



The Impact of the African Growth and Opportunity Act (AGOA) on Sub-Saharan African Economies

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Date: September 2026

Abstract

The AGOA, a nonreciprocal U.S. trade preference program enacted in 2000, had provided duty-free access to the U.S. for eligible Sub-Saharan Africa countries. While the policy was expected to be of significant aid to the growth of the eligible countries, many past studies have shown results in opposition to this expectation. In addition, there are limited research in the difference in growth of valid and invalid SSA countries after the enactment of SSA countries as well as analysing all market and exporting items as a whole. Therefore, as the AGOA is coming to an end after several extensions, the paper aims to explore the growth rate of the SSA countries – both eligible and ineligible – and the influences of the act on the included countries. This paper employed a more holistic set of data compared to past papers from 1990 to 2023, estimating two-way fixed effects and event-study models of AGOA eligibility on GDP, GDP growth and trade openness. The analysis showed that there are no statistically significant effects of AGOA eligibility on GDP, GDP growth or trade openness. The event study showed that there are no significant pre-trend in GDP growth, but also no notable post-treatment effect. In contrast, the trade openness records a significant downward trend, invalidating the parallel trends assumption. To conclude, it seemed that preferential market access is not enough to shift the aggregate GDP or growth for AGOA beneficiaries, and domestic structural factors are more important than trade-preference effects in influencing the economy of SSA countries at the aggregate level.

Introduction

The African Growth and Opportunity Act (AGOA) is a U.S. unilateral trade preference program - a one-sided program given to developing countries to foster their economies - enacted in 2000. The main target members of this act are 49 Sub-Saharan African (SSA) countries, of which 32 out of 49 countries are eligible for AGOA as of 2024. The AGOA is built around the U.S. Generalized System of Preferences (GSP) program, requiring countries to be eligible for GSP to qualify for AGOA. Additionally, there are five primary requirements for countries looking to apply for AGOA: economic (status of the AGOA country's market economy, economic reform, and elimination of barriers to U.S. trade); political (rule of law, political pluralism, and anti-corruption); poverty reduction; labor, child labor, and human rights; and terrorism and security (USITC, 2023).

Even before its enactment in 2000, the African Growth and Opportunity Act (AGOA) had been the topic of debate over its usefulness. Many people had argued that the policies might lead to detrimental effects for the U.S. domestic industries and that the AGOA is ineffective in improving the economies for SSA countries. On the other hand, others state that this is an important policy to open the way for SSA countries' exports as well as a method to mitigate the influence China has on Africa. This initiated many studies to investigate the effects that AGOA has on eligible countries.

One way to analyse the impact of the AGOA is through examining the export-led growth theory. This theory suggests that by fostering international trade, especially through export-oriented policies, countries can promote economic growth due to greater capital utilization, technological improvement through higher competition, creating jobs through foreign demand, and allowing countries to allocate resources efficiently based on their comparative advantage (Balassa, 1978). Subsequently, a country's level of trade openness is seen as an essential component in export-led growth theory. To make countries more open to trade, trade liberalization is one of the main tools used; trade liberalization works by cutting tariffs, eliminating trade barriers, increasing quotas, and deregulation, allowing freer exchange of goods and services. Therefore, trade liberalization is an important tool—specifically for the export-led growth theory—for the development of countries. This leads us to the African Growth and Opportunity Act (AGOA). The AGOA is a nonreciprocal U.S. trade preference program that allows duty-free access to the U.S. market for most exports by eligible Sub-Saharan African countries, integrating the Sub-Saharan African economies into the world trade system (Wong, 2023).

Literature Review

While the AGOA had the objective of improving trade and opening up opportunities between SSA countries and the U.S., there have been debates over its usefulness. Thus, many studies were conducted to see its actual effects on the exports of SSA countries.

Between the period 1995 to 2005, it seems as if the AGOA provided insignificant effects on trade to its members, which means AGOA did not achieve the effects it set out to have of increasing trade between the U.S. and Sub-Saharan African countries (Zappile, 2011). The main aims of AGOA—diversifying SSA economies and increasing their access to the U.S. market—have not been fully achieved; AGOA allows SSA countries to export over 1,800 duty-free product lines beyond standard GSP to the U.S. with no duties or customs, yet crude oil historically accounted for around 90% of total export value under the policy (Jacob et al., 2020). It is also mentioned that while AGOA has the effect of initializing trade between SSA countries and the U.S. in several product categories and sectors, its effect of increasing the overall volume of trade has been minimal, if not insignificant (Tadesse, 2008).

However, by employing a triple-difference-in-differences model, Frazer & Van Biesebroeck found out that SSA countries' GDP rose by 0.12% as a result of AGOA, a small but statistically significant number (Frazer & Van Biesebroeck, 2010). However, they also suggest that domestic factors of SSA countries are limiting the effectiveness of AGOA, stating that barrier removal can lead to significant impact (Frazer & Van Biesebroeck, 2010). For instance, poor infrastructure, low levels of per capita income, small geographical size, and domestic policies.

Furthermore, the SSA apparel sector gains significant benefits from the AGOA program, allowing countries to expand their manufacturing capacity and helping some in poverty reduction and job

growth (USITC, 2023). In addition to that, the African Growth and Opportunity Act has proven to raise trade flows between member countries and the U.S., and FDI inflows have been significant; however, the positive effects vary between countries and sectors, and challenges it set out to solve still persist, for instance, trade diversification and poverty reduction (Tadesse, 2024).

It should be mentioned that many past papers are failing to capture the full duration of AGOA and yielding differences due to the lack of data back in the days and the lack of cross-sectional coverage (Tadesse, 2008). To add to that, many studies focus the impact of the AGOA specifically on a single industry such as textiles, apparel, and agriculture (Zappile, 2011; Tadesse, 2024). Consequently, such studies do not give a comprehensive view of the overall impact of AGOA on total exports and aggregate economic growth, but rather evaluate effectiveness based on changes in those specific sectors. Past studies also rarely compare eligible and non-eligible SSA countries to see the actual baseline difference in benefits given by AGOA.

One more important thing to note is the fact that a 10-year extension for AGOA from 2015 to 2025 was not included in most early papers, meaning the current long-term effects AGOA may have on SSA countries are possibly different from those found in past studies. Therefore, such gaps in past studies inspired the creation of this paper.

Data

From the World Bank's World Development Indicators (WDI) database, several macroeconomic variables have been extracted. The list includes Gross Domestic Product (GDP) in current U.S. dollars, Population, GDP deflator, Official Exchange rate, as well as the exports and imports of goods and services as a percentage of GDP.

It is noteworthy that the variable Trade Openness is not directly acquired from the database, but rather calculated by adding the exports and imports of goods and services (as a % of GDP) together. In addition to that, data regarding the exports of SSA countries—both the treatment group and non-treatment group—into the U.S. were gathered from the UN Comtrade database.

As aforementioned, the effects of AGOA are not universal for all SSA countries. Even though the policy was enacted in 2000, many Sub-Saharan African countries became eligible at different time periods. For instance, while Benin and Botswana received eligibility in 2000, other countries like Burundi gained entry in 2006 or Côte d'Ivoire in 2011. Additionally, eligibility is reviewed annually by the U.S. government, meaning it can be revoked or reinstated. As a consequence, the treatment variable *AGOA_Eligible_it* is not static, but rather a dynamic binary variable that changes between 0 and 1 based on eligibility in a specific year for country *i*. The information regarding SSA countries' eligibility was gathered from the Office of the United States Trade Representative (USTR) and the International Trade Administration (ITA).

The data span from 1990 up until 2023, showing a holistic view of the overall impacts of the African Growth and Opportunity Act and showing how SSA countries' growth differed pre- and post-enactment. This forms a country-year panel dataset to compare changes across years. However, as data for SSA countries in early years are limited, several countries have missing years of data, leading to an unbalanced panel. Furthermore, as several countries have missing data, especially for key dependent variables like GDP or key control variables, those specific country-year observations are removed from the regression sample.

Defining Variables

The dependent variables, or outcome measures, of this study include Gross Domestic Product (GDP) for SSA countries measured in current U.S. dollars, annual GDP growth rate calculated as year-over-year percentage change, and Trade Openness—the sum of a country's total exports and imports of goods and services as a percentage of GDP—calculated by Equation (1):

$$\text{Trade Openness}_{\{it\}} = \left(\frac{(\text{Exports}_{\{it\}} + \text{Imports}_{\{it\}})}{\text{GDP}_{\{it\}}} \right) \times 100 \quad (1)$$

The independent variables are the baseline treatment dummy *AGOA_Eligible_it* and the *Event_Time* variable. The *AGOA_Eligible_it* is a time-varying binary variable representing the eligibility of SSA country *i* in year *t*, with 1 representing beneficiary status and 0 stating the opposite. For countries in the control group, this variable remains 0 throughout the study. For countries in the treatment group, however, this variable changes to 1 in the year of admission and subsequent eligible years, reflecting different admission times. The *Event_Time* variable, by standardizing calendar years relative to the year of AGOA implementation for treated countries ($k = t - t_{\text{entry}}$), allows us to map the dynamic trajectory of policy effects up to 10 years pre- and post-policy.

Methods

In order to estimate the treatment effect of AGOA eligibility on the macroeconomic performance of SSA countries, a generalized Difference-in-Differences framework is employed using the Two-Way Fixed Effects (TWFE) specification, as shown in Equation (2):

$$Y_{\{it\}} = \beta_0 + \beta_1 \times \text{AGOA_Eligible}_{\{it\}} + y_i + d_t + \epsilon_{\{it\}} \quad (2)$$

In which Y_{it} represents the dependent variable—GDP, GDP growth rate, or Trade Openness—for country *i* in year *t*. *AGOA_Eligible_it* is the binary variable representing eligibility for AGOA. B_0 shows the baseline average outcome for the reference category. The coefficient of interest,

B_1 , shows the average impact of being an eligible member of AGOA. Next is y_i , the country fixed effects, controlling for time-invariant, unobservable characteristics unique to each country, such as geographic landlocked status. d_t represents year fixed effects, controlling for aggregate macroeconomic shocks that affect the entire SSA region simultaneously. Finally, standard errors are clustered at the country level to account for potential serial correlation within countries over time.

As aforementioned, the baseline DiD model assumes parallel trends for treated and control countries before AGOA enactment, meaning their economies were moving along similar trajectories. To verify this and observe whether the impact of AGOA on eligible SSA countries grows, shrinks, or stays constant over time, an event study specification is expressed in Equation (3):

$$Y_{it} = B_0 + \sum_{\{k=-10, k \neq -1\}}^{\{10\}} \times B_k \times D_{it}^k + y_i + d_t + e_{it} \quad (3)$$

Here, k is the *Event_Time* variable, signifying years relative to the start of AGOA eligibility, with $k = 0$ as the year a country became eligible. Because countries have different entry years, k follows event time rather than calendar time. D_{it}^k is a dummy variable equal to 1 if country i is k years away from its initial year of AGOA eligibility. The model window covers 10 years before and after beneficiary status (k in $[-10, 10]$) to maintain empirical consistency. The period $k = -1$ (one year before entry) is excluded to serve as the baseline reference point (normalized to zero). Therefore, each estimated B_k identifies the average difference in the outcome variable compared to the baseline period, allowing us to visually inspect data for pre-treatment trends and observe differences in policy impact over the post-treatment horizon.

Results

1. Baseline TWFE Estimates

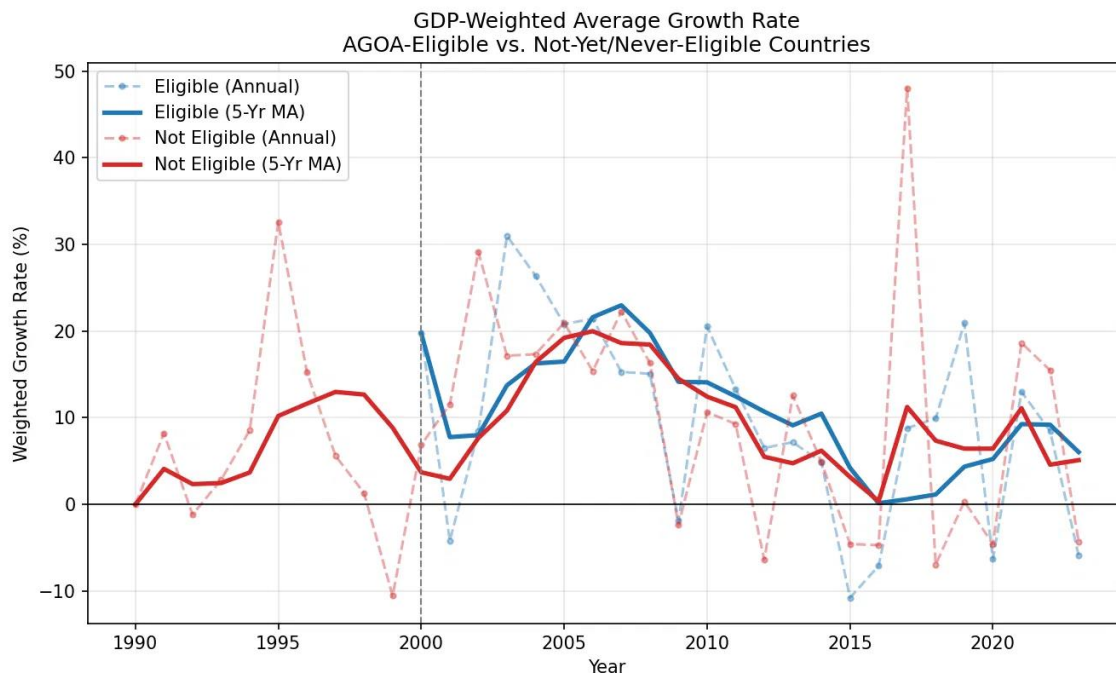
The three outcome variables are estimated independently using Equation (2), with standard errors clustered at the country level.

Table 1. Baseline TWFE Estimates (Equation 2)

Outcome	β_1 (AGOA_Eligible_it)	Std. Error	p-value
GDP (current US\$)	+3.85 billion	6.01 billion	0.522
GDP Growth Rate (pp)	-1.76	2.72	0.518
Trade Openness (pp)	-3.58	9.06	0.693

As all three of them have p-values that surpass 0.05, the conventional significance threshold, none of the variables have a statistically significant relationships with AGOA eligibility. Two of the point estimates – GDP Growth Rate and Trade Openness – are negative, while there are large standard errors relative to the coefficients, this should not be considered as a negative effect but rather only as an estimate that can not rule out zero. While this differs from the 0.12% effect reported by Frazer & Van Biesebroeck (2010); that estimate comes from a different sample and method of triple difference-in-differences, so the two results are not compatible.

2. GDP-Weighted Average Growth Rate



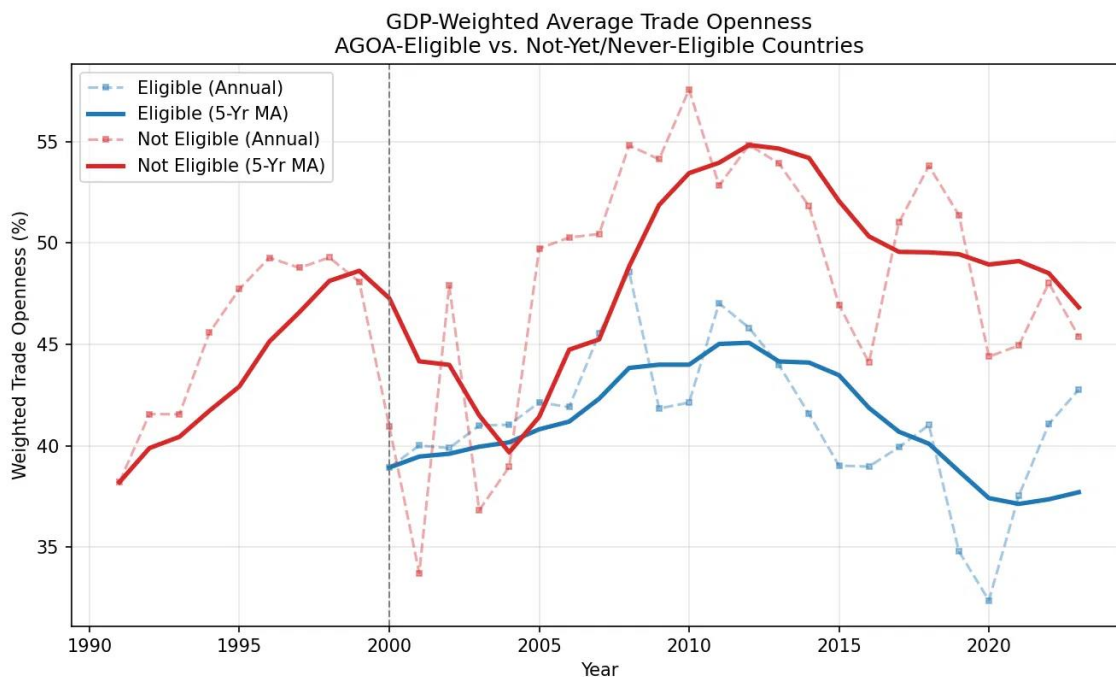
The period 1995 to 1999 witnessed a noticeable discrepancy in GDP growth rates. This inconsistency can be attributed to rising interest in U.S.–Africa trade as well as rumors circulating regarding drafts of AGOA, leading to an anticipation effect. Due to these drafts, reforms might have been undertaken by countries to fulfill the strict eligibility requirements of the policy, resulting in an upward change in growth rate. However, it is also possible that this surge was driven by

other factors, such as price increases for key commodity exports supplied by eligible countries or domestic policy reforms aimed at general economic improvement. For this reason, it remains uncertain whether this surge can be considered a part of the policy's treatment effect.

In 2000, the annual growth rate for eligible countries surged, likely due to the official enactment of AGOA providing incentives for economic activity. In 2001, the growth rate for eligible countries dropped temporarily; the exact driver for this drop remains unclear as there were no unique major shocks affecting only the eligible group. Nevertheless, in subsequent years, growth rates for eligible countries recovered, which are comparable to the levels of non-eligible countries. While this may indicate an inconsistent growth gap, it is also possible that AGOA helped maintain growth rates that would have dipped without preferential market access.

However, from 2008 onward, there are clear signs that the effectiveness of the African Growth and Opportunity Act, in the case that there are noticeable impacts, entered an exhaustion phase, as reflected in declining growth rates. Furthermore, growth rates for both groups began fluctuating in similar patterns. From 2010 to 2023, severe global economic shocks occurred—such as the global commodity price crash in 2015 and the COVID-19 pandemic in 2020. These external shocks overwhelmed any regional advantages provided by AGOA, canceling out differential effects and marking a normalization in growth rates between the two groups.

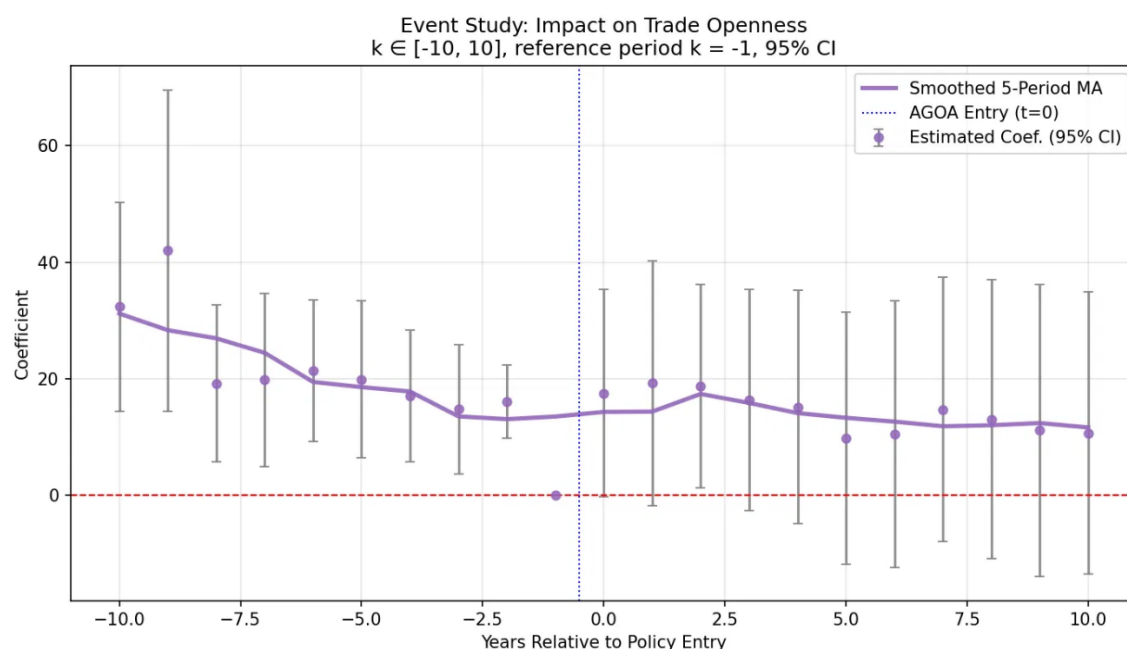
3. GDP-Weighted Average Trade Openness



Following the policy enactment in 2000, the eligible group recorded an increase in trade openness, reflecting expanded total transactions with foreign trading partners. Notably, while both

groups experienced gains, the increase for the non-eligible group was noticeably steeper. In theory, AGOA should have driven greater relative export expansion among eligible SSA nations; however, the steeper increase in non-eligible nations suggests that broader global market factors, raw material demand, or import growth were playing significant roles across the region during this period.

4. Event Study: Impact on Trade Openness

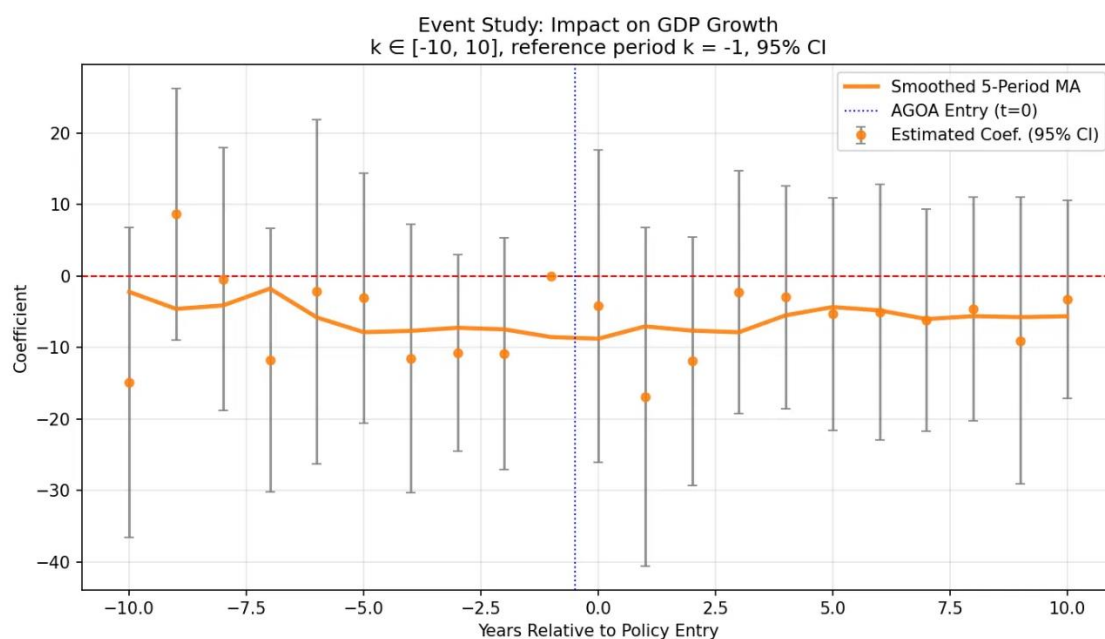


Prior to policy entry ($k < 0$), the estimated coefficients are consistently high, declining from 32 at $k = -10$ down to approximately 14 at $k = -2$. Therefore a joint F-test to see if the coefficients ($k < -1$) are simultaneously equal to zero is strongly rejected ($F = 6.99$, $p < 0.001$). This means that there is a violation of the parallel-trends assumption which is crucial to the difference-in-differences design: eligible countries were on a different trajectory compared to non-eligible even before the treatment took effect. Hence, the model's core assumption is not plausible for trade openness. Post-policy coefficients continue hovering around levels similar to the pre-policy period, and even show periods of slight decline, continuing the pre-existing trend. As a result, the post-entry estimates cannot be interpreted causally, but rather only descriptively. Still, this graph provides us with two main insights:

- First, the graph suggests that there was no massive structural shock to the trade volume of eligible countries following enactment, pointing toward limited policy impact on total trade openness.
- Second, because the average trade openness coefficient for eligible countries was already high prior to $t = 0$, it indicates that the U.S. selected countries that were already highly trade-

oriented into the program, meaning their open economic status was a pre-existing characteristic rather than a direct result created by AGOA.

5. Event Study: Impact on GDP Growth



Pre-policy, the estimated coefficients for impact on GDP growth stayed close to the zero line, remaining slightly below zero for most of the pre-treatment period. Following implementation ($k \geq 0$), the coefficients did not record any significant upward shifts into positive territory. Instead, they remain close to the zero line, with the smoothed 5-period moving average flattening out between 0 and -5.

A joint F-test of whether all pre-treatment coefficients are simultaneously zero fails to reject the null ($F = 1.54$, $p = 0.161$), meaning no statistically significant pre-trend was seen for this outcome. Therefore, it is safe to conclude that the long-term causal effects of the African Growth and Opportunity Act on annual GDP growth rates are statistically insignificant. This leads to the conclusion that preferential trade access alone, while beneficial for specific sectors like textiles and apparel, has not acted as a primary driver of aggregate macroeconomic growth across Sub-Saharan African economies.

Discussion

The results indicate that the AGOA has no statistically significant effects on any of the measured outcomes (GDP, GDP growth, trade openness). This aligns with the conclusions of Zappile (2011) and Tadesse (2008), showing that this is a consistent outcome which improves the validity of the

study. However, there are contrasts with the results of Frazer & Van Biesebroeck (2010). This can be explained through a wider time range, including post-2015 extensions which were not included in past studies; additionally, the papers also have different empirical specification, causing a difference in the final conclusion.

Regarding setbacks of this paper, one notable key limitation is the violation of the event study estimates for trade openness due to statistically significant downward pre-trend before the treatment ($F=6.99$, $p<0.001$). This shows that eligible and non-eligible countries were going through different trajectories prior to the AGOA, rendering the data to be incomparable and invalidating the assumptions of the difference-in-differences model. As a result, the data was analysed in a descriptive way instead of reaching a conclusion through the model causally. Furthermore, many countries have years of missing data, causing an unbalanced panel and even the exclusion of Djibouti as there was little record available for this country. In addition, as the two-way fixed effects method is being used, the data might have been biased in the presence of AGOA's staggered rollout across countries. Another significant setback is that this paper is analysing the whole eligible and non-eligible groups, not individual countries. Consequentially, there are extreme values that can influence the groups' averages, calling great caution when it comes to examining the charts.

Through this, we can set a basis on the overall impacts of the African Growth and Opportunity Act to discuss if the renewal of this policy should be supported. In more than 20 years of preferential access, the AGOA has failed to move aggregate growth. This clearly indicates that domestic structural factors hold greater importance in the growth of SSA countries rather than increasing trade access. For AGOA to actually have an effect, significant changes need to be made internally by the government of the eligible countries, such as improving its infrastructures, revising domestic policies to create a more dynamic economy, and reducing regulatories for trading to fully enjoy benefits of the act.

For future researchers, it is recommended for them to rerun the analysis with other types of estimator to avoid biases, such as a staggered-adoption-robust estimator. Furthermore, if possible, the data should be analysed individually for each country to avoid outliers and also to see if different sectors as distinct industries may receive distinct effects and trends. This allows us to verify whether the AGOA is actually insignificant on every aspect of the economy or only on industries with domestic limitations.

Conclusion

Taken together, these results suggest that AGOA eligibility, on its own, has not produced a statistically detectable improvement in aggregate GDP, GDP growth, or trade openness for Sub-Saharan African beneficiary countries between 1990 and 2023. The baseline fixed-effects estimates for all three outcomes were relatively not significantly difference from zero, and the event-study failed to find any leap GDP growth following a country's entry into the program. Trade openness, on the other hand, is a more complicated story: eligible countries were already diverging from non-eligible countries before treatment began, meaning any patterns or effects post AGOA cannot be attributed to AGOA with confidence due to parallel trend violation. These findings, however, do not imply that AGOA has been worthless — past sector-specific research points to real gains in apparel manufacturing and export; however, on the macroeconomic level, such effects can be considered insignificant. This suggests that preferential market access alone, has not been sufficient to shift the broader economic trajectory of most beneficiary countries, even though some industries might have been affected. In order to fully take advantage of the African Growth and Opportunity Act, internal growth and policies changes are required for the eligible countries. Therefore, when considering future extensions, the U.S. government must re-evaluate the economic structures of eligible countries and consider if domestic factors, such as regulations, are supporting the AGOA or not. In the case where the AGOA is extended but some eligible countries' economies are not ideal for the AGOA to take place, efforts should be made to encourage changes in such countries.

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