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Eastern and Southern Africa



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Retrospect and Prospects

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About this edition

The policy briefs in this edition are derived from full research papers published in the COMESA flagship publication; Key Issues in Regional Integration Volume XII

How Does Transport Infrastructure Affect Exports in the COMESA?

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Transport infrastructure, (including roads, railways, ports, and airports) is essential in facilitating how goods and services move across borders. This is in terms of reducing trade barriers, lowering transportation costs, and improving overall trade performance within a regional economic community. The logistic performance index also ranks Sub-Saharan Africa (SSA) as the region without sufficient transport infrastructure and hence hindering trade within the region. For example, the cost of freight is three times more expensive in Africa (except North Africa) compared to other developing regions. This can be attributed to factors such as poor road maintenance and lack of investment in quality roads among others. Africa's road network also differs across the continent in terms of coverage and quality. Hence poor connectivity and shortfalls in transport infrastructure are a challenge to the growth of trade within the region.

Despite the efforts made by COMESA to promote trade integration, however, there remains significant challenges regarding the state of transport infrastructure within the region. Inadequate and underdeveloped transport infrastructure can constrain the free movement of goods and services, hence increasing transportation costs, delays, and inefficiencies. These factors pose major obstacles to intra-regional trade and limit the potential economic benefits that could be derived from increased trade integration. Therefore, understanding how transport infrastructure affects intra-regional exports in COMESA, can enable policymakers to develop suitable interventions and address the existing challenges, to improve trade in the region.

From the findings of our study, it is evident that improving the quality of road infrastructure, especially for the exporting country, increases the quantity of exports in the COMESA region. This implies that if the quality of road infrastructure is improved, the cost of transport reduces and trade within the COMESA increases. This is particularly for Member States that fall under the Middle-Income Country (MIC) category in comparison to those in Low-Income Country (LIC) category. However, the development of road infrastructure alone may not be sufficient to facilitate trade within the COMESA region, but other factors such as border controls, customs procedures, and logistical challenges need to be put into consideration to realize trade gains in general.

In addition, findings show that the quality of railway infrastructure of both importing and exporting countries is important in increasing trade in COMESA. Therefore, Member States with relatively high incomes have a likelihood to boost

their trade flows by improving the quality of railway infrastructure, in comparison to their LIC counterparts. MICs also tend to engage in more manufacturing and industry activities compared to LICs, which require bulk transportation using railway. Similarly, improvement in the quality of air transport infrastructure plays a significant role in boosting intra-COMESA trade for MICs. This can be attributed to the high costs associated with air transport and limited use of this mode for trade in the COMESA region. The quality of water (seaport) transport is also significant in enhancing exports in the COMESA. Hence water transport infrastructure needs to be improved further to facilitate trade especially for landlocked COMESA Member States since they incur more expenses and difficulties in transporting goods to their borders as well as their export partners within the regional bloc.

From this scrutiny, we recommend that; first, governments within the COMESA region should intentionally enhance the quality of road transport infrastructure. This improvement will serve as a supportive mode of transportation for facilitating access to and utilization of air transport in low-income countries. The goal is to enhance the timeliness of exports, especially perishable goods, and bolster the security of high-value exports in the COMESA region.

Secondly, recognizing that the trade impacts of transport infrastructure quality are contingent on a country's level of economic development, it is imperative for governments of LICs in COMESA to prioritize infrastructure development during resource allocation. This can be done in collaboration with the private sector, particularly in enhancing the quality of road infrastructure, to maximize trade benefits.

Lastly, it is crucial for the COMESA Secretariat to customize interventions for the improvement of transport infrastructure based on the income levels of Member States. This is because a uniform approach may not be suitable for all COMESA Member States.

*(The full research paper is titled: **The Effects of Transport Infrastructure on Intra-regional Exports in COMESA**, published in the Key Issues in Regional Integration Vol XII publication)*



The Effect of Transport Infrastructure on Bilateral Trade in COMESA

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Transport infrastructure in the Common Market for Eastern and Southern Africa (COMESA) is critical for trade integration, easing the cost of trading and fostering regional integration. The advancement of transport infrastructure is enshrined in Article 70 of the treaty establishing COMESA which states the need for transport infrastructure. Transport infrastructure such as road, rail, maritime, and air affect how much a region trades with itself and the rest of the world.

Poor transport infrastructure contributes to high transport costs that hinder trade (Egger & Larch, 2007). On the other hand, a well-developed transport infrastructure facilitates trade flows. This is well observed through transport facilitation programmes implemented at bilateral and regional level in COMESA like the one-stop border posts (OSBPs), the bilateral railways, and the Single African Air Transport. COMESA has implemented OSBPs under coordinated border management initiative to ease congestion at border crossing points along transport corridors with 17 OSBPs operational by 2021 (COMESA, 2022). These projects, among others, seek to reduce transport costs and ultimately enhance bilateral trade.

While strides have been made to improve transport infrastructure in COMESA for the purposes of stimulating trade, intra-COMESA exports remain low accounting for about 7 percent of global trade on average between 2011 and 2015 and 6 percent for the consecutive years to 2019. Between 2019 and 2020 intra-COMESA exports recorded 11.1 percent decline in growth from US\$10,907.94 million to US\$9,700.31 million (COMESA, 2022). This could be accounted for by poor infrastructure connectivity in road, rail, maritime and air between countries, which then raises the cost of trade. COMESA is keen to improve transport infrastructure for increased bilateral trade. Analysis of World Bank Development Indicators, African infrastructure development index, and IMF directorate of trade statistics reveals that road transport boosts bilateral trade, rail transport reduces it while maritime and air transport increases bilateral trade.

To transport goods from one country to another, road is very critical especially for landlocked countries. The analysis from our study shows that importer's road transport infrastructure stimulate bilateral trade (0.0051 percent) while combined road transport infrastructure improves bilateral trade (0.0002 percent). The magnitude of this effect is still small indicating the potential for road transport in improving bilateral trade flows in COMESA. This analysis is supported by Ochieng

et al. (2020) who found that road infrastructure stimulates bilateral trade exports in East African Community (EAC).

The length of railway route available for train service, irrespective of the number of parallel tracks dampens bilateral trade in COMESA. Analysis reveals that both the exporter's (1.6281 percent) and importer's (0.5731 percent) rail transport infrastructure inhibit bilateral trade in COMESA. Analysis on the length of rail lines for both countries indicate a decrease in intra-COMESA bilateral trade (0.8661 percent). Similar study by Egger and Larch (2007) found that railway networks boosts intra-continental trade except in Europe. With regards to Europe, our study, complements their findings, which showed that railway networks reduced bilateral trade. In addition, Gil-Pareja et al. (2015) found rail transport proxied on the high-speed railway line to increase bilateral trade.

This negative effect could be due to; 1) disjointed and disconnected railways in COMESA countries, for instance, despite being neighbours, Ethiopia and Sudan only recently chanted of a railway project linking the two countries (Sudan Tribune, 2022); 2) rigidity and expensive rail infrastructure led to its abandonment by many COMESA countries in preference for other modes of transport; 3) even though railway transport is competitive and complementary to road transport, road transport is required for the "last mile"; and 4) differences in gauge width present the most critical constraint to interconnect rail networks in COMESA to benefit bilateral trade (AfDB, 2015).

Improvement in liner shipping connectivity index and container port traffic boosts bilateral trade in COMESA. Analysis shows that improvement in liner connectivity increases intra-COMESA bilateral trade (0.0441 percent for the exporter 0.0251 percent for importer, and 0.0016 percent for exporter and importer). Maritime container port traffic for the exporter increased intra-COMESA trade by 0.4577 percent. This analysis is supported by Lai et al. (2019) who found that liner shipping connectivity index and container port traffic stimulate trade between an ASEAN country and ASEAN countries.

Air transport implementation in COMESA countries is low as the region only has three operational airlines; Ethiopian, RwandAir and Kenya Airways. Analysis on air transport and bilateral trade in COMESA indicates that air transport improves bilateral trade. Analysis used carrier departures worldwide - which refer to domestic

takeoffs and takeoffs abroad of air carriers registered in the exporting country - to measure air transport. The findings showed that exporter's air transport increased bilateral trade by 0.4366 percent. When the effect of air transport for exporter and importer were combined, the influence on bilateral trade was positive (5.72e-11 percent). This effect relates to that of Lai et al. (2019) who found that air transport stimulate bilateral trade between ASEAN countries.

In conclusion, findings show that the effect of transport infrastructure depends on whether the effects studied are for the exporting, importing country or both countries. Increasing the total number of paved roads and road networks in kilometers, improvement in liner connectivity, increase in exporter maritime container port traffic, and increase in the number of landings for exporter stimulates bilateral trade in COMESA. Investment in length of railway route available for train service for exporter and importer was found to have a negative effect on bilateral trade flows in COMESA.

Performance in each mode of transport was found to be important for bilateral trade in COMESA. The rationale for analysing different modes of transport in relation to performance is based on the AfDB's transport infrastructure report of 2023 that showed five COMESA Member States among top performers, and five COMESA Member States among bottom performers. Findings show that poor transport infrastructure undermines bilateral trade while good transport infrastructure improves bilateral trade in COMESA.

Analysis shows that COMESA countries can benefit from individual, and combined efforts to improve road, maritime, air, and rail transport infrastructures. In light of this, the following recommendations are made:

- There is the need for COMESA Member States to improve the number of total paved roads and total road networks in kilometers for increased bilateral trade. Specifically, while investment in national and regional road networks could be prioritized in the region, countries such as Sudan, Democratic Republic of Congo, Ethiopia, Madagascar, and Malawi need to invest more to improve national and regional road networks for bilateral trade.
- COMESA Member States could consider promoting investment in the number of shipping lines serving a country aimed at increasing their

performance in the overall liner shipping connectivity index. There is need to promote shipping lines serving Comoros, Seychelles, Tunisia, and Madagascar.

- Member States with registered carriers could collaborate with other Member States to increase the number of aircraft landings across the region. Madagascar, Malawi, Sudan, and Zimbabwe should increase their air operations in many COMESA Member States to improve bilateral COMESA trade through air transport.
- There is need for Member States with existing bilateral rail connectivity to improve them while those without, but with similar gauges, should connect to increase bilateral trade taking into account issues surrounding the development of rail lines at country, and regional level.

*(The full research paper is titled: **Transport Infrastructure and Bilateral Trade in COMESA**, available in the Key Issues in Regional Integration Vol XII publication)*

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Unlocking Intra-COMESA Trade Potential by Promoting Free Trade Agreement Implementation

By Dr. Jedah Ogweno, Ms. Peris Wachira and Dr. Askandarou Cheikh Diallo

Regional integration is a driving force towards globalization as it facilitates international trade between countries, driving innovation, productivity, and economic development. To promote regional integration through trade and the growth of natural and human resources, COMESA has developed several initiatives, including the COMESA Free Trade Agreement (FTA). While 16 out of 21 countries are already enjoying the benefits of COMESA FTAs, such as elimination of tariffs, non-tariff barriers (NTBs), simplification of customs formalities, among others, the other four countries are at various stages of joining the FTA. Eswatini is under derogation awaiting implementation of the Tripartite Free Trade Area.

The implementation of the COMESA FTA has benefited COMESA's Member States' trade and economic performance. First, the COMESA FTA has been associated with the tremendous increase in intra-COMESA and extra-COMESA merchandise trade since its introduction in 2000. The 2021 COMESA Statistics (COMSTAT) indicate that intra-COMESA and extra-COMESA merchandise trade grew from US\$4.3 billion and US\$76.6 billion in 2000 to US\$23.9 billion and US\$383.4 billion in 2021, respectively. Second, COMESA's GDP (current prices) increased from US\$242.9 billion in 2000 to US\$972.1 billion in 2021, suggesting a positive correlation between intra-COMESA merchandise trade, extra-COMESA trade, and COMESA GDP, especially after the start of COMESA FTA.

However, despite the phenomenal growth, intra-COMESA trade remains below the extra-COMESA trade, and intra-COMESA exports account for approximately 8 percent of COMESA's global exports. For example, in 2019, COMESA identified an intra-COMESA export potential of about US\$101.1 billion. Given the region's substantial comparative advantage in clean energy minerals like nickel, unrefined copper, diamonds, and natural gas, among others, if at least half of the extra COMESA exports were to be channeled within the region, then the intra-COMESA exports would increase by at least US\$90.2 billion from the actual realized of US\$ 10.9 billion in 2019. This implies that though there is an improvement in intra-COMESA trade performance due to COMESA FTA, COMESA has not been able to unlock its overall intra-COMESA trade potential. How, then, can COMESA unlock its intra-COMESA trade potential? The answer is first to identify the factors that explain intra-COMESA trade efficiency, that is, the gap between trade potential and actual trade.

While several studies have been conducted on the link between FTAs and trade

efficiency globally, they note that the effects of free trade on trade efficiency are not viewed in the same way in the economic literature. Supporters of trade openness argue that free trade allows for a more efficient organization of production across countries, sectors, and firms, which generates efficiency gains, aggregate productivity, and welfare. At the same time, research in macroeconomics and growth emphasizes that free trade can lead to inefficiencies, especially when institutional and market frictions distort the allocation of productive resources across firms and, consequently, access to employment and reduce aggregate productivity. Given these conflicting facts, there is a need to empirically establish how the COMESA FTA affects the trade efficiency of COMESA Member States.

In the context of the COMESA region, empirical analysis shows that implementing the COMESA FTA has significantly improved intra-COMESA trade efficiency among Member States. Specifically, COMESA Member States are reaping the benefits of the COMESA FTA through increased imports and exports at the expense of non-COMESA Member countries. This is attributable to low tariff and non-tariff barriers among the FTA-implementing countries, making COMESA Member States merchandise attractive relative to non-COMESA countries' merchandise. Consequently, this increases intra-COMESA trade and improves trade efficiency.

In order to unlock intra-COMESA trade potential, the COMESA Secretariat may consider: first, encouraging the non-participating COMESA Member States such as Ethiopia, Eritrea, the Democratic Republic of Congo, and Somalia to join the COMESA FTA given its role in enhancing intra-trade efficiency. Second, the Secretariat may also consider increasing efforts to improve the seamless flow of goods in the COMESA FTA through measures to reduce non-tariff barriers to trade and increase trade facilitation to enhance intra-COMESA trade efficiency.

Furthermore, COMESA Member States can also leverage other factors that encourage intra-trade. For example, strengthening trade linkages and partnerships with neighbouring countries with fast-growing populations/ expanding markets and higher incomes. On the one hand, improvement in the overall economic performance of COMESA Member States increases demand for foreign merchandise due to lower tariff and non-tariff barriers in the free trade agreement, which, in turn, increases intra-COMESA trade. On the other hand, an increase in the exporting country's population increases labour, hence productivity and thus raising exports, which encourages intra-COMESA trade. Additionally, a populated country tends

to take advantage of economies of scale to expand its trading activities, especially with neighbouring trading partners, which encourages intra-COMESA trade.

Common language facilitates trade negotiations as it eliminates language barriers, which can deter or slow trade negotiations. To this end, Member States need to consider promoting the learning of nearby countries' languages, e.g., English in French-speaking countries or Swahili in the Eastern African region, to lower the costs of communication, reduce language barriers that can deter trade agreements and negotiations, and consequently favour more trade.

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The Effects of Air Transport Service on Trade of Pharmaceutical Goods in COMESA

Douglas Chikabwi

Air transport service and pharmaceutical trade nexus are seldom discussed at international and national forums and policy dialogues, yet they are inextricably linked to each other. In general, transport services are closely linked to international trade and therefore dovetail with one of the COMESA region's main objectives of boosting intra-COMESA trade (COMESA, 2018). Air transport services are vital in the COMESA region, especially during periods of natural disasters such as the COVID-19 pandemic period. COMESA is prone to several manmade and natural disasters that curtail the growth and development of the region.

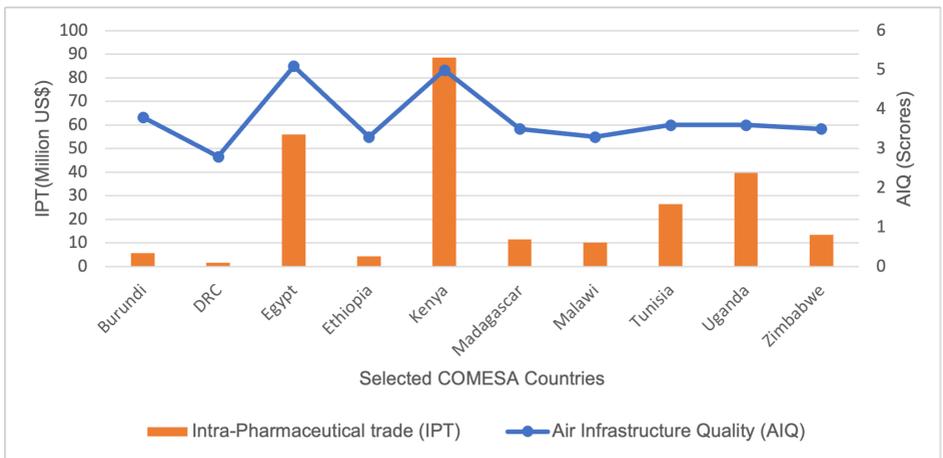
The biggest advantage of air transport over other means is that of speedy and limitless service (Pinto & Abayadeera, 2015). It is therefore ideal for the delivery of emergency supplies during disasters (Wilson, 2018). Air transport therefore is key in promoting intra-COMESA pharmaceutical trade, which is currently low. Low intra-COMESA pharmaceutical trade puts the region at high risk, especially during pandemics as the region must rely on external supplies outside COMESA's control. Growing intra-pharmaceutical trade in COMESA is one way to cushion the region from the negative economic and social effects of these calamities.

According to the COMSTAT data, in 2021 when COVID-19 was at its peak, COMESA Member States traded less than 4 percent of total tradable pharmaceutical goods within the region. Above 96 percent of the pharmaceutical goods were traded with non-COMESA countries. The region exports and imports more pharmaceutical goods to and from the rest of the world (RoW) than within the region (Ronoh, 2022). Should this undesirable trade pattern be allowed to continue, COMESA would be greatly exposed to global trade shocks. Mitigating natural disasters that demand urgent actions to save lives would be difficult. High external reliance is not ideal, especially during pandemics where homegrown remedies are more preferred.

COMESA's internal trade in pharmaceutical goods is dominated largely by Kenya, Egypt, Sudan, Uganda, and Libya. Contributions by other countries such as Comoros, Eritrea, Eswatini, and Seychelles are quite negligible. Whereas Kenya in 2021 traded nearly US\$ 90 million worth of pharmaceutical goods within the COMESA region, Comoros, Eritrea, Eswatini, and Seychelles traded less than US\$ 1 million. Intra-COMESA pharmaceutical trade disparity across COMESA Member States is linked to poor air infrastructure quality in the region.

Poor quality air transport infrastructure is a big hurdle for COMESA to reap potential trade gains. Of the 14 COMESA countries ranked on the air transport infrastructure global rank, only four⁷ scored above the global average of 4.55. Close to 60 percent of the COMESA countries scored below the region’s average score of 4. Only Egypt, Kenya, Mauritius, Rwanda, Seychelles, and Zambia scored above half the regional average scores. A cross-analysis of air infrastructure quality and intra-COMESA pharmaceutical trade shows that countries with better air infrastructure quality trade more within the region (see Figure 1).

Figure 1: Air Infrastructure Quality and Intra-Pharmaceutical Trade in Selected COMESA Countries



Source: World Economic Forum (WEF), ITC Trade Map and COMSTAT Database

Figure 1 shows the relationship between air infrastructure quality and intra-pharmaceutical trade in the COMESA region. The data shows that countries with good air infrastructure quality trade more with other COMESA countries. Egypt and Kenya are the top two COMESA Member States in the provision of quality air infrastructure in the region. The same countries also trade more pharmaceutical goods in the region. Countries with poor air infrastructure quality such as DR Congo and Ethiopia also trade less within the region.

Quality and availability of air infrastructure greatly facilitate air transport connectivity between countries yet they are limited in the COMESA region (COMESA, 2021).

In the COMESA region⁸, there are only 137 international airports and 726 aircraft

⁷ Egypt, Kenya, Mauritius, and Rwanda

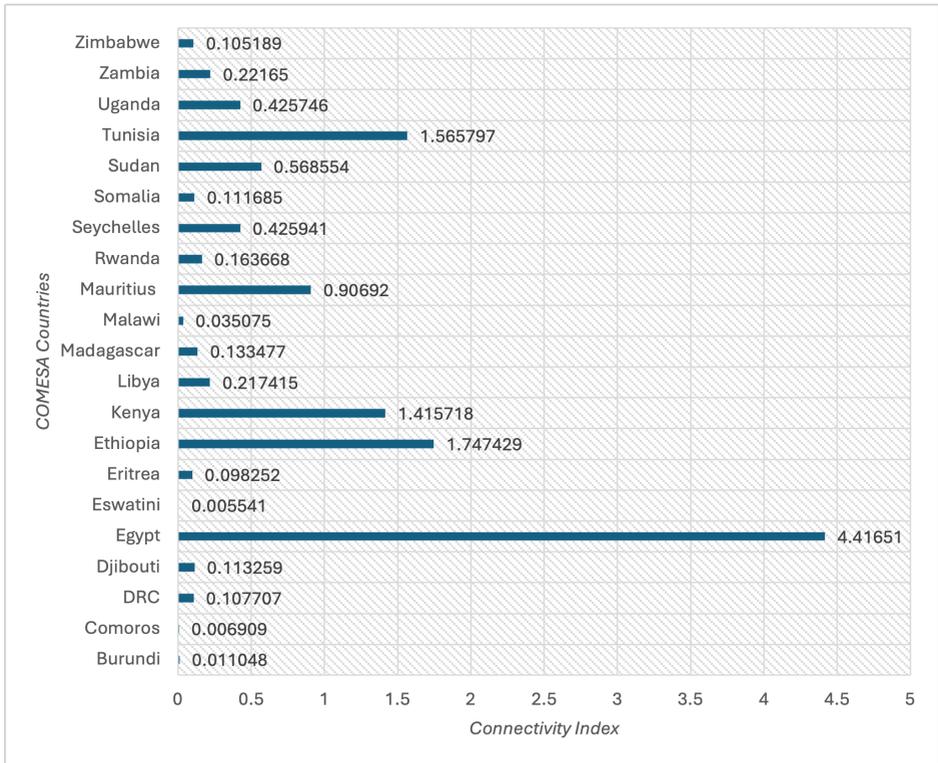
⁸ Burundi; Comoros; DRC; Djibouti; Egypt; Eritrea; Eswatini; Ethiopia; Kenya; Libya; Madagascar; Malawi;

compared to 658 international airports and 5233 aircraft for the EU⁹. International airports do not just serve host countries. They link COMESA countries with one another and the outside world. Of the 21 COMESA countries, four have only one airport, six have only two, and five have above 10 international airports. Whilst other COMESA Member States like Kenya have 173 aircraft, Burundi and Eritrea have zero each.

In terms of air connectivity, the COMESA region is highly connected when compared with other regions in Africa. This means that COMESA Member States cities are well connected making it easier and efficient to move goods from one COMESA country to another. The region is ranked number two after the Arab Maghreb Union. Economic Community of Central African States (ECCAS) is the least connected region in Africa. However, when ranked with other regions outside Africa, the European Union, for instance, COMESA appears to be less closely connected than reflected within the African context (International Air Transport Association, 2019). Figure 2 shows the level of air connectivity across all COMESA countries.

Mauritius; Rwanda; Seychelles; Somalia; Sudan; Tunisia; Uganda; Zambia and Zimbabwe
9 Respective REC websites, flightradar and planespottersnet.

Figure 2: Air Connectivity across COMESA Countries



Source: IATA 2019 Report

The above figure shows that Egypt is the most connected country in the COMESA region, meaning that its cities are more connected to others across the region. The same figure indicates that Eswatini is the least connected country in the COMESA region followed by Comoros, Burundi, and Malawi. Ethiopia on the other hand is the second most connected COMESA country followed by Tunisia, Kenya, Mauritius, and Sudan. Literature suggests that highly connected countries trade more than poorly connected (International Air Transport Association, 2019). This implies that Egypt, Ethiopia, Tunisia, Kenya, Mauritius, Sudan, Uganda, Seychelles, Zambia, and Libya should be trading more relative to other less connected countries such as Eswatini, Comoros, Burundi, and Malawi.

Only eight out of 21 COMESA Member States have ratified the Single African Air Transport Market (SAATM). This indicates that air transport markets in the

COMESA region are partially liberalized and markets are still closed which negatively affects air connectivity, air travel cost harmonization, and intra-pharmaceutical trade. It is believed that improving air transport services would stimulate intra-COMESA pharmaceutical trade.

The broad objective of this study was to investigate the effects of air transport service on intra-COMESA pharmaceutical trade. Specifically, the study sought to analyze the state of air infrastructure quality in the COMESA region and quantify the effects that air transport services have on intra-COMESA pharmaceutical trade. To meet the proposed study objectives, the study thought to provide answers to pertinent questions on the current state of air infrastructure quality, air connectivity, and the effects that transport services have on intra-pharmaceutical trade in the COMESA region.

To achieve the set objectives, the study applied the gravity model and descriptive statistical analysis. Cross-section econometrics for 2021 was used on 19 COMESA Member States for which data was available. These countries are Burundi; DR Congo, Djibouti, Egypt, Eswatini, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Tunisia, Uganda, Zambia and Zimbabwe.

Two key findings of the study were; that air transport services have a positive impact on intra-COMESA pharmaceutical trade. This implies that air transport services stimulate COMESA pharmaceutical trade. Secondly, air transport infrastructure quality in the COMESA region is low. It averages 0.45 scores below the global average score of 4.55.

In conclusion, COMESA region is prone to several natural and manmade disasters and shocks that require quick mitigatory measures as they threaten the equilibrium of economic, social, and ecological systems. The region is susceptible to drought, floods, cyclones, and natural diseases such as Malaria, Cholera, Tsetse, Ebola, and COVID-19. The earlier these disasters are mitigated, the better. This study provides empirical evidence that air transport services stimulate pharmaceutical trade within COMESA. The region should therefore enhance air transport connectivity between member countries and with other regional trading partners. COMESA Member States are therefore encouraged to invest in projects that expand and improve air transport infrastructure—such as aircraft fleets and airport facilities—across the region.



The Effect of Transport Infrastructure Quality on Intra-COMESA Trade

*Shingirirai Mashura*¹⁰

Despite substantial liberalisation including implementation of COMESA Free Trade Area (FTA), intra-COMESA trade exports remained low at 9.4 percent of COMESA's total exports in 2021 compared with levels of intra-regional trade in the European Union (EU) (59.7 percent), Association of Southeast Asian Nations (ASEAN) (21.4 percent), Southern African Development Community (SADC) (10.6 percent) and East African Community (EAC) (21.8 percent) (UNCTAD Stats, 2023). In the context of the new agreement on the African Continental Free Trade Area (AfCFTA), COMESA (as the largest regional economic community in Africa) has unique opportunities to boost intra-regional trade — and, by extension, to boost economic growth and job creation across the region. These opportunities could be threatened by several factors including high non-tariff barriers, low levels of domestication of agreed policies, export similarities, low levels of uptake of digital tools and quality of transportation infrastructure.

The availability and quality of transportation infrastructure play an important role in market connectivity and trade promotion while the lack thereof disrupts markets and retards trade. Inadequate transport infrastructure presents a major barrier to trade expansion in the COMESA region. Limited routes are vulnerable to disruption and the costs of transporting goods to market are prohibitively high for regional traders and producers, limiting the opportunities for trade growth. The region is encountering difficulties with roads and railways despite existent transport corridors. The shortage and inefficiency of transport infrastructure in the COMESA region makes it difficult for both regional and international trade, which are central to achieving economic growth and increasing competitiveness. Hence, the study on the effect of transport infrastructure quantity rather than quality on intra-COMESA trade.

In the study, the main research questions were: What is the relationship between transport infrastructure and intra-COMESA trade? How does quality of road, railroad, ports, and airport infrastructure affect intra-COMESA trade?

Using the augmented gravity model the study estimated effects of transport infrastructure quality on intra-COMESA trade for a panel of 21 COMESA Member States using the Poisson Pseudo Maximum likelihood (PPML) estimators over the period from 2005 to 2022. The findings show the positive significant effect of transport infrastructure development, quality of transport infrastructure, and quality of trade transport-related on intra-COMESA trade flows. The coefficients of

transport infrastructure development, quality of transport infrastructure, and quality of trade and transport-related are 0.270, 0.745 and 0.738 respectively for exporter countries and 0.167, 0.262 and 0.466 for importer countries respectively. These findings establish that the level of development and quality transport infrastructure is critical in promoting intra-COMESA trade flows.

The study estimated the effect of quality of common modal freight transport: roads; railroads; ports; and airports on intra-COMESA trade flows. The findings show the positive effect of quality of roads, railroads, ports, and airports on intra-COMESA trade flows, with the following 0.379, 0.582, 0.488, and 0.256 for exports, respectively. The estimated coefficients of quality roads, railroads, and ports for imports are 0.153, 0.306, and 0.328 respectively. In addition to modal freight analysis, the study investigated the effects of bilateral marine distance between COMESA Member States and distance to the nearest seaport from capital city. The coefficient estimated for bilateral marine distance is negative (-0.282) and statistically significant. The estimated coefficients for distance to the nearest seaport for both exporters (-0.199) and importers (-0.136) are negative and statistically significant. These findings show the importance of quality of roads, railroads, seaports and airports in boosting intra-COMESA exports and imports.

Based on the empirical results of the study, it is evident that the effect of transport infrastructure quality on intra-COMESA trade is significant, which makes it essential for countries to focus on the transportation sector. Thus, the following policy implications are suggested:

- i. Member States should invest in both long-distance and metro-system railroads to increase connectivity to ports and internal markets, respectively. By investing in the development and expansion of rail networks, COMESA Member States can improve their logistics infrastructure, reduce transportation costs, and encourage cross-border movement of goods. This will foster greater trade cooperation and enable Member States to take full advantage of the AfCFTA and boost intra-COMESA trade. More so, investing in railway infrastructure could improve hinterland connectivity for landlocked countries and enhance their trade opportunities while reducing traffic congestion on the roads.
- ii. Investment in ports and their related transport infrastructure to advance trade is vital - particularly in COMESA countries that are currently under-

served by modern transportation facilities. Governments could boost these investments promoting greater collaboration between countries in establishing efficient international and local trade and in acknowledging the role of specific ports. In addition, improving the way ports are run and managed, creating greater capacity and reducing delays to shippers is key to making ports more efficient.

- iii. COMESA countries could also consider investing in road infrastructure in order to increase access to paved and non-paved roads, which will not only promote mobility and economic activity within the region but will also increase intra-COMESA trade.
- iv. In addition to increasing the transport infrastructure services and facilities, it is imperative to focus on the improvement of the quality of the existing roads, railroads, ports and airports. All Member States except Egypt, Libya, Mauritius and Seychelles should invest more in road density, rail, and port facilities to facilitate intra-regional trade.
- v. The COMESA Secretariat could also use the COMESA Infrastructure Fund (CIF) for development of railroads, ports and road infrastructure to support trade in the region.
- vi. Improving hinterland connectivity through investment in road and rail infrastructure will enhance trade opportunities for landlocked countries in the COMESA region.



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