1.50		

Source: Authors' compilation

Table 8. Tunisia Gravity Model Result

Variable	Coefficient	p-value	Explanation
Intercept	1.4269	-	Baseline level
GDP	3.5076	0.000	↑ GDP associated with↑ trade flow.
Population	-2.0338	0.000	↑ Population associated with ↓ trade flow.
Exchange rate	0.4870	0.000	↑ Exchange rate associated with ↑ trade flow.
Distance	-4.5563	0.000	↑Distance associated with ↓ trade flow.
FTA	1.7485	0.000	FTA associated with ↑ trade flow.
Common language	-1.7485	0.000	Common language associated with ↓ trade flow
Obs.	76		
Pseudo R^2	0.921		
MSE	1.18		

Source: Authors' compilation

A 1% increase in GDP is associated with a 3.5% increase in trade flow for Tunisia. Although Tunisia has a higher negative impact of 4.6% on trade flow as a result of distance from other GTI countries, it is compensated with the highest value in terms of trade flows. Similarly, Tunisia tends to benefit from FTA as its close ties with Egypt seem beneficial. As the population of Tunisia increases, domestic consumption results in reduced trade flows as expected from the gravity model.

The results of the TII and RCA show considerable effort to ensure regional integration with an increase in trading activities although amongst the bigger economies in Africa. The gravity model of the GTI countries provides a more compelling yardstick for the promotion of free trade and regional integration in Africa. Achieving full regional and economic integration within the African continent is possible if priorities are focused on improving the infrastructural road network, improving the collaboration of the single air transport market, promoting a unified payment system (single African currency), sourcing for blended financing for developmental projects, sincere and consistent investment in the energy sector, improvement in communication technology (single-dialling codes to promote communication), and the promotion of good governance.

CONCLUSION

Assessing the trade dynamic and readiness for the AfCFTA to fully realise its objectives and integrate all regions in a free trade area may currently be considered to be in a "trough of disillusionment" if we are to align with the ''Ganter's hype cycle''. The findings from this study show that trade intensity and relative comparative advantage between bigger economies show promising signs of trade and regional integration, the concern lies in trade relations between the bigger and smaller economies. While a negative distance coefficient is aligned with the gravity model framework, the impact on trade flows can be reduced with increased capital investment in transport infrastructure that enhances trade connectivity and reduces logistical barriers across African countries. The findings also reveal that common language and colonies seem not to have any major contributing factor to trade flows, but free trade agreements do for some GTI countries. This provides a yardstick to assess these contributing factors closely concerning AfCFTA. Notwithstanding, as the population within the African continent continues to grow, it mirrors the increase in demand for the domestic market and subsequently potential market opportunities to strengthen the economic integration of the African continent. This study reveals that the African market is willing to actively participate within the free trade area amid rising deglobalization trends.

DECLARATION OF CONFLICT OF INTEREST

The authors declare that they have no conflict of interest in the paper.

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