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**Article — Published Version**

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JCMS: Journal of Common Market Studies

**Provided in Cooperation with:**

John Wiley & Sons

*Suggested Citation:* Stender, Frederik; Berger, Axel; Brandi, Clara; Schwab, Jakob (2021) : The Trade Effects of the Economic Partnership Agreements between the European Union and the African, Caribbean and Pacific Group of States: Early Empirical Insights from Panel Data\*, JCMS: Journal of Common Market Studies, ISSN 1468-5965, Wiley, Hoboken, NJ, Vol. 59, Iss. 6, pp. 1495-1515, <https://doi.org/10.1111/jcms.13201>

This Version is available at:

<https://hdl.handle.net/10419/284748>

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# The Trade Effects of the Economic Partnership Agreements between the European Union and the African, Caribbean and Pacific Group of States: Early Empirical Insights from Panel Data\*

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## Abstract

This study provides early ex-post empirical evidence on the effects of provisionally applied Economic Partnership Agreements (EPAs) on trade flows between the European Union (EU) and the African, Caribbean and Pacific Group of States (ACP). Employing the gravity model of trade, we do not find a general EPA effect on trade between ACP countries and the EU, but identify heterogeneous effects across specific agreements and economic sectors. While the CARIFORUM-EU EPA rather reduced imports from the EU overall, other EPAs seem to have partly increased EU imports, particularly for the Southern Africa Development Community (SADC) EPA partner countries. On the sectoral level, by comparison, we find increases in the EU's agricultural exports to SADC, Eastern and Southern Africa (ESA) and the Pacific. In the area of manufactures trade, we find decreases of exports of the ESA and SADC countries to the EU, but increases in EU imports for SADC countries.

**Keywords:** Cotonou partnership agreement; Economic Partnership Agreements; EU trade policy; gravity model of trade

## Introduction

The Economic Partnership Agreements (EPAs) are free trade agreements (FTAs) that the European Union (EU) and 79 African, Caribbean and Pacific (ACP) countries agreed to negotiate in the context of the 2000 Cotonou Partnership Agreement.<sup>1</sup> Negotiations of these agreements were necessitated by the incompatibility of the EU's longstanding system of unilateral trade preferences, granted to ACP countries independent of their income levels, with the non-discrimination principle of the World Trade Organization (WTO). In contrast to unilateral trade preferences granted by the EU to ACP countries under the Lomé Conventions until the end of 2007, the EPAs demand commitments to liberalize trade reciprocally, to make trade relations between the EU and the ACP countries WTO compliant.<sup>2</sup> In this paper, we analyse the effects as can be observed hitherto of the

\*We gratefully acknowledge valuable comments and suggestions from Tilman Altenburg, San Bilal, Lisa Brahms, Lisa Eifert, Niels Keijzer, Sabine Laudage, Jaime De Melo, Maximiliano Mendez-Parra, Evita Schmiege, David Yim, and two anonymous referees on an earlier version of this paper. Excellent research assistance was provided by Florian Gitt. The views expressed in this paper are our own. Any remaining errors are the authors' responsibility.

<sup>1</sup>The Cotonou Agreement expires in 2020 and is currently being renegotiated.

<sup>2</sup>As of 2008, those ACP countries that do not (yet) implement an EPA export to the EU under either the Everything But Arms (EBA), Generalized System of Preferences (GSP) or GSP + schemes, depending on their status of economic development. Gabon and Cuba are currently the only ACP countries without any form of preferential market access conditions to the EU.

provisionally applied EPAs on trade flows from partnering ACP countries to the EU, and on trade flows from the EU to partnering ACP countries.

EPA negotiations began in 2002 and were highly contentious because of diverging views on the design of trade policies between the EU and the ACP countries. While the objectives of EPAs include, according to the text of the agreements, promoting trade while also fostering sustainable development, regional integration and Aid for Trade (AfT), the very nature and overall objectives of the EPAs as ‘trade and development’ agreements are still under discussion. In particular, the relationship between trade and development remains controversial. Not all ACP states concur with the European Commission’s perspective on EPAs as promising instruments to promote development. Critics of the European trade agenda contest the EU’s demands to open their markets to exports from European companies in reciprocation of the free access to the EU’s market (for example, Hurt, 2016; Berthelot, 2017). One key concern is that (premature) trade liberalization endangers domestic industries and, more generally, industrialization efforts through unregulated exposure to more advanced European competitors (Langan, 2014).

The highly controversial nature of the EPAs generated substantial debate in the academic literature, in particular in view of the EU’s supposed normative power. It is argued, for example by Manners (2002), that the EU’s external relations are not primarily influenced by traditional concepts of power, but by a set of norms, such as human rights, democracy, rule of law and poverty eradication. This normative conception is also noticeable in the EU’s justification of the EPAs which have been described by EU representatives, such as the former Trade Commissioner, Peter Mandelson, as tools for development.<sup>3</sup> This normative emphasis on trade liberalization as a means to support development in ACP countries has received strong criticism in the literature as it did not support development outcomes, such as poverty reduction, but served the purpose of justifying an asymmetric economic relationship (for example, Storey, 2006; Langan, 2012).

In addition to these controversies, complications in the negotiations also arose from a fragmented trade policy framework among ACP countries and the EU in particular in light of multiple, partially overlapping regional economic communities (RECs) in Africa. More specifically, under the Cotonou Agreement, which replaced the Lomé Convention, only the least developed countries (LDCs) are granted duty- and quota-free access to the EU under the EBA preference scheme. Middle-income countries have to trade under the less generous GSP or GSP+ scheme. Among ACP countries, only South Africa had an FTA in place with the EU: the Trade, Development and Cooperation Agreement (TDCA), which was signed in 1999 and entered into force in 2004. As a result of this fragmented trade policy framework, LDCs and middle-income countries had different incentives to conclude EPAs with the EU that offer permanent free access to the European market but also demand market access commitments from the ACP countries.

As a result of controversies and negotiation deadlocks, the outcomes of the first phase of negotiations that lasted until December 2007 did not go very far as none of the regional EPAs were concluded apart from the agreement with the Caribbean Forum (CARIFORUM). Instead, some bilateral interim agreements with African and Pacific

<sup>3</sup>For instance, see the speech by Peter Mandelson ‘The Challenges and Opportunities of the Economic Partnership Agreements’, EU-Africa Business Forum, Brussels, 16 November 2006. Available online: [https://ec.europa.eu/commission/presscorner/detail/en/SPEECH\\_06\\_722](https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_06_722). Accessed 24 November 2020.

countries were signed. In light of the largely unsuccessful first phase, the EU set new deadlines for 2014 and 2016, linked to a threat to withdraw preferential market access, to force the pace of negotiation and ratification.

Currently, seven EPAs are provisionally applied. Beyond the EU's EPA with CARIFORUM, regional EPAs with Pacific countries, Eastern and Southern Africa (ESA) and the Southern African Development Community (SADC) are under provisional application. In other instances, bilateral EPAs with individual countries (Cameroon, Côte d'Ivoire and Ghana) have been the sole outcome of the negotiations between the EU and the ACP countries as regional EPAs have fallen by the wayside.

A few African states – namely Burundi, Nigeria and Tanzania – are delaying ratification of their respective regional EPAs with the EU. Nigeria and Tanzania, for example, argue that the EPA undermines their industrialization strategies (Rowden, 2016; Ogunmade and Ajimotokan, 2018). Although EPAs contain provisions that can be used to (temporarily) protect fledgling industries, countries like Nigeria and Tanzania perceive these as insufficient to meet their industrialization ambitions. Moreover, the decision of the UK to exit the EU further complicates EU-ACP trade relations as it has the potential to render EPAs with the EU less attractive.

What effects on trade flows are to be expected from the EPAs between the EU and the ACP countries? A key objective of the EPAs is to stabilize market access conditions for exporters from ACP countries to the European market. In most instances this means replicating the existing preferential tariffs. In some cases, however, the EPAs grant more beneficial market access conditions than the trade preferences granted under the Lomé Convention. What is new under the EPAs is that ACP countries are required to gradually dismantle most of their comparatively high trade barriers, although to a lesser extent on agricultural products. Therefore, the expectation is that exports from ACP countries to the EU will only grow slightly, if at all, in the longer term.<sup>4</sup> By comparison, as a result of the market opening on the side of ACP countries, EU exports are expected to increase.

So far, the quantitative trade effects of EPAs have been estimated in a number of studies using ex-ante methods to simulate likely future patterns (for example, Milner *et al.*, 2005; Busse and Großmann, 2007; Vollmer *et al.*, 2009; Fontagné *et al.*, 2010; de Melo and Regolo, 2014; Europeaid, 2014; Tröster *et al.*, 2020). Overall, these studies have in common that they predict larger increases of exports from the EU to EPA partner countries than vice versa. Given their short provisional application to date, the scope for using ex-post empirical methods to analyse EPAs' effects on trade – in contrast to ex-ante approaches – has until now been very limited.<sup>5</sup> To the best of our knowledge, this is the first ex-post study that employs the gravity model of trade to assess the trade effects of all provisionally applicable EPAs comprehensively to date. From an academic point of view, this study represents an early econometric analysis of the EPAs' trade effects that can be

<sup>4</sup>Because the EU liberalized its market towards ACP countries under the Lomé Convention entirely for industrial goods, but, at the same time, maintained some degree of protection in (selected) agricultural sectors, there could be export effects induced by further tariff liberalization in the latter.

<sup>5</sup>Notable exceptions are a descriptive study by the EC (2020) and an early panel estimation by Mahabir (2011) on the CARIFORUM EPA. Both find non-significant to negative effects on exports from CARIFORUM members to the EU, but the study by the EC (2020) additionally notes rising imports from the EU to CARIFORUM partner countries. While confirming findings in Mahabir (2011), our study expands the analysis to more recent years and all EPAs and also differentiates between agricultural and manufactures trade. Additional evidence on EU trade agreements in general is furthermore provided by Stack and Bliss (2020).

replicated and extended when the EPAs' commitments are applied for longer time periods or when new EPAs become effective. From a policy perspective, this early analysis can empirically inform debates about the benefits and challenges of EPAs that are often based on ideological perceptions or anecdotal evidence.

Given that many EPAs are not in force yet, ex-post analysis is restricted to the effects of the EPAs with CARIFORUM, SADC, ESA, Cameroon, Côte d'Ivoire, Ghana and the Pacific on EU-ACP imports and exports. As EPAs replace nonreciprocal preferences, the analysis focuses on what the EPAs add to these in determining trade flows. Our estimation results, as we expected and as predicted by ex-ante studies, do not identify any effects of EPAs on exports from participating ACP countries into the EU. When it comes to the effect on exports from the EU into the partner countries, however, the evidence is rather mixed. While generally, our findings do not suggest an across-the-board EPA effect on EU exports to the ACP countries, there is significant heterogeneity across individual EPAs. We find an overall effect on EU exports only in the case of the SADC EPA. With regard to the trade of the CARIFORUM EPA, our analysis finds a decrease of EU exports to the region. This unexpected result could be explained by contemporary FTAs concluded by CARIFORUM countries, such as the Dominican Republic-Central America (CAFTA-DR) FTA in 2006, that may have led to a re-orientation of trade flows. Focusing only on agricultural exports of the EU we find significant increases in the case of SADC, ESA and the Pacific countries. Furthermore, we find a negative effect of EPAs on manufactures exports of ESA and SADC to the EU.

These early findings are in line with the expectation that, by replacing non-reciprocal preference schemes of the EU, the EPAs will largely have an effect on exports from the EU to partnering ACP countries. While EPAs could also promote exports from ACP countries to the EU by offering slightly better and more secure long-term market access to the European market, the effect on imports from the EU can be expected to be more direct and pronounced. Our results indicate that the EPAs may not be the silver bullet for promoting 'win-win' development outcomes in the partner countries. Lower import prices as a result of the EPAs surely can increase the welfare of consumers in ACP countries but it needs further support to develop a local business sector that is able to benefit from a better supply of inputs (from the EU) and a more secure access to the European market. While the EPAs have been successful in conserving the level of market access to the EU, they have thus far not proven to serve as a motor for increased ACP exports and, with this, intensified value chain integration with the EU. Furthermore, in order to promote ACP exports, in particular of agricultural products, economic integration between the EU and ACP countries should not merely concentrate on tariff liberalization, but also focus on non-tariff dimensions, such as EU support to comply with EU standards.

While all of these results are to be considered tentative given the short amount of time that has passed since liberalization began and until tariffs schedules are fully implemented, particularly on the side of the ACP partner countries, they can already give some indication of how EPAs will ultimately affect trade flows. Rather than providing a definitive answer on the effects of the EPAs that are provisionally applied, this research provides an early assessment and is intended to lay the foundation for future empirical research.

The remainder of the paper is structured as follows. The next section introduces the institutional framework of the provisionally applied EPAs and briefly shows their current

status of implementation. Section 2 presents the data and methodology used in the analysis of the effects of the EPAs on bilateral trade flows of the partner countries. Section 3 presents the results of the analysis for overall trade in both directions, differentiated by partner country groups and sectors. Section 5 concludes and gives an outlook.

## I. Provisionally Applied EPAs at a Glance

At the start of the negotiations, the EU intended to conclude EPAs with seven regional blocks. The EPAs differ by regional scope and year of entry as well as by the depth and speed of their liberalization processes. Because regional EPAs with ECOWAS, Central Africa and EAC have not yet entered into force, our analysis focuses on the agreements that are provisionally applied: four regional EPAs (CARIFORUM, Pacific, ESA and SADC) and three bilateral EPAs with Cameroon, Côte d'Ivoire and Ghana (see Table 1).

The EPAs negotiated by the EU with regional ACP groupings are agreements that include asymmetric commitments to reduce barriers to trade. While the EU commits to full tariff reduction on day one of the entry into force of the agreements, ACP countries commit to reduce tariffs between 40 and 97 per cent, on 75–97 per cent of their imported goods (UNECA, 2018). The agricultural and textiles sectors often face lower commitments to liberalize trade than other sectors. In addition, ACP countries are granted implementation periods for their tariff reductions that can be as long as 25 years to smooth the liberalization process and allow domestic industries to adjust. While in some provisionally applied EPAs tariff reductions on the side of the ACP countries were also implemented from day one of the application, for some other EPAs the scheduled time period for tariffs starting to be liberalized is up to three years.<sup>6</sup> Table 1 lists these parameters for the individual EPAs. As mechanisms to provide ACP countries with the policy space to support industrialization processes and shelter both economically and socially important sectors, they are also allowed to exclude certain products temporarily or permanently, protect infant industries and use export subsidies. For example, while the SADC EPA excludes at least 13.8 per cent of trade volumes imported from the EU from tariff liberalization on an indefinite basis,<sup>7</sup> tariff liberalization under the EPA with West Africa foresees lasting exemptions for a range sensitive goods, including agriculture and fishery produced in the region. Moreover, all EPAs include provisions to impose temporary safeguard duties in case of surging EU imports posing a serious economic threat to domestic industries and local producers.

In a nutshell, seven EPAs involving 32 partner countries are currently provisionally applied, of which some are further progressed than others particularly regarding the implementation of the liberalization schemes on the side of the ACP countries. The oldest has been provisionally in force since 2008, and others have just recently begun to be applied.

<sup>6</sup>Information on the tariff liberalization schedules is taken from the original EPA treaties. These can be found on the regional EPA pages under [https://ec.europa.eu/trade/policy/countries-and-regions/development/economic-partnerships/index\\_en.htm](https://ec.europa.eu/trade/policy/countries-and-regions/development/economic-partnerships/index_en.htm).

<sup>7</sup>In the SADC EPA, extended exceptions are granted to Mozambique which is allowed to maintain tariffs on 26 per cent of EU import volumes.

Table 1: Overview of the EPAs Provisionally in Force

<i>Region</i>	<i>Members</i>	<i>Start date of provisional application</i>	<i>Start year of tariff liberalizations</i>	<i>Percentage of liberalized trade (and time frame)</i>
CARIFORUM	Antigua and Barbuda, Bahamas, Barbados, Belize, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago	29 December 2008 (Haiti not included due to pending ratification)	2011	86.9 (over 25 years)
Pacific	Fiji, Papua New Guinea, Samoa	2011 (Papua New Guinea), 2014 (Fiji), 2019 (Samoa)	2011 (Papua New Guinea), 2017 (Fiji), 2019 (Samoa)	80 to 88 (up to 20 years)
ESA	Comoros, Madagascar, Mauritius, Seychelles, Zimbabwe	14 May 2012 (Madagascar, Mauritius, Seychelles, Zambia, Zimbabwe), 7 February 2019 (Comoros)	2013 (Mauritius, Seychelles), 2014 (Madagascar, Zambia, Zimbabwe), 2019 (Comoros)	80 to 97.4 (over 10 years)
	Cameroon	4 August 2014	2016	80 (over 15 years)
	Côte d'Ivoire	3 September 2016	2019	80 (over 14 years)

Table 1: (Continued)

<i>Region</i>	<i>Members</i>	<i>Start date of provisional application</i>	<i>Start year of tariff liberalizations</i>	<i>Percentage of liberalized trade (and time frame)</i>
SADC	Botswana, Lesotho, Mozambique, Namibia, Swaziland, South Africa	10 October 2016 (Botswana, Lesotho, Namibia, Swaziland, South Africa), February 2018 (Mozambique)	2016 (Botswana, Lesotho, Namibia, Swaziland, South Africa), 2018 (Mozambique)	74 to 86.2 (10 to 12 years)
	Ghana	15 December 2016	2020	80 (over 15 years)

*Source:* Authors' representation, adapted from UNECA (2018) and EC (2018).



## II. Empirical Model

In line with the large body of literature on the ex-post assessment of (international) trade policies, for our econometric analysis we build upon the gravity model of trade. In its basic form, the gravity equation describes bilateral trade as a function of trading partners' gross domestic products (GDPs) and their distance to each other. Pioneered by Tinbergen (1962) and Pöyhönen (1963), who were the first to estimate the impact of trade integration on trade flows, the gravity model later found theoretical support in a number of contributions. Undergoing both continuous refinement of explanatory variables and improvements in estimation techniques, the gravity equation has evolved into the famously termed 'empirical workhorse' in order to elicit causal effects of policy changes on international trade flows.

### *Data*

As dependent variables, we use both exports and imports between the world's top-100 trading nations (based on export performance) and 79 ACP countries for the period from 2000 to 2018 (see Tables A1.1 and A1.2 of the Appendix for the complete list of countries in the sample). More specifically, we consider three different commodity aggregations: (1) total trade flows; (2) agricultural trade flows (sum of Sections 0, 1, 22, and 4 under the Standard International Trade Classification (SITC) Revision 3); and (3) manufactures trade flows (sum of Sections 5, 60, 61, 62, 63, 64, 65, 66, 67, 69, 7, and 8 under SITC Revision 3). All current member countries of the European Union (EU28) are recorded in the data and treated as individual countries. We merge the trade data with the membership information of all seven EPAs, which have by now entered into provisional application.

Our sample covers approximately 84 and 92 per cent of total ACP imports and exports, respectively. Trade with the EU28 alone accounts for some 25 per cent in our sample period, making the bloc the ACP countries' main trading partner. All trade data are taken from United Nations (UN) Comtrade. Although the source is the most comprehensive in its coverage of international trade flows, data availability essentially depends on the reporting of individual countries, and developing countries are notoriously negligent in this respect. On the conceptual front, we therefore rely on export and import values to/from ACP countries reported by the world's top-100 trading nations. Compared with reversely reported trade flows, this increases observation sizes averaged over all our commodity aggregations by factor 1.8 and 1.3, roughly, for ACP exports and imports, respectively.

### *Estimation Strategy*

Considering an augmented gravity equation, our baseline model specification reads as follows:

$$\ln(T_{ijt}) = \alpha_0 + \beta_1 EPA_{ijt-1} + \pi_{ij} + \eta_{it} + \mu_{jt} + u_{ijt}, \quad (1)$$

where  $\ln(T_{ijt})$  denotes the natural logarithm of either country  $i$ 's imports or exports expressed in current USD from/to ACP countries ( $j$ ) in year  $t$ ,  $\alpha_0$  is a constant and  $u_{ijt}$

is the error term. Trade values are logarithmised to allow for an interpretation of coefficient estimates in terms of percentage changes. For the identification of the trade creation effects associated with EPAs, we employ as our main independent variable the dummy variable *EPA*, which equals unity if *i* (member of the EU28) and *j* (ACP country) are both members of a common provisionally applied EPA in *t*, and zero otherwise. Note that we code the dummy according to the formal start year of the provisional application of the respective EPAs.<sup>8</sup> There are arguments both for and against this approach.

On the one hand, while the EU has granted duty-free market access to ACP countries immediately after the formal launches of the respective EPAs, ACP countries are allowed to schedule gradual tariff reductions towards EU imports over time. The formal start years of the EPAs are thus not necessarily accompanied by any actual liberalization of ACP markets. Precise isolation of the trade effects associated with tariff reductions, however, would require a data-intensive analysis at the highly disaggregated tariff level because tariff schedules vary widely, not only across participating ACP countries, but even more so across various types of goods. As a remedy and to mitigate against the potential discrepancy between formal and actual implementation, we lag our policy dummy variable by one period.<sup>9</sup>

On the other hand, a number of empirical studies (for example, Magee, 2008; Mölders and Volz, 2011; Lakatos and Nilsson, 2017) provide evidence that trade agreements entail significant anticipatory trade effects even before tariff reductions have been effectively implemented. One explanation might be that the general reduction of trade policy uncertainty (for both importers and exporting firms) in the wake of formally agreed but not yet ratified or implemented trade agreements.<sup>10</sup> Omission of such anticipatory trade effects would thus underestimate the total trade effects resulting from trade integration. Moreover, the formal start of EPAs is often complemented by AfT and other types of trade-related development assistance for ACP countries, which might in turn increase trade flows. AfT support, however, may impact trade flows only in the medium term when external support increases the competitiveness of local enterprises. With this in mind, our policy dummy variable might well absorb a mixture of potential anticipatory and implementation trade effects. Given pending tariff reductions on EU imports for a number of ACP countries (Côte d'Ivoire, Ghana, Comoros and Samoa), for these countries our policy dummy variable only captures the former. This needs to be considered in the context of the interpretation of estimation results below. We also conducted robustness tests that incorporated the actual start year of the tariff reductions in ACP countries as determining the EPA dummy. Our general findings presented below do not hinge on the decision of when exactly we consider an EPA to be effective, as considering the actual

<sup>8</sup>See Table 1 for information on the start years of provisional application. For the EU-CARIFORUM and EU-Ghana EPAs, however, we code the dummy to 2009 and 2017, respectively, as both entered into force in December.

<sup>9</sup>Our general findings are not affected by refraining from the lag-structure of the EPA dummy variable.

<sup>10</sup>One may argue that, in the case of some EPAs, negotiations began 10 to 15 years prior to signing. This negotiation history could have caused a substantial degree of anticipation to the extent that formal conclusion of the agreement would not have added much to the reduction of uncertainty. This argument, however, neglects the fact that the sheer length of negotiations does not determine their success, an argument that is supported by the fact that a number of EPAs have not yet been signed or are not applied.

start of agreed tariff reductions on the import side of ACP countries does not affect the estimation outcomes qualitatively.<sup>11</sup>

Exploiting the panel nature of our data, we incorporate a battery of fixed effects into Equation 1. Following the methodology in Baier and Bergstrand (2007) we use time-invariant country-pair- ( $\pi_{ij}$ ), and two-way importer-year- and exporter-year fixed effects ( $\eta_{it}$  and  $\mu_{jt}$ , respectively). The former controls for historical ties between trading partners, their mutual distance and, more generally, the endogeneity of trade agreement formation. The latter two fixed effects account for time-varying multilateral trade resistance (Baldwin and Taglioni, 2006) but also pick up any country-year specific supply or demand shock.

Ideally, we would control for further time-varying bilateral determinants. However, apart from, for instance, bilateral financial flows and exchange rate volatility, it is virtually impossible to comprehensively capture all such effects. This is particularly true for expectations of the developments of future trade flows that may be correlated with the decision to enter an EPA and that may be captured by our results. From an econometric point of view, we cannot proxy bilateral events that occurred contemporarily with EPA formation with time-varying dyadic fixed effects (in exchange for those included) as this would perfectly predict our dependent variable. Hence, estimating the link between trade integration and trade patterns would no longer be possible. This caveat needs to be kept in mind when interpreting our results.

### III. Estimation Results

#### *Total Trade*

Table 2 presents ordinary least squares (OLS) estimation results for ACP countries' total exports (columns (1)–(3)) and imports (columns (4)–(6)). As can be seen in columns (1) and (4), the coefficient estimate for the generalized EPA policy dummy variable is never statistically significant at any of the standard levels, neither for ACP exports nor for ACP imports. This indicates that provisionally applied EPAs have thus far, on average and all else held equal, not affected ACP–EU trade flows in either direction when aggregated across all economic sectors. The finding does not come as a surprise. First, as outlined above, ACP countries have enjoyed widespread tariff preferences in the EU market already in the pre-EPA phase. With this, market access improvements offered by the EPAs are, if at all, only marginal. Second, participating ACP countries are granted between 10- and 25-year transition periods in the legal frameworks of EPAs to liberalize market entry for EU imports. Even for those countries already putting forward tariff elimination, full liberalization is pending across the vast majority of economic sectors.

Complementing these generalized results, we also focus on potential regional implications. To assess region-specific effects, we interact the EPA dummy variable with a number of regional groupings. To begin with, we estimate the EPA effects on ACP exports and imports, respectively, exclusively for EU12, representing long-standing EU member

<sup>11</sup>Using this coding, however, it is no longer possible to estimate the imports effects for the Côte d'Ivoire- and Ghana EPAs as both countries have only recently started to liberalize their markets for EU imports. Estimation results using a tariff schedule adjusted (not lagged) EPA policy dummy variable (taking into account agreement-specific start years of tariff reductions) are available upon request.

Table 2: Total Trade

VARIABLES	ACP exports to the EU			ACP imports from the EU		
	(1)	(2)	(3)	(4)	(5)	(6)
$EPA_{ijt-1}$	-0.0436 (0.0855)			-0.0680 (0.0550)		
___w/ EU12		-0.00736 (0.0969)			0.0461 (0.0550)	
___African Group			-0.0239 (0.103)			0.145* (0.0767)
___Caribbean Group			-0.108 (0.120)			-0.208*** (0.0740)
___Pacific Group			0.394 (0.253)			0.133 (0.192)
Constant	13.05*** (0.00417)	13.04*** (0.00238)	13.05*** (0.00445)	14.45*** (0.00290)	14.44*** (0.00137)	14.45*** (0.00305)
Observations	79,855	79,855	79,855	83,302	83,302	83,302
Country-pairs	6,281	6,281	6,281	5,961	5,961	5,961
R <sup>2</sup> adj.	0.779	0.779	0.779	0.842	0.842	0.842
Fixed effects:						
Country-pair	✓	✓	✓	✓	✓	✓
Country-year	✓	✓	✓	✓	✓	✓

Notes: Asterisks denote the level of statistical significance with

- \*\*\*  $p < 0.01$ ,
- \*\*  $p < 0.05$  and
- \*  $p < 0.1$ .

Robust, clustered (at the country-pair level) standard errors are in parentheses. EU12 members include Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom. See Table A1.1 of the Appendix for the regional grouping of ACP countries.

countries before the 1995 enlargement. As can be seen in columns (2) and (5), the above findings are not altered.

A different picture is painted, however, when categorizing EPAs by the regional affiliations of participating ACP countries. While estimation results in column (3) confirm that ACP exports to the EU28 are unaffected by EPAs to date, the results reveal some heterogeneity on ACP countries' imports. Notably, according to sign and magnitude of the coefficient estimate, the findings in column (6) suggest an increase of EU exports to those African ACP countries that have concluded EPAs. The effect is estimated to be statistically significant at the 10 per cent level and translates into growth of import values caused by the EPAs of 15.6 per cent.<sup>12</sup> A possible explanation could well be found in the stepwise liberalization of ACP markets for EU imports already underway in at least some African EPA countries and general anticipatory trade effects as a result of a more certain trading environment. Findings for the African ACP countries are thus likely driven by the trade effects resulting from the ESA-, Cameroon-, and SADC EPAs.<sup>13</sup> Other possible drivers of positive EPA effects might be the potential anticipation effects or different types of trade-related development assistance.

<sup>12</sup>Marginal trade effects are calculated as  $\left( e^{\hat{\beta}_k} - 1 \right) \times 100$ , where  $\hat{\beta}_k$  represents the coefficient estimates of policy dummy variables.

<sup>13</sup>Findings are not altered when excluding South Africa from estimation.

In comparison, estimation results reveal no statistically significant EPA effect on EU imports for the ACP countries located in the Pacific region. For the group of Caribbean ACP countries, the estimated coefficient indicates a reduction of imports from the EU by some 18.8 per cent in the course of trade integration. Although missing a direct causal link, estimation results could point towards potential re-orientation of EU export activity to African EPA markets, or a re-orientation of Caribbean ACP countries to other markets, such as the US.

For the next step, we further investigate agreement-specific effects for individual EPAs. To do so, we estimate Equation 1 by replacing the generalized policy dummy variable with separate policy dummy variables for the individual EPAs. Figure 1 depicts the findings. Dots and spikes represent marginal effects of (point) coefficient estimates and their 90 per cent confidence intervals, respectively. While statistically significant effects are shown in solid blue, insignificant coefficient estimates are displayed in light shades. This being said, reflecting our results in Table 2, we do not find any statistically significant effects of EPAs on ACP exports (upper panel). Note that confidence intervals are comparatively broad for nearly all EPAs. This is because estimation is based on only a few observations, either due to data gaps, non-existing trade relations, or only short implementation phases to date, especially for the cases of the Côte d'Ivoire- and Ghana EPAs.

On the ACP import side (lower panel), imports from the EU seem to be boosted only for SADC (30.6 per cent), mirroring our finding in Table 2. With the exception of CARIFORUM, for which we estimate a decrease of imports from the EU (by some 18.8 per cent as is the case for the group of Caribbean ACP countries in Table 2 given conformity of countries considered), all other EPA dummy variables render no statistically significant effects. While the negative result for CARIFORUM imports from the EU remains rather puzzling, there is some anecdotal evidence that the participating countries have not yet implemented the agreed liberalization schemes. In this light, trade creation effects stemming from either other trade agreements, which include CARIFORUM countries (for example, CAFTA-DR, which has been in force since 2006) or the EU with other trading partners within the same time period, may provide a possible explanation for a re-orientation of CARIFORUM imports, and better explain why the expected positive effect is in fact negative.

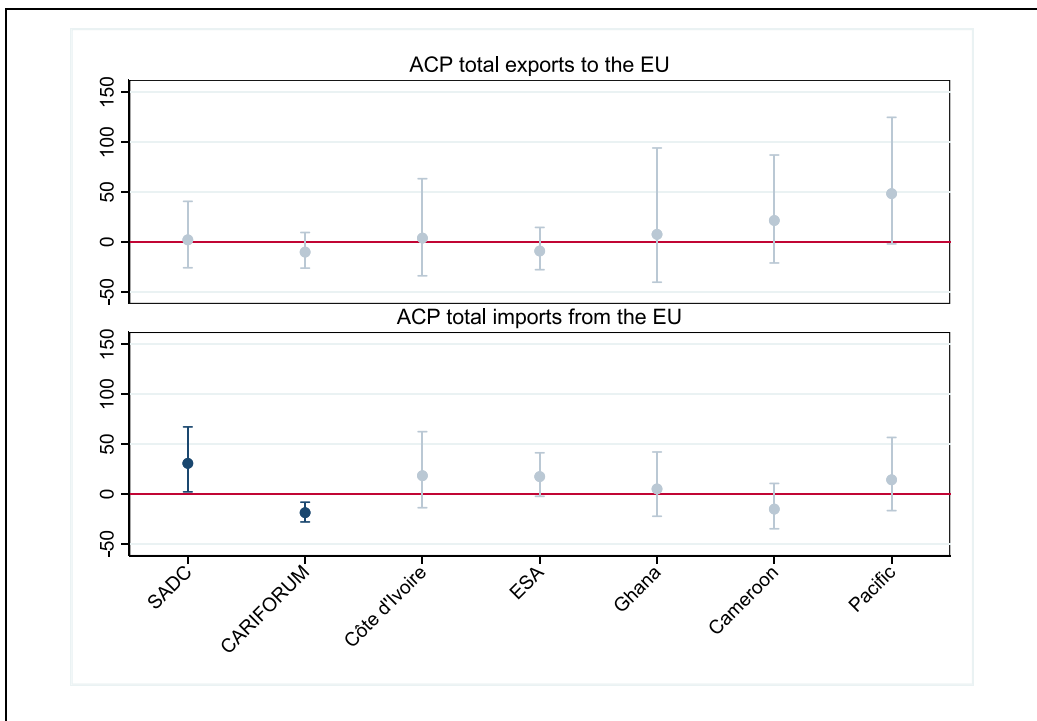
### *Agricultural Trade*

Given the importance of the agricultural sector for most developing countries, agricultural trade liberalization has traditionally been an area of tension, both at the regional and multilateral level. For all ACP countries combined, applied average tariffs in the agricultural sector (10.1 per cent) were still markedly higher in 2018 compared with those imposed on manufactures (6.8 per cent) and total trade (6.6 per cent).<sup>14</sup> Despite the fact that liberalization commitments on agricultural imports are lower in most EPAs, many ACP countries still fear an increase in competition pressure from EU agricultural imports. Originating in well-established or until recently, partly heavily subsidised European markets, these hold comparative advantage across a wide range of products, which may put severe adverse

<sup>14</sup>Own calculation based on data from World Bank (2019).

Figure 1: Marginal Trade Effects by EPA, in per cent, Total Trade

Notes: Dots represent marginal effects of point estimates of coefficients and spikes their 90 per cent confidence intervals. Marginal trade effects are calculated as  $(\hat{e}^{\beta_k} - 1) \times 100$ , where  $\hat{\beta}_k$  are the coefficient estimates of policy dummy variables. If the confidence interval spans numerical zero (horizontal red lines), the estimated effect is said to be statistically insignificant, namely the hypothesis of no effect cannot be rejected with sufficient statistical certainty. While statistically significant effects are shown in solid blue, insignificant coefficient estimates are displayed in light shades. Estimations are based on model specifications that include separate policy dummy variables for EPAs and the full set of country-pair- and country-year fixed effects (regression output is provided in Table A2 of the Appendix). [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

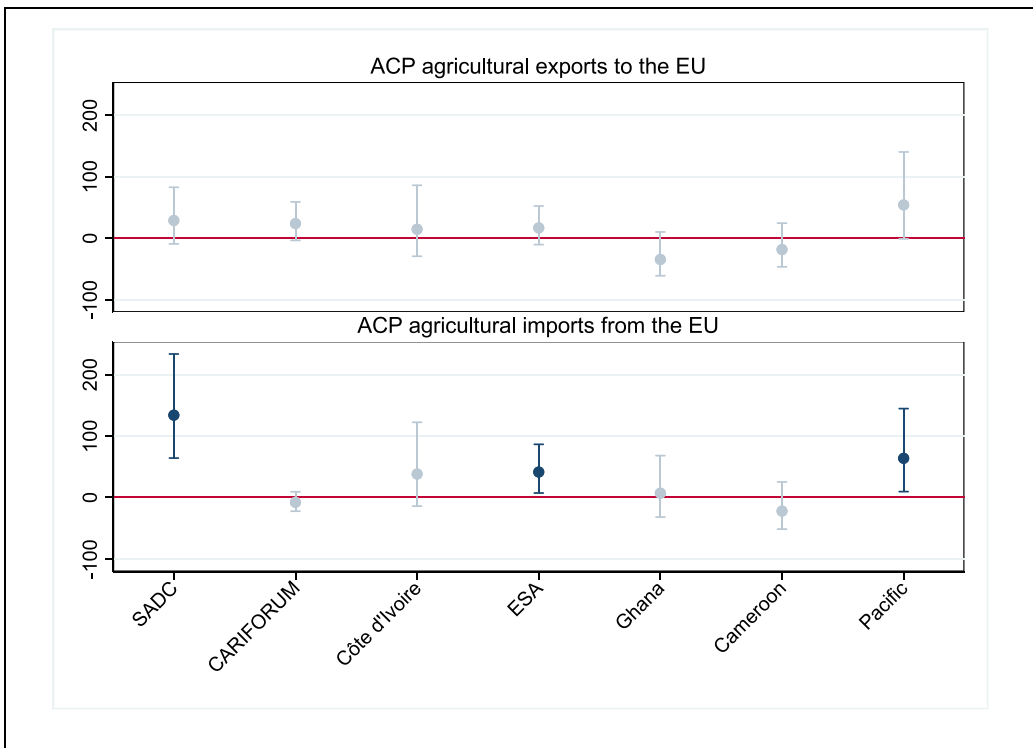


effects on domestic ACP markets. Presentiments also stem from the experiences of West African countries under the International Monetary Fund (IMF) structural adjustment programmes in the 1990s and early 2000s, with market opening being associated with substantive losses of agricultural livelihoods (Langan and Price, 2015). In the provisionally applied EPAs, corresponding concerns are recurrently expressed by, for instance, Botswana, Lesotho, Namibia, South Africa and Swaziland which have been collectively imposing safeguard measures in form of a 35.5 per cent additional tariff duty on frozen chicken cuts from the EU. While the safeguard duties are scheduled to remain in place for three and a half years, the EU sees little evidence for an import surge induced by the SADC EPA and dispute settlement proceedings have been initiated (EPA Monitoring, 2019a).

Against the background of these controversies, we estimate the agreement-specific effect of EPAs on agricultural trade. Estimation results are graphically displayed in Figure 2. As shown in the upper panel, we do not find any evidence for a statistically significant impact on ACP agricultural exports to the EU across the provisionally applied EPAs to date. As stated above, this finding is hardly surprising since EPA signatories have previously enjoyed trade preferences and hardly find market access improvements in the EU market as a result of the EPA. Furthermore, ACP countries may find it difficult to comply with EU Sanitary and Phytosanitary (SPS) standards. These standards are found to be a significant impediment to agricultural and food exports of developing countries (for example, Henson and Loader, 2001; Jongwanich, 2009). Despite duty-free market access in the course of EPAs, these non-tariff trade barriers could hamper agricultural exports of

Figure 2: Marginal Trade Effects by EPA, in per cent, Agricultural Trade

Notes: Dots represent marginal effects of point estimates of coefficients and spikes their 90 percent confidence intervals. Marginal trade effects are calculated as  $(e^{\hat{\beta}_k} - 1) \times 100$ , where  $\hat{\beta}_k$  are the coefficient estimates of policy dummy variables. If the confidence interval spans numerical zero (horizontal red lines), the estimated effect is said to be statistically insignificant, namely the hypothesis of no effect cannot be rejected with sufficient statistical certainty. While statistically significant effects are shown in solid blue, insignificant coefficient estimates are displayed in light shades. Estimations are based on model specifications that include separate policy dummy variables for EPAs and the full set of country-pair- and country-year fixed effects (regression output is provided in Table A2 of the Appendix). [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



ACP countries to the EU. Increasing standards even led to an EU import ban of specified vegetables from Ghana in 2015 (for example, peppers and chillies) until the ban was lifted again in 2018. In mid-2019, Ghana has therefore voluntarily introduced a pre-emptive ban on its own exports of leafy vegetables to the EU for fear of a renewed formal EU ban due to cases of pest infestations. While Ghanaian officials intended to avert a *déjà vu* with a 30 million US-dollar burden on Ghana's economy resulting from the previous EU ban, the export ban has equally been criticised because it put local farmers under general suspicion and a strain also on those that were likely to meet EU requirements (EPA Monitoring, 2019b).

The lower panel of Figure 2, however, provides evidence for a statistically significant increase of ACP agricultural imports from the EU for the ESA (41.3 per cent), SADC (134 per cent), and Pacific (63.7 per cent) EPAs. Putting these region-specific findings into perspective, unreported estimation results for individual members of the two African EPAs suggest that findings might be driven by Zimbabwe (ESA) and South Africa (SADC). For Zimbabwe, the data furthermore suggest that the surge in imports from the EU partly occurred in the highly sensitive sector of milk powder. While this import surge could have happened for reasons other than the ESA EPA, it is notable that the increase in demand in milk powder was covered mainly by imports from the EU after the EPA entered into provisional application. For the increased imports by South Africa from the EU, where the EPA provisionally entered into force only in 2016, the result seems to be mainly driven by an increase in the already large share of malt and wheat imports from the EU, in particular Germany, in 2018. Moreover, in view of the fact that our assessment of the SADC EPA makes use of only two years of observation given the lag-structure of Equation 1, our findings for South Africa could well be seen as a mere snapshot rather than the expected long-term trade pattern of the country with the EU.

### *Manufactures Trade*

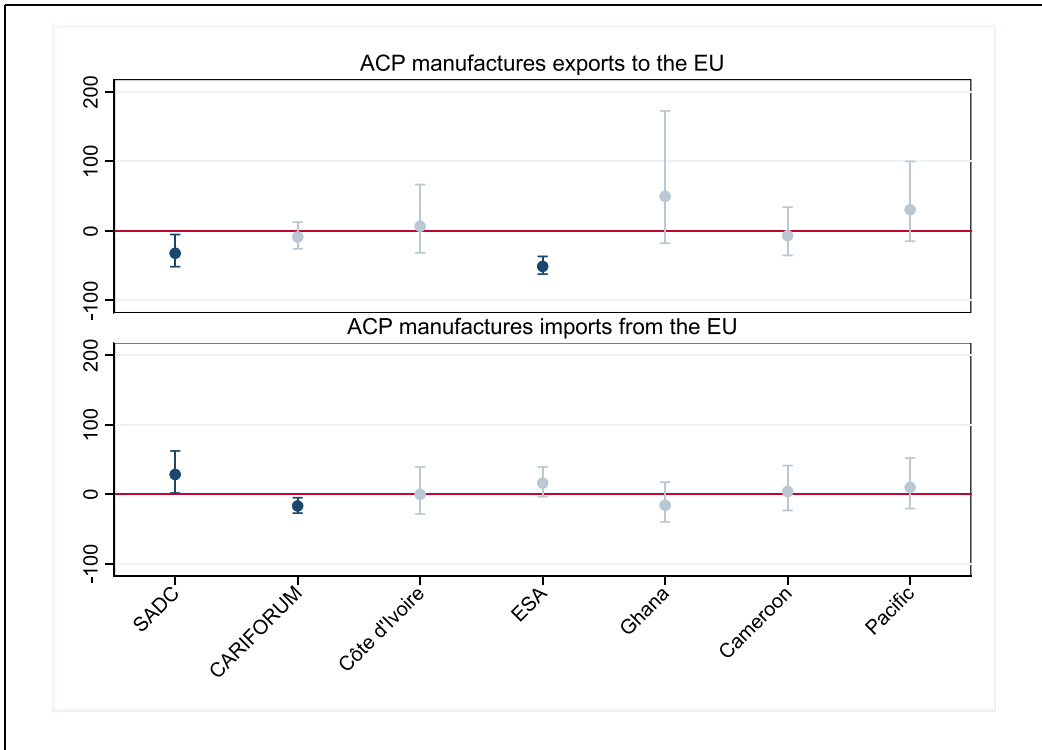
Export diversification, both horizontally and vertically, is seen as an essential component for sustained economic development in developing countries among scholars and policymakers alike (Hesse, 2009; Cadot *et al.*, 2013). Trade integration, and more specifically tariff preferences, might help foster this transformation (for example, Regolo, 2013; Nicita and Rollo, 2015). Evidence by Persson and Wilhelmsson (2016), however, only allows a sobering conclusion regarding the impact of EU GSP preferences on export diversification in developing countries, suggesting that preferential market access may result in a specialization in even fewer goods.

Against this background, we also analyse the agreement-specific effect of EPAs on ACP manufactures trade flows. Findings are displayed in Figure 3. As regards ACP exports (upper panel), our estimation indicates a statistically significant decrease of manufactures exports to the EU for the ESA (51.2 per cent) and SADC (32.3 per cent) EPAs. These results might simply reflect current revealed comparative disadvantage for manufactures. While thereby substantiating worries that EPAs may undermine industrialization efforts particularly in Africa, however, underlying reasons for struggling manufactures exports to the EU could also arise from other spheres. Notably, China's dominance in world trade is found to come at the costs of crowding-out African, and particularly South African, manufactures exports to the EU and the United States (Giovannetti and



Figure 3: Marginal Trade Effects by EPA, in per cent, Manufactures Trade

Notes: Dots represent marginal effects of point estimates of coefficients and spikes their 90 percent confidence intervals. Marginal trade effects are calculated as  $(e^{\beta_k} - 1) \times 100$ , where  $\beta_k$  are the coefficient estimates of policy dummy variables. If the confidence interval spans numerical zero (horizontal red lines), the estimated effect is said to be statistically insignificant, namely the hypothesis of no effect cannot be rejected with sufficient statistical certainty. While statistically significant effects are shown in solid blue, insignificant coefficient estimates are displayed in light shades. Estimations are based on model specifications that include separate policy dummy variables for EPAs and the full set of country-pair- and country-year fixed effects (regression output is provided in Table A2 of the Appendix). [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



Sanfilippo, 2009; Jenkins and Edwards, 2015). In addition, despite granted tariff concessions, South Africa has been repeatedly named as a target of anti-dumping investigations and measures by the EU, which are known to act as a significant barrier to trade. With regard to anti-dumping, Ketterer (2016) shows that the EU has a general tendency to replace its tariff concessions with alternative forms of trade protection.

Turning towards ACP manufactures imports in the lower panel, our results suggest a slight statistically significant increase of imports from the EU for SADC (28.3 per cent). Similar to our findings in agricultural trade discussed above, this effect not only seems to be driven by SADC’s largest member by far, South Africa, but its estimation is additionally based on only two years of observation and thus needs to be treated with caution since it is not clear whether this is a longer-term effect. Moreover, South Africa’s

economic structure is quite different to that of other ACP countries, with a deep rootedness of the mining sector, which requires the import of both machinery equipment and technological know-how.

Lastly, CARIFORUM is estimated to have experienced a drop in EU manufactures imports in the course of trade integration to date by some 17 per cent. This is in line with the generally rather negative effect on trade flows between the EU and CARIFORUM member countries after the application of the EPA.

#### **IV. Conclusion and Outlook**

This paper aimed to analyse the trade effects arising from EPAs between the EU and a number of ACP countries. While we do not find any general EPA effect regarding aggregate exports, our findings suggest that specific agreements do affect trade flows. While the EU-CARIFORUM agreement, if anything, decreased imports from the EU, the agreements with African partners tended to raise imports from the EU. More specifically, our findings suggest an increase in overall EU exports to the members of the SADC EPA. For the EU's agricultural exports, we find statistically significant increases to SADC, ESA and the Pacific. In the area of manufactures trade, we find a reduction of exports from the ESA and SADC countries to the EU.

The results presented in this paper, however, must be viewed in the context of the relatively short time frame that most EPAs have been provisionally applied. While our analysis of early EPA effects is important if one seeks to monitor the trade implications of the EPAs, there is reason to expect these to alter over time (in either direction). It is therefore beyond the scope of this paper to evaluate the longer-term impacts of EPAs on trade between the EU and ACP signatories. Nevertheless, our analysis generates some important initial insights. These early findings suggest that some of the developmental concerns regarding EPAs may be justified. While on the one hand, we do not observe an increase in exports from ACP partner countries to the EU, some of our results even show a decrease in manufactures exports from African partner countries. On the other hand, our estimation results suggest an increase in imports by African partner countries from the EU due to the EPAs, which seem to be mainly driven by agricultural imports.

Our findings do not support the EU's claims about its 'development friendly' EPAs in the sense of expanding ACP exports to the EU and thereby generating 'win-win' options in former colonies. At the same time, this does not necessarily imply that EPAs are detrimental to development in partner countries. More precisely, the non-result on ACP exports demonstrate that EPAs seem to do well in terms of maintaining market access of previously granted preferential treatment. On the import side, increased quantities at cheaper prices may also generate welfare gains in ACP countries. This is true in particular with regard to agricultural imports when considering a temporary shortage in domestic (food) supply. Furthermore, increased imports of intermediary products may help export-oriented companies to increase their competitiveness in regional and global value chains. These potential upsides have, however, to be carefully evaluated against the disruptive effects on domestic markets and industrialization prospects that our findings imply, especially in the agricultural sector in Africa, doubled by concerns that the losses of customs revenues in ACP countries due to agreed tariff reductions (see De Melo and Regolo, 2014) are simultaneously reducing the financial leeway of governments. Positive

developmental impacts of the EPAs are thus unlikely to come with unleashing market forces, but instead require continuous EU support to prepare ACP markets for new export and import conditions. Similarly, our empirical findings suggest that the trade effects arising from an envisaged future bi-continental free trade area encompassing whole Africa and the EU could, at least in the short-run, be unequally distributed.

This study analyses the direct effects on trade between the EU and the respective partner countries. There may be second order effects concerning regional trade for partner countries, particularly in Africa. The first potential stems from rules of origin (RoO) embodied in the EPAs, which allow the sourcing of inputs from all African neighbours – regardless of whether they are EPA signatories – without compromising on duty free access of exports to the EU. It remains unclear, however, if documenting compliance with the RoO generates a boon or a higher burden for exporters. The second potential for second order effects from the EPAs arises on the negotiation side: ‘regional preference’ clauses woven into the EPAs’ legal frameworks ensure that tariff concessions applied towards the EU are duplicated among signatories of common EPAs, thereby potentially eliminating existing intra-African tariffs (Santos, 2019). They could thus contribute to paving the way for the African Continental Free Trade Area (AfCFTA), scheduled to be launched in 2021.

A potential field for future research could thus be the EPAs-induced effect on intra-African trade. Also, the empirical analysis laid out in this paper is to be understood as a first piece in the assessment of EPAs on EU-ACP trade relations that needs further confirmation, particularly by the time when many foreseen gradual reductions of trade barriers in ACP countries are implemented and additional ACP countries have acceded existing EPAs. The results from our study show that the channels of effectiveness of the EPAs should be re-evaluated continually.

## Funding

This work is part of a research project supported by the German Federal Ministry for Economic Cooperation and Development (BMZ).

## Disclosure Statement

This is to acknowledge that no financial or other benefit, nor any competing interest has arisen from our research.

## Data Availability Statement

All data are collected from publicly available sources.

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### **Supporting Information**

Additional supporting information may be found online in the Supporting Information section at the end of the article.

**Table A1.1:** Country sample (ACP countries)

**Table A1.2:** Country sample (trading partners)

**Table A2:** Trade effects by EPA