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Potential Effects of the Proposed Transatlantic Trade and Investment Partnership on Selected Developing Countries

A report by CARIS, University of Sussex for the Department for International Development

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Abbreviations

DSM	Dispute settlement mechanism
EBA	Everything But Arms
EPA	Economic Partnership Agreement
EPA	Environmental Protection Agency
FK	Finger-Kreinin
FDA	Food and Drug Administration
GAP	Good agricultural practice
GSP	Generalised System of Preferences
HACCP	Hazard analysis and critical control point
HLWG	High Level Working Group on Jobs and Growth
LIC	Low income countries
MFN	Most favoured nation
MRL	Maximum residue levels
NTB	Non tariff barrier
PE	Partial equilibrium
PRA	Pest risk assessment
RCA	Revealed comparative advantage
RMA	Revealed market Access
ROW	Rest of the world
RTA	Regional trading agreement
SPS	Sanitary and phytosanitary
SF	Sussex Framework
TBT	Technical barriers to trade
TS	TradeSift
TTIP	Transatlantic Trade and Investment Partnership
WTO	World Trade Organisation

Part 1. Executive Summary

This paper evaluates some of the potential effects of EU-US TTIP economic integration on the trade in goods of 43 low-income countries (LIC) listed in Table 1. It first assesses the impact of removing the most-favoured nation (MFN) tariffs that apply to trade between the EU and the US.[1] It then examines the impact of regulatory integration on sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBT) on LIC. These tariff and non-tariff barrier (NTB) assessments reached similar conclusions, as follows:

The Big Picture

The EU and US are typically in the top ten export destinations of the 43 LIC examined in this study. For the top three exporters of non-fuel goods (**Bangladesh, Pakistan and Cambodia**), the EU and US are among the top three destinations for their exports.

The EU is almost twice as large a market for these 43 LIC as the US. The EU's MFN tariffs for the products the 43 LIC specialise in are typically lower than 12%, while the US MFN tariff for the same goods are often above 15% and even 20%.

Tariffs

A transatlantic agreement carries potential threats for LIC in some sectors. The reciprocal removal of MFN tariffs in transatlantic trade could entail LIC lose market share to the TTIP partners as a result of the fall in tariffs and other barriers. The higher the initial MFN tariff, the larger the potential loss in preference margin for goods LIC specialise in producing.

At risk here are **Bangladesh, Pakistan** and **Cambodia** - the largest LIC traders in non-oil goods. They specialise in **textiles, clothing and footwear,** which dominate their top 20 exports to the EU and US. However, the EU and US show no indication of being competitive suppliers of these products in each other's markets.[2] Nor do they look capable of imposing large losses in market share on LIC exporters of non-fuel goods after a TTIP.

The smaller LIC traders tend to specialise in raw materials and in products governed by SPS rules. MFN tariffs tend to be low or zero in these sectors. Low tariffs mean less risk of trade diversion and hence losses to third countries.

Fourteen of these countries are dependent on products regulated by SPS regimes. The following countries have ten or more of their top 20 exports subject to SPS regimes: **Ghana,**

[1] One based on close analysis of current trade performance and the use of diagnostic measures calculated using TradeSift software and the second on partial equilibrium (PE) modelling. The report focuses on the MFN tariffs currently applied in EU-US bilateral trade because that is what will change in any TTIP. More importantly, the size of the MFN tariff will measure the increase in price competitiveness each of the EU and US will gain in the other's market. The higher the MFN tariff applied to products in which LIC are currently competitive the larger the fall in the preference margins and competitiveness of LIC and hence potentially market share.

[2] As assessed by measures of export similarity, competiveness or import share.

Kenya, Nigeria, Burkina Faso, Burundi, DR Congo, Malawi, Nigeria, Occupied Palestine Territories, Rwanda, Sierra Leone, Togo, and Uganda. These countries are potentially vulnerable if greater regulatory cooperation under the TTIP results in more restrictive SPS standards.

SPS and TBT

In general, the ambitions for transatlantic regulatory integration set out in the HLWG report (Annex 1) are quite modest.

The SPS analysis reveals that while some countries are dealing poorly with current SPS regulations on certain products, such as fisheries, others have high levels of compliance. Closer transatlantic integration, whether by harmonisation or mutual recognition, would likely result in cost savings due to a rationalisation of EU and US rules for those countries with success in compliance. If the EU and US move towards mutual recognition route, its importance is not exclusive to EU and US firms. Third country products meeting the rules of one partner will also meet the rules of the other.

On TBT, the main issue to affect LIC is the harmonisation of both labelling rules and the regulatory treatment of azo dyes in textiles and clothing. The process of harmonising these standards is underway but the launch of TTIP could accelerate progress. If implemented, these measures are likely to reduce the costs of doing business after some initial costs of adjustment.

Policy implications

There are limited policy options open to LIC and other developing countries that fear damage to their trade access to EU and US markets as a result of a TTIP. They are not at the negotiating table. They can lobby for *ex ante* changes in preferences to compensate for any perceived losses. *Ex post* they can bring cases to the WTO dispute settlement mechanism (DSM) to demand compensation. The former is clearly more attractive than the latter.

Individual LIC options depend on the country's current status and existing policy with both the EU and the US. First, the EU's Everything But Arms (EBA) scheme means that many LIC already enjoy duty and quota free access to the EU. Second, within WTO rules it is difficult for the EU to offer increased preferences beyond what is on offer in the GSP and GSP+ schemes for non-LIC.

The US has not signed up for duty free/quota free access for LIC although many LIC do receive preferences in the US market. This offers the US more room to grant compensation to LIC for the reduction in preference margins. Bangladesh, Pakistan and Cambodia currently receive no preferences on the US's top 20 imports from them, so these products incur the MFN tariff. The US could give these three largest exporters preferences that abolish or reduce the tariff in bilateral trade. More radically, it could reduce or even abolish the MFN

tariff thus leaving them in the same situation as before the TTIP, which was facing the same tariff as EU firms.

Why would the US take either of these options? Perhaps as a way of signalling to the other WTO Members that it is conscious of the systemic implications of the TTIP and is acting to protect the most vulnerable. It would also have the effect of reducing the any trade diversion losses to the US economy.

Although unlikely, individual LIC might argue for some or all of the high MFN tariff lines that cover their specialist products to be excluded from liberalisation under the TTIP. This would have the advantage of satisfying domestic lobbies in the EU and US, as well as sustaining the current preference margins enjoyed by the LIC. Such an approach would need to comply with the WTO rules on regional trading arrangements (RTA). These require that "substantially all trade" is covered by any agreement. Although there is no consensus on the interpretation of this rule, any substantial carve-out for LIC would limit the freedom of the US and EU negotiators to maintain protection for their domestic list of sensitive products.

In the regulatory field there may be more opportunity for lobbying. If the EU and US succeed in pursuing effective mutual recognition agreements (MRA), LIC could lobby for these MRAs to be open to third countries meeting the rules of either the EU or US. In this context, where rules are being harmonised and changed for at least some producers, an LIC might look for aid to ensure that their testing and certification facilities were capable of meeting the new rules. More importantly perhaps, aid to help firms reach these standards via training or perhaps loans for capital investment would be a useful flanking measure to help LIC adjust to a changed regulatory environment.

Finally, the LIC are not standing still. Their economies and trade are growing and their specialisations are shifting. While the TTIP negotiations get started, the LIC should continue to encourage greater competitiveness and flexibility in their domestic economies to be able to cope with changes in external circumstances. They could also consider focusing more energy into progressing multilateral negotiations at the WTO. These may bring more long run greater benefits than lobbying for preferences or compensation linked to the TTIP.

Part 2. Introduction

On 13 February 2013, the President of the United States, the President of the European Commission and the President of the European Council jointly announced that the EU and the US had agreed to launch negotiations on a Transatlantic Trade and Investment Partnership (TTIP). According to the final report of the High Level Working Group on Jobs and Growth (HLWG),[3] the TTIP will aim at the:

- Elimination or reduction of conventional barriers to trade in goods, such as tariffs and tariff-rate quotas.
- Elimination, reduction, or prevention of barriers to trade in goods, services, and investment.
- Enhanced compatibility of regulations and standards.
- Elimination, reduction, or prevention of unnecessary "behind the border" NTBs to trade in all categories.
- Enhanced cooperation for the development of rules and principles on global issues of common concern and also for the achievement of shared global economic goals.

This study examines the impact of a TTIP that removes tariffs and increases the compatibility of non-tariff measures between the EU and US on a group of 43 developing countries selected by DFID and classified by the World Bank as Low Income Countries (LIC). These LIC fall into two groups. First are the DFID bilateral focus countries (minus India - negotiating with EU, and South Africa – upper middle income) and second are the low-income countries.

The report focuses on the MFN tariffs currently applied in EU-US bilateral trade because this is what will change in a TTIP. The analysis measures the increase in price competitiveness that both the EU and US will gain in the others' market. When looking at many of the MFN tariffs on the products the EU and US import from developing countries, EU and US MFN tariffs are low. However, there are tariff peaks notably among textiles and clothing, footwear and some other manufactures that developing countries export. Here the competitive position of the EU and US suppliers versus LIC suppliers is likely to change. To examine these effects, LIC trade with the EU and US needs to be assessed at a high level of disaggregation. Specifically, the assessment requires the HS 6 digit level data available on a consistent basis for trade and tariffs between individual LIC and the EU and US from UN COMTRADE and UNCTAD TRAINS databases. It then identifies products where LIC are intensively engaged and are likely to lose market share in EU and US markets as a result of a TTIP.

[3] The analyses in this report use the HLWG final report as the guide to the maximum intentions of the negotiators. For convenience the HWLG final report is at Annex 1.
http://trade.ec.europa.eu/doclib/docs/2013/february/tradoc_150519.pdf

Table 1. Low Income Countries Covered

Dfid Footprint Countries	Low Income Countries (exc. DFID Footprint LIC)
Afghanistan	Benin
Bangladesh	Burkina Faso
Congo DR	Burundi
Ethiopia	Cambodia
Ghana	Central African Republic
Kenya	Chad
Kyrgyz Republic	Comoros
Liberia	Eritrea
Malawi	The Gambia
Mozambique	Guinea
Myanmar	Guinea-Bissau
Nepal	Haiti
Nigeria	Korea Democratic Republic
Palestine Occupied Territories	Madagascar
Pakistan	Mali
Rwanda	Mauritania
Sierra Leone	Niger
Somalia	Togo
Sudan	
Tajikistan	
Tanzania	
Uganda	
Yemen	
Zambia	
Zimbabwe	

The report takes three analytical approaches in three parts:

1. Close analysis of trade and tariff data for non-mineral fuels trade using TradeSift (TS) software to identify any products in the trade of LIC with the US and EU for which the changes in trade relations between the EU and US are likely to result in a significant shift in competitive positions.
2. Partial equilibrium (PE) modelling to quantify the likely impact on the removal of EU and US tariffs on bilateral trade on third countries and specifically changes in EU and US imports from LIC.
3. Analysis of SPS and TBT measures likely to impact on individual products and countries by reference to the extent to which products that show up in the top 20 lists have been vulnerable to stoppages at EU or US borders.

Two of these approaches are qualitative and one is quantitative. Linking all three methods is the attempt to examine the potential effects at a disaggregated level, in this case at the 2002 Harmonised System 6 digit level encompassing 5000 product categories. The logic of this is based on the observation that aggregate analysis either at commodity or country group (for example, all UN defined Least Developed Countries) reveals little potential impact on developing countries. This is because on average the EU and US barriers towards each other are low as a result of long-term trends to liberalisation in the context of the WTO. It is only by drilling down to 6 digit product level by country that the effects of the removal of tariff peaks and other barriers between EU-US trade with implications for individual developing countries might be seen. This is consistent with the approach of an earlier study

carried out by some of the authors looking at third country effects of an EU-India FTA (Winters et al, 2009).

The overall aim is to give a sense of the impact of changes in tariff and NTBs in EU-US trade in goods on the competitive position of the most important or most exposed products in LIC trade with the EU and US and to link this to measures of the current competitiveness (measured using market shares and indices of bilateral revealed comparative advantage) in the LIC, versus the EU and US in each other's market.

The key point about the TradeSift approach is that there is no single statement or table of numbers that sums up the complexity. Key results are developing country, product and TTIP partner specific. In principle this means winnowing through up to 400,000 combinations (5000 products x 43 countries x two partners). The key to the results is therefore the modes of selection. While the sections on each approach discuss the caveats identified in each approach, they mainly focus on examining the key results and how they were reached.

Finally some general caveats:

- We have assumed a complete TTIP with no exemptions from liberalisation. In reality it is likely that there will be products exempted, possibly covering as much as 10% of trade on each side. These will most likely be temperate zone agricultural products such as grains, livestock, dairy products and sugar, as well as areas of traditional protection among manufactures such as textiles, clothing and footwear that are of interest to LIC.
- The study covers goods only. Data for the trade is services are generally poor. The ability to measure the impact of changes that might follow from mutual recognition or harmonisation as a result of a TTIP is limited and therefore it is difficult to make generalisations.
- One difference between the TradeSift and the partial equilibrium (PE) analysis is the treatment of trade in fuels. Those countries exporting fuels tend to dominate exports to the EU and US. This makes comparisons with other LIC difficult, not least because the trade in fuels is in our judgement unlikely to be very sensitive to trade policy variables. It is more likely to be driven by issues such as: the fuel characteristics[4] of imports and domestic production, refinery capacity and location of foreign oil fields. The TradeSift analysis is therefore focused on the non-fuel imports of the EU and US. The PE analysis essentially looks at the products where the impact of tariff changes is greatest. This is because where present fuel exports tend to be very large, even a small tariff is likely to have large absolute effects (depending on the elasticity assumptions). This is the case for a few LIC in the US market. We report the fuel results in the PE analysis in the spirit of not excluding information that may be useful.
- All of these analyses are based on examining actual and therefore historical data. They cannot to any degree predict or forecast changes in state from zero trade to positive amounts of trade. Thus, if a preference allows EU or US producers to start producing and exporting goods they did not previously export and consequently displace an LIC, none of these analyses will pick up that possibility.
- In both the TradeSift and PE sections we draw on evidence that suggests that the EU and US do not compete significantly with LIC, either in the world or in the EU or US markets. This judgement draws on data on relative market shares, measures of revealed comparative advantage (RCA) and comparisons of the commodity structure

[4] sulphur content for example

of exports. These data also justify the small country assumption taken in the PE section. This allows analysis on the basis that US and EU producers do not exhibit market power, at least for the top 20 products that each LIC sells in EU and US markets. Note however, we work at the HS 6 digit level (around 5000 products). These data are aggregated from tariff line levels that may include some products where EU and US do compete directly with LIC and where the removal of high tariffs or other barriers in transatlantic trade could lead to trade diversion.

Part 3. What does the trade and tariff data tell us about the potential effects of TTIP on developing countries?

Trade data can illuminate the question of how a TTIP might affect individual developing countries. Some effects can be revealed by reorganising the data and asking straightforward questions such as: how much trade, in what, with whom and with what trends? Manipulation of the data using absolute and relative export shares (revealed comparative advantage (RCA) and revealed market access (RMA)) or degrees of similarity in export structures (using Finger-Kreinin (FK) measures) can give an indication of competitive strengths and weaknesses with the world and with direct competitors and markets.

In economic analysis terms, what we are looking for is evidence of whether any trade diversion[5] or preference erosion[6] driven by a TTIP with its accompanying regulatory integration will affect developing countries and more exactly, a particular LIC. Specifically we want to know:

1. What are the most important products in US/EU imports from an LIC?

2. Which of these are vulnerable to trade diversion/preference erosion? These are functions of:

   i. The amount of trade; and

   ii. The presence/size of the barriers being reduced by the formation of a TTIP

3. What is the degree to which imports from an LIC compete with EU/US goods in the same HS 6 digit category in the world or in the EU or the US using market shares, bilateral revealed comparative advantage measures, Finger Kreinin (FK) and other measures of similarity and relative competitiveness?

4. Is there evidence of greater barriers to access to the EU or US markets than to the world as a whole, or of indicators as to whether there are barriers, using RMA indices?

5. What are all of the above at the most disaggregated product level available for all countries?

This will result in a mosaic of evidence all aiming to identify products and countries that appear vulnerable to losses in market access to the EU and/or the US market, as a result of the impact of a TTIP.

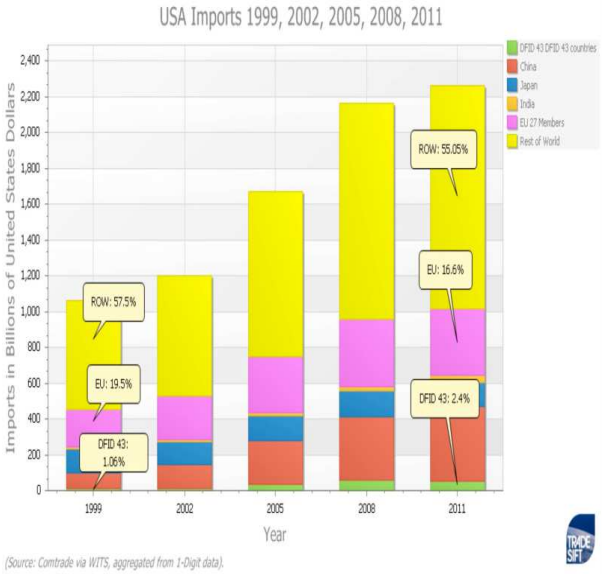
3.1. The Big Picture

[5] Trade Diversion takes place when granting a trade preference to one supplier reduces market share or leads to a deterioration in the terms of trade of a previously competitive supplier.

[6] Preference erosion takes place when the introduction of a new preferential supplier onto a market reduces benefits from existing preferences

Figures 1 and 2 show that since 2000, the EU and US have been losing market share, i.e. competitiveness, in goods traded in each other's market. At the same time, LIC have increased market share by half in the EU market and doubled it in the US. On the face of it, this might suggest that a preferential agreement would imply trade diversion potentially at the expense of an LIC. However, table 4 suggests that imports from LIC are mainly fuels and clothing based. The price of fuels has increased hugely since 2000. This may explain both the decline of the EU and US shares in each other's trade and the growth of LIC shares. Fuel prices are not much affected by trade policy per se and therefore we don't expect the TTIP to affect trade significantly. For these reasons, we will ignore fuels (HS 27) for the analysis of trade and tariffs in this section of the paper.

Figure 1



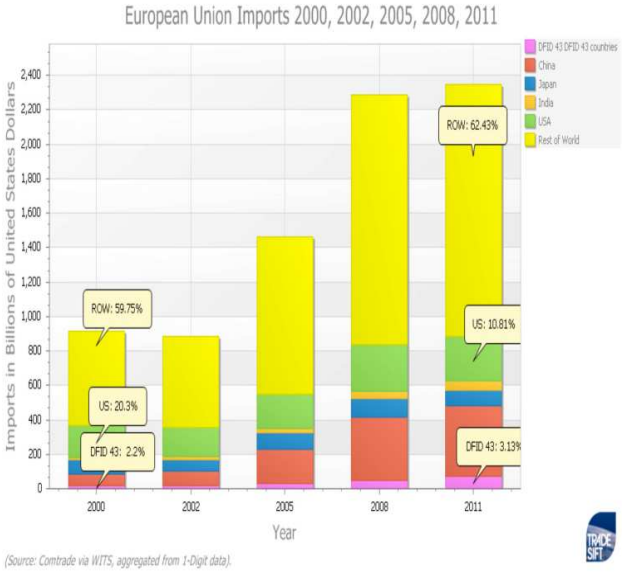
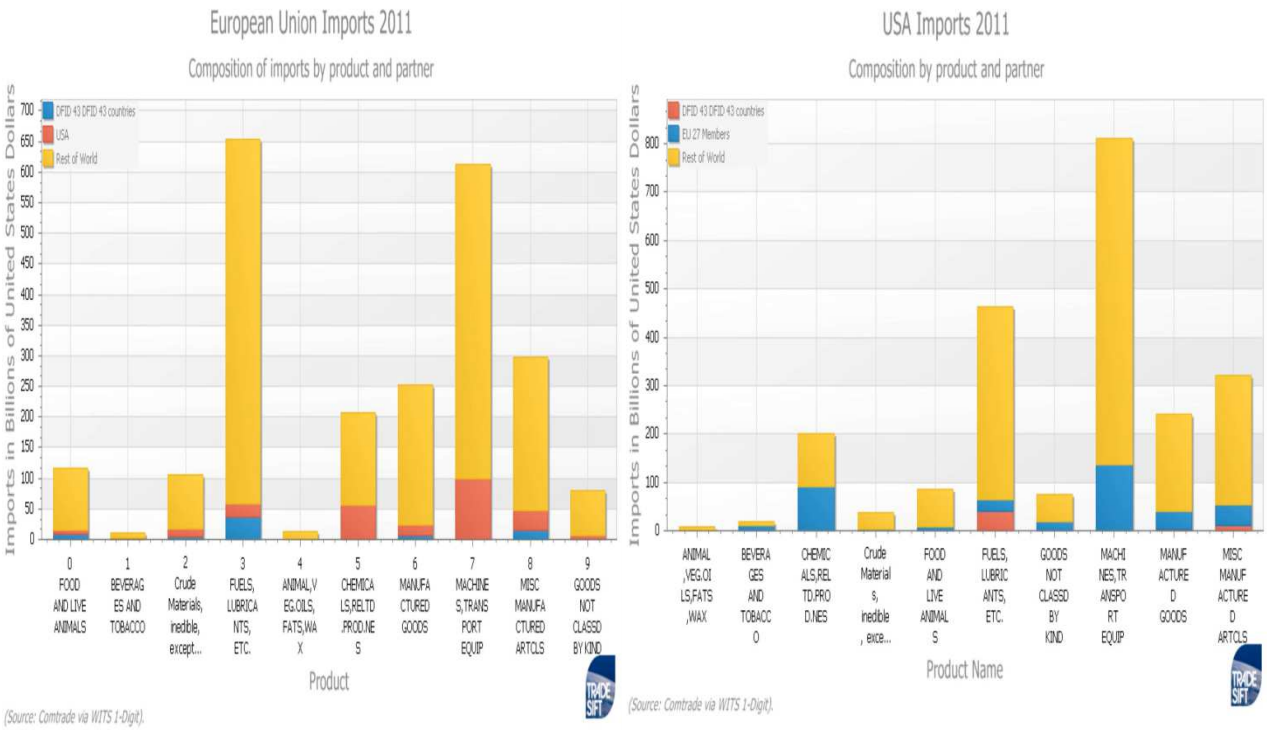


Figure 2



If the tariffs faced by LIC in the EU and US markets are high, it suggests probable trade diversion irrespective of market share. Table 4 of Annex 2 however suggests average US tariffs against the EU of 3.1% and of the EU tariffs against the US of 4.1%. Therefore, the change in competitive positions brought about the TTIP is, on average, unlikely to be significant.

More specifically, it is worth noting that there is practically no similarity between, on the one hand, the structure at HS 6 Digit level (around 5000 product categories) of the non-fuel exports of the LIC to the EU and US, and on the other hand, the exports of the EU to the US, and of the US to the EU (Annex 3, Table 4). This is measured using TradeSift by calculating FK[7] statistics. If the FK=1 then the export structures would be exactly similar and if FK=0 there would be no similarity. The FKs in Annex 3 Table 4 vary between 0.00 and 0.08 and show no tendency to increase over time, indicating little if any similarity. This suggests that at the aggregate level the EU and the US are not competing with LIC to any significant extent, even ignoring fuels. The FK indicator along with low average tariffs thus suggests that trade diversion at the expense of an LIC is unlikely to be very significant.

There is, however, potential for specific problems with specific products for specific LIC where tariff peaks or SPS policies or TBTs represent a specific threat of losing market share or terms of trade advantages in EU or US markets. Even if tariffs and FK are low, the new preferences may still be sufficient to damage LIC interests if the EU or US product is a close substitute for LIC products. This requires a more detailed examination of the performance of an LIC in the EU and US markets.

[7] Definitions and guidance to interpretation of the FK as well as the RCA and RMA are given at Annex 2

3.2. Looking at the detail

The first core point of this analysis indicates that what will change is the EU-US tariff against each other. This is the applied MFN tariff rate (not the bound tariff rate where that is different). We have assumed that the MFN tariff will be abolished. We have made no allowances for excluded products. Thus, we have not focused on the tariffs faced by LIC. The Everything But Arms (EBA) regime allows effectively all goods from an LIC to enter the EU duty and quota free and GSP preferences allow non-LIC many preferences. However, the bottom line is that their competitive positions will be eroded by the disappearance of MFN tariffs in EU-US trade and the prevailing MFN tariff is the precise measure of that deterioration.

The second core point is that the analysis will focus on EU and US non-fuel imports from LIC and specifically, the top 20 non-fuel import categories by value averaged over the years 2009-11. This is to ensure that absent data in particular years do not lead to unrepresentative results. The top 20 products generally represent between 70% and 90% of total non-fuel imports from individual LIC and seldom less than 50%. We use imports because that is where the effects of a TTIP on third countries will be felt. Furthermore, the US and EU data is often more up to date and consistent than export data from LIC available from the UN, World Bank and UNCTAD databases. That does not mean that we ignore the global databases. Indeed we take the import and tariff data from there. As will be seen, we also need LIC export data to calculate some of the indicators that are required to assess competitiveness and market access. Most importantly, using the global databases ensures consistency in product definitions, albeit with the limitation that we can drill down no further than HS 6 Digit. National classifications can go deeper to eight or ten digit but are not internationally comparable beyond HS 6 digit.

The country detail is set out in Annex 2. It produces a set of 6 graphics and 4 tables that attempt to map the importance of the EU and US markets to each country by looking at current trade and tariff patterns as well as statistics, such as revealed comparative advantage and revealed market access.

The table and graphics in Annex 2 provide guidance for individual countries as to where the risks from a TTIP may lie. They are not definitive but in conjunction with the detailed country/product results from the partial equilibrium analysis in the next section and Annex 3, they should allow key products at risk to be identified. It must be stressed that the TradeSift results are qualitative and need judgement based on local knowledge when deciding what is important or not; or whether to drill down further, either below the top 20 or to look at EU or trade statistics at eight or ten digit for badly affected products.

3.3. Overview of Country results

Table 4 for the EU market and Table 3 for the US market offer an overview of the country results for 2011 from the TradeSift analyses. Each summarises in two ways: first a focus on the top ten importers into each market and then on the rest of the LIC. Second, a qualitative overview of the data notably on:

3.3.1. Current tariffs faced by top imports from LIC (column 6)

3.3.2. A frequency table (labelled column 7) of how many of the top 20 products for each country have an MFN tariff below 5%, between 5% and 10%, 10% and 15% and above 15%. The more products there are in the right – hand columns of the frequency table the more likely there is to be trade diversion losses for that country.

3.3.3. A simple count of the number of plant and animal products in the top 20. This is an indicator of the relevance of SPS measures (column 8). See section 4 of the paper for the implications of this.

3.3.4. A count of the top 20 products where the bilateral RCA with the EU in the US market and the US in the EU market are positive or negative (column 9). A high positive count suggests strong competitiveness and hence that trade diversion less likely. A high negative count suggests the opposite, along with looking at detailed tables and graphics in Annex 2 to see if poor competitiveness is associated with high MFN tariff or SPS vulnerable products.

3.3.5. A count of average and top 20 product RMA estimates along with whether they are above or below 1 (column 10). If they are above 1 it suggests that the country faces fewer market access obstacles than in the world market. This indicates less vulnerability to NTBs. If RMA are negative then access is already worse than in the world as a whole, which indicates either NTBs or poor competiveness.

3.3.6. A rough and ready judgement as to whether there is a problem or not (Column 11).

As a caveat, the RCA and RMA data and the importance of the EU and US markets to LIC (column 2) depend on export data from Comtrade/WITS. Where these data are missing, the cells are empty.

First, at a general level the top ten countries dominate in each market: in the EU they are responsible for more than 80% of total non-fuel imports from LIC, while in the US market 95%. In scale terms, the top ten is where the main effects if any will be.

Second, the EU is roughly twice as important a market for LIC as the US.

Third, overall Figure 3 indicates that the EU and US are major markets for the top four countries (except perhaps for the US in the case of Ghana). It is also worth noting that the top 20 products represent around 70% of the top four's exports to these markets

TABLE 2

LIC: EU import sources 2011

1	2	3	4	5	6	7				8	9	10	11
COUNTRY	**Importance of EU Market**	**Rank in EU imports From LIC**	**value**	**% of total non fuel imp from LIC**	**applied tariff on top 20 products**	**no of products with positive MFN tariffs**				**No of SPS products in top 20**	**Bilateral RCA vs US in world for EU top 20**	**RMA in EU vs World**	**Judgement**
						< 5%	**5.1-10%**	**10.1-15%**	**15.1%+**				
TOP 10	**Rank**	**LIC**	**$bn**	**%**									
Bangladesh	1	1	12	31.7	all zero	0	1	19	0	1	Positive all categories	average > 1, 1 > for 5 products	RCA and RMA suggest no serious threat
Pakistan	1	2	6.4	16.9	only 2 zero	2	4	10	0	1	Negative in 1 categories	average > 1, 1 > for 5 products	RCA and RMA suggest no serious threat
Ghana	2	3	2.5	6.7	all zero	4	8	0	3	12	Negative in 6 categories 2 high MFN	Average<1, 6 categories <1	RCA and RMA and SPS vulnerability suggest moderate threat
Cambodia	2	4	1.8	4.8	all Zero	0	2	13	4	0	Negative in 2 categories, moderate MFN	Average >1, 7 categorioes <1	RCA and Average RMA suggests no serious trhreat
Mozambique	not in top 10	5	1.8	4.8	all zero	3	0	4	0	9	Negative in 6 categories, none high MFN	Average>1, 3 categories<1	Potenti alSPS vulnerability needs investigating
Kenya	1	6	1.8	4.7	all zero	5	2	2	5	14	Negative in 2 categories, negligible MFN	Average close to 1	Potenti alSPS vulnerability needs investigating
Nigeria	1	7	1.6	4.3	11 zero, rest<6%	3	2	1	0	8	negative in 8 categories; only 1 high MFN	Average>1, 5 categories<1	MFN tariffs, RCA suggest no major threat
Mauritania	1	8	1.1	2.9	all zero	0	5	5	0	13	negative in 11 categories MFN tariffs low	Average<1,	May be some issues around Fish on MFN/SPS
Ethiopia	1	9	1	2.6	all zero	9	1	3	0	7	negative in 6 categories; all Low MFN	Average<1, 4 cat<1	RCA and RMA suggest no problems but some high MFN and moderate SPS vulnerability
Madagascar	1	10	0.8	2	all zero	2	3	11	2	8	RCA all positive	Average<1, all categories>1	RCA, Low MFN and moderate SPS vulnerability
Total			30.8	81.4									
Rest of DFID 43													
Afghanistan	6	31	0.07	0.2	all zero	11	1	0	0	6	negative in 17 categories	average<1, all categories<1	little impact MFN tariff zero or less than 5% so no deterioration in preference margin
Benin	5	29	0.07	0.2	all zero	5	3	0	0	7	negative in 8 categories	average<1, 14 categories<1	Little impact, MFN tariffs low on top 20, positive RCA on more than half of top 20
Burkina Faso	3	26	0.09	0.2	all zero	6	1	1	0	11	negative in 7 categories	average<1, 4 categories<1	Little impact, MFN tariffs low on top 20, positive RCA on more than half of top 20
Burundi	1	32	0.07	0.2	all zero	5	3	2	1	14	negative in 9 categories	average=1, 6 categories<1	some high MFN, 14 products vulnerable to SPS but competitveness good
Cent Af Rep	1	27	0.08	0.2	all zero	2	0	0	0	6	negative in 6 categories	average>1, 14 categories >1	Little impact MFN tariff zero or less than 5% so no deterioration in preference margin 6 products only open to SPS
Chad		35	0.04	0.1	all zero	10	0	2	1	1	na	na	Little impact
Comoros		39	0.01	neg	all zero	9	6	0	0	6	na	na	low MFN; low SPS
DRC		11	0.72	1.9	all zero	3	0	0	0	11	na	na	MFN zero for all but 3; 11 SPS categories
Eritrea		40	0.01	neg	all zero	5	1	4	0	5	na	na	high MFN tariffs on 5 clothing products,0nly 5 SPS products
The Gambia	8	36	0.03	0.1	all zero	3	2	3	0	10	negative in 6 categories	average above 1 in 2010; 6 products >1	some high mfn products & 10 SPS
Guinea	1	16	0.59	1.6	all zero	1	3	2	0	7	negative in 10	average above 1; 7 products >1	some high mfn products & 7 SPS
Guinea Bissau		41	0.01	neg	all zero	4	1	2	0	6	na	na	low mfn products & 6 SPS
Haiti		37	0.03	0.1	all zero	4	2	5	0	7	na	na	5 low mfn products & 7 SPS
Kyrgystan		28	0.07	0.2	4 products +ve	2	3	1	0	2	na	na	few +ve MFN tariffs and only 2SPS
Liberia		20	0.29	0.8	all zero	3	0	0	0	3	na	na	
Malawi	1	19	0.32	0.9	all zero	4	1	0	1	6	negative for 5 products	average above 1: 7 products>1	little if any effect expected
Mali	3	33	0.06	0.2	all zero	3	0	0	0	8	negative for 11 products all zero or low MFN		little if any effect; MFN low, SPS exposure low, competitveness quite high
Myanmar	9	22	0.23	0.6							negative for all products	average below 1; 2 products>1	
Nepal		24	0.13	0.3	all zero	2	4	12	0	1	negative for all products	average below 1; 14 products>1	concentration in clothing means high MFN and poor competitveness vas US on EU market suggests could face problems
Niger	1	18	0.4	1	all zero	8	1	0	0	4	negative for 19 products	average above 1; 6 products>1	MFN tariffs low but so is competitiveness. Overall not likely to be big effects
Occ Palestine	5	38	0.02	neg	faces MFN tariff	9	2	2	0	11	negative for 5 products	average below 1; 5 products>1	faces high tariffs already and is competitive but SPS exposure quite high. Potential for losses moderate
Rwanda	1	30	0.07	0.2	all zero	5	0	0	0	7	negative for 11 products all zero or low MFN	average below 1; 4 products>1	MFN tariffs low on even low competitive products; SPS exposure low
Sierra Leone		21	0.23	0.6	all zero	3	1	0	0	4			MFN tariffs zero or less than 5% and SPS exposure low so no big shock expected
Somalia		42	0	neg	all zero	4	2	4	0	11			
Sudan	4	23	0.15	0.4	all zero	8	0	0	0	11	negative for 10 products but all low MFN taiffs	average below 1; 3 products>1	not much threat - MFN tariffs a low but SPS exposure highand RMA low suggesting already facing higher barriers than in rest
Tajikistan		25	0.1	0.3	faces MFN or GSP tariff	7	4	2	0	0			
Togo	4	17	0.44	1.2	all zero	2	2	0	1	9	negative for 10 products but all low MFN tariffs	average below 1; 7 products>1	not much threat - MFN tariffs a low but SPS exposure hihg and RMA low suggesting already facing higher barriers than in rest
Uganda	1	14	0.63	1.7	all zero	2	1	3	1	15	negative for 4 products	average below 1; 10 products>1	some high MFN tariffs - fish and bananas: competitiveness good and RMA doesn't suggest high NTB
U Rep of Tanz	5	12	0.71	1.9	all zero	2	1	1	0	9	negative for 6 products	average below 1; 9 products>1	some high MFN tariffs - fish : competitiveness good and RMA doesn't suggest high NTB
Yemen	4	34	0.06	0.2	all zero	4	2	1	0	8	negative for 18 products	average below 1; 3 products>1	low MFN tariffs, medium SPS exposure, poor competitiveneaa and low RMA signal poss NTB
Zambia	5	13	0.7	1.9	all zero	2	0	2	0	8	negative for 10 products	average below 1; 4 products>1	low MFN tariffs, medium SPS exposure, medium competitivenes but low RMA signal poss NTB
Zimbabwe	2	15	0.62	1.6	all zero	3	2	1	0	9	negative for 8 products	average below 1; 11 products>1	low MFN tariffs, mediun SPS exposure, good competitiveness but low RMA signal poss NTB

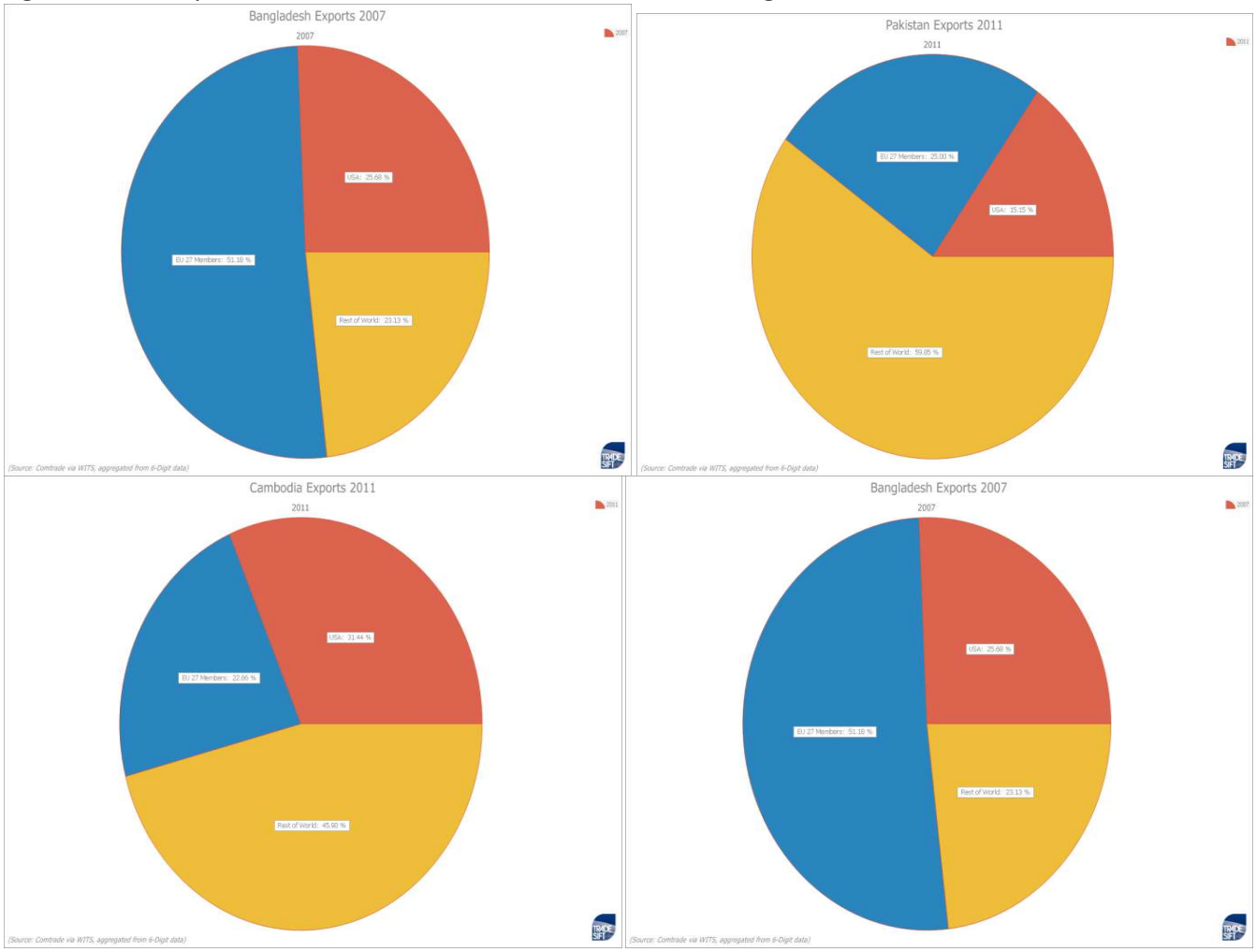
TABLE 3

LIC: US top import sources for non fuel imports 2011.

1	2	3	4	5	6	7				8	9	10	11
COUNTRY	**Importance of US Market to LIC**	**Rank in US imports From**	**value $bn**	**% of total from LIC**	**applied tariff on top 20**	**no of products in top 20 with positive MFN tariffs**				**No of SPS products in top 20**	**Bilateral RCA vs EU in world**	**RMA in US vs World**	**Judgement**
TOP 10	**Rank**	**LIC**				**< 5%**	**5.1-10%**	**10.1-15%**	**15.1%+**				
Bangladesh	2	1	5.1	34.5	MFN tariff	1	7	7	3	1	Positive in 19 categories	Average >1;5 categories <1	faces MFN tariff but seems robustly competitive faces big fall in pref margin
Pakistan	2	2	4	27.3	MFN tariff	2	8	6	4	0	all positive	average<1: 5 categories <1	faces full MFN but competitive:faces big fall in preference margin
Cambodia	1	3	2.8	19.1	MFN Tariff	0	3	6	11	0	positive in 15 products	Average<1: only 1 product <1	faces full MFN but robustly competative: faces big fall in preference margin
Haiti	1	4	0.8	5.2	all zero	1	2	9	5	3	na		na
Kenya	4	5	0.4	2.7	all zero	0	3	7	6	5	negative in 3 categories	Average<1: only 2 products>1	MFN tariffs high and moderate SPS exposure
Ghana	7	6	0.4	2.4	all zero	2	2	0	0	10	negative in 4 categories	Average<1: only 5products>1	MFN tariffs low and so is threat but half products face SPS
Liberia	na	7	0.2	1.1	mainly zero	1	2	0	0	2			MFN Tariffs low and so is SPS exposure
Nigeria	3	8	0.2	1.1	all zero	4	1	0	0	12	Negative in 10 products	average close to1;only 4 products>1	MFN Tariffs low but SPS exposure moderate
Ethiopia	4	9	0.1	1.1	all zero	3	3	2	4	9	Negative in 14 products	Average<1; 13 categories > 1	MFN tariffs low, SPS exposure quite high, RCA weak
Guinea	4	10	0.1	0.8	all zero	1	1	2	2	7	negative in 14 products	average >1; only 2 categories >1	MFN Tariffs low and SPS exposure moderate but RCA weak;
Total			14.1	95.3									
Rest of LIC													
Afghanistan	10	23	0.02	0.1	all zero	8	2	0	0	3	negative for 17 products	average <1; no products >1	MFN tariffs low or zero and SPS exposure low so not much impact expected
Benin	outside top 10	35	0.002	neg	all zero	5	2	1	0	2	negative for 18 products	average <1; 6 products >1	MFN tariffs mainly low or zero and SPS exposure low so not much impact expected
Burkina Faso	outside top 10	32	0.004	0.02	all zero	9	2	0	1	6	negative for 16 products	average <1;1 product>1	MFN tariffs mainly low or zero (tobacco apart) and SPS exposure low so not much impact expected especially if tobacco excluded from I
Burundi	outside top 10	26	0.01	0.07	all zero	0	0	0	0	3	nr	nr	non fuel imports 99% coffee with zero MFN tariff: no impact from EU-US FTA
Cent Af Rep	outside top 10	29	0.006	0.04	all zero	6	0	0	0	9	negative for 16 products	average >1; 6 categories >1	MFN tariffs mainly zero, positive tariffs <3%. No expected effect
Chad	na	27	0.009	0.06	all zero	4	0	1	0	2	na	na	MFN tariffs mainly zero, only 1 positive tariffs<10% . small expected effect
Comoros	na	36	0.002	neg	all zero	3	0	0	0	3	na	na	imports 99% Cloves. FTA no effect
DRC	na	21	0.027	0.18	all zero	6	0	0	0	8	na	na	all mfn tariffs less than 5%, most zero
Eritrea	na	40	0.001	neg	all zero	8	1	3	0	4	na	na	most MFN zero or very low; only clothing above 10%. But not most important product
The Gambia	10	41	0.001	neg	all zero	3	3	0	0	7	negative in 19 products	average >1; 6 categories >1	tariffs low, SPS exposure med/low but competitiveness low
Guinea Bissau	na	38	0.003	neg	all zero	1	1	0	0	1	na	na	80% of non fuel imports coffee and diamonds where MFN tariff zero. No impact expected
Kyrgystan	na	33	0.003	neg	all zero	5	3	0	2	2	na	na	very high MFN on tobacco & clothing so some risk there
Madagascar	6	11	0.091	0.62	all zero	1	2	8	4	3	negative in 2 products	average RMA falling to <1. 8 products> 1	12 MFN tariffs>10%; all in clothing. Potentially exposed
Malawi	5	13	0.068	0.47	zero except on tobacco	0	2	2	9	11	negative in 9 products	average=1: 9 products>1	v. high MFN on tobacco and clothing point to vulnerabilities
Mali	5	31	0.004	0.03	all zero	10	1	0	0	3	negative in 16 products	average<1: 8 products>1	low MFN tariffs, low SPS exposure, but low competitiveness
Mauritania	not in top 10	37	0.001	neg	zero or negligible	9	2	0	0	3	negative in 18 products	average=1: 6 products>1	not an important market, MFN tariffs low SPS exposure low
Mozambique	not in top 10	18	0.036	0.25	zero except on tobacco	2	3	0	3	8	negative in 9 products	average<1: 2 products>1	Tobacco and 1 clothing category appart MFN tariffs low so impact likely to be small
Myanmar	not in top 10	42	neg	neg	no substantive trade	na	na	na	na	0	na	na	no trade:no impact
Nepal	na	12	0.084	0.57	MFN or GSP	4	9	1	0	1	na	na	dominated by apparel and carpets but mainly with low MFN tariffs,not SPS sensitive
Niger	6	30	0.004	0.03	all zero	3	1	0	0	1	Negative for 20 products	Average>1; 6 products>1	tariffs, low SPS exposure, but low competitiveness
Occ Palestine Ter	6	28	0.009	0.06	MFN + some preferences	5	2	3	5	6	negative in 14 products	average<1: 2 products>1	MFN tariffs biased to high levels and medium SPS exposure
Rwanda	9	19	0.032	0.22	zero except on luggage	4	1	0	1	4	negative in 13 products	average=1: 3 products>1	imports conc on luggage: MFN tariff up to 20%
Sierra Leone	na	22	0.027	0.18	all zero	7	1	1	0	3	na	na	low MFN tariffs, low SPS exposure, not much impact expected
Somalia	na	39	neg	neg	all zero	7	2	0	0	4	na	na	negligible trade, low MFN. Little if any impact
Sudan	not in top 10	25	0.011	0.08	3 product, 2 zero	0	0	1	0	1	na	na	99% Gum arabic. MFN=0%
Tajikistan	na	24	0.012	0.09	MFN	6	4	1	0	0	na	na	low MFN tariffs, no likely displacement as EU very low presence in these good in US market
Togo	not in top 10	20	0.032	0.22	all zero	2	4	1	0	11	negative for 12 products	average<1: 3 products>1	some high MFN tariffs and moderate SPS exposure but competitiveness strong
Uganda	not in top 10	16	0.048	0.33	mainly zero some MFN	3	4	0	1	10	negative for 11 products	average<1: 3 products>1	one high MFN tariff and med exposure to SPS so some vulnerability but competitiveness moderately strong
U Rep of Tanzania	not in top 10	14	0.06	0.41	all zero	3	3	2	4	9	negative in 6 products	average<1: 7 products>1	some high MFN tariffs and moderate SPS exposure but competitiveness strong
Yemen	9	34	0.003	0.02	all zero	6	1	0	0	6	negative in 18 products	average<1: 2 products>1	low MFN tariffs low SPS exposure, but low competitiveness
Zambia	not in top 10	17	0.048	0.32	all zero bar tobacco	6	3	0	1	7	negative for 11 products	average<1: 2 products>1	Tobacco apart MFN tariffs low so impact likely to be small
Zimbabwe	not in top 10	15	0.052	0.36	all zero bar tobacco	4	1	0	2	7	negative for 8 products	average<1: 2 products>1	Tobacco apart MFN tariffs low and compeitiveness strong so impact likely to be small

Fourth, the top ten countries in the EU and US are dominated by Bangladesh (around a third of total LIC non-fuel imports in both the EU and US) and Pakistan (a quarter share in the US and 15% in the EU), and mainly in clothing and textile products. Ghana is third in the EU (7% share, dominated by SPS products) and 6th on the US (2%). Cambodia (20% - also dominated by clothing and footwear) is third in the US and fourth in the EU (5%). Thus, the top three in the EU represent 55% of total non-fuel imports from LIC, while the top three in the US represent 81% of the total. The four countries as a group add up to 60% of EU and 83% of US total non-fuel imports from LIC.

Figure 3. Importance of EU and US markets to Bangladesh, Pakistan, Cambodia and Ghana



The main aim of this study is to look for problems arising from a TTIP for individual LIC no matter how small. Nevertheless, it remains true that the top three LIC suppliers into each partner not only represent a large share of the trade at risk but also of populations at risk. These are Bangladesh, Pakistan and Cambodia into the USA and Bangladesh, Pakistan and Ghana into the EU. By looking in more detail at the four countries concerned can be seen as a covering the main risks. Also walking through the tables column-by-column will give a sense of how the (necessarily broad) individual judgements for the rest of the LIC were reached.

In the EU, **Bangladesh** benefits from EBA preferences and pays a zero tariff on its top 20 exports. However, the MFN tariffs on the top 20 are above 10% for 19 products and 15% for one, so any US competitors in these products will enjoy a moderate to strong boost to competitiveness. Only one product is vulnerable to SPS rules changing. On the other hand, the bilateral RCA against the US in the EU market for the top products from Bangladesh are all strongly positive suggesting that it is operating in a different part of the market. Indeed, the US share of EU imports of these products is low (see the Bangladesh country tables in Annex 2). The US tables show a similar pattern. One major initial difference is that Bangladesh faces MFN tariffs in the US market. The MFN tariffs are higher on average than in the EU market (three of the Bangladesh top 20 products have MFN tariffs above 15%). The RCA and RMA are positive, which suggests a strong competitive position against EU competitors in the US market and the world. Market shares are many multiples of the EU shares on items with positive MFN tariffs. The overall judgement is that any trade diversion seems unlikely to be a major problem in either market because of strong initial competitiveness.

In the EU Market, **Pakistan** has GSP preferences but MFN tariffs are between 10% and 15% for ten products out of the top 20, and between 5% and 10% for four products. Thus, the US would receive a moderate to strong price competitive boost. One product is SPS-vulnerable. The RCA suggest that the US does not currently compete with Pakistan directly in these products. In the US market, Pakistan faces the MFN tariff. The MFN tariff on 18 out of the top 20 products is above 5% and four are above 15%. No product is SPS sensitive. So there is a price competiveness boost for EU producers. Yet as with Bangladesh, Pakistan is in an initial competitive position on the top 20 with high RCA and hugely higher market shares than the US in the EU market, or the EU in the US market, for all top 20 products with a positive MFN tariff. So once more it seems likely that Pakistan is operating in a part of the market where the EU and US are not strong competitors.

In the EU market **Cambodia** gets EBA treatment but the MFN tariffs for its top 20 products are biased to the high end of the scale; seventeen tariffs are above 10% and exceptionally for the EU, four (all footwear) are above 15%. There is zero SPS relevance. Strong RCA and RMA performance suggests competiveness is strong. In the US, Cambodia faces full MFN tariffs. Of its top 20 products, no less than 11 face tariffs above 15%, with zero SPS exposure. This competitive position is strong on market shares, RCA and RMA. The abolition of these high US MFN tariffs on Cambodia's top 20 products promises a significant price advantage for EU producers, but the competitiveness story suggests that the EU does not compete in same market segments as Cambodia.

In the EU market, **Ghana** faces zero tariffs on the top 20 products. MFN tariffs on the top 20 are generally low but three are above 15% (two fish products and bananas). SPS sensitivity applies to 12 products. Bilateral RCA against the US in the EU market are negative for six products (two with MFN tariffs above 15%) and average RMA below one on all but six products. In the US market, Ghana faces zero tariffs on its top 20. MFN tariffs are low. SPS Exposure applies to ten products. The RCA is negative for only four products and the RMA is below one on all but five products. Overall Ghana looks vulnerable to US competition on fish products in the EU and on SPS more generally. Bananas have been the cause of trade disputes involving both the EU and US in the GATT and WTO for several decades and could be a point of contention in TTIP negotiations.

Beyond the top ten countries in the EU and US market, the lists in Tables 3 and 4 are alphabetical. In general, MFN tariffs on the top 20 products for these are low but competiveness as measured by RCA and RMA is weak. There are exceptions. Table 4 shows the countries in the EU and US markets where one of the following three conditions is met:

- five or more of the top 20 products have MFN >10%
- one or more of the top 20 products have MFN tariff greater than >15%
- ten or more of the top 20 products are subject to SPS restrictions.

These results are summarised in Table 4 drawing on Tables 3 and 4, which in turn summarises the country tables in Annex 2.

Table 4. LIC potentially vulnerable to negative third country effects on non-fuel exports from transatlantic integration

Market	5 or more of top 20 products have MFN 10%<Tariff<15%	1 or more of top 20 products have MFN Tariff>15%	10 or more of top 20 products are Exposed to SPS
EU	Bangladesh, Pakistan, Cambodia, Haiti, Mauritania, Madagascar, Nepal	Cambodia, Ghana, Chad, Burundi, Madagascar, Malawi, Togo	Ghana, Kenya, Mauritania, Burkina Faso, Burundi, DR Congo, the Gambia, Occupied Palestine Territories, Rwanda, Somalia, Sudan, Uganda
USA	Bangladesh, Pakistan, Cambodia Haiti, Kenya, Madagascar,	Bangladesh, Pakistan, Cambodia, Haiti, Kenya, Ethiopia, Guinea, Burkina Faso, Kyrgyz Republic, Madagascar, Malawi, Mali, Mozambique, Occupied Palestine Territories, Rwanda, Togo, Uganda	Ghana, Nigeria, Malawi, Togo and Uganda

In Table 4 some countries appear in more than one column. In the EU market, five countries (**Burundi**, **Cambodia, Ghana, Madagascar, Mauritania)** appear in two columns. In the US, nine countries (**Bangladesh, Cambodia, Haiti, Kenya, Madagascar, Malawi, Pakistan, Togo, Uganda)** appear in two columns**.** To complete the set, 13 countries appear in one of the columns in each of the EU and US rows and are thus at risk of trade diversion losses in both markets. (**Bangladesh, Burkina Faso, Cambodia, Ghana, Haiti, Kenya, Madagascar, Malawi, Occupied Palestine Territories, Pakistan, Rwanda, Togo, Uganda**)

3.4 Conclusions

First, the non-fuel imports of the EU and US from LIC are highly concentrated with 60% of EU and 83% of US imports coming from four countries – Bangladesh, Pakistan, Cambodia and Ghana.

Second, the top 20 products (textile products, clothing and footwear mainly) imported from Bangladesh, Pakistan, Cambodia face high MFN tariffs typically above 10% and some above

15%, so there is potentially significant boost to US and EU price competiveness in these products from a TTIP. These three countries have however a significant initial competitive position measured by import share relative to US and EU suppliers and high bilateral RCA. On balance, the competitiveness position probably outweighs the threat of trade diversion losses but this is not a quantified result

Third, the EU and US's non-fuel imports from Ghana generally face low MFN tariffs. In the EU however, fish and banana imports face MFN tariffs above 15%. In both EU and US, ten of the top 20 products are exposed to SPS measures.

Fourth, for the remaining 39 LIC in general, MFN tariffs on their top 20 products are low but so is competitiveness. Nonetheless, if tariffs are low then trade diversion effects are likely to be small. But there are outliers to the pattern of low MFN tariffs on the top 20 products. Specifically of initial concern is that outside the top four countries selling into EU and US markets, 26 LIC (Burkina Faso, Burundi, Chad, DR Congo, Ethiopia, the Gambia, Guinea, Haiti, Kenya, Kyrgyz Republic, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nepal, Nigeria, Occupied Palestine Territories, Somalia, Sudan Rwanda , Togo, Uganda) face some potential disadvantages from the successful completion of the TTIP. These will arise from the granting of a significant price advantage to EU or US firms following from the abolition of MFN tariffs on implementation or less concretely, the possibility of the EU and US harmonizing SPS barriers at a higher level than now.

Part 4. The TTIP Partial Equilibrium Analysis

4.1 Introduction

The objective of the partial equilibrium (PE) analysis is to quantify the effects of trade policy changes, and in particular those related to changes in tariffs or taxes applied to goods. It is generally used to measure the impact of changes in tariffs from a particular country on trade flows originated in one or more partner country. PE analysis is *ex ante* in the sense that it uses current data to simulate and estimate the expected impact in the short-run. Furthermore, it is also static since it uses present data to make predictions without considering how other factors may change over time. Nevertheless, PE analysis has two main advantages. First, it allows for formulating predictions about forward-looking trade policy questions using existing economic relationships. Second, and as described below, it allows for work with very disaggregated trade data and identifying those product lines with larger (smaller) trade impacts from specific trade policy changes

In this report, we use the PE analysis to simulate the impact of TTIP on a specified group of 43 LIC. The PE analysis takes each market (in this case each product) in isolation from the rest of 'the market'. As a result, any impacts on imports of a particular product have no effects on other products, regardless of whether these goods can be considered substitutes/complements or related goods in a processing chain. However, it considers the effects on similar products coming from different origins (what we call varieties). Whilst in theory it is possible to consider exports and domestic production, lack of data restricts PE to the analysis of imports from different origins for a particular product in a given country. The PE analysis presented here complements the analysis performed using the Sussex Framework (SF) and TradeSift (TS) section. SF-TS methodologies share with the PE analysis the focus on analysing each product separately, isolating the product specific effects from other potential effects. The value added of the PE analysis is that it allows for estimating the product and origin specific trade changes arising from specific tariff cuts based on a set of given economic relationships.

The PE analysis presented here analyses the changes in import behaviour of the EU and the US arising from greater integration between these regions. In particular, the focus of the simulation is on the impacts of EU-US integration on a group of 43 countries selected by DFID. These are mainly low income developing and least-developed countries; the remaining countries are considered in a single group named the Rest of the World (ROW).

The large number of selected countries considered here complicates the presentation of the results. Therefore, we first focus our analysis on the description of aggregate results for LIC as a group in the EU and the US markets. This will help to identify the products that will be most affected by the agreement. For these products, we will present tables showing the trade changes for each of the countries considered to gain more insight about the particular effects on each on them. A description of the most relevant results is presented in the conclusions.

For expositional reasons, to select the products with larger effects and given the large size differences between the signatories and LIC, we will in general focus on changes in the value of imports in the EU and US market (or exports of LIC) rather than percentage changes. This reasoning rests on the differences in size between the signing parties and the 43 LIC, which

may imply important percentage changes in their exports to the signing parties in products with minimal and/or sporadic trade. The application of this criterion prevents being misled by important percentage changes on negligible changes in values and to ensure that we identify those products that are heavily affected by the agreement. However, for the sake of comparison we will always present percentage changes as additional information. Whilst we may limit the presentation of results to the top ten or top 20 most affected products, the model is run considering all products and this criterion only is used at the time of presenting the results.

This section is structured as follows. Section 2 deals with the modelling strategy, the model definition and the elasticities used in the model. Section 3 describes the data used. In Section 4 some general results of the simulations are presented. It is important to note that these should not be taken as the total effects in each selected country of the agreement. This is since it is incorrect to add the partial equilibrium results for individual products and to represent the total as the overall impact on either the exporting or importing countries. Notwithstanding this, a sense of direction and scale of impacts is gained by looking across all the affected product categories.

In the sixth section we present lists of the most affected products for each LIC as result of the agreement. For each country, two tables are presented: one with the products that will have the greatest effects in the exports to the EU and another on the exports to the US. Given the length of the report, we have refrained from presenting a detailed analysis of each country.

In the conclusions, we identify some products in some countries that will have effects that have caught our attention from our reading of these tables.

4.2 Model definition: Data and simulations

Intuitively, the functioning of the model is as follows: a reduction in EU tariffs for products from the US generates a reduction in the aggregate price of imports. This reduction in the price of imports will trigger an increase in imports regardless of the origin, but each origin share is adjusted according to the elasticity of substitution between origins and considering that the domestic import price (export price plus tariff) falls only for some exporters. As a result, imports from the US increase while imports from other countries are reduced. Therefore, there are two effects on EU imports: a scale effect where imports increase regardless of the origin and a substitution effect between origins. This implies that in absolute value, the sum of import changes in excluded countries is not equal to the change in imports from the US. This is since there is implicitly a trade creation component involved. In effect, the US exports to the EU will grow by more than the reduction of the EU imports from the excluded countries.[8]

[8] Import data is obtained from UN Comtrade database using the HS 2002 nomenclature system. In order to avoid outliers in products resulting from unusual high or low values of imports, we have taken the average for the years 2009-2011 as the baseline for the simulations. Imports are in million of US dollars. Tariffs applied on EU and US imports are from the TRAINS database. Tariffs currently applied by the EU (US) on imports coming from the US (EU) correspond to MFN (Most Favoured Nation) tariffs.

Given the lack of information about liberalisation schedules and lists of excluded products under negotiation for the TTIP, we have assumed complete and full liberalisation between both signatories. Therefore, the simulation exercise analyses the reduction of all applied tariffs to both countries to zero.

Annex 5 of this report presents additional information about the definition of the model, including the equations and elasticities used in the model.

4.3 Modelling strategy and assumptions

Small country assumption

The objective of this simulation is to identify products or sectors most affected by the TTIP agreement, in particular in LIC. When defining the model, the first challenge of the modelling strategy is dealing with the large size in terms of their participation in world trade of both signing countries. It is expected that the TTIP may have notable effects on international prices of several products. As a result, not only export quantities are likely to be affected by the agreement but the price at which those quantities are traded is also likely to change. This implies a likely violation of the standard "small country" assumption used in many FTA simulations where countries are too small to affect international prices and an upward sloping export supply function should be defined for both, the US and the EU.

It is true, on the other hand, that assuming large country effects across the board for every single product may be also inappropriate. Either the EU or the US cannot be considered large countries in every single product, as the ROW for example would be also a large country. In particular, we have found that for the most affected products in the 43 LIC, the small country assumption can be sustained as neither the US nor the EU can be considered large countries. Moreover, data on the values for the elasticity of supply of imports is unavailable. This implies that we would need to present a sensitivity analysis on these values to have an idea on how these parameters might change them. On the other hand, the small country assumption allows for an easier interpretation of results as they can be considered as pure quantity effects. As a consequence, the small country assumption is kept for the remaining of the analysis based on the suitability, availability of data and interpretational advantages. Annex 5 presents an analysis on the implications of this assumption.

Elasticity of substitution

A similar problem arises with another important parameter of the model: the elasticities of substitution across import sources. These are not estimated and are mainly assumed based on some rules of thumb where the assigned value is compatible with other elasticities in the model. In particular, the relationship between them and the elasticity of demand.

The values chosen for the elasticities of substitution may have important effects on the results. Not only in terms of the magnitude of the effects but also on the direction. If the elasticity of substitution is low, it is likely that the liberalisation between the EU-US may increase imports from all sources. Given that the elasticity of demand is stronger than the elasticity of substitution, the importer will increase imports from every origin, including those excluded from the agreement. If on the contrary the elasticity of substitution were

very high, the impact would reflect an accommodation of origins; reducing imports from the excluded countries without an increase in the total imports.

We have assumed that the EU or US consumers do not substitute imports at a unique rate. We assume that the quality of the product is related with the level of development of the country of origin of the imported product. As a consequence, imports coming from the US or EU would have a lower degree of substitutability with respect to the same product coming from an LIC. In contrast, we assume that imports coming from the EU or the US and the imports from the ROW have the same degree of substitutability. The implication of this in terms of the model is that the substitution effect on LIC will tend to be smaller than the one observed for the ROW. Whilst this may depart from the standard Armington (1969) assumption of equal substitution elasticities across origins, we considered that this situation adjusts more accurately to the reality that the model pretends to capture. In Annex 5 we present additional information about the elasticity of demand and the elasticity of substitution between origins.

Another important element that the modelling strategy needs to address is related to how the EU and US imports react after the agreement by capturing part of the export share of the selected developing countries. We could separate these effects into two sub-elements: (i) the substitution in favour of US exports by the EU in their imports as a consequence of a reduction in their prices; and (ii) a similar effect in US imports from the EU. In order to identify these effects, the model is estimated separately in the EU and the US market. In practical terms the model is estimated twice: once for the reduction of EU tariffs on US products, and once for the reduction of US tariffs on EU products.

Finally, given the lack of compatible data for domestic absorption, the effect on the domestic markets on partners and LIC is not considered. As a consequence, the simulations refer exclusively impacts on trade behaviour in the EU and US markets.

4.4 Simulation results

Given the large number of LIC in the simulations, we start by providing aggregate impacts of the TTIP agreement on those products where imports in the EU and the US increase the most. In Section 4.2, we summarise the results for individual countries.

Aggregated impact

Table 5 presents a summary of the aggregate results obtained in the PE analysis. For each country: the second column shows the value of exports to the US before the implementation of the TTIP; the third column focuses on the changes in the value of exports following the TTIP in the US market; and the forth columns shows the impact in the US market from the TTIP as percentage of exports. Columns (5) to (7) show the same information but focusing on the impacts in the EU market.

It is important to highlight that this aggregation of results should not be interpreted as the general equilibrium effects or total effects of the agreement. The sum of PE effects for each product does not consider impacts on other markets and factors of production. As a result, they should be interpreted as a first approximation to the expected aggregate impact of the TTIP.

The main aggregate outcome of the simulations is an increase in EU exports to the US by 7.39%, equivalent to $25 billion and an increase on EU imports from the US, equivalent to 7.07% or $17 billion. The ROW is, because of its size and by assumption of the degree of substitutability, the region that would bear more of the adjustment. The ROW exports to the US fall by 1.15% and the exports to the EU fall by 0.78%, which is equivalent to $17.45 and $12.86 billion respectively. LIC experience reductions in their exports to the US by 0.54%, while to the EU by 0.12%.

This suggests that the effect of the US liberalisation on LIC would be larger than the effect coming from the EU. Part of the effect is mainly explained by the higher US tariffs. But more specifically, the tariff applied by the US on oil and oil products generates important effects on some oil exporters (particularly Nigeria). It is unlikely that this liberalisation would generate changes in the location of investments of oil companies; however, we prefer to leave this product in the analysis.

In general, the simulation results suggest that the expected impact of the TTIP on these LIC is likely to be negligible. This is explained by several factors associated to the different economic structures of the countries involved. First, the export basket of LIC tends to be very different to the one observed in the EU and US, and does not tend to overlap. This indicates that products heavily exported by these countries may appear as marginal in the trade flows between the EU and the US and vice versa; products more important in the trade flows between the US and the EU are marginal or non-existent in the exports of LIC. As a consequence, the competitive pressure on LIC tends to be minimal.

The second important element to explain the results is related to the tariff structures in the EU and US market. If exports from LIC are concentrated in products where MFN tariffs applied by the EU or the US are zero or very small, no impact should be expected on these countries. The evidence for the EU suggests that in 2008 around 60% of the EU's imports from developing countries were eligible for EBA preferences and paid no duties given that the MFN tariff was already zero.[9]

The third element to consider is the low import shares of LIC in both markets. As the model tends to redistribute imports according to the elasticity of substitution and, particularly, the existing import share, sizable effects (measured in change of the value of exports) occur only if LIC have high market shares. While it is possible that this is the case for particular countries and products identified in the individual analysis, in general each of the LIC tend to be marginal actors in both the US and the EU markets in the products where the agreement will generate the largest effects.

Looking at the aggregated results for individual countries in Table 5 we see that while the general impact seems to be small for most countries, there are some cases where the absolute impact on exports is likely to be significant. In particular the impact appears to be very significant in the US market for Niger with a drop in exports of -12.1%, followed by Kyrgyz Republic (-4.5%) and Malawi (-3.1). Nepal, Ghana and Pakistan experience reductions in the US market export share of between 1% and 2%, while the remaining LIC exports are reduced by less than 1%. The estimated impact on the EU market is even smaller, with the largest reduction in exports being for Afghanistan where exports in the EU would fall by

[9] CARIS (2010) Mid-term Evaluation of the EU's Generalised System of Preferences

1.42%. As we mentioned, and it can be seen in the respective individual table, the change in the value of imports in Nigeria is explained primarily by the effect on oil.

In order to identify the main channels through which exports of the LIC are likely to be affected by the TTIP, Table 6 shows the top 20 imported products most affected by the implementation of the TTIP in the EU market in terms of larger share reallocation to US exporters. Most of these products are not relevant for LIC, but it is important to have an idea about where the main effects will come through. The third column shows the total value of EU imports, the fourth and fifth columns note the change in value and percentage respectively of total imports. The sixth column shows the value of imports from the US and the seventh and eighth columns indicate the respective change in value and percentage. Changes in imports from the US are larger than changes in total imports since the US captures markets shares from other countries.

The change in value of these 20 products amounts to an increase in total EU imports of $1.5 billion and of $5.5 billion from the US; (around 30% of the total change in the value of imports from the US (nearly $17 billion). Total imports by the EU increase by nearly $4 billion.

The product 271019 (light oil and preparations with an MFN tariff of 2.2%) is the single most affected product with an increase of imports from the US of nearly $1.1 billion. However, some caution is required in this particular product given the important sunk costs in the investments of this product that reduce the possibility of important reallocation of trade flows. Other affected products are concentrated mainly in chapter 29 (chemical products) and 87 (Motor cars) and 88 (aeroplanes).

Table 5 Summary of Results

	Exports to the US (in million of $)	Change in exports (in million of $)	Change in percentage	Exports to the EU (in million of $)	Change in exports (in million of $)	Change in percentage
Afghanistan	13.280	-0.109	-0.82	40.19	-0.570	-1.42
Bangladesh	4,461.952	-36.623	-0.82	9,600.45	-24.562	-0.26
Benin	0.912	-0.001	-0.14	53.41	-0.203	-0.38
Burkina Faso	2.244	-0.010	-0.43	91.52	-0.111	-0.12
Burundi	5.813	0.000	0.00	52.37	-0.014	-0.03
Cambodia	2,389.401	-13.155	-0.55	1,356.35	-2.739	-0.20
Central African Republic	5.063	-0.007	-0.14	63.56	-0.006	-0.01
Chad	2,464.094	-5.197	-0.21	248.77	-0.077	-0.03
Comoros	1.570	-0.001	-0.05	11.56	-0.053	-0.46
Congo Democratic	500.666	-1.056	-0.21	626.58	-0.578	-0.09
Democratic Republic of Korea	0.003	0.000	0.00	125.37	-0.803	-0.64
Eritrea	0.248	-0.002	-0.85	4.89	-0.028	-0.57
Ethiopia	118.580	-0.193	-0.16	711.89	-0.893	-0.13
Ghana	399.356	-5.399	-1.35	2,734.47	-2.828	-0.10
Guinea	107.562	-0.016	-0.02	598.58	-0.330	-0.06
Guinea-Bissau	0.399	0.000	-0.05	5.55	-0.012	-0.22
Haiti	620.292	-4.394	-0.71	28.50	-0.144	-0.51
Kenya	324.268	-1.630	-0.50	1,574.99	-3.484	-0.22
Kyrgyz Republic	3.095	-0.138	-4.47	125.43	-0.126	-0.10
Liberia	133.822	-0.304	-0.23	531.43	-0.257	-0.05
Madagascar	154.365	-1.050	-0.68	670.35	-2.130	-0.32
Malawi	69.083	-2.147	-3.11	317.58	-0.132	-0.04
Mali	4.332	-0.024	-0.55	39.87	-0.070	-0.18
Mauritania	30.639	-0.004	-0.01	781.95	-0.731	-0.09
Mozambique	46.209	-0.063	-0.14	1,534.17	-0.441	-0.03
Myanmar	0.030	0.000	-0.67	220.52	-0.559	-0.25
Nepal	66.745	-0.989	-1.48	113.49	-0.439	-0.39
Niger	125.507	-15.175	-12.09	320.56	-0.044	-0.01
Nigeria	28,345.230	-115.428	-0.41	22,401.36	-3.141	-0.01
Occupied Palestine Territories	6.836	-0.054	-0.79	22.73	-0.052	-0.23
Pakistan	3,646.444	-36.674	-1.01	5,282.99	-13.927	-0.26
Rwanda	24.587	-0.012	-0.05	56.08	-0.026	-0.05
Sierra Leone	28.065	-0.097	-0.34	195.06	-0.066	-0.03
Somalia	0.117	-0.001	-0.44	1.71	-0.001	-0.03
Sudan	10.254	0.000	0.00	239.12	-0.324	-0.14
Tajikistan	7.657	-0.011	-0.14	93.22	-0.053	-0.06
Tanzania	49.788	-0.248	-0.50	551.57	-0.872	-0.16
The Gambia	1.766	-0.004	-0.24	22.06	-0.018	-0.08
Togo	15.837	-0.009	-0.05	364.45	-0.303	-0.08
Uganda	42.653	-0.079	-0.18	547.75	-0.297	-0.05
Yemen	274.575	-0.245	-0.09	325.61	-0.317	-0.10
Zambia	28.287	-0.154	-0.55	336.87	-0.129	-0.04
Zimbabwe	45.019	-0.166	-0.37	442.60	-0.282	-0.06
LIC countries	44,576.647	-240.869	-0.54	53,467.54	-62.17	-0.12
European Union	336,158.492	24,843.37	7.39	N/A	N/A	N/A
United States	N/A	N/A	N/A	239,901.43	16,971.004	7.07
Rest of the World	1,512,997.039	-17457.56957	-1.15	1,655,476.20	-12,857.020	-0.78

These results are explained by a combination of factors such as relatively high tariffs in these products and more importantly, by the importance of the US as world suppliers of these products. The US already has an important share in the EU market in these products. Therefore, facing a lower price for this particular "variety" implies that consumers would tend to increase their purchases of US products even further. In general, the share of the US in EU imports of these products is always well above 10%, implying that even with a small MFN tariffs its reduction may generate large changes in value.

Moreover, this is also explained by the assumption that European consumers "substitute more" between US imports and imports from the ROW. Given LIC export structure, it is unlikely that these products constitute an important part of their exports (total and to the EU). Therefore, the excluded country in these products is basically the ROW. The assumption of a different substitution elasticity presented above makes the substitution effect in these products particularly high, further expanding imports from the liberalising partner. This is clearly reflected by the large difference between the percentage change in total imports and imports originating in the US.

Table 6 Top 20 most affected EU imports

			Total EU imports			Imports from the US		
HS 02	Description	MFN tariff	Total imports (millions of $)	Change in value	% change	Imports (millions of $)	Change in value	% change
210690	Protein concentrates and textured protein substances - Other	12.8	1521.1	58.7	3.9	377.6	245.7	65.1
271019	Light oils and preparations - Other	2.2	64275.7	418.9	0.7	8748.4	1110.8	12.7
292429	Ethinamate (INN) - Other	6.1	2310.0	17.7	0.8	278.2	97.7	35.1
293339	Alfentanil (INN), anileridine (INN), bezitramide (INN), bromazepam... Other	4.5	2070.9	42.0	2.0	1061.2	165.3	15.6
293359	Loprazolam (INN), mecloqualone (INN), methaqualone (INN) and zipeprol (INN); salts thereof - Other	5.2	1323.5	22.0	1.7	446.9	103.9	23.2
293399	Alprazolam (INN), camazepam (INN), chlordiazepoxide (INN), clonazepam..- Other	6.2	3092.5	19.2	0.6	296.9	107.3	36.1
293499	Aminorex (INN), brotizolam (INN), clotiazepam (INN), cloxazolam (INN)...- Other	6.2	2718.1	52.7	1.9	868.4	246.6	28.4
293500	Sulphonamides.	6.2	971.8	22.2	2.3	373.6	97.4	26.1
382490	Containing acyclic hydrocarbons perhalogenated only with fluorine and chlorine - Other	6.1	4139.3	55.1	1.3	894.8	282.8	31.6
392690	Statuettes and other ornamental articles - Other	4.7	4879.6	40.6	0.8	888.0	224.4	25.3
810890	Waste and scrap - Other	6.6	851.2	28.6	3.4	476.2	101.1	21.2
841112	Of a thrust exceeding 25 kN	0.9	6974.6	36.3	0.5	5056.8	103.8	2.1
841191	Of turbojets or turbopropellers	0.9	12377.1	64.2	0.5	8945.5	185.3	2.1
841199	Coated rods and cored wire, of base metal, for soldering, brazing or welding by flame - Other	2.1	3591.9	37.2	1.0	2204.8	131.3	6.0
870323	Of a cylinder capacity exceeding 1,	10.0	6436.0	81.6	1.3	682.6	401.3	58.8
870324	Of a cylinder capacity exceeding 3,	10.0	1738.3	81.9	4.7	797.4	305.5	38.3
870332	Of a cylinder capacity exceeding 1,	10.0	8484.8	83.2	1.0	689.5	415.4	60.2
870333	Of a cylinder capacity exceeding 2,	10.0	3854.0	253.9	6.6	2817.5	643.4	22.8
880240	Aeroplanes and other aircraft, of a	1.4	16917.4	94.4	0.6	8547.7	403.9	4.7
880330	Other parts of aeroplanes or helico	0.9	9500.0	41.7	0.4	5764.9	152.4	2.6
	Total 20 selected products		**158,027.8**	**1,552.1**	**1.0**	**50216.9**	**5525.3**	11.0
	Total Trade		**1,944,793.40**	**4,051.8**	**0.2**	**222,930.4**	**16,971.0**	**7.6**
	Share		**8.1**	**38.3**		**22.5**	**32.6**	

Table 7 presents similar information for the US market. These top 20 products account for $12.7 billion of the change in imports from the EU nearly half of the total increase by $7.1 billion, and these 20 products account for as much as $4.45 billion. In terms of specific products, the two single most affected products in terms of EU increased share are: 271011 and 271019, both products of distilling of oil with MFN tariffs of 6.4% and 7% respectively. Thus, as a result of the TTIP, the EU would increase its market share in the US by nearly $7.1 billion, nearly one third of the total change in the value of imports from the EU.

The relatively high tariffs and the magnitude of the US imports in oil products generate important value changes. These magnitudes may trigger important changes in the exports to the US in some LIC. Although trade on these products is generally explained by the investment made in countries with oil and countries with excess demand for this product rather than specific trade policies, the magnitude of these effects cannot be ignored.

In contrast to the EU market, in the list of most affected products in the US market there are items belonging to different sectors: agricultural, chemicals, oil products, textiles and footwear, manufactures of precious metals and automobiles. As we will see below, the effects on textiles and footwear as well as manufactures of precious metals are the most relevant for some LIC.

The results are explained by the same elements as suggested for the EU market, the combination of large markets shares, high tariffs and high elasticities. In the case of tobacco products, the magnitude of the applied tariffs and their elimination generate important value effects. However, these changes in this product only affect a few LIC.

Table 7 Top 20 most affected US imports

			Total EU imports			Imports from the US		
HS 02	Description	MFN tariff	Total imports (millions of $)	Change in value	% change	Imports (millions of $)	Change in value	% change
040690	Other cheese	11.6	954.8	129.0	13.5	737.6	246.1	33.4
210690	Protein concentrates and textured protein substances - Other	8.4	1598.7	27.4	1.7	298.0	160.5	53.9
240110	Tobacco, not stemmed/stripped	58.3	304.0	157.2	51.7	43.5	242.9	558.4
240399	Homogenised or reconstituted tobacco - Other	350.0	7.3	141.7	1941.1	2.7	170.2	6303.7
271011	Light oils and preparations	7.0	30399.0	2293.7	7.5	13453.1	5061.6	37.6
271019	Light oils and preparations - Other	6.4	42381.9	516.1	1.2	4746.6	2121.9	44.7
293359	Loprazolam (INN), mecloqualone (INN), methaqualone (INN) and zipeprol (INN); salts thereof - Other	3.4	2989.8	119.6	4.0	2616.4	188.3	7.2
293399	Alprazolam (INN), camazepam (INN), chlordiazepoxide (INN), clonazepam (INN), clorazepate, delorazepam (INN), diazepam (INN),... - Other	2.8	6526.8	217.9	3.3	5847.2	323.3	5.5
293499	Aminorex (INN), brotizolam (INN), clotiazepam (INN), cloxazolam (INN), dextromoramide (INN)... - Other	3.5	8088.7	330.9	4.1	7064.2	523.4	7.4
293500	Sulphonamides.	2.8	2805.8	38.0	1.4	949.8	145.2	15.3
392690	Statuettes and other ornamental articles - Other	3.7	4797.6	23.2	0.5	708.3	170.7	24.1
401110	Of a kind used on motor cars (inclu	3.7	5989.6	20.8	0.3	619.3	158.0	25.5
420221	With outer surface of leather, of c	8.1	1047.0	31.4	3.0	389.7	160.2	41.1
640399	Other footwear, incorporating a pro	6.4	6478.0	23.6	0.4	347.0	163.0	47.0
690890	Tiles, cubes and similar articles, whether or not rectangular, the Other	8.5	984.1	33.5	3.4	396.7	163.9	41.3
711311	Of silver, whether or not plated or	8.3	1923.0	37.8	2.0	253.0	145.3	57.4
711319	Of other precious metal, whether or	5.8	4491.0	75.6	1.7	799.4	302.9	37.9
848180	Other appliances	1.8	5658.8	20.2	0.4	1379.8	148.5	10.8
870323	Of a cylinder capacity exceeding 1,	1.3	53769.6	96.3	0.2	9905.3	777.4	7.8
870324	Of a cylinder capacity exceeding 3,	1.3	49099.3	119.1	0.2	12324.9	896.9	7.3
	Total 20 selected products		**230,294.8**	**4,453.0**	**1.9**	**62882.5**	**12270.2**	19.5
	Total Trade		**1,886,587.2**	**7,144.9**	**0.4**	**311,315.1**	**24,843.4**	**8.0**
	Share		**12.2**	**62.3**		**20.2**	**49.4**	

Country Results

Individual country tables are presented in Annex 4. For each country, we show the top ten most affected products, measured by the change in the absolute value of exports of each of the EU and the US. For each country there are two tables: one that contains the products most affected in the US market and another for the EU market.[10]

The criterion used to select the products affected by the agreement in each of the individual countries[11] could clearly identified the products most at risk of suffering important trade effects. Whilst in general, these products may not be entirely representative of the trade of each LIC with the signatories, and in some cases the products selected represented less than 5% of the exports; these products are representative of the set of products affected by the agreement. On average, the criterion chosen identified around 75% of the trade affected by the agreement. In some cases, the set of products accounts for the total effect of the agreement. This implies that those products identified in those cases would be the only ones that would be affected by the agreement.

In general, the effects in terms of the changes in the value of LIC exports to the EU and the US tend to be minimal. There are only a few products and countries where the effects could be considered important in terms of the change in the value of exports. To simplify the analysis, we will describe the effects on those products where the exports would change by more than $1 million.

Whilst the effects on oil products (271011, 271019 and 271099) tend to be misleading, the magnitude of these figures require some discussion. The TTIP will generate trade effects on Chad, Ghana, Niger and particularly Nigeria where exports of these products are expected to fall by around $114 million. The case of Nigeria is important since these products account for almost all the effect of the agreement in this country. The ROW is the most affected, with exports to the EU falling by nearly $690 million and to the US by $3200 million. However, some caution is required as these products tend to be more affected by the availability of resources than trade policy. Investment decisions in oil extraction, with high sunk cost component, are unlikely to be sensitive to changes in trade policy in third countries. The PE gives these products the same treatment than any other. As a consequence, it is important to take the results in these products with some caution.

Products in Chapter 61 (articles of apparel and clothing accessories, knitted or crocheted), particularly those made of cotton, will see some negative effects on Bangladesh, Cambodia, Pakistan and Haiti. In general, this effect tends to be more present in the liberalisation made by the US than in the EU; but in the case of Bangladesh, the reduction of tariffs in the EU will make exports fall by nearly $12 million.

LIC' exports of articles of apparel and clothing accessories not knitted or crocheted (Chapter 62) will also be affected; in particular, the exports of Bangladesh, Cambodia, Haiti and Pakistan. In the case of Bangladesh, exports to the EU would fall by $5 million and to the US by $22 million. Again, the effect tends to be larger on the liberalisation made by the US.

[10] The exception is the Democratic Republic of Korea where no affected US imports from this country have been found.

[11] The top ten most affected products measured by the change in the absolute value of the EU or US imports from each of them

Pakistan will also be affected by nearly $16 million in the exports to the US of other made up textile articles; sets; worn clothing and worn textile articles (Chapter 63).

The elimination of tariffs on EU exports of tobacco products (Chapter 24) where the US has tariffs between 60% and 350% will affect Malawi by nearly $1.9 million. No other LIC country would be affected by this tariff change. Nevertheless, since the level of protection in tobacco products is particularly high, it is likely that these products will be included in the US's sensitive products list, with minimum or no reduction at all.

The products where trade is expected to grow the most in the EU and the US as result of a TTIP (see Table 6 and Table 7) will have minimal effects on LIC, with the exception of oil products. Essentially these products are not part of LIC export structure. Despite the fact that in certain cases some negative effects slightly above $1 million may appear in some other products. As a result of strong changes in the bilateral trade between the EU and the US, the base value of the exports of these products by LIC tends to be marginal and may be the result of isolated and or sporadic trade operations.[12]

Table 8 presents a summary of the results by identifying the affected countries and the affected products, dividing the effects according to the magnitude of the change in the value of imports.

[12] Cars and parts and other relatively high tech manufactures appear in the list of most affected products for some LIC. However, they appear essentially as the result of the application of a very large percentage change reduction on a small value of base imports or an unusual relatively large value that does not represent the "normal" trade structure. We consider that these cases may mislead the general message of the analysis.

Table 8 Summary of individual country effects

	>$ 1 million and <$ 10million	>= 10million
Bangladesh		Garments knitted and not knitted (42.6million)
Pakistan	Garments knitted and not knitted (5.1million)	Other textile products (16.4million)
Cambodia	Garments knitted and not knitted (7.8million)	
Malawi	Tobacco products (2.1million)	
Nigeria		Oil (114.8million)
Chad	Oil (5.2million)	
Niger	Oil (15.1million)	
Ghana	Oil (5.3million)	
Haiti	Garments knitted and not knitted (3.9million)	

There are, of course, more products and countries that may see some reduction in their trade with the EU and the US. However, the products analysed in more detail in this section passed the threshold change in value of imports larger than $1 million, and are representative and important in the trade of LIC with the EU or the US. More products can be found in the Annex 4.

4.5 Conclusions

The TAPES model - a partial equilibrium model - has been used mainly to identify the effects on some countries' exports to the EU and US, resulting from a TTIP. In addition, an analysis on the effects on the exports to each signatory has been carried out.

For simplicity and because of lack of availability of data, it was assumed that international prices remain constant as a result of the agreement. However, it was also assumed that consumers in both the EU and the US substitute imports coming from the EU (or the US) and LIC at different rates. Imports coming from LIC are perceived as less substitutable than the

imports from the EU (or the US) and ROW. As a consequence, in this particular setting, ROW given its size and this assumption, bears the greatest part of the adjustment.

In order to keep track of the effects, and given the assumption of no variation in international prices, the simulations have been carried out as stand-alone liberalisation exercises on EU imports coming from the US, and vice versa. In both cases, a complete and full liberalisation of the tariffs schedules of both signatories has been assumed.

In terms of the bilateral exports between the signatories, it has been found that the US imports from the EU would increase by 7.6%, whereas EU imports from the US would increase by almost 8%. This implies an increase on total EU imports by 0.2% and 0.4% for the total US imports.

In the case of the EU, some chemicals under Chapter 29, engines and their parts, automobiles of different engine size and aeroplanes and their parts, would be the most affected products. However, the selection of products presented only accounted for about 30% of the effects, indicating that there could be more products with important effects.

In the case of the US, an important part of the effects (almost 25%) is accounted by light oils and preparations and similar products. However, important effects on tobacco products, chemicals in Chapter 29, vehicles of different engine size, manufactures of precious metals and textiles and footwear are also expected. The selection presented accounted for nearly 50% of the total effects.

Given the size and the assumption of different degrees of substitutability, ROW suffers most of the adjustment. EU imports from ROW would decrease by 0.78% whilst US imports from ROW would fall by 1.15%. However, a word of caution is always advisable at the time of interpreting the aggregation of partial equilibrium effects as total effects.

In general, the TTIP would have minimal effects on LIC. In the majority of cases, imports from both signatories would fall by substantially less than 1%. This is explained by the assumption made on the different degrees of substitution of imports, but also on structural factors. The exports of LIC to both signatories are very different to those between the parties, implying almost no competition. Also, in those cases where some degree of overlap exists, tariffs applied by both signatories tend to be zero suggesting no effects on them as a result of the TTIP. Therefore, given the different export structures as well as the particular characteristics on the tariffs schedules of the EU and the US, very few products of relevance for LIC are heavily affected.

Nevertheless, this general picture is not valid for all LIC. In some, moderate effects can be seen. In particular, exports to the US from Ghana, Kyrgyz Republic, Malawi, Nepal, Niger and Pakistan, as well as the exports from Afghanistan to the EU observe effects greater than 1% that may require some attention.

Additionally, when the individual tables are analysed it can be seen that for Bangladesh, when considering the change in value of the exports and different types of garments made of cotton or wool, one see their exports reduced by a sizable figure. The same applies for Cambodia, Haiti (in the imports by the US) and Pakistan. The fall of exports to either the EU or the US ranges between 0.1% and 18%, depending on the country and specific textile product. But these values are misleading, as is usual in a comparison between percentage changes obtained from very different base values. This is the reason the change of the value or imports and not on the percentage changes was selected to base this analysis on.

There are effects on some other products and countries that, whilst of individual importance, their order of magnitude of those effects may make the unaware or unspecialised eye overlook their importance. Therefore, the interested reader is invited to take a closer look at the country tables.

It is also important to note that we have assumed a complete liberalisation of all products. Whilst there is an intention for a comprehensive and wide liberalisation schedule, it is likely that those products with currently high, applied MFN tariffs might be included in the respective sensitive product lists. As a consequence, in those products where the PE model indicates a high effect from the elimination of a high MFN tariff, the probability and the magnitude of the actual effects would be reduced, as these products are likely to be candidates for the sensitive list.

Part 5. Assessment of Sanitary and Phytosanitary and Technical Barriers to Trade Issues Associated with a TTIP

5.1 Potential importance and impact of SPS and/or TBT measures

In examining the potential impacts of a TTIP, the first question to ask is whether the products that the focal countries export are subject to substantive SPS and/or TBT measures? If so, do these appear to present appreciable compliance challenges? This is most easily done for SPS measures where the 'sensitivity' of products to food safety and plant and animal health risks is relatively easy to assess and the set of related measures applied by the EU and/or US is relatively confined. Furthermore, in the case of food safety measures at least, data are available on the number of import rejections due to non-compliance with regulatory requirements. These data can be used as a crude indicator of compliance problems.[13]

Table 9 reports the number of products amongst the top 20 imports into the EU and US from each of the focal countries that are subject to SPS measures. For many of the countries, a substantive number of the major products imported into the EU and US are indeed subject to SPS measures. On the basis of the frequency of import rejections, however, compliance with food safety requirements does not appear to present major challenges. This might reflect that fact that food safety requirements are relatively easy to comply with and/or because the necessary investments in compliance capacity have already been made. A relatively small number of countries, however, recorded substantive import rejections over the period 2002 to 2010, namely Bangladesh (EU but especially the US), Ghana (both EU and US), Haiti (US), Nigeria (EU and US) and Pakistan (EU but especially US). Evidently, these countries have faced challenges in complying with food safety requirements. The specific challenges these countries have faced, however, have been somewhat different between the EU and US, in part reflecting differences in regulatory requirements. This suggests, *a priori*, that any reform of food safety measures as a result of the TTIP is likely to impact only a small number of the focal countries.

[13] In the case of the EU, data from the database of the Rapid Alert System for Food and Feed (RASFF) over the period 2002 to 2010 were examined. With the US, data for the same period from the Food and Drugs Administration's OASIS database were examined.

Table 9. Number of products in top 20 imports into EU and US subject to SPS measures and average annual number of import rejections

Country	European Union		United States	
	Number of Products Subject to SPS Measures	Average Annual Import Rejections 2002-2010	Number of Products Subject to SPS Measures	Average Annual Import Rejections 2002-2010
Afghanistan	6	1	3	3
Bangladesh	1	23	1	80
Benin	7	1	2	1
Burkina Faso	11	0	6	0
Burundi	14	0	3	0
Cambodia	0	0	3	1
Central African Republic	6	0	9	0
Chad	1	0	2	0
Comoros	6	0	3	0
DRC	11	0	8	0
Eritrea	5	0	4	0
Ethiopia	7	0	9	4
Ghana	12	32	0	38
Guinea	7	1	1	8
Guinea Bissau	6	0	2	0
Haiti	7	0	3	18
Kenya	14	3	10	5
Kyrgyz Republic	2	0	11	0
Liberia	3	0	3	3
Madagascar	8	2	7	1
Malawi	6	1	3	0
Mali	8	0	8	1
Mauritania	13	3	12	1
Mozambique	9	1	5	0
Myanmar	0	2	0	5
Nepal	1	0	1	3
Niger	4	0	1	0
Nigeria	8	23	2	19
Occupied Palestine Territories	11	0	6	0
Pakistan	1	20	0	118
Rwanda	7	0	4	1
Sierra Leone	4	1	3	1
Somalia	11	0	4	1
Sudan	11	3	1	0
Tajikistan	0	0	0	0
Tanzania	9	2	9	1
Gambia	10	4	7	3
Togo	9	1	11	1
Uganda	15	2	10	1
Yemen	8	2	6	2
Zambia	8	0	7	0
Zimbabwe	9	1	7	0

Turning to TBT measures, textile and clothing are the only major manufactured products that show up in the imports into the EU and/or US of the focus countries. Textile and clothing are subject to certain TBT requirements, notably relating to labelling (including fibre requirements and washing) and permitted dyes. Some of the focal countries also have exports of processed and/or packaged foods that are subject to labelling and/or compositional requirements.

The 2010 ECORYS study suggests that differences in labelling laws between EU and US are the most serious bilateral barriers in trade. Further, a Chinese report of 2008[14] complained of differences in labelling requirements even within the EU. The trade impacts of such requirements relate to their unpredictability; the scope for exporters to ascertain what is required and how compliance is likely to be assessed. Indeed, a US paper to the WTO in 2005 highlights the high costs of unpredictable differences in TBT requirements.[15] Thus: "Industry experts estimate that diverse labelling schemes can add approximately one dollar per article, an amount far higher than the actual cost of the label itself." As a result, in 2007 the EU and the US submitted a joint paper to the WTO clarifying their rules on labelling to give greater predictability and harmonisation.[16] This is one area where the harmonisation of labelling requirements between the US and the EU as a result of a TTIP could bring about appreciable trade benefits.

In the case of azo dyes in clothing, the US has arguably had more flexible requirements than the EU. However, there is some evidence that the requirements of the Environmental Protection Agency (EPA) are shifting towards those of the EU.[17] Whilst this suggests a move to stricter requirements in the US, the greater harmonisation of requirements across the two markets is likely to bring about trade benefits. Whilst these changes are occurring anyway, it might be that the TTIP negotiations provide greater impetus.

Many of the problems facing food exporters due to SPS and/or TBT measures relate not to only to the specific requirements but also to the associated conformity assessment and certification regimes.[18] In the case of food safety, both the EU and US have regulatory requirements that are risk-based and grounded on the principles of hazard analysis and critical control point (HACCP).[19] In addition, there are important private standard schemes systems such as GlobalGAP (formerly EUREPGAP). Across these public and private requirements, systems of conformity assessment based on third-party certification are becoming increasingly important. At the same time, however, the specific systems of

[14] Effect of Technical Barriers to Trade on Chinese Textile Product Trade by Ningchuan Jiang. Int. Business Research July 2008 journal.ccsenet.org/index.php/ibr/article/download/969/943.
[15] "A View To Harmonize Textile, Apparel And Footwear Labelling Requirements" http://www.jmcti.org/2000round/com/doha/tn/ma/tn_ma_w_018_add12.pdf
[16] Understanding on the Interpretation of the Agreement on Technical Barriers to Trade with respect to the Labelling of Textiles, Clothing,Footwear, and Travel Goods http://trade.ec.europa.eu/doclib/docs/2007/november/tradoc_136960.pdf.
[17] See http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/DCB%20Action%20Plan_06232010.noheader.pdf.
[18] There is in addition the separate issue of accreditation under which conformity assessment practices are monitored. See http://www.iaf.nu/.
[19] See http://www.bsigroup.co.uk/en-GB/haccp-food-safety-risks/.

conformity assessment employed by regulatory authorities, for example, in the EU and US remain somewhat distinct. A similar pattern is observed with many TBT requirements for manufactured goods. Much could be gained from the TTIP negotiations if greater alignment of conformity assessment procedures and/or mutual recognition could be achieved where these differ. Whilst a mutual recognition framework agreement on the mutual recognition of conformity assessment was signed in 1999,[20] this has had remarkably little impact so far.

5.2 Do SPS and/or TBT measures impact on the partial equilibrium analysis results?

The PE analysis provides predictions of the potential impact of a TTIP. Broadly, this analysis concludes that for most LIC the trade impact is negative but minimal. The PE analysis, however, fails to consider the impact of SPS measures that govern food safety and plant and animal health.

Various scenarios are possible. First, countries that struggle to comply with the SPS requirements of either the EU or US might face enhanced competitive pressure from EU/US suppliers as a result of the TTIP, thus acting to further erode their trade. Second and conversely, countries with a very good compliance record and that have long established relations with EU and/or US buyers that are based (at least in part) on reliable compliance, may be able to weather any enhanced competitive pressure from EU/US suppliers as a result of the TTIP. Third, as a result of the TTIP, EU and US SPS requirements might be aligned through processes of harmonisation, equivalence and/or mutual recognition. The impact of such efforts on the developing countries of interest here are ambiguous. Imports to the EU and/or US will tend to increase where these processes act to make the requirements of the EU and US more common. Conversely, imports will tend to decline where the SPS requirements of either the EU or US are made stricter.

The results of the TradeSift analysis are presented below. It is aimed at identifying countries and products where the SPS requirements of the EU and/or US are likely to modify the results. A summary is presented in Table 10. Cells in red indicate where SPS requirements mean that imports are likely to be eroded as a result of SPS requirements. Cells in green indicate where SPS requirements mean that imports are likely to be maintained and/or enhanced as a result of SPS requirements. Cells in black indicate that SPS requirements will have little or no impact.

[20] http://ec.europa.eu/enterprise/policies/single-market-goods/international-aspects/mutual-recognition-agreement/usa/index_en.htm.

Table 10. Top 10 most affected products affected by a TTIP that are potentially SPS-sensitive

Country	Imports to EU				Imports to US		
Afghanistan	**Nuts**	**Dried fruit**	-	-	-	-	-
Benin	Fish & fishery products	-	-	-	-	-	-
Burkina Faso	Fresh vegetables	Vegetable products	-	-	-	-	-
Comoros	Spices	-	-	-	-	-	-
DRC	Fresh vegetables	-	-	-	-	-	-
Eritrea	Preserved vegetables	-	-	-	-	-	-
Ethiopia	Cereals	-	-	-	Planting materials	Cereal products	Nut and seed products
Gambia	**Fish & fishery products**	-	-	-	-	-	-
Ghana	**Fish & fishery products**	Cocoa preparations	Food preparations	-	Food preparations	Fresh vegetables	-
Guinea	**Fish & fishery products**	-	-	-	-	-	-
Guinea-Bissau	Fresh vegetables	-	-	-	-	-	-
Kenya	**Planting materials**	**Fresh vegetables**	-	-	-	-	-
Kyrgyz Republic	Fresh vegetables	**Dried fruit**	**Nuts**	Food preparations	-	-	-
Madagascar	**Fish & fishery products**	Fresh fruit	Spices	Vegetable products	-	-	-
Malawi	Dried vegetables	Fresh vegetables	Nuts	-	-	-	-
Mali	Fresh vegetables	Nuts	-	-	Planting materials	Cereals	-
Mauritania	**Fish & fishery products**	-	-	-	-	-	-
Mozambique	**Fish & fishery products**	Fresh vegetables	Fresh fruit	-	-	-	-
Myanmar	**Fish & fishery products**	-	-	-	-	-	-
Nigeria	Cocoa preparations	-	-	-	-	-	-
Occupied Palestinian Territories	Nuts	Fresh vegetables	Dried fruit	-	Fresh vegetables	-	-
Pakistan	**Nuts**	-	-	-	-	-	-
Sudan	Cereals	Vegetable products	-	-	-	-	-
Tajikistan	Vegetable products	-	-	-	-	-	-
Tanzania	Fish & fishery products	**Fresh fruit**	**Planting materials**	-	**Fish & fishery products**	-	-
Togo	Fresh vegetables	-	-	-	Fresh vegetables	-	-
Uganda	Fish & fishery products	Fresh vegetables	-	-	**Fish & fishery products**	-	-
Yemen	**Fish & fishery products**	-	-	-	-	-	-
Zambia	**Planting materials**	**Fresh vegetables**	Cereals	-	-	-	-
Zimbabwe	**Fresh vegetables**	**Fresh fruit**	**Planting materials**	Cereals	-	-	-

Fish and fishery products:

The main SPS issues associated with fish and fishery products relate to hygiene controls and use of antibiotics in aquaculture production. Whilst some alignment of specific requirements relating to hygiene controls is possible as a result of the TTIP, both the EU and US have risk-based regulatory requirements grounded on the principles of HACCP. Potentially those countries that have a relatively good record of compliance with EU requirements might benefit from a TTIP on the basis that the FDA would recognise the assurances provided by the competent authority for the purposes of exports to the EU in these countries. This would be relevant to Tanzania and Uganda, for example. However, a greater number of countries have struggled to comply with EU requirements with respect to hygiene controls and/or the use of antibiotics in aquaculture production. Therefore, the TTIP could result in greater competition from US exporters, meaning that exports are further diminished.

Nuts and dried fruit:

A number of the focal countries, including Afghanistan, Kyrgyz Republic and Pakistan, have faced considerable problems in complying with EU limits on mycotoxins, in particular for aflatoxins and ochratoxins.[21] These are naturally occurring toxicants that are virulent carcinogens, found especially in nuts, dried fruit, coffee, cereals and oilseeds (but also milk where animal feed is contaminated with mycotoxins). The EU has very strict limits and sampling regimes for these mycotoxins. It is unlikely that these would be relaxed as a part of the TTIP negotiations; rather that the US requirements would be made more stringent. Thus, the TTIP is most likely to bring about enhanced competition by US exporters that have more rigorous mycotoxin controls.

Fresh vegetables and fruit:

For these products, the main SPS requirements relate to plant health controls, maximum residue levels (MRLs) for pesticides and hygiene controls both on-farm and post-farm gate. Related to these requirements are stipulations on the application of good agricultural practice (GAP), traceability, etc. Plant health requirements are unlikely to change as a result of the TTIP; the US, in particular, has very strict controls requiring a product and country-specific pest risk assessment (PRA) to be undertaken before imports are permitted. Whilst it is conceivable that there may be some process of harmonisation of these requirements as a result of the TTIP negotiations, this is likely to be directed towards stricter standards in either the EU or US. At the same time, private standards (notably GlobalGAP and SGF 1000) play a key role in governing food safety for fresh fruit and vegetables in the EU and increasingly in the US as well.

[21] Some other countries (for example Mali and Malawi) have faced similar problems but not for nuts and dried fruit for which there is substantive US production.

The net result is that the SPS requirements for fresh fruit and vegetables are unlikely to have adverse impacts as a result of the TTIP beyond those identified in Table 9. Indeed, countries with a well-established record of compliance particularly to private standards such as GlobalGAP, which is most notably Kenya but also Tanzania, Zambia and Zimbabwe, may weather the increased competition brought about by the TTIP as identified in the PE. In many cases, exporters in these countries have well-established linkages with EU buyers in which sustained compliance with food safety requirements plays a key role.

Planting materials:

For these products, the main SPS requirements relate to plant health. These are unlikely to face any substantive changes as a result of the TTIP (see above). Again, some countries, for example Kenya, Tanzania, Zambia and Zimbabwe, with well-established plant health controls and long-term linkages with EU buyers may be able successfully to deflect increased competition from US exporters.

Spices:

The SPS requirements for spices mainly relate to hygiene and environmental contaminants. These could conceivably be aligned as a result of the TTIP for products in which the EU and/or US have an economic interest. There are important compositional requirements for many spices, for example vanilla, which a number of the focal countries export. However, these tend to be based on international and/or industry standards.

Cocoa and cocoa preparations:

The main SPS issues faced by the focal countries with respect to imports of cocoa into the EU relate to contamination with extraneous matter, for example insect faeces or damaged packaging. These would be unaffected by the TTIP. Whilst it is conceivable that SPS requirements for cocoa preparations would be addressed by the TTIP (note: the Netherlands is the largest producer of cocoa butter globally), impacts on imports originating in the focal countries is difficult to assess *a priori*.

Cereals:

The main SPS requirements for cereals relate to microbial and chemical contaminants and levels of mycotoxins. Indeed, some of the focal countries have faced compliance issues. It is conceivable that these might be harmonised as a result of the TTIP negotiations in the direction of stricter requirements in either the EU or US. Most of the cereal imports identified in Table 9 are products where there is little or no substantive EU or US production. Overall therefore, SPS requirements are not expected to have any significant bearing on the results in Table 9.

Fruit, vegetable and cereal products and food preparations:

In addition to any commodity-specific SPS measure, most of which are discussed above, there are potentially additional food safety requirements for processed food products and preparations. On top of these, there is a plethora of compositional standards, labelling and documentation requirements, etc. This is an area where the TTIP could bring about appreciable harmonisation. That being said, it is difficult *a priori* to ascertain what the impacts would be on the focal countries; any impacts would likely be highly product-specific.

5.3 How ambitious are the TTIP negotiations in the area of SPS and/or TBT measures?

Efforts by the EU and US to align SPS and TBT requirements are nothing new.[22] However, such efforts, often involving intense and prolonged negotiations, have generally proved disappointing. There are a number of areas where SPS measures between the EU and US, for example, remain distinct. These require importers to comply with differing and sometimes conflicting requirements. In this light, some caution with regards to expectations over the TTIP negotiations seems appropriate.

The 2013 final HLWG report[23] gives some idea of the scope of the ambition in the area of SPS and TBT measures. Stating that "Enhanced compatibility of regulations and standards" is a priority aim (p4), it spells out the following detailed objectives:

> *"An ambitious "SPS-plus" chapter, including establishing an on-going mechanism for improved dialogue and cooperation on addressing bilateral sanitary and phytosanitary (SPS) issues. The chapter will seek to build upon the key principles of the World Trade Organization (WTO) SPS Agreement, including the requirements that each side's SPS measures be based on science and on international standards or scientific risk assessments, applied only to the extent necessary to protect human, animal, or plant life or health, and developed in a transparent manner, without undue delay.*
>
> *An ambitious "TBT-plus" chapter, building on horizontal disciplines in the WTO Agreement on Technical Barriers to Trade (TBT), including establishing an on-going mechanism for improved dialogue and cooperation for addressing bilateral TBT issues. The objectives of the chapter would be to yield greater openness, transparency, and convergence in regulatory approaches and requirements and related standards development processes, as well as, inter alia, to reduce redundant and burdensome testing and certification requirements, promote confidence in our respective conformity assessment bodies, and enhance cooperation on conformity assessment and standardization issues globally. "*

[22] For example, in 1998 a veterinary equivalency agreement was signed that sought to facilitate trade in live animals and animal-based foods. http://circa.europa.eu/irc/sanco/vets/info/data/oj/98258ec.pdf.
[23] 11th February 2013. http://trade.ec.europa.eu/doclib/docs/2013/february/tradoc_150519.pdf

> *Cross-cutting disciplines on regulatory coherence and transparency for the development and implementation of efficient, cost-effective, and more compatible regulations for goods and services, including early consultations on significant regulations, use of impact assessments, periodic review of existing regulatory measures, and application of good regulatory practices.*
>
> *Provisions or annexes containing additional commitments or steps aimed at promoting regulatory compatibility in specific, mutually agreed goods and services sectors, with the objective of reducing costs stemming from regulatory differences in specific sectors, including consideration of approaches relating to regulatory harmonization, equivalence, or mutual recognition, where appropriate.*

This provides a framework for identifying opportunities for guiding future regulatory cooperation, which include provisions that provide an institutional basis for future progress. As is required under the WTO, the starting point for the negotiations must be on the rights and responsibilities of WTO Members laid down by the Agreements on Sanitary and Phytosanitary Measures and the Agreement on Technical Barriers to Trade. Thus, reference is made, for example, to the fact that SPS measures should be risk-based and/or based on international standards, guidelines and recommendations.

The question is, to what extent are the negotiations likely to extend beyond establishing institutional arrangements for EU-US relations around these WTO norms? The predominant focus of the TTIP negotiations appears to be on laying down arrangements for improved dialogue and communication in the area of SPS and TBT measures, establishing general and guiding principles around which regulatory convergence might be achieved through a longer-term process and agreeing on broader approaches and discipline, such as around the use of impact assessments and regulatory reviews. This might mean, for example, greater cooperation and alignment of negotiating positions or at least the employment of joint strategies within the WTO. This could bring about longer-term implications for the focal countries, although determining what these might be *a priori* is difficult.

Whilst both sides to the negotiations have undertaken stakeholder consultations aimed at identifying specific regulatory differences that impede trade, it seems that the negotiations will focus on the development of action plans addressing these divergences, rather than aiming to achieve regulatory alignment *per se*. As outlined above, the political and economic issues surrounding many areas where SPS requirements differ between the EU and US will mean that progress will be slow, at best. Indeed, whilst the "*HLWG recommends that the US and the EU seek to reach bilateral agreement on globally relevant rules, principles, or modes of cooperation"* (p6) on a number of trade-related areas, including customs and trade facilitation, competition policy and transparency, no reference is made to SPS and/or TBT measures.

Critically, statements on the scope of the TTIP negotiations in the realm of SPS and TBT measures make no specific obligations with respect to harmonisation or mutual recognition, for example through extending the number of sectoral agreements under the existing MRA. This suggests the need for realism with respect to the difficulty of achieving progress in this area.

Part 6. Conclusions and Policy Options

The paper takes three different approaches to assessing aspects of the potential impact of EU-US economic integration on the trade in goods of 43 LIC. Two approaches (one based on close analysis of current trade performance using TradeSift software and the second on partial equilibrium modelling) deal principally with the impact of removing MFN tariffs in trade between the EU and The US. The third is a qualitative assessment of the impact of regulatory integration on SPS measures and TBT based on data on the impact of current policies on LIC. The three approaches come up with broadly similar conclusions.

The Big Picture

The EU and US are typically in the top ten export destinations of the 43 LIC that are the subject of this study. For the top 3 exporters of non-fuel goods (Bangladesh, Pakistan and Cambodia) the EU and US are among the top 3 destinations of their exports. The EU is almost twice as large as a market for these 43 countries. The EU's MFN tariffs for the products the 43 LIC specialise in are typically lower (normally topping out at around 12%) than the US MFN tariff for the same goods (many of which are above 15%).

Tariffs

A transatlantic agreement carries some potential threats for LIC in sectors where MFN tariffs for products the LIC specialise in, notably **textiles, clothing and footwear,** and which dominate their top 20 exports to the EU and US. This is particularly noteworthy for **Bangladesh, Pakistan** and **Cambodia,** who are by far the largest LIC traders in non-oil goods,. The EU and US, however, show no signs of being competitive suppliers in these products currently (as measured by FK, RCA or import share in each other's markets). Nor, based on the PE modelling, do they look capable of imposing large losses in market share on non-fuel goods after any preferential liberalisation across the Atlantic.

The smaller traders among LIC tend to specialise in raw materials and in products governed by SPS rules but where MFN tariffs tend to be low or zero. Lower tariffs mean less risk of trade diversion and hence losses to third countries

Fourteen of these countries however are dependent on products regulated by SPS regimes. The following countries have ten or more of their top 20 exports subject to SPS regimes (**Ghana, Kenya, Nigeria, Burkina Faso, Burundi, DR Congo, Malawi, Nigeria, Occupied Palestine Territories, Rwanda, Sierra Leone, Togo, and Uganda**). On the face of it these are potentially vulnerable to the SPS rules being harmonised to the level of the most restrictive in the US and EU.

SPS and TBT

The analysis of current performance on SPS in particular (Table 10) reveals that some countries in some products (and fisheries in particular) are dealing poorly with current regulations. Others however are currently using the system to their advantage and hence may be able to take further advantage of the any cost savings from rationalisation of EU and US rules, whether by harmonisation or mutual recognition. If the EU and US go down the mutual recognition route it will be important that it is not exclusive to EU and US firms. That is, third country products meeting the rules of one partner are also treated as meeting the rules of the other.

On TBT the main issues to affect LIC are harmonisation of both labelling rules and the regulatory treatment of azo dyes in the case of textiles and clothing. These are in any case in process of EU-US harmonisation and if implemented are likely to reduce the costs of doing business despite some initial costs of adjustment

In general the ambitions for transatlantic regulatory integration set out in the HLWG report (Annex 1) are quite modest.

Policy implications

The policy options open to LIC and developing countries that fear damage to their trade access to EU and US markets as a result of a TTIP are quite limited. They are not at the negotiating table. They can lobby the negotiating partners, singly or collectively, and with the support of domestic NGOs, for *ex ante* changes in preferences to compensate for any perceived losses. *Ex post* they can try to bring cases to the WTO to demand compensation for any breaches of WTO rules. The former is clearly more attractive than the latter.

What LIC could ask for depends rather on their current status and existing policy in the EU and the US. The EU's room for manoeuvre is possibly less than the US. In particular the EBA scheme means that many LIC already enjoy duty and quota free access to the EU and it is difficult to reduce tariffs below zero. Furthermore, within WTO rules it may difficult for the EU to offer increased preferences to non–LDC, e.g. Pakistan, beyond what is on offer in the GSP and GSP+ schemes. Paradoxically perhaps, because the US has not signed up for duty free/quota free access for LDC (although many LDC do receive preferences in the US market) it may have more room for manoeuvre on granting compensation to LDC/LIC for the reduction in preference margins.

As noted, the three largest exporters to the US, Bangladesh, Pakistan and Cambodia currently receive no preferences on the US's top 20 imports from them, i.e. these products incur the MFN tariff. The US could give these three countries preferences that abolish or reduce the tariff in bilateral trade, i.e. grant preferences. More radically it could reduce, or

at the extreme abolish, the MFN tariff thus leaving them in the same situation as before the TTIP, i.e. facing the same tariff as EU firms. Why would the US do either of these? Perhaps as a way of signalling to the rest of the WTO that it is conscious of the systemic implications of the TTIP. It would also have the effect of reducing the trade diversion losses to the US economy.

Perhaps more improbably, LIC might argue for some or all of the high MFN tariff lines that cover their specialist products to be excluded from liberalisation under the TTIP. This would have the advantage of satisfying domestic lobbies in the EU and US as well as sustaining the current preference margins enjoyed by LIC. Such an approach might well run into problems with WTO rules on the formation of regional trading arrangements. In particular, the WTO rules set out to ensure that "substantially all trade" is covered by any agreement. Although there is no consensus on the interpretation of this rule, any substantial carve-out for LIC would limit the freedom of the US and EU negotiators to maintain protection for their domestic list of sensitive products.

In the regulatory field there may be more openings for lobbying. In particular, if the EU and US succeed in pursuing effective mutual recognition agreements (MRA) then LIC could lobby for these to be open to third countries meeting the rules of one or other of the two. In this context, where rules are being harmonised and thus being changed for at least some producers, LIC might look for aid to ensure that testing and certification facilities were capable of meeting the new rules. More importantly perhaps, aid to help firms reach these standards via training and perhaps loans for capital investment would be a useful flanking measure to help LIC adjust to a changed regulatory environment.

Coda

It might not happen. The record of previous attempts at government-led transatlantic economic integration, except via the GATT/WTO, is less than impressive. The bilateral trade policy relationship is prone to deep and prolonged disputes some of which reflect very different preferences on each side of the Atlantic. It could founder any one of GMO, geographical indications, beef hormones, bananas, agricultural market access, audio-visual and maybe more. The HLWG report tries to offer a possibility that some of these more sensitive issues can move forward in slower time while progress is made on easier issues, implicitly tariffs. Nonetheless, these issues could be show stoppers on their own or collectively. In any case, bilateral agreements are not necessarily negotiated fast. EU-Mercosur, EU-GCC, EU-India, EU-ASEAN and the EPAs all point to the potential for slow going. Of particular relevance is that EU-Canada negotiations seem already to be hitting snags. Of course this time it might be different. Certainly the political commitment looks stronger than in the 1990s when this was last in play.

Finally LIC are not standing still. Their economies and trade are growing and their specialisations are shifting. Waiting and seeing if the TTIP gets off the ground while encouraging rapid domestic adjustment and lobbying more enthusiastically for progress in multilateral negotiations at the WTO might well be a better policy.

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