

Trade Policy, Productivity Growth and Resource Allocation: The case of EU ACP Economic Partnership Agreement

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1. Introduction

Cooperation between the EU and the African, Caribbean Pacific (ACP) bloc can be traced back to 1975 when 46 developing countries signed the Georgetown Agreement, which formed the basis for the signing of the first Lomé Convention in 1975 between the then nine member states of the EU and the 46 ACP countries. The Convention was subsequently renegotiated at five-yearly intervals, in 1980 (Lomé II), 1985 (Lomé III), 1990 (Lomé IV) and finally in 1995 (Lomé IV - bis). The successive Lomé Convention Agreements were the framework under which non-reciprocal duty-free access to the European market was granted to products originating in ACP countries. The Lomé Convention Agreement was replaced by the Cotonou agreement in 2000, under which the EU and ACP countries agreed to negotiate arrangements that would, due to their incompatibility with World Trade Organization (WTO) rules, lead to the elimination of non-reciprocal preferences granted by the EU. This led to negotiations on the Economic Partnership Agreements (EPAs) which were concluded in 2007, within the grouping of Caribbean Forum of African Caribbean and Pacific States (CARIFORUM), primarily to avoid distortions of EU-ACP trade (especially between the EU and the ACP non-LDCs). The EPAs between the EU and each of the six regional ACPs aim to support ACP regional integration to create larger regional markets and foster their integration into world markets, and in doing so are new approaches to promote trade and to achieve more general development goals at the same time. The EPAs, are reciprocal agreements between the EU and ACP countries that have to open their market to a limited extent (on average 80 percent within 15 years) in return for access to EU markets. The long-term goal of these regional agreements is quasi duty-free and quota-free market access and more simple rules of origin in the EU.

Discussions reveal that reciprocal preferences and trade agreements lead to elimination of tariffs and non-tariff barriers progressively which supports countries' efforts to integrate into the global economy. There is also evidence that preferential trade increases trade revenue opportunities for developing countries but a related issue which merits attention

is about the locking up of factor resources from such agreements that could be employed in other sectors of the economy, with an adverse impact on the factor prices. This is in line with the thought that for low income countries, reciprocity in preferential trade can potentially reduce factor prices which can in turn exacerbate the decline in domestic factor prices (including wages).

This paper aims to examine the net effect of reciprocal preferential trade under the EPA on factor prices and how reciprocity through a trading agreement, between the EU and ACP countries in this case, impacts on welfare and distribution effects in partner countries. In doing so, the paper specifically aims to determine the effects of reciprocal and preferential on wage and employment in selected ACP countries, in the light of productivity shocks estimated separately. The structure of paper is as follows: Section 2 reviews the relevant literature on regional integration and evidence on the effects of integration for the partner countries. Section 3 discusses the methodology employed for the analysis. Section 4 presents the scenarios, discusses assumption, country and product aggregations. Section 5 discusses the results of simulations. Section 6 concludes.

2. Relevant literature and existing studies

The economic literature explains regional trade agreements as having a ‘domino effect’ (Baldwin 1993). Studies show that those countries outside such trading agreements have an incentive to join in and this supports the expansion of free trade (Grossman and Helpman 1995). Literature also highlights the technical and economic effects of such agreements on tariffs, rules of origin and regulations (Viner 1950, Baldwin 1993, Bhagwati 1994). Within ongoing debate on the effectiveness of such agreements, some view these as ‘stumbling blocks’ (Krugman 1993, Thurow 1992, Bhagwati 1994, 2008) while others see these as ‘stepping stones’ to successful global economic liberalisation (Wei and Frankel 1996, Dent 2003). In the recent past, there have been extensive discussions on the compatibility of bilateral and multilateral liberalisation (Mansfield and Milner 1999, Lamy 2002). In this context, Herrmann (2008) notes “[...] it seems that even from a purely economic perspective, which is not necessarily best suited or conclusive for

all problems of international political economy, no clear-cut case can be made for or against RTAs with regard to their impact on welfare and multilateral institutions". Yet, there is an important irony behind increasing regional agreements such that while these primarily aim to enhance economic growth; some economists have expressed doubts on the welfare enhancement capabilities of such trading arrangements between countries (Krugman 1993, Bhagwati 2008). It is apt to mention here that overall literature presents mixed evidence on the effects of integration for the partner countries. The World Bank (2000) study finds that a trading agreement leads to welfare gains (from trade creation) for the country that is at a lower level of development. The study by UNCTAD (2007) finds that market access gains for developing countries are likely to be limited because most agreements do not cover agricultural subsidies reduction or elimination by developed countries. In addition, it notes that gains are further limited for developing countries by restrictive rules of origin, non-tariff measures and supply-side constraints adopted or implemented by developed countries. As a consequence, if there are gains these are rather marginal as bilateral trading agreements reduce or fully remove policy options and instruments available to a developing country to pursue its development objectives.

CGE models have been used to simulate trading agreements as well as global trade. Kerkala, Niemi, and Vaittinen (2000) employ a multiregional general equilibrium model and examine the consequences for African ACP countries after the end of Lomé convention. This study simulates several scenarios with the GTAP model and findings suggest that the welfare effects for African countries are negative but there are positive effects for the EU. Earlier studies on the effects of EU-FTAs using GTAP 5 model, such as those on South Africa (Lewis, Robinson, and Thierfelder, 1999; McDonald and Walmsley, 2003), Turkey (Alessandri, 2000; Harrison, Rutherford, and Tarr, 1996), and Egypt (Dessus and Suwa-Eisenmann, 1998) assume full liberalisation between the partner countries, which our paper also does. Some studies employ PE models and show that EU exporters are the main beneficiaries of EPAs, because EU exports to ACP markets increase substantially after the implementation of the EPA and that this arrangement reduces the prices of imports from the EU, which results in welfare losses

for ACP consumers (Scolly, 2002; COMESA Secretariat, 2003; Ndlela and Tekere, 2003; Busse et al., 2004; Karingi et al., 2005). Wolf (2000) uses GTAP model to evaluate the effects of tariff reductions, consequences of reciprocity under WTO rules, and estimates effects for alternative trade liberalisation scenarios between the EU and the West African Economic and Monetary Union (UEMOA). While this study quantifies the gains of trade liberalisation and compares losses in tariff revenue under various scenarios, it finds that the UEMOA countries are likely to lose tariff revenues from this arrangement. Milner et al. (2005) also decompose welfare effects in a PE setting to the East African Cooperation (Kenya, Tanzania and Uganda) and EU EPA, and estimate the limited welfare effects for Tanzania and Uganda.

3. Methodology

This paper employs Computable General Equilibrium (CGE) simulations to evaluate trade policy options and welfare effects of economic integration agreements, as well as to estimate overall aggregate trade, terms of trade effects, factor prices, trade creation and trade diversion following the EPA between the CARIFORUM group and the EU. In doing so, this provides an insight into inter-sectoral linkages, estimates of prices, wages, and exchange rates that lead to equilibrium in product and factor markets, as well as balance of trade figures. The CGE modelling technique is based on the general equilibrium theory that offers a rigorous as well as theoretically consistent framework for analysis.¹ The general equilibrium nature of CGE models allows distinguishing trade creation and trade diversion by sectors and provides useful information on welfare changes and effects on bilateral trade flows in alternative policy scenarios. The underlying theory is set in behavioural equations that capture the behaviour of optimising agents and accounting relationships between agents. The model assumes full employment and perfect competition in all markets such that demand equals supply and markets are self clearing such that all producers receive the same marginal cost. It goes with the zero

¹ This section draws on the excellent reviews on the subject provided by De Rosa (1998), Nielsen (2003) and Piermartini and Teh, (2005).

profit assumption that revenues must be exhausted through expenditure on domestic and imported intermediate inputs and factor income is paid to regional households. The model has a single representative household that maximises utility subject to the expenditure constraint through the Constant Difference Elasticity (CDE) and Constant Elasticity of Substitution (CES). Regional households allocate expenditure over private, government and savings according to Cobb Douglas utility function and each component of the final demand is a constant share of total regional income. These goods represent CES combinations for domestic and imported goods (with CES aggregation of imports for each region) and the consumer demand elasticities draws on the work by Reimer & Hertel (2004). The model provides a basis for differentiation between products by countries and regions (Armington assumption) that allows distinguishing between trade flows by country/region and destination as well as on the basis of agents i.e., intermediate demand, final demand by households, government and investment. Import shares are determined by the relative prices and substitution elasticities between domestic and imported commodities.

In the GTAP model, the possibility to substitute inputs (primary and intermediate) allows minimising total costs with the nested production function. At the first level, intermediate input bundles and primary-factor bundles are used in fixed proportions according to a Leontief function. At the second level, intermediate input bundles are formed as combinations of imported bundles and domestic goods, and primary-factor bundles are obtained according to a Constant Elasticity of Substitution (CES) form. At the third level, imported bundles are formed as CES composites of imported goods with the same name from each region. Other parameters on factor substitution elasticities, factor transformation elasticities, investment parameters are based on Hertel et al (2004).

The government has a fixed share of aggregate expenditure in each region which is allocated across commodities by a Cobb-Douglas distribution. The allocation of total expenditure on each good to domestically produced and imported versions is based on the same nesting scheme used to allocate total household expenditure on each good. The standard GTAP closure takes factor endowments, technology, and tax and subsidy rates

as exogenous variables. Investment is financed by a global pool of savings with each region contributing a fixed share to this pool. Savings are allocated to regions either in a fixed proportion or according to the relevant rates of return.

4. Scenarios and Results

Three scenarios are simulated to analyse the trade and welfare effects for the EPA on select ACP countries, which also evaluate the distributional effects of the trading agreement on stakeholders (regional households, government and firms), discusses other relevant key macroeconomic indicators in the select ACP countries, as well as focuses on the employment and wage effects of the EPA.

Model scenarios proposed include trade liberalisation scenarios based on the EPA with the following alternative assumptions on employment closure:

1. Unemployment of skilled and unskilled labour in both ACP countries and EU.
2. Unemployment of unskilled labour in both partner countries and full employment of skilled labour universally.
3. Full employment of skilled and unskilled labour in the EU countries but unemployment of unskilled labour in the ACP countries.

Key closure assumptions for this model are: full employment; fixed land usage; and mobile capital.

The regional aggregation includes: ACP countries; EU; and, Rest of the World. These are:

SAFRICA = South Africa

RESTSAF = Rest of Southern Africa (basically the SADC minus South Africa)

RESTSSH= Rest of Sub-Saharan Africa (= SubSaharan Africa minus South Africa and minus SADC)

EUNION = European Union (EU)

RESTWLD = Rest of the World (ROW)

The rationale for the selection of the regions is that South African economy is quite different from the rest of Africa, especially from the rest of Sub-Saharan Africa. Besides, South Africa is a major player in the SADC, so it is important to look at the impacts on South Africa and its immediate backyards. Sub-Saharan Africa region as whole is, under the new EPA, considered for the reciprocal preferential arrangement. This is a change from the past that only selected countries in SSA qualified for the preferential access to the EU market.

Proposed sector aggregation is: Agriculture; Textiles; Other Manufacturing; Others. The explanation of the aggregation is as below:

AGRIC: Paddy rice, Wheat, Cereal grains nec, Vegetables, fruit, nuts, Oil seeds, Sugar cane, sugar beet, Plant-based fibers, Crops nec, Bovine cattle, sheep and goats, horses, Animal products, Raw milk Wool silk-worm cocoons, Bovine cattle, sheep and goat, horse meat prods,

FOOD: Meat products nec, Vegetable oils and fats, Dairy products, Processed rice, Sugar, Food products nec, Beverages and tobacco products

EXTRACT: Forestry, Fishing, Coal, Oil, Gas, Minerals nec, Petroleum, coal products

LITMNFC: Textiles, Wearing apparel, Leather products, Wood products,

HVYMNFC: Paper products, publishing, Chemical, rubber, plastic products, Mineral products nec, Ferrous metals, Metals nec,

TECHMNFC: Metal products, Motor vehicles and parts, Transport equipment nec, Electronic equipment, Machinery and equipment nec, Manufactures nec

SVCES: Electricity, Gas manufacture, distribution, Water, Construction Trade, transport, Financial, business, recreational services, Public admin and defence, education, health, Dwellings & Services

Based on this description, we propose to use the GTAP database (version 7.1, with reference year 2004) and analyse welfare, macroeconomic and trade impacts. To estimate productivity shocks, we use different national data sources and UNIDO industrial statistics to compute the total factor productivity for different years and compute growth rates for a 5 year-horizon, from 2004 to 2009.

Table 1: Scenarios simulated

	Scenario 0a	Scenario 0b	Scenario 0c	Scenario 1a	Scenario 1b	Scenario 2a	Scenario 2b
				(or 1aw)	(or 1bw)	(or 2aw)	(or 2bw)
FTA all products within Sub-Saharan Africa (SSA), tariff only	No	No	Yes	Yes	No	Yes	No
FTA all products between EU and Sub-Saharan Africa, tariff only	No	Yes	No	Yes	Yes	Yes	Yes
FTA between EU and Southern Africa minus South Africa	No	No	No	No	No	No	No
Unskilled labor SSA	Full employment	Full employment	Full employment	Fix wage	Fix wage	Fix wage	Fix wage
Skilled labor SSA	Full employment	Full employment	Full employment	Fix wage	Fix wage	Full employment	Full employment
Unskilled labor EU	Full employment	Full employment	Full employment	Fix wage	Fix wage	Fix wage	Fix wage
Skilled labor EU	Full employment	Full employment	Full employment	Fix wage	Fix wage	Full employment	Full employment
Unskilled labor ROW	Full employment	Full employment	Full employment	Full employment	Full employment	Full employment	Full employment
Skilled labor ROW	Full employment	Full employment	Full employment	Full employment	Full employment	Full employment	Full employment
Technology shock	0%	0%	0%	2%	2%	2%	2%

This paper employs CGE simulations to evaluate trade policy options and welfare effects of economic integration agreements, as well as to estimate overall aggregate trade, terms of trade effects, factor prices, trade creation and trade diversion following the EPA between the CARIFORUM group and the EU. In doing so, this provides an insight into inter-sectoral linkages, estimates of prices, wages, and exchange rates that lead to equilibrium in product and factor markets, as well as balance of trade figures. The strength of this framework is that differences in values in the pre- and post-implementation situations allow modellers to evaluate alternative scenarios and gains, losses and distributional effects from policy actions (Nielsen 2003).

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