

The external agri-food commodities trade under the AfCFTA

Antti Simola¹, Ole Boysen¹ and Emanuele Ferrari¹

¹ European Commission, Joint Research Centre (JRC), Seville, Spain

Keywords: international trade, trade liberalization, agriculture, food security, Africa

Abstract

Africa's trade has historically been more with non-African partners than within the continent. This trend might change with the African Continental Free Trade Agreement (AfCFTA), which aims to boost intra-African trade and reduce reliance on external countries. The AfCFTA could notably affect agriculture, food production, and natural resource sectors by shifting trade patterns.

The European Union remains a significant trade partner for Africa's agri-food commodities, but China and the United States are also increasing economic ties with the continent. Understanding these evolving trade relations is crucial for researchers and policymakers.

Our study assesses the AfCFTA's potential impact on Africa's agri-food trade using the global computable general equilibrium (CGE) model MAGNET and data from the Global Trade Analysis Project (GTAP) database. We consider baseline scenarios and alternative scenarios that reflect deeper African integration and the implications for global trade blocs. Our research examines how the AfCFTA might lead non-African countries to alter their trade policies in response to a more unified African market.

This study contributes a new perspective on how the AfCFTA could change agri-food trade between Africa and the global economy, an area that has not been extensively explored. The findings are important for policymakers, business leaders, and scholars interested in the evolution of international trade as Africa moves towards greater economic unity.

1. Introduction

The African Continental Free Trade Area (AfCFTA) represents a significant step toward the economic integration of African nations, aiming to reduce trade barriers and enhance connectivity across the continent. As a comprehensive free trade agreement, the AfCFTA encompasses a broad range of elements, including tariff cuts, measures to address non-tariff barriers, improvements in trade facilitation, and regulations concerning trade in services, competition policy, investment, and intellectual property rights. The AfCFTA is particularly notable for its ambitious scope, bringing together 54 member states with a combined population of 1.3 billion people. This initiative is expected to boost intra-African trade, potentially reducing the continent's reliance on external trading partners.

While there is extensive research on the anticipated impacts of the AfCFTA within Africa, our study shifts the focus to the implications for trade with partners outside the continent. We explore how the AfCFTA may affect trade dynamics with non-African countries and consider the prospects for both trade creation and potential trade diversion, where trade with non-African countries might shift toward African markets.

Our research specifically examines the agri-food sector, analyzing how the AfCFTA could reshape the trade of agricultural and food commodities between African nations and the rest of the world. We also assess the potential consequences for food security, considering how changes in trade patterns may influence the availability and affordability of food across the continent.

Overall, the AfCFTA has the potential not only to transform African economies but also to redefine their trade relationships globally, presenting a landscape of opportunities and challenges for both African and non-African stakeholders.

African trade exhibits several distinctive features that shape its role in the global economy. Initially, Africa's contribution to global trade has been modest, accounting for approximately 3% over the past decade, a decline from a peak of 5% in the 1970s. Although trade within Africa has grown, it has not kept up with the rapid expansion of trade globally.

A second characteristic is that African countries tend to trade predominantly with partners outside the continent. Intra-African trade — the exchange of goods and services between African countries — makes up roughly 17% to 18% of their total trade as of recent years, which is relatively low compared to other regions.

Thirdly, the distribution of trade across African countries is uneven, with the six largest economies in Africa collectively responsible for over half of the continent's total trade, highlighting a concentration of economic activity.

Additionally, the composition of Africa's trade is skewed towards certain commodities. Exports from Africa to non-African countries are dominated by fuels and mining products, reflecting the continent's rich natural resources. In contrast, manufactured goods are more prevalent in intra-African trade. Agricultural and food commodities, particularly beyond cash crops, are more significant in trade between African countries. This pattern suggests that the AfCFTA has the potential to promote industrialization and improve food security by encouraging more diverse intra-African trade.

Finally, Africa's external trade partners are also somewhat concentrated. The European Union and China together account for a large portion of Africa's trade with the rest of the world, nearly half of both exports from and imports to Africa.

2. Earlier studies

The AfCFTA has been the subject of numerous studies predicting the economic outcomes before implementation. These studies generally suggest that the AfCFTA would have a positive impact on Africa's GDP and increase trade between African nations. An early examination by Mevel and Karingi in 2012 found that the AfCFTA could lead to a moderate increase in GDP and a significant rise in intra-African trade. A subsequent study in 2013 by the same authors indicated that agricultural output might grow overall, but the effects would vary across different African countries. They also discovered that the biggest economic gains would likely come from reducing non-tariff measures (NTMs) rather than from lowering tariffs, which would have a smaller impact.

Further research supports these findings, including papers by Jensen and Sandrey (2015), Vanzetti et al. (2018), Saygili et al. (2018), Bouët and Odjo (2019), Abrego et al. (2019), the African Development Bank (2019), the World Bank (2020, 2022), Simola et al. (2021, 2022) and Fusacchia et al. (2022) have built on this work. Notably, Fusacchia and colleagues in 2022 introduced a global value chain perspective using a Computable General Equilibrium (CGE) model to investigate how the AfCFTA could affect the robustness of African food value chains. Their findings suggest that the AfCFTA could enhance the resilience of these chains, though the degree of improvement would differ significantly across regions.

3. Data and model

We approach the problem with the global CGE model MAGNET (Woltjer et al. 2014). MAGNET builds upon the GTAP model version 7 (Corong et al. 2017) and uses the GTAP database version 11B (Aguiar et al. 2022) as its core. MAGNET is recursively dynamic, which is essential for modelling long-term trade policies such as the AfCFTA. In addition, MAGNET includes a selection of modules that can be selected in simulation depending on the examined problem. For instance, MAGNET updates the consumption function parameters iteratively and is therefore better able to simulate the structural change in consumption than the traditional CGE models that rely on Cobb-Douglas or CDE functional forms.

We create scenarios for trade liberalization within the African Continental Free Trade Area (AfCFTA) by focusing on two key policy areas: tariffs and non-tariff measures (NTMs). Both are set to be reduced under the agreement. Previous research indicates that cutting NTMs could lead to much larger economic benefits than reducing tariffs.

For tariffs, our scenarios assume that countries will aim to retain as much tariff revenue as possible while adhering to the rules of the AfCFTA. The AfCFTA provides clear guidelines for lowering tariffs, but the targets for NTM reductions are less precise. We model a 50% reduction in NTMs among African nations, a figure commonly used in past studies. This is a rough estimate since NTMs are diverse and vary in how they can be addressed.

Some research also suggests that NTMs could be lowered for trade between African and non-African countries, even though this is not a direct aim of the AfCFTA. The thinking is that, as African nations standardize NTMs among themselves, these standards will naturally extend to trade with non-African countries, lowering trade costs. Given that African businesses often face difficulties entering non-African markets due to NTMs, harmonization could foster new trading opportunities. However, there is limited empirical evidence to support this.

The impact of these changes on trade with non-African countries hinges on these assumptions. Therefore, we consider three different scenarios for NTM reductions in trade between African and

non-African countries: no reduction (0%), a moderate reduction (10%), and a more significant reduction (20%).

Our baseline is based on future projections of the GDP, working-age population (as a proxy for the labour force) and the total population. The baseline starts from the base year of the latest GTAP database 2017. The starting database is adjusted by the Altermex process (Malcolm 1998) to reflect the 2017 tariff rates. In the “historical period”, 2017-2020 we update the baseline with the IMF’s World Economic Outlook data on the exogenous variables. The following period 2020-2025 is based on the same database, while the figures for years after 2022 are predictions. The following years, 2025-2040 are based on the SSP2 v 3.0 predictions. Therefore, our baseline takes into account the most recent economic effects of the Covid-19 pandemic, Russian invasion of Ukraine and the Gaza war as they are predicted by the IMF. In our policy simulations, the changes in tariffs and NTMs happen on top of this baseline, while no other trade policy changes are assumed neither within or without Africa. The policy scenarios assume that the AfCFTA is gradually implemented in 2020-2035 so that all the assumed tariff and NTM reduction are fulfilled in 2035.¹

4. Results

5. Discussion

6. Summary

Our study has examined the AfCFTA and its effects on the extra-African trade on agri-food commodities. We have used a state-of-art dynamic CGE model MAGNET for the task. We ran several simulations that allowed us to make comparison between various assumptions. As in the earlier studies, the significance of the NTM reductions is evident. Furthermore, the uncertainty in implementation, actionability and modelling of the NTMs remains the single most consequential uncertainty of the analysis. However, our simulations show that the most important assumption for the extra-African trade is the quantity of the possible NTM spill over from the AfCFTA to the extra-African trade flows.

References

- Abrego, L., Amado, M., Gursoy, T., Nicholls, G. P., & Perez-Saiz, H. (2019). The African Continental Free Trade Agreement: Welfare Gains Estimates from a General Equilibrium Model. *IMF Working Papers*(124), p. 32. Retrieved from <https://www.imf.org/en/Publications/WP/Issues/2019/06/07/The-African-Continental-Free-Trade-Agreement-Welfare-Gains-Estimates-from-a-General-46881>
- African Development Bank. (2019). *Integration for Africa's Economic Prosperity*. Abidja: African Development Bank Group. Retrieved from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2019AEO/AEO_2019-EN-CHAP3.pdf

¹ Due to various delays after the 2018 inception of the AfCFTA in the 10th Extraordinary Session of the AU Summit in Addis Ababa, the AfCFTA was set to start in January 2021. However, the trade under the AfCFTA has not substantially started yet. Therefore, the modelled time schedule might be overly optimistic and subject to revision in subsequent versions of the paper.

- Aguiar, A., Chepeliev, M., Corong, E., & van der Mensbrugghe, D. (2022). The Global Trade Analysis Project (GTAP) data base: version 11. *Journal of Global Economic Analysis*, 7(2), 1-37.
- Bouët, A., & Odjo, S. P. (2019). *Africa Agriculture Trade Monitor*. Washington, DC: International Food Policy Research Institute. doi:<https://doi.org/10.2499/9780896296909>
- Corong, E., Hertel, T., McDougall, R., Tsigas, M., & van der Mensbrugghe, D. (2017). The standard GTAP model, version 7. *Journal of Global Economic Analysis*, 2(1), 1-119. doi:<https://doi.org/10.21642/JGEA.020101AF>
- Fusacchia, I., Balié, J., & Salvatici, L. (2022). The AfCFTA impact on agricultural and food trade: a value added perspective. *European Review of Agricultural Economics*, 49(1), 237-284. doi:<https://doi.org/10.1093/erae/jbab046>
- Jensen, H., & Sandrey, R. (2015). *The continental free trade area - a GTAP assessment*. Stellenbosch: Trade Law Centre. Retrieved from <https://www.tralac.org/publications/article/7287-the-continental-free-trade-area-a-gtap-assessment.html>
- Malcolm, G. (1998). Modeling Country Risk and Capital Flows in GTAP. *GTAP Technical Papers*(13). Retrieved from https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=316
- Mevel, S., & Karingi, S. (2012). Deepening regional integration in Africa: A computable general equilibrium assessment of the establishment of a continental free trade area followed by a customs union. *7th African Economic Conference*, (p. 51). Kigali, Rwanda. Retrieved from https://aec.afdb.org/sites/default/files/2019/12/04/deepening_regional_integration_in_africa_a_computable_general_equilibrium_assessment_of_the_establishment_of_a_continental_free_trade_area_followed_by_a_continental_customs_union.pdf
- Mevel, S., & Karingi, S. (2013). Towards a continental free trade area in Africa: a CGE modelling assessment with a focus on agriculture. In D. Cheong, M. Jensen, & R. Peters, *Shared harvests: agriculture, trade and employment* (pp. 281-324). Geneva: International Labour Organization & United Nations Conference on Trade and Development. Retrieved from https://unctad.org/system/files/official-document/ditctncd2013d2_en.pdf
- Saygili, M., Peters, R., & Knebel, C. (2018). African Continental Free Trade Area: Challenges and Opportunities of Tariff Reductions. *UNCTAD Research Paper*(15), p. 23. Retrieved from <https://www.tralac.org/images/docs/12686/african-cfta-challenges-and-opportunities-of-tariff-reductions-unctad-february-2018.pdf>
- Simola, A., Boysen, O., Ferrari, E., Nechifor, V., & Boulanger, P. (2021). *Potential effects of the African Continental Free Trade Area (AfCFTA) on African agri-food sectors and food security*. Luxembourg: Publications Office of the European Union. Retrieved from <https://datam.jrc.ec.europa.eu/datam/mashup/AFCFTA/index.html>
- Simola, A., Boysen, O., Ferrari, E., Nechifor, V., & Boulanger, P. (2022). Economic integration and food security – The case of the AfCFTA. *Global Food Security*, 35, 100651. doi:<https://doi.org/10.1016/j.gfs.2022.100651>
- Vanzetti, D., Peters, R., & Knebel, C. (2018). Non-tariff measures: lifting CFTA and ACP trade to the next level. *UNCTAD Research Reports*(14), p. 18. Retrieved from <https://www.tralac.org/images/docs/12675/non-tariff-measures-lifting-cfta-and-acp-trade-to-the-next-level-unctad-research-paper-february-2018.pdf>

Woltjer, G., Kuiper, M., Kavallari, A., van Meijl, H., Powell, J., Rutten, M., . . . Tabeau, A. (2014). The MAGNET model - module description. *LEI Report, 14*(57), p. 146. Retrieved from <https://research.wur.nl/en/publications/the-magnet-model-module-description>

World Bank. (2020). *The African Continental Free Trade Area: Economic and distributional effects*. Washington, DC: The World Bank. Retrieved from <https://openknowledge.worldbank.org/handle/10986/34139>

World Bank. (2022). *Making the most of the African Continental Free Trade Area - leveraging trade and foreing direct investment to boost growth and reduce poverty*. Washington DC: The World Bank Group. Retrieved from <https://openknowledge.worldbank.org/handle/10986/37623>

DRAFT: NOT FOR PUBLICATION