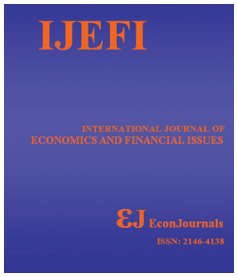

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Does Aid for Trade Matter for Lesotho's Exports?

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ABSTRACT

Sub Saharan African (SSA) countries face severe economic challenges especially low economic growth rates, high trading costs, infrastructure deficit and poor trade performance. Lesotho is not an exception; thus development assistance is key in overcoming these challenges. Simultaneously, SSA countries are among the highest recipients of AfT, with rising share of AfT globally. Lesotho's share of AfT has been rising and at the same time its trade has also been rising, hence it is necessary to establish if AfT impacts Lesotho's exports performance. This study analyses the impact of bilateral AfT from selected seven countries to Lesotho on Lesotho's exports from 2002 to 2022. The study uses the gravity model of trade, and precisely it applies the Poisson Pseudo Maximum Likelihood (PPML). The results show that AfT and other variables that affect export performance have a statistically significant impact on Lesotho's exports. Specifically, a dollar increase in AfT significantly leads to an increase in Lesotho's exports on average ceteris paribus. Therefore, Lesotho's export performance may be further enhanced by maintaining and growing its aid for trade programs which will increase competitiveness, making targeted investments in important industries, launching capacity–building programs and easing trade restrictions. In this regard, AfT should be used for trade facilitation through building trade-related infrastructure, building the capacity of agencies involved in the formulation of trade policies and creating a conducive trading environment. Addressing these will go a long way in reducing trade costs and improving supply chain efficiency.

Keywords: Aid for Trade, Gravity Model, Poisson Pseudo Maximum Likelihood, Lesotho Exports
JEL Classifications: F12, F13, F14

1. INTRODUCTION

The World Trade Organization (WTO) highlighted that aid for trade (AfT) is very helpful for development of countries, particularly the least developing countries, to build the trade capacity and infrastructure they need to benefit from trade. Also, the International Monetary Fund ([IMF], 2006) posited that AfT is also a subset of development assistance that is seen as promoting international trade and a number of international initiatives to promote trade-related development assistance. Trade is an exchange, voluntary in nature, between two countries or parties in requirement of each other's resource as in goods and services. Trade is an important determinant of economic growth and Lesotho's growth like many other countries' has greatly influenced by trade (Bahta, 2007; Malefane and Odhiambo, 2016).

The demand for assistance is very high in the developing countries as they face undesirable difficulties such as high trade cost, low level of trade, lower standard of living, and high level of poverty, poor infrastructure and a lack of exports diversity. Most of developing countries Lesotho included have lower real gross national product (GDP) relative to developed countries. Santos-Paulino (2012) stateed that the exports structure of developing countries is largely dependent on labour intensive manufactured and semi-processed goods. As a result, they fail to reduce poverty and stimulate economic growth. Lesotho is a small country that is completely landlocked by its neighbouring country South Africa and it relies on South Africa and agricultural commodities for trade.

Due to these problems faced by poorer countries, WTO was influenced to start the aid for trade (AfT) program in 2005 at a

WTO ministerial conference in Hong Kong (OECD/WTO, 2013). The global initiative on aid was launched in 2005 at a G8 meeting in Gleneagles Scotland. Since then, US$ 409 billion in official development assistance had been disbursed to help build trade capacities of developing countries. Additionally, low concessional loans amounting US$ 346 billion was disbursed. In 2017, AfT commitments totalled around USD 57.7 billion, one and a half times the base line average (OECD/WTO, 2019).

Since then, donors and multilateral development banks have increased the overall value of AfT. Consequently, they have put in place several mechanisms to channel such aid as well as ensure that this aid reflects and addresses national priorities. The most significant goal of aid is to make both economic situation and welfare of the people in the poorer countries better.

The AfT Initiative has advanced remarkably quickly, with partner nations progressively giving trade top priority in their development plans and making their needs clear through the creation of operational plans. Donors are increasing resources and enhancing the delivery of AfT. In real terms, AfT increased by more than 20% in 2007 compared to the period between 2002 and 2005. In 2008, there was an additional 35% increase with new pledges totalling USD 41.7 billion coming from bilateral and multilateral donors, while an additional USD 25.7 billion coming from non-concessional trade-related financing. Additionally, estimates point to significant commitment disbursements, meaning that promises are kept true as funds are spent. Moreover, donors are on track to fulfil their AfT commitments, and this could lead to sustained growth in AfT over the medium term based on their indicative forward spending plans. Although AfT is steadily rising, that which flow to Africa was about 35%, but it primarily continues to flow to Asia (44%). Generally, during the distribution of aid among the various trade-related categories has stayed mostly consistent. Similar increases were seen in economic infrastructure and productive capacity-building; trade development programs received substantial funding, while technical support for institutional and human capacity-building in trade policy and regulations declined (Arenas et al., 2018).

This paper focuses only on Lesotho because it is a small country in southern africa and is the only country completely bounded by one country, South Africa, thus the benefits from AfT may be affected. Secondly, using Lesotho as the only recipeint of AfT can help in formulating policies that have a direct bearing on Lesotho only because of the country's geographical nature explained earlier. For a small and landlocked country like Lesotho, effective use of AfT can help to build productive capacity and improve its trade competitiveness which are essential for economic growth and development.

The origins of the AfT agenda lie in WTO negotiations and can be traced back to developing country concerns. These focused on the limited benefits they had already experienced from increased market access, and those they were likely to see as a result of the Doha Development Round – unless their supply-side capacity constraints were addressed and they were compensated for adjustment costs associated with multilateral trade liberalisation, notably preference erosion and reduced trade-related fiscal revenue (IMF, 2006).

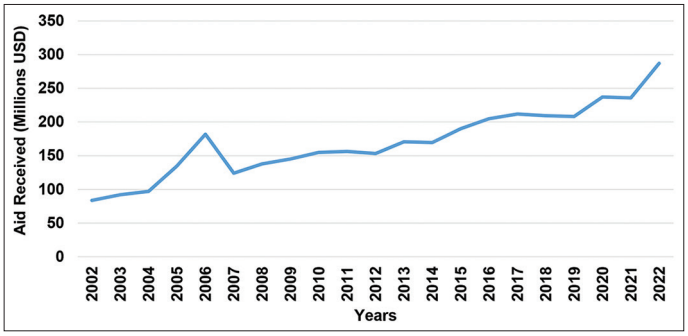
Developing countries, particularly Sub Saharan African (SSA) do face severe economic challenges that range from low economic growth rates, high trading costs, infrastructure deficits and poor trade performance just to mention a few. Lesotho is not an exception to these challenges, thus development assistance is needed to overcome some of these difficulties. At the same time, SSA countries are among the highest recipients of AfT, with rising share of AfT globally. According to OECD/WTO (2019), since the AfT initiative started in 2005, a lot of developing countries have managed to attract foreign direct investment (FDI), create employment for men and women expand and diversify their trade as well as improve their competitiveness.

Besides promoting trade, AfT also enhance employment and FDI. Gnangnon (2019a) found that AfT positively impacted total (male and female) employment and female employment share. Lee (2018) also found the impact of AfT on 128 developing countries for the duration 2005 and 2015 significantly and substantively promoting FDI inflows to recipient countries. AfT's intervention could help recipient countries design the appropriate trade policies that would facilitate the imports of products needed to enhance their exports competitiveness as well as helping them to develop infrastructure which can also enhance smooth flow of goods across borders. The results are further supported by Gnangnon (2022) who found that AfT exert a strong positive effect on FDI for countries with high level of export concentration.

Developing countries still depend on foreign aid as a main financial resource for rationalising their infrastructure, institutional and regulation reform and increasing their productive capacity challenges. Through development of infrastructure by AfT assistance, Lesotho is estimated to export 780 million cubic meters of clean water to the neighbouring country South Africa under Lesotho Highlands Water Project program, contributing 3% of Lesotho's GDP as well as generating hydroelectric power for the Kingdom (Mokhethi, 2018). Additionally, AfT has been helpful in maximising Lesotho's gains from trade preferences in the apparel sector, particularly through the African Growth and Opportunity Act, by encouraging diversifying export destinations and building the sector's productive capacity and supporting trade negotiations (Bird et al., 2009).

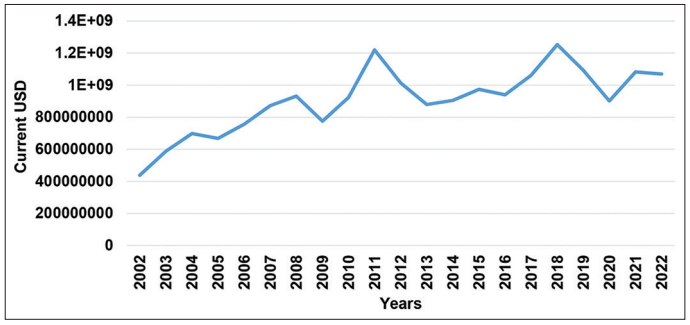
Figure 1 below shows the trend in AfT in developing countries from 2002 to 2022. It illustrates the trend of AfT in current million dollars received by developing countries during the stated period. Generally, the trend of AfT received by developing countries has been increasing gradually over the period although it significantly dropped between 2006 and 2007. In 2022, Africa and Asia accounted for a total of 70% of AfT disbursements, with disbursements to Asia increasing by 22% to US$18.2 billion, while disbursements to Africa experienced a 2.5 % decrease at US$ 17.54 billion (OECD/WTO, 2024). Aid for trade can help developing countries to overcome various constraints that prevent them from trading smoothly and diversifying their exports. Some of these constraints include lack of infrastructure, human capital,

Figure 1: Aid for trade in developing countries (2002-2022)



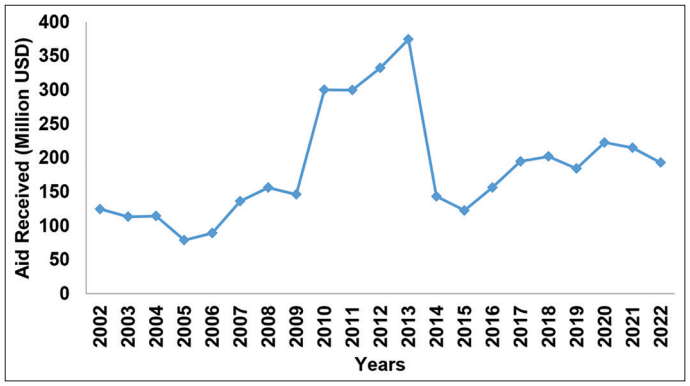
Source: Authors' calculations of data from OECD 2023

Figure 2: Trend of Lesotho's exports (2002-2022)



Source: Authors' calculations of data from OECD 2023

Figure 3: Flow of aid for trade to Lesotho (2002-2022)



Source: Authors' calculations of data from OECD 2023

capacity to produce and access to foreign markets. Aid for trade can address these by providing financial and technical assistance, as well as access to international markets (OECD/WTO, 2019; 2024). A report by OECD/WTO (2019; 2024) revealed that the areas where AfT was needed most include technical assistance for trade policy and regulations; economic infrastructure; productive capacity building.

The export sector is one of the key drivers of growth and development and its contribution to Lesotho's GDP was 39.7% in 2020. Lesotho's exports comprise mainly water, apparel, textiles and diamonds, and these constituted between 35% and 45% of total exports in 2016 (IMF African Dept, 2022). Lesotho is confronted by a decrease in market share in the global market. Exports are becoming a critical strategy and one avenue for expanding its market share. Lesotho has only two main exports destinations, which are the United States (US) and Europe, with the rest of the exports go to the Southern African Customs Union (SACU), and the bulk destined to South Africa (IMF African Dept, 2022).

Figure 2 presents the trend of Lesotho's exports from 2002 to 2022 while Figure 3 shows the trend of aid for trade of Lesotho between the same period. It is clear that, Lesotho's exports generally followed a rising trend, but there were peaks in 2011 and 2018. With regards to AfT, the country received total AfT approximating 124,440,873 billion dollars in 2002. This has gradually been increasing since 2006. However, it reached a peak of 374,436,097 billion dollars and it decreased dismally in 2014. Aid for trade to Lesotho and Lesotho's exports seem to be moving in the same direction. During periods of sluggish AfT flow, Lesotho's exports also dropped drastically. However, correlation is not causation.

While AfT inflows devoted to trade policy and regulations could help promote countries export expansion notably their manufactured exports. Nevertheless, Moyo (2009) argued that aid does not lead to development, but rather creates problems including corruption, dependency and limitations on exports which negatively affect the economic growth and development of most African countries and other poorer countries across the globe.

In the period of 2002-2009, Lesotho focused primarily on infrastructure development, in particular road transport construction and maintenance. Empirically, total funding for transport and storage accounted for 57% of total AfT between 2002 and 2009, adding energy projects (in particular electricity projects funded by African Development Bank in 2009) increases the amount of AfT spent on infrastructure to 70%. Funds have been channelled through the integrated transport project, a joint initiative of the World Bank, European Union and the Government of Lesotho for the period of 2006-2012, which aims at fostering sector reforms, capacity building and civil work on new and existing infrastructure. The improvement of infrastructure, capacity productivity, trade facilitation will affect cost of time needed to gain access in to the international market by enhancing competitiveness.

The provision of financial support for trade-related infrastructure projects, including ports, bridges, and roads, has also contributed to lower transportation costs and enhanced connectivity among nations in a region. This has made it easier for goods and services to move between countries, increasing economic interdependence and boosting the expansion of regional markets. For example, AfT has aided in the creation of regional transport corridors throughout Africa, greatly enhancing the trade infrastructure of the continent. The Northern Corridor, which connects Kenya's port of Mombasa to nearby nations, is an example of an effective of AfT-backed initiative that has increased regional trade.

According to the United Nations Conference on Trade and Development ([UNCTAD], 2009), AfT has played a role in promoting global trade liberalisation by supporting developing countries' participation in multilateral trade negotiations. By providing technical assistance and financial support to these

countries, AfT has helped ensure that their interests are represented in global trade negotiations, leading to more balanced and inclusive outcomes. This has contributed to the growth of global trade and the strengthening of the multilateral trading system.

In line with UNCTAD (2009) the performance of regional commerce can also benefit from trade aid. UNCTAD (2009) stated that trade assistance can facilitate in lowering trade expenses related to regional integration, including tariffs, non-tariff trade barriers, and transportation expenses. Trade aid can also facilitate regional trade by lowering trade costs, which in turn makes it more affordable and easier for countries to trade goods with their neighbours.

Despite the positive impact of AfT on regional and global trade, there are still challenges and limitations to the initiative. For instance, there is a need for better coordination between donor countries and recipient countries to ensure that AfT projects are aligned with national development strategies and priorities. Additionally, it requires greater transparency and accountability in the use of AfT funds to ensure that they are used effectively and efficiently for the purposes they are meant.

Continuously, aid for trade has enabled Lesotho to negotiate advantageous trade agreements, handle complicated trade rules, and take advantage of possibilities in global value chains by bolstering institutional capacity and increasing skills development. This has helped to grow Lesotho's export industry. In summary, trade aid has significantly increased value addition, improved infrastructure, strengthened institutional capacities, and promoted diversification for Lesotho's exports. Aid for trade projects have been crucial in propelling economic expansion, generating job opportunities, and fostering sustainable growth in Lesotho's export-oriented sectors.

To the knowledge of the authors, there is very scant literature on the impact of AfT on Lesotho's trade, hence the need for exploring this. This paper contributes to the empirical literature on the nexus between AfT and trade with specific reference to Lesotho. Lesotho receives aid from a handful of donor countries namely, the United States, United Kingdom, Ireland, China and Japan just to mention a few. Nevertheless, this aid comes with a lot of conditions. Other motives can include promoting democracy, economic expansion, peace, and long-term sustainable programs. The reasons why bilateral aid should be strongly related to bilateral trade is that bilateral aid not only enhances bilateral trade through reputation, mutual trust and support, goodwill and familiarity between trading partners of the North and the South (Arvin and Baum, 1997).

Although not unique to Lesotho, trade facilitation research indicates that lowering trade costs can result in significant benefits. Lesotho's export structure has benefited from AfT, particularly for high- and low-skilled manufacturers. However, depending on the unique circumstances and trade policy environment of Lesotho, the efficacy might differ. Lesotho's amount of AfT receipts and exports have been on the rise and therefore it is imperative to their relationship. Also, to fully comprehend the complex impacts of AfT on Lesotho's export performance, it is prudent to examine if AfT enhances Lesotho's exports performance. The paper's objective is to analyse the impact of AfT on Lesotho's exports from the period 2002 to 2022. The paper analyses whether or not AfT has succeeded to improve Lesotho's exports performance. Policy recommendations are provided to boost the performance of Lesotho's exports.

2. LITERATURE REVIEW

Most of the empirical literature on aid for trade shows that there is generally a positive relationship between aid for trade and exports. For example, Cali and Te Velde (2011) found a positive impact of aid on exports on a sample of 100 developing countries for the period 2002 and 2007. The study revealed that AfT had a major impact on developing nations' ability to trade by investing in infrastructure, institutional development, and human capital. Countries can increase their export competitiveness and gain more market access by developing these capacities. The results showed that aid aimed at developing infrastructure has a stronger effect in Africa than in other recipients. Aid to productive capacity has even poorer effect in Africa. The conclusion was that it can have a positive impact if well targeted and can be measured as the data starts to appear. Also aid aimed at infrastructure has a positive effect on exports, although it is not of a large magnitude.

On a study of by OECD/WTO (2013) also indicated that AfT and exports are positively related. Lopez (2017) asserted that reducing aid to a recipient nation is likely to result in a decline in exports to that same nation. Using imbalanced panel data set comprising of 121 nations for the period 2002 and 2015, Gnangnon (2019b) examined the impact of AfT inflows on the export structure of beneficiary countries. The study also looked at whether or not this effect was dependent on the degree of trade liberalisation in the recipient countries. The study used the system-GMM technique to investigate whether or not aid-receiving countries' export performance is improved by AfT specifically targeted for trade promotion. Export growth, export level, and the shift in the export-to-GDP ratio were used to gauge export performance. According to the analysis, the ratio of exports from recipient countries for both high- and low-skilled manufacturers is positively and significantly impacted by AfT inflows. On the other hand, medium-skilled manufacturers' export ratio is not affected. AfT inflows have a positive impact on low-skilled exports from least-developed countries (LDCs), but a negative impact on medium- and high-skilled exports.

The possible influence of AfT on exports and of developing countries is based on the argument that, developing countries lack access to international markets. To address this problem, Ghimire et al. (2016) suggested that donor countries can potentially provide some of the recipient country's preferential access to the donor country's markets. Also developing countries face supply-side infrastructure constraints and AfT is clearly designed to help developing countries improve their export capacity and decrease the supply-side constraint by targeting aid to transportation, communication, energy, etc. This is supported by the fact that up to 60% of total AfT is spent on business infrastructure and significant amount of AfT of up to 40% is spent on promotion

and banking services geared towards helping domestic production (Ghimire et al., 2016).

Ghimire et al. (2016) found out that the increase in the amount of donor's exports flowing from donor's aid in the long run is more moderate than in earlier studies around a US$2.15 increase in exports for every dollar spent on aid. The overall effect is remarkably robust, but oscillates overtime. It was positive but declined overtime in the 1990s.

Studies that carried out on the effectiveness of AfT, specifically with the recipient's exports performance show that AfT intervention could enhance recipient's exports through different channels. According to Gnangnon and Iyer (2018), one could be by contributing to the reduction of trade costs, AfT assigned to the economic infrastructure could improve recipient's export competitiveness, and therefore enhance the development of new products, including manufactured exports. The exports competitiveness could also be enhanced if the part of AfT inflows received by recipients is used to help domestic producers import immediate inputs that they would need to grow exportable products. He continues to show that a part of AfT inflows could be used to import the required machinery and other materials needed to build trade- related infrastructure and productive capacity that recipient countries need to promote their exports in particular their manufactured products.

Lesotho's exports increased but in small proportion, because in the long run the country became more dependent on aid rather than increasing productivity. There are other studies that have used gravity model to test for any causality between AfT and exports. For example, Vijil and Wagner (2012) tested if institution and infrastructure are indeed determinants of export performance. As expected, once their infrastructure and institution variables are instrumented, only the level of infrastructure seems to be correlated with exports. Prihoda (2016) also investigated the trade effect on AfT and whether it generates more exports of donor or exports of SSA countries as recipient countries.

Faruq (2011) indicated that encouraging exports in developing nations requires strong governance and regulatory frameworks. AfT initiatives that emphasise on the development of institutional capacity can foster an atmosphere that makes it easier for companies to conduct business internationally, thus enhancing export performance. Vijil and Wagner (2012) show that AfT had a negative and significant effect on exports. Correspondingly, in the absence of an effective government and freedom, the impact of AfT on exports is insignificant. However, other studies confirm that it is only through its impact on infrastructure that aid for trade influences export performance.

Recent literature also corroborates to the same fact that AfT is important for trade. Masunda (2020) investigated the impact of AfT on export diversification among 42 SSA countries for the period 2005 and 2015. Empirical results from this study indicated that export diversification in SSA is enhanced by particularly AfT that is directed toward improving productive capacity. Gnangnon (2021) examined the impact of productive capacities on economic complexity as well as try to understand whether AfT flows matter for this effect in recipient countries. The analysis adopted two-step system GMM for a panel of 126 developed and developing countries from the period 2002 to 2018. The findings revealed that strengthening productive capacities could enhance economic complexity.

Gnangnon (2022) examined the impact of AfT on export resilience among 93 developing countries for the period 2002-2018. The core argument of the study was that development aid would affect export resilience through its impact on productive capacities. The results revealed that the total development aid flows exert a positive effect upon export resilience. Kheyirkhabarli (2024) used gravity model to assess AfT's impact on exports of 24 emerging economies from 2002 to 2019. Results showed that AfT does not only positively and significantly boost overall exports but also in areas of economic infrastructure and building productive capacity. These results emphasised the need for donor countries to supply higher development aid flows, particularly AfT flows, to LDCs countries which have low productive capacities.

3. MATERIALS AND METHODS

The study focuses on the impact of aid for trade on bilateral trade between Lesotho and countries that provide aid for trade to her. The bilateral trade is the value of exports from Lesotho to different donor countries that provide AfT to Lesotho. The donor countries include Australia, Canada, Germany, Japan, South Africa, United Kingdom and United States of America. The time dimension of the study is from 2002 to 2022.

3.1. Gravity Model

One of the most significant instruments in the literature of applied international trade is the gravity framework. Tinbergen (1962) is the pioneer of the gravity model, and the model has been improved ever since. Sir Isaac Newton came up with the gravitational hypothesis. According to his idea, the planets are attracted to one another based on their respective sizes and distances from one another. Similar to this, the gravity equation in international commerce uses proximity and the ratio of GDPs to try and explain trade between nations. For the gravity model, actual investigation came before theory. Prihoda (2016) and a number of other authors have used the gravity model as a workhorse to estimate bilateral international trade flow and migration. These authors include Anderson and Van Wincoop (2003) and Rose (2000). This study evaluates the impact of aid for trade on the recipient country's exports. The model's general formulation shows that trade between nations is influenced by the economic scale of those nations (measured by GDP or GDP per capita) and the distances between them. According to Armstrong (2012), weighted distance between their capitals or major cities is mostly used as a measure of the distance variable.

The general gravity model:

$$X_{ijt} = \beta_0 \frac{GDP_{it} \times GDP_{jt}}{DIS_{ij}} \quad (1)$$

Where X_{ijt} is the amount of bilateral trade (measured by exports) between two countries, GDP_{it} and GDP_{jt} are their gross domestic products of the exporter and importer respectively while DIS_{ij} is the distance between a pair of trading partners. The term β_0 is constant that indicates the relationship between the "gravity term" (i.e., $(GDP_{it} \times GDP_{jt})/DIS_{ij}$) and trade.

Taking natural logarithm on the gravity model, its specification reduces to:

$$lnX_{ijt} = \beta_0 + \beta_1 lnGDP_{it} + \beta_2 lnGDP_{jt} + \beta_3 lnDIS_{ij} + \epsilon_{it} \quad (2)$$

3.2. Model Specification

In order to analyse the impact of *AfT* on exports flow between Lesotho and her trading partners, we now introduce the aid for trade variable and other variables into the gravity model. The basic form of gravity model is now specified as follows:

$$lnX_{ijt} = \beta_0 + \beta_1 lnAfT_{ijt} + \beta_2 lnGDP_{it} + \beta_3 lnGDP_{jt} + \beta_4 lnDIS_{ij} + \beta_5 lnEXC_{ijt} + \beta_6 lnECFI_{jt} + \epsilon_{it} \quad (3)$$

Where *i*, *j* and *t* denote the recipient country, trading partner and time respectively and *ln* is the natural logarithm. *X* denotes bilateral exports between Lesotho and a trading partner at a particular year. *AfT* denotes aid for trade, *GDP* represents gross domestic product of a country, *EXC* indicates exchange rate between the exporting country and the importing, *DIS* is distance between countries, and *ECFI* is the economic freedom index of importing country. Its components include property rights, rule of law, government size, regulatory efficiency and open markets. Table 1 below presents the variables, their explanation and the data sources.

3.3. Specification Techniques

Since there are missing data values where there was no trade at all, therefore Poisson Pseudo maximum likelihood (PPML) is the ideal approach to do the analysis. By using this approach on the trade levels, zero trade can be maintained and the non-linear form of gravity model may be directly estimated. According to a seminal study by and partially from Westerlund and Wilhelmsson (2011), the PPML is a reliable method when heteroscedasticity is present, which is common in trade data. Numerous studies that used gravity equations including Shepherd (2013); Siyakiya (2019) and Westerlund and Wilhelmsson (2011) have made use of this method. Specifically, Santos Silva and Tenreyro (2006) supported PPML based on the gravity equation's log linearity and the presence of zeros in the data set, which provide significant econometric challenges and lead to skewed estimations.

Nevertheless, dropping the zeros as in the ordinary least squares (OLS) technique causes sample selection bias, which leads to the loss of some significant information (Eichengreen and Irwin, 1996), and according to Burger et al. (2009) and Westerlund and Wilhelmsson (2011), this is more particular when the zeros are not randomly distributed. PPML has the ability to manage the zero-presence issue makes it appropriate for empirical gravity model investigation. This does not, however, mean that PPML is without flaws of its own. The equation for PPML transforms equation 3 to the following equation:

$$X_{ijt} = \beta_0 + \beta_1 lnAfT_{ijt} + \beta_2 lnGDP_{it} + \beta_3 lnGDP_{jt} + \beta_4 lnDIS_{ij} + \beta_5 lnEXC_{ijt} + \beta_6 lnECFI_{jt} + \epsilon_{it} \quad (4)$$

4. RESULTS AND DISCUSSION

STATA 15 econometric software was used to analyse the impact of aid for trade on bilateral exports. PPML approach was used to analyse this and the results are shown in Table 2 below. The coefficients of all the variables are statistically significant at 1%. For continuous variables, even though the independent variables are in logarithmic form and the dependent variable is in level, their coefficients under PPML regression are seen as elasticities, and they have same meaning as log-log coefficients under OLS (Shepherd, 2013; 2022). As expected, the results show a positive and statistically significant impact of AfT on bilateral exports, that is, a one percentage increase in AfT is associated with a 0.642% increase in exports on average ceteris paribus. Our results of the impact of AfT on exports are in line with findings by other studies such as Ghimire et al. (2016).

With regards to GDP, there is a positive and statistically significant relationship between Lesotho's exports and GDP, that is, a one percentage increase in Lesotho's GDP and the importing countries' GDP are expected to lead to a 0.453% and 0.258% increase in Lesotho's exports on average ceteris paribus. The findings of this study support the hypothesis that an increase in GDP raises savings, which in turn raises investment activity and builds up capital for the growth of export industries, hence increasing exports. In his study Siyakiya (2019) also found the coefficients

Table 1: Variable explanation and data sources

Variables	Explanation	Expected sign	Sources
X	Total exports from recipient country to donor countries in a given year (million USD).	Dependent variable	World Bank's World Integrated Trade Statistics.
AfT	Aid for trade flow from donor country to recipient country (million USD).	Positive	OECD.
GDP	Constant Gross domestic product (LCU) of the donor and recipient country (million USD).	Positive	World Bank's World Development Indicators (WDI).
DIS	Distance between Lesotho and other countries (kilometers).	Negative	Centre for Prospective Studies and International Information (CEPII).
EXC	This is the exchange rate of the exporting country divided by that of its trading partner for each respective year.	Positive	WDI.
ECFI	Economic freedom index of importing country (percentage).	Positive	Economic Freedom of the World.

Table 2: PPML regression results for the impact of aid on exports

Variables	PPML
$lnAfT_{ijt}$	0.642***
	(8.39e-06)
$lnGDP_{it}$	0.453***
	(7.89e-05)
$lnGDP_{jt}$	0.258***
	(1.13e-05)
$lnDIS_{ij}$	−5.950***
	(0.000117)
$lnEXC_{ijt}$	0.923***
	(9.20e-05)
$lnECFI_{jt}$	5.138***
	(0.000268)
Constant	39.02***
	(0.00196)
Observations	136

Standard errors in parentheses, ***P<0.01, **P<0.05, *P<0

of GDP which measure the elasticity of supply and demand of the exporting and importing countries respectively, to be both highly significant and positive. The coefficient of GDP of exporter is greater than that of the importer, signifying that Lesotho's exports to importer countries are more responsive to supply than demand.

The distance parameter is the most trade-reducing variable since it has the highest negative coefficient. The result also agrees with researches by Disdier and Head (2008); Head and Mayer (2014) and Yotov et al. (2016). Specifically, a percentage increase in distance leads to a 5.95% decrease in Lesotho's exports on average ceteris paribus. This behaviour makes sense when one considers the principles of gravity, that is, the greater the gap between two masses, the less their mutual attraction.

In the case of real effective exchange rate, a percentage increase in the real effective exchange rate increases exports by 0.923% on average ceteris paribus. However, the sign of the coefficient of real effective exchange rate is contrary to economic theory. According to Cimoli et al. (2011), a higher real effective exchange rate makes a country' exports more expensive for foreign buyers. However, if the country produces high-quality goods or services that are in demand globally, the increase in price may not significantly affect demand. In this case, the positive real exchange rate would be that it reflects the strength of the country's economy and its ability to produce valuable products. Hence a positive coefficient of real effective exchange rate in our results.

A percentage increase in economic freedom index increases exports by 5.138% on average ceteris paribus. The positive relationship signifies that improvements in the importing country's economic freedom leads to more exports. According to Henri and Mveng (2024), countries with higher economic freedom index are often more conducive to business activities and trade.

5. CONCLUSION

Lesotho's exports have changed significantly between 2002 and 2022 as a result of measures such as trade facilitation, capacity building and infrastructure development to adopt aid for trade. The nation has broadened the range of goods it exports, concentrating on industries including manufacturing, agriculture, textiles and apparel. Lesotho's export competitiveness has also increased as a result of aid for trade initiatives that have strengthened trade facilitation policies and supported local companies in developing their capacities. As a result, during the previous 20 years, Lesotho's exports have increased in both value and variety.

According to the analysis, every factor in the traditional gravity model of trade has a statistically significant impact on how the AfT affects Lesotho's exports. Lesotho's exports are positively impacted by both exporter and importer GDP, which measures the exporting country's supply capacity and the importing country's demand potential, while the distance between them is decreasing. Furthermore, the research indicates that Lesotho's exports are positively impacted by improvements of economic freedom of the importing nation. Last but not least, it is evident that Lesotho's exports also respond positively to AfT. In view of the findings, the study proposes that aid for trade should be directed towards trade facilitation, building of trade-related infrastructure, building the capacity of agencies involved and formulation of trade policies to build and create a conducive trading environment.

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