



South Africa and USA trade: What are the scenarios beyond the 'Africa Growth and Opportunity Act' (AGOA) for South Africa's wine exports and wine tourism sector?

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Abstract

The growing protectionist stance of the current US administration has potentially negative implications for trade welfare in many African countries including South Africa. The loss to South Africa of trade benefits under the African Growth Opportunity Act (AGOA) of 2000, which is expected to expire in 2025, would be devastating for many sectors which have benefited under AGOA. These include the South Africa wine exporting industry, which has direct links to the country's tourism in regions such as the Western Cape. Losing AGOA benefits would have a direct negative impact on a sector whose size was estimated at R36.1 billion in 2015, endangering more than 300 000 jobs for mostly unskilled and semi-skilled workers. This paper uses a partial equilibrium analysis and international trade data to estimate the negative trade effects that are likely to arise if South Africa were to lose its AGOA benefits from the US. The analysis estimates the directions and sizes of the negative trade effects for scenarios replacing AGOA tariffs with Most Favoured Nation (MFN) rates for South African wine exports. It finds that, for all wine product lines currently benefiting under the AGOA agreement, a market worth more than R100 million would be lost if MFN tariffs were applied. Overall the impacts of trade restrictions from losing AGOA benefits would have negative net effects on global welfare even if the US government was able to raise revenues from imposing higher tariffs on South African exports. It is argued that South African public policy and the private sector need to ensure that the country remains eligible for AGOA benefits until they expire, while seeking and negotiating new trade agreements for the country's exports to other destinations.

Keywords: Trade-effects, wine-exports, AGOA, partial equilibrium analysis

Introduction

Given the current reviews of trade agreements and relationships which the United States (US) has with different regions and countries, it is important for policy to evaluate South Africa's potential economic position if the country's benefits under the current trade agreement with the US were to be reviewed and removed. In a simulation exercise the paper uses a partial equilibrium analysis to look at what the estimated potential trade flows and welfare effect changes would be between South Africa and the US if the Africa Growth and Opportunity Act (AGOA, 2000) benefits to South Africa were to be removed immediately. The exercise is important because the current



AGOA benefits to African countries are scheduled to expire in 2025.¹ In addition, challenging legal developments involving SA's meat producers and the South Africa government have already threatened an 'out of cycle' review of South Africa's eligibility for AGOA preferential treatment in 2015 by the US congress. The threat for such a review in the US congress came about when concerns were raised by US producers of poultry, pork, and beef 'who complained that South Africa was violating AGOA by blocking US meat imports.' (Naumann, 2016)². To avoid such a review, the South Africa government addressed the US congress concerns by, for example, removing anti-dumping quotas for US meat products. Nonetheless, these developments illustrate that AGOA benefits to South Africa are not guaranteed and can always be reviewed and therefore South African policy makers and the public need to understand for planning what the economic implications there would be for having no AGOA agreement in place with the US as one of many other possible future trade scenarios. To present the estimates from a partial equilibrium analysis, this paper uses South Africa wine exports to the US because they have established links to the growth of the country's tourism industry (see Hunter, 2017³) and these products that have enjoyed the biggest growth in terms of export growth both to the European Union (EU) countries and the US under AGOA⁴ (see Analytix, 2014; SA Market Insights, 2018, etc.).

In Section Two, this paper outlines the background on AGOA benefits to sub-Saharan countries, since 2000. Section Three presents the orientation and research methodology adopted for the simulation. Section Four presents the importance of the wine exporting sector in South Africa. The discussion of results is in Section Five. A summary of policy implications and recommendations for South Africa are presented in Section Six.

Background and context

The African Growth Opportunity Act (AGOA) is a developmental market access *preferential trade* programme that is enshrined in US legislation under the Trade and Development Act of 2000. It is *non-reciprocal in nature* currently afforded to 49 sub-Saharan African countries, with the inclusion of South Sudan in 2012 (Ismail, 2016). Since 2000, AGOA has been extended twice, in 2004 and in 2015, by the former US Presidents George W. Bush and Barack Obama, respectively. The main aim of AGOA is to promote two-way trade flows between qualifying sub-Saharan African countries and the US. Some of the developmental objectives of AGOA are to:

¹ Initially the Act covered broadly the period from 2000 to 2008. In 2004 former President Bush extended AGOA benefits to 2015. In 2015 former President Obama further extended AGOA benefits to 2025 (see more details on these data at Tralac, 2018 online).

² The 'out of cycle review' of South Africa's AGOA eligibility for preferential treatment, triggered by the US poultry, pork, and beef producers 'who complained that South Africa was violating AGOA by blocking US imports (into South Africa) of their products' (Naumann, 2016) signalled that AGOA benefits may not be guaranteed to last until AGOA's expiration date of 2025.

With the complaint from US meat producers, the former US President Obama 'notified the House of Congress of his intention to suspend (in 60 days' time) the application of duty-free treatment to all AGOA eligible agricultural goods from South Africa...' (Cronje, 2015). In his statement, former President Obama explained that taking the action to suspend (not terminate) South Africa's eligibility would be appropriate to force South Africa into compliance by removing long-standing barriers to US trade and investment as required by section 104 of AGOA (White House, 2015).

In response to the notification, the South African government lifted the 15-year old anti-dumping duties for a quota of 65 000 tons of chicken parts per year as well as restrictions based on health concerns which blocked poultry, pork and beef imports into South Africa from the US. This action has, however, been challenged by the South African poultry (SAPA) and pork (SAPPO) producers in court on the grounds that there was not enough evidence that the US was doing enough to eliminate health concerns arising from the 'porcine reproductive and respiratory syndrome (PRRS)' into South Africa (Lovell, 2016). A successful court challenge by SAPA and SAPPO forcing the South African government to reverse the lifting of restrictive trade measures against US meat imports would keep the suspension of AGOA benefits to South Africa in place. The big and fastest-growing South African export sectors to the US as well as US consumers of South African imports would be the most negatively affected by the suspension. This would mean that the Most Favoured Nation (MFN) tariffs, like some of the trade barriers, would apply to most US and South African traded goods (exports and imports).

³ Discussion of wine tourism industry in SA

⁴ Wine exports to the US increased from 12.8 million litres in 2011 to 31.7 million in 2013



- a) encourage increased trade and investment between the US and sub-Saharan Africa
- b) reduce tariff and non-tariff barriers and other obstacles to sub-Saharan Africa and US trade
- c) expand US assistance to sub-Saharan Africa's regional integration efforts
- d) negotiate *reciprocal and mutually beneficial* trade agreements, including the possibility of establishing Free Trade Areas (FTAs) that serve the interests of both the US and the countries of sub-Saharan Africa
- e) focus developmental efforts on countries committed to the rule of law, economic reform, and the eradication of poverty
- f) strengthen and expand the private sector in sub-Saharan Africa, especially enterprises owned by women and small businesses
- g) facilitate the development of civil societies and political freedom in sub-Saharan region; etc.

Among key factors outlined in Section 502 of the Act (Trade and Development Act of 2000), Sub-Saharan countries qualify for eligibility for AGOA benefits if they have (or are in the process of establishing) a market-oriented economy; are characterised by political pluralism and the rule of law; have eliminated (or are eliminating) barriers to trade and investment of the US; have policies aimed at reducing poverty, improving health care, education, and private enterprise; have in place policies opposed to corruption; promote human rights. When eligibility is established, the US President would 'designate a sub-Saharan African state for preferential duty-free treatment for additional products and textile and apparel articles *not included for duty free treatment under the Generalised System of Preferences (GSP)*' (Cronje, 2015). Currently, more than 4,600 product tariff lines form part of AGOA preferential treatment for products exported to the US from developing countries (DC) and least developed countries (LDCs) (Naumann, 2016). However, Patriage and Pienaar (2016) reported that not all AGOA and GSP benefits were taken full advantage of when looking at 2014 trade data. For example, of the 2,113 imported agricultural products entering the US, only 264 of such products came from South Africa. With respect to these agricultural products, 661 product lines were eligible under AGOA, but South Africa utilised only 44 of them. Nevertheless, some South Africa exporting sectors have shown great performances since AGOA benefits were extended to the country.

Trade performance under AGOA

Overall, Figure 1 shows that exports from all AGOA countries to the US grew by more than 373% between 2002 and 2008, relative to those from the US to AGOA countries, which grew by 165.3% (ITC Trade Map, 2017).

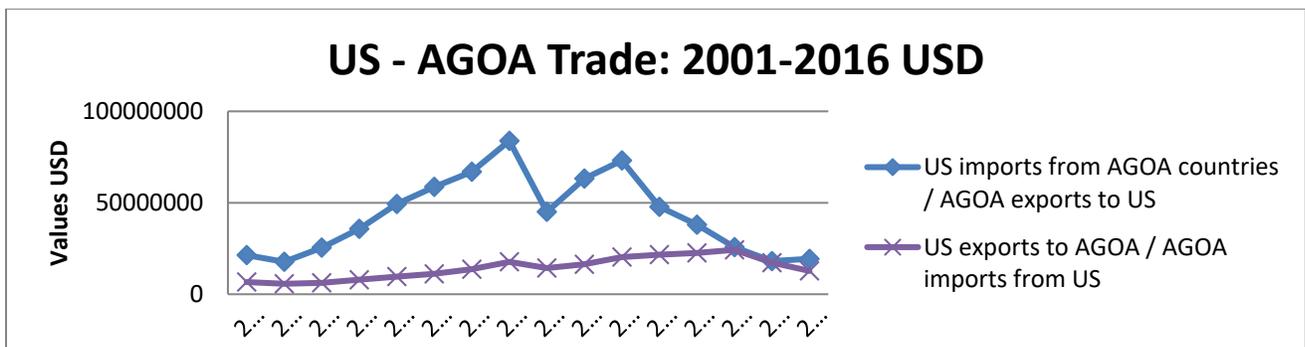


Figure 1: AGOA exports to the US and vice versa: 2001 – 2016
Source: ITC Trade Map (2017)



Sharp declines were experienced for both regions after the 2008 economic crisis, as illustrated in Figure 1. While both regions experienced recoveries from 2009, AGOA exports from 2011 onwards, declined again to levels even below those observed in 2002. Ismail (2016), and Partridge and Prinsloo (2016), attribute the second decline of AGOA exports after 2011 to a decline in oil prices affecting mostly west African countries like Angola and Nigeria.

The drop in total AGOA exports to the US from 2011, fuelled by oil prices, resulted in an increase in the percentage share of South Africa to AGOA exports to the US. On the other hand, the drop in US exports to AGOA from 2015 was mirrored by a drop in US exports to South Africa. In 2016 the value of US exports to South Africa was slightly higher than those observed immediately after 2008. The list of top US exports to South Africa in USD values (Table 1) comprises mainly mechanical, electrical and chemical products, with *cereals* featuring just outside the top ten.

Table 1: Top USA exports to South Africa in 2016

Code	Label	Size in 2016 USD ('000)
84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	904 710
87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	447 216
85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	363 876
88	Aircraft, spacecraft, and parts thereof	334 155
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical ...	324 333
27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral ...	229 997
38	Miscellaneous chemical products	211 405
99	Commodities not elsewhere specified	195 907
39	Plastics and articles consisting thereof	176 147
30	Pharmaceutical products	159 261
10	Cereals	124 739
71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad ...	119 348

Source: ITC Trade Map (2017)

The list of top South African exports to the USA shows where South African exports have benefited the most under AGOA. Other than metals, natural resources and vehicles, agricultural products that feature prominently include beverages (wines), spirits, vinegar and fruits (SA Market Insights, 2018). Agricultural products (SA exports and USA imports) form a large part on the lists of the fastest-growing products between 2001 and 2016. This means that agricultural trade between the two countries has grown in substantial terms for those employed in exporting industries and for consumers in both countries. Therefore, the trade and welfare implications on South Africa and the USA stemming from a revision or removal of the AGOA agreement would have profound social impacts.⁵ Simulating the potential impacts on trade flows and welfare effects between the USA and South Africa as a result of a withdrawal of AGOA is important for South African policy. The simulation is partial and examines impacts from the perspective of agricultural

⁵ This is especially the case because US-South Africa trade has grown in the last 15 years. More than 5% of South Africa's export trade with the world is with the US, behind China (6%), while Africa (17%) and the EU (15%) still hold on the top two spots. Almost 7% of South African imports from the world come from the US, with the EU and China holding a 31% and 18.1% share of these imports, respectively.



products relevant to South Africa's tourism industry, i.e. wine beverages and products. In the absence of AGOA or any other agreement, South African exports would face reciprocal tariffs in the US as laid down by the World Trade Organisation (WTO) in the form of Most Favoured Nation (MFN) tariffs.

Reciprocal tariffs

Even without the threat from US meat products losing AGOA benefits in South Africa, there is an increasing 'protectionist' rhetoric from the current US administration that poses an additional threat. This means that there are no guarantees that AGOA benefits to South Africa, or other African countries, would remain in place until the expiration date of September 2025. This is also because AGOA benefits really do not form part of any negotiated trade agreement between the US and any of the AGOA countries. AGOA benefits essentially form a part of the developmental aid to sub-Saharan Africa and its sustainability relies mostly on decisions made by the US government.

Recently President Trump succeeded in withdrawing the US from the 12-nation Trans Pacific Partnership (TPP) agreement, which covers 40% of the world economy, citing that its terms were unfair to US producers. Mr Trump has also called for a six-months *review of all US trade agreements* and arrangements. He also threatened to terminate US participation in the Northern American Free Trade Agreement (NAFTA), while negotiations on its continuation are ongoing. The US and Korea trade deal has been classified as a "horrible deal" by his administration (Wolff, 2017).

Therefore, most sub-Saharan African leaders should be alert, if not concerned, about the sustainability of AGOA benefits. It is reported that the US administration has also raised questions concerning the US's African developmental policy. 'With so much corruption in Africa, how much of our funding is stolen? Why should we spend these funds on Africa when (there is) suffering ... in the US?' (Love, 2017).

Against this backdrop, this paper proactively simulates possible trade effects that may come with a demand from the US administration for a more evenly balanced or completely reciprocal trade agreement or arrangement between South Africa and the US. A simulation of such reciprocal treatment could be that South African exporters to the US face the same tariffs that face US exporters to South Africa. On average, South Africa applies 1.65% tariff rates against EU imports, 4.08% against US imports, and 8.46% against Chinese imports. With the EU facing the lowest level of protection against its products, at 31% it has continued to dominate the share of total South African imports from the world, compared to the share of the US at 6.7%. This could be deemed an unfair deal by the US administration and a demand that SA products face the same MFN tariffs could be put forward.

Orientation and methodology

Among many other products, the growing SA wine exporting industry enjoys zero tariff rates in the US because of AGOA benefits. As mentioned, without AGOA benefits, South African wine exporters (HS-2204⁶) would face MFN tariffs⁷. Hence, the partial equilibrium simulation in the paper estimates the trade effects of an increase in the import tariffs on wines as applied by the

⁶ This is an inclusive WTO commodity classification code for wines of fresh grapes, including fortified wines and other subcategories in terms of packaging.

⁷ The Market Access Map (MAC) provides applied tariffs for different products between different trading partners including South Africa and the US.



US on South African wine exports. These trade effects include changes in the sizes of the consumer and producer surpluses stemming from changes in trade creation (or destruction) as well as trade diversion to alternative destinations, government tax revenues in importing countries, etc. In a sense these changes represent net effects on overall national welfares of both countries from tariff increases (or decreases).

For estimating trade creation and diversion effects, the simulation is underpinned by neoclassical trade theory, for example the Heckscher-Ohlin model's comparative trade advantage (Samuelson, 1971). In terms of identifying and estimating the welfare impacts on the ground (e.g. possible trade effects on poverty), a more institutional framework (e.g. Winters, 2000) is required that accounts for rippling or multiplier effects on core and associated industries in a national economy.

The Heckscher-Ohlin model concludes that a country holds a comparative advantage in products the production of which is based on comparatively abundant factors. This means that a trading country should focus on production processes that use the country's most abundant factors, relative to its trading partners to experience trade benefits (Samuelson, 1971). Empirical data from cross-country studies conducted by Dollar (1992) and Sachs and Warner (1995) indicate that indeed trade liberalisation in general leads to net economic growth. The ways in which such benefits are distributed among different sectors of society within the borders of a trading country, however, vary depending on various factors, including the structure and strength of the linkages between the trading and associated sectors (Winters, 2000).

As discussed by Mbatha and Charalambides (2008) the investigation of links between trade effects and production and consumption sectors, individuals and households, distribution channels as well as the government sector (through varied distributional tools) accounts for institutional and social factors that link trade liberalisation processes to economic growth and poverty reduction. Additionally, the investigation must account for the regulations understood by all affected stakeholders including producers and consumers. Although acknowledging the importance of a thorough institutional investigation of such socio-economic environments for completeness, this study focuses only on the first layer of linkages, i.e. the link between an increase in tariff rates and estimated net trade effects on exporters, consumers and governments of the trading countries. The study uses the Single Market Partial Equilibrium Simulation Tool (SMART) of the World Integrated Tools Solution (WITS) (i.e. Wits Smart, 2011) to estimate the net trade effects based on neoclassical theory. The estimation and discussion of potential changes is limited to overall trade effects on exporters and the government revenue sector, which has re-distributional links to society.

Simulation: parameters and assumptions

In trade theory when tariffs are imposed or increased by one of the two trading countries, trade becomes limited and net global welfare declines. This is the case even when some stakeholders may benefit. The overall outcome of trade restrictions is negative. For example, in the importing country the producers of the imported product benefit from a price increase on imports entering the local market because of reduced competition and the government of the importing country raises tariff revenues. However, depending on the size of the exporting and importing countries, global prices can increase affecting global welfare. Consumers in the importing country lose some of their surplus. Producers in the exporting country lose some of their market share. In the short run, consumers in the exporting country may benefit from surplus supply that has lost its international market until alternative markets are found or local production is reduced. A simple

illustration of the different effects on stakeholders in two trading countries is presented for a two-country (2x2) world economy model in Figure 3.

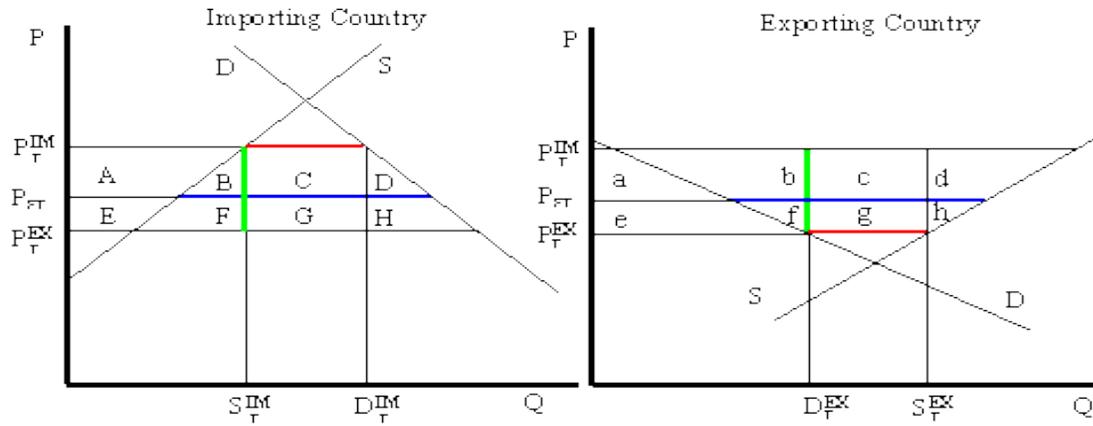


Figure 3: Trade effects on importing and exporting countries
Source: (Suranovic, 2018)

For the importing country in the figure, P_{FT} is the free trade price of the traded product, where local demand exceeds local supply ($D > S$) by line BCD . In the exporting country supply exceeds demand by bcd . If the importing country imposes a tariff, the price of traded product increases to P_{IM} in the importing country. In the exporting country, the price drops to P_{EX} , with increased local supply that has lost its global market. In the importing country, the quantity of the imported product decreases from BCD to C (i.e. $D_{IM} - S_{IM}$). The quantity of the exported good decreases from bcd to g (i.e. $S_{EX} - D_{EX}$) in the exporting country.

With higher prices in the importing country, consumers are negatively affected and lose some of their initial surplus. Less efficient local producers in the importing country benefit from higher prices. In the exporting country, exporters are negatively affected by declining prices alongside excess supply, but consumers in the exporting country benefit from the price decline. The government of the importing country would generate revenues from the tariff imposition. There is no revenue generation in the exporting country. This means there are winners and losers from tariff increases. However, the losses outweigh the benefits at a global level. The net effect of trade restrictions at a global level is negative. At national levels, the net effects of trade restrictions would depend on the sizes of the gains and losses to producers, consumers and governments. These gains and losses are depicted by the different areas in Figure 1, which illustrate the changes in levels of consumer and producer surplus alongside government revenues in the respective countries stemming from changing tariff rates. These changes represent the total trade effects illustrated in Table 2.

Table 2: Trade effects on various stakeholders in trading countries

Welfare Effects of an Import Tariff		
	Importing country	Exporting country
Consumer surplus	Minus $(A+B+C+D)$ = loss	Plus e = gain
Producer surplus	Plus A = gain	Minus $(e+f+g+h)$ = loss
Government revenue	Plus $(C+G)$ = gain	Zero
National welfare	Plus G minus $(B+D)$ = depends	Minus $(f+g+h)$ = loss
World welfare	Minus $(B+D)$ minus $(f+h)$ = loss	



While national welfare in the importing country can in some instances increase with tariff imposition and the resulting price changes, which also depends on the slopes of the demand and supply curves of the product (linked to the responsiveness or elasticities to price changes), global welfare and national welfare in the exporting country would still decline as illustrated in Table 2. With respect to the slopes of the supply and demand curves, consumers in the importing country, for example, can be left even worse off if the slope of demand curve of the imported product is steep (which implies that the demand for the product is non-responsive to price changes). If consumers in the importing country cannot find a substitute for the product with a higher price, for whatever reason, then they are forced to pay more for the same quantity of the product. This also ensures that government revenues generated from the tariff in the importing country are high.⁸ This means that it is important to make accurate or reasonable estimations or assumptions about the slopes (or price responsiveness) of the supply and demand curves of the product in question in the two trading countries.

The simulation adapted from the WITS SMART (2011) model uses real trade data from varied sources including TradeMap. The model is fed by three trade databases which can be used individually or in combination. It contains the following databases:

- a) the UNCTAD (United Nations Conference on Trade and Development) TRAINS (Trade Analysis Information System): free access to all users
- b) the WTO (World Trade Organisation) IDB/CTS (Integrated database/ Consolidated Tariff Schedule): free access of tariff information. For import statistics, free access to all but WTO member government staff accesses the information at the national tariff line level (NTL) while others access information at the 6-digit level of the Harmonised System (HS)
- a) the UNSD (United Nations Statistics Division) COMTRADE: access is free to users, subject to certain technical restrictions regarding the number of downloadable records per query.

Because of this combination of different datasets, WITS offers the largest country and period coverage available on international trade and market access information. The simulation allows for an investigation of impacts of unilateral, preferential, multilateral trade reforms on variables including the following:

- a) trade flows (import, exports, trade creation, trade diversion),
- b) world prices
- c) tariff revenue
- d) welfare changes in respect of government tariff revenues.

Because the simulation is a partial equilibrium analysis it has advantages and disadvantages when compared to the general equilibrium models. These are discussed at length in McDonald, Punt, Rantho and Van Schoor (2008). One of the advantages of the partial equilibrium analysis is that its simulation permits analyses at disaggregated (or detailed) levels of sectors, e.g. this study of trade effects of restricting access for wine products from the South Africa to the US. General equilibrium analyses, on the other hand, allow investigations of the whole economy without going into disaggregated details at sectoral levels. Partial equilibrium analyses, however, can only be performed on a number of predetermined and fewer economic variables. In this sense, the analysis is sensitive to estimation errors, because economic systems often have

⁸ The same applies to the imposition of tax on products that are necessary and have few substitutes, or addictive products like cigarettes. Consumers pay more and generated revenues are higher.



unexpected dynamic linkages and feedbacks. This is one of the reasons why it is important to supplement partial equilibrium analyses with institutional discussions (e.g. Winters, 2000).

In estimating the trade effects, the researcher specifies the anticipated changes of applicable tariffs as well as the elasticities of the supply and demand curves for the product. In this paper, we estimate the trade effects on South Africa and the US from anticipated changes in tariffs affecting South African wine exports to the US, from AGOA to MFN tariff rates. The discussion where elasticities seem reasonable to explore is presented in the following sub-section.

Responsiveness

The slopes of the demand and supply curves essentially indicate the level of competition in the market of the products under investigation. A flat supply curve or demand curve indicates that a high level of competition exists in a market. For example, a flat supply curve, which is depicted by a high value of responsiveness⁹, describes a competitive supply market for the product, where there are many competing producers and prices are set by the market not by individual producers.

A steep demand curve on the other hand depicts a monopolistic market, where producers have some market power stemming from the nature of the product and the behaviour of consumers (e.g. consumer demand for products with limited substitutes). In a global environment of many competing wine exporting countries, it is reasonable to assume a flat supply curve for the simulation, with a responsiveness value infinitely larger than 1.

For the demand curve the simulation assumes some level of imperfect substitution where wines from different countries have varying brand qualities and cannot be directly substituted for one another. For this reason the paper estimates trade effects using a substitution elasticity value that is close to (i.e. the absolute value of -1.5). Given the large datasets, the WITS SMART model estimates default values for income effects¹⁰ (import demand elasticity) for different types of wines or product lines. These are presented and discussed alongside their trade effects for each type of exported wine in the simulation scenario results in Section 5.

Total trade effects: creation and diversion

As mentioned, the values of elasticities indicate the gradients or slopes of the supply and demand curves presented in Figure 3 and alongside the price increases (stemming from tariff increases) the slopes determine the sizes of the areas represented in Figure 3. The net changes in these areas (presented in Table 3) are the total trade effects. Given the assumption of a competitive market and a flat supply curve, Figure 3 is then modified to Figure 4, where the supply curve is flat and also depicts the price line to indicate that world prices of wine are mostly determined by global markets.

⁹ ($E=0$) is perfectly non responsive / inelastic; ($-1 < E < 0$) is inelastic/ non-responsive; ($E = -1$) is unit elastic (proportional responsiveness); ($-\text{inf} < E < -1$) is elastic/ quite responsive; ($E = -\text{inf}$) is perfectly elastic / infinitely responsive to price changes.

¹⁰ This is the responsiveness of consumers to the product dependent on their real income levels. For different products changes in prices have different effects on the real incomes (spending power) of consumers.

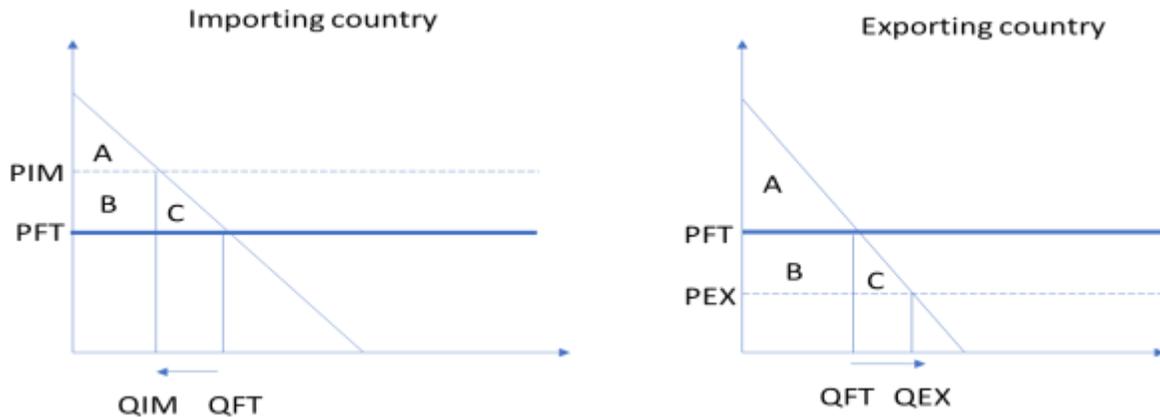


Figure 4: Welfare effects on importing and exporting countries in a perfectly competitive market **Source:** Wits Smart (2011)

In the modified model, with a flat supply curve fewer areas are identified in estimating trade effects from changing tariffs. For the importing country, the price increase stemming from a tariff imposition leads to a drop in consumer surplus to area A, from areas A+ B + C. Some of the loss from consumer surplus (e.g. area B) goes to government tariff revenues. Area C represents the total cost (waste) of the trade restriction as a welfare loss to society. In the exporting country, the price drop would again be good news for consumers, as consumer surplus increases from area A to areas A + B + C. Areas B and C are lost directly from exporting producers who have lost a market in the importing country. In the short run, consumers in the exporting country may not be able to consume all the additional products that are suddenly available in the local market. That would represent the cost of trade restrictions to society as area C in the exporting country. This would be the case at least in the short run until alternative trading country partners are found. These models form the conceptual bases for the WITS SMART partial equilibrium analysis in estimating trade effects like trade creation (destruction) and diversion as well as government revenues coming from changes in applied tariff rates. Before the results of the simulation are presented it is important to discuss the importance of the wine industry and its link to the tourism sector in South Africa in order to have a better sense of the substantive social impacts that are likely to emerge from losing AGOA benefits.

The importance of the wine industry in South Africa

Before simulating the estimates of possible trade, welfare and government revenue changes from a potential modification or loss of benefits to South Africa from a trade framework like AGOA between the US and South Africa, it is important to look at the extent to which the wine industry is important not just for the South African tourism industry but also for rural farming communities. Hunter (2017) explains that “tourism is highly geographical because its dimensions include human-environment interactions and landscape conservation, management of places and environments, environmental perceptions and a sense of place; spatial behaviour and human mobility”. For some economies, tourism is the most important source of economic activity and growth, with direct injections of foreign currencies into the GDP through contributions in interconnected sectors like travel, accommodation, etc. The World Travel and Tourism Council (WTTC, 2018) estimated that in 2017 the direct contribution of travel and tourism contributed 2.9% (R136 bn) to South Africa’s GDP and the figure was expected to rise by 3.6% between 2016 to 2018. More than 1.5 million jobs were either directly or indirectly supported by the travel and



tourism industry. These are huge contributions and the wine sector is an integral part of that contribution, especially with respect to sectors offering services like entertainment, food and beverages, retail, cultural and recreational activities. Most of wine growing takes place in the winelands of the Western Cape, where climatic conditions are the most suitable in the country. The conditions are influenced by diverse topography, miscellaneous soils, coastal fog, cooling sea breezes, moderate temperatures, etc. The winelands harbouring more than 300 wineries on well organised routes offer tourist services including wine tasting, first class accommodation, restaurants, spas, game lodges, golf courses, etc. (Hunter, 2017). Therefore, some of the contributions of travel and tourism industry to GDP and employment come directly from South Africa's wine industry. In 2015, the wine industry on its own contributed R36.1 bn to GDP and generated almost 300 000 jobs, the majority of which are for unskilled and semi-skilled workers. The WTTC (2018) estimated these contributions would increase at 3.6%. This is one of the reasons Ferreira and Muller (2013) in Hunter (2017) consider the wine tourism industry to be a significant driver of economic and social development in the country.

The wine industry is however not only important for South Africa's local economy and social development. While the 2008 economic recession had a negative effect on the size of the wine exporting industry, there was a reported recovery around 2013, with Analytix (2014) reporting revenues increasing from R5 750.1 million in 2011 to R7 124.6 million in 2013. Since then the growth has declined by 2%, however (ITC Trademap, 2019). As reported earlier the US ranked 6th as one of the biggest destinations of South African wine exports in 2014 (31.7 million litres) and in terms of growth, behind EU countries including the UK, Germany, Russia, France, and Sweden¹¹. White wine exports continue to lead red and rosé wine exports in terms of volumes, although red wine prices have been historically higher until a collapse from R33.34 per litre in 2008 to R16.58 after 2012. In the same period rosé prices increased from R31.73 per litre to R44.00. It should also be noted that a bigger proportion of wine exports to the US was in bulk volumes (68%) as opposed to being packaged (32%), which attracts significantly lower prices per litre (Analytix, 2014). In 2017 South Africa exported wines¹² to the value of USD 58 874 000 (R824 236 000)¹³ to the US, at an equivalent *ad valorem* tariff of zero because of AGOA benefits (ITC Trade Map, 2019). A loss of some of this annual revenue because of a possible rise in tariffs in the US¹⁴ would be a direct blow to the wine industry in the Cape winelands especially. The loss would obviously have negative contributions to the travel and tourism industry and other related sectors. In the following section we estimate what the likely trade and welfare effects would be in both trading countries if South African wine producers were to face MFN tariffs instead of the preferred AGOA tariffs.

Presentation and discussion of data and simulation results

Using the ITC Trade Map (2019) data in Table 4, the value share of wine exports to the US from South Africa (i.e. USD 59 009 000) was about 10% of total US imports of wine from the rest of the world (USD 6 164 466 000). Given the high level of competition in the sector, the share is not marginal. The share of South African exports to the US compared to South African exports to the rest is however lower, at about 8%¹⁵. It is of interest that the value of South African exports to the

¹¹ Total volume of wine exports to the world was 517.4 million litres in 2013

¹² HS Codes: 220421; 220422; 220429; 220430

¹³ At the exchange rate of USD 1 :ZAR 14

¹⁴ Losing AGOA benefits would mean facing MFN tariffs for SA exporting producers, not only in the wine industry but also on more than 4000 other product lines.

¹⁵ This has increased from 7% in 2013 (Analytix, 2014)



rest of the world is higher than that of total imports from the rest of the world to the US. This implies that South Africa is not small in the US in terms of wine imports.

Table 4: SA wine exports to the US and rest of the world in 2017 (value and tariffs)

HS-code	Description	Old AGOA preferential treatment	MFN tariff rate	Imports by US from SA: USD '000	Imports by US from rest of world: USD '000	Exports by SA to the world USD '000
220410	Wine; sparkling	0%	4,14%	2 448	1 247 817	25 186
220421	Wine; still, in containers holding 2 litres or less	0%	3,40%	47 931	4 517 311	479 913
220422	Wine of fresh grapes, incl. fortified wines, and grape in containers of > 2 l but <= 10 l (excl. sparkling wine)	0%	10,89%	135	51 238	210 309
220429	Wine; still, in containers holding more than 2 litres	0%	9,03%	8 495	348 057	-
220430	Grape must; n.e.s. in heading no. 2009, n.e.s. in item no. 2204.2	0%	1,50%		43	1 508
Total	-	-	-	59 009	6 164 466	7 169 160 000

Source: ITC Trade Map (2019)

The indication from the table is that, given the high level of competition in the wine exporting sector, an increase in tariffs (from AGOA tariffs to MFN rates) facing SA exports to the US would have significant negative effects. Finding alternative markets in the medium term would depend on variables including applicable tariffs to South African wine exports in other destinations as well as the quality of the South African brand compared to those from exporting nations like France, Italy, Chile who are some of the biggest competition for SA in the US market. Given that EU countries like the UK (25%), Germany (21%) and Russia (8%) are the biggest importers of South African wine products, respectively, it is important to know what kind of trade arrangements these countries have with South Africa and her competitors regarding applicable tariffs. In 2017, preferential tariffs of zero applied to South African wines under the SADC Economic Partnership Agreement (EPA) into the EU, which meant that these EU destination countries were on the same footing with the US under AGOA. Nevertheless, without AGOA or with the UK's imminent exit from the EU¹⁶, the arrangements may be different and uncertain for SA wine exporters and policy makers.

The wine export data, which illustrates the high level of global competition, reiterates why it is reasonable to assume a large elasticity of supply for the simulation exercise. What varies for each scenario are the default import demand elasticities (income effects) for each type of exported wine. These vary from inelastic 0.5 (for product line 220421) to elastic 12 (for product line 220430).

Trade and welfare effects for different product lines

¹⁶ A separate analysis concerning Brexit's potential effects, not just on SA wine exports, should be conducted as soon as possible



The data on exports from South Africa and the rest of world to the US are presented in Table 5 alongside the associated trade effects for each product line.

Table 5: Trade values and effects from the Smart simulation model for all wine products

2017 import values								Thousand US\$		Thousand US\$			
Old AGOA rate	New MFN Rate	HS	HS Description	Import demand elasticity	US from RSA	US from RoW	US Total	Price effect	Trade Creation	Trade Diversion (exporter view only)	Total Trade Effect (Exporter View)	Revenue Effect (Importer view)	
					59 009	6 164 466	6 223 475	-0,08	-4 358	-3 721	-8 079	2 168	
0%	4,14%	220410	Wine; sparkling	-0,60063	2 448	1 247 817	1 250 265	0	-61	-152	-213	99	
0%	3,40%	220421	Wine; still, in co	-0,50952	47 931	4 517 311	4 565 242	0	-830	-2 420	-3 251	1 601	
0%	10,89%	220422	Wine of fresh gr	-2,49053	135	51 238	51 373	0	-37	-22	-59	11	
0%	9,03%	220429	Wine; still, in co	-4,47154	8 495	348 057	356 552	0	-3 430	-1 127	-4 557	457	
0%	1,50%	220430	Grape must; n.e	-12,1245	-	43	43	0	0	0	0	0	

Data source: (ITC Trade Map, 2019)

Table 4 indicates the applicable tariffs before (AGOA) and after (MFN) the trade regime changes for each of the export wine product lines as well as the sizes of the effects on total traded values. It indicates the amount of trade diverted and created and size of revenues collected with changes in tariffs per product. The specific discussions of the results from Table 4 for each product line are presented in the following scenarios for specified elasticities.

The Scenario 1: Sparkling wines (220410): USD 2 448 000

- a) Change in market access: Increase of applied tariffs from zero (AGOA) to 4.14% (MFN)
- b) Assumed: Flat supply curve (very high export elasticity of supply, 100 000)
- c) Assumed: Substitution elasticity of /-1.5/ (elastic)
- d) Assumed: Default demand elasticity of /-0.6/ (inelastic)

Results of limiting market access over a year:

Current export value	USD 2 448 000	Percentage
Price effect	None	None
Trade creation	Negative USD 61 000	- 2.5%
Trade diversion: exporter view	Negative USD 152 000	- 6.2%
Total trade effect: exporter view	Negative USD 213 000	- 8.7%
Revenue effect: importer view	Positive USD 99 000	4.0%

From the partial equilibrium analysis of limiting market access, assuming a non-responsive demand elasticity (-0.6) on sparkling wines, about 8.7% of trade will be lost immediately to South African exporters. With adjustments in the medium to long term, 6.2% of SA exports would be diverted to alternative markets under current conditions, while 2.5% would be a total loss from actions that limit international trade. Meanwhile US government revenues would increase by USD



99 000. Even though US tax revenues would benefit from limiting trade, in the short run this gain would not compare to South African exporter and global market losses, even with some trade diversion in the long run. With a more responsive demand ($E > 1$), the negative total trade effect is marginally higher at 12%, with gains to US government revenues lower at 3.8%, of initial South African export value of USD 2 448 000 to the US. Overall the market for this product is relatively small which means the negative overall trade effects on South African exporters and associated sectors would not be as large in relative terms at R2 982 000 in 2017 prices.

Scenario 2: Wine; still, in containers holding 2 litres or less (220421) USD 47 931 000

- a) Change in market access: Increase of applied tariffs from zero to 3.4%
- b) Assumed: Flat supply curve (very high export elasticity of supply, 100 000)
- c) Assumed: Substitution elasticity of $-1.5/$ (elastic)
- d) Assumed: Default demand elasticity of $-0.50/$ (inelastic)

Results of limiting market access over a year:

Current export value	USD 47 931 000	Percentage
Price effect	None	None
Trade creation	Negative USD 830 000	- 1.7%
Trade diversion: exporter view	Negative USD 2 420 000	- 5.0%
Total trade effect: exporter view	Negative USD 3 251 000	- 6.8%
Revenue effect: importer view	Positive USD 1 601 000	3.3%

Compared to the product in Scenario 1, this is a much bigger market. From the partial equilibrium analysis of limiting market access, assuming a non-responsive demand elasticity (-0.50) on wines in containers less than 2 litres, about 6.8% of trade will be lost immediately to South African exporters. With adjustments in the medium to long term, 5.0% of South African exports would be diverted to alternative markets under current conditions, while 1.7% would be a total loss from actions that limit international trade.

Meanwhile US government revenues would increase by USD 1 601 000. Even though US tax revenues would benefit from limiting trade, in the short run this gain would also not compare to South African exporter and global market losses, even given some trade diversion in the long run Overall the market for this product is relatively larger which means the negative overall trade effects on South African exporters and associated sectors would be larger in relative terms at R 45 514 000 in 2017 prices. In percentage terms the effects are lower than those reported in Scenario 1 because the applicable MFN tariff rate as a trade barrier in Scenario 2 is lower at 3.4% versus 4.14%.

Scenario 3: Wine of fresh grapes containers bigger than 2 litres but smaller than 10 litres: R135 000

- a) Change in market access: Increase of applied tariffs from zero to 10.89%
- b) Assumed: Flat supply curve (very high export elasticity of supply, 100 000)
- c) Assumed: Substitution elasticity of $-1.5/$ (elastic)
- d) Assumed: Default demand elasticity of $-2.49/$ (elastic)



Results of limiting market access over a year:

Current export value	USD 135 000	Percentage
Price effect	None	None
Trade creation	Negative USD 37 000	- 27%
Trade diversion: exporter view	Negative USD 22 000	- 16%
Total trade effect: exporter view	Negative USD 59 000	- 43%
Revenue effect: importer view	Positive USD 11 000	8.0%

This is the smallest value of South African exports to the US. The losses in percentage terms, however, are highest of all export products (i.e. minus 43% of total trade effect) because the applicable MFN tariffs for this product at 10.89% are also the highest in the group. This indicates further that higher applied tariffs (and other barriers) lead to higher losses per respective product line. Nevertheless, in absolute value, South African losses stemming from losing AGOA benefits in this market would be marginal (at 0.05%) compared to other South African wine export products to the US.

Scenario 4: Wine; still, in containers holding more than 2 litres: R8 495 000

- a) Change in market access: Increase of applied tariffs from zero to 9.03%
- b) Assumed: Flat supply curve (very high export elasticity of supply, 100 000)
- c) Assumed: Substitution elasticity of $-1.5/$ (elastic)
- d) Assumed: Default demand elasticity of $-4.4/$ (elastic)

Results of limiting market access over a year:

Current export value	USD 8 495 000	Percentage
Price effect	None	None
Trade creation	Negative USD 3 430 000	- 42%
Trade diversion: exporter view	Negative USD 1 127 000	- 14%
Total trade effect: exporter view	Negative USD 4 557 000	- 56%
Revenue effect: importer view	Positive USD 457 000	0.6%

The default demand elasticity for this product in the model is the most elastic at 4.4, which means that its level of responsiveness should be the highest if tariffs were to be increased from AGOA (zero) to applicable MFN rates, which are also relatively very high at 9.03%. Under these assumptions, the total trade effect from this scenario would be highest of all products, at USD 4 557 000, which is 56% of potential total losses stemming from increased tariffs facing South African wine exports to the US. However, the tax revenues accruing to the US government would be the lowest on the list of wine exports to the US, even though the biggest negative effect on trade creation would have come from this product line. The effect of a responsive demand elasticity leads to bigger losses (or gains) in terms of negative (or positive) trade creation in reference to Scenarios 3 and 4. This means that *an increase* in price leads to bigger losses in terms of lost traded quantities for a flatter (i.e. responsive) demand curve, as depicted in Figure 4 (i.e. QFT → QIM). The revenues from taxes or tariffs on products with responsive (flat) demand curves are also smallest. For this product line they would only be 0.5% of the initial total value of South African exports to the US. Overall, the exercise illustrates among other things that imposing high tariffs on products with responsive demand curves would yield high losses to exporters, especially in terms of negative trade creation, and only marginal gains with respect to government revenues in the importing country.



Summary discussion of policy implications and conclusions

The partial equilibrium analysis of trade impacts using the 2017 data on South African wine exports to the US illustrates that the effects of increasing US import tariffs on wine products from South Africa would lead to overall losses in South Africa both in terms of negative trade creation in South Africa and trade diversion to global competitors of wine exporters to the US, e.g. France in Europe and Argentina in South America. The losses in terms of negative trade creation are highest for products with higher demand elasticities (i.e. flatter demand curve). The gains to the US with respect to revenue generation would be highest for products with inelastic demand curves (small import demand elasticity) and lowest from products with elastic demand curves, as illustrated by Scenarios 2 and 4.

More specifically, South Africa would, at least in the short run, lose a wine products market worth about USD 8 079 000 or ZAR 113 106 000 if AGOA benefits were to be replaced by MFN tariff rates. This is 14% of the current value of South African wine exports to the US, which is worth USD 59 009 000 or ZAR 826 126 000. A loss of ZAR 113 106 000 would be a large direct blow to the wine sector and its associated industries, including wine tourism, especially in the Western Cape. Given the interconnectedness of the wine production sector and the tourism industry, the losses of over one hundred million Rands would have rippling or multiplier negative effects *inter alia* on the employment rates in wine production and other associated sectors, including for example tourist attraction activities and accommodation.

To protect the growing wine exporting and tourism industries it is important for South African policy in the short term to protect AGOA benefits from any out of cycle reviews, including those presented by challenges from meat imports from the US. In the long term the size of the South African wine industry alone was estimated at more than R36.1 billion in 2015 with more than 300 000 jobs, mostly for unskilled to semi-skilled workers (Hunter, 2017). The WTTC (2018) estimating these figures would increase at around 3.6% between 2016 and 2018 to R32.7 billion and 310 000 jobs, respectively. Therefore, the industry is not only important for overall economic growth but also for redistributing resources among marginalised communities. The estimated potential losses from losing AGOA benefits, which are worth more than R 100 million per year, would have devastating direct effects on the GDP and employment levels in these sectors. Beyond 2025 it is important to design and put measures in place now that will mitigate against any potential trade losses when the AGOA agreement expires.

It is important for the South Africa government to make sure that the country will remain eligible for future developmental support, like AGOA from the US, and preferential treatments (EPAs) from the EU. Given that the EU is the biggest market for many South African exports, including wines, the EPAs currently serve as buffers for any potential losses from unfavourable trade with the US. Beyond the US and the EU regions, South Africa must begin engaging in negotiations to expand its export markets through trade deals with other developed and developing countries. There are positive reports on how South African wines promotions are gaining traction, for example in Canada, Thailand and also China (Wine, 2016). These efforts need public policy and private sector initiative support to grow. Wine tourism is one of the sectors at the centre of these promotions.

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