Closing in on Harmonizing Rules of Origin for AfCFTA: Anatomy of Reconciliations and Remaining Challenges

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Abstract

To become operational, the Africa Continental Free Trade Area (AfCFTA) must harmonize Rules of Origin (ROO) across Africa's Preferential Trade Agreements, usually defined at the level of the Regional Economic Communities (RECs). Negotiators have agreed on a set of common Regime-Wide (RWRs) rules and on about 82% of the expected different Product-Specific Rules (PSRs). This paper documents the starting point for the negotiations, and then contrasts the characteristics of RWRs and PSRs with the initial starting point using three measures: Textual overlap, regulatory distance, and an index of restrictiveness (R-Index). For RWRs those for AfCFTA are, overall, more transparent and more flexible.

For PSRs that are more heterogeneous across RECs and more complex to describe meaningfully from an economic standpoint, the paper brings out the following. Where agreement has been reached, AfCFTA choices rely more often on a single criterion option, an indication of greater transparency than at the REC level. In addition, composite criteria are in the form of choice rather than cumulative. For those 973 products still under negotiation, preferential margins stand at 21% almost twice the average the margins for those agreed. Significantly and expectedly, regulatory distance (in the sense of different PSRs at the HS6 level) is less than among PSRs where agreement has been reached. R-index values as an indicator of the complexity and restrictiveness of PSRs (a higher value indicates a more restrictive PSR) are higher among PSRs where agreement has not been reached. These patterns also serve as indirect evidence of the usefulness of these two indicators to describe and summarize the complexity of ROOs across PTAs.

Concluding comments suggest ways ahead to address the challenge of setting up ROO that are business friendly rather than business-owned in the sense of penalizing small firms by their complexity.

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1. Introduction and Overview

Origin requirements, called Rules of Origin (ROO for short) will have to be harmonized for the Africa Continental Free Trade Area (AfCFTA) to become operational, even if initially it will apply only among signatories (35 countries as of January 2021) that have ratified the Protocol. For example, under AfCFTA, an exporter of men's shirt (HS 6205) from Kenya to Nigeria will be subject to the same origin requirement as if he exports that same shirt to South Africa, i.e. countries in Economic Community of West African States (ECOWAS) and Southern African Development Community (SADC) will have to apply the same origin requirement for HS 6205. So far, origin requirements have been established separately for each Free Trade Area (FTA). Most FTAs have been built around the Regional Economic Communities (RECs). As documented in this paper, there is great diversity in the landscape of ROOs across RECs. This presents challenges for negotiators to agree on a harmonized set of ROOs for the AfCFTA.

The challenge then is to design a common set of rules for Regime-Wide rules and for Product-specific Rules (henceforth RWRs and PSRs). Negotiating parties have agreed on a set of common RWRs. They have also agreed on approximately 82% of PSRs. We categorize RWRs along two dimensions: transparency and flexibility. Then we summarize the outcome of negotiations by comparing the anatomy of the AfCFTA agreed RWRs with those prevailing among negotiating countries at the outset of negotiations. We do the same for PSRs where agreement has been reached. For PSRs under negotiation, we compare their characteristics with those where common rules have been agreed.

The paper describes the ROO among the following multiple-membership African Preferential Trade Areas (PTAs)[1]: Agadir, Arab League, Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), ECOWAS, SADC of which the last four are among the eight RECs official building blocks of AfCFTA. Annex 3 Section 4 overviews PTAs included into this study. The RECs have been—and continue to be—the cornerstone of African integration in the AU 2063 agenda. Because of the 'variable geometry' reflecting different speeds of integration, we also include the 28-membership Tripartite Free Trade Area (TFTA) that have agreed on interim RWRs but are still negotiating PSRs. For RWRs, this selection allows us to evaluate how much inspiration AfCFTA negotiators have taken from existing African PTAs, and which ones have been the most influential. Annex 1 describes the diversity in economic characteristics across negotiating parties.

For PSRs, usually negotiated at the HS4 (around 1,250 distinct product lines) or HS6 level (around 5,300 distinct product lines), we document that requirements vary greatly across PTAs. This presents a challenge both in terms of description (how do you compare over 700 different PSRs across the continent?), and in terms of recommendations for harmonization (how do you harmonize?). The hoped-for compromise is a set of rules that are both realistic (i.e. likely to be accepted by the negotiating parties) and that serve their purpose at low compliance cost for those wishing to gain market access.

This paper has three objectives:

- To document the starting point for the negotiations, i.e. the RWRs and PSRs across the six major PTAs
- To describe and evaluate agreements so far by measuring (approximately) how close/different these rules are to those in the pre-existing major PTAs.
- To summarize the outcomes of the negotiations based on three heuristics: Textual overlap, regulatory distance and an index of restrictiveness (R-Index). [2]

This forensic work gives us a relatively simple description-- a dashboard-- of what has been agreed on RWRs and an attempt at measuring meaningful differences across PSRs.

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[1] The term PTA signals that some preferential trade agreements are Free Trade Areas (FTAs) and others are Customs Unions (CU). All intra-African PTAs are reciprocal.
[2] These heuristics are described in Gourdon et al. (2020) and Gourdon et al. (2021)

Section 2 describes the state of play in the negotiations. Section 3 describes the RWR comparing them with those in the RECs participating in the negotiations. A simple comparison based on presence/absence of specific rules shows that the RWRs are simpler. Since agreement has been reached on RWR for AFCFTA, an application of our three metrics in Section 4 suggests that agreement has been reached on a set of RWR that are, overall, more transparent, and more flexible.

The rest of the paper deals with PSRs. PSRs are more heterogeneous across RECs, more complex to describe meaningfully from an economic standpoint. Section 5 maps the 700 distinct PSRs into 14 groups and describes the distribution of these groups of PSRs across African PTAs that are then compared with the average over the 370 PTAs globally in ITC's Rules of Origin Facilitator (henceforth ROF). African PTAs rely more frequently on the Wholly Obtained (WO) criterion and rely almost exclusively on the Change of Tariff Heading (CTH) criterion when a Change of Tariff Classification (CTC) is used. As for comparators, other criteria (usually composite criteria) account for around half of PSRs. Among the one-criterion rules, the most popular rule is the CTH as well as RVC. In Africa, around one quarter of PSRs are either one of these, while for the other PTAs, these two criteria account for 43% of all PSRs.

Section 6 closes with a landscape of AfCFTA criteria for PSRs where agreement has been reached and for those where negotiations are ongoing.

For agreed PSRs:

- AFCFTA choices rely more often on a single criterion option, an indication of greater transparency than at the REC level.
- A single criterion PSR for 41% of HS6 codes (WO, RVC at 40%, CTH). Agreement on another 37% has been reached for a choice criterion account (CTH or RVC 40%, and CTH or RVC 40% or SP).
- The WO criterion is used more frequently than at the REC level.

For PSRs under negotiation:

- Agreement has not been reached for 973 HS6 products out of 5,387.
- Average preferential margin for PSRs under negotiation, are at 21% about twice the average for products where agreement has been reached.
- Regulatory distance (in the sense of different PSRs at the HS6 level) is less than among PSRs where agreement has been reached.
- R-index values, an indicator of the complexity and restrictiveness of PSRs (a higher value indicates a more restrictive PSR) are higher among PSRs where agreement has not been reached.
- These differences in indicator values between the two groups of PSRs are also indirect evidence of the usefulness of these two indicators to describe and summarize the complexity of ROOs across PTAs

Six annexes contain supporting information References to annex tables are indicated by prefix "A". [3]

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[3] Annex 1 and accompanying tables and figures describes the characteristics of the negotiating RECs. Annex 2 and tables gives supplementary tables on regime-wide rules. Annex 3 and accompanying tables describes the ingredients necessary to assemble the data: treatment of tariff-rate-quotas (TRQs) and other non-ad valorem duty rates. Annex 4 gives a brief overview of the major intra-african PTAs. Annex 5 describes data sources on ROO for each REC. Annex 6 has supplementary tables on comparisons with other PTAs in other developing countries.

2. Status and Modalities of negotiations in early 2021

At the time of writing (April 2021), 41 countries have submitted to the African union their tariff concession offers and 33 countries submitted propositions for liberalization on their schedules for Services trade. The most important PTAs serving as probable baselines in the negotiations are established under the Regional Economic Communities (RECs).

2.1. Tariff negotiations

As part of Phase I negotiations under AfCFTA, the parties have to finalize tariff reduction schedules and the underlying Product-Specific Rules (PSRs) of origin based on which the tariff reductions will apply. The deadline for finalization of negotiations has been extended to June 2021.

Tariff reduction occurs under three tracks in accordance with the agreed modalities. The first track includes "non-sensitive" products, which have to represent at least 90% of all tariff lines. The tariffs on these products are dismantled entirely within 5 years (10 years for LDCs) from the entry into force of the agreement (May 30, 2019). The second track includes "sensitive" products, for which tariffs can be dismantled more gradually within 10 years (13 years for LDCs). The third track includes "exclusion" products, for which no tariff reduction occurs. The "exclusion" list cannot exceed 3% of total tariff lines and 10% of intra-African imports measured in 2015-2017 period[4]. This combined restriction is referred to as "double-qualification and anti-concentration" clause. Therefore, if a country aims to optimize its tariff offer in a "defensive" manner, it would place exactly 90% of tariff lines into the "non-sensitive" list, exactly 3% of tariff lines into the "exclusion" list, and the remaining 7% into the "sensitive" list.

The exception for 3% of tariff lines and the long timetable of tariff reductions indicates the limited ambition in terms of commitments to market integration. [5] The exceptions will probably result in the exclusion of the tariff lines with the highest MFN tariffs. Since the efficiency costs of protection rise more than proportionally with the height of the tariff (see below), the 3% exemption of tariff lines is likely to result in reduced efficiency gains from AfCFTA.

The criteria based on which the three lists have to be defined, according to the modalities are food security, national security, fiscal revenue, livelihoods and industrialization.

In terms of the operational mechanism, the negotiation parties have to draw up and submit to the African Union secretariat (now the AfCFTA Secretariat in Accra, Ghana) at the national tariff line level:

(1) Base MFN applied tariff rates at the moment of the entry into force of AfCFTA (May 30, 2019);

(2) Import values for the period 2015-2017;

(3) Designated product lists for the three tracks and the corresponding dismantling calendars;

The three tracks and timetable are summarized in Table 1. All participating member states will eliminate tariffs on 90% of tariff lines under the variable geometry modality of tariff reductions[6]. The 32 LDCs have twice as long (10 years) to achieve the 90% target than non-LDCs while sensitive products accounting for 7% of the remaining tariff lines, with the possibility of backlogging liberalization during the last 8 of their 13 years to eliminate tariffs on sensitive products. This is a slightly longer time period than for non-LDCs. As to the 3% exclusion of tariff lines from liberalization, they must not account for more than 10% of their total intra-African imports.

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[4] In the case trade data for the period 2015-2017 is not available, the period 2014-2016 would be acceptable.
[5] Starting in 1960, all tariffs on intra-member trade among the 6 original members of the European Common Market were eliminated over an 8-year period.
[6] Variable geometry means some State Parties can liberalize faster than others; without being prevented from doing so by those opposing the acceptance of similar obligations. The latter are free to move at a slower pace

Table 1: Tariff liberalization under AfCFTA: Schedules and Time table

	LDCs [1]	Non-LDCs (SDT)
Level of ambition (non-sensitive products)	90% of tariff lines	90% of tariff lines
	10-year phase down	5-year phase down
Sensitive products	7% of tariff lines	7% of tariff lines
	13-year phase down (current tariffs can be maintained during first 5 years – phase down starting in year 6)	10-year phase down (current tariffs can be maintained during first 5 years – phase down starting in year 6)
Excluded products	3% of tariff lines; 10% of intra-African imports	3% of tariff lines; 10% of intra-African imports
	Observations: The tariff phase down will be linear. However, the parties can complement it with a request-offer approach. They can also accelerate tariff cuts on a reciprocal basis.	

Source: Agreed negotiating modalities of AfCFTA (TI/AfCFTA/AMOT/3/TIG/MOD/FINAL, restricted)

Notes: 1/ Special and differential treatment (SDT) for 32 LDCs: Angola, Benin, Burkina Faso, Burundi, the Central African Republic, Chad, the Comoros, Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, the Gambia, Guinea, Guinea-Bissau, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, South Sudan, Sudan, Togo, Uganda, United Republic of Tanzania, Zambia.

As part of the agreed modalities, submissions are from a standardized tariff liberalization template in Excel. The deadline for submission was beginning of December 2020. 41 countries were able to submit the information, including tariff offers, within the deadline7. Currently, assessment of the quality of the submitted information is ongoing.

The "non-sensitive" list is intended for immediate implementation starting from July 2021 and is non-negotiable. Current efforts of the Negotiating Committee concentrate on finalization of "non-sensitive" offers by all negotiating parties ahead of June 2021 deadline.

The "sensitive" and "exclusion" lists are to be negotiated between parties on a request and offer basis. To facilitate the exchange of offers and requests by all parties, ITC implemented an interactive collaborative "Tariff Negotiations" tool, accessible online by all parties on a confidential basis.

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[7] https://www.theeastafrican.co.ke/tea/business/eac-beats-afcfta-tariff-offer-deadline-3220910

Table 2 . Tariff offers for 41 countries by type of offer (group or individual)

CEMAC (6)	EAC (6)	ECOWAS (16)	SACU (5)	Individual (8)	No offer (13)
Cameroon	Burundi	Benin	Botswana	Egypt	Algeria
Central African Republic	Kenya	Burkina Faso	Lesotho	Madagascar	Angola
Chad	Rwanda	Côte d'Ivoire	Namibia	Malawi	Comoros
Congo	Tanzania	Cabo Verde	South Africa	Mauritius	Djibouti
Equatorial Guinea	Uganda	Gambia	Eswatini	Sao Tome and Principe	Ethiopia
Gabon	South Sudan	Ghana		Seychelles	Libya
		Guinea		Zambia	Morocco
		Guinea-Bissau		DRC	Mozambique
		Liberia			Somalia
		Mali			Sudan
		Niger			Tunisia
		Nigeria			Sahrawi Republic
		Senegal			Zimbabwe
		Sierra Leone			
		Togo			
		Mauritania*			

*Mauritania is formally not part of ECOWAS customs union, but has joined the group for the negotiations.

Source: Based on https://www.theeastafrican.co.ke/tea/business/eac-beats-afcfta-tariff-offer-deadline-3220910

All African countries (except Eritrea who did not sign the agreement) are participating in the negotiations. Currently, the negotiating countries comprise 54 member states (all African countries). Of those 54 countries, 13 had not submitted an offer by December 2020 (see table 2). Members of the five Customs Unions (CUs) -- Economic and Monetary Community of Central Africa (CEMAC), East African Community (EAC), Southern African Customs Union (SACU), ECOWAS-- submitted a single offer for all CU members.

2.2. Intricacies of Rules of origin negotiations under AfCFTA

The general ROO, or Regime-wide ROO, have been agreed and published as part of the AfCFTA legal text signed by member states in March 2018. The chapter on rules of origin (Annex 2 of the legal text) refers to product-specific rules of origin (Appendix IV). Appendix IV was left intentionally blank to reflect that the PSRs would have to be agreed through further negotiations. The negotiations on PSRs are conducted in parallel with tariff negotiations. So far, PSRs have been agreed on 82% of HS6 codes based on the draft Appendix IV published by South African customs in December 2020[8]. Negotiations on PSRs will be complete once all 100% of HS6 codes are covered. For harmonization of origin requirements, an interim agreement has been reached on RW rules and on 90 PSRs covering 82% of goods to be liberalized. The directional trade covered by these ROO accounts for 82% of total intra-African trade. PSRs are yet to be agreed upon for the food, automotive, dairy and textiles & clothing sectors (see Table 3).

Complications arise if a PSR is not defined for a specific HS6 code. Then a tariff reduction under AfCFTA cannot apply because it is not clear whether the product is "originating" or not, and is thus whether it is eligible or not for preferential treatment. In the absence of completely agreed PSR, the full ambition of the "non-sensitive" list might not be realized. A temporary (interim) solution could be to rely on Article 5 in Annex 2 where the "wholly obtained" criterion is enshrined as an acceptable originating criterion. For many products

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[8] https://www.gov.za/sites/default/files/gcis_document/202101/44049rg11219gon1431.pdf

in the outstanding list, however, it is clear that the "wholly obtained" criterion would be unrealistically stringent, e.g. for cars and motorcycles.

Furthermore, the lack of agreed PSR for some products jeopardizes preferential treatment of other final products that use these products as intermediate inputs. For example, suppose that a PSR for bread has been agreed, while the PSR for wheat flour has not been agreed. The PSR for bread requires that the wheat flour used in baking is "originating". However, a PSR explaining what an "originating" wheat flour is not defined. Hence, in practice it is impossible to estimate if bread is originating, unless wheat flour is wholly obtained in Africa in the sense of Article 6 of Annex 2 and is thus definitely "originating".

The descriptive list of products for which PSR have not yet been agreed is in Table 3.

Table 3. Products for which PSRs are under still negotiation (as of January 2021)

Food	Non Food
Fisheries and fish-derived products	Leather items
Yogurt and Cheese	Textiles, clothing and fabric
Wheat	Motor vehicles and parts
Fats and oil	Bicycles, carriages for disabled people, trailers and semi-trailers
Sugar and sugar confectionary	
Juices	
Animal Foods	
Tobacco Products	

Source: Authors' analysis based on Appendix IV of Annex 2 on AfCFTA rules of origin published by South African Revenue Service in December 2020.

2.3 Costs to meet origin requirements and measures to capture them

Origin requirements establish the conditions that products must meet to be eligible for preferential market access. Sufficient transformation is the first concern justifying ROOs. ROOs then prevent transshipment of products for which regional content is negligible (e.g. repackaging via labelling). For developing countries, the other, if not, the main justification, for their existence, is to protect regional producers of intermediate products in supply chains. Trade deflection often mentioned as a justification for ROO is irrelevant here because the high trade costs among partners in an FTA make trade deflection unprofitable. [9]

An exporter will request preferential status when the benefits of market access (i.e. not having to pay the MFN tariff) exceed the compliance costs, C_i^C, associated with meeting the criteria to prove origin. These costs can be broken down into three sub-components:

- A distorted cost component, C_i^D, resulting from the beneficiary being forced to source from the partner for instance meeting a minimum Regional Value Content (RVC);
- An administrative cost component, C_i^A, related to obtaining a valid Certificate of Origin (CoO_i) and undergoing post-importation audits by customs authorities;
- In the case of intermediates, a rent-sharing component, μ_i, between the exporter of intermediate goods to the partner exporting the final product to the producer of intermediates. For example, a

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[9] ROO are also justified to prevent trade deflection by ensuring that products from outside the PTA do not enter the duty-free area through the country with the lowest external tariff. From a very large sample of FTAs, Felbelmayer et al (2019) estimated that for 86% of bilateral comparisons at the HS6 level, trade deflection would not be profitable, this because of generally small differences in tariffs at the product level.. Given the high trade costs across African PTAs, it is highly unlikely that trade could be a concern for AFCFTA negotiators.

South African exporter of fabric might charge a higher price for yarn sold to the captive Mozambican producer who has to meet an RVC than to other shirt producers outside SADC.[10]

In practice, it is difficult to estimate compliance costs. Firms have different production and compliance costs, some are multi-product, and prices will differ from production costs when production does not take place under perfect competition.

Problematically, on the data side, only a few countries publish trade statistics according to the trade regime requested by importers.[11] This means that data on Preference Utilization Rates (*purs)* are rarely available making it more difficult to estimate compliance costs. Data at the transaction level needed to estimate fixed costs are not available. Finally, keep in mind that, at best, positive utilization rates only suggest that preferential margins are greater than compliance costs. Positive utilization rates are not an estimate of compliance costs; they only indicate that compliance costs are less than preferential margins.

Three approaches help compensate for the lack of data on *purs* and on data at the transaction level. Taken together, these approaches help compare ROO across PTAs and to 'measure' differences across PTAs. Each comes with advantages and shortcomings.

- Similarity between texts is straightforward but does not inform much even when controlling for word repetition and obvious synonyms.
- Regulatory distance goes a step further by attributing a binary value to the presence of a similar ROO.
- A restrictiveness index (R-index) proposes an ordinal ranking of ROO in terms of their likely compliance costs.

Together, these measures help identify those ROO that are likely to result in non-negligible compliance costs.

3. AfCFTA negotiations have resulted in simpler RWRs

Negotiators have agreed on a common set of RWRs. This might be expected as they are less specific and less controversial (e.g. all exporters should have documents on certification). Here we perform an analysis of the RWRs at the REC level to see which rules were adopted. The presentation also serves to present the three approaches to be used for the more difficult-to-compare Product-Specific Rules (PSRs). Figure 1 lists the RWRs categories. These are applied to all products seeking eligibility for preferential status (Figure 8 lists the criteria that are specific to a product, hence the name Product-Specific Rules (PSRs)). To satisfy the nationality requirement, a product must meet both the RWR and PSR criterion. Only when both are satisfied, does the product acquire preferential status.

RWRs are the easiest to describe. As shown in Table 3, there are 30 RWRs provisions classified in Rules of Origin Facilitator falling under two categories: 16 relating to 'process' and 14 to 'certification'. With few exceptions, each provision is either included or not included allowing using a zero-one [Yes, No] binary description. To refine the description, we further split each category into two groups of measures:

- Transparency (e.g. wholly obtained for process provisions or supporting documents for certification)
- Flexibility (e.g. duty drawback for process provisions or third-party invoicing for certification).

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[10] Cadot et al. (2005) give evidence that US producers of fabric sold at higher prices in the Mexican market under NAFTA than towards other trade partners because Mexico was a captive market.
[11] Nilsson (2016) and Kasteng and Inama (2016) estimate that about two-thirds of EU exporters use tariff-free access in their exports to partners while partners use preferences for over 90% of their exports to the EU. Thanks to data on the EUs *purs,* Crivelli and Inama (2017) identify critical products warranting further scrutiny of their ROOs (purs below 70% and preference margins above 2 percent).

Tables A2 and A3 in Annex describe each RWR provision for process (certification) according to this two-way split.

Figure 1 : Classifying Regime-Wide Rules (RWRs)
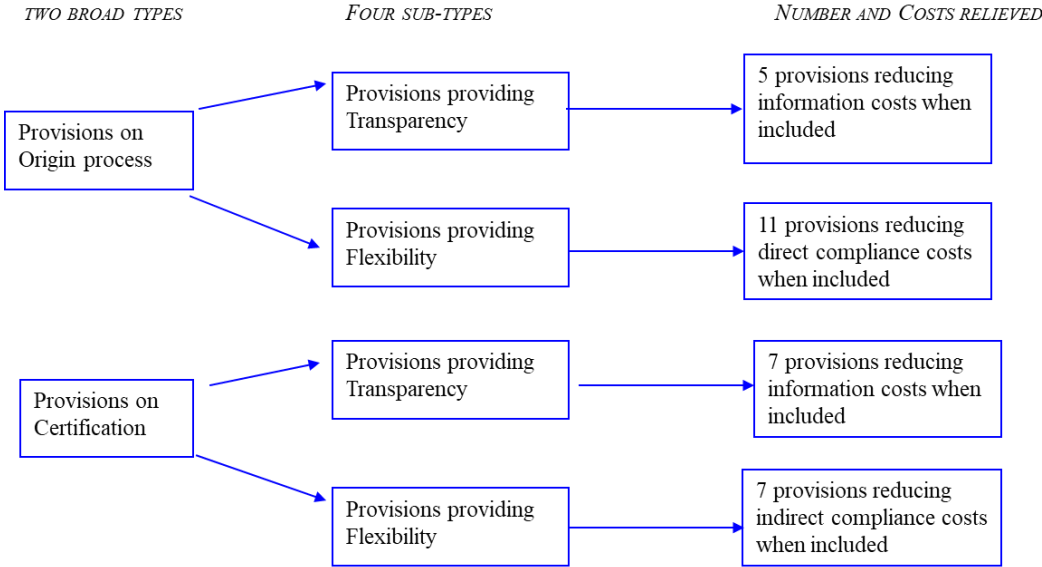
Source: Authors' classification by transparency and flexibility. See Tables A1 and A2 for the list of provisions on Process and on Certification and for their classification as contributing to transparency (T) or to flexibility (F).

In most instances, the presence of a transparency or a flexibility provision is an indication that compliance is easier to satisfy, which, in most cases, is an indication of reduced uncertainty and lower compliance costs. Gourdon et al. (2020b) describe the functions of the two categories giving a justification for the further split into two groups. When comparing provisions across PTAsin figures below, note that the RWRs recorded for AfCFTA (AFC) and Tripartite FTA (TFT) reflect agreements that might still be amended, as negotiations are in progress. Still, these comparisons help see whether these two large-membership PTAs have tended towards simpler or towards more complex RWRs.

3.1 Provisions on process.

Table A2 shows that all PTAs have the six provisions on transparency although these do not always apply to the same extent across PTAs, since they might differ on nuances, such as the Regional Value Content (RVC) rates in Sets differ.[12] Note however that the presence of these provisions for clarification does not imply that documentation preparation is not time-consuming. This documentation can raise costs significantly as shown by estimates for Shoprite, a South African retailer exporting across Southern Africa SADC members. [13] Nonetheless, overall, all PTAs differ very little in their provisions on process in terms of the clarification dimension.

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[12] For Agadir and the EAC, 85% of the materials entering the product must originate from among members while in the TFTA the corresponding threshold is 70%.

[13] Gillson (2012) reports estimates of the administrative costs incurred by Shroprite, a South African retail company operating across SADC, in 2009. Preferences were worth $13.6 million on $550 million sales. The company estimated costs of compliance at $5.8 million with a breakdown of 40% for staff to maintain customs data, 40% on in-house clearing and forwarding and 20% on the maintenance of a library to demonstrate compliance with rules of origin.

Provisions on flexibility contribute to lower compliance costs. Figure 2 presents the information by listing from left to right the provisions by descending order of prevalence. *Provisions* for *indirect materials* and *Roll up* are the most prevalent.[14]. Provisions for *duty drawback* are either not mentioned or prohibited.

Figure 2: Provisions on origin process are more flexible for AFCFTA
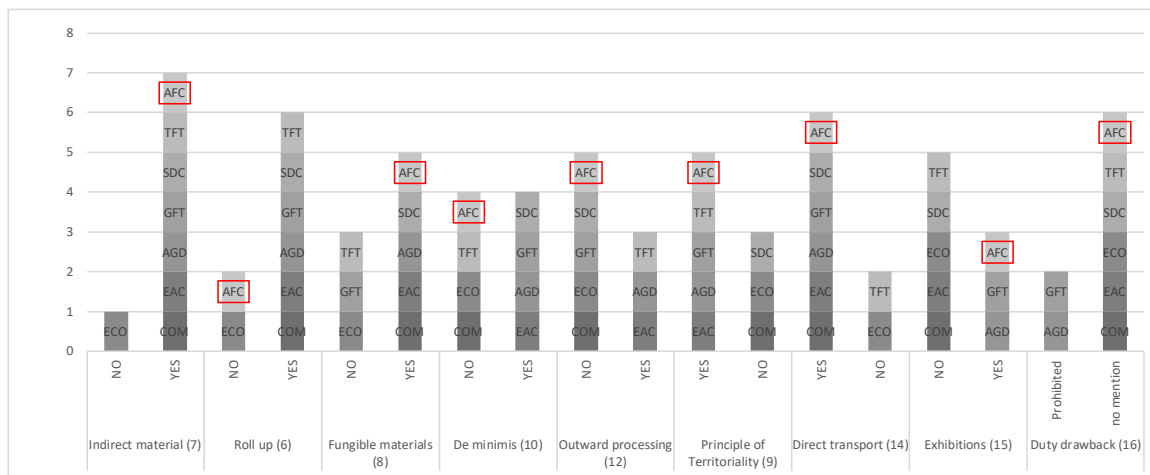
Abbreviations *Agadir (AGD); GAFTA (GFT); COMESA (COM); ECOWAS(ECO); SADC(SDC); Tripartite FTA (TFT); AFCFTA (ACF)*
Notes: Provisions are ranked from most to least pervasive (e.g. 7 PTAs have an indirect material provision and only 3 allow for exhibitions).

Source: Authors' calculation from ROF.

Among 5 pre-existing PTAs in this analysis, COMESA and ECOWAS stipulate an ad valorem percentage criterion applicable to all products. Therefore, tolerance (or de minimis) criterion would be redundant or contradictory. However, absorption is present in some PTAs in other regions. Absorption facilitates calculation of value-added content along the value chain by allowing final manufacture to disregard non-originating content within originating inputs. Indeed, Estevadeordal and Suominen (2008) note that "many regimes with across-the-board rules of origin neither provide for tolerance nor feature many regime-wide provisions of flexibility".

Except for the *principle of* territoriality and *direct transport*, having the provision indicates greater flexibility. It is clear from Figure 2 that the AFCFTA has more flexible RWRs on process than do the RECs. As shown below, choice of cumulation and method of calculation also suggest greater flexibility for AfCFTA than for the RECs.

Two important rules on process are choices on *cumulation type* and on method used to compute value content (*VC calculation*). Cumulation determines which products, which processes and which countries can participate in the elaboration of the product seeking preferential access and still be considered as "originating." So long as they are not coupled with other provisions, cumulation provisions are easily ranked from most (bilateral) to least (cross cumulation) restrictive.

Evidence shows that the intensity of bilateral trade in PTAs is positively associated with the presence of more liberal cumulation rules (Augier et al. 2005). Switching from bilateral to diagonal cumulation leads to a re-organization of sourcing decisions (Bombarda and Gamberoni, 2019). Figure 3 shows that diagonal cumulation is the most frequently used scheme across African PTAs. This is expected because the PTAs

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[14] Numbers in parenthesis correspond to the entries in tables A1 and A2. The *duty drawback* provision (16) allows exporters to claim back duties paid on non-originating materials used to produce the final good exported under preferential tariffs. *indirect materials* (7) provision specifies that the origin of certain materials used in the production process should not be taken into account when determining the origin of the final good.

here are Regional, not bilateral[15]. Agadir and EAC[16] are the most flexible allowing cross-cumulation. AfCFTA along with the Tripartite allow for full cumulation.

Figure 3: Cumulation and VC calculation are more flexible under AFCFTA
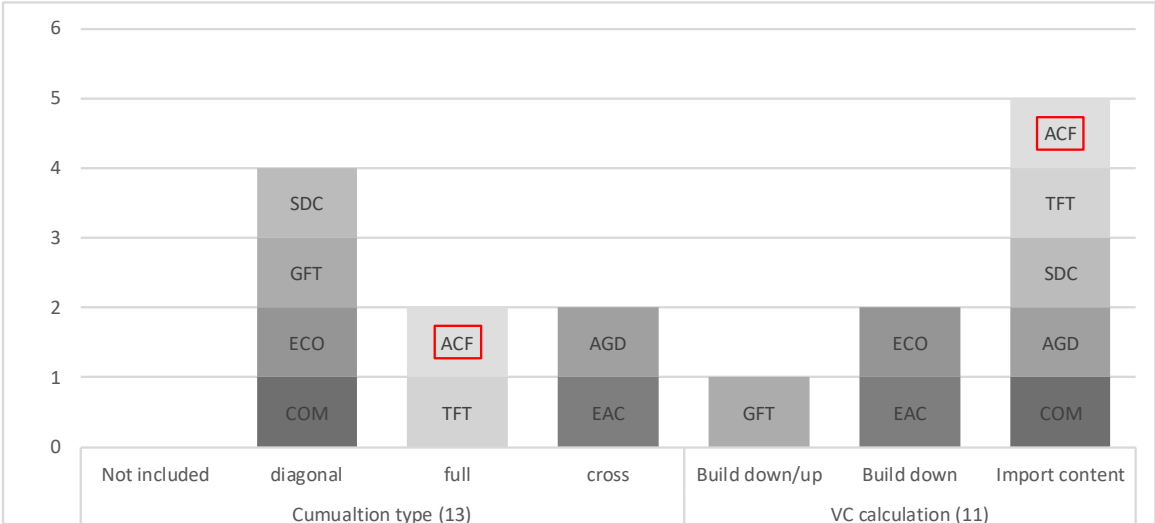
Abbreviations *Agadir (AGD); GAFTA (GFT); COMESA (COM); ECOWAS(ECO); SADC(SDC); Tripartite FTA (TFT); AFCFTA (ACF)*

Notes: Count of the number of PTAs with selected provisions on y-axis.
Cumulation types are listed from least (diagonal) to most (cross) liberal.
VC calculation method is listed from hardest (build up/down) to easiest (import content) to implement
Numbers in parenthesis next to the provisions refer to those on the list in table A1

Source: Authors' calculation from ROF.

All African PTAs considered here (and those elsewhere as well) require a method to compute value-added. The provision on Value-added Calculation (VC) describes the method used. Three methods are used to compute the percentage of originating and non-originating materials — value of parts, domestic content and imported content. The imported content method being the easiest to document for exporters is put on the right of Figure 3. Over the years, PTAs have moved towards the import content method (Hoekman and Inama (2018)). ACF and TFT use the import content method. In sum, harmonization has taken place towards greater cumulation options and easier-to-apply value-added computation methods.

3.2 Provisions on certification.

The provisions on certification relate to the issuance and administration of proofs of origin. These too are grouped into transparency and flexibility categories. On the transparency side, an *Advance rulings* provision is absent across African PTAs, except for ACF (see Table A2). This is a written decision that sets forth the treatment that the member shall provide to the good at the time of importation. The ruling covers the HS code, origin, customs value, etc. provided by a PTA member to the applicant prior to the importation of the good covered by the application. Advanced rulings reduce uncertainty considerably. When implemented,

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[15] The legal text of ECOWAS does not discuss cumulation. However, in practice, diagonal cumulation is applied under article 2 of the ECOWAS trade liberalization scheme.
[16] The manual on the application of rules of origin provides for full cumulation, yet there is no such provision in the legal text.

advanced rulings also reduce discretion. Advanced rulings are considered to be a highly efficient tool to ensure the proper implementation and application of administrative procedures.

Figure 4 presents the provisions listed in Table A2 listing from left to right the provisions by descending order of prevalence. Provisions for *exemption of certification* and *validity period* are the most prevalent. Provisions for *self-certification* and *third-party invoicing* that should reduce compliance substantially are largely absent. [17]

Figure 4: Provisions on certification are generally more flexible under AFCFTA
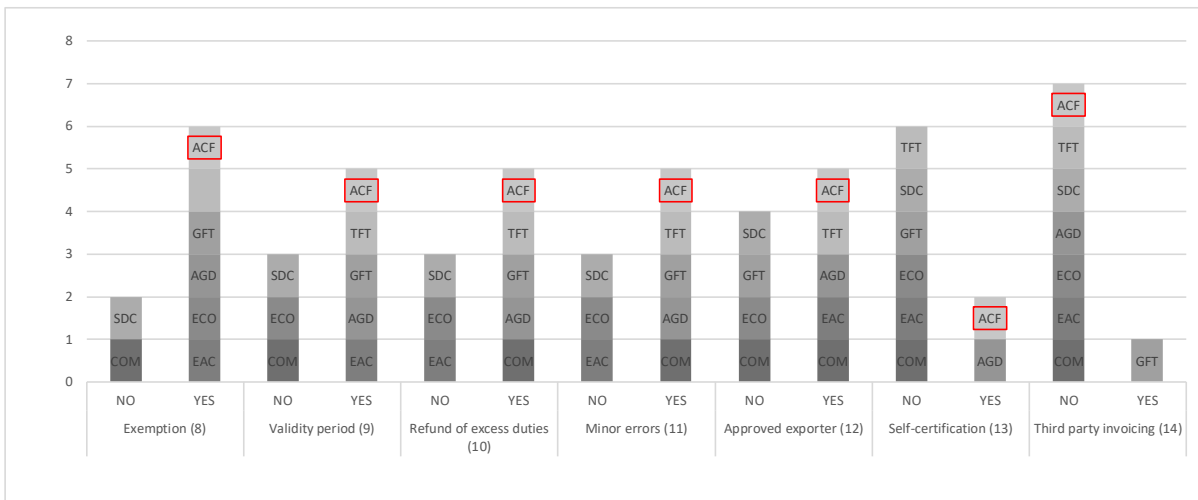
Abbreviations *Agadir (AGD); GAFTA (GFT); COMESA (COM); ECOWAS(ECO); SADC(SDC); Tripartite FTA (TFT); AFCFTA (ACF)*

Source: Authors' calculations from ROF database.

Notes: Count of the number of PTAs with selected provisions on y-axis.
Provisions are ranked from most to least prevalent (e.g. exemptions are allowed in 6 PTAs and third-party invoicing in only one PTA).
Numbers in parenthesis next to the provisions refer to those on the list in Table A2.

This analysis suggests the following takeaways.

On the positive side, the following agreements have contributed towards reducing compliance costs:

- All PTAs have the same set of provisions on transparency for process, but not on transparency provisions for certification.
- For both types of provisions, there is greater uniformity on transparency than on flexibility. Third, there is less uniformity on both types of provisions for certification than for process.
- Differences for flexibility are greater than for transparency, probably a reflection of the greater difficulty in reaching agreement on flexibility than on transparency.

On the negative side, the following RWR provisions that would have reduced compliance costs but have not been included in AfCFTA:

- Provision for duty-drawback
- Provision for self-certification
- Third-party invoicing, arguably an important missed opportunity

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[17] *Self-certification* (13) allows certification by the exporter or his representative. If not allowed, certification must be issued by an authorized body. *Third-party invoicing (14)* stipulates that the certificate of origin will not be nullified only due to the invoice being issued by a third party. Only AGD and ACF allow self-certification. COMESA does not allow for self-certification, but there is a simplified procedure for small-scale traders, although it remains subject to validation. EAC does not allow for self-certification, but has provisions for approved exporters and an exporter declaration for small consignments. Only GFT allows for flexibility in third party invoicing, the only provision where ACF is not among the most flexible.

- Allow for non-direct transport (allowed under TFT and ECO)
- Not imposing principle of territoriality (allowed under SADC, ECO and COM)

4. Measuring similarity in RWRs rules across PTAs

Two metrics, textual overlap and regulatory distance, help assess the extent of differences in ROOs across PTAs. These are applied to both RWRs and PSRs.[18]

4.1 Textual similarity in RWRs

Text overlap analysis is performed separately for RWR and PSR provisions by splitting the text into sentences, then splitting sentences into distinct words. Non-essential characters such as punctuation and letter capitalization are removed in the process. For RWRs, we compare text of the provision between two agreements for each of the 30 provisions. For PSR, we compare the text of the origin criterion between two agreements for each HS6 code. The aggregate text overlap measure is computed as the simple average of "text overlap" scores across all 5,367 HS6-level provisions for the PSR part, and across all 30 provisions for the RWRs.

Table 4 presents the results of the textual similarity calculation for RWRs across all African PTAs listed in descending order of membership. Textual overlap is highest among PTAs with large common membership. COMESA has 19 members and SADC has 12 members. These two PTAs have eight countries in common. This shows up as an overlap of 25%, the second largest after TFTA and Agadir (32%). This large overlap reflects the Barcelona Process initiated in 1995 to strengthen relations of the EU with countries in the Maghreb and Mashriq regions. This integration was to be along the lines of the "Deep and Comprehensive Free Trade Area" (DCFTA) agreements initiated by the EU that have the objective to give non-EEA members access to the EU single market. Among others, this involved adopting the Pan-Euro-Mediterranean (PEM) origin requirements that are applied or are envisaged to be applied to all EU hub-and-spoke PTAs. The Arab League decided to replicate the EU template in 2007 when it adopted a new ROO protocol.

Table 4 : AFCFTA textual overlap for RWRs greatest with TFTA and AGADIR RECs

PTA	AfCFTA	Tripartite	COMESA	ECOWAS	SADC	GAFTA	EAC	Agadir
AfCFTA (54)	100%	20%	8%	3%	8%	12%	9%	19%
Tripartite (26)		100%	5%	4%	6%	15%	12%	32%
COMESA (19)			100%	6%	25%	3%	9%	4%
ECOWAS (15)				100%	5%	3%	4%	3%
SADC (12)					100%	4%	14%	7%
GAFTA (6)						100%	6%	21%
EAC (5)							100%	10%
Agadir (3)								100%

Source: Authors' calculations based on Rules of Origin Facilitator
Notes: Textual overlap is measured as a simple average of textual overlaps across 30 provisions.
Empty cells above the diagonal are entered when the similarity is <1%.

Next, consider the textual 'origins' of the AfCFTA. A comparison of textual similarities of each of the 30 AfCFTA with those of each negotiating REC shows that overall, overlap is usually small (<15%), at least partly a reflection of a difference in 'form'. In addition, negotiators may have faced few requests from domestic interest groups, or they may have wished to start from a blank slate when drafting the rules.

On average, the AfCFTA is textually closest to the 26-membership TFTA (20% overlap from bottom row) though it is also close to AGD and GFT. This is not surprising, since, as noted above, AGD and GFT were engaged in a rapprochement with the EU. More surprisingly, the two large membership PTAs, ECOWAS

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[18] Gourdon et al. (2020, boxes 3 and 5) detail the formula.

and COMESA do not appear to have participated actively--at least as captured by the average textual similarity for all RWRs--in the wording of AfCFTA's RWRs.

At the level of specific RWRs, *de minimis*, *roll-up*, *duty drawback*, *third-party invoicing* and *advanced rulings* either appear nowhere or have minimum overlap. For others, many provisions appear to be "borrowed" from other African PTAs. For example, *Accessories, Spare Parts and Tools* appears to be largely borrowed from AGD. Likewise, *packaging* appears borrowed from COM and *fungible materials* from SDC. There are no *Duty drawbacks*, provisions across the African PTAs. On the other hand, provisions like *cumulation* and *supporting documents* have a small overlap (<15%) with other PTAs. The text for *Packaging* and *fungible materials* appears to be largely inspired from SDC and COM, but not from TFT to which COM and SDC belong.

To summarize, the origins of the agreed RWRs for AFCFTA:

- Some RWRs like *de minimis*, *roll-up*, *duty drawback*, *third-party invoicing* and *advanced rulings* were not in the RECs
- *Accessories, Spare Parts and Tools* are borrowed from AGADIR. *Packaging*, appears to be borrowed from COMESA and *fungible materials* from SADC.

4.2 Regulatory Distance in Regime-Wide provisions

For both RWRs and PSRs, indicator values for regulatory distance are computed bilaterally at the HS6 level, then aggregated up. A value of (zero) [1] is attributed when the countries have the (same) [different] regulation, averaged over all bilateral pairs in the PTA for each RWRS, then converted to a percentage. An index value of 60 % for a pair of PTAs indicates that the two PTAs share 60% of similar RWR provisions.[19]

Table 6 shows higher percentages for regulatory similarity than for text overlap, a reflection of the binary measurement for regulatory proximity. As the scores are only ordinal, what counts is that the ranks are close for both, an indication that the two measurements give the same information. Three pairs of PTAs have a similarity index above 60% AfCFTA provisions are closest to Tripartite and Agadir (73 percent of similarity), and EAC (60%). Surprisingly, there is no textual similarity with ECOWAS and SADC which are closely related (83% similarity). It would appear that ECOWAS and SADC did not participate in the drafting of the RWRs for AfCFTA.

Table 5 : Regulatory distance of RWRs of 8 African PTAs: Five closest PTAs

PTA	AfCFTA	Tripartite	COMESA	ECOWAS	SADC	GAFTA	EAC	Agadir
AfCFTA (54)		**73**	53			53	**60**	**73**
Tripartite (26)			57		57		**67**	67
COMESA (19)					**83**	57	73	
ECOWAS (15)					70			
SADC (12)							73	
GAFTA (6)								67
EAC (5)								67
Agadir (3)								

Notes: Number of PTA members in parenthesis next to each PTA

For each one of the 30 RW rules, in any pair of PTAs, two members are similar (in the sense of no regulatory distance) if both either have (or do not have) the provision. If one member has the provision and the other does not, then they are distant (or dissimilar). Similarity on any provision receives a score of 100. Dissimilarity receives a score of 0.

Scores in the table are the simple average for all provisions across all PTA members. Entries are for the five closest PTAs. Other scores not entered. The three closest PTAs indicated in bold.

Source: Authors' calculations based on Rules of Origin Facilitator database

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[19] See Gourdon et al. (2020b, boxes 3 and 5) for the formulas.

In conclusion, AfCFTA included all the transparency provisions in the RECs with a lower—though still high—regional value threshold of 85% for materials originating from among members while in the TFTA the corresponding threshold is 70%.[20] Comparisons of regulatory similarity scores for process and certification provisions confirms greater uniformity on transparency than on flexibility and that there is less uniformity on both types of provisions for certification than for process. This confirms that differences for flexibility are greater than for transparency, probably a reflection of the greater difficulty in reaching agreement on flexibility than on transparency.

To summarize:

- Regulatory similarity scores higher for transparency than for flexibility

- AfCFTA negotiators had to reach agreement on flexibility, as there were few differences across RECs in the flexibility.

- Overall, with few exceptions on indirect transport and territoriality and third-party certification, flexibility is greater at the AfCFTA level than at the REC level.

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[20] For comparison, at the Nairobi ministerial of 2015, WTO members agreed to consider relaxing value content criteria for LDCs in non-reciprocal PTAs (e.g. AGOA and EBA) that would allow up to 70% of non-originating materials.

5. Classifying and Mapping Product-Specific Rules (PSRs)

The Revised Kyoto Convention of the World Custom Organization (WCO) defines two main criteria to determine origin:

a)   'Wholly obtained or produced' criterion (WO) and;
b)   'Substantial transformation' criterion (ST).

Several criteria, sometimes applied jointly, sometimes applied in 'either/or' form, determine the 'substantial transformation' criterion. Figure 5 classifies these criteria into four broad types.

1.   The wholly obtained (WO) criterion
2.   A Change in Tariff Classification (CTC).
3.   An ad valorem percentage for Value Content (VC)
4.   Specific Processing (SP) operations.

The ST criterion is applied to those products (mostly all manufactures) that are not required to meet the WO criterion. The ST requirement specifies that the country of origin is the country where the last transformation took place.

Figure 5: Classification of Product Specific Rules (PSRs)
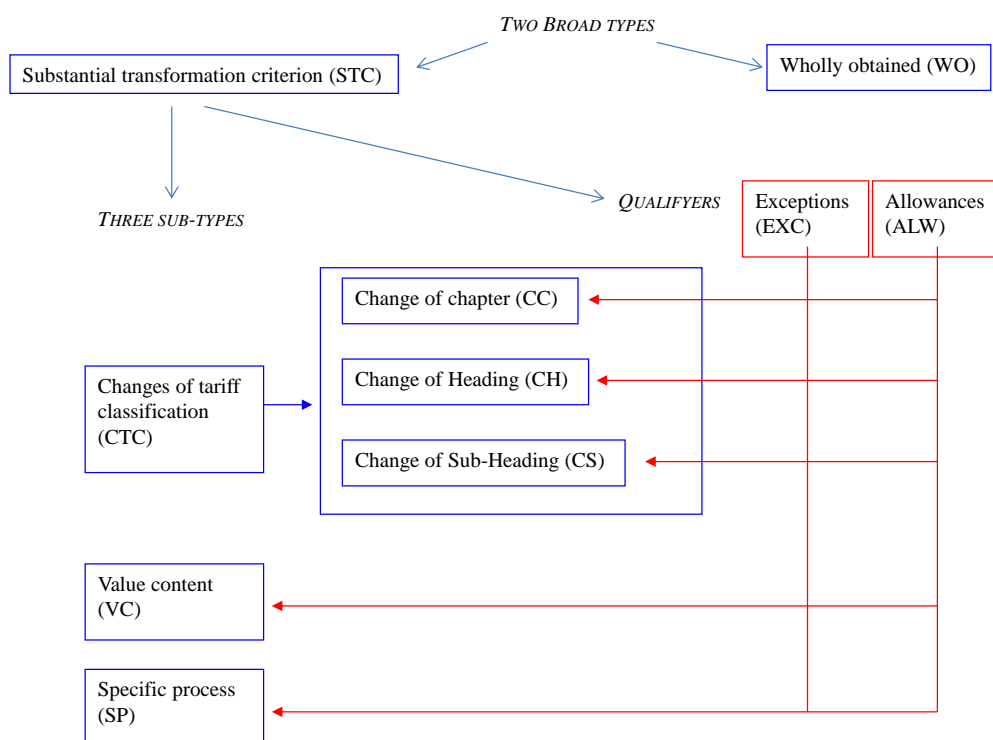
Notes: See table 6 for the list of PSR by group constructed from this classification.

Source: Authors' elaboration

Figure 5 shows the different options used to satisfy the ST criterion. These could be: (i) a Change of Tariff Classification (CTC) (i.e. the exported good must have a different tariff classification than that of any imported inputs); (ii) a Specific Process (SP) of production (e.g., the exported good must have undergone a chemical reaction); (iii) a Value Content (VC) requirement (i.e. a minimum threshold of local value content). The three

different criteria, along with qualifiers--themselves classified into exceptions (EXC) and Allowances (ALW) -- are used to meet the ST criterion. Note that qualifiers can come with each criterion. In some cases, exporters have a choice among the criteria ('either/or') and in others the qualifiers have to be met ('and').

Section 5.1 compares the average distribution of PSRs across the 6 PTAs with the average distribution across all PTAs in the ROF database. Section 5.2 compares the average distribution of PSRs across Africa with the corresponding average PSRs covering 370 PTAs worldwide. Section 5.3 then compares the distribution of PSRs for the approximately 82% of tariff lines over which agreement was reached with the PSRs of each of the negotiating parties. Our regulatory proximity measure shows heterogeneity across PSRs but that, on average, the agreed PSRs are closest to those of SADC.

5.1 Distribution of PSRs: African PTAs vs other PTAs

The ROF data base identifies over 54,000 textually distinct origin criteria at the product level (i.e. distinct PSRs). Gourdon et al. (2021a) describes a method for collapsing these PSRs into '1,600 standardized' coded criteria.[21] Figure 6 compares the average distribution of PSRs for the six African PTAs with the average distribution of the rest-of-the World. The mosaic reveals several patterns.

- There are more categories of PSRs in the PTAs across the rest of the world, though a large number for six PTAs. This large number of PSRs is a challenge for negotiators to reach agreement on harmonization.
- A similar breakdown for the main types of rules (CTC, RVC, SP, WO, Other)
- The CTH is the standalone CTC criterion used by the six African PTAs. It is less restrictive than the CC criterion, but more restrictive than the CTSH criterion.
- The standalone RVC criterion is used less frequently than in the other PTAs, practically always a 40% originating threshold and is present mostly in GAFTA.
- The WO criterion is used more frequently across African PTAs, possibly a reflection of a greater share of trade in unprocessed products.
- Other criteria (OTH) account for around half of PSRs for both groups. These criteria are composites of rules, sometimes more restrictive when the criteria are in combination, other times less restrictive when exporters have a choice.
- Among the one-criterion rules, in Africa the most popular rules appear to be CTH (12%) and RVC (15%), thus around one quarter of PSRs are either one of these, while for all world PTAs, these two standalone criteria account for 44% of all PSRs.

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[21] For PSRs, each was extracted from the legal text, then screened by a natural language processing algorithm to identify the semantics and to match with key attributes of each of the 14 major types of rules in African PTAs listed in table 5. The result was 148 different coded PSR criteria ready for textual and for regulatory comparisons. Arbitrariness is unavoidable in such aggregation.

Figure 6: Distribution of PSRs: Africa vs. all world PTAs
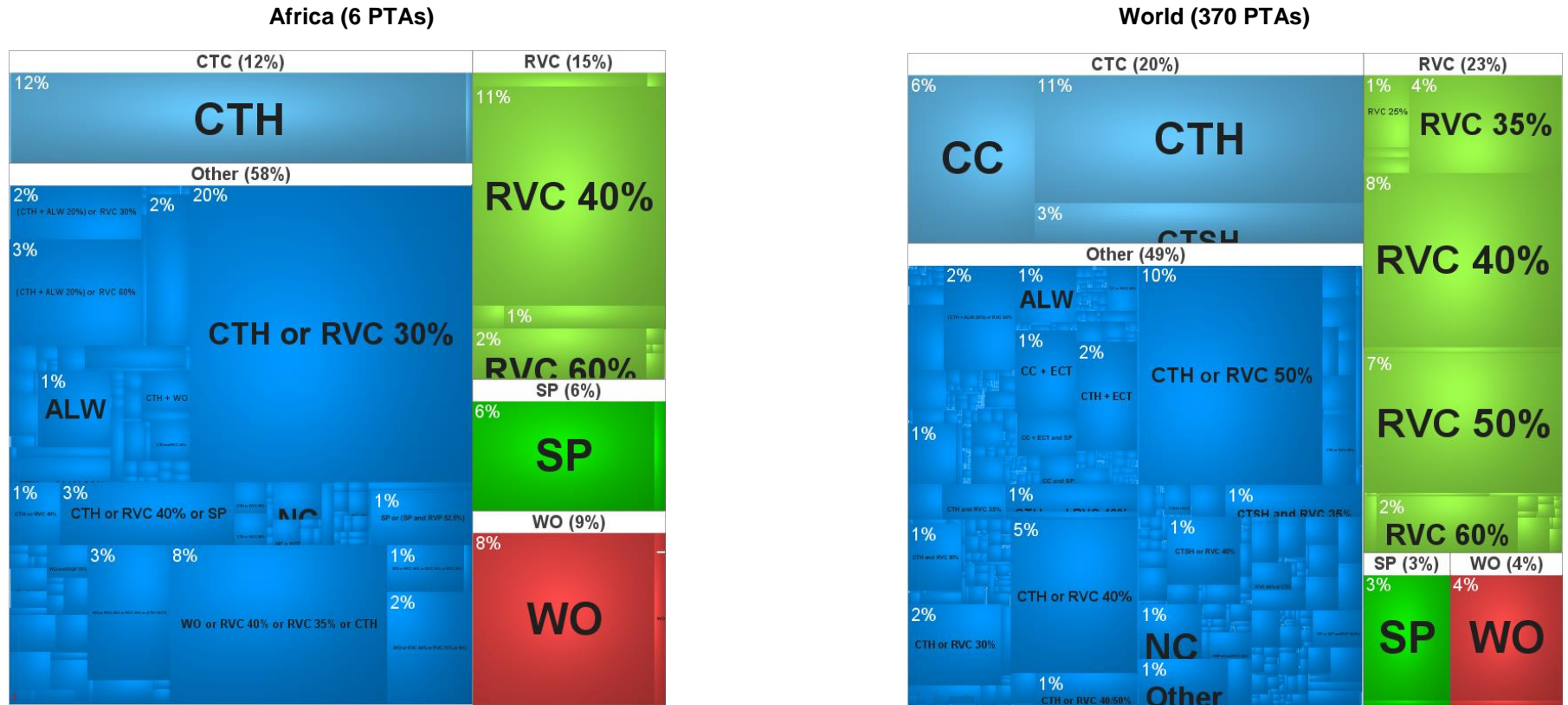
Notes:

1/The world share of PSRs is computed on an unweighted basis by summation of all HS6 codes across all 370 PTAs that represent about 70% of all active PTAs in the world.

The following customs unions were excluded from world PTA sample: SACU, EEU, Israel-Palestine, Koreas, EU-San Marino and Switzerland-Liechtenstein. Abbreviations for 14 categories are defined in table 6. See Gourdon et al. (2021) and text for discussion of codification of origin in the Rules of Origin Facilitator Database.

Source: Authors' calculation from ROF

5.2 Comparing AfCFTA PSRs with those in the PTAs

Table 6 displays the distribution of the 14 categories of aggregated codes for the PSRs used in to analyze the negotiations on harmonization. The distribution is for the 82% of the agreed PSRs for AfCFTA. These PSRs are tabulated under three categories: (i) CTC; (ii) (no-CTC); (iii) WO. As shown in figure 6, many PSRs have several criteria, sometimes as a choice (less restrictive), other times as compounded requirements (more restrictive). Reasons for these differences are beyond the scope of this paper but inspection of when these PSRs came into effect reported in the notes to Table 6 shows that, initially, ROOs were rather simple and across-the-board, then became progressively more complex over time with the addition of PSRs. [22]

Table 6: Distribution of PSRs across PTAs and AfCFTA (for agreed products only)*

	Label	Abbreviation	ECO[1/]	COM[2/]	GFT	AGD	EAC	SDC	ACF*
	Column		1	2	3	4	5	6	7
	(1) Change in Tariff Classification	**CTC**	100	79	36.8	65.8	75.0	63.2	69.3
1	**Change in Heading**	CTH			16.0	24.6	22	32.3	19.9
2	**Change in Heading and Value content/Specific Process**	CTH and VC/SP			0.9	2.7	2.6	0.8	
3	**Change in Heading with Exceptions**	CTH with EXC			0.3	2.3	0.3	3.2	1.6
4	**Change in Heading with Allowances**	CTH with ALW			1.3	1.9	4.9	0.0	0.1
5	**Change in Heading or Value content /Specific Process**	CTH or VC/SP	100		14.2	26.5	42.6	22.8	47.5
6	**Change in Heading or Value content or WO**	CTH or VC or WO		79					
7	**Change in Sub-heading**	CS			1.9	3.2	0,9	4.1	0.1
8	**Change in Sub-heading or Value content /Specific Process**	CS or VC/SP			2.2	4.6	1.7	0.0	
	(2) No Change in Tariff Classification	**NO CTC**	0	21	54.4	24.6	12.6	28.4	13.3
9	**Value Content**	VC			48.9	15.9	4.2	21.8	12.8
10	**Specific Process**	SP			4.2	6.7	6.9	5.8	0.5
11	**Value Content and Specific Process**	VC and SP			0.4	0.8	0.3	0.1	
12	**Value Content or Specific Process**	VC or SP			0.4	1.2	1.2	0.7	
13	**Wholly Obtained or Value Content**	VC or WO		21	0.5				
14	**(3) Wholly Obtained**	**WO**	0	0	8.7	9.6	12.7	8.5	17.4

Notes

See text for definitions of abbreviations and Table A13 in A5.2 for the aggregation correspondence to 14 categories. CTC + NO-CTC + WO=100. For example, the frequency ratio for (CH of VC/SP) of 19.1% for SADC means that for 19.1% of all HS6 products, the importer claiming the preferential regime in SADC can choose between a change of heading or a value content with a specific process.

[1/] ECOWAS has a special clause in the wholly obtained (WO) RW provision which allows mixing raw materials from third countries with WO so long as they do not exceed 40% by "quantity".

[2/] COMESA. ¼ of PSR include not CTH, but CTH + ECT (exceptions), with different exceptions across sectors. Additionally, COMESA text includes WO alternative for all products, which could be considered as generic. Other PTAs mention WO in a separate article in RWR provisions.

Year of application of RW rules in parenthesis and of PSR, when adopted, in brackets. N.A. Not available.
AGADIR (N.A), [2003]; COMESA (1994), [2001]; EAC (2004), [2015]; ECOWAS (2003).; GAFTA (1998), [2008] ; SADC (1998), [2000]; Rules adopted in 1998 were not operational
* ACF(2021) Figures correspond to the products for which PSRs have been agreed (about 82% of lines)

Source: Authors' elaboration from Gourdon et al. (2020a) and calculations from ROF

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[22] See Kniahin et al. (2019, box 1) and Gourdon et al. (2021, box 5) for further description of the aggregation into 14 distinct PSR categories.

ECOWAS and COMESA in columns 1 and 2 of table 8 appear to have the simplest PSRs. For ECOWAS, exporters have a choice of change in heading (CH) or a value content or Special process. For COMESA, the criterion is also a CH or a VC or WO, which is likely to be even easier to satisfy. For ECOWAS it is *CH or VC.* COMESA combines either CH *or VC* for 76% of the products, although a recent annex replaces the CH rule with some PSRs. COMESA also offers a fifth option of RVC 25% for selected products. Yet, the notes to table 8 show that there is diversity in this apparent across-the-board pattern of PSRs for COMESA and ECOWAS.

The remaining PTAs in columns 3 to 6 – GAFTA, AGADIR, EAC and SADC - display greater differences, appearing to be more 'tailor-made'. First is the split between the CTC and No-CTC criteria. In this group, about 10% of PSRs rely only a WO requirement. Second, both within the CTC and No-CTC categories, the requirements are often compounded requirements rather than choice requirements automatically making these PSRs more restrictive. EAC and SADC have some similarity in rules while COMESA--also participating in harmonization negotiations for the TFTA (not reported here) -- has simpler PSRs.

The distribution of criteria for PSRs for AfCFTA are reported in column 7. The WO criterion is used more frequently than at the REC level, perhaps a reflection that the WO criterion is a focal point of agreement because of its simplicity and/or because agreement was easier to reach on products with little transformation. Note also that no agreement has been reached on products with the SP criterion mostly used in Textiles & Apparel. Importantly, the CH criterion has been chosen in close to 70% of the agreed cases, often along with the choice of a VC or SP criterion as alternative. This flexibility suggests that, so far, the PSRs selected under AFCFTA would be less demanding on exporters. In general, AFCFTA adopted a tailor made approach making it closer to GAFTA EAC SADC and AGADIR. However, it also adopted a single flexible CH or VC for nearly half of the PSRs as found in the across-the-board family used in ECOWAS and COMESA. In sum, AfCFTA is really in the middle of the tailor-made and the across-the-board families of PTAs.

Table 7 applies the regulatory similarity and textual overlap metrics to evaluate how close the agreed PSRs are to those in the RECs. The cases of COMESA and ECOWAS illustrate the limitations of these measures. For COMESA that has no overlap in PSRs with other PTAs (see Table 6), the regulatory similarity scores in the COMESA column in Table 7.

As to the PSRs where agreement has already been reached under AfCFTA, their text is closest to SADC (48%) and to a lesser degree with EAC, Agadir and GAFTA in this descending order. This attests that EU model dominated the drafting of AfCFTA PSRs, and many PSRs have been in fact "borrowed" specifically from SADC. The results also corroborate the finding from RWR section of a significant likely influence from the TFTA text. In the case of PSR, TFTA's PSR are publicly unknown. They are likely to have been influenced by those in SADC and EAC.

A high degree of "coincidence" between PSRs in SADC and AfCFTA is spotted in furniture (Ch. 94), toys (Ch. 95), instruments and apparatus (Ch. 90), wood (Ch. 44), machinery (Ch. 84), electronics (Ch.85), chemicals (Ch.28-38), motor vehicles other than cars (ex Ch. 87), some metals (Ch. 73, 83) and meat (Ch. 2). The textual similarity is least present in some food sectors (<20%), but the chapter composition does not show an immediate pattern. For example, Ch. 86 (rail transport) and 88 (aircraft) show less similarity (<20%), primarily because of addition of RVC 40% option to the coinciding CTH rules.

Table 7: Similarity metrics: AfCFTAs' PSRs versus those in the RECS

	AfCFTA*	COMESA	ECOWAS	SADC	GAFTA	EAC	Agadir	(Textual)**
AfCFTA*	100%	6%	3%	48%	20%	28%	29%	**22%**
COMESA	0%	100%	8%	5%	5%	4%	5%	**5%**
ECOWAS	47%	0%	100%	3%	3%	3%	3%	**4%**
SADC	58%	0%	21%	100%	23%	27%	42%	**20%**
GAFTA	40%	0%	11%	44%	100%	21%	40%	**18%**
EAC	50%	0%	37%	38%	26%	100%	36%	**18%**
Agadir	49%	0%	24%	58%	47%	48%	100%	**25%**
[Regulatory]	**41%**	**0%**	**19%**	**32%**	**26%**	**30%**	**35%**	

<div align="center">Regulatory proximity</div>

Notes
Spearman rank correlation between regulatory and textual similarity: 0.85
Zero values for COMESA column reflects classification in table 7 where COMESA shares no PSR categories with the other PTAs
Textual overlap and regulatory similarity are measured as a simple average of textual overlaps and regulatory similarities in PSR of each HS6 product.
*For AfCFTA, computation is based on 82% of tariff lines with agreed PSR.
** Average [regulatory] (textual) similarity of ACFTA with the 6 negotiating PTAs. Comparisons are over HS6 products

Source: Authors' calculations from ROF database

The regulatory proximity index shows that the ACFTA PSRs are close to those of other RTAs with a 41% equivalence on average. Here again the regulatory index is closest to those in SADC with a proximity index of 58% which means that for any product line, on average, the same PSR occurs more than half the time. As for RWRs, scores are higher for regulatory similarity than for textual overlap since regulatory differences are (0,1) binary entries. Note that the high Spearman rank coefficient of 0.85 suggests that the simpler inspection of regulatory entries would give much of the same information as a more involved textual comparison. [23] Below we rely on regulatory distance to measure proximity.

To sum up for PSRs where AfCFTA agreement has been reached:

- AfCFTA choices rely more often on a single criterion option, an indication of greater transparency than at the REC level.
- A single criterion PSR for 41% of HS6 codes (WO, RVC at 40%, CTH). Agreement on another 37% has been reached for a choice criterion account (CTH or RVC 40%, and CTH or RVC 40% or SP).
- The WO criterion is used more frequently than at the REC level.

6. Negotiating remaining PSRs for Foodstuffs and Manufactures

As of early 2021, negotiators have apparently reached agreement on PSRs for 87 percent of tariff lines, i.e. all sectors except foodstuffs, textiles & apparel, and automobiles. Figure 7 classifies the 5,387 HS6 products under negotiation into PSR categories where agreement has been reached with those still under negotiation. Agreement has been reached with single criteria PSR for 41% of HS6 codes (WO, RVC at 40%, CTH). Agreement on another 37% has been reached for a choice criterion account (CTH or RVC 40%, and CTH or RVC 40% or SP).

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[23] The much larger (148) number of standardized codes capturing PSR requirements than those capturing RWRS rules (30) reduces the similarity score by about half for regulatory distance for PSRs compared with those for RWRS.

Figure 7: Distribution of PSR in AfCFTA across HS6 codes: Agreed and to be agreed
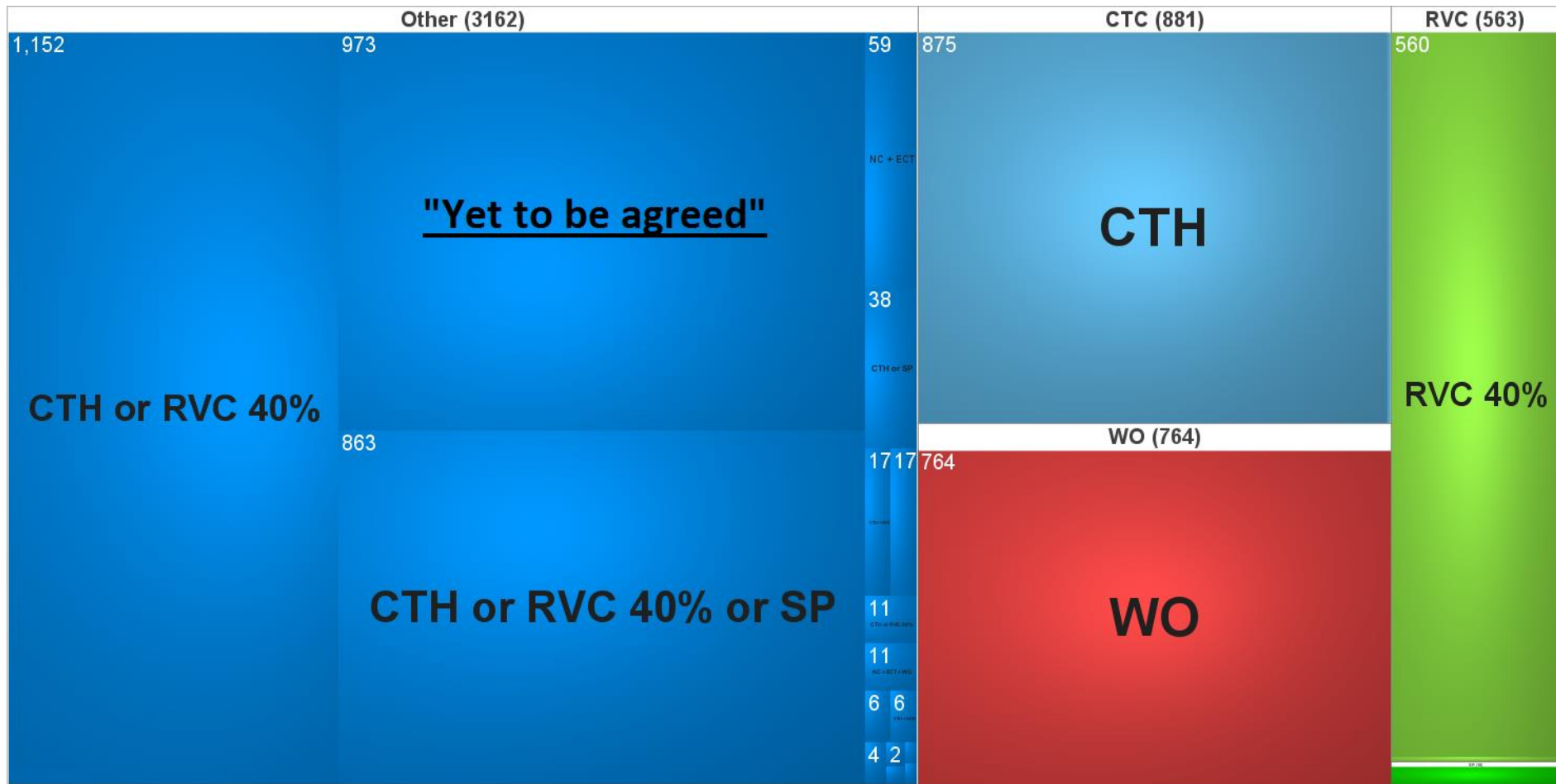
Notes: Figures in parenthesis refer to the number of HS codes in each category
Source: Authors' calculations based on AfCFTA draft PSR text.

Presumably, sectors where negotiations are stuck correspond to those where interests diverge most across RECs which would be where preferential margins are high, at least in some RECs. Table 8 confirms a higher average preferential margin for PSRs under negotiation, about twice as high at 21% than those where agreement has been reached. This difference is very large. If restrictive PSRs are negotiated for those sectors, this will be an impediment for the development of regional value chains across Africa in these sectors.

Interestingly, the two indices used to describe heterogeneity across PSRs also display expected differences. Regulatory similarity is higher among those PSRs where an agreement has been reached. Also R-index values, an indicator of the complexity of PSRs are higher among PSRs where agreement has eluded negotiators. These average values between the two groups are also indirect evidence to the usefulness of these two indicators to describe and summarize the complexity of ROOs across PTAs.

Table 8: Comparing agreed PSRs with PSRs still under negotiation

PSR in AfCFTA a/	Pref margin b/	Regulatory similarity c/s	R-index d/
YES	11%	28	25
NO	21%	14	35

Notes: All values are simple averages over all hs6 products across all countries in the 6 negotiating PTAs. PSRs under negotiations are those for the sectors identified in table 3

a/ YES (NO) refers to PSRS where agreement has been reached (under negotiation).
b/ Unweighted average applied Preference margin (MFN minus preferential tariff) over the 6 PTAs
c/The regulatory proximity index used in tables 5 and 7 computed over the 6 PTAs. A higher value indicates closer match of PSRs
d/ R-index is an ordinal index based on an observation rule. For example an RVC of 60% is more restrictive than an index of 40% and a CTC requiring a CC (change of chapter) is more difficult to satisfy than a CTC requiring a CH (change of heading). A higher index value indicates a more restrictive PSR.

Source: Authors' calculations

Figure 8 breaks down these indicators across RECs starting with AFCFTA followed by SADC which was shown to have the closest similarity with those agreed, closing with the two RECs, ECOWAS and COMESA with the most uniform and simple PSR landscape. The figure confirms the pattern of Table 8 across all RECs, i.e; regulatory similarity is lower, with preferential marginal and R index values higher for the products where no agreement has been reached.

The comparisons across RECs show that average preferential margins are high across all sectors still under negotiation, though less high for ECOWAS and COMESA that also have lower R-index scores because of their relatively simple PSRs (see table 6). R-index scores that provide only an ordinal measure are also high for SADC, EAC and Agadir for those products where no agreement has been reached yet.

Figure 8: Comparing agreed PSRs with PSRs still under negotiation across RECs
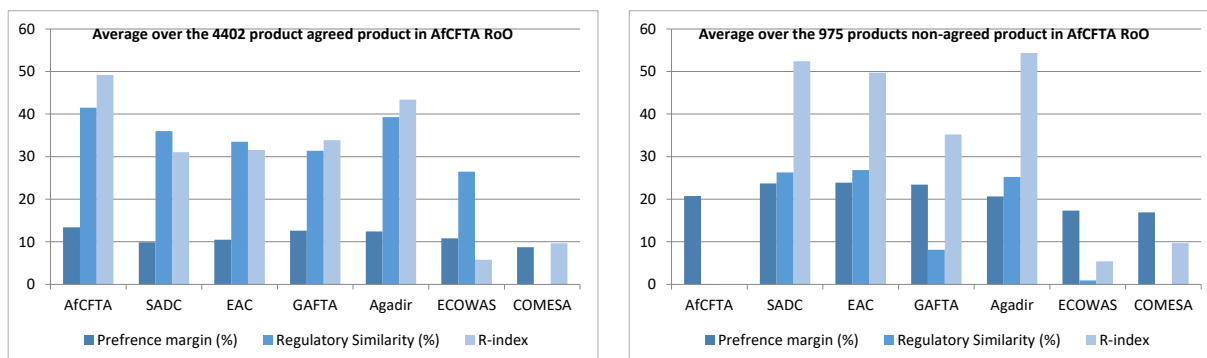
Notes:
See table 8 for definitions of indices. Higher R values indicate more restrictiveness. Higher similarity values indicate closer PSRs. All averages are for the six PTAs under negotiations.

Source: Authors' calculations

To sum up, Figure 9 gives displays the anatomy of the state of negotiations following the aggregated categories of table 6 along the following dimensions at the HS2 sector level:

- Agreed and non-agreed
- Category of PSR
- Volume of trade

For agriculture, categories to be agreed displayed at the bottom left-hand side of the figure, account for approximately $2 billion out of a total of $7 billion, or 29% of the volume of trade. For non-agriculture, the categories to be agreed are displayed on the right-hand side of the figure. They account for 21% of the volume of intra-African trade. Here, transport equipment is the most important sector. Note that textiles only accounts for 2.7% of the trade volume, a low figure in the landscape of total intra-African trade. Both transport equipment and textiles have been singled out as promising sectors for the development of continental value chains. Transparent, simple PSRs will be required to meet this objective.

Figure 9. Distribution of PSRs by category, sector, and intra-Africa trade volume (for MFN applied rates above zero)
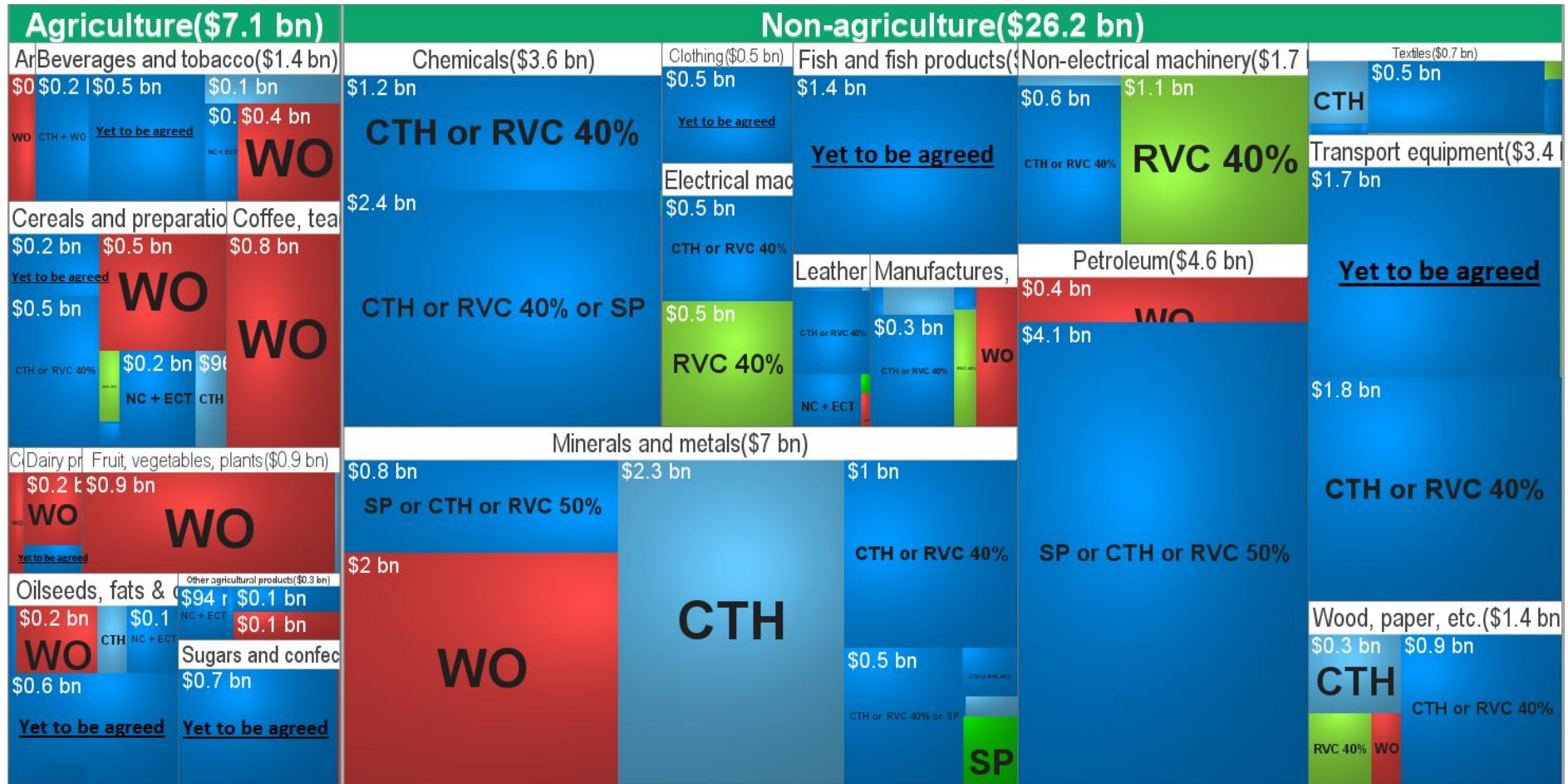
Product sectors are Multilateral Trade Negotiations (MTN) categories defined in World Tariff Profiles 2020. Volume of intra-African trade is based on Tables A4 and A5 mapped and filtered on positive MFN applied rates in Table A4.
Source: Authors' calculations based on AfCFTA draft PSR text.

To sum up challenges for the remaining negotiations:

- Agreement has not been reached for 973 HS6 products out of 5,387.
- Average preferential margin for PSRs under negotiation, are at 21% about twice the average for products where agreement has been reached.
- Regulatory distance (in the sense of different PSRs at the HS 6 level) is less among PSRs where agreement has been reached.
- R-index values, an indicator of the complexity and restrictiveness of PSRs (a higher value indicates a more restrictive PSR) are higher among PSRs where agreement has not been reached.
- These patterns are also indirect evidence of the usefulness of these two indicators to describe and summarize the complexity of ROOs across PTAs.

7. Towards simpler business-friendly ROO for AFCFTA

Africa is a still a region where high tariffs are ubiquitous so that tariff liberalization among African countries can have substantial effect in promoting intra-regional trade, among others, through expansion of regional value chains. However, utilization of market access by businesses resulting from reduction in intra-African tariffs provided by AfCFTA hinges on rules of origin which determine eligibility to market access. ITC surveys of firms' experiences with rules of origin consistently highlight this type of NTM as among the most burdensome and annoying, especially for manufacturing sector. Therefore, the design of rules of origin matters, and the success of AfCFTA will depend on acceptance and application of the negotiated Rules of Origin (ROO) by businesses accompanied by a correct enforcement and encouragement by government authorities. Design will continue to matter even, as noted below, certificates of origin are delivered electronically since preparation and validation will be needed in one way or another.

Negotiators decided to go with Product-Specific Rules (PSRs) of origin rather than to rely primarily on an across-the-board rule. This allowed a tailored approach to the specifics of each product, but at the same time it increases information costs, especially for MSMEs who will need to learn how to navigate these different rules and make sure they found and applied the correct rule and followed all the procedures. Moreover, customs authorities and issuing bodies will need to understand all these different rules and correctly apply the relevant procedures, such as verification and audits.

So far, negotiators opted for a single set of PSRs applicable for all members towards all members. While this represents a simplification, it comes at the expense of differentiated rules that would have recognized the limited implementation capabilities of some countries. An alternative option would have been to provide a differential treatment in terms of PSR for LDCs as done in some Asian FTAs or Latin American FTAs where LDC parties or smaller economies face less stringent PSR. Instead, the difference in development across members will be captured solely through asymmetric tariff liberalization schedules.

Our detailed forensic inspection of these rules and preliminary analysis of the restrictiveness analysis of the agreed PSRs point in the direction of rules close to those prevailing in SADC and an overall high PSR restrictiveness. The paper shows that in terms of simplicity and business-friendliness, ROO in AfCFTA are a mixed bag even though 41% of the 5387HS6 codes where agreement has been reached are simple criterion and another 37% are flexible composite rules where exporters have a choice across criteria.

However, there is heterogeneity of restrictiveness across products. Some sectors such as agri-food, rubber and wood are quite restrictive, with "wholly obtained" criteria dominating. Nevertheless, other sectors, such as chemicals, machinery and vehicles, give flexibility through the choice of alternative rules between a Change of Tariff Classification (CTC) and a Regional Value Content (RVC) criterion. These criteria are applied extensively across the board in ECOWAS and COMESA, which are relatively liberal FTAs. These choices represent an "improvement" in terms of simplicity and transparency over those prevailing in SADC. A high trade-facilitating score of RWR however to some extent mitigates the high PSR restrictiveness of AfCFTA. For example, by virtue of diagonal cumulation, companies are allowed to source originating intermediate inputs from all across Africa, which should help achieve the required PSR threshold.

As countries move from design of ROO towards implementation it will be important to monitor whether all member states operationalize both tariff preferences and ROO. This can be tracked with an indicator of preference utilization. If a country reports a near-zero preference utilization on a majority of imports or even on specific sectors, it should raise a red flag and trigger an investigation into its causes. For many countries, extraction of this information in almost "live" regime is feasible thanks to national electronic customs systems that track all formal transactions across the border. ITC has engaged with the African Union to implement such a monitoring system at the African level as part of African Trade Observatory.

It will also be important to understand the specifics of implementation of the ROO protocol and tariff preferences in each country. For example, some countries might interpret that AfCFTA tariff preferences do not apply to neighboring countries in the REC, and instead REC rules of origin should prevail. Some countries might implement Regime-wide Rules in different ways, for example, direct transport or certification (e.g. electronic form or only in a specific language).

Therefore, it is important to capture continuously information about rules of origin from the practical aspect at the national level, and even maybe at the local border-post level for very specific details on origin administration and procedures.

This continuous follow-up is an important part of "digitalization" of AfCFTA rules which is the way ahead to bring AfCFTA to the numerous MSMEs in the most open and transparent way. An even more ambitious step in the operationalization effort would be to allow issuance of "digital" certificates of origin based on digital compliance procedures self-executed by firms in the most automated and efficient way. The securitization of information and authentication could rely on blockchain technology. ITC has been taking some steps in this direction by developing, for example, the initiative of a self-assessment tool and an origin calculator, which would act as a digital legal guide and advisor for firms who want to utilize AfCFTA but do not understand its provisions in relation to their product. This can reduce the coordination and awareness-raising costs and ease the strain on the limited government resources, while promoting trust between authorities and private sector.

In conclusion, to our knowledge, this is the first study that assesses systematically PSRs for 82% of products where agreement has been reached. While negotiations on the remaining PSRs and tariffs are still ongoing, we have already reviewed and compared them against pre-existing ROO in Africa and in the large sample of 370 other preferential trade agreements worldwide in the ROF using three novel metrics: wording similarity, regulatory proximity and an index of restrictiveness for PSRs. These metrics at the detailed level of 5,387 HS6 products for trade between 50 African countries with available tariff and trade data relying on the dataset in the Rules of Origin Facilitator. This novel database covers 75% of active PTAs in the world in a harmonized structured way, and now it includes the already agreed draft rules in AfCFTA. A comparison of PSRs where agreement has been reached with those still under negotiation show that average preferential margins are twice as high, at 21% for those under negotiation and that these PSRs under negotiation have higher restrictiveness values and greater regulatory divergence that those for which agreement has been reached. These results suggest that our proposed metrics are useful to detect challenges at reaching agreement on harmonization of PSRs.

The full extent of the mechanics and political economy in formation of AfCFTA PSR will only become clear when the Tripartite FTA's PSR are released. For regime-wide rules which have also been agreed by TFTA, we show that ACFTAs rules are generally more transparent and more flexible. The rules are also close to those adopted for the TFTA, an observation that reinforces the view that rules in FTAs are not written by negotiators from scratch, but are rather influenced by pre-existing FTA models. For PSRs, so far selected criteria are closest to those in SADC.

As with all trade reforms that involve a transfer of rents (or costs), ACFTA negotiations show that agreement is difficult to reach when high rent transfers are at stake. From an economic perspective, the challenge is to agree on ROO that are business friendly rather than business-owned in the sense of penalizing small firms by their complexity. Other suggestions include a waver on MFN tariffs below 2%, and on shipments below a threshold, say $500.

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Annexes to

Closing in on harmonizing Rules of Origin for AfCFTA: anatomy of reconciliations and remaining challenges

Tables

Figures

Annex 1: Dimensions of diversity across negotiating parties (RECs)

This annex describes the diversity in characteristics across the major PTAs in Africa that are likely to influence the formation of AfCFTA ROO. We do not include WAEMU and CEMAC because these regional country groupings, which have gone deeper in terms of integration by sharing a common currency, the CFA Franc, are subsets of other RECs included here. All WAEMU members are also members of ECOWAS. All CEMAC members are members of CEEAC. Because CEEAC has not advanced much towards removing tariffs on intra-regional trade, it is not included in the selection of RECs. Among the selected RECs, four RECs have reached FTA or CU status—COMESA, EAC, ECOWAS and SADC. These were signed in the 1990s under impulse of the Abuja (1994) Road Map towards integration in Africa. To these we add two FTAs, AGADIR and GAFTA, and the recently signed Tripartite FTA (TFTA).[1] TFTA is interesting because, its large and heterogeneous membership confronts it with the same challenges of coordination as those for AfCFTA negotiations.

Table A1 shows sharp differences along economic and geographical characteristics across these PTAs. These sharp differences result in different interests within and across RECs, a challenge for reaching a compromise on harmonization of ROO.

Membership is diverse along several dimensions. GAFTA has membership beyond the African continent; others have over 10 members; and almost all include a mixture of coastal and landlocked (row 5 in Table A1) countries, an indication of diversity of characteristics and interests. Typically, trade costs are higher for landlocked than for coastal countries. In addition, coastal members wish to maintain control (and hence raise costs) of goods transiting through their territories.

Differences in economic size and GDP per capita is also widespread across the PTAs. Rows 6 and 7 in Table A1 show two very large PTAs in terms of population and GDP: The TFTA and COMESA, three of medium range, ECOWAS, GAFTA and SADC and two smaller ones (AGADIR and EAC).[2]

Ranking of trade shares in intra-African trade (row 9) follows the same order as for economic size, a confirmation of the predictions of the gravity trade model that larger economies trade more. Rows 10 to 12 gives shares of total intra-African trade (trade with the outside world is excluded) with the split between within-PTA trade and what is exported toward other African countries outside the PTAs. Row 12 gives the shares of imports from African countries outside the PTAs. Thus, the three largest PTAs have a share of intra trade clearly superior to imports and exports to and from African countries outside the PTA (more than 50 percent of those PTA trade is intra-PTA trade). ECOWAS and GAFTA also have a significant share of intra-PTA trade. AGADIR and ECCAS do not display significant trade flows between members compared to their external trade flows.

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[1] We do not include WAEMU, since all 8 WAEMU members are also members of ECOWAS. All 6 CEMAC are members of ECCAS, a REC with little progress at trade integration (see Byers (2017)). Both monetary unions are not included in the list.
[2] The EAC has 6 members but South Sudan is not included for lack of tariffs and trade.

Table A1: The main Preferential Trade Areas (PTAs) in Africa

Row	Name (abbreviation)	AGADIR (AGD)	GAFTA (GFT)	COMESA (COM)	EAC (EAC)	ECOWAS (ECO)	SADC (SDC)	Tri-partite (TFT)	AfCFTA (AFC)
1	Abbreviation	AGD	GFT	COM	EAC	ECO	SDC	TFT	ACF
2	Type of Agreement	FTA	FTA	CU	CU	CU	FTA	FTA	FTA
3	Date signed	2004	2007	1993	1999	1993	1996		
4	AU members [1]	3	9	24	5	15	15	26	53
5	Landlocked members	0	0	8	3	3	6	8	14
6	GDP (billion $US) [2]	408	686	1234	186	610	729	1285	2331
7	Pop (million)	146	258	643	174	377	344	719	1270
8	GDP/per capita (US$)	2,798	2,669	1,919	1,069	1,618	2,119	1,787	1,834
9	Share in intra-AFR trade (%)	17.5	19.6	81.0	10.6	24.5	65.0	79.0	100
10	Intra PTA Trade (%)	2.1	7.1	40.5	3.2	10.3	44.2	54.5	N.A-
11	Extra PTA export to AFR (%))	9.8	8.8	23.5	3.4	8.6	11.1	12.6	N.A-
12	Extra PTA import from AFR (%)	5.6	3.9	17.0	4.0	5.6	9.8	11.9	N.A-
13	Average MFN tariff (%)	16.2	12.6	13.1	14.5	17.2	9.7	12.2	12.9
14	Intra-PTA prefer. tariff (%)	0.0	0.1	2.5	0.0	0.0	0.1	N.A.	N.A-
15	Preferential margin (%)	16.2	12.5	10.6	14.5	17.2	9.6		N.A-
16	Complementarity index[3]	48	38	28	29	25	20	24	26

Notes:

Data Sources: Rows 6-8: GDP. POP, GDPpc from WDI in 2018. Row 9-12: Share of each PTA in total average intra-African trade over 2016-18 ($65 billion). Row 13: Simple average applied MFN tariff across PTA members. Row 14: Average applied Preferential Tariff in the PTA from Macmap ITC 2016-2018. Row 15: Trade Complementarity Index (TCI) from WITS 2016-2018. N.A. Not applicable.

Notes: All averages are simple averages.
[1] Table A10 gives the list of members in each PTA.
[2] For reference, the canton of Bern in Switzerland (population of 1 million) has a GDP of 81 billion $US.
[3] A lower score indicates that the two countries export similar products suggesting limited scope in expanding bilateral trade. By comparison, in 1962 the TCI for the European Community was 41.7.
[4] Simple average across members in PTA.

Source: Authors' calculations.

Average applied MFN tariffs (row 13) are above 10 percent for all PTAs except for SADC. Since applied intra-PTA tariffs are close to zero (row 14), a full implementation of the AfCFTA would give around 10 percent preferential market access. By comparison, preferential market access for comparator FTAs are: Andean Community 9%, Mercosur, 12%, ASEAN, 7%. These high preferential margins indicate that much is at stake. For firms wishing to export to African partners outside their current PTA, incentives to meet origin requirements are high since it could result in up to 10% extra profits from preferential market access. For firms competing with imports from African partners outside their PTA, their incentive is to lobby to reduce the extent of market access either by exclusions in tariff reductions or by negotiating ROO with high compliance costs for exporters. For negotiators, exclusions and/or backloading in the tariff schedules are the means to reduce adjustment costs and obtain support for removing obstacles to intra-African trade.

Next to preferential margins, complementarity in production structures is an important indicator of the potential gains from reducing barriers to trade. For example, if Ethiopia and Kenya export and import similar baskets with third countries (e.g. they both export coffee and import capital goods from third countries), their complementarity is limited and the potential for expanding trade is likely to be low. The Trade Complementarity Index (TCI) in indicator in row 16 is a proxy measure of the gains from trade from comparative advantage (there are other gains from trade: diversity, greater variety of goods, greater competition). A high value for the TCI among members of an FTA indicates that members have potentially large gains from trading with each. Except for AGADIR and GAFTA, these values are very low, an indication that, on average, all members import and export similar baskets of goods. This suggests low efficiency gains from intra-African trade driven by comparative advantage (differences in endowments or productivity). This low complementarity also contributes to explain the small increase in intra-PTA trade 5 to 10 years after the implementation of the respective PTAs.

Figure A1 displays the extent of heterogeneity within each PTA for four economic indicators: GDP, population, GDP per capita and applied MFN tariffs. Disparities in economic size, population, and per capita GDP are large. These differences suggest that for large countries, there may be limited gains from expanding trade with smaller partners. Differences in per capita GDP might suggest it will be difficult for small countries to realize scale economies if the large economies do not give market access to their smaller partners. Overall, the high dispersion in indicators of geography and economic size combined with a low average per capita income across most PTAs suggest limited implementation capability.

The dispersion in average applied MFN tariffs across RECs is a measure of the extent of market access on the Table and of potential efficiency gains,[3] if the AfCFTA were to be fully implemented (i.e. countries would not have the option of excluding 3 percent of tariff lines from tariff liberalization). Agadir and GAFTA have potentially greater market access to put on the Table. ECOWAS, WAEMU and the EAC apply a CET so there are no within-group differences in tariffs making it easier to reach a common negotiation position.

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[3] The distortionary effects of tariffs increase more than linearly with the height of the tariff, so the efficiency costs of a 20% tariff are more than twice the efficiency costs of a 10% tariff. This is the main reason for the recommendation of a uniform tariff structure, and of radial tariff reductions during liberalization.

Figure A1: Disparities in economic characteristics within PTAs
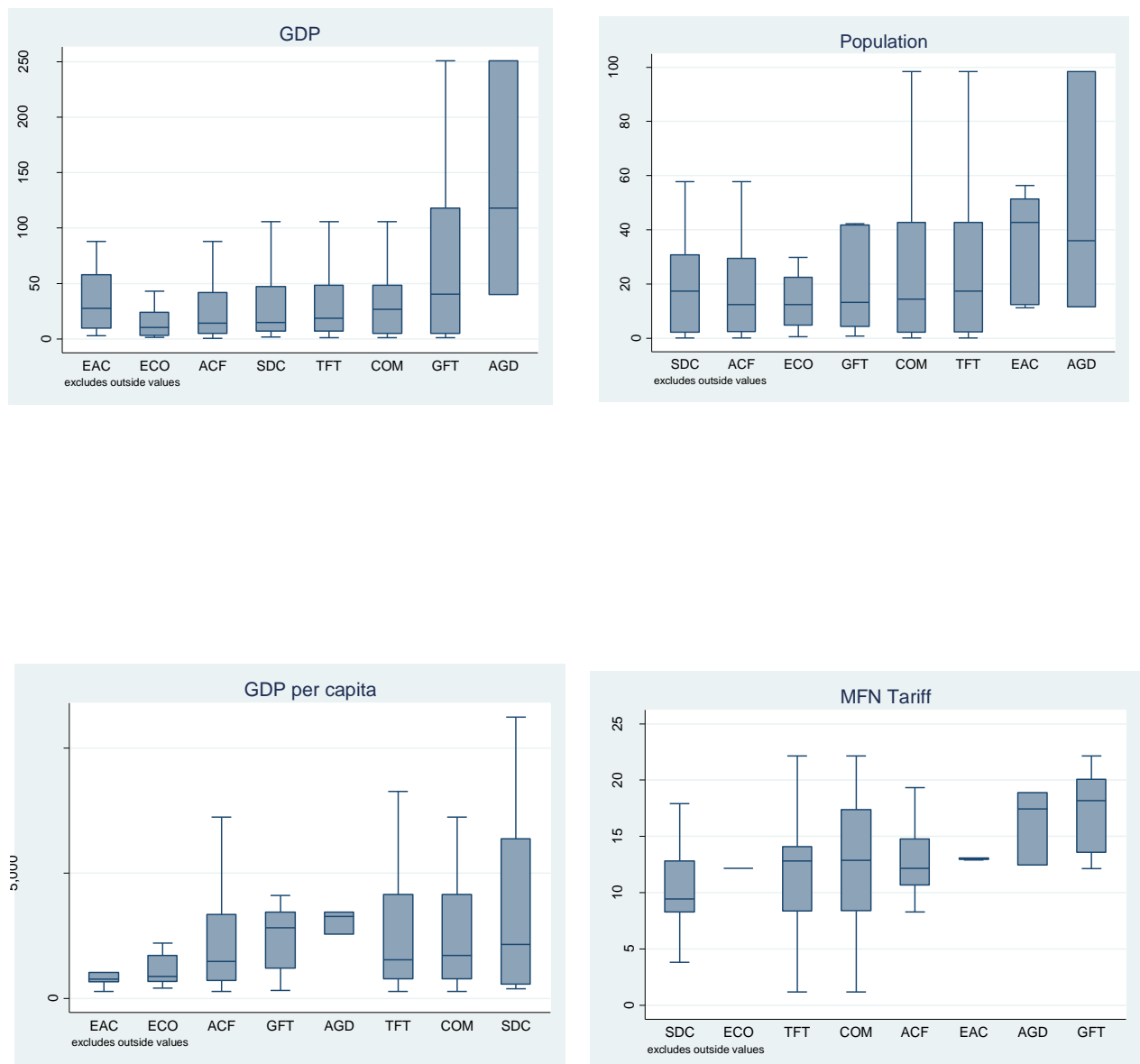
Prospects for increased market integration extend beyond those captured by the above indicators of economic and geographic diversity. Bilateral trade is positively correlated with indicators of trust, as captured by indicators of ethno-linguistic fractionalization and polarization.[4] Measures of revealed

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[4] Guiso et al. (2009) show that somatic distance (height, cephalic index, and hair colour) is negatively correlated with bilateral trust which in turn, is positively correlated with bilateral trade.

comparative advantage in manufactures have been shown to be positively correlated with indicators of the quality of domestic institutions, perhaps more importantly than the traditional measures of comparative advantage (technology, innovation, and capital accumulation). On average, indicators of trust and of the quality of domestic institutions are low among the African RECs, suggesting limited implementation capability.[5] Since increased bilateral trade among members is an important objective of AfCFTA, the limited implementation capability suggested by these indicators of trust and the quality of domestic institutions should be kept in mind while negotiating origin requirements.

To summarize the landscape around which negotiations are taking place:

- Large differences in characteristics, within and across RECs make it more challenging to reach agreement in the large group of AfCFTA members.
- Limited ambition, exclusions, and differences in tariff reduction commitments across country groupings raise compliance costs associated with ROO requirements.
- These complexities raise the costs of compliance associated with ROO requirements relative to the benefits of market access captured by MFN tariffs.

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[5] Melo, Nouar and Solleder (2018, table 19.1) report on intra-REC disparities across biological, cultural and institutional dimensions. The rough indicators of trust and governance are, on average, lower for the RECs than for the comparator FTAs (ASEAN, ANDEAN, MERCOSUR).

Annex 2: Supplementary tables

Table A2: Regime-wide rules across African PTAs: Process Provisions

RW categories	AGADIR	GAFTA	COMESA	EAC	ECOWAS	SADC	TFTA	AFCFTA
Transparency in Origin process provisions								
1: Wholly obtained products	YES	YES	YES	YES	YES	YES	YES	YES
2: Non-qualifying operations	YES	YES	YES	YES	YES	YES	YES	YES
3: Accessories, Parts, Tools	YES	YES	YES	YES	YES	YES	YES	YES
4: Packaging	YES	YES	YES	YES	YES	YES	YES	YES
5: Sets (RVC)	Yes RVC 85% [70]	YES	YES	YES RVC 85% [70]	YES	YES	YES RVC 70% [40]	YES RVC 85% [70]
Measures relaxing provisions on process								
6: Roll-up (absorption)	YES	YES	YES	YES	NO	YES	YES	NO
7: Indirect materials	YES	YES	YES	YES	NO	YES	YES	YES
8: Fungible materials	Materials only [50]	NO	Materials only [50]	Materials only [50]	NO	Materials only [50]	NO	Materials only [50]
9: Principle of Territoriality	YES	YES	NO	YES	NO	NO	YES	YES
10: De Minimis (tolerance)	YES (10%) [50]	YES (10%) [50]	NO	YES (10%) [50]	NO	YES (15%) [25]	NO	NO
11: Value-added calculation	Import content [40]	Build down/up [60]	Import Content/Build down [40]	Build down [80]	Build down [80]	Import Content [40]	Import content [40]	Import Content [40]
12: Outward processing	YES	NO	NO	YES	NO	NO	YES	NO
13: Cumulation	Cross [30]	Diagonal [50]	Diagonal [50]	Cross [30]	Diagonal [50]	Diagonal [50]	Diagonal /full [10]	Diagonal /full [10]
14: Direct transport	YES	YES	YES	YES	NO	YES	NO	YES
15: Exhibitions	YES	YES	NO	NO	NO	NO	NO	YES
16: Duty drawback	NO	NO	nm [65]	nm [65]	nm [65]	nm [65]	nm [65]	nm [65]

Notes: Scoring for R-index. For No-Yes cells, the associated scores of 100-0 are not indicated For *Principle of territoriality* (9) and *direct transport* (14); Yes is scored 100 and No is 0. For other cells, scores are included in brackets in the corresponding cells.

Source: Authors' calculations.

Table A3: Regime wide rules across African PTAs: Certification provisions

RW categories	AGADIR	GAFTA	COMESA	EAC	ECOWAS	SADC	TFTA	AfCFTA
Transparency in Certification provisions								
1: Verifications	YES	YES	YES	YES	YES	YES	YES	YES
2: Competent authority	NO	NO	YES	NO	NO	NO	NO	NO
3: Supporting documents	YES	YES	NO	NO	NO	NO	YES	YES
4: Advance rulings	NO	NO	NO	NO	NO	NO	NO	YES
5: Retention period	3 years [45]	3 years [45]	5 years [85]	5 years [85]	NO	5 years [85]	5 years [85]	5 years [85]
6: Penalties	YES	YES	YES	YES	NO	YES	YES	YES
7: Appeals	NO	YES	YES	NO	NO	NO	NO	YES
Measures relaxing provisions on certification								
8: Exemption of certification	500 EUR[90]	500 $US [90]	NO	500 $US [90]	certain goods [80]	NO	500 $US [90]	500 $US [90]
9: Period of validity	4 mos. [95]	6 mos. [90]	NO	6 mos. [90]	NO	NO	12 mos. [85]	12 mos. [85]
10: Refund of excess duties	YES	YES	YES	NO	NO	NO	YES	YES
11: Minor errors	YES	YES	YES	NO	NO	NO	YES	YES
12: Approved exporter	YES	NO	NO	YES	NO	NO	YES	YES
13: Self-Certification	YES	NO	NO	NO	NO	NO	NO	YES
14: Third party invoicing	NO	YES	NO	NO	NO	NO	NO	NO

Notes: Scoring for R-index. Same as for Table A1. For No-Yes cells, the associated scores of 100-0 are not indicated. For other cells, scores are included in brackets in the corresponding cells.

Source: Authors' calculations from Tables A1 and A2.

Annex 3: Sample and Data sources

This annex describes the sample of countries, data sources for tariffs, trade, rules of origin and Preferential Trade Agreements (PTAs) included in the paper.

A31: Sample and source of trade data and tariff data

Table A4: Data availability for tariffs and trade

Countries (50)	Tariff	Trade source	Trade years	Intra-African imports, annual average
Algeria	2020	Direct	2015, 2016, 2017	$2.4 bn
Angola	2020	Direct	2016, 2017, 2018	$1.5 bn
Benin	2020	Direct	2016, 2017, 2018	$0.8 bn
Botswana	2020	Direct	2016, 2017, 2018	$4.4 bn
Burkina Faso	2020	Direct	2016, 2017, 2018	$1.8 bn
Burundi	2019	Direct	2016, 2017, 2018	$0.4 bn
Cabo Verde	2019	Direct	2016, 2017, 2018	$28 mn
Cameroon	2019	Direct	2015, 2016, 2017	$1.2 bn
Central African Republic	2017	Direct	2015, 2016, 2017	$0.1 bn
Chad	2016	Mirror	2016, 2017, 2018	$0.2 bn
Comoros	2019	Mirror	2016, 2017, 2018	$0.1 bn
Congo	2015	Direct	2017	$2.1 bn
Congo, Democratic Republic of	2019	Mirror	2016, 2017, 2018	$2.7 bn
Côte d'Ivoire	2019	Direct	2016, 2017, 2018	$2.4 bn
Djibouti	2014	Mirror	2016, 2017, 2018	$0.3 bn
Egypt	2019	Direct	2016, 2017, 2018	$3.4 bn
Equatorial Guinea	2007	Mirror	2016, 2017, 2018	$64 mn
Eswatini	2020	Direct	2016, 2017, 2018	$1.3 bn
Ethiopia	2018	Direct	2015, 2016, 2017	$1 bn
Gabon	2019	Mirror	2016, 2017, 2018	$0.3 bn
Gambia	2020	Direct	2016, 2017, 2018	$0.4 bn
Ghana	2019	Direct	2016, 2017, 2018	$1.5 bn
Guinea	2020	Direct	2015, 2016, 2017	$0.7 bn
Guinea-Bissau	2020	Mirror	2016, 2017, 2018	$0.1 bn
Kenya	2019	Direct	2016, 2017, 2018	$3.1 bn
Lesotho	2020	Direct	2015, 2016, 2017	$1.3 bn
Liberia	2018	Mirror	2016, 2017, 2018	$0.2 bn
Madagascar	2020	Direct	2016, 2017, 2018	$0.7 bn
Malawi	2019	Direct	2015, 2016, 2017	$1.3 bn
Mali	2020	Direct	2016, 2017	$3.2 bn
Mauritania	2019	Direct	2016, 2017	$0.2 bn
Mauritius	2020	Direct	2016, 2017, 2018	$0.7 bn
Morocco	2020	Direct	2016, 2017, 2018	$4.9 bn
Mozambique	2018	Direct	2016, 2017, 2018	$3.5 bn
Namibia	2020	Direct	2016, 2017, 2018	$4.9 bn
Niger	2020	Direct	2015, 2016, 2017	$0.7 bn
Nigeria	2016	Direct	2016, 2017, 2018	$1.6 bn
Rwanda	2019	Direct	2015, 2016	$1.4 bn
Sao Tome and Principe	2019	Direct	2016, 2017, 2018	$9 mn
Senegal	2020	Direct	2016, 2017, 2018	$1.3 bn
Seychelles	2020	Direct	2016, 2017, 2018	$0.2 bn
Sierra Leone	2020	Direct	2015, 2016, 2017	$0.4 bn
South Africa	2020	Direct	2016, 2017, 2018	$9.7 bn
Sudan	2017	Direct	2015, 2017	$1.9 bn
Tanzania, United Republic of	2019	Direct	2016, 2017, 2018	$1.7 bn
Togo	2020	Direct	2015, 2016, 2017	$0.4 bn
Tunisia	2015	Direct	2015, 2016, 2017	$1.8 bn
Uganda	2019	Direct	2016, 2017, 2018	$2 bn
Zambia	2018	Direct	2016, 2017, 2018	$6.8 bn
Zimbabwe	2015	Direct	2016, 2017, 2018	$5.4 bn

Notes: See text.

Trade data is sourced for most countries from ITC Trade Map and for some country-years from COMTRADE (Table A5). In line with AfCFTA negotiating modalities, but also to smooth fluctuations and noise in the data, for almost all countries, an average of three consecutive years was taken (see Table A5). The reported trade data was collected directly from national authorities at the tariff line level for most countries by Trade Map. COMTRADE data was reported at 6-digit product level. For four countries (Congo, Mali, Mauritania and Sudan), there are year gaps, and hence less than three years of data were taken.

Table A5: Data sources by country

Legend: Green = Trade Map, Orange = COMTRADE, Red = Mirror, blank = no data.

Countries (50)	2015	2016	2017	2018
Algeria	COMTRADE	Trade Map	Trade Map	
Angola		COMTRADE	COMTRADE	COMTRADE
Benin		Trade Map	Trade Map	Trade Map
Botswana		Trade Map	Trade Map	COMTRADE
Burkina Faso		Trade Map	Trade Map	Trade Map
Burundi		Trade Map	Trade Map	Trade Map
Cabo Verde		Trade Map	Trade Map	Trade Map
Cameroon	COMTRADE	Trade Map	COMTRADE	
Central African Republic	COMTRADE	Trade Map	Trade Map	
Chad		Mirror	Mirror	Mirror
Comoros		Mirror	Mirror	Mirror
Congo			Trade Map	
Congo, Democratic Republic of		Mirror	Mirror	Mirror
Côte d'Ivoire		Trade Map	Trade Map	Trade Map
Djibouti		Mirror	Mirror	Mirror
Egypt		COMTRADE	Trade Map	Trade Map
Equatorial Guinea		Mirror	Mirror	Mirror
Eswatini		Trade Map	Trade Map	Trade Map
Ethiopia	COMTRADE			
Gabon		Mirror	Mirror	Mirror
Gambia		Trade Map	Trade Map	Trade Map
Ghana		Trade Map	Trade Map	Trade Map
Guinea	COMTRADE	Trade Map	COMTRADE	Trade Map
Guinea-Bissau		Mirror	Mirror	Mirror
Kenya		Trade Map	Trade Map	Trade Map
Lesotho	COMTRADE	Trade Map	Trade Map	
Liberia		Mirror	Mirror	Mirror
Madagascar		Trade Map	Trade Map	
Malawi	COMTRADE	Trade Map	Trade Map	
Mali		Trade Map	COMTRADE	
Mauritania		Trade Map	Trade Map	
Mauritius		Trade Map	Trade Map	Trade Map
Morocco		Trade Map	Trade Map	Trade Map
Mozambique		Trade Map	Trade Map	Trade Map
Namibia		Trade Map	Trade Map	Trade Map
Niger	COMTRADE	Trade Map	Trade Map	Trade Map
Nigeria		Trade Map	Trade Map	Trade Map
Rwanda	COMTRADE	COMTRADE		COMTRADE
Sao Tome and Principe		Trade Map	Trade Map	COMTRADE
Senegal		Trade Map	Trade Map	Trade Map
Seychelles		Trade Map	COMTRADE	Trade Map
Sierra Leone	COMTRADE	Trade Map	Trade Map	
South Africa		Trade Map	Trade Map	Trade Map
Sudan	COMTRADE		COMTRADE	
Tanzania, United Republic of		Trade Map	Trade Map	
Togo		Trade Map	Trade Map	Trade Map
Tunisia	COMTRADE	Trade Map	Trade Map	
Uganda		Trade Map	Trade Map	COMTRADE
Zambia		Trade Map	Trade Map	Trade Map
Zimbabwe		Trade Map	Trade Map	Trade Map

Trade Map	COMTRADE	Mirror

Notes: For eight countries (Chad, Comoros, DRC, Djibouti, Equatorial Guinea, Gabon, Guinea-Bissau and Liberia) no direct trade data was available. In these cases, mirror data reported by trade partners was used and aggregated to the six-digit level of products.

A3.2 Tariff data and preparation

Tariff data is available at the national tariff line level for 50 African countries. By default, the most recently available year was taken (as of May 2020). Even though the negotiating modalities of the AfCFTA stipulate that the reference time point for base rates is May 2019, due to tariff unavailability of several countries for 2019, we preferred to take the most recent tariff rates for 2020, if available.

The source for tariff data is ITC Market Access Map. The tariffs have been directly collected from national sources and integrated into the online Market Access Map database (www.macmap.org) by ITC team. The tariff data includes both most-favored nation (MFN)[6] and preferential duty rates.

The tariff data for the following countries was not available, and hence these countries were effectively excluded from the study: Eritrea, Libya, Somalia, South Sudan and Western Sahara.

Figure A2: Availability of applied tariffs data in Market Access Map (June 2020)

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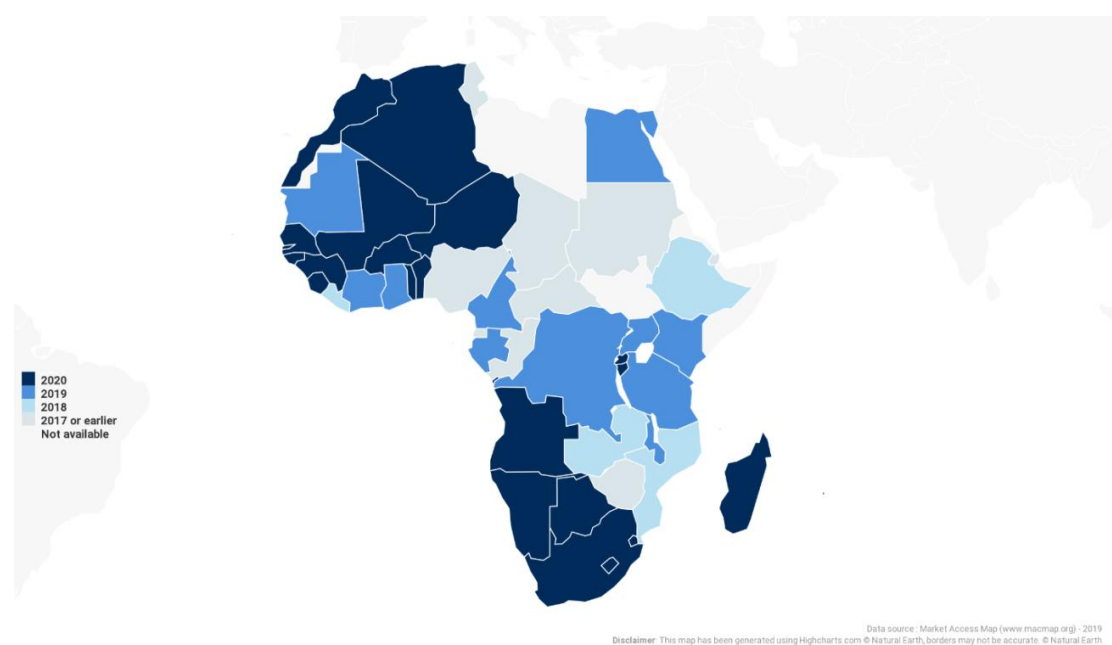
[6] Twelve African countries (Algeria, Comoros, Equatorial Guinea, Eritrea, Ethiopia, Libya, Sao Tome and Principe, Seychelles, Somalia, South Sudan, Sudan, Western Sahara) are not members of the WTO. For these countries, we use the "General tariff" instead of the MFN tariff.

A3.2.1: Tariff Ad Valorem Equivalents (AVEs)

Several African countries apply specific tariffs (called 'non-ad-valorem duties') on a number of products. Countries and tariff line counts are specified in Table A6. The most frequent users of non-ad valorem tariffs are members of EAC and SACU regional groups. Both are CUs so they would be expected to have the same number of tariff lines. This is the case for SACU but not for the EAC where members can obtain Stays of Application (an exemption from the CET granted on an annual basis) and duty remissions.

Table A6: Incidence of non-ad-valorem duties in 15 African countries

Country (15)	Tariff year	Tariff lines affected	% of all tariff lines
Botswana	2020	313	3.9%
Burundi	2019	52	0.9%
Egypt	2019	21	0.3%
Eswatini	2020	313	3.9%
Kenya	2019	267	4.7%
Lesotho	2020	313	3.9%
Liberia	2018	26	0.4%
Malawi	2019	1	0.0%
Namibia	2020	313	3.9%
Rwanda	2019	37	0.7%
Seychelles	2020	130	2.2%
South Africa	2020	313	3.9%
Tanzania, United Republic of	2019	61	1.1%
Uganda	2019	17	0.3%
Zimbabwe	2015	411	6.7%

Source: Authors' calculations based on Market Access Map database.

For specific duties, Market Access Map calculates ad valorem equivalents (AVEs) based on the common methodology used with the UNCTAD and WTO in the annual World Tariff Profiles publication (ITC-UNCTAD-WTO, 2007). In a nutshell, the non-ad valorem duty amount per unit of weight is compared with the average imported unit value of the product, and the ratio is estimated to be the AVE.

Table A7 gives examples of non-ad valorem duties and their respective conversions into the AVE. For small (large) quantities imported, the corresponding ad-valorem tariff will be high (low). For example, Eswatini's tariff rate of "6c /kg" applies on prepared or preserved mackerel in airtight metal containers (HS 1604.15.20). First, the duty is converted into a standardized format (1 Rand = 100c) for USD and tons, hence USD 4.19 /ton. Next, an average unit value of imported mackerel into Eswatini is estimated to be USD 2.6 / kg, or USD 2,600 per ton, based on customs import data. The resulting AVE is

$$\text{AVE} = \frac{\text{Specific duty per unit}}{\text{Unit value}} = \frac{\text{USD 4.19 per ton}}{\text{USD 2,600 per ton}} = 0.2\%$$

In the case of mixed or combined duties, such as provided in examples for Botswana, Burundi and Kenya, an additional mathematical operation to compare the ad-valorem part of the tariff and the non-ad valorem part of the tariff (converted to AVE) is performed.

Table A7: Examples of non-ad-valorem duties and conversion into AVE

Country	Tariff year	Tariff line code	Non-ad valorem duty	AVE
Botswana	2020	1604.19.10	25% or 200c/kg	25.0%
Burundi	2019	7228.30.00	25% or USD 200/MT whichever is higher	25.0%
Egypt	2019	2402.10.00.90	150.000 pounds per net kilogram	16.9%
Eswatini	2020	1604.15.20	6c/kg	0.2%
Kenya	2019	6006.33.00	35% or USD 5/Ton whichever is higher	35.0%
Liberia	2018	2208.90.00.00	US$ 5.00/l	85.8%
Namibia	2020	6402.99.90	30% or 500c/2u	30.0%
Seychelles	2020	2402.20.00	SCR 96 per pack of 200	83.2%
South Africa	2020	0402.10.10	450c/kg with a maximum of 96%	15.5%
Tanzania, United Republic of	2019	1701.12.90	100% or USD 460/MT whichever is higher	100.0%
Zimbabwe	2015	0206.10.00	15% or US$ 1.50/Kg whichever is the higher	33.2%

Source: Market Access Map database

Finally, for five countries (Chad, Congo, Djibouti, Ethiopia and Sao Tome and Principe) the duty for a handful of tariff lines was registered as 'not available'. These tariff lines were dropped from the tariff analysis. In one case, for tariff line 2707.10.00 (benzol) of Zimbabwe a technical duty was used $0.15/m3. For technical duties, it is not possible to estimate AVE due to a non-standard unit of quantity.

A3.2.2: Tariff rate quotas (TRQs)

Three African countries use a tariff rate quota (TRQ) on a number of products (Table A8). Algeria and Tunisia apply their TRQs bilaterally to each other for a range of agricultural products. South Africa applies MFN TRQs on a number of agricultural products ranging from meats to cereals. Several examples are provided in Table A9.

Table A8: African countries using tariff rate quotas (TRQs)

Country	Tariff year	TRQ type	Tariff lines affected	% of all tariff lines
Algeria	2020	Bilateral	101	0.6%
South Africa	2020	MFN	224	2.8%
Tunisia	2015	Bilateral	112	0.7%

Source: Authors' calculations based on Market Access Map database

Table A9: Examples of tariff rate quotas (TRQs) used by South Africa

Tariff line code	Description	Partners	MFN outside rate	MFN inside rate	Contingent	Allocation method
2204.21.41	Unfortified wine	All countries	25%	14.6%	9,572,405 litres	Permits
0901.21.00	Roasted coffee	All countries	6c/kg	23.8%	15,746 tons	

Source: Authors' calculations based on Market Access Map database

The TRQs were converted to AVE based on the ITC Market Access Map methodology (Guimbard et al., 2007). AVE is determined to be either the inside-quota tariff rate or the outside-quota tariff rate or the average of the two, depending on the estimated TRQ fill rate assessed based on customs import data.

A3.2.3: Alignment of tariff line nomenclatures between tariffs and trade

In some instances, due to a gap in HS revisions, the alignment between tariff lines for tariffs and tariff lines for trade was not perfect. To perform the alignment between the tariff lines on tariff and trade sides, a reconciliation algorithm developed in the World Tariff Profiles was applied.

A4.1 PTAs included in the paper

Two PTAs sharing a common currency, CEMAC and WAEMU are not included in the paper because all WAEMU belong to ECOWAS and CEMAC members to ECCAS (See below).

Agadir. Agadir is an FTA involving Egypt, Jordan, Morocco and Tunisia. Lebanon and Palestine are in the process of accession to this agreement, which they signed on 3 April 2016. Three of the four parties to Agadir are African states. The negotiations for Agadir FTA started on 9 May 2001 and the agreement was signed in the city of Rabat, Morocco by the four parties on 25 February 2004. The agreement took effect on 27 March 2007.

The FTA has PSRs that are aligned with the Pan-Euro-Mediterranean (PEM) Convention on rules of origin, to facilitate trade integration with the European Union (EU) and other countries in the EU neighborhood.

Arab League. Arab League is a group of 22 countries that signed the Greater Arab Free Trade Area (GAFTA), also known as Pan-Arab Free Trade Area (PAFTA). 18 members implemented the agreement on 1 January 1998, while 4 members (Comoros, Djibouti, Mauritania, Somalia) are still in the process of approval. Six of the 18 implementing parties of GAFTA are African states.

The main origin criterion of GAFTA is a regional value content of 40%. However, in September 2007 GAFTA member states adopted Annex 9 with detailed PSRs. The Annex was only available in Arabic, however, ITC translated it into English in 2019.

COMESA. COMESA is an FTA between 19 African states, operational since 8 December 1994. Furthermore, Tunisia and Somalia are finalizing their accession to the free trade area, which will bring the total membership to 21. Angola withdrew from COMESA on 14 November 2007. Djibouti, DRC, and Eswatini have not yet started applying COMESA preferences towards other parties, albeit they benefit from COMESA preferences extended by other parties.

EAC. EAC is a customs union between five African states. The sixth new member South Sudan is finalizing its accession to the customs union. The EAC was signed in 1999 between Kenya, Tanzania and Uganda and took effect on 7 July 2000. Burundi and Rwanda joined the customs union on 1 July 2009. South Sudan's implementation of the customs union is pending. In 2019, DRC applied to join EAC. In March 2012, Somalia applied to join EAC but was denied. In 2017, Somalia re-applied.

EAC applies product-specific rules of origin on intra-trade.

ECOWAS. ECOWAS is a free trade agreement between 15 African states. It has been operational since 24 July 1993. ECOWAS is a customs union project in the process of becoming operational. It superseded WAEMU in 2015. Cabo Verde is the only member who is not applying ECOWAS preferences to other parties, but is receiving ECOWAS preferences as a beneficiary. Mauritania withdrew from ECOWAS in December 2000.

ECOWAS applies a uniform origin criterion on intra-trade across all goods.

ECCAS. ECCAS is a free trade agreement between 11 Central African states. The creation of the regional economic community was signed on 18 October 1983 and the free trade area was established in 2004, but it is not yet operational.

ECCAS plans to apply a uniform origin criterion on intra-trade based on the rules of origin protocol under the ECCAS treaty. ECCAS is not included in the main text

SADC. SADC is a regional economic community between 16 African states. The SADC free trade area governed by the SADC free trade protocol is operational for 12 members. Comoros acceded SADC in 2017 but does not yet apply the free trade protocol. Furthermore, Angola, DRC and Madagascar have

not yet ratified the SADC free trade protocol, and thus do not apply SADC preferences yet, but receive SADC preferences from some SADC member states.

SADC applies product-specific rules of origin.

TFTA. The Tripartite Free Trade Area, also known as COMESA-EAC-SADC FTA, comprises 26 African member states. The consultations started 2008 and negotiations lasted from 2011 until 2015. The agreement was signed by 22 out of 26 members so far, but only 8 members ratified it.

TFTA regime-wide rules of origin are part of the main text of the agreement (Annex 4) signed by the parties. Negotiations on product-specific rules of origin are still ongoing and the draft schedule of list rules is not publicly available.

AfCFTA. The AfCFTA is a free trade agreement between all 55 African countries under the auspices of the African Union. Signed by 54 countries (Eritrea has not signed), ratification instruments have been deposited by more than 30 countries as of early 2021. This means that when it is launched, the commitments will only apply to those signatories who ratified.

The framework agreement, containing regime-wide rules of origin, entered into force in May 2019 following the sufficient number of deposited ratifications (22). However, the negotiations on tariff concessions and product-specific rules of origin are still ongoing, and the schedules are not yet finalized. Negotiations on product-specific rules of origin are in terminal stages, and the initial draft of agreed rules for 82% of products have been released end of December 2020.

A4.2 Regional Economic Communities (RECs)

AfCFTA officially recognizes 8 RECs as building blocks (based on Preamble of the main text). Free trade agreements or customs unions under 5 of these RECs are operational or signed and are included in this study: COMESA, EAC, SADC, ECCAS, ECOWAS. Three other RECs do not have yet complete texts of free trade agreements, including rules of origin, and are thus not part of this study: Community of Sahel-Saharan States (CEN-SAD), Intergovernmental Authority on Development (IGAD) and the Arab Maghreb Union (UMA).

The majority of African countries are de-facto part of 1 or 2 plurilateral free trade areas (Table A10). Future implementation of the Tripartite and AfCFTA will add 2 more large operational free trade areas on top.

Some members participate in free trade areas on non-reciprocal basis. For example, Angola left SADC free trade area in 2007 but some SADC member states, such as Mozambique and Zambia, continue treating Angola as SADC member and apply SADC preferences to Angola products.

Table A10: Memberships of African RECs and PTAs

AGADIR	GAFTA	COMESA	EAC	ECCAS	ECOWAS	SADC	Tripartite
Egypt Morocco Tunisia	Algeria Comores Djibouti Egypt Mauritania Morocco Somalia Sudan Tunisia	Angola Burundi Comores Dem. Republic of Congo Djibouti Egypt Eswatini Ethiopia Eritrea Kenya Lesotho Libya Madagascar Malawi Mauritius Namibia Rwanda Seychelles South Africa Sudan Tunisia Uganda Zambia Zimbabwe	Burundi Kenya Rwanda Uganda Tanzania	Angola Burundi Cameroon Central Africa Chad Congo Dem. Republic of Congo Equatorial Guinea Gabon Rwanda Sao Tome	Benin Burkina fas Cap Verde Côte d'Ivoire Gambia Ghana Guinea Guinea-Bissau Liberia Mali Niger Nigeria Senegal Sierra Leone Togo	Angola Botswana Dem. Republic of Congo Eswatini Lesotho Madagascar Malawi Mauritius Mozambique Namibia Seychelles South Africa The United Republic of Tanzania Zambia Zimbabwe	Angola Botswana Burundi Comores Dem. Republic of Congo Djibouti Egypt Ethiopia Eritrea Eswatini Kenya Lesotho Libya Madagascar Malawi Mauritius Mozambique Namibia Rwanda Seychelles South Africa Sudan The United Republic of Tanzania Uganda Zambia Zimbabwe

Table A11: De-facto membership of African countries in 6 PTAS and RECs

Country	PTAs	COMESA	SADC	ECOWAS	GAFTA	EAC	Agadir
Egypt	3	green			green		green
Burundi	2	green				green	
Kenya	2	green				green	
Madagascar	2	green	yellow				
Malawi	2	green	green				
Mauritius	2	green	green				
Morocco	2				green		green
Rwanda	2	green				green	
Seychelles	2	green	green				
Sudan	2	green			green		
Tanzania	2		green			green	
Tunisia	2				green		green
Uganda	2	green				green	
Zambia	2	green	green				
Zimbabwe	2	green	green				
Congo, DR	2	yellow	yellow				
Eswatini	2	yellow	green				
Libya	2	peach			peach		
Algeria	1				green		

Country							
Angola	1		yellow				
Benin	1			green			19
Botswana	1		green				
Burkina Faso	1			green			
Cabo Verde	1			yellow			
Comoros	1	green					
Congo	1	yellow					
Côte d'Ivoire	1			green			
Djibouti	1	yellow					
Eritrea	1	peach					
Ethiopia	1	green					
Gambia	1			green			
Ghana	1			green			
Guinea	1			green			
Guinea-Bissau	1			green			
Lesotho	1		green				
Liberia	1			green			
Mali	1			green			
Mozambique	1		green				
Namibia	1		green				
Niger	1			green			
Nigeria	1			green			
Senegal	1			green			
Sierra Leone	1			green			
South Africa	1		green				
Togo	1			green			
Cameroon							
Central African Republic							
Chad							
Equatorial Guinea							
Gabon							
Mauritania							
Sao Tome and Principe							
Somalia							
South Sudan							
Western Sahara							

Notes:

🟨 country applies and receives preferences under PTA;

🟩 country does not apply preferences under PTA, but receives preferences from some PTA members;

🟧 no tariff information is available, but country receives preferences from some PTA members.

a/ ECCAS, WAEMU, the Tripartite and AfCFTA have been omitted, as they are not operational.
b/ Bilateral PTAs and Morocco's LDC scheme have been omitted from the Table.
c/ CEMAC and IOC have been omitted from the Table, as they are outside of the scope of this paper (no ROO data).

Source: Authors' assessment based on Rules of Origin Facilitator and Market Access Map.

A5: Data Sources on Rules of Origin

The source for rules of origin data is ITC Rules of Origin Facilitator (ROF) database. The database currently covers more than 370 PTAs out of more than 450 PTAs in force globally (as of June 2020). The ROF includes coded Product-Specific Rules of origin (PSRs) and 30 regime-wide (RWs) origin and certification provisions for 25 intra-African PTAs either in force, signed, or recently superseded (Table A12). For the Tripartite FTA (TFTA) and AfCFTA only regime-wide provisions are available, as the negotiations on the product-specific rules of origin are still ongoing.

A5.1 Availability of Text on Rules of Origin for the selected PTAs

Table A12 gives the data sources for the 8 RECs included in the paper: Agadir, Arab League (also known as GAFTA), COMESA, EAC, ECOWAS, SADC, TFTA (only RWR) and AfCFTA (only RWR).

Table A12: Availability of rules of origin in intra-African PTAs

RoO covered?	Current status	Short PTA name	Official PTA name	Type of PTA
Yes	In force	Algeria-Morocco	AGREEMENT ON TRADE AND TARIFF BETWEEN THE KINGDOM OF MOROCCO AND THE PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA	PS
Yes	In force	Algeria-Tunisia	Accord commercial préférentiel entre le Gouvernement de la République algérienne démocratique et populaire et le Gouvernement de la République tunisienne	PS
Yes	In force	FTA, Agadir	Agreement setting up a free trade area between the Arab Mediterranean countries	FTA
Yes	In force	FTA, Egypt-Morocco	AGREEMENT ON FREE TRADE BETWEEN THE GOVERNMENT OF THE KINGDOM OF MOROCCO AND THE GOVERNMENT OF THE REPUBLIC OF EGYPT	FTA
Yes	In force	FTA, Morocco-Tunisia	AGREEMENT ON TRADE COOPERATION BETWEEN THE KINGDOM OF MOROCCO AND THE	FTA
Yes	Signed	Group of Eight (D8)	PREFERENTIAL TRADE AGREEMENT AMONG D-8 MEMBER STATES	PS
Yes	In force	Guinea-Morocco	CONVENTION COMMERCIALE ET TARIFAIRE ENTRE LE GOUVERNEMENT DU ROYAUME DU MAROC ET LE GOUVERNEMENT DE LA REPUBLIQUE DE GUINEE	PS
Yes	In force	Libya-Morocco	Accord Commercial et Tarifaire Maroco-Libyen	PS
Yes	In force	Malawi-Mozambique	Preferential Trade Agreement between the Government of the Republic of Malawi and the Government of the Republic of Mozambique	FTA
Yes	In force	Mauritania-Morocco	Accord Commercial et Tarifaire entre le Royaume du Maric et la République Islamique de Mauritanie	PS
Yes	In force	Morocco for Least Developed Countries	Exoneration total du droit d'importation en faveur de certains produits originaires et en provenance de	NR
Yes	In force	Regional group, COMESA	Common Market for Eastern and Southern Africa	FTA
Yes	In force	Regional group, EAC	The Treaty for the Establishment of the East African Community	CU
Yes	Signed	Regional group, ECCAS	TREATY ESTABLISHING THE ECONOMIC COMMUNITY OF CENTRAL AFRICAN STATES (E.C.C.A.S)	FTA
Yes	In force	Regional group, ECOWAS	ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS)	FTA
Yes	In force	Regional group, League Of Arab States	Arab Free Trade Area Agreement	FTA
Yes	In force	Regional group, SACU	SOUTHERN AFRICAN CUSTOMS UNION AGREEMENT 2002 (As amended on 12 April 2013) BETWEEN THE GOVERNMENTS OF THE REPUBLIC OF BOTSWANA, THE KINGDOM OF LESOTHO, THE REPUBLIC OF NAMIBIA, THE REPUBLIC OF SOUTH AFRICA AND THE KINGDOM OF SWAZILAND	CU
Yes	In force	Regional group, SADC	TREATY OF THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY	FTA
Yes	Superseded	Regional group, WAEMU	TRAITE MODIFIE DE L'UNION ECONOMIQUE ET MONETAIRE OUEST AFRICAINE (UEMOA)	CU
Only RW	Signed	FTA, COMESA-EAC-SADC	AGREEMENT ESTABLISHING A TRIPARTITE FREE TRADE AREA AMONG THE COMMON MARKET FOR EASTERN AND SOUTHERN AFRICA, THE EAST AFRICAN COMMUNITY AND THE SOUTHERN	FTA
Yes	In force	Zimbabwe-Namibia Trade Agreement	TRADE AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF ZIMBABWE AND THE GOVERNMENT OF THE REPUBLIC OF NAMIBIA	PS
Yes	In force	Zimbabwe-Malawi Trade Agreement	Trade Agreement between the Government of the Republic of Zimbabwe and the Government of the	PS
Yes	In force	Zimbabwe-Botswana Trade Agreement	AGREEMENT BETWEEN THE REPUBLIC OF BOTSWANA AND THE REPUBLIC OF ZIMBABWE	PS
Only RW	Signed	African Continental Free Trade Area (AfCFTA)	AGREEMENT ESTABLISHING THE AFRICAN CONTINENTAL FREE TRADE AREA	FTA
Yes	In force	GSTP	AGREEMENT ON THE GLOBAL SYSTEM OF TRADE PREFERENCES AMONG DEVELOPING	PS
No	In force	Egypt for TNDC	GENERAL AGREEMENT ON TARIFFS AND TRADE AND AGREEMENTS CONCLUDED UNDER THE AUSPICES OF THE CONTRACTING PARTIES	NR
No	In force	Egypt-Libya		PS
No	In force	Ethiopia-Sudan		PS
No	In force	FTA, Egypt-Tunisia		FTA
No	In force	Mano River Union (MRU)	Mano River Declaration establishing the Mano River Union between Liberia and Sierra Leone	PS
No	In force	Morocco-Senegal	ACCORD COMMERCIAL ENTRE LE GOUVERNEMENT DU ROYAUME DU MAROC ET LE GOUVERNEMENT DE LA REPUBLIQUE DU SENEGAL	PS
No	In force	Mozambique-Zimbabwe		PS
No	In force	Regional group, CAEMC	TRAITE REVISE de la Communauté Economique et Monétaire de l'Afrique Centrale (CEMAC)	CU
No	In force	Regional group, IOC	Accord Général de Coopération entre les Etats de la Commission de l'Océan Indien	FTA
No	In force	FTA, Egypt-Sudan		FTA
No	In force	CU, Botswana-Malawi		CU

Note: PS – Partial scope agreement (preferences on a limited list of products); FTA – Free trade agreement (substantially all products are liberalized); NR – Non-reciprocal arrangement (unilateral preferences); CU – Customs union.

Source: ITC-WCO-WTO Rules of Origin Facilitator database (as of May 2020).

A5.2: Grouping Product Specific Rules (PSRs) into broader categories

To facilitate comparisons, we further simplify the categorization of product-specific rules of origin into 14 key categories using the criteria in Table A13. First, we do not differentiate VC rules by the percentage, which helps to reduce significantly the number of PSR entries in the ROF ITC database. Second, we group in the same category the combination of a CTC with a SP or with a VC rule; also, we group in the same category the alternative of a CTC with a SP or with a VC.

Table A13: Aggregation of PSR criteria into 14 simplified PSR categories

14 simple PSR	Detailed PSR criteria	14 simple PSR	Detailed PSR criteria
1: CH	CTH	10: SP	SP
	ALW		SP or SP
2: CH and VC/SP	CTH + ALW 20% and RVC 50%		SP or SP or (SP and RVP 52.5%)
	CTH + ALW 50% and RVC 50%		SP or SP or SP
	CTH + ALW and SP		SP or SP or SP or RVP 52.5%
	CTH and RQC 70%		SP or SP or SP or SP
	CTH and RQP 70%	11: SP and VC	SP and RVC 40%
	CTH and RQP 70% + WO		SP and RVC 45%
	CTH and RVC 30%		SP and RVC 50%
	CTH and RVC 50%		SP and RVC 75%
	CTH and RVC 60%		SP and RVC 85%
	CTH and RVC 60%*		SP and RVP 30%
	CTH and SP		SP and RVP 60%
5: CH or VC/SP	(CTH + ALW 20% and RVC 50%) or RVC 60%		SP and RVP 65%
	(CTH + ALW 20%) or RVC 30%	12: SP or VC	SP or (SP and RVP 50%)
	(CTH + ALW 20%) or RVC 60%		SP or (SP and RVP 52.5%)
	(CTH + ALW 50%) or RVC 30%		SP or RVC 30%
	(CTH + ECT) or RVC 30%		SP or RVC 60%
	(CTH + ECT) or RVC 50%		SP or RVC 75%
	(CTH + ECT) or RVC 60%		SP or RVP 52.5%
	(CTH + ECT) or RVC 70%		SP or RVP 52.5% or (SP and RVP 52.5%)
	(CTH + ECT) or SP or SP		SP or RVP 60%
	(CTH and RVC 50%) or RVC 75%	9: VC	(RVC 50% and ALW 20%) or RVC 75%
	(CTH and RVC 50%) or SP		(RVC 60% and ALW 10%) or RVC 40%
	(CTH and RVC 60%) or RVC 40%		(RVC 60% and ALW 10%) or RVC 70%
	(CTH and RVC 60%) or RVC 70%		(RVC 60% and ALW 10%) or RVC 75%
	(CTH and RVC 60%) or RVC 75%		(RVC 60% and ALW 10%) or SP or RVC 75%
	(CTH and RVC 60%*) or RVC 70%		(RVC 60% and ALW 25%) or RVC 70%
	(CTH and RVC 60%*) or RVC 75%		(SP and RVC 45%) or (SP and RVC 40%)
	ALW or RVC 30%		(SP and RVP 60%) or SP
	CTH or (SP and RVC 30%)		NC or RVC 30%
	CTH or (SP and RVC 50%)		NC or RVC 60%
	CTH or (SP and RVP 40%) or (SP and RVC 35%)		RQC 60%
	CTH or (SP and RVP 50%)		RQP 70%
	CTH or (SP and RVP 50%) or (SP and RVC 35%)		RVC 30%
	CTH or ALW or RVC 30%		RVC 35%
	CTH or RVC 30%		RVC 40%

Category	Rule	Category	Rule
	CTH or RVC 40%		RVC 45%
	CTH or RVC 40% or SP		RVC 50%
	CTH or RVC 50%		RVC 60%
	CTH or RVC 60%		RVC 60% or RVC 70%
	CTH or RVC 70%		RVC 60%*
	CTH or RVP 50%		RVC 60%* or RVC 40%
	CTH or RVP 75% or RVC 60%		RVC 60%* or RVC 70%
	CTH or SP		RVC 60%* or RVC 75%
	CTH or SP or RVC 30%		RVC 60%* or RVC 80%
	SP or (CTH + ALW 50%)	14: WO	WO
	SP or CTH		WO and RQP 70%
4: CH with ALW	CTH + ALW		WO and RVC 40%
	CTH + ALW 20%		WO and RVC 50%
	CTH + ALW 30%		WO*
	CTH + ALW 50%	13: WO or VC	WO or RVC 40%
3: CH with EXC	ALW + ECT		WO or RVC 40% or RVC 25% or RVC 35%
	ALW 50%		WO or RVC 40% or RVC 25% or SP
	CTH + ECT		WO or RVC 40% or RVC 35% or Other
	CTH + ECT + WO		WO or RVC 40% or RVC 35% or RVC 35%
	CTH + ECT 30%		WO or RVC 40% or RVC 35% or SP
	CTH + ECT 30% + WO		WO or RVC 40% or RVC 35% or WO
	CTH + WO		WO or RVC 40% or RVC 45%
7: CS	CTSH	6: CH or VC or WO	WO or RVC 40% or RVC 25% or (CTH + ECT)
	NC		WO or RVC 40% or RVC 25% or (CTH and RVC 35%)
	NC + ECT		WO or RVC 40% or RVC 25% or CTH
	NC + ECT + WO		WO or RVC 40% or RVC 35% or (CC + ECT)
	NC + ECT 15%		WO or RVC 40% or RVC 35% or (CTH + ECT)
	NC + ECT 20%		WO or RVC 40% or RVC 35% or (CTH and RVC 35%)
	NC + ECT 20% and RVP 80%		WO or RVC 40% or RVC 35% or (CTH and SP)
	NC + ECT 30%		WO or RVC 40% or RVC 35% or ALW
	NC + ECT 40%		WO or RVC 40% or RVC 35% or CC
	NC + ECT 50%		WO or RVC 40% or RVC 35% or CTH
	NC + ECT 50% and RVP 50%		
	NC + ECT and RQC 70%		
	NC + ECT and SP		
8: CS or VC/SP	(CTSH + ALW 20%) or RVC 30%		
	(NC + ECT 20%) or (NC + ECT) or RVC 30%		
	(NC + ECT 20%) or RVC 30%		
	(NC + ECT 20%) or RVC 60%		
	(NC + ECT 20%) or RVC 75%		
	(NC + ECT 30%) or RVC 60%		
	(NC + ECT 50%) or RVC 75%		

A6: Comparisons with other families of rules of origin

A6.1: Textual similarity: Comparisons with other families of rules of origin

As a further confirmation that AfCFTA and the other African PTAs take inspiration from the EU model of origin requirements, Tables A14 and A15 compare textual similarity with those of the other main families of rules of origin. The comparison shows that for both RW rules (Table A14) and PSRs (Table A15), textual similarity is either close to the EU model or not close to any other family including the South-South CARICOM and SAARC PTAs.

Three other patterns stand out. First, the Northern Africa PTAs follow most closely the European model for the PSRs (embodied in PEM). Agadir has a high overlap with EFTA PTAs that largely coincide with EU PTAs in RW.[7] The Arab League has a nearly 100% overlap with bilateral Arab PTAs that directly use Arab rules of origin. Then the close PTAs appear to be EU-family based. Second, COMESA and EAC are the closest to SADC, which is not surprising since there is a large overlap in membership. This should help finalize the PSR rules for TFTA. Third ECOWAS has very little similarity with any of the families, an indication that it stands out as an original PTA that could be a source of scrutiny and eventually of inspiration for the ongoing AfCFTA PSR negotiations.[8]

The close textual similarity of most African PTAs with the EU model suggests three comments. First, is the to-be-expected influence of colonial heritage that reflects the economic interests of firms in the EU that is losing market share to Asian partners. These partners with less complex rules have not yet shown influence in the drafting of RoOs for the African RECs considered here (see Cadot et al. 2007). Second, is the "one-size-fits-all". Documentation of the EU and NAFTA models has repeatedly shown that their PSRs are complex (Estevadeordal et al. (2004), Abreu (2016)). Third, whether it is the EU or NAFTA RoO families of models, estimates of utilization rates for NAFTA and for European PTAs show that the restrictiveness of RoO PSRs as captured by an R-index, are higher for sectors with the largest preferential margins (Cadot et al. 2006)).

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[7] ROF database do not contain EU PTAs yet, only very few (EPAs, CETA and GSP), while it contains all EFTA PTAs.
[8] ECCAS and WAEMU also have a very low overlap with any families. They are textually one-of-a-kind.

Table A14: Textual overlap for Regime Wide rules for 10 African PTAs with Major families of PTAs

PTA	EU Model		NAFTA Model			ASEAN Model		Hybrid	South-South	
	PEM Convention	EU-SADC	NAFTA	USA-DRCAFTA	USMCA	ASEAN	ASEAN-Hong Kong	CPTPP	CARICOM	SAARC
AfCFTA (54)	21%	22%	3%	4%	4%	5%	6%	4%	4%	5%
Tripartite (26)	32%	37%	3%	3%	3%	4%	4%	3%	3%	6%
COMESA (19)	4%	5%	2%	2%	2%	3%	3%	2%	10%	3%
ECOWAS (15)	3%	3%	1%	1%		2%	2%	1%	5%	3%
SADC (12)	6%	6%	2%	2%	2%	3%	2%	2%	14%	3%
Arab League (6)	21%	18%	3%	3%	3%	5%	4%	3%	2%	5%
EAC (5)	10%	10%	3%	3%	3%	3%	3%	3%	7%	3%
Agadir (3)	73%	47%	3%	2%	3%	5%	5%	3%	2%	5%

Note 1: Textual overlap is measured as a simple average of textual overlaps across 30 provisions.
Note 2: Empty cells above the diagonal apply when the similarity is <1%.

Source: Authors' calculations based on Rules of Origin Facilitator.

Table A15: Textual overlap of Product-Specific rules (PSR) for 6 African PTAs

| PTA | EU Model | | NAFTA Model | | | ASEAN Model | | Hybrid | South-South | |
	PEM Convention	EU-SADC	NAFTA	USA-DRCAFTA	USMCA	ASEAN	ASEAN-Hong Kong	CPTPP	CARICOM	SAARC
COMESA (19)	5%	6%	2%	2%	2%	3%	4%	2%	8%	7%
ECOWAS (15)	3%	3%	2%	2%	2%	2%	4%	2%	4%	5%
SADC (12)	40%	26%	4%	4%	4%	4%	2%	4%	8%	4%
Arab League (6)	39%	21%	3%	3%	3%	5%	4%	4%	5%	4%
EAC (5)	36%	28%	3%	3%	3%	4%	2%	3%	6%	3%
Agadir (3)	85%	45%	3%	3%	3%	4%	2%	4%	7%	3%

Note 1: Textual overlap is measured as a simple average of textual overlaps across 5,387 HS6 products.
Note 2: Empty cells above the diagonal apply when the similarity is <1%.

Source: Authors' calculations based on Rules of Origin Facilitator.

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