THE EFFECTS OF AGOA ON TRADE AND FOREIGN DIRECT INVESTMENT IN SUB-SAHARAN AFRICA

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By

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The Effects of AGOA on Trade and Foreign Direct Investment in Sub-Saharan Africa

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Abstract

This study uses the gravity model of trade to determine the effects of the African Growth and Opportunity Act (AGOA) on the volume of qualifying exports out of the sub-continent of Africa to the United States. Additionally, the gravity model is also applied to determine if AGOA has had an impact on attracting FDI to sub-Saharan Africa. Though the results do not show a significant impact of the legislation on either exports or FDI, certain operational hindrances underlying this are identified and addressed.
To Iya, Dad, number’s one, two and four.

Many Thanks,
Olufunmilola O. Obembe, B.A.
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I. Introduction

The African Growth and Opportunity Act (henceforth, AGOA) is a piece of American Legislation passed with the objective of increasing the volume of trade between the United States and Sub-Saharan Africa. It aimed to achieve this by significantly reducing and eliminating tariffs and quotas for certain goods exported from qualifying African countries to the United States. More than 1800 products were added to the General System of Preferences under AGOA, all eligible for export to the United States free from preventative duties and excises. Countries would however have to meet a series of qualifications in order to take advantage of the benefits of AGOA. In order to be eligible, countries have to demonstrate that they have established or are making progress towards establishing:

i) Market Based Economies

ii) The rule of law and political pluralism

iii) Elimination of barriers to U.S. Trade and Investment

iv) Protection of Intellectual Property

v) Efforts to combat corruption

vi) Policies to reduce poverty

vii) Increasing availability of health care and educational opportunities

viii) Protection of human and worker rights and

ix) Elimination of certain child labor practices\(^1\)

The United States President reviews qualification for AGOA yearly. 34 countries qualified to receive benefits when the Act was passed in 2000. Today, 38 countries are eligible.

The idea behind AGOA, is that promoting exports will lead to growth. Providing preferential access for African products to the American market would incentivize greater production, open economies and ultimately lead to economic growth. Since its passage in May of 2000, it has been the centerpiece of US-African trade relations (Paez et al, 2010). The text of the act specifically states “increased trade and investment flows have the greatest impact in an economic environment in which trading partners eliminate barriers to trade and capital flows.” Successful amendments (AGOA II, III and IV) have extended the acts duration and allowed it to conform to changing political environments. However, 10 years later, African economies remain the smallest in the global market and waning optimism about AGOA’s effectiveness to date call for a re-examination of the available data.

This thesis is a quantitative inquiry into two aspects of the AGOA legislation. The first seeks to determine if AGOA has indeed been able to increase the volume of exports from sub-Saharan Africa to the United States and the second is if it has been able to attract foreign investment to the sub-continent.

I use a panel dataset containing information on total export volumes of AGOA qualifying products, population, FDI inflows, GDP per capita, official exchange rate and
Index of Economic Freedom ranking for the 41 countries that have qualified for and participated in AGOA over the past 10 years\(^2\). The dataset also contains information regarding GDP per capita and population for the United States during the same period. Using the gravity model of trade, I find no significant effects of AGOA on the volume of exports out of the continent or in attracting Foreign Direct Investment to qualified countries.

The next section describes the motivation for this subject. Section III highlights relevant research related to the topic, section IV describes the theoretical framework of the empirical model used in this thesis and Section V provides the data description and sources. Section VI presents an analysis of the results and Section VII offers concluding remarks.

\(^2\) Notice that some countries were initially qualified but later lost their eligibility because of changes in political or economic environment forcing them to miss some criteria.
II. Motivation

With 5 years left until the expiration of the act, and the lapse of the GSP at the end of 2010, to interested parties and lobbying groups readying their arguments for and against its renewal, this subject is especially pertinent. Since its passage in 2000, Congress has passed three amendments to improve AGOA’s effectiveness. However, after four rounds of improvements, pessimism about the ability of the act to achieve its stated goals abounds. Deputy Assistant Secretary for Public Diplomacy Bruce Wharton voiced the lack of confidence in the act by recently stating that it would take a concerted effort to persuade people in the United States that AGOA remains a good investment.

Several factors have contributed to the waning popularity of AGOA. The majority of African exports remains in oil and its related products, concentrating the benefits of such trade in only the countries that have this resource. Africa’s relative share of the global market has been declining steadily since the 1980’s, the recent upswing being attributed to the rise in oil prices. After ten years of AGOA implementation, the expectations of having the continent play a larger part in the global market and diversifying its exports outside the petroleum industry have not been conclusively met. African countries still contend with the challenges of trade and economic growth and while AGOA was intended to help alleviate a portion of this burden, some of its key parameters may actually be a hindrance to its effectiveness and an additional burden on

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participating countries. Some conditionalities of the act create uncertainty about countries
year-to-year eligibility, and “graduates” them out of the program after reaching a certain
level of development. Other conditionalities such as the rules of origin require the
products be imported directly from the AGOA-beneficiary country and for no less than
35% of the product’s transaction and processing value be undertaken in the beneficiary
country. Additionally, the visa apparel provision dictates that a country establishes an
“effective product visa system to prevent illegal transshipment and the use of counterfeit
documentation, as well as effective enforcement and verification procedures⁵. Products
that qualify for the apparel provision can have their duty-free status suspended by the
U.S. President at any time if increased importation is deemed to “cause or threaten
serious damage” to the U.S. apparel industry.

The expiration of the International Multi-fiber agreement in 2004, which imposed
worldwide quotas on textile exports from developing to developed countries, allowed the
proliferation of textiles into the market from other developing countries, reducing the
relative advantage of AGOA countries trading in textiles.

In spite of all these however, there have been advances in the economic outlook
of the continent of Africa in the past decade. The overall growth rate has stayed at over
5% for the entire continent, matching global rates and even besting some of the world’s

⁵ "TRADE PREFERENCE PROGRAMS: The African Growth and Opportunity Act
most developed nations\textsuperscript{6}. Mr. John Page, Chief Economist for Africa at the World Bank, in an interview with BBC news in November 2007, stated that the change has come about partly because “Africa has learned to trade more effectively with the rest of the world”. The question at hand is how much of this growth and increase in trade can be attributed to the AGOA legislation. Several studies have been conducted to address this specific question, but there is no consensus about their findings. This thesis will provide further evidence to characterize AGOA’s effectiveness.

Furthermore, the text of the legislation makes it clear that AGOA aims to encourage economic development in Africa through enhanced trade and increased investments into the region. Section 102. 8 states that “offering the countries of sub-Saharan Africa enhanced trade preferences will encourage both higher levels of trade and direct investment in support of the positive economic and political developments under way throughout the region” No study to date has done an empirical analysis of AGOA’s impact on investment in the continent. This thesis aims at adding to the existing literature by tackling the impact of AGOA on the investment in Africa.

III. Literature Review

Several studies done in the years immediately following the passage of AGOA, while they were unable to confirm strong positive effects, showed great optimism about the potential for such in the future. Mattoo, Roy and Subramanian (2003) were highly optimistic about AGOA, predicting in 2003 that it would increase non-oil exports by 8-11% and absent of its implementation restrictions could be up to 5 times more effective than it already was. A study by Shapouri and Trueblood in 2003 used a partial equilibrium model to estimate the effects of AGOA on exports from the sub continent. The authors asked three important questions for analysis: first how well the provisions in AGOA matched up with structure of African exports prior to its enactment; which countries have been able to take advantage of the act and why; and what theory would have predicted so far. As of 2003, exports from sub-Saharan African to the United States ranged at 36 % for manufactured goods, fuels at about 28% with Nigeria, Gabon, Angola and Cameroon being the main exporters and food and agricultural products holding at about 42%. They also point out that most of the countries qualifying for AGOA benefits are LDC’s (Least Developed Countries) and already qualified for extensive benefits under the existing GSP provisions. Other countries with higher incomes and more diversified economies were not only opportune with more duty free exports under AGOA, but would also be more likely to be able to take advantage of the act. This and subsequent studies seem to show a trend towards the positive impacts. The authors note that as of 2002, the share of AGOA and GSP products of total exports to the U.S. had increased from 4%, before its enactment, to 67%. They also note the significance of policies like AGOA in initiating start up investments.
Taking the case of the Caribbean Basin Economic Recovery Act (CBERA), they point out that low-income countries are not able to immediately take advantage of such preferential arrangements because of sluggish inflow of foreign direct investments and the need for improvements in market infrastructure and skilled labor.

Paez, Karingi, Kimenyi and Paulos (2010) writing for the African Development bank about AGOA, describe how despite the ascendency of the legislation over the last decade, Africa still remains a small player in global economic markets. They point out that AGOA placed its hopes in the textile markets as it had the highest potential for export led growth due to its labor intensity. The authors also go into detail about the extra measures that the US government has undertaken to support the AGOA efforts. These measures include the $200 million dollar African Global Competitiveness Initiative (ACGI), the Overseas Private Investment Corporation (OPIC) with a target capitalization of about $875 million dollars to Sub-Saharan Africa, trade and investment framework agreements, trade investment and development corporative agreements and further bilateral trade agreements with countries in the region. They also importantly draw the distinction between the United States’ GSP arrangement with the region and other arrangements with the European Union (EU). EU programs tend to be more relaxed allowing shipment of almost all products under such schemes like the “Everything But Arms” program and allow more favorable tariffs of sensitive products. Another difference between the EU Economic Partnership Agreement and AGOA is that it is a bilateral agreement while AGOA is unilateral. The most important distinction between
European schemes and AGOA however, is that they employ conditionalities in a positive way, offering additional benefits for compliant countries, while AGOA employs conditionalities negatively, graduating countries out of the program as their economic conditions improve.

They also raise the subject of the FDI effects of AGOA, but employ no empirical tests to measure them. They note that an important component to creating the appropriate investment environment would be a concerted effort by African countries to implement the necessary reforms “It is through shared responsibility that AGOA may catapult long-term sustainable growth in SSA” Paez et al (2010).

Stevens and Kennan (2005) detail the Generalized System of Preferences (GSP) already put in place by major global economies: China, the EU, Japan and the US. AGOA is unique from past GSP because it goes further than just removing trade barriers to African goods. AGOA aims to actively encourage development on the continent by also providing the tools with which African countries can take advantage of the legislation, as is the case with the African Global Competitiveness Initiative (Paez et al, 2010). The success of this would be evident in countries’ ability to attract and keep foreign direct investment. Other initiatives attached to AGOA relate to the socio-political climate of the country. They conclude that the EU GSP system has had significant positive impacts on the countries that were able to take advantage while AGOA has been successful in boosting textile exports.
Mueller (2008), contrary to other studies, showed evidence that unilateral trade agreements such as AGOA could have negative effects on exports. She posits that AGOA is trade diverting and the costs of utilizing it are so high that in some instances traders do not bother to take advantage of it. She uses a Prais-Winsten estimation on the traditional gravity model and is therefore able to include time invariant elements such as landlocked status. Blackman and Mutume (1998) and Raghavan (2000) also cite transportation costs, high risk and inadequate infrastructure as the reasons why countries on the subcontinent will not be able to benefit much from AGOA.

More research is therefore needed on the subject to clear up lingering uncertainties about the impact of AGOA in countries that have participated in the program over the years. AGOA aims at strengthening and sustaining the economic growth of Africa by opening up a tariff free channel for exports to the United States. This makes sense as economic theory affirming growth through exportation abounds. It’s goals are more specifically to provide incentives for the growth of the export industry by reducing the financial burden of shipping products to the U.S., working with countries to help them build up their financial markets, manufacturing base and business environment so that it is sophisticated enough to grow the export industry. The latter of which is to be achieved passively through the conditionality attached to participating in the program and actively by setting up various AGOA related programs and relationships such as the African Global Competitiveness Initiative (AGCI) and its establishment of up to five OPIC supported private equity investment funds in the region. The issue at hand is whether the act has been successful in any of these stated objectives.
Paez et al (2010) discuss the prevalent theories underpinning the contemporary AGOA discussion. From the American perspective, AGOA has been a complement to the existing GSP, increasing trade between the regions more than five-fold between 2001 and 2007. Acknowledging that oil remains Africa’s primary export, AGOA has helped diversify the export base, most notably in products such as apparel, chemical footwear, fruits, nuts and cut flowers. Countries like South Africa, Lesotho, Kenya and Uganda have been able to take advantage. AGOA also has the effects of increasing opportunities for U.S. and other foreign direct investment in the continent leading to an increase of 52% from 2001 to 2007. UNCTAD places the global FDI investment in the African continent at $58.6 billion dollars in 2009, 31% of that going to Egypt, Nigeria and South Africa. The overall proliferations of AGOA and its subsidiary initiatives should have the effect of further trade liberalization and economic growth, important factors to attracting foreign direct investment.

This thesis builds on the existing literature to determine the true impact of AGOA on trade in the sub continent and uses empirical analysis to delineate the legislation’s ability to attract foreign direct investment.
IV. Theoretical Framework and Empirical Model

This thesis tests two different but interconnected theories. First, I seek to isolate the effects of the AGOA legislation on export growth in sub-Saharan African countries that have been beneficiaries. Secondly, the secondary effects of the act’s implementation on its capacity to attract FDI to the participating countries will be tested.

The Gravity trade model has long been the accepted method for explaining trade flows. First used by Tinbergen in 1962, it postulates that exports from one country to another can be explained by the economic sizes of both countries divided by the costs of trade:

$$X_{ij} = K \frac{Y_i + Y_j}{T_{ij}}$$

Where $K$ is a constant, $X$ denotes the volume of trade, $Y_i$ stands for economic size of country $i$, $Y_j$ the economic size of country $j$, and $T$ the distance between the two. Depending on what is being measured, trade costs can be taken into account by using standard proxies: Distance, Adjacency, Common Language, Colonial Links, Common Currency, Island, Landlocked, Institutions, Infrastructure, Migration Flows.

The typical method for estimating this model is using fixed effects. As defined by Lazlo Matyas (1997,1998) and Egger and Pfaffermayr (2003), the proper specification
should be a three way model that should include elements that account for variation in both the time and country dimension, confirmed by econometric tests. A preliminary Hausman test confirms that the fixed effects model is appropriate. The key feature of the fixed effects model is that it accounts for unobserved variance between individuals. Data such as historical ties, historical links and cultural similarities which may account for trade volumes between the target countries and the United States may not be readily available, therefore using the fixed effects is preferable. Time invariant differences are controlled for by the model, therefore the coefficients cannot be biased by omitting them. The distance variable is also problematic because it is questionable to assume that the trade epicenter of a country is its capitol city. This is particularly evident in a country as large and diverse as the United States, measuring the trade distance from Washington DC would be misleading.

As suggested in the specification outlined by Cheng and Wall (2005) I include country pair fixed effects, making the assumption that each country’s trade relationship with the United States is different. Time dummies have also been included to account for possible variation over time. The model specification is therefore:

\[
\ln EXP_{ijt} = \alpha_i + \delta_t + \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 (\ln GDP_{it}/\ln GDP_{jt}) + \beta_3 \ln POP_{it} \\
+ \beta_4 (\ln POP_{it}/\ln POP_{jt}) + \beta_5 AGOA_{it} + \beta_6 VISA_{it} + \beta_7 \ln OER_{iit} + \beta_8 IEF_{jt} \\
+ u_{ijt}
\]
Here, the log of total exports from these sub-Saharan countries to the United States can be accounted for by: the GDP per capita and population of the exporting country, dummy variables to assess the impact of the AGOA legislation, the official exchange rate of the exporting country and where they rank on the Index of Economic Freedom. The apparel provision warrants a separate dummy because qualification varies on a month to month based on how import levels affect the American apparel industry. \( \alpha_i \) is the individual country effect, \( \delta_t \) is the time effect, \( \beta_0 \) is an unknown constant and \( u_{ijt} \) is the error term. I account for the import market in the United States by including the GDP per capita and population as a proportion of the exporting country. Because there is only one importer in our dataset, STATA treats the variables for GDP per capita and population of the United States as a fixed effect and drops it for collinearity; using the proportion allows for variation in those variables relative to the exporting country.

Similarly, Brenton et al (1999) suggest FDI flows can be estimated using the same methodology as that used to estimate trade volumes. The model testing FDI flows is therefore:

\[
\ln FDIP_{ijt} = \alpha_i + \delta_t + \beta_0 + \beta_1 \ln GDP_{it} + \beta_2 (\ln GDP_{it}/\ln GDP_{jt}) + \beta_3 \ln POP_{it} \\
+ \beta_4 (\ln POP_{it}/\ln POP_{jt}) + \beta_5 AGOA_{it} + \beta_6 VISA_{it} + \beta_7 \ln OER_{it} \\
+ \beta_8 IEF_{jt} + u_{ijt}
\]
Due to the lack of available data on FDI flows into the countries in question, I estimate the regression using the volume of FDI as a percentage of GDP as an alternative. Significance in the AGOA or the VISA dummy will allow us to conclude whether the legislation has had an effect on volume of exports out of and FDI flows into the region.
V. Data

The data contains sample information for 41 countries that at some point have qualified for AGOA since it came into effect in 2001. Starting in 1998, I include yearly customs value of AGOA qualified products imported into the United States. Sorting the data reveals the possibility of poor knowledge about AGOA. Rather than being exported tariff free through AGOA, products came into the United States through other provisions such as the GSP, or claimed no provision at all. Import data is obtained from the United States International Trade Commission database. Import data into the United States is preferable to export data from African countries as there is likely to be less missing information. Also included is GDP per capita and population data, both obtained from the World Bank Indicators for uniformity. At the time of this writing, this database does not have information for the year 2010, causing the need to drop it from the regression. GDP per capita is in constant 2000 dollars. Data on FDI inflows in current dollars is considered but I have also included FDI as a percentage of GDP due to the prevalence of missing data in the original measure. This data was also obtained from the World Bank’s Development Indicators.

Index of Economic Freedom scores included in the regression were obtained from the Heritage Foundation. This score is calculated using a composite measure of Business Freedom, Trade Freedom, Fiscal Freedom, Government Spending, Monetary Freedom, Investment Freedom, Financial Freedom, Property Rights, Freedom from Corruption and Labor Freedom. The score ranges from 0 to 100 with 0 meaning no freedom at all, and 100 complete freedom. Including this score makes sense as it provides a measure of trade
liberalization and the Investment environment, which AGOA also aims at improving. I have also included the Official Exchange Rate, obtained from the World Bank Development Indicators. There are two dummy variables in the sample; AGOA which is 1 when a country qualifies before July 1st in any given year and 0 otherwise, and VISA, which is 1 when a country qualifies for the apparel provision before July 1st in any given year and 0 otherwise. GDP per capita and population for the United States is included as a ratio of the logs of GDP per capita and population relative to the exporting country. Descriptive Statistics of all variables are shown in Table 1.

It is important to note that the data available for this region is less than comprehensive and overall exports for the AGOA category contains a lot of “0” values. I considered this in the regression by adding “1” to the export variable before converting to logs. Since the log of 0 is undefined, adding “1” allows me to be able to include the zero values in the regression after conversion to logs. The absence of data also causes STATA to drop Mauritania, Sao Tome and Principe, Seychelles and Djibouti from the regression. Because Oil exports are a large proportion of total sub-Saharan exports (coming from only a hand full of countries in the sample), an oil exporter dummy (0 if the country does not export oil and 1 if it does) is included in a subsequent regression. Results of the regressions are reported in Tables 3 and 4.
VI. Results and Analysis

Without controlling for country and time effects, the AGOA dummy is marginally significant at the ten percent level and the VISA provision shows a strong but negative effect on qualifying product exports. The other strongly significant variable is the IEF variable, which also has a negative effect on exports. Structural Inferences however cannot be made from these preliminary results because no controls have been included for country or time effects. With the control variables AGOA, VISA and IEF are no longer significant. Including the fixed effects shows the official exchange rate as the main determining factor behind the volume of shipment of AGOA qualified products. The only significance seen in the FDI model is the effects of the IEF on inflows in the OLS model.

After controlling for the oil exporter status of the countries, there is no significance in any of the variables on FDI inflows except the IEF variable. Without country or time controls, a one unit increase in a county’s position on the IEF Index increases the proportion of FDI flows relative to GDP. However, we again cannot make any inferences about this significance. It appears that the official exchange rate seems to be the determining factor of export flows when country and time controls are accounted for as without those controls, the IEF and oil exporter variables show significance.

At first glance the regression results may lead us to disparaging conclusions regarding the effects of the AGOA legislation both on export volumes and on its ability to attract FDI to the region. Qualifying for AGOA in any particular year however, does not automatically mean that exporters will take advantage of the tariff free regime. We
can tell this is the case from the data, as a proportion of the qualifying products were not recorded as claiming AGOA. It should also be taken into account that the data contains lots of missing information that could have biased the results.

The significance of the official exchange rate variable in the unrestricted model reveals that product shipment is highly dependent on country exchange rate regime. The official exchange rate as defined by the World Bank is the annual average exchange rate determined by national authorities. This is defined as $1 expressed in local currency. The significance of the official exchange rate is in line with economic theory that a depreciated currency boosts exports.

We know from the literature that oil remains the continent’s largest product for exportation so the OLS result comes as no surprise. Insignificance on FDI could mean a general shift away from investments in solely extraction industries, as has been the case in the past, which is not in itself a bad thing. Overall, it appears that the official exchange rate is the significant driving factor behind export of AGOA qualified products not the AGOA legislation or the apparel provision. We can infer from this that the nature of government policies are the deciding factor in the level of AGOA exports. The prevalence of corruption in African governments for example, could be a hindrance to AGOA’s effectiveness. Another element could be the lack of infrastructure necessary for efficient production. Blackman and Mutume (1998) suggested that AGOA might not be effective because of the poor levels of market infrastructure, skilled labor, the high risk of doing business in the region and high transportation costs. High transportation costs have
further been exacerbated by increased piracy along African coasts in recent years.

In addition, as pointed out by Paez et al (2010), AGOA faces some innate implementation difficulties. It is possible that exporters hesitate to take full advantage of AGOA’s provisions because of the uncertainty of future participation. Countries are at risk of being eliminated from the program any given year due to a perceived lack of progress towards the outlined conditions. Guinea, Madagascar and Niger have been on suspension since the end of 2009, and the DRC was added to that list this past January 2011. If the aim of the act is to promote trade relations and the investment environment, countries that fall behind warrant increased attention not less. Removing the uncertainty associated with this conditionality may encourage increased participation in the program.

The general rules of origin and the rules associated with the origin of apparel products could also be a hindrance to AGOA effectiveness. Some of the restrictive rules allow quota free shipments with conditionalities that the apparel are made of U.S. yarns and fabrics and are not perceived as a threat to the U.S. apparel industry. They also restrict apparel made from African yarns and fabric or other lesser-developed country originating yarns or fabric to a cap until 2015. An additional regional cap on all apparel products imported into the United States to be filled on a first come first served basis. Apparel exporters in one country can therefore be at a disadvantage if apparel exports rise in another.

AGOA implementation could also be hindered by poor information
dissemination. The fact that eligible products are being imported into the United States whilst claiming other tariff regimes or none at all could just mean that exporters are unaware of the program. The lack of clarity in regards to the sanitary standards needed to qualify for AGOA and the associated administrative costs are disadvantageous to countries that may want to participate in the program. Countries find themselves unable to keep up with the changing demands and costs of having their products meet the standards for export to the United States.
VII. Concluding Remarks

Considering the insignificance of the key variables AGOA and VISA on both the level of exports and FDI, more research is needed. Filling the gaps in data for sub-Saharan will enable researchers to make more robust analysis and lead to better policy recommendations. More data will be especially helpful to determining AGOA’s relationship with FDI flows into the sub continent.

Whilst not supported by empirical evidence, there are several examples where AGOA has had positive impact in sub-Saharan. South Africa boasts a more diversified economy in part due to its expanded exports to the United States\textsuperscript{7}. Lesotho, despite being landlocked and small, has been cited as being the largest exporter of apparel from the sub-continent to the United States\textsuperscript{8} and countries like Kenya and Uganda can boast an intensification of its apparel and fresh cut roses industry due to the tariff free provision of AGOA\textsuperscript{9}. We know that Africa has benefitted from the rise in global FDI flows with countries like Mauritius reaping an investment of about $78million and an estimated increase of up to 10,000 jobs for workers in a garment factory in Malawi due to European and Taiwanese investments\textsuperscript{10}. These are just a few examples of how AGOA has benefited

\begin{footnotesize}
\begin{enumerate}
\item Tadesse, B. and Fayissa
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Since the GSP was allowed to lapse at the end of 2010, the imperative to renew the AGOA legislation has never been more dire than now. The results from this study reveal that AGOA has not had the desired effect on export growth, but it also reveals room for improvement. The most recently proposed legislation H.R. 4101, seeks to address important issues raised here such as the rule of origin for textile products and quotas. It also proposed to extend the legislation beyond the current expiration date of 2015. Changes like this are important to seeing that the legislation improves its effectiveness.

AGOA is still an important tool for boosting trade relations between the United States and sub-Saharan Africa. Proponents of it would do well by making adjustments such as those posed in H.R. 4101 to ensure that it starts to meet its goal and become a significant player in Africa’s overall development.
VIII. Appendix
## Table 1 Prediction of Variable Impact

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Predicted Impact on Exports</th>
<th>Predicted Impact on FDI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LnExports</strong></td>
<td>Total volume of products for consumption entering the United States in Logs</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>AGOA</strong></td>
<td>0/1 dummy variable denoting if a country qualifies for AGOA before July 1(^\text{st}) in any year</td>
<td>Positive: The elimination of Tariffs should increase the volume of exports flowing to the United States from participating countries</td>
<td>Positive: improved business climate from subsidiary elements of the act should increase the flow of foreign direct investment</td>
</tr>
<tr>
<td><strong>lnGDPperCap/lnUSGDPperCap</strong></td>
<td>GDP per capita of the United States in constant dollars relative to the GDP per capita of the exporting country in logs</td>
<td>Positive: as a measure of the economic strength and buying power of the US, imports from the region should rise with this indicator</td>
<td>Positive: Greater prosperity in the United States could lead to business expansion of American based corporations possibly into the African region</td>
</tr>
<tr>
<td><strong>lnPop/lnUSpop</strong></td>
<td>Population of the United States relative to the exporting country</td>
<td>Ambiguous: this could either mean an increase in the consumer base and</td>
<td>Ambiguous: a larger population, means a larger consumer and labor force, meaning either</td>
</tr>
<tr>
<td>Ln GDP</td>
<td>Gross Domestic Product of the exporting African country in logs</td>
<td>Positive: Greater local prosperity should lead to greater production of export goods</td>
<td>Positive: Improved GDP could be indicative of a better business climate and therefore attractive to foreign direct investment</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ln Population</td>
<td>Population of the exporting African country in logs</td>
<td>Positive: A larger workforce means increased industrial output and products for export</td>
<td>Positive: A larger population means a larger workforce and could be indicative of a business friendly environment</td>
</tr>
<tr>
<td>Visa</td>
<td>0/1 dummy variable denoting if a country qualified for the apparel provision before July 1st in any year</td>
<td>Positive: this provision in addition to already qualifying for AGOA should increase apparel exports</td>
<td>Positive: qualifying for this provision may be indicative of better institutional standards which could also be attractive for foreign direct investment</td>
</tr>
<tr>
<td>FDI as a percentage of Country GDP</td>
<td>Volume of Foreign Direct Investment</td>
<td></td>
<td></td>
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<tr>
<td>Index of Economic Freedom</td>
<td>A 0-100 ranked aggregate of 10 indicators assessing the economic freedom of countries</td>
<td>Positive: a higher ranking means a more open market and should also mean a greater volume of trade</td>
<td>Positive: a higher ranking should mean a better business climate and be an encouragement for foreign direct investment</td>
</tr>
<tr>
<td>Ln Official Exchange Rate</td>
<td>A yearly average of the official exchange rate of the exporting country in logs</td>
<td>Positive: a low rate means that goods will be cheaper and more attractive for purchase in foreign markets</td>
<td>Ambiguous: a low rate could either mean poor fiscal policies and less attraction for fdi, or lower start up costs for potential investing businesses.</td>
</tr>
</tbody>
</table>
Table 2 Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>LnEXP</td>
<td>5.395</td>
<td>4.999</td>
<td>0</td>
<td>17.391</td>
</tr>
<tr>
<td>AGOA (dummy)</td>
<td>.692</td>
<td>.462</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>VISA (dummy)</td>
<td>.418</td>
<td>.494</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>LnGDP</td>
<td>6.159</td>
<td>1.095</td>
<td>4.389</td>
<td>9.029</td>
</tr>
<tr>
<td>LnPOP</td>
<td>18.261</td>
<td>2.601</td>
<td>13.579</td>
<td>31.125</td>
</tr>
<tr>
<td>LnGDP/LnUSGDP</td>
<td>.587</td>
<td>.104</td>
<td>.419</td>
<td>.856</td>
</tr>
<tr>
<td>LnPOP/LnUSPOP</td>
<td>.920</td>
<td>.084</td>
<td>.698</td>
<td>1.083</td>
</tr>
<tr>
<td>LnFDIgDP</td>
<td>1.212</td>
<td>3.458</td>
<td>-13.278</td>
<td>20.490</td>
</tr>
<tr>
<td>LnOER</td>
<td>5.080</td>
<td>2.239</td>
<td>-1.465</td>
<td>9.595</td>
</tr>
<tr>
<td>OILEXPORTER (dummy)</td>
<td>.125</td>
<td>.331</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>IEF</td>
<td>54.689</td>
<td>7.362</td>
<td>23.7</td>
<td>76.3</td>
</tr>
<tr>
<td></td>
<td>LnEXP&lt;sub&gt;ij&lt;/sub&gt; OLS</td>
<td>LnEXP&lt;sub&gt;ij&lt;/sub&gt; Unrestricted Model</td>
<td>LnFDI (% of GDP) OLS</td>
<td>LnFDI (% of GDP) Unrestricted Model</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------</td>
<td>---------------------------------------</td>
<td>----------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td><strong>lnGDPCAP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(in constant US dollars)</td>
<td>26.928 (-1.41)</td>
<td>-19.151 (0.68)</td>
<td>7.034 (0.42)</td>
<td>-22.461 (-1.71)</td>
</tr>
<tr>
<td><strong>lnPOP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1,000 inhabitants)</td>
<td>-21.182 (-1.40)</td>
<td>32.250 (0.60)</td>
<td>-1.839 (-0.12)</td>
<td>-18.277 (0.74)</td>
</tr>
<tr>
<td><strong>lnGDPCAP/lnUSGDPCAP</strong></td>
<td>-242.04 (-1.41)</td>
<td>272.569 (0.91)</td>
<td>-75.457 (-0.66)</td>
<td>231.406 (1.65)</td>
</tr>
<tr>
<td><strong>lnPOP/lnUSPOP</strong></td>
<td>459.001 (1.55)</td>
<td>-841.9227 (0.81)</td>
<td>39.438 (0.13)</td>
<td>345.391 (0.72)</td>
</tr>
<tr>
<td><strong>lnOER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(local currency equivalent of US dollars)</td>
<td>0.043 (.627)</td>
<td>-1.34*** (-3.36)</td>
<td>.209 (0.018)</td>
<td>-.195 (-1.03)</td>
</tr>
<tr>
<td>IEF</td>
<td>-.273*** (-9.03)</td>
<td>.056 (1.24)</td>
<td>.091*** (3.01)</td>
<td>-.019 (-0.95)</td>
</tr>
<tr>
<td>(0-100 categories)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VISA</td>
<td>-1.938*** (-3.68)</td>
<td>-.972 (.045)</td>
<td>.122 (-0.23)</td>
<td>.004 (0.02)</td>
</tr>
<tr>
<td>(Apparel Visa dummy)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGOA</td>
<td>1.235* (1.81)</td>
<td>.716 (.78)</td>
<td>-.072 (-0.10)</td>
<td>.165 (0.36)</td>
</tr>
<tr>
<td>(AGOA dummy)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept (α&lt;sub&gt;0&lt;/sub&gt;)</td>
<td>-46.331*** (-12.47)</td>
<td>176.029*** (4.90)</td>
<td>-7.202 (-1.90)</td>
<td>13.226 (0.78)</td>
</tr>
<tr>
<td>N</td>
<td>381</td>
<td>381</td>
<td>358</td>
<td>358</td>
</tr>
<tr>
<td>Adjusted R&lt;sup&gt;2&lt;/sup&gt;</td>
<td>.4830</td>
<td>.9191</td>
<td>.0365</td>
<td>.9191</td>
</tr>
</tbody>
</table>

*** Indicates significance at the 1% level
** Indicates significance at the 5% level * Indicates significance at the 10% level
Table 4 Regression Results: Oil Exporters Controlled

<table>
<thead>
<tr>
<th></th>
<th>LnEXP(_{ij}) OLS</th>
<th>LnEXP(_{ij}) Unrestricted Model</th>
<th>LnFDI (% of GDP) OLS</th>
<th>LnFDI (% of GDP) Unrestricted Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\ln{GDPCAP}) (\text{(in constant US dollars)})</td>
<td>22.099 (1.43)</td>
<td>27.480 (0.89)</td>
<td>5.329 (0.32)</td>
<td>-8.231 (-0.57)</td>
</tr>
<tr>
<td>(\ln{POP}) (\text{(1,000 inhabitants)})</td>
<td>-19.026 (-1.33)</td>
<td>23.558 (0.45)</td>
<td>-.578 (-0.04)</td>
<td>-22.462 (-0.91)</td>
</tr>
<tr>
<td>(\ln{GDPCAP}/\ln{USGDPCAP})</td>
<td>-198.996 (-1.23)</td>
<td>-204.213 (-0.63)</td>
<td>-58.997 (0.34)</td>
<td>86.828 (0.57)</td>
</tr>
<tr>
<td>(\ln{POP}/\ln{USPOP})</td>
<td>409.297 (1.47)</td>
<td>-319.063 (-0.31)</td>
<td>13.253 (0.04)</td>
<td>536.512 (1.10)</td>
</tr>
<tr>
<td>(\ln{OER}) (\text{(local currency equivalent of US dollars)})</td>
<td>.025 (0.30)</td>
<td>-1.299*** (-3.32)</td>
<td>.209 (0.018)</td>
<td>-.169 (-0.90)</td>
</tr>
<tr>
<td>IEF (\text{(0-100 categories)})</td>
<td>-.187*** (-6.02)</td>
<td>.042 (0.93)</td>
<td>.107*** (3.25)</td>
<td>-.024 (-1.19)</td>
</tr>
<tr>
<td>VISA (\text{(Apparel Visa dummy)})</td>
<td>-1.127 (-2.22)</td>
<td>-.695 (-1.44)</td>
<td>.288 (0.53)</td>
<td>.082 (0.37)</td>
</tr>
<tr>
<td>AGOA (\text{(AGOA dummy)})</td>
<td>.774 (1.20)</td>
<td>.628 (.70)</td>
<td>-.184 (-0.27)</td>
<td>.142 (0.31)</td>
</tr>
<tr>
<td>OILEXPORTER (\text{(Oil exporter dummy)})</td>
<td>4.439*** (7.01)</td>
<td>22.486 (3.39)</td>
<td>.887 (1.21)</td>
<td>7.146 (2.31)</td>
</tr>
<tr>
<td>Intercept ((\alpha_0))</td>
<td>-39.892*** (-11.04)</td>
<td>-191.809 (-1.68)</td>
<td>-5.823 (-1.47)</td>
<td>-101.564 (-1.94)</td>
</tr>
<tr>
<td>N</td>
<td>381</td>
<td>381</td>
<td>358</td>
<td>358</td>
</tr>
<tr>
<td>Adjusted R(^2)</td>
<td>.5423</td>
<td>.7918</td>
<td>.0378</td>
<td>.9202</td>
</tr>
</tbody>
</table>

*** Indicates significance at the 1% level
** Indicates significance at the 5% level * Indicates significance at the 10% level
IX. References


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