AGOA and Apparel:
Who Captures the Tariff Rent in the Presence of Preferential Market Access?[*]

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Abstract

The United States grants preferential (tariff and quota free) market access to a list of products from eligible countries in sub-Saharan Africa through the African Growth and Opportunity Act (AGOA). We analyze the increase in prices received by apparel exporters who benefited from AGOA preferences. In the presence of competitive markets, export prices should increase as much as the tariff which was previously collected by the US government. We refer to this price increase as the "tariff preference rent" since exporters receive this income as the rent for their preferential status. The results show that exporters receive only $1/3^{rd}$ of this rent and smaller exporters receive less than larger and established ones. We then provide evidence that suggests this may be due to the degree of market power enjoyed by US importers when facing African exporters.

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1   Introduction

The African Growth and Opportunity Act (AGOA) was signed by President Clinton in May 2000 and quickly became one of the most high-profile Special and Differential Treatment (SDT) programs implemented. AGOA intends to encourage "higher levels of trade and direct investment in support of positive economic and political developments" throughout Sub-Saharan Africa (US Congress [2000]). 36 countries were designated to be eligible for the AGOA preferences for 2003.

The main feature of AGOA, like other SDT programs such as the United States version of the Generalized System of Preferences (GSP), is the duty-free access granted to certain products. However, AGOA goes beyond the standard GSP provisions and includes a wide range of textiles and apparel in the list of products to receive preferential market access. The trade data indicate that a small group of apparel exporters have been the main beneficiaries of AGOA preferences so far and there has not been significant change in the exports of any other product from the eligible countries.

In this paper, we analyze the impact of AGOA's preferences on prices received by apparel exporters. In a perfectly competitive market (with homogenous goods), exporters who enjoy duty-free access should benefit from a price increase that equals the amount of the tariff.[1] In other words, competition among the importing firms should force the prices receive by the exporting firms to climb by the amount of the tariff which was previously collected by the US government as revenue. Under AGOA, the exporters should now capture this income as rent for their preferential status. That is why we refer to the difference between preferential vs. non-preferential export prices as the "tariff-preference rent" or simply the "tariff rent".

Our findings indicate that the average export price increase for products benefiting from AGOA preferences is around 6%, whereas the average Most-Favoured-Nation (MFN) tariff on these products is 20%. So exporters receive around 1/3rd of the tariff rent. Furthermore, there is variation in the share of the tariff rent that accrues to exporters across countries, with poorer and smaller ones capturing a lower portion. These

results naturally lead us to question the validity of the perfect competition assumption, especially among the importing firms. In order to address this possibility, we construct a concentration index for each product category based on their volumes entering through different ports in the United States as a proxy for the degree of competition among importing firms. It turns out that this importer concentration proxy is a significant determinant of the level of rents captured by the exporters. Higher concentration among importers leads to lower rents for exporters, and the effect is stronger for low-volume and low-tariff sectors.[2] Thus, Goto's (1989) observation that in the apparel sector "many exporters [in developing countries] face large importing enterprises that can negotiate prices that capture some of the quota rent for themselves" applies to apparel exporters in AGOA as well.

Our results have policy implications for the future of SDT programs. The main goals of such programs are to integrate developing countries into the world trading regime and lead to sustained growth, as specifically stated in the Trade and Development Act of 2000 that established AGOA. Papers in this literature point to different reasons for the failure of these programs in terms of delivering the promised benefits to the beneficiary developing countries. (See Hoekman, et. al. [2003] for a review of the literature.) Among the reasons cited are the exclusion of important products, rules of origin requirements and other bureaucratic hurdles, the presence of export ceilings and elimination of the programs as the beneficiaries start to use them more extensively. Compared to other SDT programs, AGOA provides significant changes in several dimensions such as the inclusion of the apparel sector and elimination of restrictive administrative practices like the rules of origin. However, our results suggest that these might not be enough. Encouraging competition among importers and strengthening the capacity of firms in eligible countries to negotiate with their trading partners in the preference giving country seem equally important. The overall success of a trade

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[1] For this to be true, preferential exports need to be smaller than overall imports; otherwise the domestic price will be endogenously determined in the import market. This is verified in our sample, as exports of Apparel under AGOA represent only 1.5% of aggregate apparel imports in the US.

[2] The literature has already provided evidence of imperfect competition among importers of apparel in the US. Krishna, Erzan & Tan (1994) provide evidence for US importers of apparel from Hong Kong. Krishna & Tan [1998] show this pattern to be common among other apparel exporters in Asia. Furthermore, they argue that smaller exporters such as India, Pakistan and Indonesia receive a lower portion of the quota rents compared to established and large exporters such as Hong Kong and Korea.

preference program is closely linked to the share of the tariff rent that is captured by exporters. The export supply response to preferential market access improvements is going to be small if exporters do not receive higher prices for their products.

The remainder of the paper is organized as follows. Section 2 presents some basic facts on AGOA in general, as well as more detailed information on the apparel provisions. Section 3, provide evidence on tariff rent sharing between importers and exporters. Section 4 contains the econometric analysis of the determinants of tariff rent sharing, whereas Section 5 concludes.

2   AGOA and Apparel : Background

The African Growth and Opportunity Act (AGOA) was signed into law on May 18, 2000 as Title 1 of the Trade and Development Act of 2000 with the aim to "expand free markets, trade and growth in Africa." (USTR [2001]). As of December 31st, 2002, 36 countries were designated as eligible for the AGOA benefits[3].

AGOA has several unique provisions compared to the standard GSP program of the US: (i) it covers additional 1,800 tariff line items that include certain previously excluded items with significant importance for most developing countries, such as apparel, footwear, handbags, luggage etc and (ii) it includes the Apparel Provision which, in essence, relaxes the rules of origin requirement, a standard feature of most preferential trade agreements[4]. In addition, "Special Rule for Lesser Developed Countries"[5] allows duty-free access for the apparel made from fabric from anywhere in the world, until September 2004. As of December 2002, 30 of the AGOA-eligible countries qualified for this special rule that basically eliminates the rules of origin requirements.

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[3] On October 1, 2000, President Clinton designated 34 countries as eligible for AGOA. Swaziland and Côte d'Ivoire were added to the list on January 18, 2001 and May 16, 2002 respectively. There are 12 Sub-Saharan countries remaining ineligible. The eligibility criteria are almost identical to the ones for the GSP. For comprehensive information on the AGOA features, see http://www.agoa.gov/index.html.

[4] Under AGOA II, apparel produced with regional or U.S. made yarn and fabric (at least 85% of value added) have duty-free and quota-free access to the U.S. market. There is a cap of 3% of total U.S. imports, growing to 7% over an 8-year period, but this cap is far from binding. Apparel exports under AGOA provisions are currently less than 1% of total US imports in these sectors.

[5] Those with per capita GNP below $1,500 in 1998.

The initial effects of AGOA in general, and these special provisions in particular, have been mixed. Only 14 of the 36 eligible countries have significant exports entering the US under the AGOA regime. Moreover, oil and related products accounted for more than 90% of exports benefiting from AGOA preferences in 2001, and more than 80% in 2002.[6] Apparel accounts for around 5% of total AGOA exports in 2001 and 10% in 2002. As of July 2002, there were no significant exports of any other product under AGOA provisions from any other country except Malawi and South Africa[7].

The Apparel Provisions of AGOA led to significant growth in the apparel exports from a small group of countries. As can be seen in Table 1, in the six quarters between January 2001 and July 2002, the total apparel exports from the AGOA countries to the US was $1.4 billions, representing around 1.5% percent of total US imports of apparel (defined as those entering under HS 61 and 62). During the same period, only half of the exports from AGOA eligible countries, around $720 million, actually entered under the AGOA provisions while the MFN tariffs were imposed on the rest[8]. Seven countries had accounted for 99% of the apparel exports from sub-Saharan Africa to the US in 2000 before AGOA. These are Kenya, Lesotho, Madagascar, Malawi, Mauritius, South Africa and Swaziland. AGOA did not cause any other country to enter the apparel market in the US and the same seven countries continue to account for 99% of apparel exports under AGOA. On the other hand, these seven countries experienced remarkable growth in export levels to the US. Their aggregate volume increased by 29% in 2001 and by 20% in the first 6 months of 2002[9].

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[6] The MFN tariffs for these globally traded commodities are already quite low (between 1-2%) so the AGOA preferences do not provide much extra benefit to the exporters.

[7] During the first six months of 2002, Malawi exported tobacco products (HS 24, value $15 million) and South Africa exported vehicles and parts (HS 87, $216 million), iron & steel (HS 72 & 73, $43 million) and fruits & nuts (HS 08, $14 million) under the AGOA provisions.

[8] Share of exports entering under AGOA provisions (utilization ratio) increased from 38% in 2001 to 74% in the first half of 2002. The low figure in 2001 is probably due to several countries qualifying for AGOA late in 2001 (see Table 2) as well as the time required to master the associated with the special rules of the Apparel provision.

[9] One potential consequence of preferential market access is that some of the exports sold previously to third countries would now be routed to the US. While the exports to the US increase, the aggregate export level may not change. This, in turn, implies significantly lower benefits from the preferential market access program than anticipated. The data on aggregate exports show that the increase in the exports to the US is very close to the increase in their aggregate exports for all countries, except Mauritius. This indicates that exports to the US did not displace exports to the other countries and preferential market access was indeed export promoting. However, in Mauritius, exports to the US did not change much (decline of 0.7%) while

TABLE 1

Apparel Exports of AGOA Countries to the United States

	2000	2001	2001	2002 6 months	2002 6 months
	TOTAL (1,000 $)	TOTAL (1,000 $)	Under AGOA Provisions (1,000 $)	TOTAL (1,000 $)	Under AGOA Provisions (1,000 $)
Kenya	43,863	64,360	51,538	47,050	45,342
Lesotho	140,053	216,692	129,523	142,466	142,039
Madagascar	109,544	178,197	92,083	65,378	57,599
Malawi	7,325	12,385	6,734	5,500	5,475
Swaziland	31,852	48,077	8,196	33,848	28,810
Mauritius	244,694	238,252	38,899	122,230	52,783
South Africa	140,909	173,394	30,570	67,356	28,441
TOTAL	**718,240**	**931,357**	**357,543**	**483,828**	**360,489**

Source : USITC http://dataweb.usitc.gov

The apparel sectors in these countries exhibit certain differences. South Africa and Mauritius have mature apparel industries while the other countries are relatively new to the sector. South East Asian parent companies have strong influence in ownership and management of the firms especially in Lesotho, Kenya and Malawi (Salm [2002]). One of the consequences of AGOA has been this rapid foreign investment by East Asian companies in these countries. In most cases, the raw materials are imported from Asia and the majority of the finished apparel is exported to the US, taking advantage of the absence of rules of origin requirements.

In order to fully benefit from AGOA, countries first need to satisfy qualification criteria which are similar to those of the GSP (US Congress [2000]). As we stated earlier, 36 countries have been given this status for 2003. Second, the countries need to establish effective visa systems to prevent smuggling, illegal transshipment and use of counterfeit documentation as well as institute enforcement and verification procedures as required by the US administration. As of April 2002, 17 countries had completed these requirements

aggregate exports declined by 6%. This implies its exports to third countries declined considerably in 2001 and preferential access prevented the same outcome in the US market. (data available upon request.)

and qualified for the Apparel Provision but only 7 (that we analyze) were exporting apparel to the US in any significant amount. Third, poorer countries can qualify for the Special Rule for Lesser Developed Countries which, in essence, exempts them from all Rules of Origin requirements until September 2004. The Special Rule allows them to use raw materials, such as fabric, from anywhere in the world. Other countries need to use inputs (at least 85% by value added) from any country in AGOA and the US. Of the seven countries which we analyze in this paper, all, except South Africa and Mauritius, qualify for this rule. This makes a big difference as the share of AGOA-eligible exports to total exports is at least 85 percent during the first six months of 2002 for the five countries that benefited from the Special Rule. Mauritius and South Africa, on the other hand, only had 43 and 42 percent of their apparel exports enter under the AGOA regime during the same period (See Table 2).[10] Furthermore, the five countries that qualified for the Special Rule had their total exports grow much faster (26% on average) than the other two (4%) during the first 6 months of 2002 compared to the same period in 2001. This shows the significance of the restrictions imposed by rules of origin requirements.

TABLE 2

Apparel Provisions and Special Rule Eligibility

	Kenya	**Lesotho**	**Madagascar**	**Malawi**	**Mauritius**	**South Africa**	**Swaziland**
Apparel Provision Date	Jan/01	Apr/01	March/01	Aug/01	Jan/01	Mar/01	Jul/01
Qualification for Special rule	Yes	Yes	Yes	Yes	No	No	Yes
Share of AGOA in total apparel Exports '02	96%	99%	88%	99%	43%	42%	85%
Export-weighed MFN tariff	18%	19%	16%	20%	17%	18%	20%

Source: www.agoav.gov/index.html **and authors' calculations.**

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[10] Note that Mauritius and South Africa could have benefited indirectly from the preferences obtained by their poorer neighbors under AGOA I, as both have production capacity for textiles. However, their poorer neighbors are more likely to purchase inputs from East Asia under the special rule for apparel.

Table 2 lists the seven countries on which the rest of the analysis is carried out. It shows the date of eligibility for the Apparel Provision, as well as whether or not they benefit from the Special Rule for the Lesser Developed Countries. The share of total exports of apparel to the US that benefited from apparel preferences during these six quarters and the export-weighed MFN tariff on products exported by each of these countries to the US are also listed.

3   Who Captures the Rent?

The previous section shows that at least seven apparel-exporting countries benefited from AGOA provisions on apparel and increased their exports considerably. In this section, we analyze the impact of AGOA on prices received by these seven exporters. Most empirical research in international trade uses revenue data and this has two reasons. First, quantity and/or price data is not collected and not available in most cases. Second, different products (in terms of quality, size and other specifications – such as automobiles) are aggregated in a given category. Such aggregation problems make it difficult to calculate and compare unit prices. However, careful analysis of price changes enables us to address important issues and evaluate economic policies more accurately. In this paper, we are able to use price data since the United States International Trade Commission (USITC) collects and makes available very disaggregated (HS 8 digit level) and detailed customs data. Furthermore, there is likely to be less heterogeneity among apparel products at such level of disaggregation compared to other industrial goods.

We use the following data in this section[11]. USITC data include the value and units of exports in a given 8-digit category from a given country in a given quarter. Using this data, we calculate p^A_{ijt}, which is the unit price of exports entering the US under AGOA provisions in category i from country j in quarter t. Our data cover 56 different 8-digit categories from 7 countries during the 6 quarters since the beginning of AGOA (1st quarter of 2001). We should note that some countries qualified for AGOA apparel

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[11] Data was obtained from the USITC web site at http://dataweb.usitc.gov. US import value data exclude insurance and freight.

preferences much later than others (see Table 2). For each country, the data starts with the first quarter in which they actually used the AGOA preferences to export goods to the US. We include observations for which the export value is at least $100 thousand in a given quarter from a given country and this gives us a total of 353 observations[12].

We, then, calculate the unit prices of the *same* products from the *same* country that entered under MFN treatment going back to January 2000. We denote this as p^{MFN}. Even after AGOA was implemented, some exports continued to enter the US under the MFN treatment and the importer chose to pay the tariff. There might be several reasons why exporters choose not to take advantage of AGOA provisions. First, the trade contract might have been signed and the customs paperwork completed before AGOA. Second, the rules of origin requirement might not be satisfied. For South Africa and Mauritius, more than 50% of their exports continued to enter under the MFN tariffs in 2002 (see Table 2). For the other countries that are not bound by the rules of origin requirements, the level of MFN exports declines rather rapidly after they qualified for AGOA; for most countries, this MFN exports represent less than 1% in the second quarter of 2002.

In order to measure the export price increase, we compare p^A and p^{MFN} for category i from country j. For around 20% of the cases, p^{MFN} is from the exact same quarter as p^A. For the quarters during which there are no MFN exports from a specific country, we use p^{MFN} from the closest quarter in which there were MFN exports. The average gap is 1.8 quarters.

We face two potential problems when comparing unit prices from different quarters. First the world prices may change systematically between the quarters due to demand shocks in the US or other global shocks that affect equilibrium prices. To control for this possibility, we checked the average unit prices for aggregate US imports from all countries for each category; we did not detect any significant price change during this time period[13]. Second, there might be unobserved quality differences between exports

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[12] Note that not every product is exported from each country and/or in each quarter.

[13] The change in the US apparel import prices (weighted by value in each category) was –1.0% from 1999 to 2000, +1.1% from 2000 to 2001 and –0.9% from 2001 to 2002. For the categories in which AGOA countries had exports, the average price change was –0.5% from 1999 to 2000, +1.1% from 2000 to 2001 and –1.0% from 2001 to 2002.

from different quarters. We do not believe this to be serious since there is not a big time gap for product quality to change.

Table 3 presents our findings. The first row is the average percentage difference between the prices received for exports benefiting from AGOA preferences and prices of exports that entered under the MFN regime. The second row is the average MFN tariff faced by African apparel exporters in the US. These are calculated from collected tariff revenue data on MFN exports. The third row is the average tariff rent that is captured by African exporters. It is defined as the ratio of the price increase to the MFN tariff.

TABLE 3

Price Increase under AGOA vs. the Tariffs	All countries	Kenya	Lesotho	Madagascar	Malawi	Mauritius	South Africa	Swaziland
Average price Increase (%)	0.059 [0.053]	0.032 [0.079]	0.052 [0.054]	0.054 [0.010]	0.032 [0.060]	0.073 [0.102]	0.092 [0.144]	0.055 [0.001]
Average MFN Tariff (%)	0.198 [0.180]	0.202 [0.176]	0.216 [0.192]	0.181 [0.162]	0.223 [0.199]	0.166 [0.171]	0.198 [0.184]	0.223 [0.197]
Africa's share of tariff rent (%)	0.38 [0.30]	0.16 [0.45]	0.35 [0.29]	0.40 [0.06]	0.13 [0.35]	0.53 [0.66]	0.49 [0.81]	0.41 [0.07]

Source: Authors calculations using data provided at USITC's web site: http://dataweb.usitc.gov. Figures in square brackets are export-weighted averages.

For the whole sample, prices of products that benefited from AGOA preferences were on average 6% higher (5.3% when weighted by value in each category) compared to the prices of products entering under the MFN regime. Of the seven countries in our sample, South African exporters experienced the largest increase in prices on average; their apparel exports entering under the AGOA regime enjoyed a 9% (14.4% when weighted) price increase. Malawi and Kenya were the countries with the lowest average price increases: 3%.

There is little variation on MFN tariffs faced by each of these seven African exporters. As a group, they faced MFN tariffs of 20% on average (18% when weighted); we define this tariff as the potential rent available. The national average tariff varied between 17% for Mauritius and 22% for Lesotho and Malawi.

Finally, on average, African exporters captured only 38% of the tariff rent –30% when export weighted.[14] There is, however, significant variation across countries. Malawi and Kenya appropriated respectively, 13% and 16% of the tariff rent on average, whereas Mauritius and South Africa captured 53% and 49%. Note however, that the export-weighted average shares show a somewhat different pattern. Swaziland captures only 1% of the tariff rent when we use export weights. Mauritius and South Africa capture more than 2/3rd of the whole potential tariff rent at 66% and 78%.

The natural question is what factors may best explain the share of tariff rent captured by exporters. Among the seven countries in the dataset, Mauritius and South Africa export more apparel and to a larger group of countries. Companies in these countries probably have more options and, therefore, bargaining power with respect to importers in the US. Coupled with more experience in international markets, enables the exporters in these two countries to capture a higher share of the tariff rent. On the other hand, Kenya, Lesotho, Malawi and Swaziland are smaller in terms of their total exports and the United States is their largest export market: 85% on average. Reliance on the US importers as their main customers probably prevents exporters in these countries from capturing a higher percentage of the tariff rent.

4   Why Don't the Exporters Capture the Tariff Rent in AGOA?

In a special report on the apparel industry in Lesotho, Salm et al [2002] state "the effect of AGOA has been to drive the prices of garments lower [for importers]. It is the buyers that benefit from duty free access." Their conclusion is based on interviews with industry representatives; our findings in the previous section empirically confirm this to be true for apparel exporters in general. The data showed that the unit prices of apparel exports from the major sub-Saharan exporters increased 6% on average after AGOA was implemented. The average MFN tariff faced by these products was 20%. The exporters captured around 1/3rd of the tariff rent whether if we calculate as the simple or the export-

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[14] Note that 38% is probably an overestimate since the share of the tariff rent that accrues to exporters is measured at US customs and not in the exporting country port. Thus, a large part of this rent could actually be captured by intermediaries outside Africa.

weighted average. We mentioned several reasons why some countries capture more of the rent than the others. However, the more fundamental question is what factors prevent the exporters from receiving more of the tariff rent. As we had stated before, the price increase should equal the tariff preference in the presence of competitive.

One possibility is that the quality of exported apparel declines after AGOA. Since lower quality products command lower prices, we might be capturing this effect. However, quality is likely to increase after trade liberalization, not decline (Grossman and Helpman [1993]). Moreover, not enough time has passed for a significant change in the quality composition of exports to appear. The second possibility is that world prices or the US import prices has gone down during this time period. We calculated the average US import prices for each category in each quarter in the dataset and found no statistically significant downward trend.

A third possibility is that the imported products in the same category are not homogenous but differentiated across origins, i.e., product i from AGOA-beneficiary country j would be facing a downward sloping demand curve in the United States. In such a setup, when preferences are granted, the tariff-rent is shared between exporters and consumers in the importing country.[15] However, recent estimates of elasticities of substitution across exporters of apparel to the US suggest that these are highly homogeneous products. Indeed, Broda and Weinstein (2004), estimates suggest that only crude oil is a more homogenous product than apparel imports into the US.[16] Thus, although one has to recognize that some of the tariff rent may accrue to US consumers due to product differentiation, other forces may also be at work to explain the low share that is captured by African exporters.

The fourth possibility is the presence of importer's market power. This is the possibility explored in this section. If few importing firms from the US dominate the apparel export market in AGOA countries, then they may have strong bargaining power.

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[15] This is identical to the textbook tax-incidence framework.

[16] They estimate this elasticity of substitution at around 6. Given that imports of apparel from AGOA represent a negligible share of total apparel consumption in the US, this number is also a good proxy for the individual import demand elasticity faced by African exporters in the US. For this to be consistent with a 30 percent share of the tariff rent, the elasticity of export supply of African exporters should be around 14, which is far from what was observed in the data (to see this simply recall that in a simple partial equilibrium framework the elasticity of the price with respect to the tariff is simply given by the ratio of the elasticity of demand with respect to the sum of the elasticities of demand and supply).

The final price paid by these importers after AGOA will be lower than the pre-AGOA import price (pre-AGOA export price plus the MFN tariff) and the importers capture some of the benefits associated with preferential market access. Unfortunately, it is quite difficult to measure market power without firm-level data. We do not have access to data on how much each American firm imports but we propose an indirect measure of market concentration among importers.

The United States International Trade Commission makes available the data on export volumes entering through each port for each product category during each quarter from each exporting country. For example, we know what percentage of exports in category i from country j entered the US through New York in any quarter. Given the small volumes of exports coming from the AGOA countries, each importing firm probably uses a single port for its imports in a given quarter and we expect positive correlation between number of firms and the number of ports. We construct a Herfindahl-like index using this port data. Suppose q_{ijtp} is the exports of product i from country j in year t entering through port p and $Q_{ijt} = \Sigma q_{ijtp}$ is the total imports into the US. Then our port-concentration index is

$$Concentration_{ijt} = \Sigma_p \, (q_{ijtp}/Q_{ijt})^2$$

There might be several potential problems in using this index as a proxy for importer concentration. It is possible that all retailers in the US have their warehouses located near each other and, therefore, all apparel imports enter the US through the same port. Thus, we might have significant competition between importers but the port index would not capture this. To see if this is the case, we calculated the port indices for all US apparel imports and they were 0.124 and 0.121 for 2001 and 2002, respectively. Similarly, the indices for imports from China, the largest apparel exporter to the US, were 0.211 and 0.221, even tough Pacific Coast ports are the natural destinations for Chinese exports. Finally, we calculated the port indices for total US imports for categories in which AGOA countries exported to the US. The average index was 0.133 in 2001 and 0.137 in 2002. On the other hand, the average port index was 0.47 in our sample indicating that AGOA exports are much more concentrated in terms of their ports of entry into the US. A second possibility is that a large importer has its purchases shipped to different ports near each one of its distribution centers. We would have a low

concentration index even tough one importer enjoys significant market power. This problem would decrease the significance of our estimation, as the port concentration index would fail to capture the effect of market power. In other words, in the presence of this problem, we would be underestimating the effect of importer concentration and the real effect might be even larger.

The equation we estimate is the following:

$$\mathrm{Re}\,nt_{ijt} = a + \beta_1 Concentration_{ijt} + \beta_2 Tariff_{ijt} + \beta_3 Ln\_Value_{ijt} + \varepsilon_{ijt}$$

The dependent variable is the tariff rent that accrues to exporters. As in the previous section, it is defined as the price increase under AGOA divided by the MFN tariff rate (in percentage). $Tarifft_{ijt}$ is the MFN tariff rate in percentage and Ln_Value_{ijt} is the natural log of value of exports of category i from country j in period t. We estimate this equation using weighted least squares (trade value is used as weights) with country fixed effects and robust standard errors for various different samples.

The first column in table 4 presents the estimation results from the entire sample. We should reiterate that the regression has country fixed effects so the results represent the conditional effect of the variables in the regressions. A higher concentration index implies less competition and leads to lower rents. The results confirm the prediction; the estimated coefficient is negative and significant at 5% level. The tariff rate is also negative and significant, implying that exporters' share of the rents (as percent of the tariff) declines as MFN tariffs increase. In other words, exporters have less bargaining power in high tariff items.

The values for mean and the standard deviation of *Concentration* in the sample are, respectively, 0.47 and 0.23. For example, one standard deviation increase in the concentration index leads to 20% higher rents when other variables are at their mean values. With an average tariff rate of 20%, this implies a further 4% price increase. This additional price increase is a considerable gain for the exporters since the initial average price increase is 6%. We also included the export value in the regression with the assumption that high export volume categories might have other characteristics that influence prices, but the coefficient is not significant.

TABLE 4

Determinants of the Tariff Rent

	Full Sample	Small Categories	Low Tariff Categories
Intercept	2.408**	4.479*	2.918**
	(1.177)	(2.237)	(1.577)
Concentration	-0.855*	-1.646**	-1.632**
	(0.358)	(0.477)	(0.596)
Tariff	-3.414*	-2.889	-11.241**
	(1.629)	(2.014)	(5.665)
Ln_Value	-0.089	-0.231	-0.036
	(0.063)	(0.166)	(0.091)
# of Obs	353	181	215
R^2	0.21	0.17	0.17

* denotes one tailed p <0.05, ** denotes p<0.01

 The numbers in parentheses are the robust standard errors.

The second column is the estimation for categories with export value less than $1 million in that quarter which is almost the median value. There are a total of 181 observations. Again the concentration index is significant and has a higher point estimate. The mean values for *concentration* and *tariff* are 0.535 and 0.25 respectively. Again, one standard deviation increase of 0.25 in the concentration index, leads to 40% increase in the rent and 8.1% increase in prices at the mean values of other variables. As we can see from the high value of the concentration index, there is less competition in these low-volume categories. The results tell us that a marginal increase in the competition level has a larger impact on the welfare of the exporters. We also estimated using the large categories and coefficient of the concentration index was slightly negative but not significant.

The last column uses the categories with MFN tariffs lower than 20% - the average tariff rate. We have 215 observations in this sub-sample. As it is the case in the previous regression, the coefficient in front of the concentration index is negative and

significant. The values for the mean and standard deviation of *concentration* in this sub-sample are 0.41 and 0.20 respectively, implying relatively higher level of competition among importers. One standard deviation decline in *concentration* index increases the level of tariff rents by 33%. This implies a 5.1% price increase on average with the mean *tariff* of 15.6%. So the level of competition is more important for the welfare of AGOA exporters in low tariff categories ---compared to the full sample.

5 Concluding Remarks

AGOA is a very important SDT program and its analysis provides us with valuable insights. AGOA is unique because it incorporates many changes such as inclusion of apparel in the preference list and the elimination of rules of origin requirements for most beneficiaries. We see that the main impact of AGOA has been on the apparel exports and only seven of the countries really benefited. These seven countries increased their exports significantly in a short period of time and the growth is even more remarkable for the five that are completely exempt from rules of origin. This alone proves how stifling rules of origin requirements can be and diminish potential benefits of preferential market access.

In this paper, we focus on the impact of preferential market access on the export prices. In competitive markets, exporters should capture the tariff revenue that used to go to the US Treasury through higher prices on their products. We refer to this as the tariff rent and show that AGOA apparel exporters capture only around $1/3^{rd}$ of this potential benefit. We see wide variance with smaller and newer exporters capturing less tariff rent than the larger and more established ones.

We argue that a likely cause may be the market power of large importing companies. Using quarterly data at the country and product level, we estimate the effect of determinants of the level of tariff rent captured by exporters. We construct an index based on trade volumes entering through different ports in the US as a measure of competition and we show that this is a significant determinant of the share of tariff rent that accrues to exporters. Higher concentration leads to lower rents and the effect is stronger for smaller and low-tariff sectors.

The data and our results indicate that preferential market access without restrictions (such as rules of origin) can be valuable but market structure problems can prevent developing countries from fully benefiting from it. It suggests that this type of preferential regimes should be accompanied by measures that help firms in developing countries increase their bargaining power *vis à vis* importing companies in the preference granting country.

It is also important to note that the seven apparel-exporting countries are mainly English speaking and are in close proximity to each other. This again points out the importance of transaction and simple communication costs and network effects in international trade. This is one area where multilateral development agencies can make a big difference by helping exporters in developing countries gain expertise in international markets.

Our results are also important for the debate on whether aid or trade preferences are more beneficial to the least developing countries. Adam and O'Connel (2004) argue recently that switching from aid to trade preferences can increase recipient-country welfare in a model with learning-by-doing externalities. Our results provide a rationale for why aid remains popular relative to trade preferences among aid recipients: the benefits of trade preferences may be mostly captured by donor (preference granting) countries.

Our future research agenda will address three different questions. First, we need to see if this is temporary or a permanent phenomenon; i.e., whether there is scope for learning on the exporter's side. Second, we aim to understand the determinants of market structure in different countries. Finally, we hope to investigate the role of the intermediaries in the international markets, especially the ones where transaction costs are high and intermediaries have market power.

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