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# AGOA Expiry: Nonrenewal Welfare, Macroeconomic and Trade Effects

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**Abstract:** The expiry of the African Growth and Opportunity Act (AGOA) in 2025 has raised uncertainty about the future of United States–Sub-Saharan Africa trade relations. This study employs the Global Trade Analysis Project (GTAP) Computable General Equilibrium (CGE) model to assess the potential trade, welfare, and macroeconomic impacts of AGOA's non-renewal under two scenarios: the reversion of US tariffs to Most Favoured Nation (MFN) levels and the imposition of a uniform 10% reciprocal tariff. Results (see Scenario 2) indicate that AGOA countries could experience welfare losses of up to US$1.78 billion and GDP contractions of 0.52%, accompanied by significant declines in exports of textiles, mining, and manufacturing. The United States (US) would also face moderate welfare losses, while China and the EU would gain from trade diversion. The findings highlight the urgent need for Sub-Saharan African countries to diversify trade partnerships and negotiate new frameworks to mitigate adverse post-AGOA outcomes.

**Keywords:** Africa; AGOA; bilateralism; exports; imports; multilateralism; trade policy; US.

**JEL Classification:** F10; F13.

## Introduction

Since the establishment of the WTO in 1995, multilateralism has served as the principal framework for trade liberalisation. However, the increasing challenges confronting the WTO and the growing complexity of multilateral trade negotiations have prompted many countries to shift towards bilateralism, driven by market access considerations, foreign policy objectives, and concerns about environmental, social, and fairness issues (Maluck *et al.* 2018; Heydon & Woolcock, 2009). The United States has been no exception to this shift. Against this backdrop, the marked pivot towards bilateral and inward-looking trade policies in the United States (US) intensified concerns that AGOA may not be renewed following its expiry in 2025. This possibility generates significant trade policy uncertainty for AGOA beneficiary countries, many of which rely heavily on the scheme for preferential access to the US market.

The uncertainty surrounding the renewal of AGOA further casts a shadow on the architecture of the beneficiary countries' post-AGOA trade relationships with the US. What is certain is that, should AGOA not be extended beyond 2025, beneficiary countries will need to explore alternative mechanisms to sustain and deepen their trade and investment ties with the US. Two key possibilities emerge: (i) allowing AGOA to lapse without establishing any replacement trade arrangement with the US, or (ii) entering into bilateral trade negotiations with the US. In this regard, the US government has signalled support for a short extension of AGOA to allow for negotiations on a more comprehensive trade agreement. However, the first option means that the trade relationships of the beneficiary country with the US revert to the rules of the multilateral trading system under the auspices of the WTO. In other words, the trade relationships will be primarily governed by the WTO's Most Favoured Nation (MFN) principle. Hence, this article departs from here by seeking to understand the possible trade, welfare, and revenue implications of the increase in US tariffs on AGOA beneficiary countries resulting from the non-renewal of AGOA and the automatic reversion of tariff schedules to the MFN profile, if AGOA is not renewed beyond 2025.

Another challenge is the seemingly changing global trading landscape led by the inward looking policies mainly during the first Trump Administration and further amplified during the second Trump Administration. Reciprocal tariffs at a base level of 10% were instituted on almost all of the US trading partners. This exacerbates trade policy challenges, making it difficult to access the US market. For AGOA, this alienates the benefits that SSA countries were receiving, and further casts doubt on its renewal and significance.

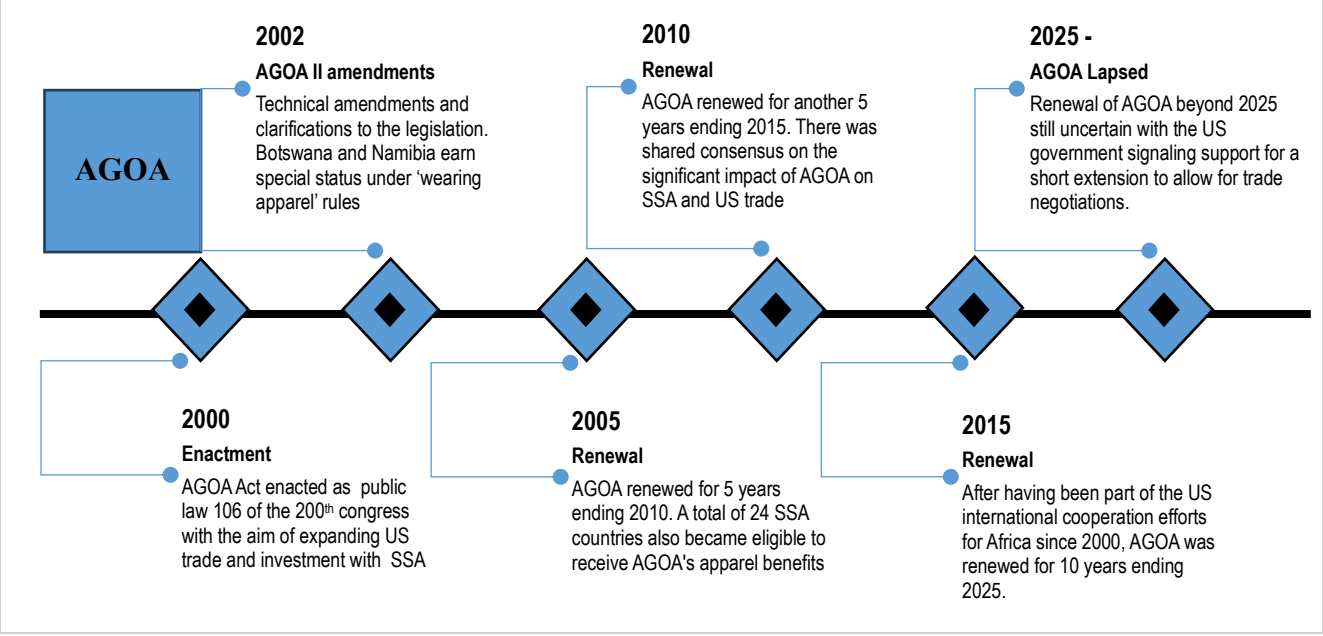
Considering the importance of AGOA in trade and the growth possibilities of AGOA beneficiary countries, policymakers in these countries must be aware of the consequences of non-renewal of AGOA for their economies and citizens. The assessments in this article, therefore, present an initial step towards equipping policymakers in beneficiary countries to approach the negotiations for the renewal AGOA from an informed position. In addition, the article contributes to the extant literature base and the current debate directed on the uncertainty surrounding the renewal of AGOA beyond 2025. The position specified is that even if the Trade Act receives a new lease of life, the assessments are still valid in crafting a foundation for future post-AGOA trade policy architecture in beneficiary countries.

The rest of the article is organised as follows: the first section provides AGOA schematic facts and figures; theoretical and empirical intuitions are provided in the second section; the research method applied to achieve the aims of this article is provided in the third section; the results are presented in the fourth section, while the discussions are provided in the fifth section; and the last section concludes the article and offer policy recommendations.

## 1. AGOA Schematic Facts and Statistics

AGOA is a United States Trade Act, signed into law on 18 May 2000 as Public Law 106 of the 200th Congress. Its primary objective is to enhance US trade and investment with Sub-Saharan Africa (SSA) in order to promote economic growth, support regional economic integration, and facilitate SSA's deeper participation in the global economy (USTR, 2014). The Act also establishes the annual US–SSA Economic Cooperation Forum, commonly referred to as the AGOA Forum, which serves as a platform for high-level dialogue between the US and SSA countries on trade and investment matters. After being renewed three times since its inception (see the renewal timeline in Figure 1), AGOA lapsed in 2025.

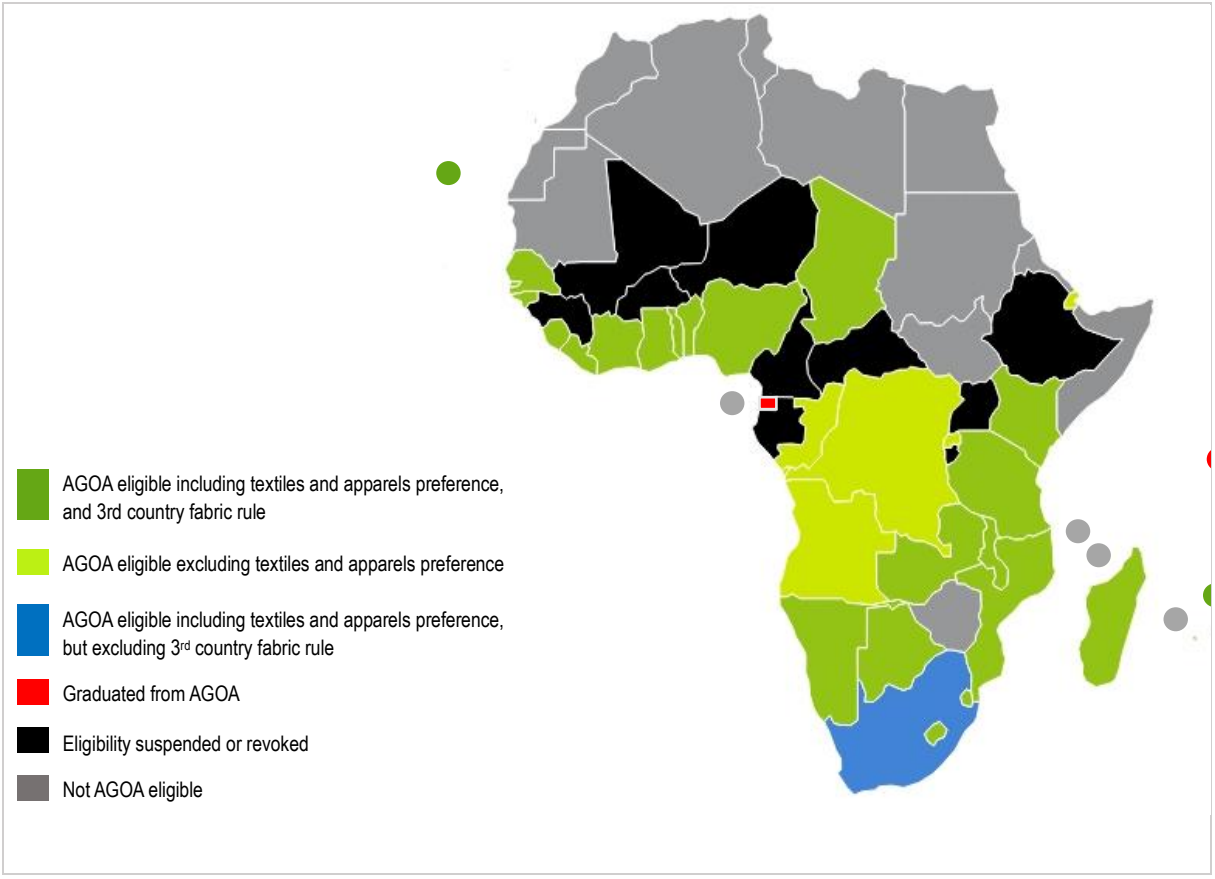
Figure 1. Renewal timeline of AGOA since its enactment in 2000




*Source*: Author's own figure

According to the USTR (2014), 40 SSA countries (see Figure 2 for the mapping of beneficiary States) receive unilateral market access to the US under AGOA for a range of eligible products. Through AGOA, the US grants duty- and/or quota-free entry on approximately 2 000 Harmonised System (HS) product lines, in addition to the 3 400 product lines covered under its Generalized System of Preferences (GSP) programme and a further 3 800 product lines that are duty-free under the United States' MFN regime (Prinsloo, 2016).

Figure 2: Mapping of AGOA beneficiary countries' eligibility, including revocations, re-institutions and graduations




*Source*: Author's own figure

Although AGOA is a non-reciprocal, unilateral trade arrangement, its benefits are not extended unconditionally (Prinsloo, 2016). To qualify for AGOA preferences, Sub-Saharan African countries must meet a set of eligibility requirements set by the United States. These include demonstrating progress toward a market-based economy, implementing economic policies aimed at reducing poverty, upholding the rule of law, taking effective measures to combat corruption, and protecting internationally recognised labour rights (USTR, 2014; AGOA, 2017). In addition, AGOA's eligibility provisions require beneficiary countries to remove barriers that hinder US trade and investment (Prinsloo, 2016; Winant, 2017). While Seychelles graduated from the program in 2018, a total of 11 of the 40 AGOA-eligible countries currently have their eligibility either suspended or revoked due to various concerns revolving around upholding the AGOA eligibility criterion.

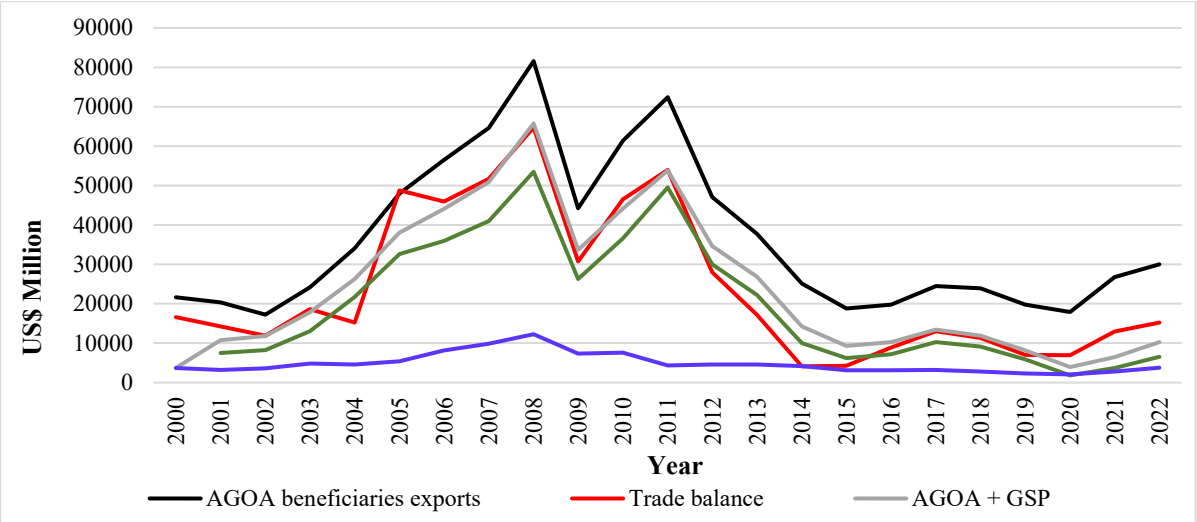
Even though AGOA expired in 2025, it provided SSA countries with valuable unilateral duty- and/or quota-free access to the US market. Over 98% of US imports from AGOA-eligible countries entered the US on a duty- and/or quota-free basis (USTR, 2016). The preferential access offered to SSA countries provides a substantial competitive advantage compared to non-AGOA trading partners that continue to face tariffs in the US market (AGOA, 2013). This holds especially with respect to certain products such as apparel, footwear, and agricultural products that are normally levied high MFN tariffs in the US.

In fact, liberalised market access into the US through AGOA has facilitated the expansion of bilateral trade between SSA and the US. As such, SAA exports to the US have increased by 38.6% between 2000 and 2022. AGOA exports increased from none in 2000 to a peak of US$53.5 billion in 2008 before deteriorating to US$6.6 billion in 2022. However, a significant decline of AGOA beneficiaries' aggregate exports, AGOA + GSP exports, and AGOA exports from the 2008 peak is outstanding. This may be primarily attributed to the economic and trade consequences of the 2008 Global Financial Crisis (GFC). In fact, AGOA + GSP exports were on a declining trend in the years following the GFC and leading to the COVID-19 pandemic in 2019. Notwithstanding, AGOA countries have enjoyed a favourable trade balance with the US over the AGOA years.

In addition to preferential market access under AGOA, several beneficiary countries also benefited from access to US credit facilities and technical expertise (USTR, 2016). Moreover, all AGOA-eligible countries engaged

in structured economic dialogue with the United States through the AGOA Forum, which served as a key platform for strengthening trade and investment relations.

Figure 3. Export profiling of AGOA beneficiary countries from 2000 to 2022




*Source*: Author's own figure based on data drawn from AGOA (2023)

It must be acknowledged that AGOA is not permanent. In fact, the evolution of AGOA into trade relationships of bilateral nature remains a prime intention of the US. The trade arrangement also suffers from a myriad of drawbacks, mostly emanating from its unilateral characteristic. Such drawbacks include: lack of a regulatory framework to administer trade and investment disputes; AGOA eligibility rest on the US Congress and can be revoked at any time at the discretion of the US President; unsustainable over-reliance on AGOA; and while it is unilateral on paper, it can be viewed as reciprocal in practice because beneficiary countries are required to reduce obstacles to US trade and investment. Eligibility for AGOA benefits, for instance, depends on countries meeting a range of conditions, such as making progress toward a market-based economy, adopting poverty-alleviation policies, upholding the rule of law, taking action to combat corruption, and protecting internationally recognised labour rights (USTR, 2014; AGOA, 2017).

## 2. Literature Review

International trade has grown in significance for virtually all countries and is widely regarded as a key mechanism for driving economic modernisation (McDonald, 2017). This has mainly been an outcome of advocacy for free trade throughout the past decades and more especially during the era of trade globalisation. Consequently, tariffs have deteriorated in application since the establishment of the GATT in 1947 and the WTO in 1995. Under the auspices of these establishments, various trade agreements supporting free trade have been concluded at the multilateral level. Trading countries have also expanded the adoption of liberal policies with the intention of liberalising international trade engagements. This has enabled the conclusion of trade arrangements at additional levels such as plurilateral, regional, bilateral, and unilateral, leading to further decline in tariffs and rubber-stamping the notion that international trade cooperation is beneficial relative to the adoption of mercantilist policies, together with functioning in solitude.

### 2.1. Theoretical Underpinnings

The bearing of tariff increases on trade, welfare, and government revenue can be comprehended through various theoretical perspectives in international trade. Encompassing both classical and contemporary trade theories, key theories in this domain include the mercantilist theory, the theory of comparative advantage, the Heckscher-Ohlin-Samuelson model, and the new trade theory. According to the mercantilist theory, tariffs are viewed as beneficial for enhancing a nation's trade balance by reducing imports and potentially increasing exports (Smith, 1776). This perspective suggests that tariffs can safeguard home industries from external rivalry, thus preserving employment and advancing economic stability (List, 1841). Moreover, tariffs serve as a significant source of government revenue, especially when the demand for imported goods is relatively inelastic, allowing governments to collect substantial tariffs per unit of imports (Hamilton, 1790).

Conversely, the comparative advantage theory, pronounced by Ricardo (1817) and building on the absolute

advantage theory of Smith (1776), emphasizes the efficiency gains from international trade based on differences in opportunity costs. Tariff increases under this framework distort comparative advantage and reduce the overall benefits from specialization and trade (Krueger, 1978). Such tariffs lead to higher consumer prices, diminishing consumer welfare and efficiency gains (Bhagwati, 1965). While tariffs may still generate revenue, their detrimental impact on welfare and economic efficiency is a key concern in this theory.

The Heckscher-Ohlin-Stolper-Samuelson model of trade elaborates on how tariffs affect trade patterns based on factor endowments. Tariff increases can protect industries that use abundant domestic factors of production from foreign competition, potentially altering international trade flows (Ohlin, 1933). Initially, domestic producers may benefit from higher prices and increased sales. However, over time, safeguard from external rivalry has the capacity to diminish the inducements for local firms to be innovative, enhance efficacy, or invest in research and development. Moreover, the tariff increases also contribute to diminished economic efficiency and welfare losses by distorting resource allocation and reducing gains from trade based on comparative advantage (Samuelson, 1948).

In modern trade theories, such as the new trade theory and economic integration perspectives, tariffs disrupt global supply chains and reduce economies of scale and efficiency gains (Krugman, 1980). This disruption can lead to higher costs for consumers and businesses, eroding welfare gains from specialization and innovation (Helpman & Krugman, 1985). In some instances, tariff increases can escalate into trade conflicts with retaliatory measures from other countries, further jeopardising economic growth and stability. In fact, modern theories emphasise the broader negative impacts of tariffs on economic growth, trade integration, and overall welfare. Thus, while tariffs may offer short-term benefits like protecting jobs and generating government revenue, their long-term consequences often include reduced consumer welfare, inefficiencies in resource allocation, and risks to global economic stability (Baldwin & Wyplosz, 2020). Contextually, policymakers must carefully balance these trade-offs when formulating new and amending existing trade policies to ensure they promote sustainable trade, economic growth, and welfare.

### 2.2. Empirical Intuitions

Tariffs, as instruments of trade policy, have been extensively studied in economic literature for their multifaceted impact on trade, welfare and revenue (Osang & Turnovsky, 2000; Felbermayr *et al.* 2015; Amiti *et al.* 2019; Artuc *et al.* 2021; Dhingra *et al.* 2023). Empirical studies consistently demonstrate that an increase in tariffs generally leads to a decrease in overall welfare for the affected economies (see Magee *et al.* 1972; Romer, 1994; Tullock, 2008; Crowley, 2019; Grossman *et al.* 2024). This decrease arises primarily from several interconnected mechanisms that alter market dynamics, consumer behavior, and international trade relationships (Amiti *et al.* 2019).

In line with theoretical expectations, higher tariffs distort international trade patterns by making imported goods relatively more expensive compared to domestically produced goods (Krolikowski & McCallum, 2021). As noted by Anderson and Neary (2020), this distortion reduces market efficiency and allocative efficiency. In other words, the increased prices of imported goods lead to higher consumer prices, reducing consumer purchasing power and thus lowering consumer welfare. This effect is particularly pronounced in industries heavily reliant on imported inputs or finished goods, where tariff increases directly increase production costs and final prices for consumers (Goldberg & Pavcnik, 2016).

Tariff increases also often result in reduced competition within domestic markets. In fact, domestic producers, shielded from foreign competition by tariffs, face less pressure to innovate, improve efficiency, or lower prices. This lack of competitive pressure can lead to a loss of productivity gains that would otherwise benefit consumers through lower prices and improved product quality (Bown, 2018). Furthermore, the imposition of tariffs can trigger retaliatory measures from trading partners, escalating into trade conflicts or even trade wars (Fetzer & Schwarz, 2021). These retaliatory tariffs can further disrupt international trade flows, disrupt supply chains, and increase uncertainty for businesses and consumers alike. Such scenarios have been observed in recent trade disputes (see Aydin *et al.* 2022; Benguria, 2023; Ju *et al.* 2024; Fajgelbaum *et al.* 2024), highlighting the broader implications of protectionist measures on global economic stability. For instance, Aydin et al. (2022) revealed that trade wars adversely impact both the welfare levels of countries and the world.

Since one of the primary motivations for imposing tariffs is to generate revenue for the government, empirical research indicates that tariff increases can indeed boost government revenue, especially in economies where tariff rates are already substantial (Bown & Crowley, 2013). However, the revenue-generating potential of tariffs is influenced by factors such as tariff elasticity (Mitra *et al.* 2002) and the overall structure of the economy. Moreover, the revenue effects of tariff increases may be offset by other economic consequences, such as reductions in trade

volumes and changes in consumer behavior. For instance, if higher tariffs lead to a significant decline in imports, the resulting reduction in customs duties collected on imports could partially offset the revenue gains from higher tariff rates (Anderson & Neary, 2007).

Extant literature provides robust evidence that increases in tariffs, while revenue-enhancing, generally lead to reduced overall trade and welfare through higher consumer prices, reduced market efficiency, diminished competitive pressures, and potential trade conflicts. These findings underscore the importance of careful consideration of trade policy decisions, weighing short-term protectionist gains against the long-term costs to consumer welfare, economic efficiency, and global economic stability.

While many studies have explored the welfare effects of tariff increases, in the context of AGOA, there is a deficiency of studies that have examined the impact of its non-renewal tariff increase when the US tariffs revert back to MFN levels. This is the gap that this article occupies by providing a springboard for AGOA beneficiary countries to approach the conversations surrounding the renewal of AGOA and its lingering uncertainty from an informed position. The article further presents an important opportunity to advance the scholarly discourse and the understanding of AGOA and what the expiry of the trade Act mean for the SSA beneficiary countries.

## 3. Research Method

The research method applied in this study to estimate the welfare and macroeconomic effects of the potential increase in US tariffs on beneficiary countries AGOA sectors if the trade Act is not renewed, after it expired in 2025, is presented in this section. The presentation comprises the methodological rationalisation, the GTAP model, and the GTAP database and simulation scenarios.

### 3.1 Methodological Rationalisation

The present study employs *ex ante* the GTAP (Global Trade Analysis Project)-Computable General Equilibrium (CGE) model, which provides a framework to simulate the global economy under different trade policy scenarios. It accounts for the interconnections between multiple sectors and economies, making it ideal for analysing macro-level welfare and economic effects of policy changes, such as a potential increase in US tariffs on AGOA countries if the Act is not renewed. Additionally, the GTAP model's ability to incorporate a wide range of global trade relationships and policy variables allows for a more comprehensive and robust analysis of the potential effects of AGOA's expiration on both the US and AGOA countries.

Unlike partial equilibrium models, which generally focus on isolated markets or sectors, the GTAP model enables a general equilibrium analysis that internalises cross-sectoral and cross-country interactions. It helps simulate the broader economic effects of tariff changes, accounting for spillover effects in the global economy. The GTAP model focuses on changes in trade flows, income, production, prices, and welfare across the entire economy, making it more suitable for capturing the macroeconomic and sectoral effects in the case of AGOA's expiration.

### 3.2. The GTAP Model

To conduct the analysis in this study, the Global Trade Analysis Project (GTAP) model is employed. The GTAP model is a multi-region, multi-sector computable general equilibrium (CGE) model designed to capture the linkages between production, consumption, trade, and income across countries and sectors. It enables the simulation of policy changes, such as tariff reforms, while considering both direct and indirect effects on trade flows and welfare. The model's strength lies in its ability to represent the interdependence of global economies, ensuring that any shock introduced in one region or sector propagates through all others in a theoretically consistent manner.

### 3.3. GTAP Database, Aggregations and Simulation Scenarios

The GTAP analysis is supported by the GTAP database, which integrates global data on production, consumption, trade, and protection. The database combines information from various international sources, including the World Input–Output Tables (WIOT), UN Comtrade, and national accounts, ensuring internal consistency and sectoral comparability across countries.

To align the global database with the analytical focus of this study, the standard GTAP regional and sectoral classifications are aggregated into more targeted groups. Regional aggregation results in 12 composite regions, with all AGOA beneficiary countries combined into a single region to capture their collective export exposure to potential US tariff adjustments. The US is retained as an individual region, while major global trading partners (*e.g.*, EU, China, rest of world) are grouped into economically meaningful aggregates. This reduces computational complexity while retaining the essential structure of world trade. For the sectoral aggregation, the original GTAP sectors are consolidated into 10 core categories that reflect the main export profiles of AGOA-eligible economies.

The aggregation balances the need for analytical tractability with the requirement to preserve tariff variation across sectors.

Regarding tariff and protection data, AGOA preferential tariff rates are mapped onto the GTAP tariff structure and replaced with MFN rates under Scenario 1. Sector-level average tariff changes are computed by comparing applied AGOA rates (often zero) to corresponding MFN values. The trade, welfare, and revenue implications of a potential increase in US tariffs are examined under two distinct trade protection policy scenarios:

- Scenario 1: Non-renewal of AGOA. In this scenario, the US tariff policy reform assumes that all African Growth and Opportunity Act (AGOA) imports from beneficiary countries revert to MFN tariff levels after the programme's expiration in 2025. Thus, tariffs applied by the US on AGOA imports are increased to the corresponding sectoral average MFN tariff rate. The magnitude of the change in each sector depends on the difference between its AGOA and MFN tariff levels (*i.e.*, the higher the MFN rate, the greater the anticipated adjustment).
- Scenario 2: Reciprocal tariff escalation. This scenario assumes a reciprocal base tariff of 10% imposed by the US on imports from various trading partners, including AGOA countries. This reflects a potential escalation of protectionist measures under a broader trade policy shift.

### 3.4. Transmission Mechanism

The increase in tariffs raises the prices of imported goods in the US relative to domestic substitutes. This price rise reduces import demand from AGOA countries, leading to potential trade contraction or trade diversion depending on the price elasticity of demand and substitution patterns. Consequently, changes in trade volumes influence sectoral production, household welfare, and government tariff revenues across all regions represented in the GTAP model.

## 4. Results and Discussions

The results of the expected welfare, macroeconomic and trade effects of the US trade protection policy reform in which its tariffs applied on all AGOA imports originating from beneficiary countries revert to MFN levels, suggesting the non-renewal of AGOA after it expires in 2025, are presented and analysed in this section.

### 4.1. Welfare Effects

The results of the welfare analysis (see Table 1) indicate that the US experiences a net welfare loss of US$ -63.3 million, primarily due to a negative allocative efficiency effect (-103.5), which is only partially mitigated by improvements in terms of trade. The negative welfare impact suggests that the increase in US tariffs for AGOA products does not lead to optimal resource allocation for the US, possibly due to inefficient adjustments in production and consumption patterns. In contrast, China gains US$ 268.2 million, largely driven by favourable terms of trade effects amounting to US$ 224.7 million. This gain implies that China benefits from the shifts in global trade patterns, potentially by increasing exports to AGOA countries that lose access to the US market.

Table 1. Decomposition of the Equivalent Variation (2017 US$ million)

| Scenario 1 | Allocative Efficiency Effect | Endowment Effect | TOT Effect | TOT in Investment and Savings | Total |
|---|---|---|---|---|---|
| US | -103.50 | 0.00 | 7.40 | 32.80 | -63.30 |
| China | 62.40 | 0.00 | 224.70 | -18.80 | 268.20 |
| AGOA | -166.60 | 0.00 | -701.30 | 6.40 | -861.50 |
| Africa | -4.10 | 0.00 | 3.20 | -3.10 | -4.00 |
| Oceania | -0.50 | 0.00 | -39.70 | -0.10 | -40.40 |
| Asia | 34.40 | 0.00 | 156.50 | -3.70 | 187.10 |
| European Union | 39.00 | 0.00 | 137.50 | -11.70 | 164.80 |
| North America | 14.40 | 0.00 | 187.40 | -1.40 | 200.50 |
| Latin America | 4.60 | 0.00 | 25.80 | 0.20 | 30.50 |
| Western Europe | 2.50 | 0.00 | 24.60 | 1.30 | 28.40 |
| Middle East | 4.10 | 0.00 | 17.40 | -1.10 | 20.40 |
| Rest of the World | -3.30 | 0.00 | -44.20 | -0.60 | -48.10 |
| **Total (World)** | **-116.60** | **0.00** | **-0.70** | **0.20** | **-117.40** |

| Scenario 1 | Allocative Efficiency Effect | Endowment Effect | TOT Effect | TOT in Investment and Savings | Total |
|---|---|---|---|---|---|
| Scenario 2 | | | | | |
| US | -577.70 | 0.00 | -109.40 | 39.70 | -647.40 |
| China | 129.10 | 0.00 | 458.00 | -28.40 | 558.60 |
| AGOA | -316.60 | 0.00 | -1482.10 | 13.00 | -1785.70 |
| Africa | -6.10 | 0.00 | 13.10 | -5.30 | 1.60 |
| Oceania | -0.30 | 0.00 | -73.40 | 0.20 | -73.40 |
| Asia | 68.00 | 0.00 | 296.90 | -2.20 | 362.60 |
| European Union | 82.60 | 0.00 | 279.10 | -17.00 | 344.70 |
| North America | 31.50 | 0.00 | 458.60 | -2.00 | 488.10 |
| Latin America | 10.70 | 0.00 | 90.50 | 1.20 | 102.40 |
| Western Europe | 5.60 | 0.00 | 55.30 | 2.60 | 63.50 |
| Middle East | 11.40 | 0.00 | 91.50 | -1.10 | 101.90 |
| Rest of the World | -6.10 | 0.00 | -81.20 | -0.50 | -87.80 |
| **Total (World)** | **-567.90** | **0.00** | **-2.90** | **0.00** | **-570.90** |

*Note*: AGOA, African Growth and Opportunity Act; TOT, Terms of Trade; US, United States
*Source*: GTAP 11c model simulation

AGOA countries suffer the most significant welfare loss, amounting to US$ -861.5 million, with terms of trade deterioration (-701.3 million) being the primary contributing factor. The erosion of trade preferences previously granted under AGOA leads to increased competition from other exporters, reducing the profitability of AGOA exports to the US. The loss of export earnings may have broader implications for employment and income distribution in AGOA economies, particularly in sectors such as textiles, agriculture, and light manufacturing. On a global scale, the total welfare impact is negative, with the world experiencing a welfare decline of US$ -117.4 million, underscoring the overall adverse impact of the non-renewal of AGOA after the unilateral trade arrangement expires in October 2025, The findings suggest that while trade liberalisation may create efficiency gains in some regions, the overall distribution of benefits and losses is uneven, with significant negative consequences for certain economies.

### 4.2. Macroeconomic Effects

The macroeconomic effects of the non-renewal of AGOA (see Table 2) reveal minimal changes in real GDP across most regions, with AGOA countries witnessing a decline of -0.26%, while other regions experience negligible variations. The reduction in AGOA's GDP suggests that the loss of trade benefits under AGOA translates into slower economic growth, likely due to reduced export earnings and weakened production incentives. In contrast, China and North America register slight GDP gains of 0.01% and 0.02%, respectively, indicating limited but positive spillover effects from trade reallocation.

Table 2. Macroeconomic effects of the non-renewal of AGOA

| | Real GDP (%) | Export Volume (%) | Import Volume (%) | Export Value (%) | Terms of Trade (%) | Trade Balance (US$ Million) | Regional household income (%) |
|---|---|---|---|---|---|---|---|
| Scenario 1 | | | | | | | |
| US | 0.00 | -0.05 | -0.06 | -0.04 | 0.00 | 528.13 | 0.00 |
| China | 0.01 | 0.00 | 0.02 | 0.00 | 0.01 | -262.12 | 0.01 |
| AGOA | -0.26 | -0.15 | -0.39 | -0.38 | -0.20 | 109.67 | -0.27 |
| Africa | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -6.24 | 0.00 |
| Oceania | 0.00 | 0.00 | -0.01 | 0.00 | -0.01 | -3.71 | 0.00 |
| Asia | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | -174.70 | 0.01 |
| European Union | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -117.36 | 0.01 |

| | Real GDP (%) | Export Volume (%) | Import Volume (%) | Export Value (%) | Terms of Trade (%) | Trade Balance (US$ Million) | Regional household income (%) |
|---|---|---|---|---|---|---|---|
| North America | 0.02 | 0.00 | 0.02 | 0.03 | 0.02 | 27.25 | 0.02 |
| Latin America | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | -14.31 | 0.01 |
| Western Europe | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | -36.85 | 0.00 |
| Middle East | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | -25.22 | 0.00 |
| Rest of the World | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -24.55 | 0.00 |
| Scenario 2 | | | | | | | |
| US | -0.01 | -0.10 | -0.13 | -0.08 | 0.00 | 1263.01 | -0.01 |
| China | 0.02 | -0.01 | 0.04 | 0.01 | 0.02 | -582.81 | 0.02 |
| AGOA | -0.52 | -0.27 | -0.76 | -0.75 | -0.43 | 157.67 | -0.54 |
| Africa | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | -16.53 | 0.00 |
| Oceania | 0.00 | 0.01 | -0.01 | -0.01 | -0.02 | -13.57 | 0.00 |
| Asia | 0.02 | 0.00 | 0.01 | 0.01 | 0.01 | -385.32 | 0.02 |
| European Union | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | -281.24 | 0.01 |
| North America | 0.05 | -0.01 | 0.03 | 0.06 | 0.05 | 82.95 | 0.05 |
| Latin America | 0.02 | 0.00 | 0.02 | 0.03 | 0.01 | -34.68 | 0.02 |
| Western Europe | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | -87.09 | 0.01 |
| Middle East | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | -49.39 | 0.01 |
| Rest of the World | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -53.00 | 0.00 |

*Note*: AGOA, African Growth and Opportunity Act; GDP, Gross Domestic Product; US, United States
*Source*: GTAP 11c model simulation

The trade dynamics indicate a contraction in AGOA's trade activities, as evidenced by declines in export and import volumes of -0.15% and -0.39%, respectively. These reductions reflect decreased market access and possible disruptions in supply chains. The US also experiences marginal reductions in export and import volumes (-0.05% and -0.06%, respectively), suggesting limited macroeconomic disruption. However, despite these contractions, the US benefits from an improved trade balance of US$ 528.13 million, largely due to reduced import expenditures and potential increases in domestic production substitution. Conversely, AGOA countries see a reduction in their trade surplus by US$ 109.67 million, exacerbating external vulnerabilities and reducing foreign exchange inflows.

The terms of trade effects remain negative for AGOA (-0.20%), indicating a deterioration in the relative prices of AGOA's exports compared to its imports. This means AGOA countries must export more to afford the same level of imports, making trade less beneficial. In contrast, other regions experience either neutral or slightly positive impacts, with China and North America gaining 0.01% and 0.02%, respectively. These variations suggest that, while the non-renewal of AGOA leads to shifts in trade patterns, its overall impact on macroeconomic indicators remains relatively contained at the global level.

### 4.3. Trade Effects

The trade effects of the non-renewal of AGOA highlight significant shifts in trade patterns, particularly for AGOA countries. AGOA countries' export volumes to the US decline across all major sectors (see Table 3), with the most pronounced contractions observed in textiles (-29.27%), mining (-27.54%), and manufacturing (-27.06%). These declines indicate that AGOA economies, which have historically relied on preferential access to the US market, face substantial challenges in maintaining competitiveness under the new trade regime. The loss of access to the US market for key industries may lead to production declines, job losses, and income reductions in AGOA economies, particularly in labour-intensive sectors.

Table 3. Estimated changes in bilateral export volumes between AGOA beneficiary countries and the US (%)

| Sector | AGOA | | US | |
|---|---|---|---|---|
| | S1 | S2 | S1 | S2 |
| Grains and crops | -12.02 | -34.65 | -0.69 | -1.54 |
| Livestock and meat products | -11.83 | -48.00 | -0.89 | -1.74 |
| Mining and extraction | -27.54 | -66.25 | -2.74 | -6.21 |
| Processed food | -18.02 | -32.16 | -0.53 | -1.04 |
| Textiles and clothing | -29.27 | -49.20 | -0.63 | -1.13 |
| Light manufacturing | -27.06 | -46.03 | -0.57 | -1.04 |
| Heavy manufacturing | -25.86 | -49.40 | -0.63 | -1.27 |
| Utilities and construction | 1.00 | 1.96 | -0.64 | -1.20 |
| Transport and communication | 0.85 | 1.63 | -0.44 | -0.81 |
| Other services | 0.87 | 1.67 | -0.42 | -0.79 |

*Note*: AGOA, African Growth and Opportunity Act; S, Scenario; US, United States
*Source*: GTAP 11c model simulation

Overall trade flows in Table 4 illustrate a major reduction in AGOA countries exports to the US, amounting to US$ -5836.76 million. This contraction reflects reduced US demand for AGOA goods, possibly due to shifts in trade policies and supply chain adjustments. However, this trade retraction is accompanied by trade diversion, benefiting other regions such as China (+US$ 1488.46 million) and the European Union (US$ 1128.87 million). This suggests that while AGOA economies lose access to the US market, other trading partners step in to fill the gap, potentially at lower costs or with more competitive pricing structures. Despite this, AGOA countries' total trade remains relatively unchanged, totalling -US$ 522.27 million. This indicates that while exports to the US decline, AGOA countries can redirect some of their trade flows to alternative markets, albeit possibly at less favourable terms. Intra-AGOA countries trade is also estimated to increase by US$333.08 million.

Table 4. Effects on trade flows of AGOA beneficiary countries (US$ million)

| | Exports | | Imports | |
|---|---|---|---|---|
| | S1 | S2 | S1 | S2 |
| **US** | -5836.76 | -12707.08 | -138.12 | -266.87 |
| **China** | 1488.46 | 3340.46 | -349.19 | -676.9 |
| **AGOA** | 333.08 | 707.96 | 333.08 | 707.96 |
| **Africa** | 145.22 | 303.42 | -47.61 | -97.71 |
| **Oceania** | 44.95 | 96.07 | -20.89 | -41.55 |
| **Asia** | 1321.99 | 2964 | -280.82 | -552.12 |
| **European Union** | 1128.87 | 2493.73 | -381.84 | -749.47 |
| **North America** | 71.16 | 161.24 | -34.08 | -73.44 |
| **Latin America** | 91.04 | 203.39 | -55.45 | -111.85 |
| **Western Europe** | 295.65 | 614.31 | -85.78 | -167.02 |
| **Middle East** | 358.83 | 784.36 | -171.40 | -362.54 |
| **Rest of the World** | 35.04 | 75.65 | -22.15 | -45.35 |

*Note*: AGOA, African Growth and Opportunity Act; S, Scenario; US, United States
*Source*: GTAP 11c model simulation

Trade creation and diversion effects (see Table 5) further emphasise the negative impact on AGOA exports to the US, which declines by US$ -5836.76 million across all sectors. This decline is partially offset by increased imports from other regions (US$ 4165.09 million), reflecting a reorganisation of trade flows. Additionally, AGOA countries' exports to alternative markets increases by US$ 5314.29 million, suggesting that while they lose market access in the US, they manage to redirect trade to other regions, albeit with potential disadvantages in terms of pricing and competitiveness.

Table 5. Trade creation and trade diversion effects (2017 US$ million)

| Sector | Change in real US imports from AGOA countries | | Change in real US imports from other regions | | Change in real other regions imports from AGOA countries | |
|---|---|---|---|---|---|---|
| | S1 | S2 | S1 | S2 | S1 | S2 |
| Grains and crops | -234.70 | -676.64 | 131.44 | 388.52 | 209.96 | 447.80 |
| Livestock and meat products | -6.18 | -25.09 | 1.25 | 7.73 | 18.63 | 32.20 |
| Mining and extraction | -3131.51 | -7531.81 | 2386.54 | 5892.36 | 2986.64 | 6766.73 |
| Processed food | -108.53 | -193.70 | 59.55 | 99.32 | 107.25 | 173.05 |
| Textiles and clothing | -322.71 | -542.40 | 246.44 | 405.22 | 34.73 | 41.70 |
| Light manufacturing | -699.75 | -1190.12 | 336.57 | 431.50 | 292.99 | 481.53 |
| Heavy manufacturing | -1391.23 | -2657.87 | 1132.56 | 2186.58 | 1315.96 | 2391.45 |
| Utilities and construction | 0.51 | 0.99 | -1.93 | -5.04 | 21.05 | 24.75 |
| Transport and communication | 35.01 | 66.96 | -57.25 | -155.50 | 224.64 | 413.53 |
| Other services | 22.33 | 42.60 | -69.98 | -190.96 | 102.44 | 188.24 |
| **Total** | **-5836.76** | **12707.08** | **4165.09** | **9059.73** | **5314.29** | **10960.98** |

Note: AGOA, African Growth and Opportunity Act; S, Scenario; US, United States
*Source*: GTAP 11c model simulation

The shifting trade dynamics indicate that while AGOA countries adapt to the loss of preferential access, the transition may not be seamless, potentially leading to economic disruptions and adjustments in production structures.

## 5. Discussions and Implications for Policy and Investments

The findings from the analysis highlight significant trade, welfare, and macroeconomic consequences of the non-renewal of AGOA, particularly for AGOA beneficiary countries. The results underscore that while the US experiences a net welfare loss, China and other trade partners benefit from trade reallocation. AGOA countries, on the other hand, face substantial economic disruptions due to deteriorating terms of trade and reduced market access to the US. These dynamics present critical challenges for policymakers, businesses, and investors who must navigate the transition towards a post-AGOA trade environment. These findings align with the arguments made by Baldwin and Wyplosz (2020) on the interdependencies within global trade networks and the asymmetric impacts of policy changes on developing economies. Similarly, Anderson and Neary (2020) highlight that trade policy changes can generate significant welfare shifts among trading partners, particularly for developing economies reliant on preferential market access.

### 5.1. Implications for Policy and Investment

The significant reduction in AGOA exports to the US suggests the need for AGOA countries to enhance intra-African trade by strengthening the African Continental Free Trade Area (AfCFTA), as posited by Mevel and Karingi (2012), who argue that regional integration can serve as a buffer against external trade shocks. This could provide new market opportunities and reduce dependence on US preferences. Increasing regional economic integration can help mitigate some of the negative impacts of the loss of AGOA. Additionally, AGOA countries should explore new bilateral and multilateral trade arrangements with other global partners to compensate for lost US market access. Establishing Free Trade Agreements (FTAs) with the European Union, China, and emerging markets could help diversify export destinations and reduce reliance on preferential trade arrangements, as echoed by Freund and Ornelas (2010), who highlight the role of FTAs in fostering trade resilience. This aligns with findings by Goldberg and Pavcnik (2016), who emphasize that trade diversification and liberalization play crucial roles in sustaining economic stability.

While AGOA's non-renewal appears imminent, affected countries should engage in diplomatic discussions to negotiate alternative trade frameworks with the US, such as sector-specific trade agreements or targeted tariff reductions to sustain key export industries. The reliance of AGOA countries on a few key export sectors, such as textiles, mining, and light manufacturing, has increased their vulnerability to external shocks, a phenomenon also discussed by Rodrik (2018) in the context of economic structural adjustments. Policymakers should promote

diversification into high-value-added sectors, including agro-processing, pharmaceuticals, and technology-driven industries. The decline in AGOA exports suggests a need for greater investment in industrial upgrading and supply chain efficiency, including infrastructure, logistics, and technological innovation to enhance competitiveness in global markets. Recent research by Dhingra, Freeman, and Huang (2023) supports this perspective, emphasizing that non-tariff barriers and trade policy uncertainties necessitate stronger supply chain resilience and industrial policy reforms.

To offset the negative economic effects of AGOA's expiration, attracting Foreign Direct Investment (FDI) into manufacturing, services, and infrastructure is essential. Studies by Alfaro (2017) indicate that FDI can drive productivity growth and technological diffusion, making it a key strategy for AGOA countries. Governments should create business-friendly environments through regulatory reforms, investment incentives, and public-private partnerships. The expected contraction in export-oriented industries may lead to job losses, particularly in labour-intensive sectors like textiles. Governments should implement workforce reskilling programs and social protection policies to support displaced workers, in line with the human capital development strategies emphasised by Becker (1993). Additionally, the projected decline in trade surplus and foreign exchange inflows may increase fiscal vulnerabilities, necessitating macroeconomic policies focused on maintaining exchange rate stability, promoting domestic investment, and ensuring access to alternative financing sources. Recent findings by Amiti, Redding, and Weinstein (2019) indicate that trade shocks can amplify macroeconomic instability, reinforcing the need for sound monetary and fiscal policies.

AGOA countries should also move beyond raw material exports and develop domestic value chains that enhance local processing and manufacturing, increasing their competitiveness and resilience to external trade policy shifts. This aligns with Gereffi's (1999) global value chain framework, which underscores the importance of upgrading within trade networks. Digital trade presents an opportunity for AGOA countries to access new markets beyond traditional physical exports. Governments should invest in digital infrastructure and support policies that enable businesses to participate in e-commerce platforms. Developing strategic partnerships with global firms, financial institutions, and development agencies can provide the necessary funding and technical expertise to help AGOA countries adapt to changing trade dynamics. Additionally, given the increasing global emphasis on sustainability, AGOA countries should align their production practices with environmental and social governance (ESG) criteria to enhance their attractiveness to investors and global buyers, as highlighted by Porter and Kramer (2011) in their shared value framework. Studies by Crowley (2019) and Benguria (2023) further emphasize that sustainability-focused trade policies can improve competitiveness in global markets.

### 5.2. Limitations and Areas for Future Research

The findings suggest that AGOA's expiration presents both challenges and opportunities for affected economies. While the loss of preferential access to the US market is a significant setback, strategic policy adjustments and investment in trade diversification, competitiveness, and regional integration can help mitigate the adverse effects. AGOA countries must proactively adapt by enhancing economic resilience, strengthening trade partnerships, and positioning themselves competitively in a rapidly evolving global trade landscape. However, this study is limited by its reliance on available trade and macroeconomic data, which may not fully capture the complex and dynamic effects of AGOA's expiration. Future research should focus on disaggregated sectoral analyses to understand industry-specific impacts and explore the role of digital trade, regional trade agreements, and sustainable industrial policies in mitigating the negative effects. Additionally, longitudinal studies assessing the long-term adaptation strategies of AGOA countries could provide deeper insights into effective policy responses. These recommendations are in line with the work of Stiglitz (2002) on the necessity of adaptive economic policies in response to trade disruptions. Further research by Fajgelbaum et al. (2024) suggests that trade reallocation dynamics should be examined over extended periods to fully capture their macroeconomic consequences.

## Conclusions and Recommendations

The non-renewal of AGOA results in significant welfare losses for AGOA countries while benefiting China and, to a lesser extent, the US. This agreement leads to trade reallocation that disadvantages AGOA economies, which have traditionally relied on preferential access to the US market. Although the macroeconomic effects remain limited at the global level, AGOA countries experience a contraction in trade, negatively impacting their growth and export performance. Trade diversion emerges as a key consequence, with AGOA nations losing market share in the US but increasing exports to other regions. These shifts present challenges related to trade displacement, market reallocation, and broader economic restructuring.

The expiration of AGOA amplifies these economic disruptions, particularly for industries such as textiles, agriculture, and manufacturing, which have benefited from duty-free access to the US. The resulting decline in employment, foreign exchange earnings, and economic stability highlights the vulnerability of AGOA countries to external trade policy shifts. The loss of preferential trade benefits is not merely a short-term setback but a structural change that necessitates significant economic adaptation. The reliance on a single dominant market has exposed AGOA economies to unpredictable policy decisions, underscoring the urgency of diversifying trade partnerships and strengthening regional integration.

Furthermore, the trade and investment landscape for AGOA countries will undergo long-term adjustments as industries that thrived under the agreement struggle to maintain their competitiveness in the absence of preferential access. Changes in production patterns, labor market disruptions, and evolving export strategies will shape the economic trajectory of these nations. While the expiration of AGOA poses substantial economic challenges, it also presents an opportunity for AGOA countries to reassess their trade policies, industrial development strategies, and participation in global value chains. Their ability to navigate these shifts will be crucial in determining their long-term economic resilience and sustainable growth.

## Credit Authorship Contribution Statement

**Gabriel Mhonyera**: Conceptualization, Methodology, Software, Formal analysis, Writing – original draft, Validation, Writing – review and editing.

## Declaration of Competing Interest

The author declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Declaration of Use of Generative AI and AI-assisted Technologies

The author declares that he has not used generative AI and AI-assisted technologies during the preparation of this work.

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## Appendix

Table A.1: Regional and factor aggregation

| Region | Description | Factor | Description | Factor mobility |
|---|---|---|---|---|
| Oceania | Australia, New Zealand | Land | Land | Sluggish (ETRAE = – l.000) |
| China | China | SkLab | Skilled labour | Mobile |
| Asia | East Asia | UnSkLab | Unskilled labour | Mobile |
| NAmerica | North America | Capital | Capital | Mobile |
| US | United States | NatRes | Natural Resources | Sluggish (ETRAE = – 0.00l) |
| LatinAmer | Latin America | | | |
| EU28 | European Union | | | |
| WestEurope | Western Europe | | | |
| RestofWorld | Rest of World | | | |
| MENA | Middle East and North Africa | | | |
| Africa | Africa Non-AGOA Beneficiaries | | | |
| AGOA | SSA AGOA Beneficiaries | | | |

*Source: Authors' own aggregations using GTAPAgg2*

Table A.2: Sectoral aggregation and GTAP average MFN tariffs faced on AGOA sectors if the trade act is not renewed

| Sector | Description | Average MFN Tariff |
|---|---|---|
| GrainsCrops | Grains and Crops | 3.0 |
| MeatLstk | Livestock and Meat Products | 2.0 |
| Extraction | Mining and Extraction | 3.0 |
| ProcFood | Processed Food | 5.0 |
| TextWapp | Textiles and Clothing | 5.0 |
| LightMnfc | Light Manufacturing | 5.0 |
| HeavyMnfc | Heavy Manufacturing | 4.3 |
| Util_Cons | Utilities and Construction | 0.0 |
| TransComm | Transport and Communication | 0.0 |
| OthServices | Other Services | 0.0 |

*Source: Authors' own calculations.*