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Developing a Product-Level Prioritization Method for Bilateral Trade Negotiations

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ABSTRACT

The SACU and US trade relationship continues to be dominated by AGOA. Given the lingering uncertainty surrounding its renewal post-2025, this article recommends the SACU to be proactive and reengage the US in the negotiation of a reciprocal trade agreement that builds on AGOA and deepens the parties' trade relationships. However, trade negotiation processes can be challenging. The literature on product-level prioritization specifically designed to inform trade negotiations is also sparse. Hence, this article proposes a product-level prioritization method, suggested for implementation in the preparation phase of the bilateral trade negotiation process. The method can be applied in any bilateral trade negotiation setting.

KEYWORDS

AGOA; bilateral trade agreement; export opportunities; priority products; SACU; trade negotiation process; trade policy

I. Introduction

Since the World Trade Organization (WTO) was established in 1995, multilateralism has been the dominant approach to trade liberalization. However, recent years have seen trade negotiation patterns changing, with greater emphasis being placed on bilateralism and/or regionalism (Baier, Bergstrand, and Mariutto 2010). Accordingly, bilateral trade agreements have become a particularly prominent feature of international trade today (WTO 2017). As such, most of the binding trade agreements that are notified to the WTO and in force are of a bilateral nature. In fact, some countries (the United States (US), for instance) have openly conveyed their support for the negotiation of trade agreements of a bilateral nature in recent years.

The Southern African Customs Union (SACU) and the US attempted to negotiate a free trade agreement (FTA) between 2003 and 2007. Nonetheless, the negotiations faltered due to conflicting views on the scope of the proposed FTA (for more information on the collapse of the negotiations, see Brown, Kiyota, and Stern (2006) and Lehloenya (2009)). Consequently, the bilateral

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trade relationship between SACU members and the US today remains dominated by the African Growth and Opportunity Act (AGOA).

AGOA is a US trade act, enacted on May 18, 2000, as Public Law 106 of the 200th Congress. It aims to expand US trade and investment with Sub-Saharan Africa (SSA), stimulating economic growth, encouraging economic integration, and facilitating SSA's integration into the global economy (USTR 2014). Under AGOA, SACU member states (and 40 other SSA countries) are granted duty- and/or quota-free access into the US market for roughly 2,000 products. While AGOA is a unilateral agreement, it is conditional (see AGOA 2017a), and a failure to fulfill the criteria means that the AGOA eligibility of the country in question can be suspended or revoked.

Due to a shifting political and trade environment, there is protracted uncertainty surrounding the renewal of AGOA after it expires in 2025. This uncertainty means that the post-AGOA trade relationship between the SACU and US remains undefined. While there are several options that the SACU can consider in its post-AGOA relationship with the US if AGOA is not renewed (see Prinsloo and Ncube 2016), this article proposes that the SACU should not passively wait for the US's decision in this regard. Rather, it should proactively engage the US to negotiate a reciprocal trade agreement that builds on AGOA by strengthening trade and investment relations, while addressing AGOA drawbacks and taking reciprocity into account. However, it would be far too preliminary to guess what exactly this type of trade policy architecture should look like, and this exercise will go beyond the scope of the current study.

Negotiation processes can be challenging. In fact, many of the analytical methods employed to prepare for bilateral negotiations measure the macro-level impact of a particular trade policy. At times, in this process, inadequate attention is given to negotiating parties' core export competencies and the size, growth, and consistency of their import demand. Often, negotiating parties tend to focus on as many products and sectors as possible, losing sight of their respective specific export advantages and whether these coincide with the import demand. In addition to this, some developing countries face capacity constraints in terms of trade policy analysis and negotiation as a consequence of inadequate resources, insufficient analytical capacity, and lack of expertise (Page 2002). This may adversely affect their capability to better prepare for trade negotiations (Fugazza and Nicita 2011).

Therefore, for developing countries (like SACU member states) to be more effective in their trade negotiation process, meticulous research and analysis need to be done when preparing for trade negotiations. The main aim of this article is to help with this process. First, the article seeks to contribute to the international trade literature by developing a product-level prioritization method that specifically considers bilateral trading partners' core export competencies and the size, growth, and consistency of their import demand, which will then inform their trade negotiations. The prioritization method is

suggested for implementation into the preparation phase of the bilateral trade negotiation process with the intention of making the negotiation process more efficient and deliver better outcomes. This sequentially enhances the fairness, survival, and sustainability of trade relations ensuing from such negotiations.

The second contribution of this study (application-wise) is that the method was applied to identify products and sectors that the SACU and US should prioritize in the negotiations of the potential trade agreement. The method developed can be applied, not only to the SACU and US, but in the preparation phase of any bilateral trade negotiation setting.

The rest of this article comprises: a brief review of the literature on trade negotiations and agreements; a description of the research method; the presentation and analysis of the results; and a conclusion and recommendations.

II. Literature review

The literature review focuses on the importance of trade agreements, the link between trade flows and trade negotiations, trade negotiations, and the trade negotiation process.

The importance of trade agreements

Throughout modern history, countries have secured and strengthened their trade relations through negotiating various trade arrangements (Azevêdo 2014; Bown and Irwin 2016; Cimino-Isaacs 2018; Dam 2004). A plethora of contemporary literature spanning from Hannan (2017), Belke and Gros (2017), Berlingieri, Breinlich, and Dhingra (2018), Laget et al. (2020), and Schram et al. (2020) supports the notion that trade agreements are essential for international trade. Similar to trade agreements, a significant body of recent academic literature (e.g., Beaulieu and Klemen 2020; Fan and Wanru 2018; Flentø and Ponte 2017) also establish a trade improving link between trade negotiations and trade flows.

While there is an ostensible manifestation of empirical support for the necessity of trade agreements and negotiations in international trading engagements, a number of studies (Baccini, Pinto, and Weymouth 2017; Barlow et al. 2017; Blecker 2018; Büthe and Milner 2014; Caliendo and Parro 2015; Owen 2017) also contend their trade and welfare developmental effects. Caliendo and Parro (2015), for instance, find a small positive effect of NAFTA (now the United States-Mexico-Canada Agreement (USMCA)) on the welfare of Mexico and the US as well as a small negative effect on the welfare of Canada.

Moreover, in terms of distributional effects of trade agreements and negotiations, some scholars such as Baccini, Pinto, and Weymouth (2017) reveal that only the most productive US multinational corporations increase their

sales after preferential agreements, while many smaller, inefficient subsidiaries gain nothing or, in some instances, face losses from preferential liberalization. Baccini (2019) finds these predictions to be in line with the expectations (i.e., the market withdrawal and replacement of low-productivity firms by the expanded production volumes of high-productivity firms) of the new trade theory of Melitz (2003) and reverberate the claims of Rodrik (2018) that preferential agreements are instruments bolstering the interests of large enterprises.

According to Maggi (2014), political concerns alone do not generate a motive for countries to negotiate and sign trade agreements. The terms of trade externality theory (see Gawande and Jo 2014) explains that trade agreements can assist governments to make local-market prices adjustments without altering their terms of trade (measure of a country's export prices relative to its import prices). Trade agreements can also assist as commitment instruments that ineffective administrations can utilize to diminish domestic protectionist pressure (Beshkar and Bond 2017). This is known as the commitment theory.

Also, in terms of the game theory, countries engage in trade negotiations to evade the reciprocally destructive inclinations of protectionism (Makki, Tweeten, and Gleckler 1994). In fact, governments can diminish the short-term political costs attributable to protectionism if they enter into trade agreements (Rodrik 1998). It also deters governments from pursuing what seems to be sensible short-term strategies in the interest of accomplishing supreme long-term outcomes for their countries and possibly themselves (Abbott 1985).

The trade negotiation process

Trade negotiation can be defined as a process where nations come together to discuss trade possibility, concerns, and terms of trade, with the ultimate goal of reaching a trade agreement (authors own definition). Bilateral trade negotiations follow no established or universally accepted process (ADB 2008). In fact, the negotiations might differ from country to country or from trading bloc to trading bloc and are often deduced from past practices, protocols, or prior agreements entered into by the negotiating parties (EC 2013).

Figure 1 depicts the general bilateral trade negotiation process, often characterized by three main phases (see Bhattacharya 2005; EC 2013; Saner 2012). The preparation phase includes the identification of the trade problem or dispute; consultation; establishment of a negotiating team; development of a negotiating agenda; and the formulation of negotiating strategies and positions. The negotiation phase involves the actual negotiations, while the conclusion or breakdown phase involves the assessment of the negotiations, the

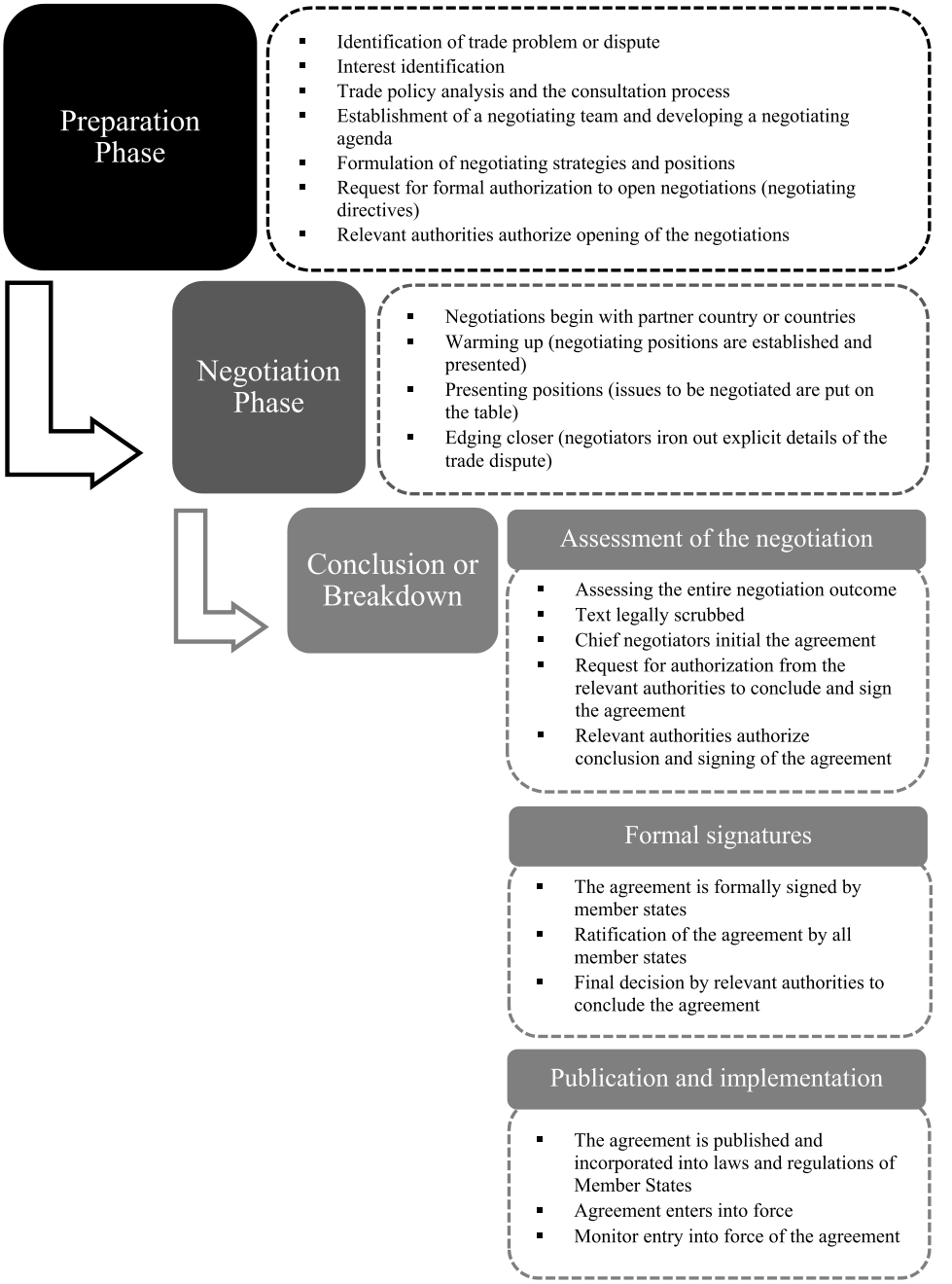

Figure 1. Bilateral trade negotiation process. Source: Authors' own compilation based on Bhattacharya (2005), Saner (2012), and EC (2013).

formal signing of the agreement, and the publication and implementation of the agreement. The three phases require different negotiation tactics, for which the negotiators need to be well prepared.

According to Bhattacharya (2005), a favorable negotiation outcome depends on: an extensive analysis and understanding of the commercial issues at stake; the economic and welfare impact on the respective countries; trade-related domestic policy issues; applicable international laws and regulations; and the views and possible political influence of key stakeholders. Hence, a fruitful trade negotiation outcome is governed not only by reputable negotiating capabilities, but by meticulous research and analysis (Saner 2012). Although quantitative analysis cannot provide all the answers to trade policy questions, it can assist in navigating the trade policy formulation process and to safeguard that preferences are grounded on a thorough awareness of underlying realities (UNCTAD and WTO 2012).

As part of the preparation phase (see Figure 1), the parties' respective export capacity and import demand profiles should be given serious consideration. This level of detail is often overlooked and something this article intends to highlight. The development of a product level prioritization method, specifically designed to inform bilateral trade negotiations at this stage of the negotiations, is likely to contribute to inclusive trade agreements with greater implementation support.

While the approach in which the game theory informs economic policy-making has extensive implications in the field of trade negotiations, current trade negotiations are also influenced by previous negotiations (McGrath 2003). In other words, current trade negotiations are linked to past negotiations performed by the negotiating parties. However, irrespective of the nature of the trade agreement, it is vital that the participants possess the capacity to be totally involved at each phase of its negotiation and to warrant tolerable enactment as well as the execution of its requirements (AfDB 2016).

Although there is overwhelming evidence that trade agreements and trade negotiations substantively enhance trade flows (Beaulieu and Klemen 2020; Belke and Gros 2017; Berlingieri, Breinlich, and Dhingra 2018; Fan and Wanru 2018; Hannan 2017; Laget et al. 2020; Schram et al. 2020), there is still infrequent evidence that acceptable attention is given to negotiating parties' core export competencies and the size, growth, and consistency of their import demand when preparing for trade negotiations. This is the gap that this article occupies by developing a product-level prioritization method to inform the preparation phase of the bilateral trade negotiation process. Both the technique and such an analysis are crucial, not only in addressing the capacity constraints that some developing countries may exhibit, but also in contributing to inclusive trade agreements with greater implementation support. Before discussing the research method, context on the importance of AGOA for the SACU is briefly provided.

The importance of AGOA in SACU trade

The US is an important traditional trading partner of SACU countries who access the US market extensively through AGOA. Figure 2 shows the SACU and South Africa's AGOA exports in the period commencing 2001 to 2017. South Africa is extrapolated here because it accounts for about 92% of total SACU exports.

The value of SACU's AGOA exports, excluding those covered by the Generalized System of Preferences (GSP), increased from US$556 million to US$2.1 billion during the period in question, while the value of South Africa's AGOA exports (excluding those covered by the GSP) increased from US$417 million to US$1.8 billion. This is impressive, considering that the combined value of AGOA beneficiaries' exports declined from US $10.68 billion to US$10.6 billion in the 2001 to 2016 period, before improving to US$13.6 billion in 2017 (AGOA 2017a).

SACU members, therefore, remain one of the largest beneficiaries of AGOA and it continues to be extremely significant for the SACU to keep these benefits, even if AGOA is not renewed after it expires. Given the importance of exports to SACU member states' economic growth and development endeavors, it is vital that the SACU is well-prepared for the proposed potential trade negotiations with the US. To this end, the SACU and US need to prioritize their respective products and sectors so that these can act as anchors in the trade negotiations. The research method applied in this article follows.

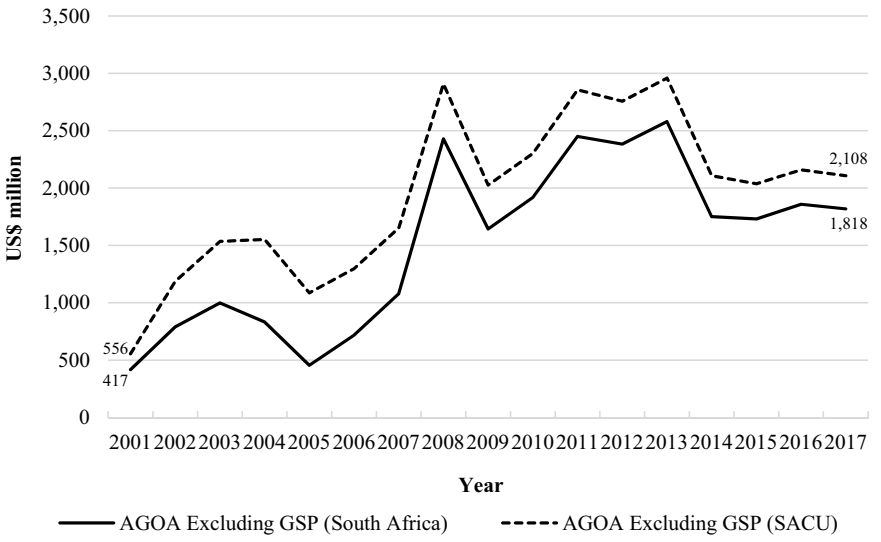

Figure 2. SACU's and South Africa's AGOA exports, 2001 to 2017. Source: Authors' own compilation based on data obtained from AGOA (2017b).

III. Research method

Research design

The scientific approach followed in this article comprises three steps.[1] The first step involves identifying all products at the Harmonized System (HS) 6-digit level for which there is consistently large and/or growing import demand in the US and SACU (Step 1.1) in addition to identifying products that the SACU and US consistently export competitively (Step 1.2). The second step involves matching products for which there is consistently large and/or growing import demand in the US market with SACU's consistently competitive export supply products, and vice versa. The third step involves assessing the degree of concentration both in the US and SACU markets (Step 3.1) as well as assessing the ease (or difficulty) with which the SACU and US can access one another's markets (Step 3.2).[2]

What makes this method so unique is that it adapts, combines, and integrates certain elements of different established international trade research methodologies with the specific purpose of informing trade negotiations. These established methods include: the decision support model (DSM) of Cuyvers et al. (1995) and Cuyvers and Viviers (2012), followed in Step 1.1 to evaluate the size and growth of import demand; and the World Bank Competitiveness Toolkit (Reis and Farole 2012), applied to establish export competency in Step 1.2 and market concentration in Step 3.1. Also, in Step 3.2, a composite indexing method from the OECD (2008), with reference values following the market attractiveness index of the ITC (2008), is used to evaluate tariff-wise market access. These methods have been tried and tested, both in an empirical sense and in terms of application (for examples, see Idsardi and Viviers (2014), Steenkamp, Grater, and Viviers (2015), Bondesio and Steenkamp (2016), Cuyvers et al. (2017), and Mhonyera, Steenkamp, and Matthee (2018), to name only a few).

Data analysis

Step 1.1

This step identifies consistently large and/or growing import demand in both the US and SACU for all products at the HS 6-digit level. Three indicators (short-term import growth, long-term import growth, and import market size) are used for each of the potential product–country combinations in the

[1]The research method applied in this article builds on and draws from the research methodology applied in Mhonyera (2017) and Mhonyera, Steenkamp, and Matthee (2018).

[2]One should note that our methodology required product-level trade data at a global level and import and export data per country. Data of this nature is impossible to retrieve or access at any level higher than HS6 as the products will then be subjected to country-specific codes. To circumvent these data constraints, the methodology settled on HS6 data. It should be noted, however, that most trade negotiations actually happen at an 8 or 10-digit level, and this aspect or difference should be taken into consideration.

US and SACU over a five-year period (i.e., 2013 to 2017). Short-term import growth is computed as a simple annual import growth rate, while long-term import growth is computed as the compounded annual percentage growth in imports over the period. The comparative import market size is computed as the ratio between the imports of country *i* of product *j* and the aggregate world imports of product *j* (Cuyvers 2004, 259–260).

To identify product–country combinations in the US and SACU for which there is consistently large and/or growing import demand, cutoff values are computed annually, over the five-year period, for each of the respective variables mentioned above. The cutoff values computed in this step are explained below.

Firstly, in order to determine the parameters of the short-term and long-term import *growth*, a scaling factor (S_j) is defined (Willemé and Van Steerteghem 1993; as quoted in Cuyvers 2004, 260). The scaling factor permits the consideration of country *i*'s level of specialization in exporting product *j* when specifying the cutoff values (Cuyvers 2004, 260).

The algebraic formulation of the scaling factor (S_j) is provided in Equation 1:

$$S_j = 0.8 + \frac{1}{(RCA_j + 0.85)\exp^{(RCA_j - 0.01)}} \tag{1}$$

Where:

RCA_j : is the revealed comparative advantage of the exporting country for product *j* (Reis and Farole 2012), algebraically formulated as:

$$RCA_j = \frac{\left(\frac{X_{i,j}}{X_{w,j}}\right)}{\left(\frac{X_{i,tot}}{X_{w,tot}}\right)} \tag{2}$$

Where:

$X_{i,j}$: is country *i*'s exports of product *j*;

$X_{w,j}$: is the world's exports of product *j*;

$X_{i,tot}$: is country *i*'s aggregate exports; and

$X_{w,tot}$: is the world's aggregate exports.

The cutoff values for the three variables are then expressed as Equation 3:

$$g_{i,j} \geq G_j \tag{3}$$

Where:

$g_{i,j}$: is product *j*'s short- or long-term import growth rate in importing country *i*; and

G_j: is equal to $g_{w,j}s_j$, if $g_{w,j} \geq 0$; or equal to $\frac{g_{w,j}}{s_j}$, if $g_{w,j} < 0$; with $g_{w,j}$ indicating the growth rate of aggregate world imports of product *j*.

If the criteria in Equation 3 are met, the product–country combination is allocated a "1"; if not, a "0" is allocated. Suppose that $0 \leq RCA_j < 1$, meaning that the origin country is not yet considered specialized in exporting the product, then the scaling factor is designed as such that the import growth rate of the destination country ($g_{i,j}$) should vary between one and two times the world average import growth rate for that product. However, where the origin country is already exporting the product with a revealed comparative advantage ($RCAj \geq 1$), then the growth rate in the importing country ($g_{i,j}$) is allowed to be slightly less than or equal to the world average growth rate for the product ($g_{w,j}$) (Cuyvers, Steenkamp, and Viviers 2012, 62–63).

Furthermore, the comparative size of the import market for product *j* in country *i* is regarded as sufficiently large if (Cuyvers 2004, 260):

$$M_{i,j} \geq C_j \tag{4}$$

Where:

$M_{i,j}$: is product *j*'s comparative import market size in country *i*; and

C_j : is the comparative import market size cutoff value, computed in consideration of the level of specialization of the exporting country in exporting product *j*, such that: $C_j = 0.02M_{w,j}$, if $RCA_j \geq 1$; or $C_j = [(3 - RCA_j)/100]M_{w,j}$, if $RCA_j < 1$; with $M_{w,j}$ denoting product *j*'s aggregate world imports.

Assuming that $0 \leq RCA_j < 1$, then the import size of the destination country under consideration ($M_{i,j}$) should vary between 2% and 3% of total world imports for the product ($M_{w,j}$). Similarly, if $RCA_j \geq 1$, then $M_{i,j}$ should be greater than or equal to 2% of $M_{w,j}$ (Cuyvers, Steenkamp, and Viviers 2012, 62–63).

In this step, markets with consistently large and/or growing import demand are selected following the classification of product–country combinations in Table 1. The process described above is repeated for five consecutive years. Those product-country combinations that fall within classifications 3 to 7 every year are selected as the US and SACU markets presenting consistently large and/or growing import demand. In contrast, product-country combinations that fall within classifications 0 to 2 in any of the years under consideration are eliminated.

Table 1. Classification of product–country combinations in Step 1.1.

Classification	Short-term import market growth	Long-term import market growth	Comparative import market size
0	0	0	0
1	1	0	0
2	0	1	0
3	0	0	1
4	1	1	0
5	1	0	1
6	0	1	1
7	1	1	1

Source: Adapted from Cuyvers (2004, 261).

Therefore, for a product-country combination to be selected, it should consistently (i.e., for all five of the years from 2013 to 2017) have an import demand classified as having one of the following characteristics, based on the cutoff criteria explained above: large import market size (Category 3); high short- and long-term growth (Category 4); high short-term growth and large import market size (Category 5); high long-term growth and a large import market size (Category 6); high short- and long-term growth as well as a large import market size (Category 7).

Step 1.2

In this step, the SACU's and US's consistently competitive export supply products are determined. Following Mhonyera, Steenkamp, and Matthee (2018), this article assumes that if a product is consistently exported with a comparative advantage (i.e., RTA>0 and RCA≥1) over a five-year period, it can be classified as a sustainable export.

This step uses the revealed trade advantage (RTA) index, which considers both exports and imports, as a proxy for international product-level export competitiveness (Steenkamp, Grater, and Viviers 2015; Vollrath 1991). The RTA index is computed by subtracting a country's revealed import advantage (RMA) index for a specific product from its RCA index.

The RCA index is a measure of international trade specialization. It quantifies a country's degree of specialty in the export of a specific product by dividing the product's share in that country's exports by its share in world exports (Jessen and Vignoles 2004). The algebraic formulation of the RCA index is shown in Equation 2. RCA≥1 indicates that a country comparatively specializes in the export of the product in question (Cuyvers et al. 1995, 179). RCA≈0 indicates that a country exports very little of the product, while RCA = 0 indicates that a country does not export the product at all.

The RMA index, in contrast to the RCA index, quantifies a country's degree of specialty in the import of a particular product by dividing the product's share in that country's imports by its share in world imports (Jessen and Vignoles 2004). Hence, the RMA index of product *j* is algebraically formulated as:

$$RMA_j = \frac{\left(\frac{M_{i,j}}{M_{w,j}}\right)}{\left(\frac{M_{i,tot}}{M_{w,tot}}\right)} \tag{5}$$

Where:

$M_{i,j}$: is country *i*'s imports of product *j*;
$M_{w,j}$: is the world's imports of product *j*;
$M_{i,tot}$: is country *i*'s aggregate imports; and
$M_{w,tot}$: is the world's aggregate imports.

RMA≥1 indicates that a country relatively specializes in the import of the product in question. RMA≈0 indicates that a country slightly imports the product, while RMA = 0 indicates that a country does not import the product at all.

The RTA index of product *j* is obtained by subtracting Equation (5) from Equation (2). Thus:

$$RTA_j = RCA_j - RMA_j = \frac{\left(\frac{X_{i,j}}{X_{w,j}}\right)}{\left(\frac{X_{i,tot}}{X_{w,tot}}\right)} \frac{\left(\frac{M_{i,j}}{M_{w,j}}\right)}{\left(\frac{M_{i,tot}}{M_{w,tot}}\right)} \tag{6}$$

An RTA>0 reveals positive trade competitiveness or a relative trade advantage. Consequently, it can be accepted that RTA>0 indicates that most of the products exported by a particular country are locally manufactured, as the index adjusts for reexports (Steenkamp, Grater, and Viviers 2015; Vollrath 1991).

In this step, three indices, namely the RCA, RMA, and RTA, are computed for every product (at the HS 6-digit level) that is exported by the SACU and US over the 2013 to 2017 period. Following Cuyvers, Steenkamp, and Viviers (2012), RTA>0 and RCA≥1 are used as the criteria for selecting products that the SACU and US consistently export competitively. However, considering the heterogeneity between SACU countries and the US in terms of the level of economic development and production capacity, the selection criteria are relaxed in the case of the SACU where the RCA index is permitted to be at least greater than 0.7. An RCA of 1 means that the share of the product in the exporting country's total exports is the same as the share of the product in total world exports. An RCA of 0.7, therefore, means that the share of the product in the exporter's total exports is 70% of its share in total world exports. Cuyvers, Steenkamp, and Viviers (2012) consider (as a rule of thumb) an RCA larger than 0.7 high enough to make the export opportunities of this product worth exploring.

Products that meet the selection criteria (i.e., RTA>0 and RCA≥1 in the case of the US, and RTA>0 and RCA>0.7 in the case of the SACU) for all five years are selected as the products that the US and SACU consistently export competitively.

Step 2

In this step, the US and SACU's consistently large and/or growing import demand is matched with the SACU and US's sustainable exports. Only those product–country combinations that consistently met the selection criteria stipulated in Steps 1.1 and 1.2 are selected. Therefore, those combinations for which there is consistently large and/or growing import demand in the US and SACU, but in which the US or SACU cannot export the products

consistently competitively, are eliminated. This includes those product–country combinations for which consistently large and/or growing import demand has not been identified, despite the US and SACU having the competence to export the products consistently competitively.

Step 3.1

According to Cuyvers et al. (1995, 180), selection on the basis of consistently large and/or growing import demand (Step 1.1) does not necessarily mean that the market is easy to enter. It is, therefore, crucial to consider the degree of concentration in a particular market. A market is considered concentrated if only a few exporting countries possess a large market share and are knowledgeable about the market. A market with a high degree of concentration is very difficult to enter. A partial analysis conducted by Cuyvers et al. (1995, 180) revealed that there is a negative correlation between market concentration and export performance. Hence, it is inefficient to channel resources into heavily concentrated markets as the chances of export survival are minimal.

This article utilizes the Herfindahl-Hirshman Index (HHI) of Hirshman (1964), applied in the DSM (Cuyvers and Viviers 2012), to measure the degree of concentration in a specific market. The HHI is mathematically formulated as:

$$HHI_{ij} = \sum \left(\frac{X_{k,ij}}{M_{tot,ij}} \right)^2 \tag{7}$$

Where:

$HHI_{i,j}$: is the HHI of country i (the importer) of product j;

$X_{k,ij}$: is the exports from country k to country i of product category j; and

$M_{tot,ij}$: is the total imports by country i of product category j.

If the importing country is supplied by only one exporting country, the HHI = 1. However, if the importing country is supplied by many exporting countries, the HHI≈0. In other words, an HHI ≅ 1 indicates a higher market concentration, while an HHI ≅ 0 indicates a lower market concentration. It is, therefore, difficult for exporting countries to penetrate markets with a relatively high HHI (Cuyvers et al. 2017). The matched product–country combinations with an HHI>0.5 in the importing country are selected in this step.

The HS 6-digit level trade (import and export) data utilized in Step 1.1 to 3 and the tariff data applied in Step 3.2 was accessed from the World Integrated Trade Solution (WITS) database of the World Bank (WB 2018a).

Step 3.2

In this step, the degree of the SACU's market access in the US, and vice versa, is assessed at the HS 6-digit product level. Generally, the easier the market access conditions, the more competitive exporters will be in those markets.

In this article, the variables used to measure the degree of market access are the tariff applied to the exporting country (%) and the exporting country's tariff advantage (%). The tariff charged to the exporting country is the duty applied to imports of the exporting country's products in a specific country. A tariff advantage is the positive difference between the average tariff charged by the importing country to the top five export competitors of the exporting country and the tariff charged to the exporting country in question.

The formula in Equation 8 is used to convert the tariff and tariff advantage into indices (OECD 2008). When using the *distance to reference measures* to convert indicators into indices, the upper and lower thresholds have to be defined (OECD 2008). In this case, the thresholds are defined in terms of economic considerations.

$$\frac{Value - Lower\ threshold}{Upper\ threshold - Lower\ threshold} x\,100 \tag{8}$$

As shown in Figure 3, an upper threshold of 0% tariff and a lower threshold of 30% tariff are used when converting tariffs into a tariff index. In addition, an upper threshold of 10% tariff and a lower threshold of −10% tariff are applied when converting a tariff advantage into a tariff advantage index (ITC 2008). The thresholds are used to avoid having extreme values and to partially compensate for data quality problems, since values that are extremely far from the average or normal range are more likely to indicate poor underlying data.

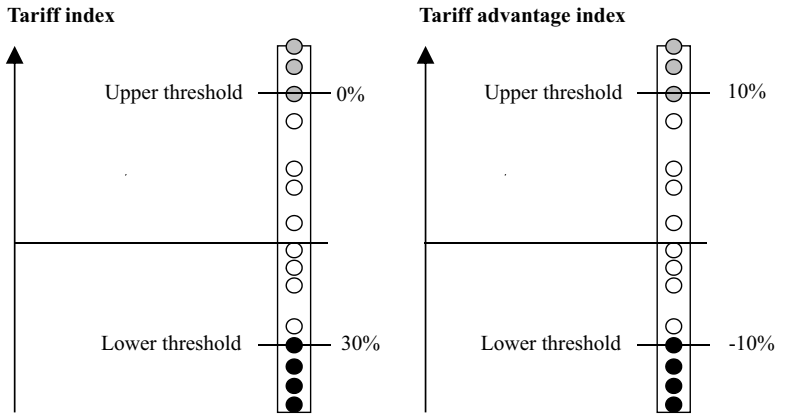

Figure 3. Illustration of upper and lower thresholds of the tariff and tariff advantage indices. Source: Authors' own illustration based on ITC (2008).

The indices for tariff and tariff advantage are allocated equal weights (i.e., 50% for tariffs and 50% for tariff advantage). In this step, a sustained export opportunity with an index value below 75 (indicating a tariff>0% and/or a tariff disadvantage) is considered to have a low tariff-wise market access. This means that tariffs are higher than 0% and, therefore, need to be negotiated down. An index of 75 and above corresponds to export opportunities where the SACU or US already levies a 0% tariff and there is no difference between the tariff charged to the exporter concerned and the top five competitors (tariff advantage is 0%).

Sustained export opportunities with low market concentration and low market access restrictions (tariff-wise) into the US and SACU should be prioritized in the potential SACU–US negotiations. The assumption here is that the SACU and US benefit only from the WTO's most-favored-nation principle and do not enjoy any other preferential access into one another's markets. Moreover, sustained export opportunities with low market concentration and high tariff-wise market access restrictions are assessed, in terms of non-tariff measures, for qualification as additional priority products. In this regard, the ad-valorem equivalents of non-tariff measures pertaining to such export opportunities are used as a basis for selection.

For this article, the ad-valorem equivalents were accessed from the World Bank's database, which covers 40 importing countries (WB 2018b). However, all SACU countries are not included in the database. Therefore, the analysis was confined to export opportunities for SACU countries in the US, possessing low market concentration and high tariff-wise market access restrictions, as additional priority products for the SACU based on non-tariff measures.

Ad-valorem equivalents represent the average costs associated with non-tariff measures when a product is imported (WB 2018b). Data are in percentage points (e.g., ad-valorem equivalent = 2 is equivalent to a tariff of 2%). Zero values indicate no effects, while missing values indicate that the ad-valorem equivalents could not be reliably estimated. Other non-tariff barriers to market access, including trade time, trade cost, infrastructure, logistics, and border efficiency, are country-level measures. These were not considered in this article.

IV. Results and discussions

Results for Steps 1.1 to 3.2

Table 2 summarizes the results obtained in Steps 1.1 to 3.2 for the 2013 to 2017 period. In the US market, 3,619 products were identified with consistently large and/or growing import demand. Of these 3,619 products, a total of 1,060 were matched with 1,060 of the 1,391 products consistently exported competitively by the SACU. A total of 819 of the 1,060 matched products were

Table 2. Products that the US and SACU should prioritize in the potential SACU–US bilateral trade negotiations.

US		Total
Step 1.1	Products for which there is consistently large and/or growing import demand in the US	3 619
Step 1.2	Products that SACU consistently exports competitively	1 391
Step 2	Products for which there is consistently large and/or growing import demand in the US that match SACU's sustained exports	1 060
Step 3.1	Matched products facing low market concentration in the US	819
Step 3.2	Matched products facing low tariff-wise market access restrictions in the US	526
Priority products in the US market		407
SACU		Total
Step 1.1	Products for which there is consistently large and/or growing import demand in SACU	1 892
Step 1.2	Products that the US consistently exports competitively	1 197
Step 2	Products for which there is consistently large and/or growing import demand in SACU that match the US's sustained exports	539
Step 3.1	Matched products facing low market concentration in SACU	398
Step 3.2	Matched products facing low tariff-wise market access restrictions in SACU	211
Priority products in the SACU market		161

Source: Authors' own compilation.

identified as facing low market concentration, while 526 products were identified as facing low tariff-wise market access restrictions in the US market. From the 819 and 526 matched products identified with low market concentration and low tariff-wise market access restrictions, respectively, a total of 407 products were identified as facing both low market concentration and low tariff-wise market access restrictions in the US market.

In the SACU market, 1,892 products were identified with consistently large and/or growing import demand. Of these 1,892 products, a total of 539 were matched with 1,197 products that are consistently exported competitively by the US. A total of 398 of the 539 matched products were identified as facing low market concentration, while 211 products were identified as facing low tariff-wise market access restrictions in the SACU market. From the 398 and 211 matched products identified with low market concentration and low tariff-wise market access restrictions, respectively, a total of 161 products were identified as facing both low market concentration and low tariff-wise market access restrictions in the SACU market.

Products facing both low market concentration and low market access restrictions in the US market (407) and the SACU market (161) were selected as the products that should be prioritized in the potential SACU–US trade agreement. In the case of the US market (see Figure 4), most products that the SACU should prioritize from an export perspective are in the following sectors: clothing and textiles (80), machinery and electrical (60), chemicals and allied industries (58), and metals (57).

Similarly, with the exception of 27 priority products in the plastic or rubber sector, most of the products that the US should prioritize from an export perspective are in the following sectors: machinery and electrical (21), clothing and textiles (20), chemicals and allied industries (19), and metals (19).

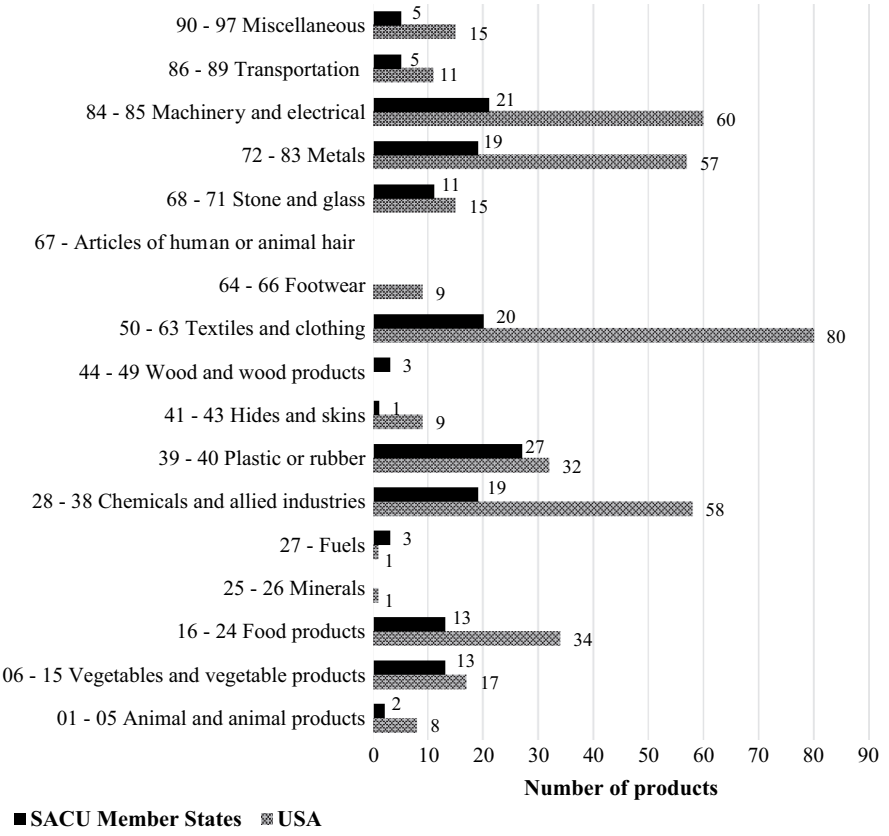

Figure 4. Sector-level (HS 2-digit level) products that the US and SACU should prioritize in the potential SACU-US trade negotiations. Source: Authors' own compilation based on WB (2019) HS 2-digit level product classifications.

Figure 5 classifies those products that the US and SACU should prioritize in the potential trade agreement according to broad economic categories. In both the US and SACU, most of the priority products identified are consumer goods. These are followed by intermediate goods, capital goods, and raw materials.

Most of the products that the US should prioritize are in the following six HS 2-digit level chapters: plastics and articles thereof; nuclear reactors, boilers, machinery and mechanical appliances, and parts thereof; rubber and articles thereof; articles of iron or steel; glass and glassware; and electrical machinery and equipment and parts thereof, sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles.

Most of the products that the SACU should prioritize are in the following five HS 2-digit level chapters: electrical machinery and equipment, and parts thereof, sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles; nuclear

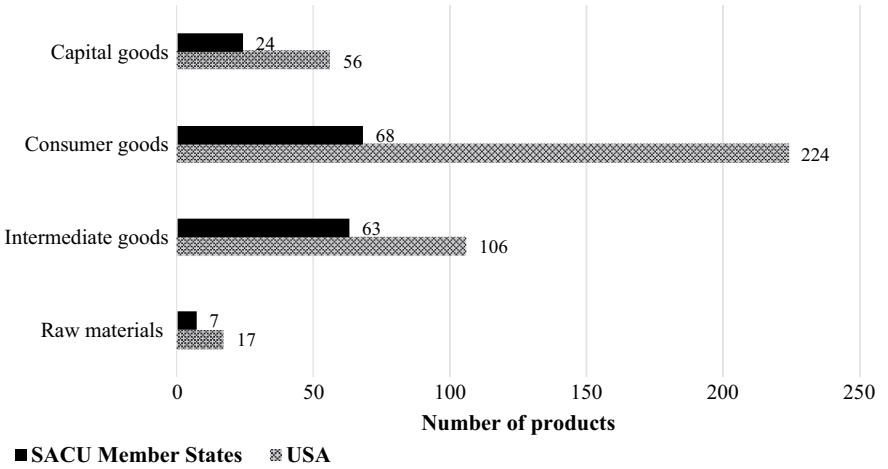

Figure 5. Products that the US and SACU should prioritize in the potential SACU–US bilateral trade negotiations, by level of processing. Source: Authors' own compilation based on WB (2019) HS 2-digit level product classifications.

reactors, boilers, machinery and mechanical appliances, and parts thereof; plastics and articles thereof; articles of apparel and clothing accessories, knitted or crocheted; and articles of apparel and clothing accessories, not knitted or crocheted.

Additional priority products based on non-tariff measures

A total of 534 matched products facing high tariff-wise market access restrictions in the US were assessed in terms of non-tariff measures based on ad-valorem equivalents (see Table 3). Of the 534 matched products, 127 had non-tariff measures, ad-valorem equivalents>0%. This means that SACU exporters are faced with non-tariff measures when exporting such products to the US market. An analysis of the 127 matched products with non-tariff measures, ad-valorem equivalents>0% in terms of market concentration revealed that only 99 of the 127 also had an HHI<0.5.

Therefore, the 99 matched products with both non-tariff measures, ad-valorem equivalents>0% and HHI<0.5 constitute additional products that the SACU should prioritize for negotiation with the US, from a non-tariff measures perspective.

Table 3. Additional priority products that the SACU should prioritize in the potential SACU-US bilateral trade negotiations, based on non-tariff measures.

US	Total
Matched products facing high market access restrictions (tariff-wise)	534
Matched products with non-tariff measure, ad-valorem equivalents>0%	127
Matched products with non-tariff measure, ad-valorem equivalents>0% and HHI<0.5	99

Source: Authors' own compilation.

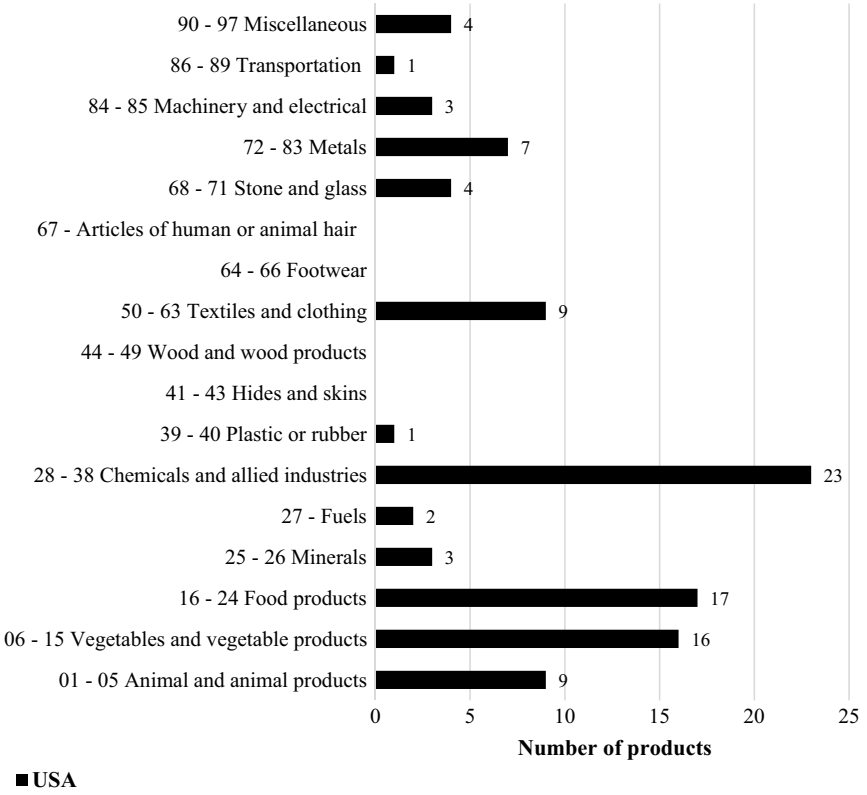

Figure 6. Additional, sector-level (HS 2-digit level) products that the SACU should prioritize in the potential trade negotiations with the US, based on non-tariff measures. Source: Authors' own compilation based on WB (2019) data.

Figure 6 shows the HS 2-digit level results of additional products that the SACU should prioritize in the potential SACU–US bilateral trade negotiations, based on non-tariff measures.

Most of the additional products fall within the following sectors: chemicals and allied industries (23); food products (17); vegetables and vegetable products (16); animal and animal products (9); textiles and clothing (9); and metals (7).

Figure 7 presents a classification (by level of processing) of the additional products that the SACU should prioritize in the potential trade negotiations with the US, based on non-tariff measures.

Almost half (i.e., about 49%) of the additional priority products are consumer goods, followed by intermediate goods (23%) and raw materials (22%). Only about 6% of the additional priority products are capital goods. While the US levies 0% tariffs on these products, it imposes non-tariff measures, thus making the US market not easily accessible to SACU exporters.

The fact that most of the additional priority products for the SACU in the US market (based on non-tariff measures) are consumer goods may be

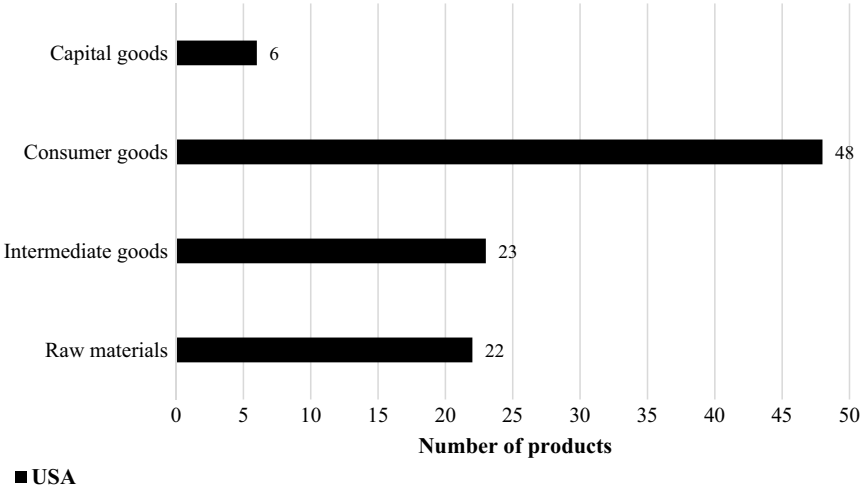

Figure 7. Additional products that the SACU should prioritize in the potential trade negotiations with the US, based on non-tariff measures, by level of processing. Source: Authors' own compilation based on WB (2019) data.

partially attributable to such goods being subject to technical, particularly sanitary and phytosanitary, standards.

V. Conclusion and recommendations

There is considerable uncertainty surrounding the renewal of AGOA after it expires in 2025. As SACU's trade with the US is partly shaped by AGOA, it would be in the SACU's interests to proactively engage with the US and negotiate a formal trade agreement that is mutually beneficial. However, bilateral trade negotiations are usually complex and often based on macro considerations and may overlook each country's specific export capacity and import demand. This article proposes a product-level prioritization method that identifies those products that the SACU and US should give particular attention to during their deliberations, and thus assists in warranting that the negotiated agreement is inclusive and receives greater implementation support.

When applied in this article, the product-level prioritization method identified 407 products that the SACU should prioritize and 161 products that the US should prioritize in the potential negotiations. From both the SACU and US standpoint, most of the priority products are in the following sectors: clothing and textiles, machinery and electrical, chemicals and allied industries, metals, and plastic or rubber. Furthermore, most of the products were value-added consumer and intermediate goods. The product-level prioritization method also identified an additional 99 products (including chemicals, food products, textiles and clothing, and metals) that the SACU should prioritize

for negotiation as access into the US market for these products is impacted by non-tariff measures.

The analysis also highlighted the uneven export and import capacity of SACU member states, with South Africa being the dominant exporter in the region and the reason for high levels of import concentration in the other SACU markets. The rationale and merits (or otherwise) of such a high level of concentration by South Africa, and what this means for SACU as a whole (particularly in a post-AGOA era), call for further research.

The discussions of this article are by no means exhaustive. Nevertheless, they represent a promising start – particularly in ensuring that bilateral trading partners enter trade negotiations, whether AGOA is renewed or not, from an informed base with reciprocal economic interests and fairness in mind. This should pave the way for the SACU and US to develop a more robust and sustainable trade relationship in the longer term.

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