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Impacts of Regional Integration and Market Liberalization on Bilateral Trade Balances of Selected East African Countries: Potential Implications of the African Continental Free Trade Area

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Abstract: This study examined the effect of free trade on intra-African bilateral trade balances for Kenya, Rwanda, Uganda, and Tanzania to assess the potential implications of the African Continental Free Trade area. The four countries have experienced persistent trade deficits. Whether free trade within Africa can improve the national trade balances, and the drivers of bilateral trade balances are important questions for policy and strategic programmes for the countries to make the most gains from free trade area. The econometric model estimated for each country is an extension of the standard Keynesian model of trade balance to include determinants of bilateral trade flows from the gravity model. Quantitative analysis using panel regression was augmented with qualitative data from interviews with trade policy experts and trade officials from various African countries and focus group discussions with small-scale cross-border traders at the Busia and Namanga border posts in East Africa. Findings show that complete tariff elimination on intra–African trade may not impact the bilateral trade balances of Kenya, Rwanda, and Tanzania but could improve bilateral trade balances for Uganda by 6 percent. Within the free trade areas, Uganda's bilateral trade balances were higher within the Common Market for Eastern and Southern Africa but lower within the East African Community, than outside these areas. Kenya's trade balances were lower in the Common Market for Eastern and Southern Africa, than otherwise. On the contrary, no significant difference in trade balances is established for the membership of Kenya, Rwanda, and Tanzania in the East African Community; Rwanda in the Common Market for Eastern and Southern Africa; and Tanzania in the Southern African Development Community, when compared to trade balances with non-members. The importance of macroeconomic factors is demonstrated by the increase in bilateral trade balances with higher relative price levels of trade partners; the reduction with increase in relative production and expenditure capacities of trade partners; and improvements following a depreciation of home currency for Tanzania and Uganda, yet a worsening of trade balances in Kenya. A lack of harmony in documents required for cross-border movements within the free trade areas is reported as counterproductive. All African countries should therefore fully implement protocols and cooperate in the harmonization of trade procedures for the free movement of people and goods across borders. Country policies and trade programmes should pursue increased productivity in the leading intra-African export sectors and diversify exports via foreign direct investment in strategic sectors to substitute imports from outside Africa; reduce costs of production; increase the quality of products; and improve transport infrastructure.

Keywords: regional integration; free trade areas; tariff liberalization; bilateral trade balance; African continental free trade area

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1. Background

Efforts to deepen regional integration by East African countries within the African Continent have been ongoing since the early 2000s. The East African Community, formed in

July 2000 by three founding member states, Kenya, Uganda, and Tanzania, has expanded to eight member states with the inclusion of Rwanda and Burundi in July 2007, South Sudan in August 2016, the Democratic Republic of Congo in July 2022, and the Federal Republic of Somalia in March 2024 (East African Community—EAC 2024). The EAC achieved a customs union status in 2005, became a common market in 2010, and signed the monetary union protocol in 2013 to promote the free movement of goods, services, persons, labour and workers, and capital. Members of the EAC are also active members of other Regional Economic Communities (RECs) in Africa, including the Common Market for East and Southern Africa (COMESA)[1], the Economic Community of Central African States (ECCAS)[2], the Southern African Development Community (SADC)[3], and the Intergovernmental Authority on Development (IGAD)[4].

Efforts to reduce tariff and non-tariff barriers to trade within these RECs to promote trade in goods, services, and cooperation in trade matters provide opportunities for the countries to expand markets for their exports and imports and thereby reap the dynamic benefits from trade, such as increased employment, poverty reduction and productivity growth (Organization for Economic Cooperation and Development-OECD 2011; World Bank 2023). Regional organizations also promote peace and the exchange of information among members and strengthens regional security and stability (Ndukwe 2004). The establishment of the COMESA-EAC-SADC tripartite free trade area on 10 June 2015 further expanded the opportunities for the EAC member countries to deepen intra-regional trade (EAC 2015).

The EAC countries are among the 54 signatories to the agreement establishing the African Continental Free Trade Area (AfCFTA) in 2018 to create the largest single free trade area (FTA) in the world with an estimated population of 1.3 billion people and gross domestic product (GDP) of about USD 2.5 trillion (African Union 2018; United Nations Economic Commission for Africa 2020; World Bank 2020). Countries that have ratified the AfCFTA agreement commit to the progressive elimination of import tariffs and tackling non-tariff barriers (NTBs) to accelerate intra-Africa trade in goods and services (Echandi et al. 2022; Songwe et al. 2021). The agreement also seeks to promote industrial development, diversification, and regional value chain development, increase competitiveness in the regional and global markets (Fofack and Mold 2021), and contribute to growth and sustainable inclusive socio-economic development, agricultural development, food security, gender equality, and structural transformation. The continental free trade area could also address challenges of multiple and overlapping memberships in the RECs, which have been blamed for the complexities and uncertainty in implementing regional agreements towards an integrated continent and low intra-REC and intra-Africa trade (Abrego et al. 2020; African Union 2018).

Official trade statistics reveal that Africa trades less within but more with the rest of the world. Intra-Africa trade, estimated at about 15.4 percent of the continent's total global trade, remains much lower than 47 percent, 61 percent, and 67 percent for America, Asia, and Europe, respectively (Ntara 2016; UNCTAD 2019). According to Kouty (2021), the low intra-Africa trade ratio is attributed to trade procedures such as the number of documents required to import goods and border compliance. Furthermore, the level of economic growth and employment in the region is still low despite the trade integration efforts (Adeboje et al. 2022). The intra-REC trade is barely above 10 percent, with only 8 percent of export terminals of EAC countries in Africa, yet over 80 percent of the continent's imports originate from the USA, Asia, and Europe (Shinyekwa et al. 2021).

The composition of Africa's trade with the developed and Asian countries is unbalanced, depicting high-valued imports of manufactured goods against exports of natural resources and agricultural commodities (UNCTAD 2023). This has contributed to persistent trade deficits over the years as depicted by the trends for East African countries over the years (see Figure 1).

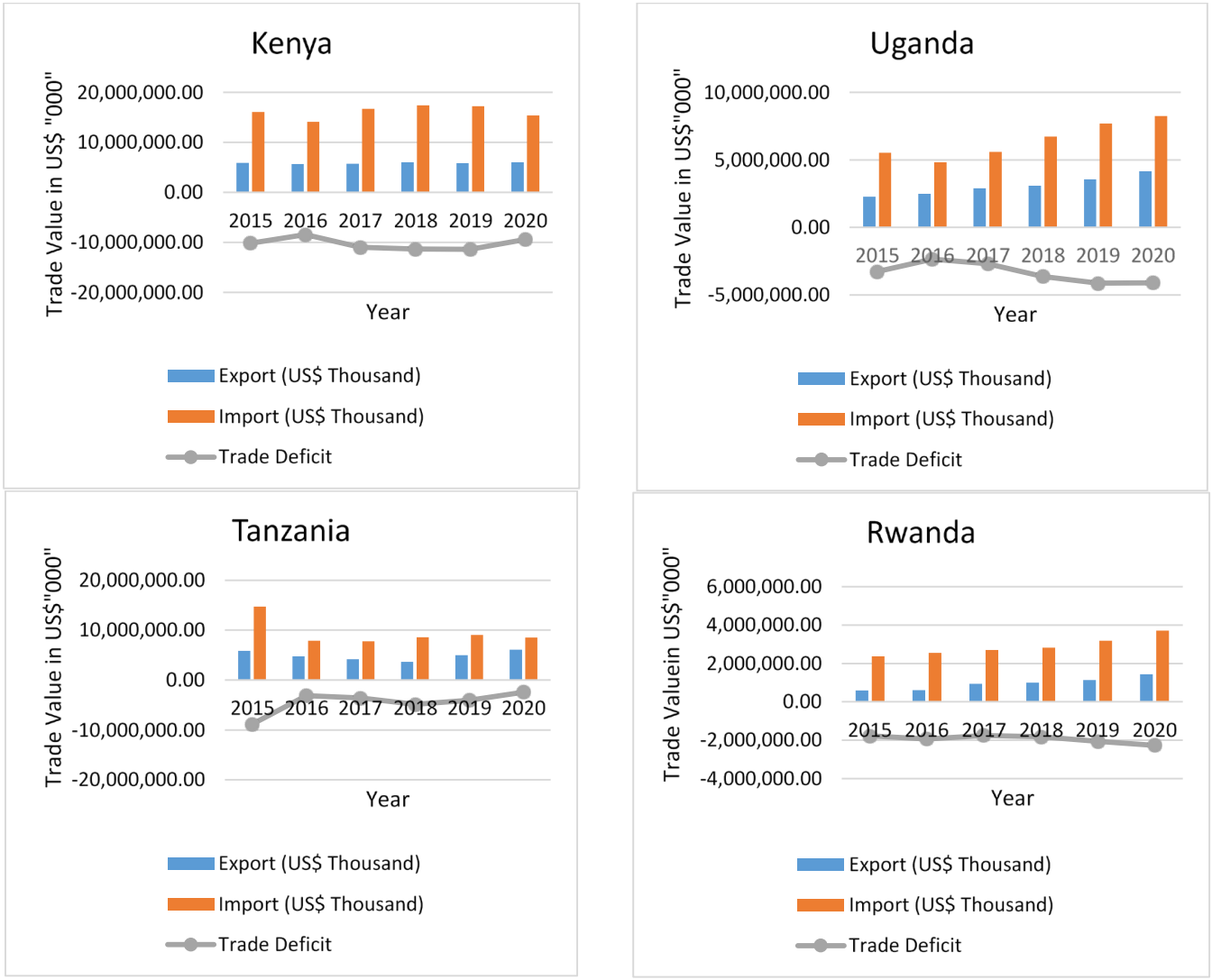

Figure 1. Trends of exports, imports, and trade balance (USD Thousands) in four EAC countries. Data source: (World Integrated Trade Solution Data Portal 2023).

Figure 1 shows that overall, the trade balance was in deficit across all four EAC countries in the period of 2015–2020. However, the fluctuations depicting increases and reductions in deficits in different years vary across the countries. Trade deficits increased consistently from 2016 in Uganda and from 2017 in Rwanda. However, the deficits increased between 2016 and 2019 for Kenya but reduced in 2020, while for Tanzania, the deficits increased between 2016 and 2018 after which the deficits reduced up to 2020.

Persistent trade deficits imply that the export earnings of the EAC countries were insufficient to finance their import spending. Such situations require countries to receive large capital and remittance inflows to cover the foreign exchange supply gap over demand (Gould and Ruffin 1996). Otherwise, countries would experience increased pressure for external borrowing and depletion of their foreign exchange reserves. However, rising trade deficits can jeopardize a country's ability to finance its foreign debt. Therefore, if increased trade within a free trade area is accompanied by larger trade deficits, there is potential for welfare losses in the long run due to higher taxation to finance debt or reduced net revenues for social spending as countries allocate more of public revenues to finance debt. An understanding of the impacts of trade policies on national trade balances is therefore important in evaluating their usefulness to a country's socio-economic development. Furthermore, analysis of bilateral trade balances in intra-regional trade is

useful in identifying the important variables to manage for improved competitiveness within the region.

2. Literature Review

Many studies have focused on assessing the contributions of free trade areas and regional integration in Africa to the growth of intra-regional trade. Afesorgbor (2017) found that African regional blocs have a generally positive effect on trade by about 27–32 percent, with the ECOWAS and SADC blocs contributing significantly to trade, contrary to the notion that African RTAs had not contributed significantly to intra-Africa trade (Ntara 2016). In another study, Afesorgbor (2019) demonstrated that bilateral diplomacy had an even stronger impact on bilateral exports among 45 African countries in the period from 1980 to 2005. Findings by Adeboje et al. (2022) indicated that trade between West African countries with other sub-Saharan African (SSA) countries in the period from 2005 to 2019 had a more reinforcing growth effect, suggesting that increased trade among African countries under a continental free trade area would foster more employment. Conversely, Brenton et al. (2014) showed that even though markets of members of regional trade agreements were relatively more integrated, there were observed price differences in major food products (cereals) between countries, attributed to road length (distance) and quality between towns, as well as domestic and border frictions. This pointed out the potential positive impacts of removing barriers related to distance to decrease transport costs.

Since the proposal to implement a continent-wide free trade area in 2012, a number of studies have assessed the potential impacts of implementing the agreement on African countries, focusing on the overall effects on trade flows, intra-Africa trade, tariff revenues, employment, welfare, and growth using the computable general equilibrium model. Most of the studies project that AfCFTA will be net trade creative but with varied benefits across countries. According to Jensen and Sandrey (2015), tariff elimination combined with NTB reductions would increase exports and imports across the continent for all AfCFTA parties except in the case of Zimbabwe. The studies predict an increase in intra-Africa trade, although with varied magnitudes depending on the baselines and liberalization scenarios. For instance, intra-Africa trade could increase by 52.3 percent with the elimination of all tariffs above the 2022 baseline levels (Karingi and Mevel 2012); 33 percent with the elimination of all tariffs and 24 percent only if sensitive products are exempted from tariff reductions (Saygil et al. 2018); 78–82 percent (Abrego et al. 2020); and 42.6 percent (Geda and Yimer 2023), while findings by Maliszewska et al. (2020) predicted a doubling of intra-regional trade. Further, findings by Fusacchia et al. (2022) projected an increase in gross agri-food exports from AfCFTA by 3.7 percent and an increase in foreign content of agri-food exports due to cheaper inputs from AfCFTA countries.

The projected distributional impacts of increased intra-Africa trade due to the AfCFTA include welfare improvements arising from efficiency gains, better access to imports, greater specialization, and economies of scale (Ekobena et al. 2021). The gains include an increase in real incomes and real wages for unskilled workers with potential positive impacts on poverty reduction (Karingi and Mevel 2012; Ekobena et al. 2021; Maliszewska et al. 2020). The projected welfare gains from tariff elimination alone are very small due to the low levels of effectively applied tariffs on intra-Africa trade and the relatively small fraction of intra-regional trade in the overall trade in the continent. However, the reduction in NTBs could have much stronger effects, increasing welfare by 1.7 percent for the continent (Abrego et al. 2020). Findings by Saygil et al. (2018) also showed that gains would be larger with the elimination of all tariffs compared to the case with the exemption of sensitive products from liberalization. For the vast majority of countries, over 60 percent and about 16 percent of the increase in overall income are from higher manufacturing output and the agricultural sector, respectively, indicating that growth in the two sectors would be critical drivers of welfare improvements in African countries (Abrego et al. 2020). According to

Geda and Yimer (2023), an industrial strategy that gives protection to infant industries would be necessary to overcome the impediment to trade growth arising from the absence of complimentary commodities.

The welfare improvements are predicted at the aggregate level. According to Maliszewska et al. (2020), some countries would experience a worsening of the wage gap faced by unskilled, female, and young workers. Saygil et al. (2018) also observed that costs of the CFTA would vary significantly across countries, with some projected to experience over 3 percent growth of GDP above the average 1 percent. Findings by Shinyekwa et al. (2021) showed that in EAC countries, Burundi and Uganda would experience welfare gains while Kenya, Rwanda, and Tanzania experience welfare losses with the implementation of the AfCFTA. Loss of tariff revenues is cited as the main impediment to welfare gains in some African countries in the short run (Karingi and Mevel 2012; Abrego et al. 2020; Ekobena et al. 2021; Jensen and Sandrey 2015; Saygil et al. 2018; Shinyekwa et al. 2021). Other cited constraints are increased competition and increased food prices in net-food importing countries (Karingi and Mevel 2012) and imperfect market conditions. Under imperfect competition where prices are not equal to marginal costs, a reduction in import tariffs does not necessarily raise welfare.

Although the studies have assessed the impacts of free trade on trade flows and growth of intra-regional trade and associated distributional impacts, the potential impact of AfCFTA on national trade balances has not been extensively explored. In a study on the impacts of the removal of industrial tariffs under the European–Vietnam free trade agreement, Phat and Hanh (2019) found that the agreement increased social welfare but was accompanied by trade deficits. The study by Saygil et al. (2018) showed that Africa's total trade deficit would decrease by 51 percent with full liberalization and only 3.8 percent if sensitive products are exempt from liberalization. Since findings from the reviewed studies indicate that the impacts of liberalization for countries vary from the aggregate, this study assessed the impact of active participation in free trade areas and tariff changes in the period of 2000–2020 alongside other variables on intra-Africa bilateral trade balances for four EA countries: Kenya, Uganda, Tanzania and Rwanda. The purpose is to examine the potential implications of the liberalization at the African level on national trade balances.

3. Methods

3.1. Model

3.1.1. Theoretical Framework

The national trade balance for a country in a given period is the difference between value of exports (X) and imports (M) of goods and services. Export demand for country i's goods (X_i) increases with demand for its products in the foreign market or the income of the trade partner, country j's income (Y_j) in bilateral trade. Imports into the country (M_i), on the other hand, increase with domestic income (Y_i). The bilateral trade balance equation for country (i) with a trade partner (j) in a given period can therefore be expressed as a function of domestic and foreign income as shown in Equation (1):

$$TB_{ij} = X_i(Y_j) - M_i(Y_i) = TB_i(Y_i, Y_j) \quad (1)$$

Trade flows are also influenced by the real exchange rate (R), which measures the rate at which a country's commodity can be traded for a commodity from another country, as expressed in Equation (2).

$$R = E\frac{P_j}{P_i} \quad (2)$$

where P_i is the domestic price; P_j is the price in the foreign country; and E is the nominal exchange rate (Hall and Taylor 1997). The real exchange rate (R) therefore captures the effect of both exchange rate and price level movements. An increase in R (appreciation) may be due to a depreciation in home currency, an increase in the relative price of foreign

goods (imports), or both and would be expected to improve the trade balance as exports of a country become relatively cheaper than imports, and vice versa. By incorporating Equation (2) into Equation (1), the trade balance function for a country-*i* with a country-*j* (BT_ij) in a given period can therefore be expressed as in Equation (3), which is the standard model for balance of trade.

$$TB_{ij} = TB_{ij}\left(Y_1, Y_j, E_i, \frac{P_j}{P_i}\right) \tag{3}$$

The elasticity approach to the balance of trade posits that devaluation improves the trade balance by adjusting relative prices between domestic and foreign goods. The absorption approach, on the other hand, argues that changes in the exchange rate affect trade balance only if it leads to a larger increase in income than the increase in total domestic expenditure, while the monetary approach maintains that exchange rate changes only produce temporary effects (Khan and Hossain 2010). The theoretical prepositions from Equation (3) therefore suggest that persistent trade deficits in a country can be a result of relatively stronger domestic currency, higher relative price level, and domestic income, whose effects reduce exports while increasing imports (Keho 2021).

Khan and Hossain (2010) extended the standard model of trade balance to incorporate determinants of bilateral trade flow between countries from the gravity model. The gravity model developed by Tinbergen (1963) relates bilateral trade flows to GDP, distance, and factors that affect trade barriers (Anderson and van Wincoop 2003). The model has been used extensively in empirical analysis of trade flows, including effects of institutions such as customs unions, exchange-rate mechanisms, ethnic ties, linguistic identity, and international borders (Anderson and van Wincoop 2003), as well as in evaluating impacts of military alliances, conflict, and other political variables in trade (Jomit 2014). The model's hypothesis is that trade between any two countries is directly related to the size of their economies and inversely related to the geographical distance between them. The generalized gravity model for the volume of trade (exports or imports) between pairs of countries is specified in the original multiplicative form by Rahman and Dutta (2012) as in Equation (4).

$$T_{ij} = B_o Y_i^{\beta_1} Y_j^{\beta_2} D_{ij}^{\beta_3} A_{ij}^{\beta_4} U_{ij} \tag{4}$$

where Y_i and Y_j are measures of economic sizes (GDP) of the country, *i* and trading partner country $_j$; D_{ij} is the distance between the two countries' capitals (or economic centres); *Aij* is a vector of other variables that affect trade between the two countries; U_{ij} is the error term; and β's are the parameters of the model. From the gravity model of trade flows between countries, distance and factors influencing trade barriers can therefore be considered to determine volumes of exports and imports between a pair of countries.

In developing the extended model of trade balance, Khan and Hossain (2010) used the gravity model specification by Kalbasi (2001) and Kristjánsdóttir (2005) to include per capita incomes of the country pairs in the trade balance model. The argument is that the GDP of a country is a good measure of its productive capacity and hence the ability to export, while the per capita income (*y*) is the correct measure of the absorption (expenditure) capacity and hence the ability to import.

Incorporating per capita income in the gravity equation for trade flows, Khan and Hossain (2010) presented an extended model for bilateral trade balance that incorporates determinants from the standard model and gravity model as in Equation (5) where y_i and y_j are per capita incomes of the country pairs.

$$TB_{ij} = B_o Y_i^{\beta_1} Y_j^{\beta_2} y_i^{\beta_3} y_j^{\beta_4} E_{ij}^{\beta_5} \left(\frac{P_j}{P_i}\right)^{\beta_5} D_{ij}^{\beta_6} A_{ij}^{\beta_7} U_{ij} \tag{5}$$

Membership in free trade areas (FTAs) and tariffs (τ) can impact trade flow between countries and therefore can be explicitly included in the models as factors affecting trade barriers in order to assess their influence on bilateral trade flows (Plummer et al. 2011). The extended model is therefore specified as in Equation (6).

$$TB_{ij} = B_o Y_i^{\beta_1} Y_j^{\beta_2} y_i^{\beta_3} y_j^{\beta_4} E_{ij}^{\beta_5} \left(\frac{P_j}{P_i}\right)^{\beta_5} D_{ij}^{\beta_7} FTA_{ij}^{\beta_8} \tau_{ij}^{\beta_9} U_{ij} \quad (6)$$

In the empirical analysis, the active participation of a country pair in a free trade area (FTA_{ij}) is captured by a dummy variable taking a value of 1 if the country pair are members of a FTA (Plummer et al. 2011). Other indicators of trade costs, including accessibility to ports, the existence of a common language, common currency, or common borders, and whether the country is an island or landlocked, have also been included in models of trade flows to assess their influence on trade between countries.

For quantitative analysis of the impacts of changes in policy, practices and economic conditions, trade balance may be expressed as a ratio of export earnings to import spending, as in the work of Khan and Hossain (2010). The use of a ratio to measure trade balance has also been used in other empirical studies, including Keho (2021), Demiral (2016), and Bahmani-Oskooee and Brooks (1999). This measure is not sensitive to units of measurement but reflects the movement of the trade balance in real or nominal terms (Khan and Hossain 2010; Bahmani-Oskooee and Brooks 1999). Further, measuring trade balance using a ratio allows for the estimation of the model in its logarithmic form without loss of data or the introduction of many zero values when dealing with negative trade balances (deficits) in the data sets for which log values are not defined. In each period, the ratio of exports of a country to its imports measures the proportion of the country's imports that could be financed by the export earnings. The ratio equals 1 for years when imports and export values are equal but takes a value less or greater than 1 in years when trade deficits or trade surpluses occur. An increase in the ratio reflects an improvement in trade balance and vice versa.

According to the Keynesian theory, disequilibrium in the balance of payments is explained by relative changes in incomes in different countries (Gupta 1964). Therefore, following Khan and Hossain (2010), we transform Equation (6) to give a bilateral trade balance model as a function of relative incomes, nominal exchange rate, and relative price level and other determinants, as in Equation (7).

$$TB_{ij} = B_o \left(\frac{Y_j}{Y_i}\right)^{\beta_1} \left(\frac{y_j}{y_i}\right)^{\beta_2} E_{ij}^{\beta_3} \left(\frac{P_j}{P_i}\right)^{\beta_4} D_{ij}^{\beta_5} FTA_{ij}^{\beta_6} \tau_{ij}^{\beta_7} U_{ij} \quad (7)$$

In Equation (7), the GDP ratio of the trading pair $\left(\frac{Y_j}{Y_i}\right)$ shows the relative production capacity of partner country (j) compared to home country (i), while the ratio of per capita income $\left(\frac{y_j}{y_i}\right)$ represents the relative absorption capacity of the trading country.

3.1.2. Empirical Model

The empirical model used in the study was specified by taking the logarithmic form of Equation (7) hence specified as in Equation (8).

$$\begin{aligned} \ln TB_{ijt} &= \beta_0 + \beta_1 \ln RGDP_{jit} + \beta_2 \ln RPGNI_{jit} + \beta_3 \ln EXCHR_{ijt} + \beta_4 RP_{jit} + \beta_5 \ln Dist_{ij} + \beta_6 Tariff_{ijt} \\ &+ \beta_7 COMESA_{ijt} + \beta_8 EAC_{ijt} + \beta_9 SADC_{ijt} + U_{it} \end{aligned} \quad (8)$$

where the variables are described and measured below:

Bilateral trade balance (*TBij*) is the ratio of the value of exports in USD from country i to country j to the value of imports in USD into country i from country j in a given year.

Relative GDP (*RGDPji*) is the ratio of the GDP of trade partner (*j*) in USD to that of the domestic country (*i*) in a given year. It captures the relative production capacity of the bilateral trade partner.

Relative per capita GNI (*RPGNIji*) is given as a ratio of per capita GNI in USD of trade partner (*j*) to that of the domestic country (*i*) in a given year. It captures the relative absorption or capacity to spend on goods and services by the trade partner.

Distance (*Dij*) is the air flight distance in kilometres between the capital cities of the country pair. It captures the geographical distance between the trade centres of the trade partners.

Exchange rate (*EXCHRij*) is given by the ratio of the average value of local currency units (LCU) of country *i* in one USD to the average value of LCU of country *j* in one USD in a given year. It measures the exchange rate between the currencies of the two trade partners. An increase in the exchange rate reflects an appreciation of the home currency.

Relative Price (*RPji*) is the ratio of the CPI of country *j* to the CPI of country *i*. It measures how high the cost of a given basket of commodities is in the foreign country compared to the cost of the same basket in the domestic market.

$Tariff_{ij}$ is given by the most favoured nation (MFN) trade-weighted tariff by country *i* on imports from country *j* in a given year to measure the average tariff levied by country *i* on goods from country *j*.

EAC is a dummy variable that takes a value of 1 if country *i* and country *j* were members of the EAC in the given year, and 0 otherwise.

COMESA is a dummy variable taking a value of 1 if country *i* and country *j* were members of the COMESA in the given year, and 0 otherwise.

SADC is a dummy variable that takes a value of 1 if country *i* and country *j* were members of SADC in the given year, and 0 otherwise.

$\beta_i's$ are the parameters to be estimated for percentage change in the country's bilateral trade balance (TB_{ij}) following a one percent change in the variables relative per capita gross national income ($RPGNI_{ji}$); relative GDP ($RGDP_{ji}$); $Tariff_{ij}$, $Distance_{ij}$ ($Dist_{ij}$); Exchange rate ($EXCHR_{ij}$) and relative price level ($RP_{ji,}$), respectively. However, for the dummy variables, the parameter measures the difference between the average bilateral trade balance of the country with trade partners within a given FTA such as EAC, COMESA, and SADC, and the average trade balance with non-members of the FTA, or the average bilateral trade balance between a country and the bordering neighbour compared to bilateral trade balance with non-bordering countries, all else equal.

3.2. Data and Sources

Quantitative data for the period of 2000–2020 used in the estimation of the bilateral trade balance equations were obtained from different sources. Bilateral trade values and tariff data were sourced from the World Integrated Trade Solutions (WITS) portal, while exchange rates, GDP, Per-capita GNI, and Consumer Price Index (CPI) were extracted from the World Bank and the IMF online data portals.

For each country, we used leading bilateral trade partners in Africa by export destinations and import sources based on information published by the Trade Law Centre (Tralac 2022) and data availability. The bilateral trade partners considered in the study for each country are listed in Table 1.

Qualitative data were obtained via semi-structured interviews with Key informants and experts. These included individuals involved in trade policy research in Africa and trade officers from different African countries. The interviews focused on the views of the experts on how the implementation of the AfCFTA agreement is likely to impact national trade balances by probing for potential trade creation and trade diversion, and distribution of gains among the African countries—whether some countries could be more advantaged over others, and the possible reasons. Three (3) trade policy researchers and twenty-eight trade officers from 15 different African countries voluntarily participated in the interviews. Focus group discussions (FGDs) were also conducted with small-scale cross-border traders

and their cluster leaders at the Namanga (Kenya–Tanzania border) and Busia (Kenya–Uganda border). The FGDs involved 10 and 9 participants at the Namanga and Busia border posts, respectively. The purpose of the FGDs was to consider the experiences of cross-border traders on the implementation of free trade protocols and their views on the possible impacts of the implementation of the AfCFTA agreement on their trade activities. The information from the interviews and focus groups was used to triangulate the findings from the models. The tools that guided discussions with the various stakeholders are attached in Appendix A.

Table 1. African bilateral trade partners for the four EAC countries.

Country	Kenya	Uganda	Tanzania	Rwanda
Trade Partners	Burundi Democratic Republic of Congo Egypt Eswatini Mauritius Rwanda South Africa Tanzania Uganda Zambia	Burundi Democratic Republic of Congo Egypt Ethiopia Kenya Rwanda South Africa Sudan Tanzania Zambia	Burundi Democratic Republic of Congo Egypt Eswatini Kenya Malawi Mauritius Morocco Mozambique Rwanda South Africa Uganda Zambia	Burundi Cameroon Democratic Republic of Congo Ethiopia Kenya Malawi Tanzania Tunisia Uganda Zambia

Source: Trade data analysis and factsheets (Tralac 2022); https://www.tralac.org/resources/infographics.html?start=24 (accessed on 3 October 2023).

3.3. Model Estimation and Results

3.3.1. Descriptive Statistics

A summary of the statistics on continuous variables for the four different countries is presented in Table 2. The summaries indicate sufficient variations around the means of the dependent variables (TB_{ij}) and the independent variables in the data sets of all four countries. The range from negative to positive values for the natural log of the bilateral trade balance for all four countries shows the existence of both bilateral deficits and surpluses in intra-Africa trade, while the positive value for the means indicate that surpluses in some panels are significantly large. The ranges for the natural logs for relative GDP and relative per capita GNI also show that while some trade partners are larger in production and some larger in expenditure capacities, other trade partners are relatively small in size or have low spending capacity for imports. Negative means for the log of relative price level shows that commodity prices are relatively higher in Uganda and Tanzania compared to most of the trading partners. Conversely, the positive means show that price levels are relatively lower in Kenya and Rwanda than in the trading partner countries. The summaries also show variations in distance, exchange rates, and the MFN trade weighted tariff. The variations indicate that regression analysis can be conducted to examine how changes in the independent variables in the study contribute to the observed variations in the dependent variable.

Summaries in Table 3 show that bilateral trade partners to the four EA countries comprise those who are members of the same FTA as well as those who are non-members. This allows for the assessment of whether average bilateral trade balances are significantly different for trade partners within an FTA and non-FTA members.

Table 2. Descriptive statistics for continuous variables.

Country	Variables	Obs	Mean	Std. Deviation	Minimum	Maximum
Kenya	lnTBij	193	1.326234	2.242506	−8.119229	9.26279
	lnRPGNIji	210	0.2160549	1.195267	−2.124475	2.48567
	lnRGDPji	210	−0.8272978	1.562378	−3.660679	2.6534
	lnDISTij	210	7.334903	0.7293681	6.222874	8.170093
	MFN trade Weighted Tariffij	122	21.04924	15.36514	1.888869	84.50749
	lnEXCHRij	209	−0.2217416	2.437015	−3.605275	3.198146
	lnRPji	204	0.0294985	0.2148947	−1.723159	0.5237281
Uganda	lnTBij	207	0.992126	3.05202	−5.77915	8.167259
	lnRPGNIji	210	0.464031	0.944054	−1.3207	2.915854
	lnRGDPji	210	0.443313	1.470261	−2.64654	3.472573
	lnDISTij	210	7.084359	0.726786	5.929722	8.104289
	MFN trade Weighted Tariffij	188	12.98092	8.071677	0.342724	46.15428
	lnEXCHRij	210	3.581783	2.330288	0.325188	6.852314
	lnRPji	206	−0.00289	0.392637	−2.06667	2.917769
Rwanda	lnTBij	186	−0.80493	4.019844	−14.4495	11.95249
	lnRPGNIji	211	−0.229929	0.814578	−1.26144	2.403493
	lnRGDPji	211	−0.82263	1.285054	−2.57472	1.973745
	lnDISTij	211	6.989612	0.882561	5.179984	8.470689
	MFN trade Weighted Tariffij	151	20.00504	13.78315	0	89.87846
	lnEXCHRij	211	1.472818	2.441024	−1.50447	6.13911
	lnRPji	205	0.067289	0.2964492	−1.92725	1.018584
Tanzania	lnTBij	272	0.7963187	2.789716	−7.778935	8.567072
	lnRPGNIji	273	0.4306175	1.128428	−1.558972	2.545235
	lnRGDPji	273	−.5543845	1.482554	−3.164834	2.678648
	lnDISTij	273	7.402512	0.7117583	6.322888	8.752172
	MFN trade Weighted Tariffij	221	14.54257	11.85354	0.021007	83.78444
	lnEXCHRij	273	3.048566	2.114589	−0.7200544	5.851021
	lnRPji	264	−0.0558257	0.2429695	−2.02887	0.8532615

Table 3. Summary for active participation in regional trade agreements.

Country		EACACTIVE1		COMESA ACTIVE 1		SADC ACTIVE1	
	Category	Frequency	%	Frequency	%	Frequency	%
Kenya	0	141	67.14	51	24.29		
	1	69	32.86	159	75.71		
	total	210	100.00	210	100.00		
Uganda	0	133	63.33	51	24.29		
	1	77	36.67	159	75.71		
	total	210	100	210	100		

Table 3. *Cont.*

Country		EACACTIVE1		COMESA ACTIVE 1		SADC ACTIVE1	
	Category	Frequency	%	Frequency	%	Frequency	%
Rwanda	0	153	72.51	65	30.81		
	1	58	27.49	146	69.19		
	total	211	100.00	211	100		
Tanzania	0	203	74.36			126	46.15
	1	70	25.64			147	53.85
	total	273	100.00			273	100.00

3.3.2. Unit Root Tests

The Im–Pesaran–Shin (IPS) and the Fisher-type Augmented Dickey–Fuller (ADF) tests for unit roots were used to ascertain the absence of unit roots in the time series components of the panel data sets. The tests are appropriate because the panels are unbalanced (Fabian and Christopher 2001). The results are presented in Table 4, where the test statistics and their *p*-values are reported. The null hypothesis in the two tests is that all panels contain unit roots. The *p*-values (the numbers in parentheses in Table 4) for all the test statistics are less than 0.05. The null hypothesis that all series are non-stationary is therefore rejected, implying that some of the panels do not contain unit roots. Therefore, long-run relationships exist between the logarithm of the trade balance and the independent variables in the study models.

Table 4. Unit root test results.

	Kenya		Uganda		Tanzania	Rwanda
	IPS Test	Fisher Type ADF Test	IPS Test	Fisher Type ADF Test		
Ln Trade Balance$_{ij}$	−2.5937 (0.0047)		−3.3426 (0.0004)			−2.7840 (0.0027)
Ln Relative GDP$_{ji}$	−2.5546 (0.0053)		−2.4496 (0.0072)		−3.4861 (0.0002)	−3.3403 (0.0004)
Ln Relative per capita GNI$_{ji}$	−2.3509 (0.0094)		−1.8246 (0.0340)			
MFN Weighted Tariff$_{ij}$		54.3460 (0.0001)		72.2212 (0.0000)		
Ln exchange rate$_{ij}$	−2.7862 (0.0027)		−1.9063 (0.0283)		−3.9592 (0.0000)	
Ln relative price$_{ji}$	−5.3095 (0.0000)			93.6708 (0.0000)	−4.7435 (0.0000)	

The numbers in parentheses are the *p*-values of the test statistics.

3.4. Panel Regression Results for Bilateral Trade Balances

Panel regression analyses were conducted for each country based on Equation (8) to determine the effects of tariffs, active participation in free trade areas, and macroeconomic variables on the bilateral trade balance of the four EA countries. For each country, estimates with fixed effects and random effects were obtained, as reported in Table 5. The Hausman test was conducted to determine which between fixed effects (FE) and random effects (RE) estimation fitted the data well enough to yield consistent estimates (Sohag et al. 2018).

Table 5. Panel regression results for Kenya, Uganda, Tanzania, and Rwanda.

Variables	Dependent Variable: Natural Log of Bilateral Trade Balance (Ln TB_{ij})							
	Kenya		Uganda		Tanzania		Rwanda	
	Fixed Effects (fe)	Random Effects (re)	Fixed Effects (fe)	Random Effects (re)	Fixed Effects (fe)	Random Effects(re)	Fixed Effects (fe)	Random Effects (re)
Ln Relative per Capita GNI_{ji}	1.343 (1.3938)	−0.8370 (0.6402)	−2.2606 * (1.1905)	−0.1936 (0.4111)	0.2555 (1.6687)	−0.9185 *** (0.3124)	−0.7465 (2.8348)	−2.5283 *** (0.7050)
Ln Relative GDP_{ji}	−3.627 ** (1.4222)	−0.1890 (0.4507)	2.7820 ** (1.1836)	−0.17402 (0.2996)	−0.3990 (1.3553)	0.3169 (0.2056)	−1.0971 (2.4331)	−1.3877 *** (0.4260)
Ln Dist.		−3.1418 ** (1.3081)		−2.1679 *** (0.5320)		0.2581 (0.5015)		0.4319 (0.7787)
MFN trade Weighted Tariff	0.0031 (0.0085)	(0.0082 (0.0086)	−0.03168 ** (0.0133)	−0.0588 *** (0.0144)	−0.0007 (0.0085)	−0.0064 (0.0091)	−0.0023 (0.0178)	−0.0017 (0.0179)
$LnEXCHR_{ij}$	2.687 *** (0.6318)	0.9492 ** 0.4276	−0.2551 (0.5527)	−0.6433 *** (0.1378)	0.4655 (0.7925)	−0.6762 *** (0.1909)	(0.2616) (1.4987)	−0.2765 (0.1732)
$LnRP_{ji}$	3.632 *** (0.8577)	1.3804 ** (0.6371)	0.9135 (0.5789)	1.1791 *** (0.3073)	0.8472 (0.9370)	−0.5787 (0.4667)	2.7557 (1.7885)	2.029 ** (0.9783)
EAC	0.3736 (0.5964)	−0.0281 (0.6192)	−2.852 *** (0.7066)	−4.4283 *** (0.5944)	0.0246 ** (0.5262)	0.0695 (0.5395)	−0.9463 (0.8323)	−1.0111 (0.7229)
COMESA	−2.651 *** (0.7093)	−2.6638 *** (0.6972)	0.413084 0.546098	1.1101 ** (0.4452)			−0.3926 (0.7132)	−0.5498 (0.7000)
SADC						0.6761 (0.6056)		
_cons	0.254557 (1.4224)	26.30578 (9.5112)	2.683117 1.755712	20.189 (3.7969)	−1.0177 (2.3566)	1.1841 (3.6976)	−1.5586 (2.4127)	−3.0966 (5.2883)
Number of Obs.	116	116	185	185	215	215	138	138
Number of groups	10	10	10	10	13	13	10	10
Hausman Test Results	$chi^2(7) = 32.66$ $Prob>chi^2 = 0.0000$		$chi^2(7) = -14.38$ $chi^2 < 0$ ==> model does not meet asymptotic assumptions of the test		$chi^2(6) = 7.78$ $Prob>chi^2 = 0.2546$		$chi^2(7) = 16.79$ $Prob>chi^2 = 0.0188$	

The stars ***, ***, and * implies that the estimated parameter (coefficient) is statistically significant at the 1%, 5%, and 10% levels, respectively. Numbers in parentheses are standard errors.

The Hausman test results reported in the last raw of Table 5 reject the random effects model in the Kenyan case, but supports the random effects model for Uganda, Tanzania and Rwanda. Therefore, results for fixed effects model are used to explain effects of the variables on bilateral trade in Kenya while for Uganda, Tanzania and Rwanda, results of the random effect models are used.

4. Results and Discussion

4.1. Impacts of Tariffs on Trade Balances

The coefficient of the MFN-trade weighted tariff is negative and statistically significant in the bilateral trade equation for Uganda only but is statistically insignificant in all the models for the other three countries. The estimates show that all else equal, Uganda's bilateral trade balance within Africa was reduced by 0.06 percent for every one percent increase in average tariff levied on imports from African countries and vice versa. The results imply a complete removal of tariff (100% reduction) on intra-Africa trade could improve intra-Africa trade balance for Uganda by 6 percent. This is much lower than Saygil et al. (2018)'s projection of a 51 percent decrease in Africa's trade deficit with full liberalization.

These results for Uganda are similar to those of Arif et al. (2020), who found a negative relationship between international trade taxes and current account balances for the next eleven (N-11) countries (Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, Turkey, South Korea, and Vietnam). Furthermore, the insignificant coefficients

showing no effect of tariff changes on the trade balances for Kenya, Tanzania, and Rwanda in the period of 2000–2020 suggest that tariff removal may not improve the trade balances of these countries within Africa. According to Furceri et al. (2019), tariffs can have very small effects on trade.

The interviewed experts also acknowledge that while the AfCFTA will be trade creative as African countries open their goods and services market to each other, the magnitude of trade growth for different countries would be different. They expect countries with more developed manufacturing and services, giving examples of South Africa, Nigeria, and Egypt, have a greater potential to benefit from the AfCFTA, citing the relatively higher level of industrialization, better infrastructure, and technology. On the contrary, countries such as Zambia, Mozambique, and the Democratic Republic of Congo could experience the least gains due to low levels of industrial development.

The trade policy experts and trade officers hold the view that EA countries will not automatically experience increased trade with the rest of Africa under the AfCFTA and elimination of tariffs but will need strategic measures to improve and upgrade the quality of products they produce to international products standards. Furthermore, the small-scale cross-border traders at the Namanga and Busia border posts also indicate that the elimination of tariffs may not have any effect on their business. According to them, what is useful is the guarantee of free movement across borders with no harassment, streamlining administrative procedures to reduce the time for clearance, and lower transportation costs to enable them to move larger volumes of goods across the borders.

4.2. Impact of Active Participation in FTAs on Bilateral Trade Balances

The coefficient of the dummy variable EAC is negative and statistically significant in the estimated bilateral equation for Uganda but is insignificant in the estimated equation for Kenya, Tanzania, and Rwanda. The negative and significant coefficient shows that for all else equal, the average intra-Africa trade balance between Uganda with EAC trade partners was lower than the average trade balance with non-EAC members in the period of 2000–2020. This implies that the average value of Uganda's exports within the EAC was lower than the average value of its imports from the region. The statistically insignificant coefficient of the EAC dummy in the estimated equation for Kenya, Tanzania, and Rwanda indicates no difference between their average trade balances with members of EAC and that with non-EAC members during the period of 2000–2020.

The coefficient of the COMESA dummy is negative and significant in Kenya's model, positive and significant in the models for Uganda, but insignificant in the equation for Rwanda. Furthermore, in the Tanzania model, the coefficient of the SADC dummy is also statistically insignificant. The results imply that the average value of Kenya's bilateral exports into COMESA was lower than the value of bilateral imports from the COMESA. However, for Uganda, the average value of bilateral exports to the COMESA was higher than that of its bilateral imports from the REC. The statistically insignificant coefficient of the COMESA dummy in the equation for Rwanda and that for the SADC dummy in the equation for Tanzania, respectively, shows that active participation by Rwanda in the EAC and Tanzania in the SADC had no impact on their intra-African trade balances.

The results indicate that even though East African countries trade heavily within the RTAs, effects on bilateral trade balances are not the same across countries, with outcomes varying even for the same country in different RTAs, as demonstrated by different impacts for Uganda in the EAC and in the COMESA. According to trade experts, there will be some transition costs involved in the initial periods as countries make adjustments to meet quality standards in the new RTA.

Other cited challenges to greater export growth for the EA countries as they import larger volumes of cheap products from other countries, thereby reducing trade balances, include failure to fully implement free trade protocols and weak enforcement of the policies due to inadequate political goodwill; low industrial production capacity; limited trade facilitation; and homogeneous production, hence lack of complementarity of products,

inadequate infrastructure, human capital, technical capacity, and high costs of production due to higher cost of credit.

4.3. Effect of Distance on Bilateral Trade Balance

Distance was included in the bilateral trade balance models as a proxy of transport costs. Hypothesis of the gravity model is that distance has a negative effect on trade force.

The coefficient of the log of distance is negative and significant in the model for Uganda but insignificant in the models for Tanzania and Rwanda. The negative and significant effect shows that with all else constant, Uganda's bilateral trade balances reduced by about 2 percent with every one percent increase in distance. The negative effect implies that Uganda exports relatively more to nearby countries but imports relatively higher-valued imports from farther away countries. The higher import values from far away, as shown in the trade data by Tralac (2018), indicate Uganda's leading exports in agricultural products, while leading imports from countries especially outside EAC and COMESA are industrial products which tend to be of higher value.

Most of the interviewed trade officers also pointed out the negative effects of poor roads on trade, citing an example of Mozambique and the Democratic Republic of Congo (DRC), where poor road networks have affected the transportation of commodities to the markets as well as overall trade outcomes. Brenton et al. (2014) also established that road length and quality were some of the main impediments of market integration in East and Central Africa.

Management of clearance of traders at border crossing points is also important even for bilateral trade outcomes with neighbouring countries within RECs. From the focus group discussions, the small-scale cross-border traders and their cluster leaders at the Busia and Namanga border posts hail the introduction of the single window framework under the one-stop border posts (OSBPs) to have enhanced clearance at borders. Under the OSBPs, government agencies of bordering countries converge to clear people and goods. The joint verification of documents has reduced delays at the border crossings.

However, free movement into Tanzania is hindered by the requirement for traders to show their passports to gain entry into Tanzania, yet the EAC's single customs territory is in place. Other EAC countries—Uganda, Kenya and Rwanda—allow entry to EAC citizens on the production of the national identity card only. The process of acquiring identity cards in the EAC countries is often easier than that for passports, which also must be renewed once pages are full or expired. The constrained movement raises costs for traders who are forced to buy Tanzanian goods from other traders at higher costs. Policies that secure the free movement of persons can have significant impacts on trade costs and outcomes. Harmonization of requirements for movement within RECs and across Africa will be critical to ensure gains from trade accrue to all stakeholders in the value chains and overall for the countries involved. A replication of the single window framework across African borders could also be important for improving trade outcomes under the AfCFTA.

4.4. Effects of Relative Income on Trade Balances

The macroeconomic income variables including relative GDP and relative per capita GNI were included in the models to determine the importance of relative growth in productive capacity or expenditure capacity of African trade partners to improvement of the bilateral trade balance of the EA countries. Studies have projected increased intra-Africa trade as well as growth in GDP for African countries from implementing the AfCFTA. The coefficient for the log of relative GDP is negative and statistically significant in models for Kenya and Rwanda but insignificant in the models for Tanzania and Uganda. The results show that with all else constant, a one percent increase in relative GDP of bilateral trade partners reduced the bilateral trade balance by 3.6 percent in Kenya and by 1.4 percent in Rwanda during the study period. This indicates that the bilateral trade partners for Kenya and Rwanda exported more than they imported from the two countries in periods of larger economic expansion leading to a lowering of the bilateral trade balance. The insignificant

coefficient of relative GDP of bilateral trade partners in the models of Uganda and Tanzania shows that growth in the relative production capacities of their trade partners within Africa had no effect on their trade balances. The results suggest differential export and import elasticity in intra-Africa trade across the countries. This may also explain the differential impacts of AfCFTA on welfare that have been reported in earlier studies.

The coefficient of log of relative per capita GNI is negative and statistically significant in the models for Tanzania and Rwanda but insignificant in the models of Kenya and Uganda. The estimates show that with all else equal, a one percent increase in the relative per capita GNI of the trade partner reduced the bilateral trade balance by 0.9 percent in Tanzania and by 2.5 percent in Rwanda. An increase in relative GNI per capita indicates the increased ability to purchase goods and services produced within and beyond the country's borders. The results indicate that the increased spending capacity of bilateral trade partners during the study period did not translate into increased demand for goods and services from Tanzania and Rwanda. This result may be attributed to the high spending on imports from outside Africa during the study period (Shinyekwa et al. 2021).

The view of interviewed trade officers and trade policy experts is that AfCFTA could benefit larger and more developed economies than the smaller and less developed economies in Africa. The low development levels and lack of competitiveness in the smaller economies in Africa have also been pointed out by Geda and Yimer (2023) as one of the factors that could hinder the realization of the positive effects of the continental free trade area. Consequently, a strategy to support small economies, such as via infrastructure, expanded industrial capacity, access to information and productive inputs, as well as building capacities of the countries to adhere to standards and requirements in trade, should be prioritized to drive growth in the small economies. Strategies to increase foreign direct investments (FDI) in sectors with higher import spending towards the rest of the world (ROW) can help the African countries reap more from the AfCFTA, not only in import substitution but also increased employment along with other related multiplier effects and poverty eradication.

4.5. Effect of Exchange Rate on Bilateral Trade Balances

The coefficient of the log of exchange rate is positive and statistically significant for Kenya but negative and significant in the trade balance equations for Tanzania and Uganda. The effect of the exchange rate on the intra-African bilateral trade balance of Rwanda is insignificant. The results imply that a relative appreciation of the home currency against the US dollar (USD) improved the bilateral trade balance for Kenya but worsened the bilateral trade balances for Tanzania and Uganda. All else equal, a one percentage point appreciation of Kenya's currency against that of African trade partners caused a 2.7 percent improvement in bilateral trade balance, while an appreciation of the home currency against the currency of trade partners in Africa led to 0.6 and 0.7 percent worsening of bilateral trade balances for Uganda and Tanzania, respectively. The findings suggest that the depreciation of home currency improved bilateral trade balances for Tanzania and Uganda but reduced trade balances for Kenya. The effect of exchange rates on the bilateral trade balance in the cases of Tanzania and Uganda is consistent with theoretical expectations in the standard model of trade balance (Appleyard et al. 2010). Findings in the studies by Laksono and Saudi (2020) for Indonesia and Korap (2011) for Turkey were also consistent with the theoretical expectation that currency depreciation improves the balance of trade. However, the findings of the Kenya case are similar to those in the study by Weerasinghe and Perera (2019) for the Sri Lankan Economy in the period of 2000–2015, where negative effects of depreciation on the trade balance were reported. The mixed results on exchange rate impacts on bilateral trade balances for the EA countries show that the influence of macroeconomic conditions on trade outcomes can significantly differ across countries. Therefore, the macroeconomic principle of currency depreciation improving the overall balance of trade of a country, being true for bilateral trade balances in some countries, does not necessarily apply to all countries.

4.6. Effect of Relative Price on Bilateral Trade Balances

The relative price level shows how high or low the cost of goods and services in a country is when compared to the costs in the other country that trade with it. Under free trade, an increase in the relative price level would stimulate imports into the country from cheaper sources but would reduce demand for exports of the country to other countries. An increase in the relative price of a trading partner to a country would therefore be expected to improve a country's bilateral trade balance. The significant positive coefficient of the relative price of the trade partner in the estimated bilateral trade equations for Kenya, Uganda and Rwanda is therefore consistent with theoretical expectations. An increase in the price level reduces the competitiveness of a country in international trade. To enhance benefits from the implementation of the AfCFTA, African countries ought to prioritize investments that ensure low costs in production and inflation at low levels.

5. Conclusions

This study examined the effect of free trade on intra-African bilateral trade balances for Kenya, Rwanda, Uganda, and Tanzania to assess the potential implications of implementing agreement establishing the African Continental Free Trade area. Specifically, the study examined the impacts of tariff elimination and active participation in the free trade areas in Africa, as well as the effects of macroeconomic variables on each country's bilateral trade balances. For each country, the estimated econometric models include determinants of trade balance from the standard Keynesian model and the gravity model of trade flows between countries. Panel regression with fixed effects and random effects were obtained. Results for the Hausman test chose the fixed effects model estimates for Kenya, while random effects were chosen for the other three countries.

Results show that tariff reduction and active participation in free trade areas affected bilateral trade balances of countries differently. All else equal, a complete tariff elimination on intra–African trade may improve bilateral trade balances for Uganda by 6 percent, far below the overall improvement of 51 percent projection in an earlier simulation study. However, there is no evidence that tariff elimination in intra-Africa trade would affect bilateral trade balances for the other three EA countries. Active participation in FTAs during the study period improved bilateral trade balances for Uganda within the COMESA region but reduced trade balances within EAC. For Kenya, trade balances were lower within COMESA than outside it, but no difference between bilateral trade balance with members and non-members of the EAC is established. Furthermore, there is no evidence of any differences in bilateral trade balances of Tanzania within and outside of the EAC or SADC; and similarly for Rwanda within and outside the EAC and COMESA.

The results provide evidence that even within free trade areas, the bilateral trade balance for countries is affected differently due to the relative production sizes and expenditure capacities of trade partners. Countries that will experience relatively lower growth in GDP and per capita GNI could also experience rising trade deficits within Africa with the AfCFTA.

The lack of harmony in required documents for free movements within free trade areas is also counterproductive, giving advantages to other countries while reducing benefits to others.

Bilateral trade balances increase with higher relative price levels of trade partners, indicating that a country with relatively higher inflation would experience trade deficits in intra-Africa trade. Therefore, managing inflation growth will be critical for all the countries under the AfCFTA.

The effect of exchange rate depreciation on intra-Africa bilateral trade balance for the EA countries is mixed. Bilateral trade balances for Tanzania and Uganda improve with the depreciation of the home currency, while Kenya's intra-Africa bilateral trade balances worsen with the depreciation of the home currency. The relevance of the relative strength of the home currency in intra-African bilateral trade is not equal.

The findings provide evidence that the impacts of the AfCFTA on bilateral trade balances will vary, just as for the other indicators of trade and welfare outcomes reported in earlier studies.

6. Recommendations

To improve bilateral trade balances in the context of liberalized trade in goods and services in Africa, the EA country will require larger growth in exports than growth in their imports without restricting in any way imports from other countries. As demonstrated in the findings, free trade alone does not guarantee improved trade balances. However, increased production capacity is critical, as demonstrated in the findings for Tanzania and Uganda. Therefore, each country should seek to increase productivity in the leading intra-African export sectors. This can be realized via the use of quality inputs, investments in manufacturing and value addition to reduce trade in unprocessed commodities, and strategic FDI in the sectors with large import demands by Africa for products from the rest of the world not only to divert such spending to Africa but also to diversify their exports.

Furthermore, macroeconomic policies that keep inflation low, innovations that lead to reductions in costs of energy and other inputs, and investments to improve transport infrastructure for increased connectivity and reduced costs will be critical to keeping relative price levels low for increased competitiveness. The results showed that an increase in relative prices reduced bilateral trade balances; hence, reversing growth in relative prices can improve trade balances for the countries within Africa.

Countries should also support the frictionless movement of goods across their borders with other African countries. All countries should fully implement the protocols and cooperate in the harmonization of trade procedures for the free movement of people and goods across borders. The single window framework under OSBPs, where all government agencies from bordering countries converge for the verification of documents and clearance of commodities to reduce the time taken to clear goods, should be replicated in all border points in Africa.

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Appendix A

Key Informant Interview Tool

TARGETED RESPONDENTS

- Trade officials from National Government Ministries and County Departments of Trade;
- Trade Policy Researchers—East African Community/COMESA/UNECA/AfDB.

Issues to obtain stakeholder views on

General views on the potential impacts of AfCFTA for countries in national trade balances.

1. Opportunities for trade creation and potential trade diversion towards African countries with AfCFTA.
2. Distribution of gains across countries –Are some countries in the region likely to benefit more than others, and why? (Probe the existing comparative advantage in the production of certain goods and technological advancement.)
3. What are some of the issues that could make some countries disadvantaged (if at all) under the AfCFTA? (Probe existing external and internal trade agreements, binding debt covenants, and national policy prioritization.)

Tool for Focus Group Discussions

TARGETED PARTICIPANTS

- small-scale cross-border traders;
- Cluster leaders.

Location: Namanga (Kenya–Tanzania) And Busia (Kenya–Uganda) border posts

Issues to seek perspectives of traders on

1. Duties/taxes/levies on cross-border trade involving agricultural commodities:
   a. Are all commodities treated equally?—Are some commodities not taxed? If so, which ones?
   b. What are the existing taxes or operational laws that govern the movement of agricultural goods (primary, intermediate, and final)
      - Cereals—maize, rice, millet, sorghum;
      - Roots and tubers—cassava, potatoes;
      - Vegetables and fruits;
      - Animal products—–milk, meat, and live animals) across countries in the region.
   c. What are the applicable tariff rates and the common external tariffs (CET) on agricultural commodities?
2. How is the valuation and classification of commodities carried out to enable the charging of levies/duties?

Probe on perceived fairness, including in any way instances of exploitation.

3. Application of rules of origins—How are they implemented?
4. What are the compliance requirements for cross-border trade with regard to certificates and permits, including safety standards imposed on products traded?
5. Probe for the challenges in licensing procedures and issue of multiple certificates and permits for trade clearance.
6. Views on potential effects of tariff reduction/elimination on trade in agricultural commodities (primary and processed). Which particular commodities from the bordering countries would be traded more?
7. Views on non-tariff barriers
   a. What are the major barriers/conditions/non-tax issues that affect trade at the border?
   b. Probe for suggestions and practical solutions to the barriers mentioned in a to improve trade between countries.
8. What are the main trade facilitation needs of the agri-food SMEs?

Notes

[1] Kenya, Uganda, Rwanda, Burundi, and the Democratic Republic of Congo—DRC.

[2] Rwanda, Burundi, and the DRC.

[3] United Republic of Tanzania.

[4] Kenya, Uganda, South Sudan, and the Federal Republic of Somalia.

References

Abrego, Lisandro, Mario de Zamaróczy, Tunc Gursoy, Salifou Issoufou, Garth P. Nicholls, Hector Perez-Saiz, and Jose-Nicolas Rosas. 2020. *African Continental Free Trade Area Potential Economic Impact and Challenges*. SDN/20/04. Washington, DC: International Monetary Fund.

Adeboje, Oluwafemi Mathew, Abiodun Folawewo, and Adeniyi Jimmy Adedokun. 2022. Trade Integration, Growth and Employment in West Africa: Implications for African Continental Free Trade Area (Afcfta). *Preprint, in review*. [CrossRef]

Afesorgbor, Sylvanus Kwaku. 2017. Revisiting the effect of regional integration on African trade: Evidence from meta-analysis and gravity model. *The Journal of International Trade & Economic Development* 26: 133–53. [CrossRef]

Afesorgbor, Sylvanus Kwaku. 2019. Regional Integration, Bilateral Diplomacy and African Trade: Evidence from the Gravity Model. *African Development Review* 31: 92–505. [CrossRef]

African Union. 2018. Agreement Establishing The African Continental Free Trade Area. Available online: https://au.int/sites/default/files/treaties/36437-treaty-consolidated_text_on_cfta_-_en.pdf (accessed on 11 June 2022).

Anderson, James E., and Eric van Wincoop. 2003. Gravity with Gravitas: A Solution to the Border Puzzle. *American Economic Review* 93: 170–92. [CrossRef]

Appleyard, Dennis R., Alfred J. Field, and Steven L. Cobb. 2010. *International Economics*, 7th ed. The McGraw-Hill Series Economics. Boston: McGraw-Hill/Irwin.

Arif, Imtiaz, Lubna Khan, Fatima Farooq, and Tahir Suleman. 2020. Impact of International Trade and Trade Duties on Current Account Balance of the Balance of Payment: A Study of N-11 Countries. *Journal of Accounting and Finance in Emerging Economies* 6: 11–32. [CrossRef]

Bahmani-Oskooee, Mohsen, and Taggert J. Brooks. 1999. Bilateral J-Curve between U.S. and her Trading Partners. *Weltwirtschaftliches Archiv* 135: 156–65. [CrossRef]

Brenton, Paul, Alberto Portugal-Perez, and Julie Régolo. 2014. *Food Prices, Road Infrastructure, and Market Integration in Central and Eastern Africa*. Policy Research Working Papers 7003. Washington, DC: The World Bank. [CrossRef]

Demiral, Mehmet. 2016. Currency Depreciation, Trade Balance and Intra-Industry Trade Interactions in Turkey's OECD Trade. *International Journal of Economics and Finance* 8: 8–22. [CrossRef]

East African Community. 2015. Agreement Establishing a Tripartite Free Trade Area among the Common Market for Eastern and Southern Africa, the East African Community and the Southern African Development Community. Available online: https://www.eac.int/documents/category/comesa-eac-sadc-tripartite (accessed on 7 June 2022).

East African Community. 2024. Overview of EAC. Available online: https://www.eac.int/overview-of-eac#:~:text=The%20East%20African%20Community%20(EAC,of%20Uganda,%20and%20the%20United (accessed on 7 March 2024).

Echandi, Roberto, Maryla Maliszewska, and Victor Steenbergen. 2022. *Making the Most of the African Continental Free Trade Area: Leveraging Trade and Foreign Direct Investment to Boost Growth and Reduce Poverty*. Washington, DC: World Bank. Available online: https://openknowledge.worldbank.org/handle/10986/37623 (accessed on 1 August 2022).

Ekobena, Simon Yannick Fouda, Adama Ekberg Coulibaly, Mama Keita, and Antonio Pedro. 2021. Potentials of the African Continental Free Trade Area: A Combined Partial and General Equilibrium Modeling Assessment for Central Africa. *African Development Review* 33: 452–65. [CrossRef]

Fabian, Bornhorst, and F Baum Christopher. 2001. 'IPSHIN: Stata Module to Perform Im-Pesaran-Shin Panel Unit Root Test,' Statistical Software Components. Available online: https://ideas.repec.org/c/boc/bocode/s419704.html (accessed on 15 February 2024).

Fofack, Hippolyte, and Andrew Mold. 2021. The AfCFTA and African Trade—An Introduction to the Special Issue. *Journal of African Trade* 8: 1–11. [CrossRef]

Furceri, Davide, Swarnali Ahmed Hannan, Jonathan Ostry, and Andrew Rose. 2019. Macroeconomic Consequences of Tariffs. *IMF Working Papers* 19: 1. [CrossRef]

Fusacchia, Ilaria, Jean Balié, and Luca Salvatici. 2022. The AfCFTA Impact on Agricultural and Food Trade: A Value Added Perspective. *European Review of Agricultural Economics* 49: 237–84. [CrossRef]

Geda, Alemayehu, and Addis Yimer. 2023. The Trade Effects of the African Continental Free Trade Area: An Empirical Analysis. *The World Economy* 46: 328–45. [CrossRef]

Gould, David M., and Roy J. Ruffin. 1996. Trade Deficits: Causes and Consequences. *Economic Review-Federal Reserve Bank of Dallas* 11: 10–20.

Gupta, K. R. 1964. Keynesian Theory of Balance of Payments. *The Indian Economic Journal* 11: 367–72. [CrossRef]

Hall, Robert E., and John B. Taylor. 1997. *Macroeconomics*, 5th ed. New York: Norton.

Jensen, Hans Grinsted, and Ron Sandrey. 2015. *The Continental Free Trade Area—A GTAP Assessment*. Stellenbosch: Trade Law Centre for Southern Africa (TRALAC).

Jomit, C. P. 2014. Export Potential of Environmental Goods in India: A Gravity Model Analysis. *Transnational Corporations Review* 6: 115–31. [CrossRef]

Kalbasi, Hassan. 2001. The Gravity Model and Global Trade Flows. Paper presented at the 75th International Conference on Policy Modelling for European and Global Issues, Brussels, Belgium, July 5–7.

Karingi, Stephen, and Simon Mevel. 2012. *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*. 332288:52. West Lafayette: Purdue University, Center for Global Trade Analysis.

Keho, Yaya. 2021. Determinants of Trade Balance in West African Economic and Monetary Union (WAEMU): Evidence from Heterogeneous Panel Analysis." Edited by Robert Read. *Cogent Economics & Finance* 9: 1970870. [CrossRef]

Khan, Zakir Saadullah M., and Ismail M. Hossain. 2010. A Model of Bilateral Trade Balance: Extensions and Empirical Tests. *Economic Analysis and Policy* 40: 377–91. [CrossRef]
Korap, Levent. 2011. An Empirical Model for the Turkish Trade Balance: New Evidence from Ardl Bounds Testing Analyses. *Munich Personal RePEc Archive* 14: 38–61.
Kouty, Manfred. 2021. Implementing the African Continental Free Trade Area (AfCFTA): The Effects of Trade Procedures on Trade Flows. *Research in Applied Economics* 13: 15. [CrossRef]
Kristjánsdóttir, Helga. 2005. *A Gravity Model for Exports from Iceland*. CAM Working Papers 2005-14. Copenhagen: University of Copenhagen, Department of Economics, Centre for Applied Microeconometrics.
Laksono, Roosaleh Laksono, and Mohd Haizam Mohd Saudi. 2020. Analysis of the Factors Affecting Trade Balance in Indonesia. *International Journal of Psychosocial Rehabilitation* 24: 3113–20. [CrossRef]
Maliszewska, Maryla, Dominique van der Mensbrugghe, Maria Filipa Seara Pereira, Israel Osorio Rodarte, and Michele Ruta. 2020. The African Continental Free Trade Area: Economic and Distributional Effects. Available online: http://ageconsearch.umn.edu/record/333178 (accessed on 10 July 2022).
Ndukwe, F. O. 2004. Promoting Trade: Regional Integration and the Global Economy. In *New Partnership for Africa's Development*. Washington, DC: International Monetary Fund, June 11. [CrossRef]
Ntara, Caroline K. 2016. Trading Blocs and Economic Growth: A Critical Review of the Literature. *International Journal of Developing and Emerging Economies* 4: 1–21.
Organization for Economic Cooperation and Development, ed. 2011. *Trade for Growth and Poverty Reduction: How Aid for Trade Can Help*; The Development Dimension. Paris: OECD.
Phat, Le Trung Ngoc, and Nguyen Kim Hanh. 2019. Impact of Removing Industrial Tariffs under the European–Vietnam Free Trade Agreement: A Computable General Equilibrium Approach. *Journal of Economics and Development, ahead-of-print*. [CrossRef]
Plummer, Michael, David Cheong, and Shintaro Hamanaka. 2011. *Methodology for Impact Assessment of Free Trade Agreements*. Manila: Asian Development Bank.
Rahman, Mohammad, and Dilip Dutta. 2012. The Gravity Model Analysis of Bangladesh's Trade: A Panel Data Approach. *Journal of Asia-Pacific Business* 13: 263–86. [CrossRef]
Saygil, Mesut, Ralf Peters, and Christian Knebel. 2018. African Continental Free Trade Area: Challenges and Opportunities of Tariff Reductions. UNCTAD Blue Series Papers. Available online: https://unctad.org/system/files/official-document/ser-rp-2017d15_en.pdf?Repec (accessed on 13 June 2022).
Shinyekwa, Isaac M. B., Enock N. W. Bulime, and Aida Kibirige Nattabi. 2021. Trade, Revenue, and Welfare Effects of the AfCFTA on the EAC: An Application of WITS-SMART Simulation Model. *Business Strategy & Development* 4: 59–74. [CrossRef]
Sohag, Kazi, Umar Bamanga, and Md. Mahmudul Alam. 2018. Stata Command for Panel Data Analysis. *Method*. [CrossRef]
Songwe, Vera, Jamie Alexander Macleod, and Stephen Karingi. 2021. The African Continental Free Trade Area: A Historical Moment for Development in Africa. *Journal of African Trade* 8: 12. [CrossRef]
Tinbergen, Jan. 1963. Shaping the world economy. *The International Executive* 5: 27–30. [CrossRef]
Tralac. 2018. Trade Data Updates: Uganda Intra-Africa Trade and Tariff Profile. Available online: https://www.tralac.org/documents/publications/trade-data-analysis/1995-uganda-intra-africa-trade-and-tariff-profile-june-2018/file.html (accessed on 3 October 2023).
Tralac. 2022. Tralac 2022 Annual Conference Report. Available online: https://www.tralac.org/documents/events/tralac/4665-tralac-2022-annual-conference-report/file.html (accessed on 3 October 2023).
United Nations Conference on Trade and Development. 2023. *Key Statistics and Trends in International Trade 2022 the Remarkable Trade Rebound of 2021 and 2022*. Geneva: United Nations.
United Nations Conference on Trade and Development, ed. 2019. *Key Statistics and Trends in Regional Trade in Africa*. New York and Geneva: United Nations. Available online: https://unctad.org/system/files/official-document/ditctab2019d3_en.pdf (accessed on 17 January 2024).
United Nations Economic Commission for Africa. 2020. Agreement Establishing the African Continental Free Trade Area. UN. ECA. Available online: https://hdl.handle.net/10855/49247 (accessed on 20 June 2022).
Weerasinghe, Erandi, and Tissa Ravinda Perera. 2019. Determinants of Balance of Trade in the Sri Lankan Economy. *International Journal of Trade, Economics and Finance* 10: 17–24. [CrossRef]
World Bank. 2020. *The African Continental Free Trade Area: Economic and Distributional Effects*. Washington, DC: World Bank Group. [CrossRef]
World Bank. 2023. Trade Has Been a Powerful Driver of Economic Development and Poverty Reduction. Available online: https://www.worldbank.org/en/topic/trade/brief/trade-has-been-a-powerful-driver-of-economic-development-and-poverty-reduction (accessed on 5 January 2024).
World Integrated Trade Solution Data Portal. 2023. Trade Summary. Available online: https://wits.worldbank.org/ (accessed on 12 December 2023).