

## The Potential Effects of Economic Partnership Agreements: What Quantitative Models Say

The use of quantitative modelling provides a transparent way of exploring the potential effects of EPAs.

**D**espite the fact that membership and content of EPAs is still uncertain, it is already possible to examine the potential economic effects of a range of trade provisions on individual countries and regions. The use of quantitative modelling provides a transparent way of exploring the effects of different assumptions on what countries and regions may expect to gain (or lose) from an EPA, offering an estimate of the potential magnitude and the possible determinants of such gains (or losses). But to appreciate the significance of the results it is important to understand what the models aim to do, and what assumptions have been made in each study on the key (and so far unknown) features of EPAs.

This Briefing Paper sketches the main potential channels through which the economic effects of an EPA may come about and reviews the results of several modelling studies which have already been undertaken to assess these effects. When interpreting the results, we will also outline the limitations of these models.

### The assumed effects of liberalisation

The causal-chain analysis implicit in most multi-lateral trade modelling approaches is that:

- the direct effect of tariff liberalisation is to increase imports;
- this will affect the welfare of a country through the effects on local producers, domestic



Zanzibar Port.

consumers and government revenues:

- increased imports may displace domestic producers with foreign suppliers (EU in this case) depending on the assumed elasticity of substitution between sources;
- consumers (and producers) will benefit from cheaper product prices (the main welfare gain);
- government will lose tariff revenues for the product liberalised.

Adjustment costs tend not to be part of such modelling approaches. These are defined as short-run costs faced by a country in the transition from one (pre-liberalisation) state of the economy to another (post-liberalisation). These transitional costs include among other things those determined by the reallocation of factors of production across sectors and by the provision

### Key points

- There are a range of studies that model the impact of EPAs. They tend to show that trade liberalisation of goods trade is broadly positive.
- Modelling results need to be interpreted with caution.
- Despite the limitations of the models, the results provide information on the basis of which EPA negotiations could progress.

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### Box 1: General Equilibrium vs. Partial Equilibrium models

The estimates of the studies reviewed are obtained using either Computable General Equilibrium models (CGE) which model the whole world (e.g. GTAP), or Partial Equilibrium models (PE), which consider the impact of tariff cuts on trade in isolation.

While CGE models are more suitable for estimating trade creation, diversion and welfare effects (via including the indirect – general equilibrium – effects of trade opening) they lack detail on sectors (using high levels of sectoral aggregation) and on many ACP regions, particularly for the poorest countries. PE models have therefore been employed as alternatives, addressing welfare effects by comparing trade creation and diversion effects and ignoring those welfare effects arising from the potential displacement of local producers, or a more efficient reallocation of resources in the economy. These models usually calculate trade creation and diversion effects by assuming a common price elasticity for all imports and perfect substitutability between goods. These direct trade effects generate the welfare gains or losses according to a formula.<sup>1</sup>

of social safety nets for displaced capital and labour.

Studies of regional liberalisation (such as those on EPAs) exhibit a number of key differences from standard studies of multilateral liberalisation stemming, in particular, from the fact that the former, unlike the latter, can lead to trade diversion as well as to trade creation. Any assessment of a Regional Trade Agreement (RTA) must pay close attention, therefore, to the relative importance of trade creation and trade diversion because:

- trade creation is welfare improving: it represents the increase in welfare enjoyed by consumers (through lower prices and thus higher number of consumers accessing the good) following the elimination of tariffs on goods imported by the most efficient producer;
- trade diversion is welfare reducing: it occurs when cheap imports from the rest of the world are replaced by imports from less efficient partners, which become cheaper only due to the preferential treatment they enjoy.<sup>2</sup>

Studies that have modelled an EPA have tended to assume a Free Trade Agreement (FTA) between EU and ACP regions (or individual ACP countries). For the ACP countries that are LDCs this is de facto the elimination of tariffs on EU imports as they already have tariff-free access in the EU through Everything But Arms (EBA). For the non-LDC ACP countries this may also include additional market access in the EU if a waiver at the WTO for current preferences under Cotonou is not extended beyond 2008.

### The results of the modelling for merchandise trade

The studies concentrate on directly quantifiable effects, such as direct trade effects (including trade creation and trade diversion) and direct government revenue changes. Box 1 explains the methodologies used by the studies to quantify such effects.

The estimation of adjustment costs (beyond tariff revenue implications) is very difficult as it requires extremely detailed information and none of the reviewed studies incorporates quantifiable estimates.

Table 1 summarises a number of key studies using general and partial equilibrium models that estimate

the potential effects of possible EPAs.<sup>3</sup> It focuses on those studies applied to regions and which are publicly available. Hence, it excludes studies that may have been undertaken for individual ACP countries as part of their trade capacity building programmes. It shows only the main results in order to highlight the different effects at regional level and, where possible, the major ACP gainers and losers. It reviews the study methods, the estimated trade creation and trade diversion effects, fiscal effects and welfare effects.

The broad view is that while trade creation effects are greater than trade diversion overall (but with significant variation across regions and countries), the diversion element significantly reduces the welfare effects of EPAs. In other words, regional trade liberalisation of goods produces smaller gains than multilateral trade liberalisation.<sup>4</sup>

For virtually all African countries, EPAs would lead to more trade creation than trade diversion. The welfare effects are positive for almost all countries (except for some countries including Tanzania and Swaziland) and in most cases significant. These welfare gains have to be weighted against the tariff revenue losses following EPAs (which may be large in some cases) that are likely to put public resources under strain. In the Caribbean, EPAs are likely to have a less significant impact than in Africa because the EU is not the largest source of imports (with USA and intra-Caribbean trade more important). The effects are small and most likely negative because of trade diversion. The Pacific region also trades relatively little with the EU and so the direct effects of trade liberalisation on EU imports are likely to be small (even on revenue) though probably positive overall.

### Limitations of the results

The results need to be interpreted in the light of the following caveats. First, as is the case for nearly all CGE models, the modelling framework is essentially static, a point that is taken up below. Second, all models assume that tariff cuts will automatically translate into a proportionate reduction of prices, while it is likely that some of the cut will be appropriated by producers and/or importers.<sup>5</sup> This would imply that the actual effects on consumers' welfare may be smaller than is predicted. Gasiorek and Winters (2004) highlight a further risk that it would be EU rather than local producers and importers that would capture the revenues from an incomplete pass through of tariff changes to prices. More importantly, the models reviewed lack important details of the EPAs they are investigating, which considerably constrains the reliability of the results. Box 2 discusses the main details the studies do not consider and their potential impact on the results.

### Possible dynamic effects of EPAs on manufacturing

As explained above, these models are static – they estimate a one-off effect based on a more efficient allocation of resources and ignore possible long-lasting effects on growth and productivity that may arise from regional integration. It is clear that RTAs may have

dynamic output and productivity effects through competition and scale, creating a more efficient industry and higher growth through lower intra-regional tariffs. It has also been suggested that because regional integration leads to efficiency gains and higher growth it also attracts further foreign direct investment (FDI) which can be a catalyst through spillovers in terms of technology transfer and other linkages with local firms. Te Velde and Bezemer (2006) test this empirically and find that Regional Investment Provisions in RTAs have helped to attract FDI from outside the region.

The ‘new trade theory’ emphasises long-run productivity effects of trade. Not only does a country’s efficiency increase due to allocation effects (through imports), but also trade (e.g. contact with exporters) helps actors to learn from each other and appropriate research and development spillovers. These effects can be translated into long-run efficiency gains.

Exporters learn a lot and this can produce long-lasting effects on productivity. The literature is not, however, clear cut on this. But there are two opposing views on the direction of causality. One is that productivity drives exports so that productive and skill intensive firms turn into exporters. On the other hand, micro econometric studies suggest that firms can also learn by exporting, so that productivity increases after servicing foreign markets.

Unfortunately, there is little evidence on such micro level dynamic effects at a regional level. One study of the North American Free Trade Agreement (NAFTA) shows that imports into Mexico have raised productiv-

**Box 2: Quantitative studies on EPAs: modelling the unknown**

All the models reviewed lack important details in their trade scenarios, which highlights the scarce information on the possible content of EPA available so far. This is a significant drawback in the context of EPAs, and has serious consequences for the adequacy of the trade measures that are simulated in the modelling. For instance, it is very likely that ACP countries will be able to draw up a list of specific products which are not subject to tariff liberalisation (while still remaining compatible with WTO provisions). This suggests that the trade scenarios used in the modelling approaches quoted here (both CGE and PE) are incorrect as, for example, whole sectors or specific products within sectors might be excluded from tariff liberalisation. And given that trade creation and trade diversion effects will differ by product, the results of PE and CGE modelling studies may not indicate the effects of the trade measures that are actually in the EPAs. Such limitation may call for a combination of these studies with country-specific analyses, which evaluate the economic effects of excluding a list of sensitive products from the EPA. Such analysis can only be done meaningfully when the detailed trade scenarios have become known.

ity through imported foreign knowledge stocks, while extra-regional imports had no such effect, but this may be due to the specifics of NAFTA and the importance of US imports in total Mexican imports. There is some limited evidence that trade and investment induced by regional trade boost productivity (e.g. regional exporters pay higher wages than domestic firms in Tanzania) and product variety and availability (e.g. in times of country-specific droughts).

While such dynamic effects are more likely to occur as a result of multilateral liberalisation, to the extent that it drives up productivity, regional integration

**Table 1: Economic effects of EPAs on ACP regions**

Region and source	Trade creation (TC) / Trade diversion (TD)	Fiscal effects (loss of tariff revenues)	Welfare effects	Major gainers and losers
Sub-Saharan Africa (as a whole) <sup>a</sup>			Negative (EPA with no regional integration) Positive (removal of intra-SSA barriers or EU-SSA Free Trade Area)	
West Africa	TC larger than TD	Negative	Positive	Nigeria and Ghana (gainers); Cape Verde and Gambia (losers)
Central Africa <sup>a</sup>	TC larger than TD	Negative	Positive	Cameroon, Gabon and DRC (gainers)
EAC <sup>c</sup>	TC smaller than TD for Tanzania and equal to TD for Uganda	Large negative	Small negative for Tanzania; Negligible for Uganda	Tanzania (loser)
COMESA <sup>a</sup>	TC larger than TD	Negative	Positive	Kenya, Mauritius, Sudan and Ethiopia (gainers)
SADC <sup>d</sup>	TC larger than TD	Large negative	Large positive (EPA with regional integration) Small positive (EPA with no regional integration)	South Africa, Zimbabwe and Mauritius (gainers); Zambia, Tanzania, Mozambique Swaziland (losers)
Caribbean <sup>e</sup>	TC smaller than TD (for simultaneous MFN tariff cuts < 50%) TC larger than TD (for simultaneous MFN tariff cuts > 50%)	Small negative	Small negative (for simultaneous MFN tariff cuts < 20%) Small positive (for simultaneous MFN tariff cuts < 20%)	
Pacific <sup>f</sup>	TC larger than TD	Small negative	Small positive	Papua New Guinea and Fiji (gainers)

**Based on:**

- a. Karingi, S., Lang, R., Oulmane, N., Perez, R., Sadni Jallab, M. and H. Ben Hammouda (2005) Economic and Welfare Impacts of the EU–Africa Economic Partnership Agreements. ATPC work in progress no. 10. UNECA. September.
- b. Busse M. and H. Großmann (2004) Assessing the Impact of ACP/EU Economic Partnership Agreement on West African Countries. HWWA Discussion Paper 294. August.
- c. Milner C., O. Morrissey and A. McKay (2005) Some Simple Analytics of the Trade and Welfare Effects of Economic Partnership Agreements, Journal of African Economies, 14(3): 327-58.
- d. Tekere, M. and D. Ndlela (2003) Impact Assessment of Economic Partnership Agreements on Southern African Development Community and Preliminary Adjustment Scenarios. Final Report. Trade and Development Studies Centre. Harare, Zimbabwe.
- Keck A. and R. Piermartini (2005) The Economic Impact of EPAs in SADC Countries. Staff Working Paper. ERSD-2005-04. WTO. August.
- e. Evans D. et al. (2006) An EU–Caribbean Economic Partnership Agreement: Case Study, Chapter 5 in Evans et al., Assessing Regional Trade Agreements with Developing Countries. Final Report to DFID.
- Gasiorek M. and A.L. Winters (2004) What Role for the EPAs in the Caribbean? The World Economy pp: 1335–62.
- Greenaway D. and C. Milner (2003) A Grim REPA. University of Nottingham Internationalisation of Economic Policy Research Paper. 2003/30.
- f. Roza, V. and S. Szepesi (2003) EPA Impact Studies: Perspectives for the Pacific. (ECDPM InBrief 2A). Maastricht: ECDPM.

may help firms to prepare for multilateral liberalisation. There is some evidence that access to regional markets does improve the efficiency with which firms operate in a number of African countries. However, it is argued, that these efficiency gains are not large enough to enable the firms to become internationally competitive.

## Services liberalisation

Although there are no models of the effects of an EPA on services,<sup>6</sup> there have been estimates of the gains from multilateral services liberalisation (though there are questions relating to the reliability of the results). The estimates suggest that the gains far outstrip those from multilateral trade liberalisation for goods. Global CGE models suggest gains in economic welfare of around US\$250 billion per annum for a 50 percent cut in (all) services trade barriers, occurring over a 5–10 year period, and equally distributed across all countries in proportion to their GDP. Most gains are obtained through liberalising a country's own services sector, rather than obtaining further access to foreign markets (or negotiations). Most models do not explicitly model different modes of services supply, but those that do include FDI in services sectors (mode 3)<sup>7</sup> suggest a global gain of US\$60 billion per annum for this mode alone.

Temporary migration (mode 4) could be included in EPA services negotiations (Te Velde, 2005). It has become an important issue for developing countries, not least because they should have a comparative advantage in its supply since it is by definition labour intensive. It has been estimated that increased developed country quotas for both skilled and unskilled temporary workers would increase world welfare by an estimated US\$156 billion (0.6 percent of current global income). Of this, Africa would gain by around US\$14 billion (Winters, 2002).

There will be trade and welfare effects of services liberalisation and these derive from two main effects:

- Allocative efficiency: when a regulatory change

allows foreign firms with superior technology and lower costs and prices to supply the domestic market.

- Dynamic efficiency: when the removal of barriers to local and foreign investment raises the level of competition. Studies show that liberalisation in financial services and telecommunication services can have a positive effect on economic growth.

The effects are expected to lower the prices of services to reflect more closely their marginal product. This will have benefits in the form of lower consumer prices and lower business operation costs which benefits the services and other (e.g. manufacturing) sectors.

## Conclusions

There is a range of studies that model the impact of EPAs. They tend to show that trade liberalisation of goods trade is broadly positive though not as large as could be expected from multilateral liberalisation due to varying trade diversion effects, or as large as could be expected from services trade liberalisation.

Results from modelling need to be interpreted with caution because the modelling framework is essentially static (and dynamic productivity effects through attracting FDI might potentially be important); all models assume that tariff cuts will automatically translate into a proportionate reduction of prices, while it is likely that some of the cut will be appropriated by producers and/or importers; moreover, models lack important details in their trade scenarios and tend not to include an option whereby sensitive products can be excluded from trade liberalisation. Notwithstanding these limitations the results from the models provide important information on the basis of which negotiations could progress.

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## References and Notes

### References

- te Velde, D.W. (2006) *Regional Integration and Poverty*. Ashgate Publishing. Forthcoming.
- te Velde, D.W. (2005) *Temporary movement of natural persons in EU trade agreements: issues, existing provisions and options for EPA negotiations*. Paper prepared for Second Meeting of the COMESA Technical Working Group of Services Specialists for the Regional Services Assessment. Mauritius. 11–15 July.
- te Velde, D.W. and D. Bezemer (2006) *Regional Integration and Foreign Direct Investment in Developing Countries*. Forthcoming in *Transnational Corporations*.
- Winters, L.A. (2002) *The economic implications of liberalising mode 4*. Trade Paper prepared for the joint WTO–World Bank symposium on 'The movement of natural persons (mode 4) under the GATS'. WTO. Geneva. 11–12 April.

### Notes

1. Milner et al. (2005) provide the analytics of welfare effects' decomposition in a PE framework. Along trade creation, trade diversion and revenues' effects, they explicitly model consumption effects as well. This is a slight departure from most other PE studies we have reviewed, which address consumption effects through the computation of trade creation/diversion.

2. In both cases tariff revenue is lost, but in the case of trade creation this is a transfer from the public to the private sectors of the importing state; with trade diversion it is a transfer from the government of the importing state that may go partly to consumers (if prices fall) but will also go partly to the suppliers.
3. The table is based on some specific scenarios selected among those considered by the studies. Contact Massimiliano Cali for the rationale of this choice.
4. While this argument applies in the case of trade in goods, there is a clearer rationale to liberalise trade in services regionally (Te Velde, 2006)
5. The extent of the transfer crucially depends on the sectoral market structure, which studies tend to lack data on and which may not be simply incorporated in essentially neo-classical trade models.
6. There are some for EU-Mediterranean FTAs
7. Mode 1: cross-border supply of services; Mode 2: consumption abroad; Mode 3: commercial presence; Mode 4: temporary movement of natural persons.

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