

The background of the cover features a light grey dotted world map. Overlaid on this map are several colorful, overlapping arcs in shades of blue, yellow, green, and pink. These arcs connect various points across the map, suggesting global trade routes or economic linkages. The arcs are of varying thickness and curvature, creating a dynamic and interconnected visual effect.

Assessment of economic benefits generated by the EU Trade Regimes towards developing countries

Volume I

Directorate-General for International Cooperation and
Development, EU Development Policy and International
Cooperation, Policy and Coherence, Economic Analysis Team.

June 2015



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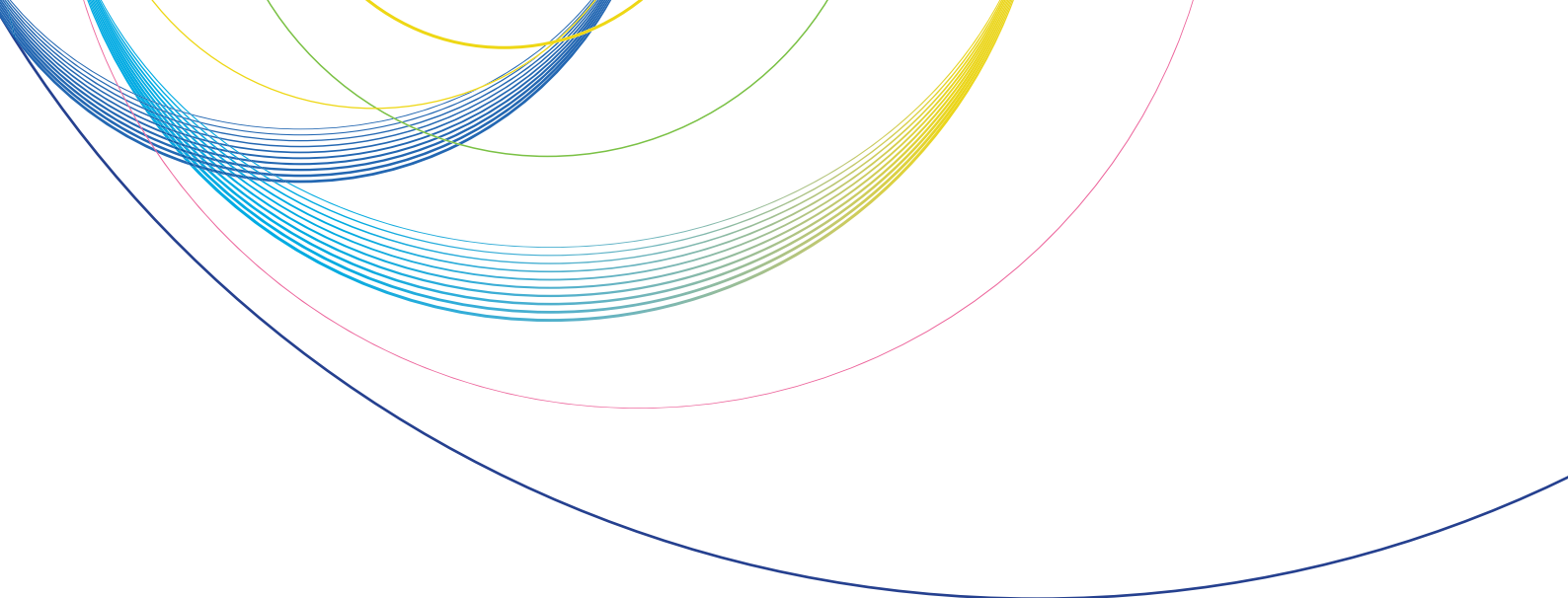
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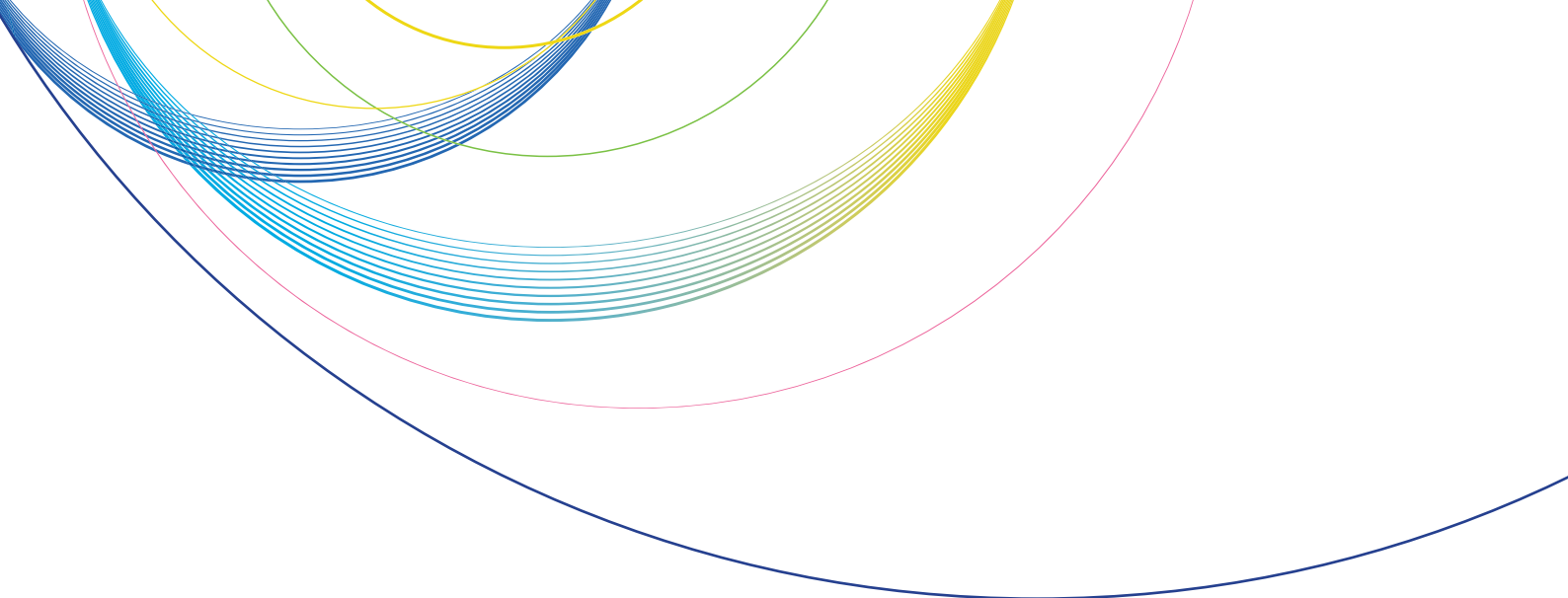


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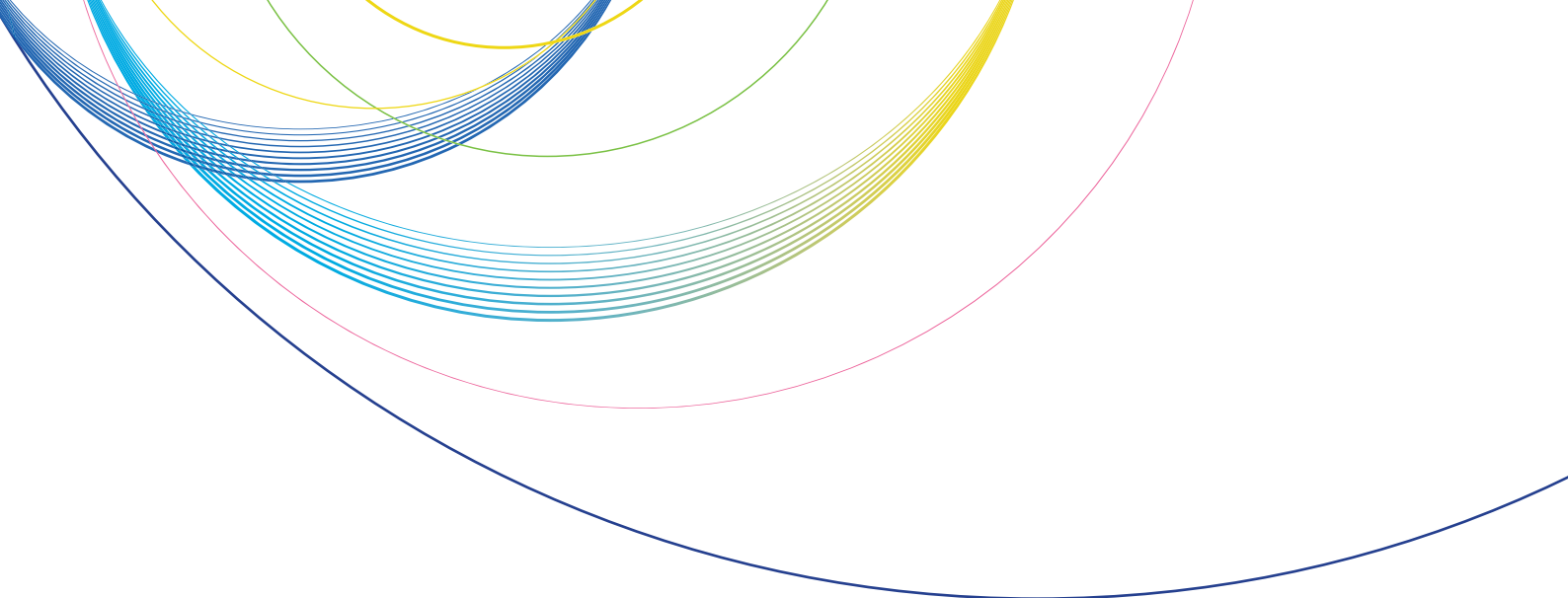


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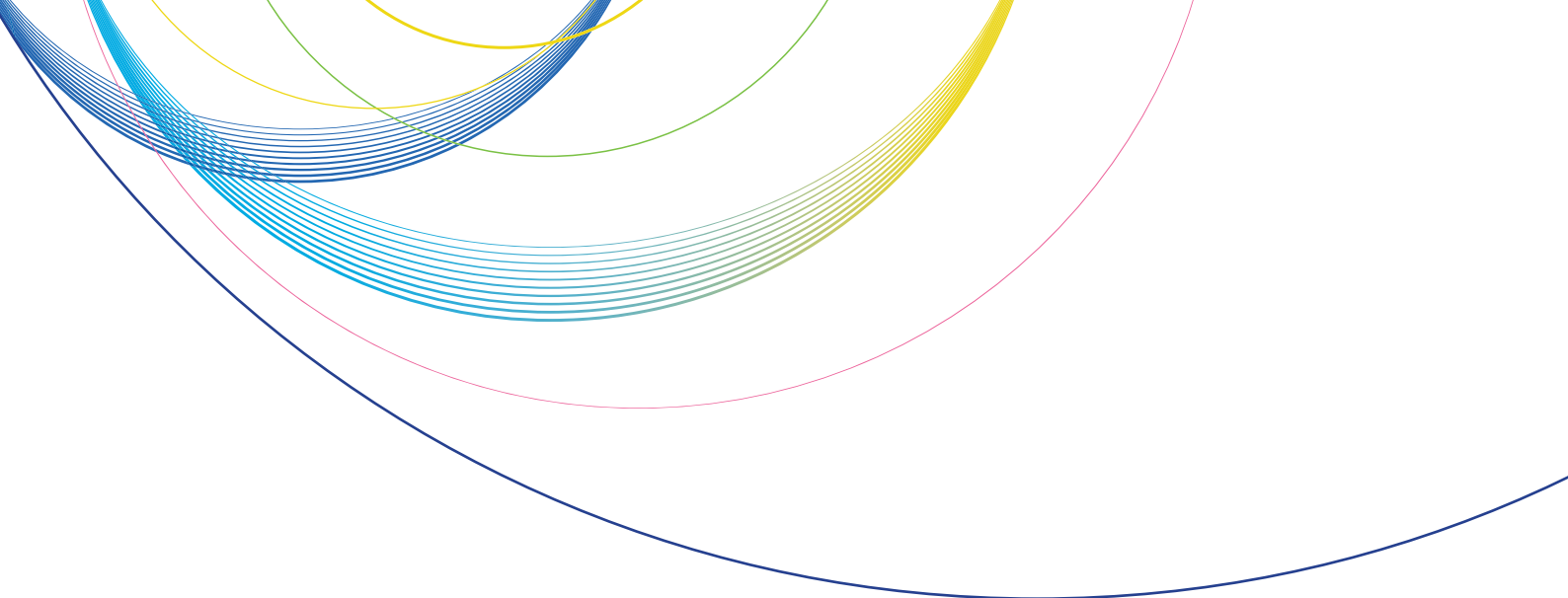
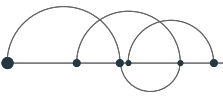


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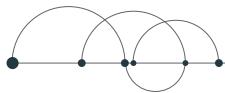


Executive summary



The European Union (EU) has a long tradition of granting preferential access to exports from developing countries to its market. The rationale of this policy is to encourage exports from these countries through a competitive advantage vis-à-vis the exports from other countries. Ultimately, an increase in the exports of developing countries results in a stimulus to their global economic activity and development.





Non-reciprocal preferential access has been granted by the EU to most developing countries via the General System of Preferences (GSP) since 1973. Today, the GSP includes the GSP General Arrangement, the GSP+ (i.e., a special incentive scheme for sustainable development and good governance designed for vulnerable countries) and the *Everything But Arms* (EBA) scheme - under which all exports, except arms and ammunition, from the Least Developed Countries (LDCs) are given a completely duty free access to the EU market. In addition, especially generous non-reciprocal schemes have, historically, been available to certain African, Caribbean and Pacific (ACP) countries. The EU has also Free Trade Agreements with a number of individual developing countries in place, under which exports are granted duty free access in return for preferential access for EU exports to their own market.

While preferential access regimes provide eligible exporters with a competitive advantage *vis-à-vis* other exporters, and thereby provides scope for an enhanced export performance by beneficiaries, the extent to which this will actually occur depends on the size of the preferential tariff margins granted and the ability of the intended beneficiaries to take advantage of the preferences offered.

The size of the preferential tariff margin is determined by how generous a preferential tariff is relative to the tariff applicable for non-beneficiaries of the scheme. As EU trade barriers are progressively lowered via both the multilateral system and other regional or bilateral Free Trade Agreements, the value of preferences may thus diminish, giving rise to the term 'preference erosion'. As to the ability of beneficiaries to take advantage of preferential access schemes, it depends on a number of factors including supply side constraints within developing countries themselves as well as the cost of complying with the Rules of Origin, which specify the conditions which must be met for a product to be considered as originating in the beneficiary country and thus to be eligible for preferential access. In sum, the real economic impact of the preferential regimes is therefore an empirical question.

The aim of this report is precisely to assess empirically the economic benefits generated by the EU Trade Regimes towards developing countries. The main focus in terms of trade regimes is on non-reciprocal preferences and, especially, on the GSP and the individual schemes thereunder. The new and advanced micro-econometric technique applied to an extremely large dataset of more than 12 million observations, containing detailed tariff information at product-level, allows us to isolate the causal impact of GSP preferences on exports from developing countries to the EU. In addition, we examine empirically the linkages between increased exports and poverty reduction in developing countries. To the best of our knowledge, this is the first time that this type of analysis has been done in an EU context.

The report consists of four distinct parts, which provide a description and a quantitative assessment of the impact of preferential access schemes on the growth and diversification of exports from developing countries to the EU over time. Each part of the report can be read individually. The report is organised as follows:

Part I: Mapping of trade and FDI flows between the EU and developing countries. This part consists of descriptive analysis of the evolution of exports from developing countries to the EU over the last 40 years across trade regimes, regions and sectors as well as a descriptive analysis of FDI flows.

Part II: Changes in EU trade policy regimes and developing countries' export performance. This part contains a causal econometric analysis of the effect of GSP preferences on the growth of exports from developing countries to the EU.

Part III: EU trade regimes and economic diversification. This part comprises a causal econometric analysis of the effect of GSP preferences on the number of products exported from developing countries to the EU.

Part IV: Export performance and poverty reduction. This part contains an assessment of the impacts of exporting on poverty reduction in developing countries, based on a literature review and an econometric cross-country analysis.

Parts I-III are contained in this first volume of the report and Part IV is presented in volume two.

The key features and findings from Part I-III of the report are summarised below.

Part I: Mapping of trade and FDI flows between the EU and developing countries

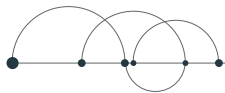
In the first part of the report, we introduce the various EU trade regimes put in place with developing countries since the formation of the European Economic Community. In order to gain a general understanding of how exports from developing countries to the EU have evolved over time and to provide a first indication of the impact of trade preferences, this part of the report also provides a mapping of exports from 137 developing countries to the EU since 1973, across trade regimes, geographical regions and sectors.

Compared to the US and Japan, which also receive large inflows of exports from developing countries, the EU is a rather important market for developing countries, in particular for Least Developed Countries. In total, the EU27, the US and Japan, jointly referred to as the TRIAD, imported goods worth over €2 000 billion from developing countries in 2012, of which €60 billion originated in the Least Developed Countries. While the EU27 accounted for 42% of the total TRIAD imports from all developing countries, its share of imports from the Least Developed Countries was close to 60%, thus the EU is the largest market for Least Developed Countries' exports in the TRIAD.

Linking the trends in the EU's imports from developing countries to the trade regimes in place does not reveal any sudden changes in the trend of aggregate imports around the time in which preferences were introduced. However, a closer analysis indicates that imports from a number of ACP countries benefitting from special commodity protocols for sugar, meat and bananas, have been focused around these products. Furthermore, the liberalisation of sugar under the EBA is found to coincide with increased imports of sugar, especially from Cambodia. Across regions and sectors, the analysis points to a relatively larger growth in EU imports from East Asia and the Pacific and from South Asia than from other regions over time. Finally, we see a clear overall trend in diversification of the export base in developing countries. The share of manufacturing products in imports from both the Least Developed Countries and from the Non-Least Developed Countries has steadily increased over the last four decades across all geographical regions, while agricultural products have become less dominant.

Key findings from Part I

- The EU is an important market for exports from developing countries. In 2012, the EU27 imported goods worth €860 billion from developing countries equivalent to 44% of all goods imported into the EU, from countries outside the union.
- Compared to the US and Japan, the EU is the largest market for imports from the Least Developed Countries (59% of the LDCs total exports to the TRIAD).
- Compared to the US and Japan, the EU is the largest market for agricultural imports from all developing countries.
- Of the €860 billion worth of imports from developing countries into the EU27 in 2012, 37% originated in China (49% if excluding fuel). Countries in the Middle East and North Africa were the origin of further €127 billion worth of imports, equal to 15% of the total (6% if excluding fuel). Latin America was the third largest originator of imports, followed by Sub-Saharan Africa, East Asia and the Pacific and finally South Asia and Eastern Europe and Central Asia.
- While no sudden changes in the trend of aggregate imports were found around the time when preferences were introduced, imports from a number of ACP countries benefitting from special commodity protocols for sugar, meat and bananas, were found to be focused around these products.



- Over time, EU imports from East Asia and the Pacific and from South Asia have grown relatively more than from other regions.
- The share of manufacturing products in EU imports from both Least Developed and Non-Least developed Countries has been increasing steadily over the last decades across all regions, while agricultural products have become less dominant.
- Clothing is especially important for the Least Developed Countries, accounting for 37% of the EU total imports from this group in 2012.
- Preferences may also make a beneficiary country a more attractive location for Foreign Direct Investment (FDI). Based on a descriptive analysis using available FDI data sources, we do not find any strong evidence indicating that EU preferences have led to a surge in inward FDI in developing countries. However, FDI data is much less comprehensive than trade data, and part of the reason why we do not find any clear patterns may simply be down to the low quality of FDI data.

Part II: Changes in EU trade policy regimes and developing countries' export performance

While the descriptive analysis in Part I did not find any sudden changes in the trend of aggregate imports around the time in which preferences were introduced, the analysis did find suggestive evidence of a positive impact for individual countries and product groups.

In Part II of the study, we look further into the effects of preferences on the growth of exports and we undertake an econometric analysis to determine the *causal effect* of GSP preferences on the growth of exports from developing countries to the EU.

To do so, we estimated a triple-difference model, which allows us to isolate the impact of preferences from other factors, which may lead to increased exports and coincide with the granting of preferences. The methodology has previously been used to estimate the effects of the U.S import liberalisation on African countries' export performance under the African Growth and Opportunity Act (Frazer and Van Biesebroeck, 2010), but has, to the best of our knowledge, not been applied before in an EU context.

The analysis is performed using a highly detailed dataset, which contains detailed tariff information for imports into the EU15 of close to 4000 different 6-digit products under the various GSP schemes and under the MFN regime. This data was collected for 176 countries over the period 1995 – 2012, resulting in a total dataset of close to 12 million observations. These data were obtained from the EU TARIC database via extracts obtained from the European Commission's Directorate General for Taxation and Customs Union.

The estimation methodology combined with the richness of data allows us to clearly identify the causal impact of EU GSP preferences on the growth of exports from beneficiary countries and to assess how this varies with the size of preferential tariff margins. Compared to more standard approaches to the analysis of various trade regimes, where a so-called dummy variable is often used to capture the coverage of individual schemes, either at the country or product level, the use of detailed tariff information gives us the opportunity to examine the impacts of preferences in a much more detailed manner than has been done previously. We have data not only on whether or not a preference is in place for a given product originating in a given country in a given year, but we also know the magnitude of the preferential tariff allowing us to calculate the preference margin.

The results obtained are highly robust and indicate a positive impact of GSP preferences. On average we find that GSP preferences have increased the exports of the products covered by up to 5%. This average impact, however, masks very large differences across different country groups, GSP schemes and individual product groups. The impacts are especially large for LDCs and low-income countries, for which preferences are found to have increased

exports by up to 10% and 7.6% respectively. In line with the high impact found for LDCs, we find an above average impact of EBA preferences close to 7%. Across product groups wood and paper products and basic manufactured products show above average impacts. Finally, we find that the full effects have usually occurred within two years after preferences have been granted.

Key findings from Part II

- We apply a new advanced micro-econometric technique to an extremely large dataset of more than 12 million observations, containing detailed tariff information at the 6-digit product-level. This allows us to isolate the causal impact of GSP preferences on the growth of exports. To the best of our knowledge, this is the first time that this has been done in an EU context.
- Results are highly robust and leave no doubt that GSP preferences have significantly increased the exports of Developing Countries to the EU. On average, we find that GSP preferences have increased the exports of the products covered by up to 5%. This average impact masks very large differences across different country groups, GSP schemes and individual product groups.
- Preferences under the Everything but Arms scheme has generated an export increase approximately 2 times higher than that under the GSP General Arrangement or GSP+ scheme.
- Preferences have had an especially large impact on the Least Developed Countries, which are also the beneficiaries of the Everything But Arms Scheme. The growth in exports of a product granted duty-free access to the EU to Least Developed Countries increased up to 10%, which is 2 times higher when compared to the average across all countries.
- Preferences have had the greatest impact on the low and lower middle income countries (up to approx. 8%), compared to the upper middle and high income countries.
- Full impacts on exports have occurred within two years after preferences have been granted.
- In manufacturing, impacts have been strongest for chemicals and chemical products, wood and paper products, basic manufacturing and machinery and equipment. Outside of manufacturing, we also find significant and relatively high effects for processed food.

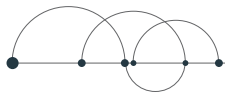
Part III: EU trade regimes and economic diversification

Export is an important driver of growth for many developing countries faced with limited domestic demand, and the results from the analysis conducted in Part II show that preferential access schemes impact positively on the growth of exports of products that are covered.

However, some developing countries, especially Least Developed Countries, have highly concentrated export structures in terms of the actual products they export. This exposes these countries to a number of risks, including a high exposure to economic shocks e.g. price fluctuations or demand shocks on the international markets.

Diversifying exports in terms of the number of products exported can help insulate against such risks and may also help drive the process of economic development by further stimulating local production. Export diversification away from primary products towards manufacturing may also improve terms of trade and liberate countries from diminishing returns with increasing volume, which characterise agricultural production.

Motivated by these mechanisms, Part III of the report examines the impact of GSP preferences on the diversification of exports from developing countries to the EU. The methodology is the same as used in Part II, but the focus is now on the growth in the number of different products exported, as opposed to the value of the products.

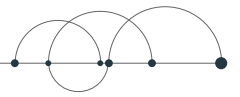


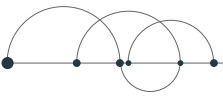
The results are more variable than in Part II with the statistical significance depending on how the preference margin is measured. However, a positive and significant impact is found in the majority of specifications. On average we find that GSP preferences have increased the likelihood of a covered product being exported into the EU by 1/36th. However, as in Part II, this estimate masks important differences across country groups, GSP schemes and product categories. Impacts are found to have been especially large for the group of LDC countries, for which preferences have increased the average likelihood of exporting a covered product by 1/4th, while the equivalent impact has been 1/12th for low-income countries. Across GSP schemes, we again find the largest impact for EBA preferences consistent with the high impact for LDCs. Across specific product groups, we find above average impacts for most of the manufacturing sectors.

The effects found are further enhanced by the fact that they are permanent across time and should be seen as complementary to the results from Part II, as a response along this dimension is a necessary first step in order to benefit from the response estimated in that part.

Key findings from Part III

- *Results are highly robust and leave no doubt that GSP preferences have increased the likelihood that beneficiary countries begin exporting a covered product to the EU.*
- *The impact of GSP preferences is especially large for Least Developing Countries (GSP preferences increased the likelihood of exporting a covered product by 25% for this group).*
- *Preferences granted under the Everything but Arms scheme had a relatively larger impact compared to the other two schemes.*
- *The positive impact of GSP preferences on the likelihood of exporting falls as Countries' income levels rise.*
- *Across individual product groups, positive and significant effects are found for wood and paper products, basic manufacturing and machinery and equipment. These are also the product groups for which the largest impacts were found on the growth of exports in Part II.*
- *The full effects of preferences emerged already one year after preferences were granted.*
- *The impacts found are further enhanced by the fact that they are permanent across time and should be seen as complementary to the results from Part II, as a response along this dimension is a necessary first step in order to benefit from the response estimated in that part.*





Chapter 1

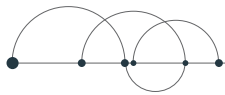






**Mapping trade
and FDI flows
between the EU
and developing
countries.**





1.1 Introduction

The EU¹ has a long tradition of granting preferential access to exports from developing countries, in order to encourage exports from these countries and thereby stimulate economic development within them.

Preferential trading schemes under which duty rates on exports from developing countries have been either completely removed or significantly reduced have been in place since the formation of the European Community. Especially generous schemes have been available to African, Caribbean and Pacific (ACP) countries, many of which are former colonies of EU Member States. Preferential access has also been afforded via the General System of Preferences (GSP), open to most developing countries, since 1973. Important changes have occurred under this scheme over time, including the introduction of the Everything But Arms scheme from 2001, under which all exports, except arms and ammunition, from the Least Developed Countries (LDCs) are given complete duty-free access to the EU market. In addition, the EU also has in place Free Trade Agreements with a number of individual developing countries, under which exports are granted duty free access in return for the preferential access of EU exports to their own market.

Given the long history of favourable treatment extended to developing countries, a key question is how has this impacted on both the volume and composition of exports from these countries. In order to provide a first indication of this and gain a general understanding of how exports from developing countries to the EU have evolved over time, the objective of this chapter is to provide a mapping of exports from 137 developing countries to the EU since 1973, across geographical regions and sectors.²

While one of the objectives of the analysis is to link these trends to the trade regimes in place, it is important to note that the analysis is purely descriptive and at no point do we claim causality between trade regimes and export trends.

The group of developing countries that we consider is comprised of both the Least Developed Countries (LDCs) and other developing countries (Non-LDCs). As the export profile of the least developed countries differ significantly from other developing countries in terms of both growth patterns and sector and product concentration, we look separately at these two groups throughout.³

As countries receiving preferential access to a major market such as the EU may also become more attractive as a destination for export oriented Foreign Direct Investment (FDI), we end the chapter with a short analysis of trends in the countries FDI stock. However, as FDI data is relatively limited in comparison to trade data, this part of the analysis does not include a disaggregation at sector-level.

In order to account for the fact that the EU has expanded several times during the period in question, we focus exclusively on the EU9 in all analyses going back to 1973, while the EU15 is used in any analysis starting in 1995. The EU27 will only be used when describing the current picture (2012). This way we avoid attributing expansions in the EU to an expansion in exports from the countries in question.⁴

The chapter begins with a short overview of the specific trade regimes in place, followed by a section on the general trends in EU imports from developing countries both overall and by trade regime. This is followed by more detailed analyses at regional and sector level. The chapter finishes with an analysis of the evolution in FDI in the developing countries.⁵

1 — For convenience, the term EU is used to designate the European Communities or the European Union throughout.

2 — A full list of the 137 developing countries is included in Table A.1 Table A.1 List of developing countries (137) in Appendix A.

3 — Least Developed Countries are designated their status by the UN on the basis of the following three criteria: 1) Per capita income (gross national income per capita), 2) Human assets (indicators of nutrition, health, school enrolment and literacy and 3) Economic vulnerability (indicators of natural and trade-related shocks, physical and economic exposure to shocks, and smallness and remoteness). Currently 48 countries are designated this status. (www.UNCTAD.org). A full list of all LDCs are contained in Table A.4 Table A.4 Least Developed Countries, 2012 Appendix A.

4 — Table A.2 in Appendix A contain a list of all EU9, EU15 and EU27 Members.

5 — The trade data we use is obtained from UN Comtrade. In order to be able to go back to the 1970s the product classification used is the SITC Rev. 1 from which we use data at the 2-digit product level. As export data from especially developing countries is somewhat sporadic, we use import data for the EU throughout.

1.2 Background on EU trade regimes towards developing countries

Table 1 gives an overview of the trade regimes in place since 1973. The Lomé Conventions, the Cotonou agreements, Economic Partnership Agreements (EPA), Free Trade Agreements (FTAs) with 13 developing countries and the preference schemes under the General System (now Scheme) of Preferences (GSP) are discussed in more detail in the following sections.

Table 1 - EU preferential schemes towards developing countries

Preference schemes	Target countries	Time period
Lomé conventions I - IV	ACP countries	1975-2000
Cotonou/ EPA	ACP countries	2000-2020
GSP		
General Arrangement	All developing countries	1971 onwards
GSP+		2005 onwards
EBA	LDCs	2001 onwards
FTA	Individual countries	country specific

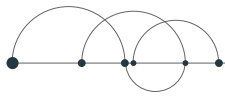
Note: FTAs are in place with the Palestinian Authority (1997), Syria (1977), Tunisia (1998), Morocco (2000), Israel (2000), Jordan (2002), Lebanon (2006), Egypt (2004), Algeria (2005), Mexico (2000), South Africa (2000) and Chile (2003), where the year in brackets indicate the year in which the agreement was implemented.

Relations with the African, Caribbean and Pacific States: Lomé Conventions, Cotonou Agreement and their forerunners.

Part IV of the EEC Treaty dealt with trade relations between the EEC and the dependent territories of some of the six original Member States. When most of the European colonies gained their independence in the 1960s, one immediate question was what kind of trade regime should replace the existing Customs Union which the colonies had been part of. The EU negotiated arrangements to provide eighteen of them with continued preferential access to the common market, codified in the first and second Yaoundé Conventions in the 1960s. Under this agreement, the former colonies were in principle obliged to also provide preferential access for European exports to their markets. In parallel with the second Yaoundé Convention, the EEC and three East African Countries (Kenya, Uganda and Tanzania) concluded the Arusha Convention (1971-1975). This, however, only lasted until 1975, when the first Lomé Convention (Lomé-I) was introduced.

The basic principle under this agreement was that the trading partners could export into the Community free of customs duties and charges of any kind, while only being obliged to give imports from the EU a treatment that was at least as favourable as that provided to the most-favoured industrialised country partner (Ravenhill, 2002). However, their access to EU markets regulated by the Common Agricultural Policy (CAP) remained relatively restricted. Agricultural products that faced competition in the EU and were covered by the CAP, only received a rather low preference margin, while most agricultural products not produced in the EU were allowed duty free access. However, most of the latter were already granted low or even zero duty rates under the GSP and the Most Favoured Nation (MFN) rate was often very low for these products anyway.

In agriculture, the most important preferences were given via commodity protocols covering bananas, beef, rum, and sugar. While preferences for the non-Protocol products were available to all signatories, the preferences for the Protocol products were available only to select



countries and in quantities that were strictly limited and specific to each country (Schrader, 1990). While there were only 21 signatories to Yaoundé-II, Britain's accession to the EU in 1973 meant that its former colonies and dominions could become parties to Lomé-I. The enlarged group of trading partners established a formal association of countries called the ACP Group of States, ACP standing for African, Caribbean, and Pacific countries (Georgetown Agreement of 1975). This

association became party to Lomé-I. Later, the ACP countries and the EU would revise the Lomé Convention on multiple occasions in what would become Lomé-II, Lomé-III, and Lomé-IV. Each time the agreement was renegotiated, new signatories joined the ACP club. Table 1 shows the membership development over time. Thus, the number of signatories grew from 46 for Lomé-I in 1975 to 71 at the end of Lomé-IV.

Table 2 - ACP Membership by Trade Agreement

ACP Members	
Yaoundé I (1963)	Benin - Burkina Faso - Burundi - Cameroon - Central African Republic - Chad - Congo (Brazzaville) - Congo (Kinshasa) - Côte d'Ivoire - Gabon - Madagascar - Mali - Mauritania - Niger - Rwanda - Senegal - Somalia - Togo
Yaoundé II (1969)	Kenya - Tanzania - Uganda
Lomé I (1975)	The Bahamas - Barbados - Botswana - Ethiopia - Fiji - Gambia - Ghana - Grenada - Guinea - Guinea-Bissau - Guyana - Jamaica - Lesotho - Liberia - Malawi - Mauritius - Nigeria - Samoa - Sierra Leone - Sudan - Swaziland - Tonga - Trinidad and Tobago - Zambia
Lomé II (1979)	Cape Verde - Comoros - Djibouti - Dominica - Kiribati - Papua New Guinea - Saint Lucia - Sao Tome and Principe - Seychelles - Solomon Islands - Suriname - Tuvalu
Lomé III (1984)	Angola - Antigua and Barbuda - Belize - Dominican Republic - Mozambique - Saint Kitts and Nevis - Saint Vincent and the Grenadines - Vanuatu - Zimbabwe
Lomé IV (1990)	Equatorial Guinea - Haiti
Lomé IV revised (1995)	Eritrea - Namibia - South Africa
Cotonou (2000)	Cook Islands - Marshall Islands - Federated States of Micronesia - Nauru - Niue - Palau
Current ACP members	Angola - Antigua and Barbuda - Belize - Cape Verde - Comoros - Bahamas - Barbados - Benin - Botswana - Burkina Faso - Burundi - Cameroon - Central African Republic - Chad - Congo (Brazzaville) - Congo (Kinshasa) - Cook Islands - Cote d'Ivoire - Cuba - Djibouti - Dominica - Dominican Republic - Eritrea - Ethiopia - Fiji - Gabon - Gambia - Ghana - Grenada - Republic of Guinea - Guinea-Bissau - Equatorial Guinea - Guyana - Haiti - Jamaica - Kenya - Kiribati - Lesotho - Liberia - Madagascar - Malawi - Mali - Marshall Islands - Mauritania - Mauritius - Micronesia - Mozambique - Namibia - Nauru - Niger - Nigeria - Niue - Palau - Papua New Guinea - Rwanda - St. Kitts and Nevis - St. Lucia - St. Vincent and the Grenadines - Solomon Islands - Samoa - Sao Tome and Principe - Senegal - Seychelles - Sierra Leone - Somalia - South Africa - Sudan - Suriname - Swaziland - Tanzania - Timor Leste - Togo - Tonga - Trinidad and Tobago - Tuvalu - Uganda - Vanuatu - Zambia - Zimbabwe

At the end of the 1990s, the Commission conducted a wide consultative process in preparation for the negotiation of the successor Treaty to Lomé IV, the outcome of which was the Green Paper of 1996⁶. The Commission was concerned that, with a few exceptions, the significant trade preferences granted to the ACP countries had failed to stem the steady fall in their share of total EU imports and foster their economic growth, while other developing countries that had no access to the same preferences but had inter alia mainstreamed trade into their development strategies were much more successful. In addition, the unilateral Lomé tariff preferences had been contested on several occasions and found to be in breach of the GATT rules. A profound reform of trade cooperation between the EU and the ACP was therefore indispensable in order to set up a more efficient and GATT- (subsequently WTO-) compliant system.

For this reason the objective was agreed in the Cotonou Partnership Agreement to negotiate new Economic Partnership Agreements (EPA) that would replace the corresponding Cotonou trade provisions, for which a temporary WTO waiver was obtained that expired on 31 December 2007.

Significant changes occurred in the following areas:

The single trade regime for all ACP countries was replaced by seven regional EPAs, in order to better take into account specific regional needs and constraints and support regional integration processes. The configuration of the regional negotiating groups was decided by the ACP countries concerned. In some cases the groups coincide almost perfectly with existing regional organisations, e.g. in the Caribbean, West Africa and Eastern African Community. In other cases, given the overlapping memberships of certain regional organisation, this was not feasible (Eastern and Southern Africa).

As WTO compatibility (Article XXIV) requires that the parties to a FTA liberalise “substantially all trade” between themselves, reciprocity had to be introduced and also the ACP countries had to phase out customs duties on products imported from the EU, although

progressively and with the possibility of maintaining a protection for their most sensitive sectors. The EU would liberalise practically all products (except weapons and ammunitions, as for GSP/EBA) at the entry into force of the agreement^{7 8}. Therefore, within an EPA least developed and other developing countries benefit from the same tariff treatment, while the EBA is limited to LDCs only. Given their almost complete product coverage, EPA made the commodity Protocols redundant and in fact these have been discontinued. A peculiarity of the Sugar Protocol was that it had been concluded for an undetermined period of time, therefore it had to be discontinued by the EU and was terminated from 1 October 2009.

The General System of Preferences

The general system of preferences (GSP) is a unilateral preference programme legally embodied under the GATT/WTO framework under the so-called ‘enabling clause’ adopted in 1979, which allows developed countries to deviate from the MFN principle and give differential and more favourable treatment to imports from developing countries only.⁹ While the enabling clause is the WTO legal basis for the GSP, it is unilaterally up to the individual preference giving countries to decide which developing countries and products to include in their specific GSP schemes, subject to certain criteria.¹⁰

The first EU GSP programme was introduced in 1971 and since then has been frequently reviewed in terms of both country and product eligibility. Overall, three main waves of GSP can be identified, with the first wave covering the period 1971-1994, the second 1995-2005 and the third 2006-2013.¹¹

Box 1 contains a brief overview of the GSP from 1971-1994, during which defining features of the GSP includes annual reviews of e.g. beneficiaries and product coverage in addition to the use of quotas and ceilings on the specific products eligible for preferential access under the scheme.

6 — Green Paper on relations between the European Union and the ACP Countries on the eve of 21st century, COM (96) 570 final of 20.11.1996 <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51996DC0570&from=EN>

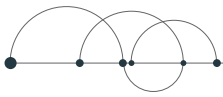
7 — In fact the EU can provisionally implement EPAs even during the ratification period, before they formally enter into force.

8 — Specific provisions apply to the Republic of South Africa within the EPA with the SADC Group of States.

9 — The founding Principle of the GATT/WTO is the principle of non-discrimination embodied in the Most Favoured Nation (MFN) clause, which states that Members cannot discriminate against trading partners and must therefore extend the most favourable treatment offered to any single trading partner to all partners.

10 — http://www.wto.org/english/tratop_e/devel_e/d2leg_e.htm, accessed September 2014.

11 — From the first of January 2014 a new GSP regime has come into place, but as this is outside the period of our analysis we do not discuss changes made under that regime in this report. Readers are referred to European Commission (2012) “The EU’s New Generalised Scheme of Preferences”. For more details for a review of the most important changes introduced.



Box 1 - The Generalised System of Preferences: 1971-1994

The first GSP programme adopted by the EU spanned an initial phase of ten years (1971-1981). Beneficiary countries were initially the members of the Group of 77 in UNCTAD. However, applications from non-G77 countries were also considered on a case-by-case basis, for instance in the case of some socialist or former socialist economies (e.g. Bulgaria, China, and Romania). For the G77 countries, the GSP provided market access at preferential rates to all manufactured exports and some agricultural and food products that were not covered in the Common Agricultural Policy (CAP). The eligible products were divided into sensitive and non-sensitive categories. Non-sensitive products were offered duty-free access while the sensitive products faced quotas and ceilings for the quantities that could benefit from preferential treatment.

In the first decade of the GSP, the principle of non-discrimination was applied, according to which all beneficiary countries were treated equally. This was changed with the overhaul of the GSP in 1981, when it entered its second decade. Preferential limits for sensitive industrial products were replaced by a discriminatory system which identified on a product by product basis the more highly competitive suppliers and imposed strictly enforced quotas on them.

In 1991, at the end of the second decade, the scheme was again due for major revision. However, pending the outcome of the Uruguay Round, the 1991 scheme was extended with various amendments until 1994.

There were many other adjustments along the way on top of the overhaul associated with the renewal in 1981. In fact, during the first two decades of the GSP the regulations for the scheme were promulgated annually and applied for the next calendar year. The yearly adjustments involved changes in product coverage, quotas, ceilings, beneficiaries, and depth of tariff cuts for agricultural products.

Source: *European Commission (1985)*

In the period 1995 - 2005, significant changes were introduced, including the replacement of previous quantitative limits on sensitive products by a modulated tariff system, under which the most sensitive products were given the less favourable tariff reductions, cf. Box 2.

Box 2 - Tariff modulation

"Tariff modulation" represented a radical departure from the previous GSPs. Except for the agricultural products that already were subject to reduced but non-zero duties, the quantitative limits on exports were replaced with reduced rates of duty that varied according to four categories of product sensitivity. Non-sensitive products were granted duty-free entry, and the sensitive products were granted reductions in their duties from their MFN-levels, the reductions decreasing with the degree of sensitivity. The following GSP reductions on the most-favoured-nation (MFN) rate were then applied: for very sensitive products, 15% preferential margin; for sensitive products, 30% preferential margin; for semi-sensitive products, 65% preferential margin; for non-sensitive products, duty-free entry was granted, i.e. 100% preferential margin.

A revision of the GSP scheme for the 2002-2004 period adopted in December 2001 simplified the system principally by reducing the number of sensitivity categories from four to two. Duty-free access was maintained for all non-sensitive products, while all the other sensitive products faced either a flat rate reduction of 3.5 percentage points from the MFN duty in the case of ad valorem duties, or a 30% reduction in the MFN duty in the case of specific duties only.

Source: *UNCTAD*

The second element introduced with the 1995-GSP revision was a policy of graduation. The idea was to limit the preferences to the countries and sectors that needed them. The moment a sector in a country exported intensively to the EU, the sector would be considered sufficiently advanced to no longer receive the benefits of the GSP and the sector would graduate. The most advanced beneficiary countries meeting particular criteria could be removed completely from the list of beneficiary countries. Hong Kong (China), the Republic of Korea and Singapore were the first countries excluded in 1998.

The final innovation was the introduction of a number of special incentive arrangements (that became operational on 1 January 1998). These special incentives were to be applied on the basis of an additional margin of preference granted to beneficiary countries complying with certain requirements related to labour standards and environmental norms, as well as to countries undertaking effective programmes to combat drug production and trafficking.

The three special incentive programmes were:

- A special incentive arrangement for the protection of labour rights which reduced the tariff for sensitive products by 8.5 percentage points on the MFN tariff for those beneficiaries able to meet certain conditions in relation to this policy area.
- A special incentive arrangement for the protection of the environment which covered a certain number of tropical forest products for which additional preferences were granted.
- A special arrangement to combat drug production and trafficking granted to Central and South American countries belonging to the Andean Community and Pakistan (UNCTAD, 1999)

Finally, the special arrangement for the least developed countries (LDCs) known as the Everything But Arms (EBA) initiative¹² was introduced and entered into force on 5 March 2001 and allowed free access for the poorest countries in the world for all products except arms and ammunition, cf. Box 2.

Box 3 - Everything But Arms

Everything But Arms is a special GSP arrangement for the Least Developed Countries, introduced in 2001. The scheme allows duty free access into the EU market for all products except arms and ammunition.

Only imports of fresh bananas, rice and sugar were not fully liberalised immediately. Duties on those products were gradually reduced and duty free access was granted for bananas in January 2006, for sugar in July 2009 and for rice in September 2009.

The EBA Regulation foresees that the special arrangements for LDCs should be maintained for an unlimited period of time and not be subject to the periodic renewal of the Community's scheme of generalised preferences.

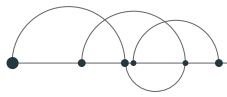
The least developed countries enjoyed significant preferences under the GSP before the introduction of the EBA. Since 1977 a series of supplementary measures almost totally liberalised GSP access for Least Developed Countries.¹³ LDCs were given greater preferences on industrial products, including textiles, benefiting not merely from duty-free entry but complete exemption from the application of preferential Limits. They also benefited from duty-free entry on all agricultural

products covered by the GSP plus a supplementary list of some 370 products. This extended list included nearly all agricultural/fishery products in the customs tariff Chapters 1-24 which were not protected by a levy or similar device thus putting LDCs very nearly on a par with the ACP countries.¹⁴

¹² — The EBA was introduced by Regulation 416/2001 amending Regulation 2802/98 and into the GSP Regulation (EC) No. 2501/2001.

¹³ — Most of these were ACP countries and benefitted from access via Lomé.

¹⁴ — Chapter 1-24 contain agricultural products and foodstuffs.



Furthermore, at the Singapore WTO Ministerial Conference in 1996, WTO members pledged to carry out an action plan to improve access to their markets for products originating in the LDCs. In 1997, the EU Council called for the Singapore conclusions to be implemented by granting LDCs not party to the Lomé Convention preferences equivalent to those enjoyed by signatories and, in the medium term, duty-free access for essentially all their exports.¹⁵

The significance of the EBA Regulation was to extend deep trade preferences to LDCs on products excluded from the EU's other preferential schemes, such as Cotonou and the GSP. A total of 919 tariff lines (out of the 10 500 tariff lines in total) were affected, almost entirely agricultural products covered by the EU's Common Agricultural Policy (CAP). Only imports of

fresh bananas, rice and sugar were not fully liberalised immediately. Duties on those products were gradually reduced and duty free access was granted for bananas in January 2006, for sugar in July 2009 and for rice in September 2009. In 2005 the EU launched a new GSP scheme which was designed to be more generous, simpler, more transparent and more stable than its predecessors. The new scheme reduced the number of GSP arrangements from five to the following three:

- The general arrangement for standard GSP beneficiary countries, cf. Box 4
- A special incentive arrangement for sustainable development and good governance (hereafter GSP+) designed for vulnerable countries
- The Everything but Arms (EBA) initiative

Box 4 - The GSP General Arrangement

The general arrangement is for the standard GSP programme. With the introduction of the new GSP scheme in 2005, this programme was maintained but the product coverage was increased from 6 900 to 7 200 tariff lines mostly in the agricultural and fishery sectors. Current preferential margins were largely maintained. Of the 10 300 tariff lines in the EU's Common Customs Tariff, roughly 2 100 products have a MFN duty rate of zero and tariff preferences are not relevant for these. Of the 8 200 products that are subject to duty, GSP covers roughly 7 000, of which about 3 300 are classified as non-sensitive and 3 700 as sensitive. For the rest of the tariff lines not covered by the GSP, a number of them fall into HS chapter 93, arms and ammunition. Non-sensitive products have duty free access and sensitive products benefit from a tariff reduction. The non-sensitive category covers most manufactured products but excludes some labour intensive and processed primary products such as textiles, clothing and footwear. Most of the tariff lines subject to duty excluded from the GSP are agricultural products covered by the EU's Common Agriculture Policy.

The GSP+ is a special incentive arrangement for sustainable development and good governance designed for vulnerable countries, cf. Box 5.

Box 5 - The GSP+

The GSP+ is a special incentive arrangement for sustainable development and good governance designed for vulnerable countries. It provides deeper tariff preferences (essentially duty-free access on all tariff lines where the duty is solely an ad valorem or specific tariff, and the removal of the ad valorem element in the case of a mixed tariff) for the 7 200 tariff lines covered by the GSP if beneficiary countries meet a number of criteria and can show effective application of 27 international conventions on human and labour rights, environmental protection, fight against drugs, and good governance. To benefit from GSP+, countries must demonstrate that their economies are poorly diversified, small, lower-income economies, land-locked states or small island nations, and therefore dependent and vulnerable. Poor diversification and dependence means that the five largest sections of a country's GSP-covered imports to the EU must represent more than 75% of its total GSP-covered imports. In addition, GSP-covered imports from that country must represent less than 1% of total EU imports under GSP.

15— Council Regulation (EC) No 602/98 granted LDCs not party to the Lomé Convention preferences equivalent to those enjoyed by the ACP signatories to the Convention. The Cotonou Agreement (Article 37) stated that the Community would start a process which, by the end of the multilateral trade negotiations and at the latest 2005, would allow duty-free access for essentially all products from all LDCs building on the level of the existing trade provisions of the Fourth Lomé Convention and which would simplify and review the rules of origin, including cumulation provisions, that apply to their exports.

The new scheme still removed countries when they became competitive in the export of a particular product or range of products. The justification is that the country no longer needed the GSP to promote this product's exports to the EU. However, the mechanism was overhauled and simplified. The previous criteria (share of GSP imports, development index and export-specialisation index) were replaced with a single simpler criterion: the share of the community market expressed as a share of exports from GSP countries. This share is normally 15% but is lowered to 12.5% for textiles and clothing.

Countries may be temporarily excluded from the GSP scheme for a number of reasons including: (i) serious and systematic violation of the principles in the conventions on sustainable development and good governance; (ii) export of goods made by prison labour; (iii)

shortcomings in customs controls on export or transit of drugs or failure to comply with international conventions on money laundering; (iv) fraud, irregularities or systematic failure to comply or to ensure compliance with the rules of origin of products and the proof thereof, and to provide administrative co-operation as required; (v) unfair trading practices; (vi) infringements of the objectives of the arrangements concerning the conservation and management of fishery products.¹⁶

The GSP system was last revised in 2012 and significant changes were put in place on 1 January 2014. Among the most important changes is a reduction in the number of beneficiaries to those most in need and an expansion of the number of 'non-sensitive' products eligible for duty-free access. The GSP+ system has further been strengthened, and the EBA, which has no expiry date, is maintained.¹⁷

1.3 Rules of Origin

Rules of origin (RoOs) are an important feature of preferential trade agreements. They are intended to prevent trade deflection through the low tariff partner by ensuring that preferences benefit only those goods which originate in the preference-receiving country. In an increasingly globalised economy with supply chains that involve more and more countries, rules of origin are highly complex and, if too restrictive, can limit the number of potential exportable goods which are, in practice, eligible for preferences. RoOs are thus crucial in determining the effectiveness of preferences granted under a preferential trade regime.

The EU's RoOs for its GSP scheme were originally designed in the 1970s and have been repeatedly updated since then. To be considered as originating in the beneficiary country and thus to be able to benefit from the preferential treatment, goods must be either wholly obtained (e.g. grown, mined) there or, where this is not the case, have undergone sufficient processing there. The rules of origin define "sufficient processing" by way of a list of origin criteria that vary from product to product. These may be based on change of tariff heading, value added, a specific processing

requirement, the use of wholly obtained inputs, or a combination of these.

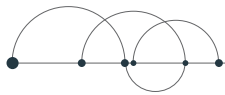
A central concept with respect to rules of origin is the concept of cumulation of origin, which refers to the concept that countries that have identical rules of origin can work together for the purpose of manufacturing products which are eligible for preferential tariff treatment. EU RoOs permit various forms of cumulation, including:

- Bilateral cumulation, which is the most basic form of cumulation, involves the potential for sharing of materials (essentially production sharing) between the EU and the partner country on a bilateral basis.
- Diagonal cumulation. This essentially deems all signatories to an agreement to be a single territory for RoOs purposes. In the case of the ACP countries, this means that they can freely source materials from one another, provided that such inputs originate in an ACP State, or where they do not, that sufficient transformation takes place (according to the prescribed rules).¹⁸

16 — GSP preferences were withdrawn for Myanmar/Burma in 1997 due to serious and systematic violations of the principles of the International Labour Organisation (ILO) Convention on forced labour. Following the decision by the Conference of the ILO to lift its negative opinion on the country in June 2012, the EU reinstated GSP preferences for Myanmar/Burma in July 2013, with retro-active application as from June 2012. In June 2007 the EU withdrew its trade preferences to Belarus under the Generalised Scheme of Preferences, in response to Belarus' violations of the core principles of the International Labour Organisation.

17 — See European Commission (2012) "The EU's New Generalised Scheme of Preferences", for further details.

18 — The Cotonou Agreement also provided for cumulation with OCTs and cumulation with South Africa under certain conditions. At the request of the ACP States, materials originating in a neighbouring developing country, other than an ACP State, belonging to a coherent geographical entity may be considered as materials originating in the ACP States when incorporated into a product obtained there. Under certain specific conditions, it may not be required that such materials undergo sufficient working or processing.



- Regional cumulation is a form of diagonal cumulation, which only exists under the Generalised System of Preferences (GSP) and operates between members of a regional group of beneficiary countries (e.g. ASEAN).
- Full cumulation allows the parties to an agreement to carry out working or processing on non-originating products in the area formed by them. Full cumulation means that all operations carried out in the participating countries are taken into account. While other forms of cumulation require that the goods be originating before being exported from one party to another for

further working or processing, this is not the case with full cumulation. Full cumulation simply demands that all the working or processing in the list must be carried out on non-originating materials in order for the final product to obtain origin. Full cumulation is in operation between the EU and, for example, the countries of the EEA, Maghreb, OCT and ACP.

In the following section, we look at the development of EU imports from developing countries across the various schemes described above.

1.4 EU imports from developing countries in 2012

In 2012 the EU27 imported € 860 billion worth of goods from developing countries, equivalent to 44% of total EU27 imports of goods. €321 billion of these imports originated in China and €35 billion in the Least Developed Countries cf. Table 3. Within the EU, the majority of imports were destined for EU15 countries, which in total received 90% of EU27 imports from all developing countries in 2012 and 95% of total EU27 imports from LDCs.

Table 3 - EU imports of goods from developing countries, 2012

	Imports from DC		Imports from DC (Excl. China)		Imports from LDCs	
	Euro (bill.)	Share of total EU imports	Euro (bill.)	Share of total EU imports	Euro (bill.)	Share of total EU imports
EU27	860	44.4%	539	27.9%	35	1.8%
EU15	779	39.2%	499	25.1%	34	1.7%
EU9	635	33.2%	394	20.6%	26	1.4%

Note: The table shows the Euro value (in billions) and the share of total imports into the EU27, EU15 and EU9 originating in developing countries. The original data is in USD and converted to Euro using the average 2012 US/Euro exchange rate of 1.2859 obtained from the US Federal Reserve (<http://www.federalreserve.gov/releases/g5a/current/default.htm>). Table A.4 in the Appendix contain a list of all LDCs.

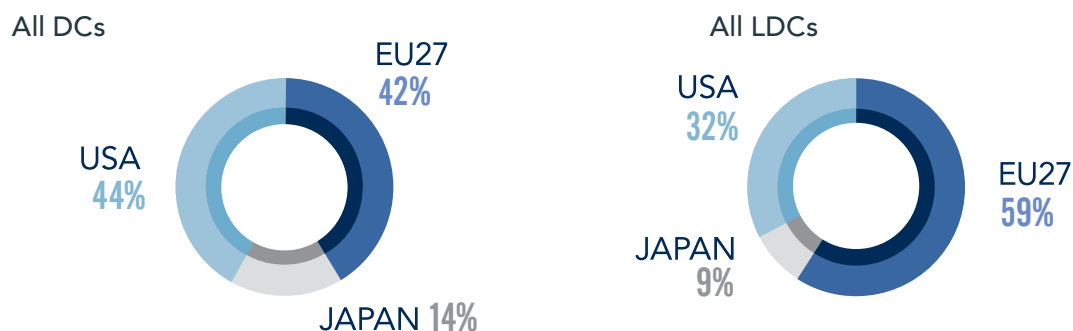
Source: Copenhagen Economics using data from UN Comtrade.

The EU is the largest market for the Least Developed Countries in the TRIAD

Compared to the US and Japan, which also both receive large inflows of goods from developing countries, the EU is an especially important market for the Least Developed Countries. In total the EU27, the US and Japan (referred to as the TRIAD) imported just over €2 000 billion worth of goods from developing countries in 2012, of which €60 billion originated in the Least Developed Countries.

While the EU27 accounted for 42% of the total TRIAD imports from all developing countries, its share of imports from the Least Developed Countries was close to 60%, making the EU is the largest market for the least developed countries' exports in the TRIAD, cf. Figure 1.

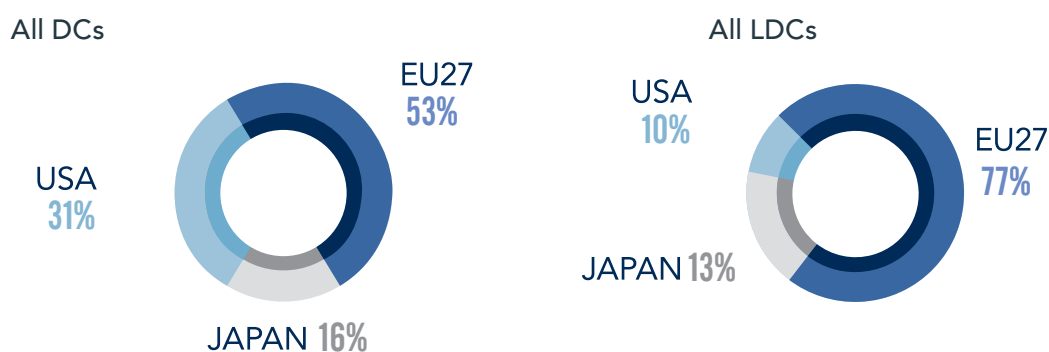
Figure 1 - TRIAD imports from developing countries, 2012



Source: Copenhagen Economics using data from UNCOM Trade.

Looking at agricultural imports, we also find that the EU is the largest export market for developing countries and for the least developed countries in particular, cf. Figure 2.

Figure 2 - TRIAD agricultural imports from developing countries, 2012

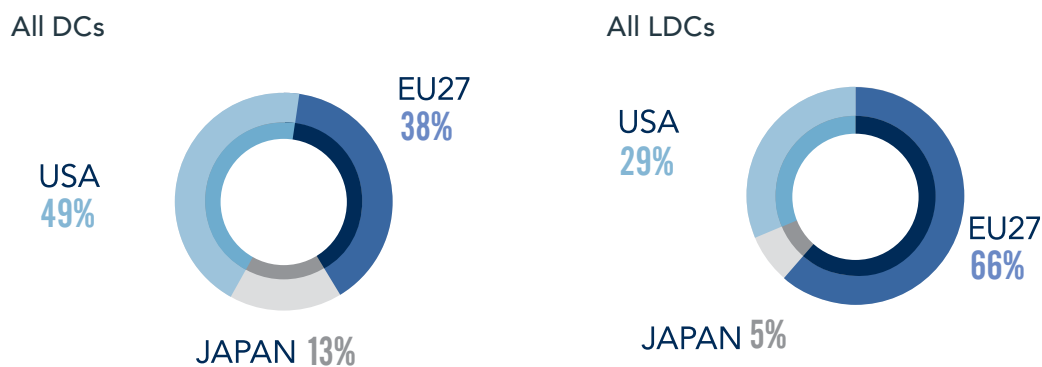


Note: See Table A.3 in the appendix for all agricultural products.

Source: Copenhagen Economics using data from UNCOM Trade.

Looking at manufacturing goods, we again find that the EU is the largest market in the TRIAD for least developed countries, while the US market is larger for the group of developing countries seen as a whole, cf. Figure 3.

Figure 3 - TRIAD manufacturing imports from developing countries, 2012



Note: See Table A.3 in the appendix for all manufacturing products.

Source: Copenhagen Economics using data from UNCOM Trade.

1.5 General trends in EU imports from developing countries

In order to give a first impression of how EU imports from developing countries have evolved since 1973, based on country eligibility with respect to the various trade preferences in place, we divide countries into the following three groups 1) countries eligible for ACP preferences 2) countries originally eligible for GSP preferences¹⁹ and 3) countries eligible for preferential access via an FTA. In order to account for the special regimes in place for LDCs, the ACP and GSP groups are further split according to the 2012 LDC status of the specific countries. Countries eligible for preferential access via both an FTA and ACP or GSP preferences are assigned to the FTA group, as FTAs are inherently different from the other schemes due to the reciprocal nature of these agreements. The only exception to this is South Africa, which is treated as an ACP country.²⁰

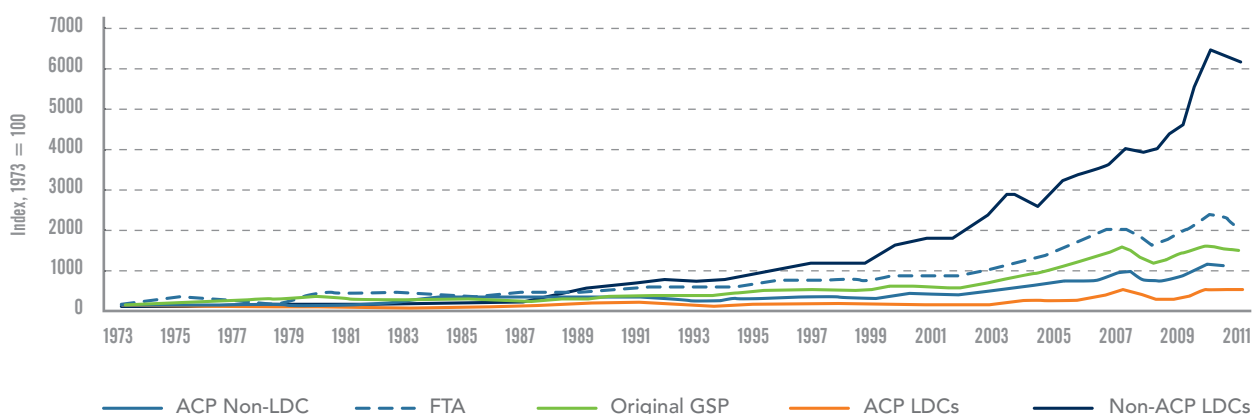
Countries eligible for both ACP and GSP preferences are assigned to the ACP group, based on Manchin (2005) who compares the utilisation rate of Cotonou and GSP preferences in 2000 for 35 Non-LDC countries eligible for both schemes and finds that very few of these countries requested preferences under the GSP. Those that did tend to do so only for a relatively small share of exports compared to the share of exports for which Cotonou preferences are requested. Of the total exports to the EU from the 35 countries, the author thus finds that Cotonou preferences were requested for 49.4%, while GSP preferences were requested only for 6.2%.²¹ The author

further notes that these observed differences may be due to the fact that most of the products exported by the (Non-LDC) ACP countries received better access via the Cotonou agreement than via GSP and to the differences in the Rules of Origin. Under the Cotonou agreement the rules of origin allow for full cumulation, which means that any processing that takes place within any of the signatories of the agreement is counted as if this was undertaken in the country of final processing and thus confers origin. Under the GSP, the rules are somewhat stricter and allows for what is called diagonal cumulation within only four regions (ASEAN, CACM, the Andean Community and SAARC). Under diagonal cumulation, the use of inputs from other participating countries only confer origin if they themselves are produced in accordance with the rules of origin (Manchin, 2005).

The above division of countries according to eligibility for specific trade regimes leaves a group of 'other' countries (mainly ex-Soviet countries and China), which all became eligible for the GSP at a later stage. However, due to the fact that many of the countries within this group did not export to the EU before the 1990s, we exclude them from the analysis going back to 1973. Table A.5 in the appendix contains a full list of countries included in each group.

The growth trend for total EU9 imports originating in each group is shown in Figure 4.

Figure 4 - Trends for EU9 imports from DC by eligibility to trade regimes, 1973 -2012



Note: See Table A.6 in the appendix for countries in each group.

Source: Copenhagen Economics.

19— This is defined at the original group of G77 countries, as this was the group for which the GSP was initially intended upon its introduction in 1973, cf. Box 1.

20— While South Africa is an ACP country, it should be noted that the country has not enjoyed the full trade preferences of other ACP countries. South Africa has had in place a bilateral Trade and Development Cooperation Agreement with the EU since 2000.

21— Manchin (2005) specifically notes that these are the shares of exports for which preferential access under the two programmes were requested, which does not automatically mean that preferences were granted in all cases.

The group of Non-ACP LDC countries, consisting of Afghanistan, Bangladesh, Bhutan, Cambodia, Laos, the Maldives, Myanmar, Nepal and Yemen, clearly stand out. While total imports from this group accounted for only approximate 2% of EU9 imports from developing countries in 2012, imports from this group have grown relatively more than imports from any other group. The upward trend for the group starts in the late 1980s and gains speed from around 1999 continuing to increase until 2011, with the exception of a slight decrease in 2005. A closer examination of the data reveals that the growth in the first period was especially high for imports from both Cambodia and Laos, which starting from a low base, exhibited compound annual growth rates of 81% and 48% respectively between 1988 and 1999, compared to an overall rate of 12% for the total imports from the group. During the period 2000-2011 the compound annual growth rate of imports from the whole group was similar at 13%, with the imports from Bangladesh, Cambodia and Yemen growing especially fast.

Trends in EU imports from countries eligible for ACP preferences

In order to examine the trend in imports from ACP countries and link this to the specific preferences in place over time, we subdivide the group of ACP countries according to the time at which they *first* became eligible for unilateral preferential access (i.e. the first Lomé convention signed). For practical reasons we exclude the countries that only became eligible for ACP preferences via the Cotonou agreement as including these would make the other trends difficult to see.²³

Figure 5 shows the trend in total EU9 imports from countries first receiving ACP preferences via each of the Lomé conventions. From the figure it is clear that the slow growth in imports from ACP countries, visible in Figure 4 is due mainly to a slow growth in imports from countries that first became eligible for ACP preferences in 1979 via the Lomé II or earlier. In comparison, imports from the groups of countries becoming eligible for ACP preferences via the Lomé III and IV, have grown significantly. However, in particular a large part of the growth in imports from the former group is due to the import of fuels.²⁴ The increase in the growth of imports in the mid-1990s from the group of countries

From Figure 4 it is also noticeable that imports from the ACP countries have grown comparably little over the period. The share of imports from the ACP group as a whole (i.e. including both LDCs and Non-LDCs) compared to total imports from developing countries has also decreased significantly over time. In 1973, 30% of EU9 imports from developing countries originated in ACP countries, compared to only 11% in 2012.²²

In comparison to imports from ACP countries, imports from both the group of countries originally eligible for GSP and those which have signed an FTA have grown slightly more, especially between 2002- 2008, before dipping in 2009, when the financial crisis caused world trade to collapse.

As the group composition used in Figure 4 is rather crude as no account is taken of entry and exit of specific countries to the various preference schemes, and no distinction is made between specific preference schemes introduced under the GSP after 1995, we take a closer look at the evolution in imports from countries eligible for unilateral preferences below.

first becoming eligible for preferences via the Lomé IV, is, in comparison, more robust to the exclusion of fuel but consists mainly of imports from South Africa, which became eligible for ACP preferences via the revision of the Lomé IV in 1995, when imports from this group begins to increase. Thus, from Figure 5, it is difficult to discern any immediate impact on the growth of aggregate imports around the time at which various groups of countries first became eligible for preferential access via the Lomé conventions.

22— In 1973, ACP Non-LDCs accounted for 20% of EU9 imports from developing countries whereas ACP LDCs accounted for 10%. In 2012, ACP Non-LDCs accounted 9% whereas Non-ACP LDCs accounted for 2%.

23— These include Cook Islands, Marshall Islands, Micronesia, Nauru, Niue and Palau. In total this group of countries only account for 0.03% of EU9 imports from ACP countries (Cuba is furthermore excluded, as the country did not sign any of the Lomé conventions or the Cotonou agreement).

24— Angola have consistently been among the main origins of imports from countries that first became eligible for ACP preference via the Lomé III and fuel is a major part of this, making up 89% of the value of imports from Angola in 2012.

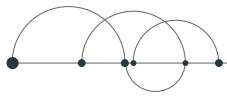
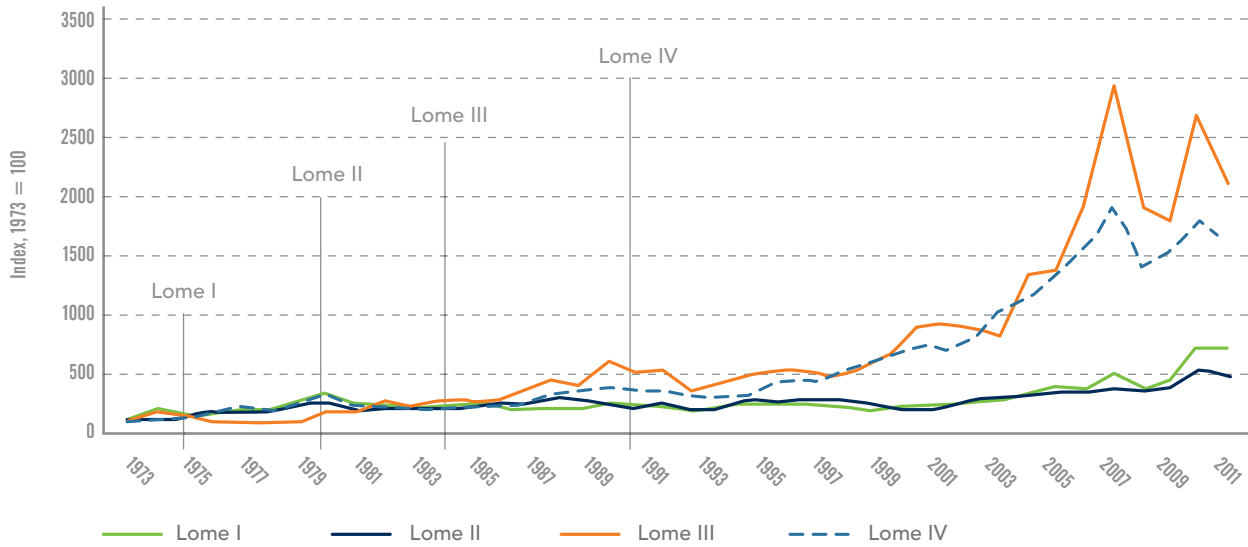


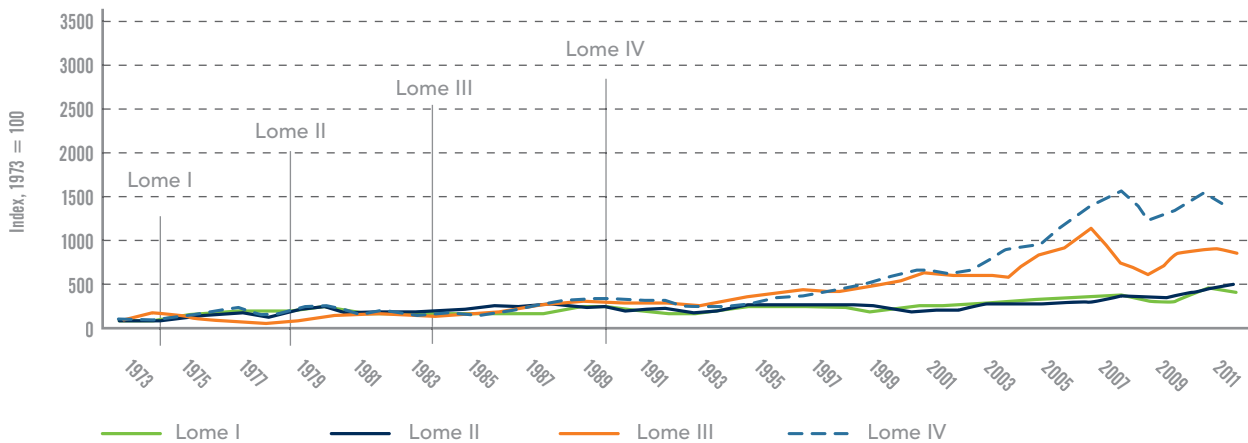
Figure 5 - Trends for EU9 imports from ACP countries by eligibility to trade regime, 1973-2012



Note: The group entitled Lomé I includes all countries that signed the Yaoundé I and Yaoundé II convention. Countries are eligible for preferences from the first convention signed and onwards, e.g. countries signing the Lomé I also signed all subsequent conventions including the Cotonou agreement in 2000 and so on. Import data from Botswana (Lomé I), Lesotho (Lomé I), Swaziland (Lomé I) and Namibia (Lomé IV) is not available pre 2000 in the UN Comtrade database, which may affect the trend for the Lomé I and IV prior to 2000. Combined Botswana, Lesotho and Swaziland accounted for 6% of imports from the Lomé I group in 2000, while Swaziland accounted for 3% of imports from the Lomé IV group.

Source: Copenhagen Economics using data from UN Comtrade.

Figure 6 - Trends for EU9 imports (excl. Fuel) from ACP countries by eligibility to trade regime, 1973-2012



Note: The group entitled Lomé I includes all countries that signed the Yaoundé I and Yaoundé II convention. Countries are eligible for preferences from the first convention signed and onwards, e.g. countries signing the Lomé I also signed all subsequent conventions including the Cotonou agreement in 2000 and so on. Import data from Botswana (Lomé I), Lesotho (Lomé I), Swaziland (Lomé I) and Namibia (Lomé IV) is not available pre 2000 in the UN Comtrade database, which may affect the trend for the Lomé I and IV prior to 2000. Combined Botswana, Lesotho and Swaziland accounted for 8% of imports (excluding fuel) from the Lomé I group in 2000, while Swaziland accounted for 3% of imports from the Lomé IV group.

Source: Copenhagen Economics using data from UN Comtrade.

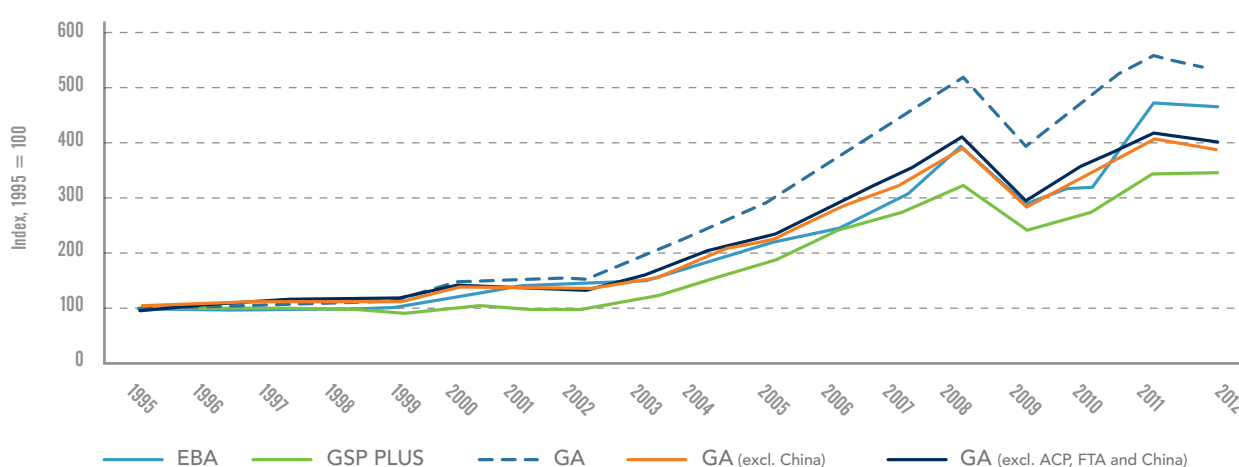
Trends in EU imports from countries eligible for GSP preferences

With respect to the GSP we look closer at the period 1995 and onwards, and compare the growth in imports over time for countries eligible for the General Arrangement, the GSP Plus and the Everything but Arms.

We look closer at this period using the EU15 as the definition of the EU. In order to maintain consistent groups through time the GSP+ group consists of countries eligible for that specific scheme upon its introduction in 2005. Likewise the EBA group is

comprised only of countries eligible for that particular scheme in 2001. In order to account for eligibility to other preferential schemes and the large impact of China, which is eligible for GSP access via the general arrangement, we also look at the growth in imports from this group excluding China and excluding China plus countries eligible for ACP or FTA preferences. The trends in EU15 imports from each group is depicted in Figure 7.

Figure 7 - Trends for EU15 imports by eligibility to GSP regime



Note: See Table A.6 in appendix for countries in each group.
Source: Copenhagen Economics using data from UN Comtrade.

At the aggregate level, neither the introduction of EBA or GSP+ has a visible impact on the growth of imports from either group. The trend for both groups follow the overall trend closely, with the exception of 2010-2011 when the growth in imports from the EBA group increases significantly. The picture changes slightly when excluding fuels, in which case the dip in 2009 is significantly less for the EBA group and slightly less for the GSP+ group, cf. Figure 8. Including fuel, imports from each of the two country groups thus contracted by approximately 25% in the period 2008-2009, compared to 7% for the EBA group and 21% for the GSP+ group when excluding fuels.

Not surprisingly, the growth in imports, over the period, from countries eligible for the general arrangement reduces significantly when excluding China. Comparing this trend to that of the group excluding also ACP and FTA countries, reveals a slightly smaller growth in imports for the latter group in agreement with the relative slow growth of imports from the ACP countries.

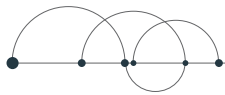
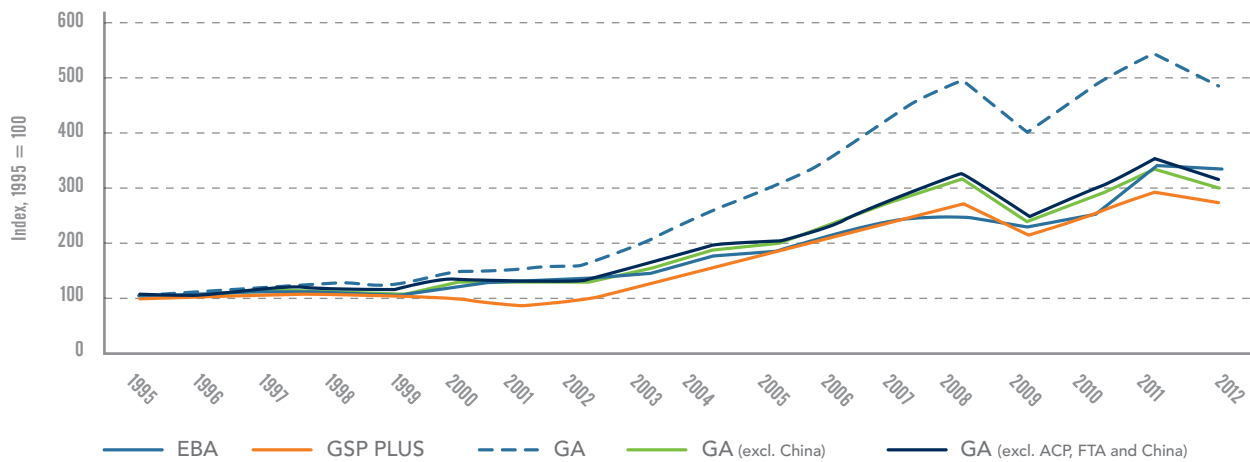


Figure 8 - Trends for EU15 imports (excluding fuel) by eligibility to GSP regime (1995 = 100)



Note: See Table A.6 in the appendix for countries in each group.
Source: Copenhagen Economics using data from UN Comtrade.

As the trends in aggregate imports hide important regional and sectorial variation, we look closer at each of these dimensions below. As we continually use either the EU9 or the EU15 to define the EU, depending on the length of the time period, we begin each section by briefly describing the picture anno 2012 for the EU27 as a whole.

1.6 Regional Trends in EU imports from developing countries

Of the €860 billion worth of imports from developing countries into the EU27 in 2012 €321 billion worth originated in China equal to 37% of total imports from developing countries and 49% if excluding fuel. Countries in the Middle East and North Africa were the origin of further €127 billion worth of imports equal to

15% of the total. However, the majority of this was made up by fuel and thus the region only accounts for 6% of total EU27 imports of non-fuel products. Latin America was the third largest origin of imports, followed by Sub-Saharan Africa, the East Asia and Pacific and finally South Asia and Eastern Europe and Central Asia, cf. Table 4.

Table 4 - EU imports (bill. Euro) from developing countries by region, 2012

	EAP	China	ECA	LAC	MEA	SA	SSA	Total
EU27	88	321	61	115	127	60	89	860
EU15	80	280	45	109	123	55	87	779
EU9	69	241	37	80	93	48	67	635
Excluding fuel								
EU27	87	321	19	96	38	54	42	657
EU15	79	280	11	89	36	51	41	586
EU9	69	241	9	73	29	43	36	499

Note: SSA= Sub-Saharan Africa, EAP = East Asia and Pacific, ECA = Eastern Europe and Central Asia, LAC = Latin America and Caribbean, MEA = Middle East and North Africa, SA = South Asia. See Table A.7 in appendix A for a list of developing countries in each region.

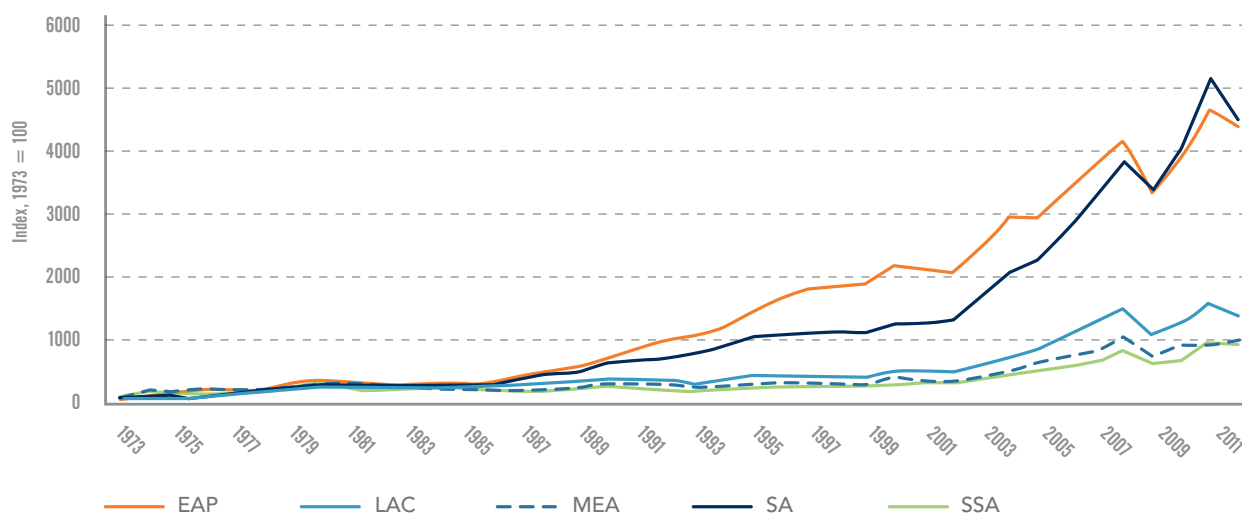
Source: Copenhagen Economics using data from UN Comtrade.

In Figure 9, we look at the developments in the growth of EU9 imports by region since 1973. In order to keep the trends visible for other regions we exclude China from this analysis. Similarly, as no imports from the region of Eastern Europe and Central Asia are registered before 1992, this region is also excluded.

From the Figure it is clear that imports from East Asia and Pacific as well as from South Asia have grown

comparatively faster than imports from other regions. In the case of East Asia and the Pacific, the rapid growth since 1990 is in part due to a strong growth in imports from Vietnam. In 1990 only 1% of imports from the region of East Asia and Pacific originated in Vietnam compared to 22% in 2012. In south Asia, the rapid growth since the mid- 1990s is especially due to rising imports from India and Bangladesh.

Figure 9 - Growth in the value of EU9 imports by region



Note: SSA= Sub-Saharan Africa, EAP = East Asia and Pacific, LAC = Latin America and Caribbean, MEA = Middle East and North Africa, SA = South Asia. See Table A.7 in appendix A for a list of developing countries in each region. The region of Eastern Europe and Central Asia is excluded as the EU only began importing from these countries in the mid-1990s. China is furthermore not included as doing so would make the remaining trends difficult to see.

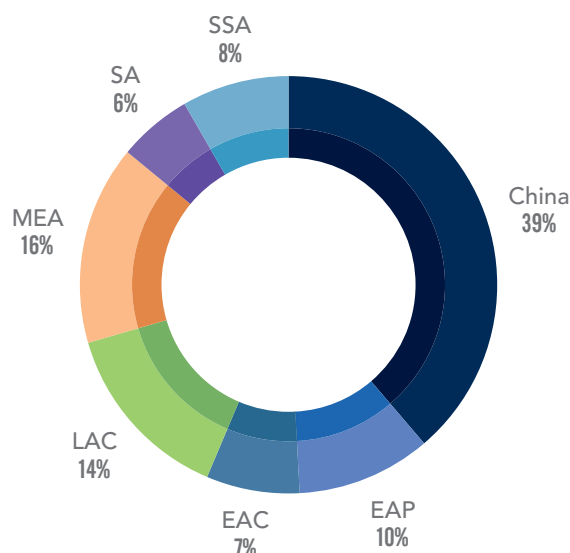
Source: Copenhagen Economics using data from UN Comtrade.

Below we look separately at trends in EU imports from Non-LDCs and LDCs. In each case we begin by describing the picture in 2012 before discussing changes over time.

1.7 Regional trends in EU imports from Non-LDCs

The origin of imports from Non-LDCs, was spread across all geographical regions in 2012. With the exception of China, the Middle East and North Africa accounted for the single largest regional share (cf. Figure 10)²⁵.

Figure 10 - EU27 imports from Non-LDCs by region, 2012



Note: SSA= Sub-Saharan Africa, EAP = East Asia and Pacific, ECA = Eastern Europe and Central Asia, LAC = Latin America and Caribbean, MEA = Middle East and North Africa, SA = South Asia. See Table A.7 in appendix A for a list of developing countries in each region.

Source: Copenhagen Economics using data from UN Comtrade.

From within that region the top three countries of origin of EU27 imports from Non-LDCs were Algeria, Libya and Israel, with the former two both accounting for 26% of total imports from Non-LDCs in the Middle East and North Africa, almost exclusively driven by the countries' exports of gas and petroleum. A further 11% of total imports from the region originated in Israel, which since June 2000 has had an FTA in place with the EU. Imports from Israel were spread across a multitude of products, with *medicinal and pharmaceutical products* accounting for the largest share (19%).

EU27 imports from Non-LDCs located in Eastern Europe and Central Asia²⁶ were dominated by imports from Kazakhstan (40% of total regional value) consisting almost exclusively of *petroleum and petroleum products* (91%). Other large exporters in the region include Ukraine (24% of EU imports from the region) and Azerbaijan (23%). From the Ukraine, 23% of imports consisted of *Iron and steel*, while imports from Azerbaijan were also almost exclusively *petroleum and petroleum products*, comprising 99% of total imports from that country.

Malaysia, Indonesia, Vietnam and Thailand were the largest sources of imports from the region of East Asia and Pacific²⁷. Combined these four countries comprised 92% of total EU27 imports originating from non-LDCs within the region. Electrical machinery comprised the largest share of imports from both Malaysia (30%) and Vietnam (30%), and also a large share of imports from Thailand (15%). Furthermore non-electrical machinery comprised 21% of imports from both Malaysia and Thailand, while clothing and footwear make up large shares of imports from Indonesia (20%) and Vietnam (28%).

²⁵— In total this group is comprised of 12 countries of which nine have an FTA in place with the EU.

²⁶— This group consists of 11 countries.

²⁷— This group consists of 15 countries.

Non-LDCs in South Asia include only India, Pakistan and Sri Lanka, with India alone accounting for 84% of total imports, compared to 10% from Pakistan and 6% from Sri Lanka. Clothing comprised the largest share of imports from all three countries equalling 14% of imports from India, 43% from Pakistan and 58% from Sri Lanka. Textiles comprised 35% of imports from Pakistan, while petroleum and petroleum products made up an additional 13% of imports from India.

Finally, imports from non-LDCs in Sub-Saharan Africa, were dominated by petroleum and gas imports, comprising 50% of the total, of which Nigeria supplied

the lions share and thus accounted for 43% of total imports from this group of countries.²⁸ South Africa accounted for a further 28% of imports, from where 24% of imports are so-called special transactions, which are not further classified, while 11% are metalliferous ores and metal scrap and 8% fruit and vegetables.

Table 5 displays the top ten origins of EU27 imports from Non-LDCs in 2012, most of which have already been discussed above. In total these ten countries accounted for 70% of total EU27 imports from Non-LDCs in 2012. However, the lions' share of this is due to China.

Table 5 - Top 10 origins for EU27 imports from Non-LDCs, 2012

Country	Imports (bill. Euro)	share from Non-LDCs	Largest product	Share	second largest product	Share
China	321	39%	Electrical machinery	24%	Machinery (non-electrical)	21%
India	40.2	5%	Clothing	14%	Petroleum	13%
Brazil	39.4	5%	Petroleum	7%	Electrical machinery	1%
Algeria	33.3	4%	Gas	50%	Petroleum	48%
Libya	32.6	4%	Petroleum	91%	Gas	8%
Nigeria	29.5	4%	Petroleum	85%	Gas	11%
Kazakhstan	24.5	3%	Petroleum	91%	Non-ferrous metals	2%
Malaysia	20.9	3%	Electrical machinery	35%	Machinery (non-electric)	21%
Viet Nam	20.3	2%	Electrical machinery	30%	Footwear	16%
Mexico	19.4	2%	Petroleum	27%	Electrical machinery	17%
Total	581.2	70%				

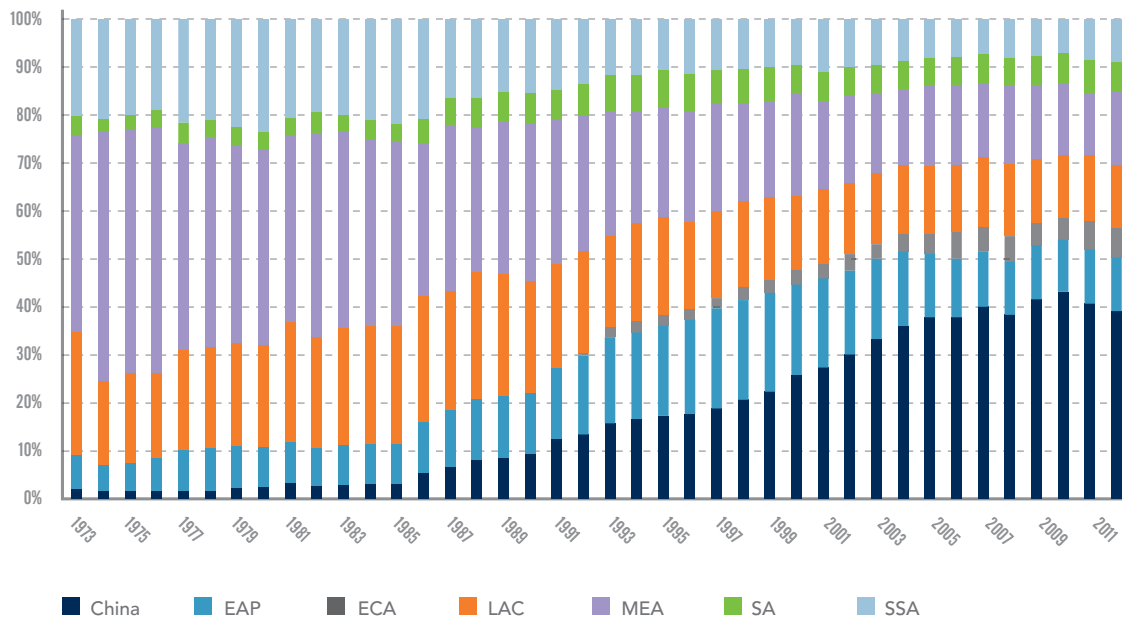
²⁸— 96% of imports from Nigeria were made up by petroleum and gas products. Coffee, tea, cocoa and spices comprised an additional 1%, while the remaining 3% were spread across other products.

Developments over time

Since 1973, there have been significant changes in the distribution of imports from Non-LDCs across regions, cf. Figure 11. Throughout the 1970s and 1980s, the Middle East and North Africa was the main source of imports and comprised between 40%-50% of EU9 imports from Non-LDCs throughout this period. As is the case today, imports from this region have mainly comprised fuel throughout the period. In the 1970s and 1980s fuel comprised between 60%-80% of imports from the region, falling to between 40%-50% in the mid-

1990s, and rising again throughout the 2000s to around 70% in 2012. Throughout the 1970s and 1980s imports from the region therefore originated mainly from large fuel producers, including Iran, Libya, Iraq and Algeria. Throughout the 1990s, the share of imports from Israel rose steadily and comprised 20% of regional imports in 1999 but fell slightly again as fuel imports from especially Libya and Algeria again dominate throughout the 2000s.

Figure 11 - Geographic origin of EU9 imports from Non-LDCs, 1973-2012



Note: See Table A.7 in the appendix for a list of countries in each region.

Source: Copenhagen Economics using data from UN Comtrade.

Both Latin America and Sub-Saharan Africa were also relatively large origins of EU9 imports in the earlier period, with the former accounting for approximately 25% of EU9 imports from Non-LDCs throughout the 1980s with Brazil, Argentina and Venezuela being the main origins of import. In the case of Brazil, coffee, tea and spices, animal feed stuff and metalliferous ores and metal scrap have been among the top products imported by the EU9 throughout the time period while imports from Venezuela have been dominated by petroleum and petroleum products.

From Sub-Saharan Africa, dominant sources of EU imports have consistently been South Africa (metals,

minerals and fruit and vegetables), Nigeria (mainly petroleum) and Cote d'Ivoire, from where coffee, tea, cocoa and spices and manufactured goods have been the top products imported into the EU9 in every decade since the 1970s.

Imports from East Asia and the Pacific have consistently been dominated by imports from China and Malaysia. In the 1970s imports from Malaysia were dominated by crude rubber and wood lumber and cork comprising a combined share of almost 50% of total imports from the country in the 1970s. In the 1980s, electrical machinery becomes the most dominant product (22%), while crude rubber and wood, lumber and cork remain relatively

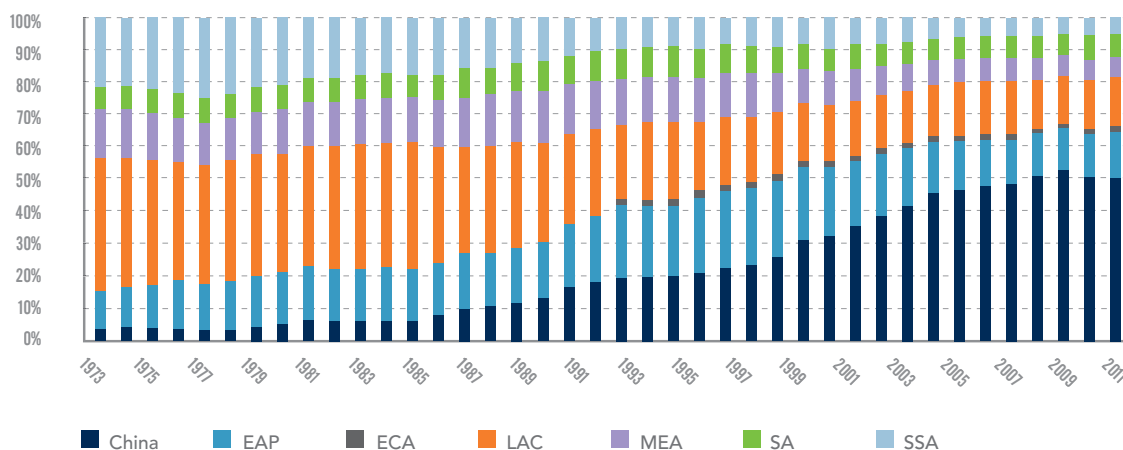
important comprising 34% of imports combined. In the 1990s and 2000s Machinery (electrical and non-electrical) comprised more than half of EU imports originating in Malaysia.

Excluding fuel changes the picture significantly, cf. Figure 12. Latin America is now the largest source of EU imports until 1996 when it was overtaken by China and the region of East Asia and Pacific. In comparison the share of imports from the Middle East and North Africa, stood at 15% in the early 1970s and has decreased to 6% in 2012.

Table A.8 in the appendix contains the top five individual country origins in each region by decade, computed as total decade imports from individual countries as the share of total regional decade imports, showing high concentration ratios among all regions throughout the

time period. However, within the regions, individual countries have through time become more dominant. In the region of East Asia and the Pacific, Vietnam emerges as the fifth largest regional source of imports in the 2000s replacing the Philippines. Similarly, in the region of the Middle East and North Africa, Israel joined the top five origins in the 1990s. In Sub-Saharan Africa there has also been some changes. While Nigeria, South Africa, Cote d'Ivoire and Cameroon have consistently been among the top five origins of imports from that region, Mauritius and Botswana join the list in the 1990s and 2000s respectively. In the case of Botswana, however, this is simply due to changes in the way in which trade flows are recorded in the UN COM trade database. Prior to 2000, data on trade flows for Botswana are not recorded individually as part of the Southern African Customs Union.

Figure 12 - Geographic origin of EU9 imports (excl. fuel) from Non-LDCs, 1973-2012



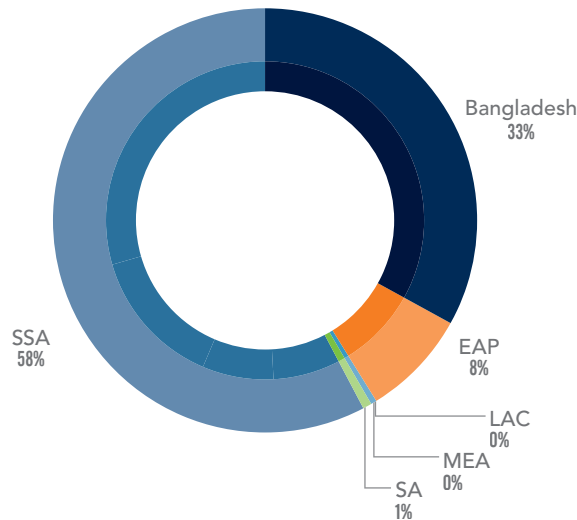
Note: See Table A.7 in the appendix for a list of countries in each region.

Source: Copenhagen Economics using data from UN Comtrade.

1.8 Regional trends in EU imports from LDCs

In 2012 the origin of imports from the LDCs was concentrated around Sub-Saharan Africa from which 58% of EU27 imports of goods from LDCs originated in that year, reflecting the fact that 32 of the 48 Least developed countries are located in Sub-Saharan Africa.

Figure 13 - EU27 imports from LDCs by region, 2012



Note: SSA= Sub-Saharan Africa, EAP = East Asia and Pacific, ECA = Eastern Europe and Central Asia, LAC = Latin America and Caribbean, MEA = Middle East and North Africa, SA = South Asia. See table A.7 in Appendix A for a list of developing countries in each region.

Source: Copenhagen Economics using data from UN Comtrade.

Within that region²⁹, imports were again concentrated around Angola (34%) and Equatorial Guinea (25%), for both of which imports were centred on petroleum and petroleum products, comprising 91% of imports from Angola and 90% from Equatorial Guinea. Other products from these countries include gas products³⁰, non-metallic mineral manufactures and chemical elements and compounds³¹.

Other fuel exporters from this region include Liberia, Niger, Togo, Senegal and the Democratic Republic of Congo. However, in no case do fuels dominate imports. Main imports from Liberia comprise transport equipment (42%), while imports from Niger is concentrated around chemical elements and compounds (91%). Togo exports mainly coffee, tea, cocoa, spices and associated manufactured goods and crude fertilizers and minerals³².

Finally, imports from Senegal are made up mainly of fish and fruit and vegetables,³³ while imports from the Democratic Republic of Congo is largely comprised of metals and minerals.³⁴

Outside of the region of Sub-Saharan Africa, Bangladesh is the main source of imports from LDCs. In 2012 Bangladesh alone comprised 33% of total EU27 imports from LDCs, with the main product being clothing, which comprised 91% of total imports from that country. Imports from other South Asian countries made up only 1% of EU27 imports from LDCs, from where 38% originated in the Maldives and 21% in Afghanistan. From the Maldives, 99% of imports comprised Fish and Fish preparations, while close to a quarter of imports from Afghanistan consists of undressed hides, skins and furs.

29— This group consists of 32 countries

30— This comprise 2% of imports from Angola and 3% of imports from Equatorial Guinea.

31— Non-metallic mineral manufactures comprise 6% of imports from Angola, while chemical elements and compounds comprise 4% of imports from Equatorial Guinea.

32— Coffee, tea, cocoa, spices and manufactures thereof comprise 42% of imports from Togo, while fertilizers and crude minerals make up 23%. In comparison petroleum comprises 15%.

33— Fish and fish preparations comprise 49% of imports from Senegal, while fruit and Vegetables comprise 18%. In comparison petroleum comprises only 4%.

34— 48% of imports from the Democratic Republic of Congo is comprised of non-ferrous metals, while nonmetallic mineral manufactures make up an addition 25%. In comparison petroleum and gas product comprise only 5%.

Finally, imports from East Asia and Pacific³⁵ were concentrated around Cambodia (82%), from where the main product imported was also clothing.

The top 10 country origins of EU27 imports from LDCs are displayed in Table 6. Collectively these 10 countries account for 87% of imports from LDCs. Compared to Non-LDCs, imports from LDCs are thus more concentrated in terms of origin.

Table 6 - EU imports (bill. Euro) from LDCs by region, 2012

Country	Imports (bill. Euro)	share from LDCs	Largest product	share	second largest product	share
Bangladesh	11.7	33%	Clothing	91%	Textile yarn and fabrics	3%
Angola	6.9	20%	Petroleum	91%	Gas	2%
Eq. Guinea	5.2	15%	Petroleum	90%	Chemical elements	4%
Cambodia	2.4	7%	Clothing	73%	Footwear	15%
Mozambique	1.4	4%	Non-ferrous metals	73%	Sugar	8%
Congo, Dem. Rep.	0.7	2%	Non-ferrous metals	48%	Non-metallic mineral man.	25%
Ethiopia	0.6	2%	Coffee, tea, cocoa, spices	51%	Crude animal and veg. material	25%
Madagascar	0.6	2%	Clothing	43%	Fish	22%
Mauritania	0.6	2%	Metalliferous ores and metal scrap	73%	Fish	23%
Tanzania	0.5	1%	Tobacco	30%	Fish	18%
Total	30.7	87%				

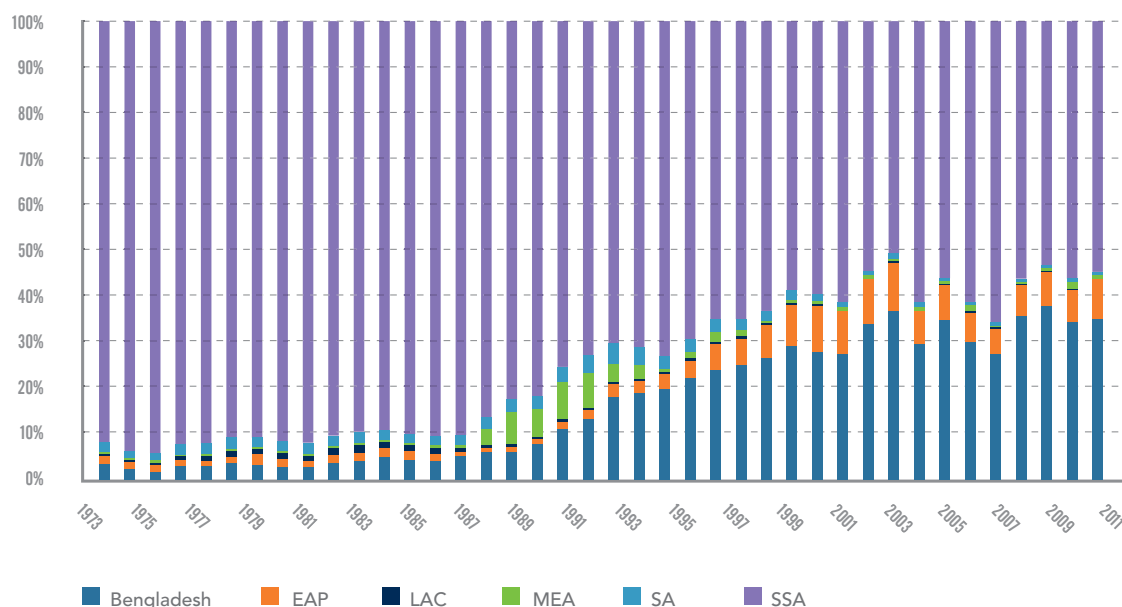
Developments over time

The regional distribution of imports from LDCs has been affected mainly by the increasing importance of Bangladesh, cf. Figure 14. Until the early 1990s, this was not a major source of imports, but has since accounted for an increasing share of EU9 imports from LDCs, comprising 35% of total imports from LDCs in 2012 and 49% if excluding fuels, cf. Figure 15.

Reflecting the large number of LDCs located in Sub-Saharan Africa, this has been the dominant source of imports from LDCs throughout the period, with 92% of EU9 imports originated from that region in 1973 compared to the 55% in 2012, cf. Figure 14. However, at least for the 2000s period this is largely due to fuel imports. Excluding fuels, the share of imports originating in that region still stands at 92% in 1972 but reduces to 37% in 2012, cf. Figure 15.

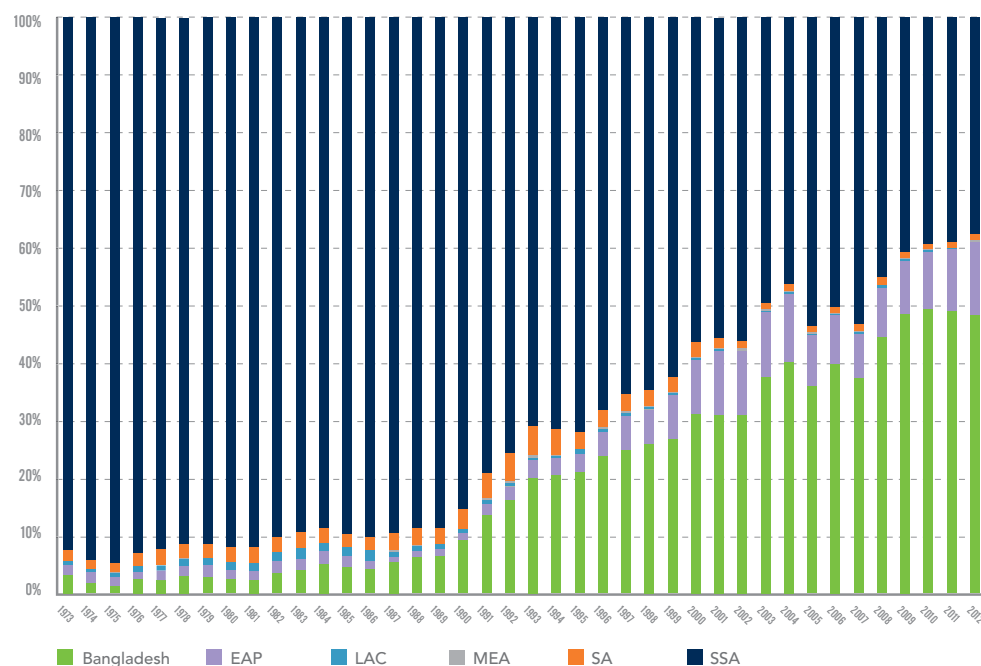
Imports from East Asia and the Pacific have increased from 2% in 1973 to 10% in 2001, with some variation in the 2000s, ending at 9% in 2012 (12% if excluding fuels).

35— This group consists of nine countries.

Figure 14 - Geographic origin of EU9 imports from LDCs over the period 1973-2012


Note: See Table A.7 in the appendix for a list of countries in each region.

Source: Copenhagen Economics

Figure 15 - Geographic origin of EU9 imports (excl. fuel) from LDCs over the period 1973-2012


Note: See Table A.7 in the appendix for a list of countries in each region.

Source: Copenhagen Economics

As in the case for Non-LDCs, Table A.9 in the appendix contains the top five individual country origins in each region by decade. In the case of East Asia and Pacific, significant changes in the ranking of the top five origins are seen in the 1990s and 2000s. Cambodia emerges

among the top five origins in the 1990s and is by far the largest origin of imports from LDCs in the 2000, accounting alone for 64% of regional imports in that decade. Similarly, Laos and Tuvalu join the list in the 1990s and 2000s respectively.

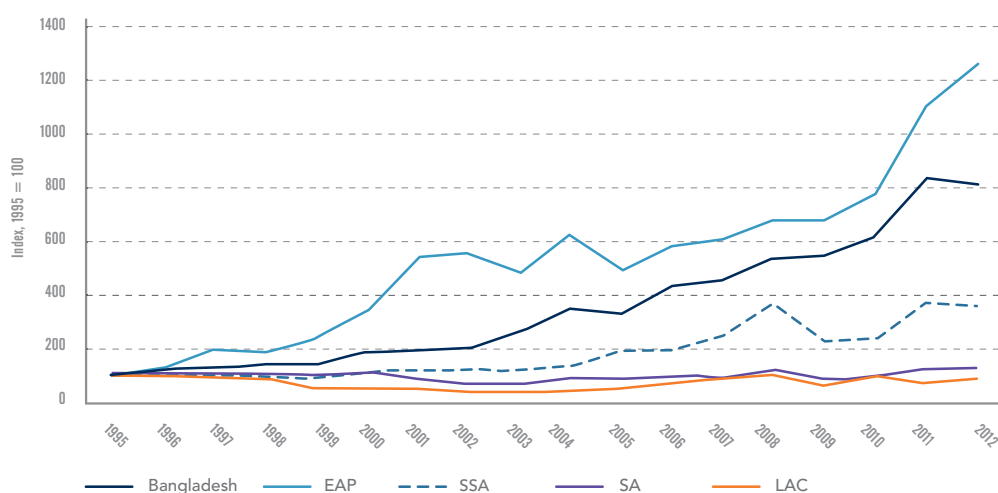
In the case of Sub-Saharan Africa, imports have remained extremely concentrated throughout all the decades. Of the 32 countries in the group, the top five countries have accounted for more than half of all imports from the region.

The most recent time period is especially interesting for the LDCs, as this is the period during which the Everything but Arms preferential scheme was introduced, granting the Least Developed Countries

complete duty free access to the EU market on all goods bar arms. Using the EU15 as our definition of the EU, we can look more closely at regional trends throughout the period 1995-2012.

The trend in aggregate imports from LDCs in each region is plotted in Figure 16. Imports from the region of East Asia and Pacific and from Bangladesh have grown relatively more than imports from other regions.

Figure 16 - Growth in the value of EU imports from LDCs by geographical region

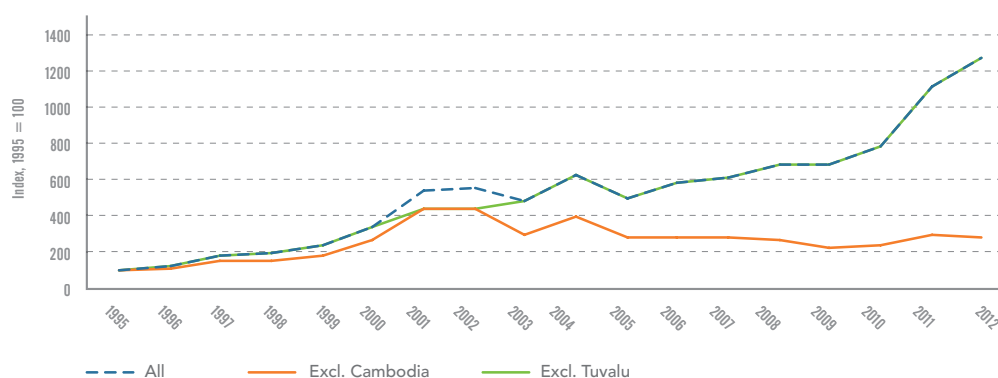


Source: Copenhagen Economics using data from UNCOM Trade.

A closer examination of the data for East Asia and Pacific reveal that the growth we see in imports from 2005 and onwards is due to imports from Cambodia, cf. Figure 17. Clothing is by far the main import from both Cambodia and Bangladesh and the visible increase in growth rates of EU imports from both countries in 2005, (cf. Figure 16)

coincide with the imposition of safeguards on some clothing categories from China.³⁶ The inverse u-shape occurring in the trend in imports from East Asia and Pacific is due to a large increases in manufacturing from Tuvalu in 2002 and 2003, mainly of clothing products, cf. Figure 17.

Figure 17 - Growth in the value of EU imports from East Asian and Pacific LDCs



Source: Copenhagen Economics using data from UNCOM Trade.

³⁶— Safeguards were placed on certain categories of clothing from China in response to a large surge in clothing imports from China, resulting from the removal of import quotas on these products in early 2005.

1.9 Trend in sector composition of EU imports from developing countries

In terms of the sector composition of EU imports from developing countries, manufacturing products comprise almost 60% of the total value, while fuels make up approximately a quarter. Agriculture makes up a comparatively small share of 12%, while the remaining 5% is made up of other imports, cf. Table 7. The sector composition of imports is furthermore almost identical across the different definitions of the EU.

Table 7 - Sector composition of imports from DCs, 2012

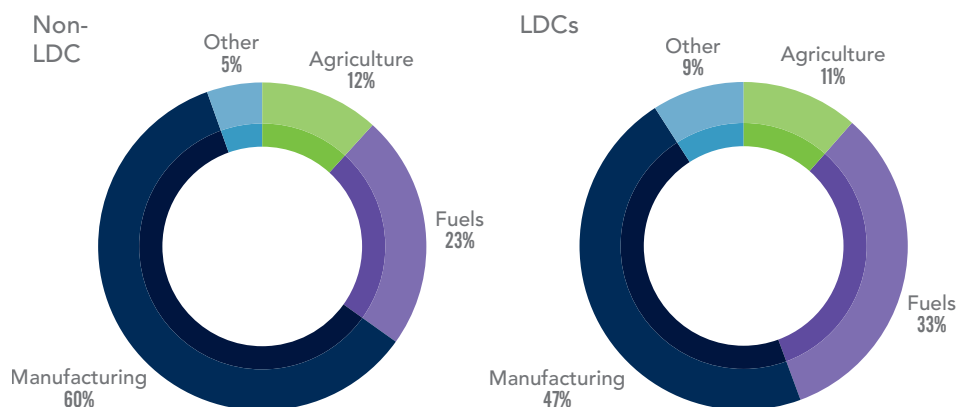
sector	EU27		EU15		EU9	
	Euro (billion)	Share	Euro (billion)	Share	Euro (billion)	Share
agriculture	99	12%	91	12%	74	12%
fuels	203	24%	194	25%	136	21%
manufacturing	511	59%	451	58%	389	61%
other	47	5%	43	6%	36	6%

Note: Table A.9 in the appendix contain specific products included in each sector.
Source: Copenhagen Economics using data from UN Comtrade.

However, a comparison between the composition of imports from Non-LDCs and LDCs, reveals some differences. While the share of agriculture is almost identical between the two groups, manufacturing makes up 60% of imports from Non-LDCs compared to 47% from LDCs, cf. Figure 15. However, in both cases the relatively large share of manufacturing is driven primarily by China and Bangladesh respectively. Excluding both of these countries reduces the share of manufacturing to 36% for Non-LDCs and 22% for LDCs.

Fuel imports account for a relatively larger share of imports from LDCs than Non-LDCs, with fuel comprising 33% of total EU27 imports from LDCs in 2012. However, this is driven by a small number of individual countries, as only 11 of the current 49 LDCs export fuels to the EU. Among these few countries, fuel imports account for a very large share of EU imports for a handful of countries, with 93% of the total value of imports from both Angola and Equatorial Guinea being attributed to fuels.³⁷

Figure 18 Sector composition in EU27 imports by LDCs status, 2012



Source: Copenhagen Economics using data from UNCOM Trade

³⁷— The 11 LDCs which exports fuels to the EU27 in 2012 further include Yemen (69%, consisting of petroleum products), Kiribati (52%, consisting of gas, natural and manufactured), Liberia (20%, mainly crude and partly defined petroleum), Togo (15%, consisting of petroleum products), Niger (7%, consisting mainly of crude and partly refined petroleum), Democratic republic of Congo (7%, consisting of petroleum products and gas), Senegal (4%, consisting of petroleum products), Myanmar (4%, consisting of petroleum products) and Mozambique (2%, consisting mainly of coal, coke and briquettes), where the percentage figure in parentheses is the share of total EU imports from a given country, comprised by fuels.

In order to see the distribution of imports from Non-LDCs and LDCs on a more disaggregated level than the sectors included in Figure 18, Table A.10 and Table A.11 in the appendix contain the distribution across products at the 2-digit level for each group as well the euro value of EU27 imports of each product from each group in 2012. The main conclusion drawn from a comparison of these tables is that imports from the LDC group are concentrated around fewer products than is the case for Non-LDCs. Clothing alone accounts for 37% of imports from LDCs, compared to 4.5% of imports from Non-LDCs.

In order to break down further which products are the main imports in agriculture and manufacturing across regions, Table A12 and Table A13 show the top five products in each of these sectors across regions and LDC status for 2012. For the Non-LDCs Fruit and vegetables are among the top agricultural imports from all regions except Eastern Europe and Central Asia and the East Asia and Pacific, from where vegetables

oils and fats are relatively important. Manufacturing machinery, whether electrical or not, is among the top products in all regions except South Asia, where clothing is the top product, accounting for a quarter of manufactured imports. From Sub-Saharan Africa non-metallic and mineral manufactures are especially important comprising 35% of manufactured imports.

In the case of the LDCs especially important agricultural products are fish and fish preparations as well as coffee, tea, cocoa and spices. For manufactured goods, clothing is the single largest import from all regions except the Middle East and North Africa and Sub-Saharan Africa. From the latter, non-metallic mineral manufactures accounts for the largest share, comprising 40% of manufacturing imports.

Compared to the Non-LDCs, manufacturing imports from the LDCs are focused towards relatively low value added products, such as clothing, which is a highly labour intensive product.

1.10 Developments over time for Non-LDCs

In order to look at developments over time, Table 8 shows the regional median share of imports by sector out of total decade imports from individual countries in each region.³⁸

A general picture emerges showing that the share of agricultural products in EU imports from Non-LDCs has been decreasing throughout the period across all regions, while the share of manufacturing imports has been increasing. While this will undoubtedly reflect an underlying industrialisation process in these countries, it should be noted that imports are measured in value and the move towards a higher share of manufacturing may therefore also partly reflect increasing price differences between agricultural and manufacturing products.

However, there are clear exceptions to this general pattern within individual regions. Among the East Asian and Pacific countries Papua New Guinea and Fiji stand out.

Papua New Guinea is an ACP country and signatory to the Lomé II convention from 1979. Throughout the last four decades, agriculture has become increasingly dominant in EU imports from Papua New Guinea, increasing from 48% in the 1970s to 84% in the 2000s.³⁹

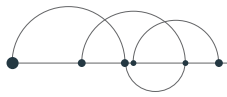
In terms of specific product groups, agricultural imports from Papua New Guinea have been almost exclusively comprised *coffee, tea, cocoa and spices* and fixed *vegetable oils and fats*. As noted in Chapter 1, the Lomé conventions gave special preference margins to specific processed categories of cocoa and for vegetable oils, for which the GSP rates were significantly higher.

Imports from Fiji have remained almost exclusively agricultural products throughout the time period, of which *sugar and sugar preparations* have been the single most dominant product group accounting for 85% of EU agricultural imports from Fiji in the 1970s and 93% in the 2000s. Fiji was a signatory of the first Lomé convention from 1975 and is, as the only Pacific country, a beneficiary of the sugar protocol enacted under the first Lomé agreement and incorporated into the Cotonou Agreement.

In Latin America and the Caribbean, Belize (Lomé III 1984) and Jamaica (Lomé I, 1975) both benefit from the sugar and banana protocols, with Jamaica also benefitting from the Rum protocol.

38— Tables A.14 – A.19 in the Appendix contain further summary statistics including the mean and the min and max of the sector share in total decade imports by region and decade.

39— There has only been a slight increase in the share of manufacturing in EU imports from Papua New Guinea, increasing from 0.2% in the 1970s to 2% in the 2000s. However a drastic decrease is the share of other products, especially metalliferous ores and metal scrap and Non-ferrous metals is notable.


Table 8 - Median sector share in total decade imports by region (non-LDCs)

Decade	Region	Agriculture	fuels	manufacturing	Other
1970s	EPA	69%	0%	18%	3%
1980s	EPA	54%	0%	34%	5%
1990s	EPA	22%	0%	56%	1%
2000s	EPA	24%	0%	62%	6%
1970s	ECA				
1980s	ECA				
1990s	ECA	17%	3%	23%	10%
2000s	ECA	14%	11%	31%	7%
1970s	LAC	74%	0%	7%	2%
1980s	LAC	77%	0%	7%	1%
1990s	LAC	75%	0%	13%	2%
2000s	LAC	50%	0%	19%	2%
1970s	MEA	10%	71%	8%	2%
1980s	MEA	7%	80%	8%	4%
1990s	MEA	9%	52%	33%	4%
2000s	MEA	6%	31%	36%	3%
1970s	SA	33%	2%	59%	2%
1980s	SA	22%	2%	72%	2%
1990s	SA	13%	0%	83%	1%
2000s	SA	9%	0%	89%	2%
1970s	SSA	54%	1%	7%	7%
1980s	SSA	53%	2%	10%	4%
1990s	SSA	46%	1%	12%	2%
2000s	SSA	46%	3%	12%	5%

Note: EU9 used in 1970s, 1980s and 1990s. EU15 used in 2000s.

Source: Copenhagen Economics using data from UNCOM Trade.

EU imports from Belize have comprised almost exclusively agriculture and within that category almost exclusively sugar and sugar preparations and fruit and vegetables throughout the 1970s, 1980s and 1990s during which agriculture comprised more than 90% of total EU imports from Belize. In the 2000s this has fallen to 86% with manufacturing accounting for most of the remaining share.

Despite the advantageous access to the EU market afforded to Jamaica for sugar, bananas and rum, agriculture comprised only 29% of EU imports from Jamaica in the 2000s compared to 59% in the 1970s, with the remaining shares made up almost exclusively by manufacturing products (chemical elements and compounds). In term of specific goods, Jamaican agricultural exports reflect the preferential access afforded, and consists almost exclusively of sugar and sugar preparations, fruit and vegetables and beverage.⁴⁰

From the region of Sub-Saharan Africa, all Non-LDCs are ACP countries and a number have also benefitted

from the various commodity protocols, reflected in the composition of their agricultural exports to the EU. Cases in point are Botswana (beneficiary of the beef/veal protocol), whose agricultural exports to the EU15 in the 2000s consisted of 99% Meat and meat preparations, Mauritius (beneficiary of sugar protocol) whose agriculture exports to the EU was 97% sugar in the 1970s compared to 64% in the 2000s.

An interesting case in Sub-Saharan Africa is Zimbabwe, which is a signatory to the Lomé III convention from 1984. In the 1970s, 88% of EU imports from Zimbabwe (Rhodesia at the time) were made up by non-agricultural and non-manufacturing products, of which the products group crude fertilizers and crude minerals accounted for 49%. In the 1980s when Zimbabwe gained independence and became a signatory to the Lomé III (1984), agriculture became the dominant EU import accounting for 51% of total imports in the 1980s and rising to 58% in 2000s, of which tobacco has been the dominant product.

1.11 Developments over time for LDCs

For the group of LDCs, we see a similar decrease in the share of agricultural products in the value of EU imports from all regions over the last four decades, accompanied by an increase in the share of manufacturing products, cf. Table 9⁴¹.

However, as in the case of the Non-LDCs, exceptions to this are also plentiful for the LDCs. Among the countries for which EU imports have remained highly concentrated around agricultural goods are the Solomon Islands located in the region of East Asia and the Pacific, the Maldives located in South Asia, and a number of Sub-Saharan countries including Malawi, Rwanda, Togo, Uganda, Tanzania, Guinea Bissau, The Gambia, Ethiopia and Burundi, for all of whom agricultural products account for more than 80% of EU imports. Furthermore within the agricultural sector imports from the majority

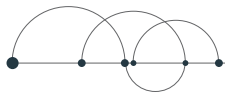
of these countries have been and remain concentrated around one or two product groups. For instance, in the case of the Maldives, for whom the agricultural sector accounted for 88% of EU imports in the 2000s (compared to 30% in 1970s), fish and fish preparations accounted for 100% of EU imports of agricultural products in the 2000s up from 61% in the 1970s.

Similarly, coffee, tea, cocoa and spices has remained the main agricultural product group imported from Rwanda, Togo, and Burundi, while agricultural imports from Uganda has broadened from being mainly coffee, tea, cocoa and spices (83% in 1990s, compared to 47% in 2000s) to also include a relative large share of fish and fish preparations as well as crude animal and vegetable material⁴².

40— In the 2000s, sugar products accounted for 52% of agricultural imports from Jamaica, compared to 19% for fruit and vegetables and 18% for beverages. In comparison the respective share in the 1970s were 51% 32% 10%.

41— Tables A.20-A.23 in the Appendix contain further summary statistics including the mean and the min and max of the sector share in total decade imports by region and decade.

42— Fish and fish preparations accounted for 28% of EU imports from Uganda in the 2000s, while crude animal and vegetable material made up 13%.


Table 9 - Median sector shares in total decade imports by region (LDCs)

Decade	Region	Agriculture	fuels	manufacturing	Other
1970s	Bangladesh	46%	w4%	50%	0%
1980s	Bangladesh	27%	1%	72%	0%
1990s	Bangladesh	8%	0%	92%	0%
2000s	Bangladesh	4%	0%	96%	0%
1970s	EAP	80%	0%	11%	2%
1980s	EAP	74%	0%	9%	3%
1990s	EAP	56%	0%	43%	1%
2000s	EAP	35%	0%	61%	1%
1970s	LAC	84%	-	15%	1%
1980s	LAC	80%	1%	19%	0%
1990s	LAC	67%	0%	32%	1%
2000s	LAC	30%	0%	69%	1%
1970s	MEA	44%	12%	40%	4%
1980s	MEA	21%	49%	27%	3%
1990s	MEA	16%	49%	22%	13%
2000s	MEA	32%	41%	19%	8%
1970s	SA	55%	0%	44%	1%
1980s	SA	34%	0%	56%	1%
1990s	SA	29%	0%	62%	0%
2000s	SA	35%	0%	58%	3%
1970s	SSA	80%	0%	3%	8%
1980s	SSA	77%	1%	7%	3%
1990s	SSA	63%	0%	20%	2%
2000s	SSA	49%	0%	12%	2%

Note: EU9 used in 1970s, 1980s and 1990s. EU15 used in 2000s.

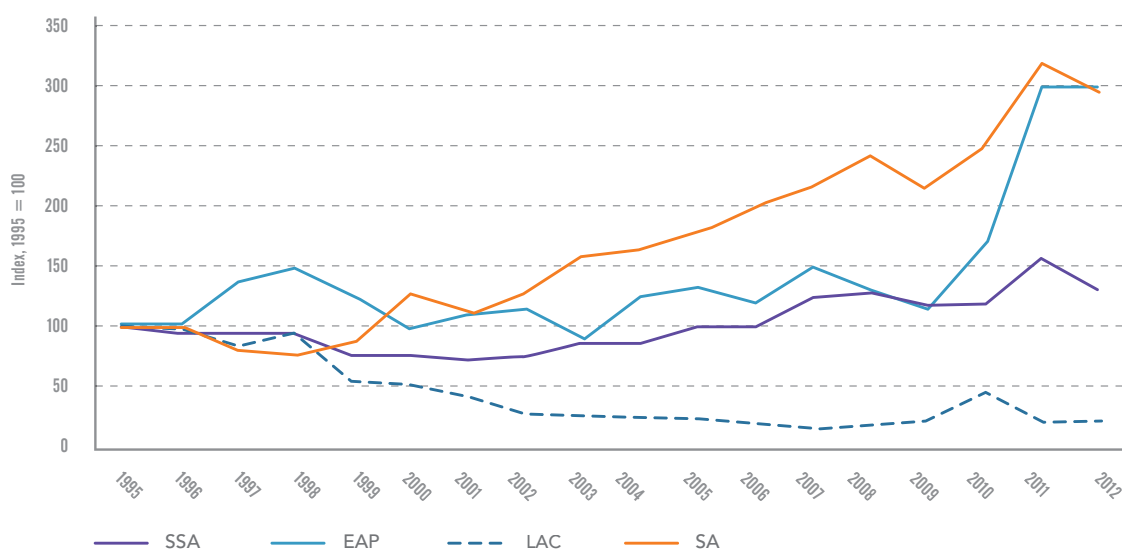
Source: Copenhagen Economics using data from UNCOM Trade.

In terms of trade regimes, the EBA is particularly interesting with respect to agriculture, as this is the sector that was mostly affected by the introduction of the scheme. As noted in the first part of this chapter, the majority of tariff lines affected were for agricultural products, and especially those covered by the EU's Common Agricultural Policy (CAP). In Figure 19, we therefore look closer at the growth of agricultural products from the LDCs over the period in which the EBA was introduced. The figure reveals a steep increase in agricultural imports from East Asia and Pacific in

2009. A closer look at the data reveals that this is in large part due to Cambodia, from which agricultural imports increased three-fold between 2009 and 2010. Excluding Cambodia from the regional trend, also reduces the increase around 2009 significantly, cf. Figure 20.

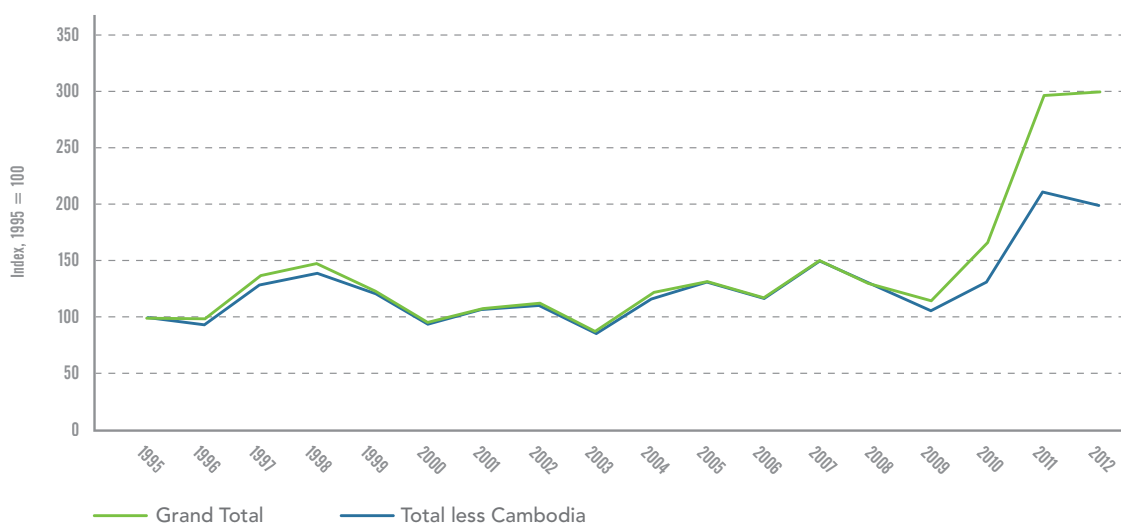
Interestingly, the increase in agricultural products from Cambodia was partly driven by extreme increases in sugar imports of almost 50 times in 2010 compared to 2009. This coincides with the liberalisation of sugar under the EBA in July 2009.

Figure 19 - Trend in EU15 imports of agriculture from LDCs, 1995-2012



Source: Copenhagen Economics using data from UNCOM Trade.

Figure 20 - Trend in EU15 imports of agriculture from EAP



Source: Copenhagen Economics using data from UNCOM Trade.

1.12 FDI

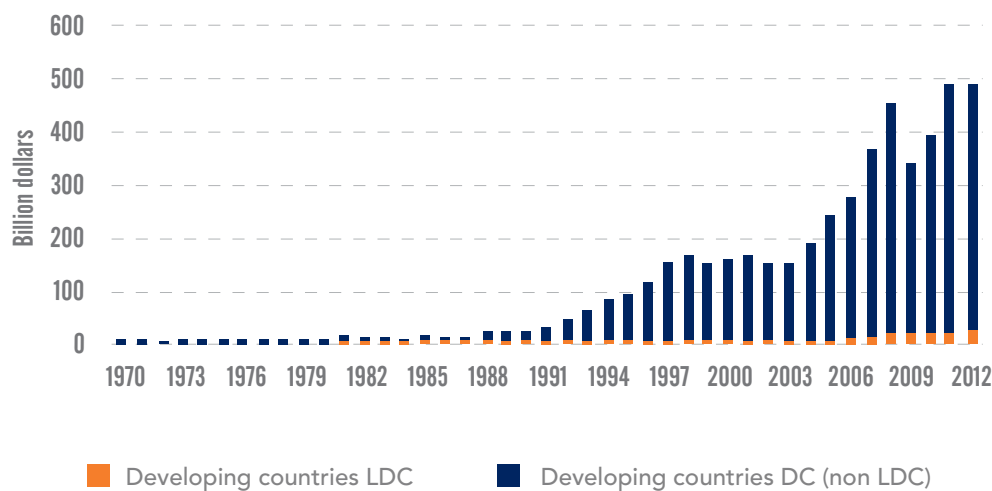
Revisions of trade regimes may not only affect trade flows. When a country becomes eligible to export on favourable conditions to a major market, such as the EU, it can make the country a more attractive location for foreign direct investment (FDI). For instance, if the quotas or tariffs faced by a signatory country were lowered, then not only would we expect the country to export more, we would also expect companies from other countries (including from the EU) to take advantage of the lower duties by investing in the productive capability of the signatory country, reaping some of the benefits of the lower duties. In effect, signatory countries may become gateways for foreign intermediate goods and expertise. Similarly, if the rules of origin faced by a signatory country become more lax as the result of a new trade regime, then the signatory countries may simply serve as points of entry to the EU market for what is in essence goods produced in other foreign countries than the signatory country. Foreign direct investment may follow.

The question, of course, is how much the signatory

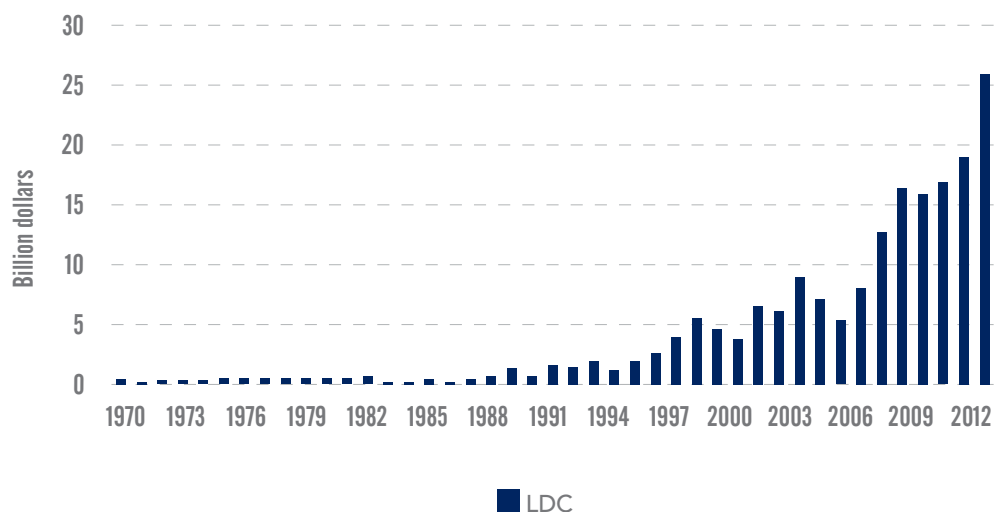
countries benefit from this FDI. The impact on economic development depends on the extent to which foreign companies set up shop in enclaves, with knowledge and productive capability never spreading to the domestic sectors of the economy. Oil production in the desert or at sea could be a case in point here. On the other hand, apparel production is often labour intensive and involves the local population, and more capital-intensive textile production may follow. A second question related to the benefits of foreign direct investment is how footloose the investments are, that is, to what extent are they reversible. A more permanent presence of foreign-owned production is more likely to spur development.

Over the past 40 years there has been an explosive growth in FDI to the developing and least developed countries. In this period, the share for the LDCs in the FDI to DCs has been minuscule and roughly constant at round 5%. Two waves of FDI can be discerned, one during the 1990s, and one from 2004 to 2008. Outside of these two periods, the total FDI was relatively flat, cf. Figure 21 and Figure 22.

Figure 21 - FDI Flows to Developing Countries

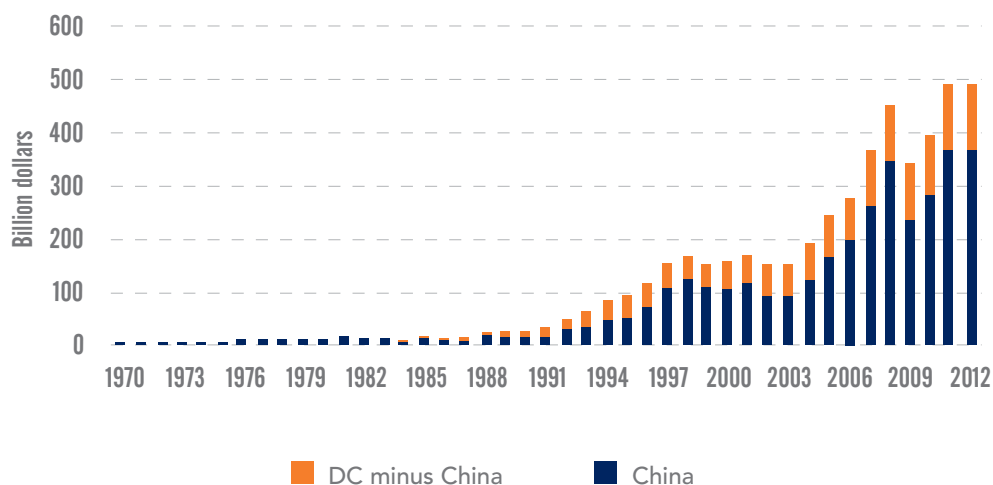


Source: UNCTAD data.

Figure 22 - FDI Flows to the Least Developed Countries


Source: UNCTAD data.

Naturally, many events other than trade agreements shape FDI flows. For instance, the liberalisation of the capital account from the end of the 1980s and 1990s⁴³ or the inclusion of China in the WTO. Thus, it would not be correct to exclusively attribute the developments in FDI to changes in the trade regimes between the EU and signatory countries. However, in the specific case of China it is actually fairly clear that its accession is not driving the pattern, cf. Figure 23.

Figure 23 - FDI flows to Developing countries with China shown


Source: UNCTAD data.

43— OECD (2002), "Forty Years' Experience with the OECD Code of Liberalisation of Capital Movements".

Data challenges with respect to FDI in developing countries

Country-level data on the total stock of inward FDI over a 40 year time period is not available, and even for shorter and more recent time periods, country-level data is sparse for the majority of the developing countries in this study. Data for EU-originating FDI in the developing countries is also sparse as is detailed data for other main origin sources (e.g. the US). In order to provide more detailed analyses, we have to be satisfied with data for selected countries where data is in fact available. This analysis is presented in the following using a combination of OECD, UNCTAD and Eurostat data.

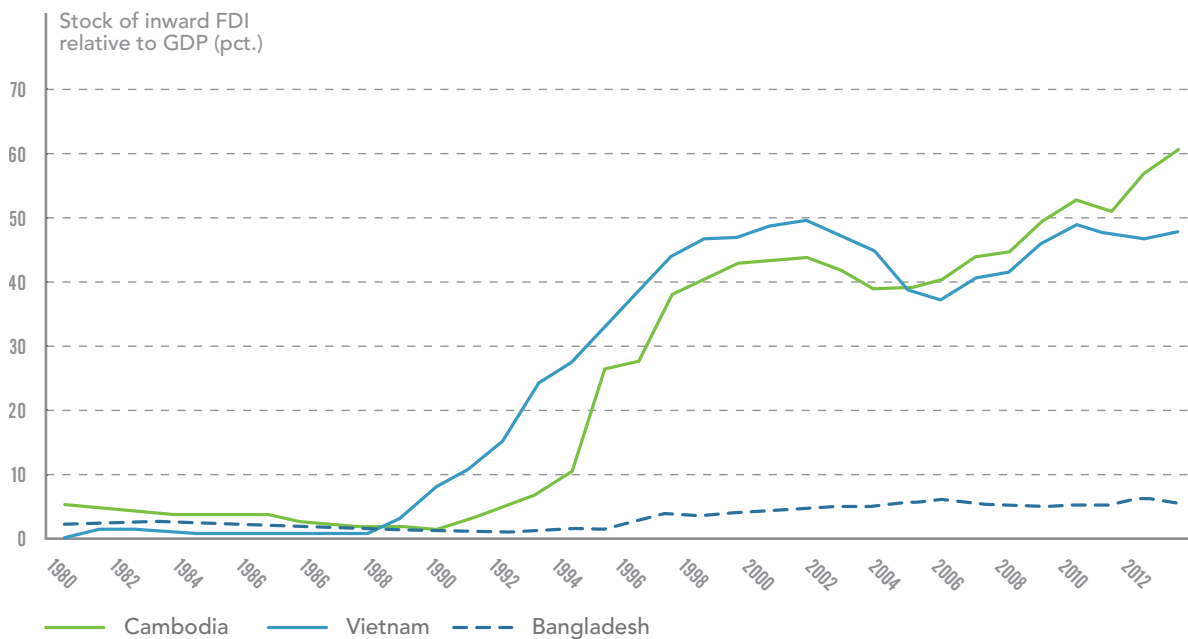
As shown in previous sections of this chapter, a few countries stand out as having experienced a particularly strong increase in their exports to the EU over the long time period being analysed, namely countries including Bangladesh, Cambodia and Vietnam. Therefore, our first FDI analysis takes these three countries as point of

the departure, and investigates the hypothesis that in parallel with the increase in exports to the EU there has also been an increase in inwards FDI into these countries and investigate whether there are any data suggesting that EU investment into these countries has increased over the period.

The first point to note is that there is no data available for total EU investment in these countries over time, nor for EU15 investment in these countries.

Based on UNCTAD data for the total inward stock of FDI, we see a notable difference, namely that while FDI has taken a significant role in the economies of Cambodia and Vietnam starting around 1990, there is only a limited increase in FDI into Bangladesh when seen relative to GDP. Both Cambodia and Vietnam have seen an explosion over just a decade with inward FDI increasing from a ratio to GDP below 5% to a ratio of 40-50%, cf. figure 24.

Figure 24 Stock of inward FDI in selected countries 1980-2012



Note: Stock of FDI from all origins relative to GDP in recipient country (in percent).

Source: CE analysis based on data from UNCTAD

Detailed data on the composition of FDI in Cambodia based on the origin of FDI is limited. According to data from the Council for Development of Cambodia (CDC), 1.95% of the total registered FDIs came from Europe in 2012, compared with 44.8% from Asian countries. So while FDI has increased markedly relative to the size of the Cambodian economy since the early 1990s, the very limited data available on the European share of that FDI does not indicate a large European share of FDI in Cambodia.

Vietnam experienced a similar increase in FDI relative to the size of its economy, and the FDI boom started a few years earlier than in Cambodia, namely around 1990, and inward investment is now close to 50% relative to the size of GDP. The EU is one of the largest foreign investors in Vietnam. In 2013, EU investors committed a total US\$656 billion in FDI and thus remain Vietnam's sixth largest foreign investor's partner.⁴⁴ Although official statistics show that total committed FDI in 2013 was US\$656 million, it is believed that actual FDI inflow from the EU is much higher since most investments are made via multinational companies. In 2013, the EU was Vietnam's 6th largest investment partner, registering for 71 new projects according to the data of the Foreign Investment Agency. Other prominent FDI sources include South Korea (US\$3 752 million), ASEAN (US\$3 473 million), China (US\$2 276 million) and Japan (US\$1 295 million). In the year 2013, Vietnam's bilateral trade with the EU continued to grow compared to previous years. Exports of Vietnam-made products to the EU reached US\$24.4 billion. The EU28 is Vietnam's largest overseas market and the EU was the destination for as much as 19% of the country's global exports in 2013. The EU was the second largest trading partner of Vietnam after China.

Vietnam's exports to the EU benefit from the EU's Generalised System of Preferences (GSP). Furthermore, the reformed GSP scheme is expected to allow some new key Vietnamese export goods, such as footwear, as these products enjoy more preferential tariffs since 1 January 2014. In contrast to the EU, the US does not grant GSP benefits to Vietnam, and this makes the comparison between EU and US investment in Vietnam particularly interesting. However, as previously noted, there is no full data for the EU available. Based on the data available from the OECD (which provides the best data for EU-US comparisons), we find that just three countries in the EU combined (France, UK and the Netherlands) held a bigger stock in Vietnam than the

US, cf. figure 25. In fact, although the three EU countries (for which data is available) in combination are less than half the size of the US, their FDI stock in Vietnam is three times as large. This indicates that EU investment plays an important part in Vietnam, and we note that the EU is granting GSP benefits to Vietnam while the US does not. However, this does *not* prove that the EU FDI is driven by GSP. On the contrary, the large European investment in Vietnam might just as well be motivated and driven by other factors, e.g. to serve the growing Vietnamese market or countries in the region. We cannot conclude whether or not GSP preferences are driving EU investment upwards to a level over and above what it would have been without GSP benefits.

44— According to data provided by the EU representation in Vietnam. http://eeas.europa.eu/delegations/vietnam/eu_vietnam/trade_relation/index_en.htm

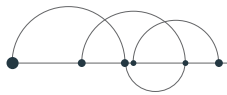
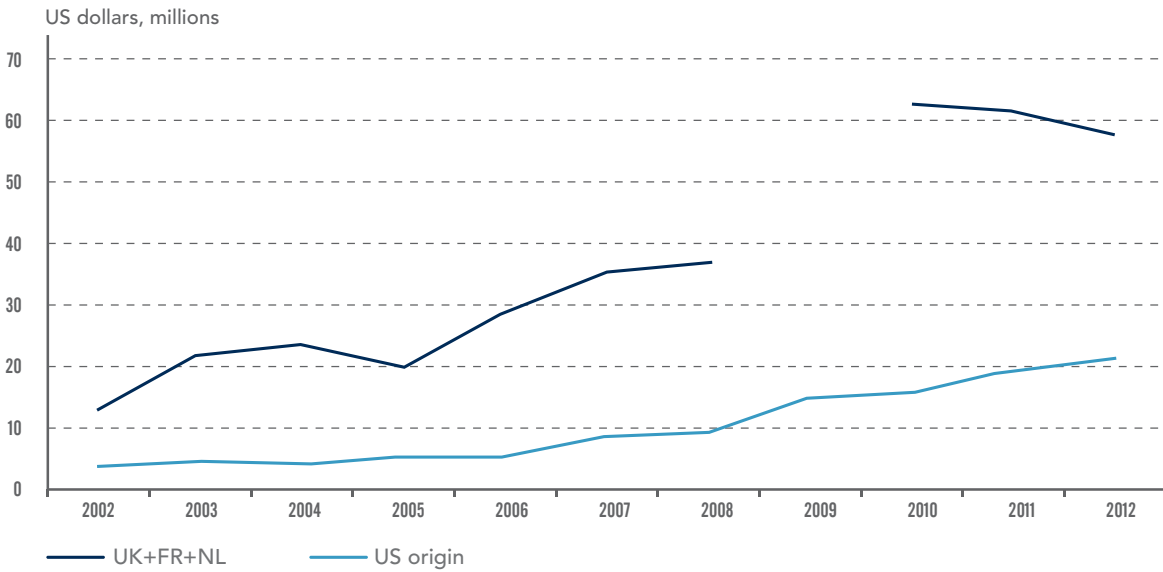


Figure 25 Stock of EU and US FDI in Vietnam, 2002-2012



Note: Stock of FDI from countries mentioned. Reported in US dollars, millions. Only UK, France and the Netherlands provide data for the period.

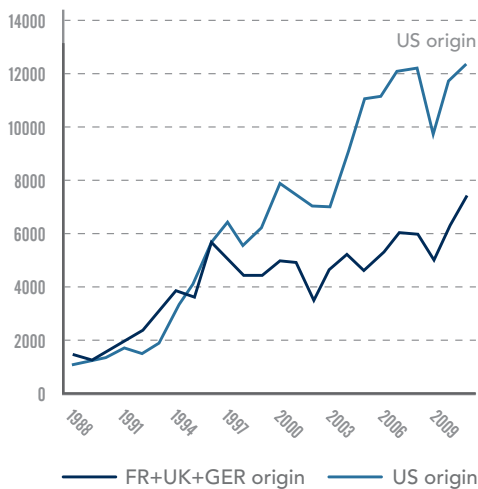
Source: CE analysis based on data from the OECD.

Similarly, we have also compared EU and US investment in Malaysia (to whom the EU has granted GSP benefits, while the US has not). And furthermore, we have compared EU and US investments in three other Asian markets where both the EU and the US grants GSP benefits, namely Indonesia, Philippines and Thailand. Three large EU countries (UK, France and Germany)

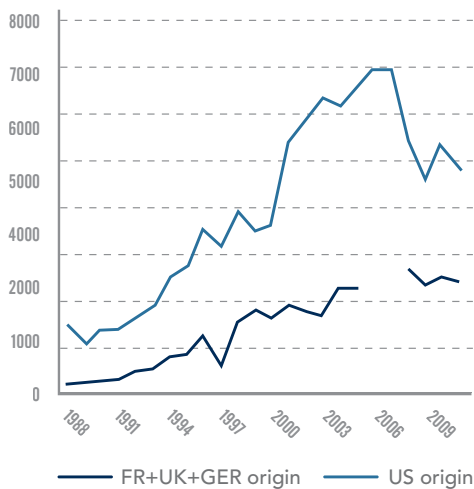
provides comparable data back to 1988. The economies (measured as GDP) of the three countries, UK, France and Germany, combined are about half the size of the US. Thus, all other things equal, we would expect FDI from the three EU countries to be roughly 50% of the US stock in the same country.

Figure 26 Stock of EU and US FDI in selected countries, 1988-2011

MALAYSIA (EU has GSP; US does not)

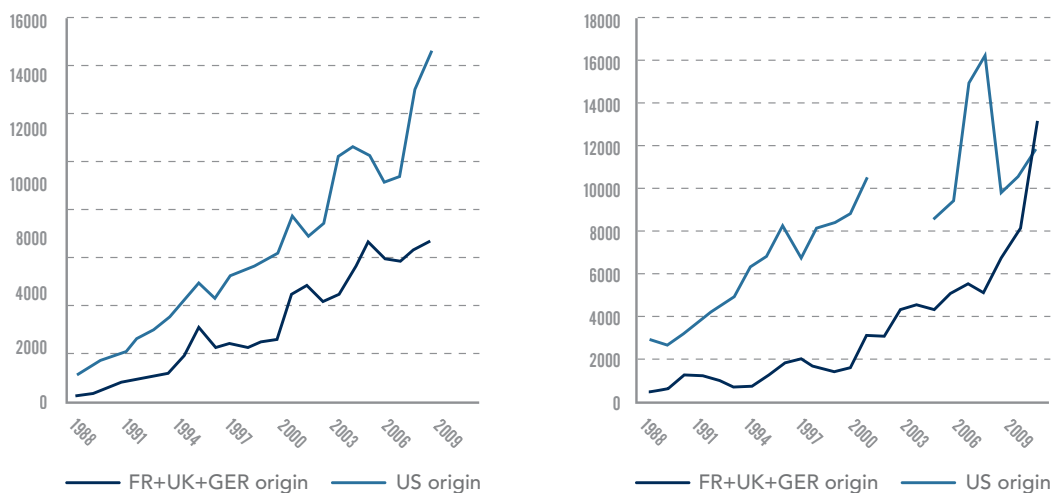


PHILIPPINES (both GSP)



Note: EU-3 is stock of FDI from UK, France and Germany. Reported in US dollars, millions.

Source: CE analysis based on data from the OECD.

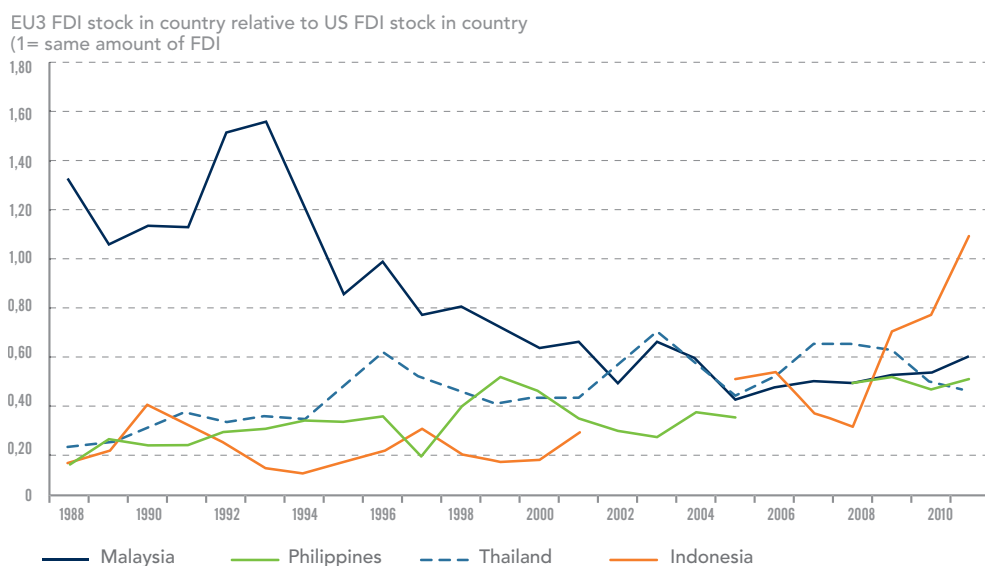


Note: EU-3 is stock of FDI from UK, France and Germany. Reported in US dollars, millions.
 Source: CE analysis based on data from the OECD.

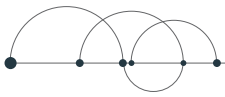
What we find, however, is that for Malaysia (to whom the EU grant GSP, while the US does not) the FDI stock of just three EU countries was comparable to that of the US in the beginning of the period, while a gap occurred in the mid 1990s between the US and EU investment. In the three other countries (to whom both the EU and US grant GSP), we find that the EU FDI stock is significantly below that of the US in the beginning of the period (ratio of 0.20), while the FDI stock of the three EU countries are

approaching the “benchmark level” of approximately a ratio of 0.50 (i.e. half of the US stock) towards the end of the period. The exception is Indonesia, where EU investment has increased rapidly since 2009. Again, this does not prove that GSP is driving FDI flows, and we note that the differences in EU and US investment patterns in Asia is influenced by a wide range of factors of which GSP is only one.

Figure 27 Stock of EU relative to US FDI in four Asian countries, 1988-2011



Note: EU-3 is stock of FDI from UK, France and Germany. Reported in US dollars, millions.
 Source: CE analysis based on data from the OECD.

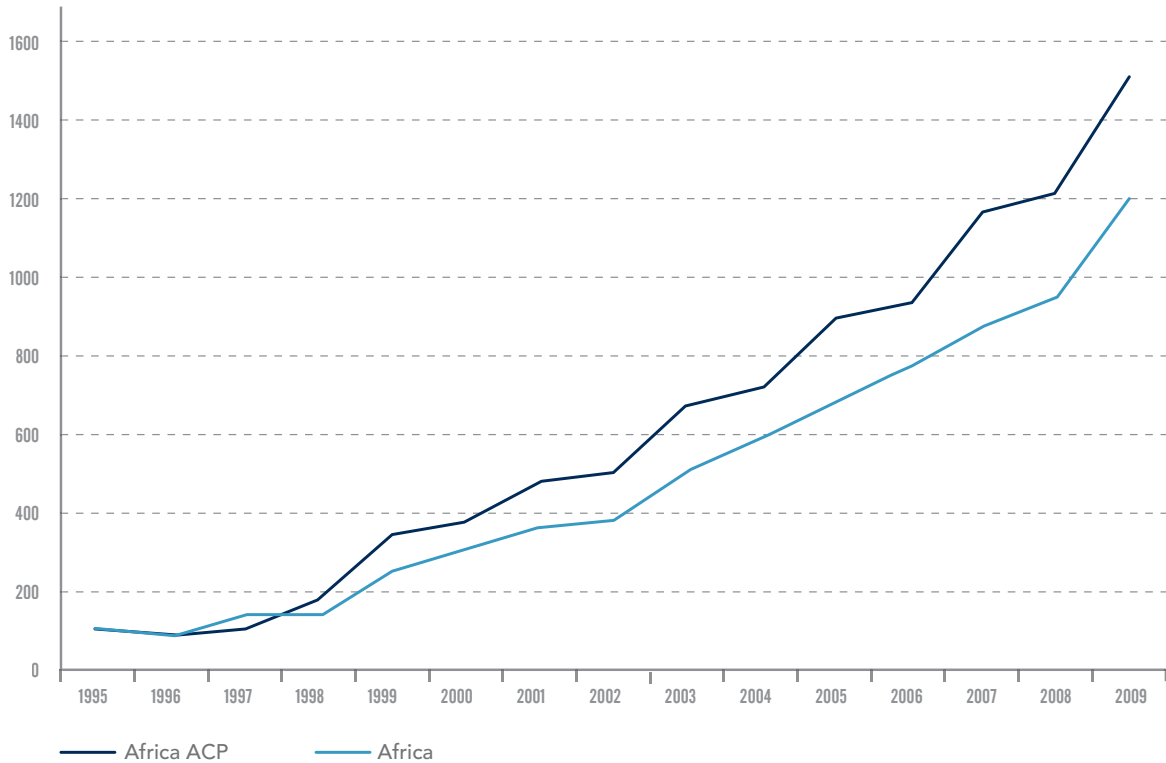


Turning to Africa, and using Eurostat data for the EU15 FDI stock, we find that the EU15 stock of FDI in the African ACP countries (who have been some of the longest beneficiaries of EU's trade preferences) has grown more than EU's total investment in Africa in the same period.

Again it should be noted that there are many other differences between the ACP countries in Africa and the other African nations, and the simple comparison does not prove that ACP related preferences are driving EU investment into this region.

Figure 28 Stock of EU FDI in Africa and African ACP, 1995-2009

EU-15 FDI stock in country group mentioned (index 1995=100)



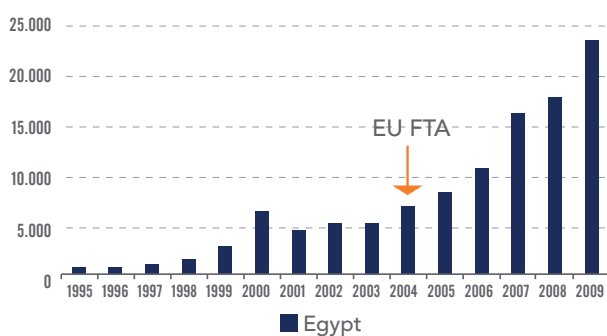
Note: EU-15 stock of FDI. Index with 1995 as base-year. Underlying data reported in euros, millions. Source: CE analysis based on data from the EUROSTAT.

Based on Eurostat data, we can also compare EU investments before and after the entering into force of the free trade agreements (FTA). However, Eurostat investment data are not available for all FTA partners.

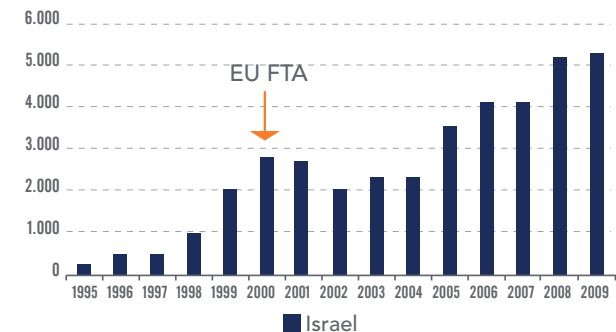
For the six FTA partners where data is available (1995-2009), we find no clear-cut evidence that FDI is surging immediately upon the entering into force of the FTA.

Figure 29 Stock of EU FDI in selected FTA partners, 1995-2009

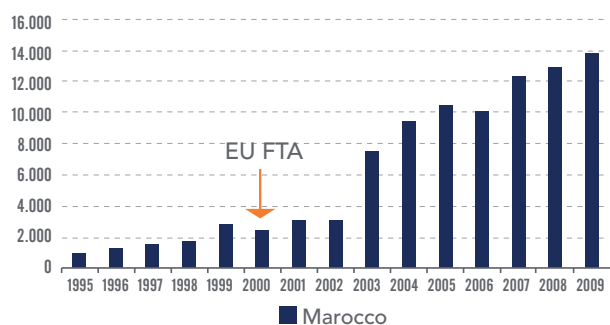
EU15 FDI stock (mio.euro)



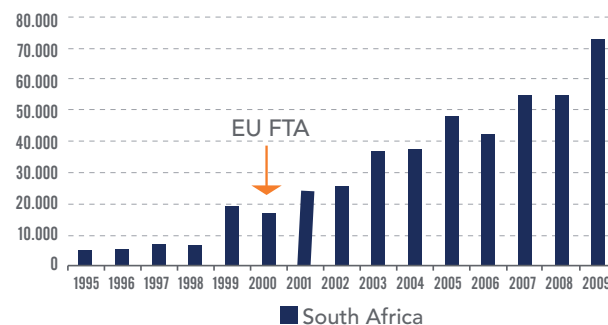
EU15 FDI stock (mio.euro)



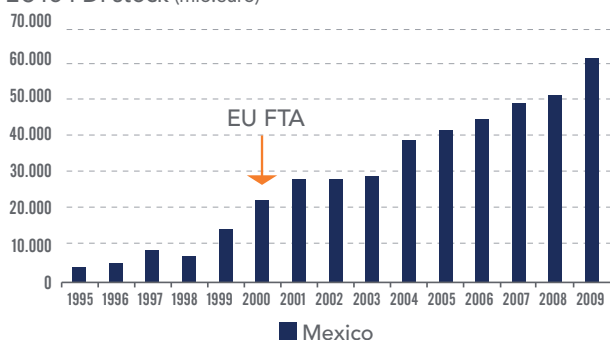
EU15 FDI stock (mio.euro)



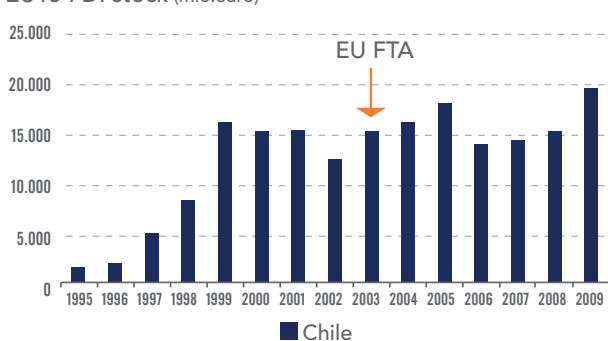
EU15 FDI stock (mio.euro)



EU15 FDI stock (mio.euro)



EU15 FDI stock (mio.euro)



Note: EU-15 stock of FDI. Reported in euros, millions.
Source: CE analysis based on data from the EUROSTAT.

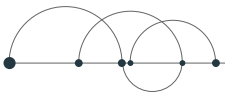
All in all, we find that there are some weak indications which supports the hypothesis that EU trade preferences has led to an increase in EU investment into the developing countries to whom preference area status is granted. However, the data available is too weak to support any strong conclusions about the possible causal relationship between EU preferences and EU investment in developing countries.

1.13 Conclusion

From the mapping of import flows from developing countries into the EU since 1973, the key findings indicate that imports from East Asia and the Pacific and South Asia have grown relatively more than from other regions. A comparison of imports from Non-LDCs and LDCs further reveal that imports from the latter group are significantly more concentrated in terms of both origin and sector composition. Clothing is an especially important manufacturing sector for the LDCs, accounting for 37% of total imports from this group in 2012.

Over time, imports from both groups and across regions show that the share of manufacturing products have increased while agricultural products have become less dominant.

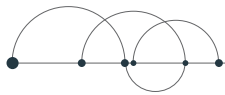
Linking the trends in imports to trade regimes in place, do not reveal any sudden changes in the trend of aggregate imports around the time in which preferences have been introduced. However, a closer analysis reveals that imports from a number of ACP countries benefitting from the commodity protocols have been focused around these products. Furthermore, the liberalisation of sugar under the EBA have been found to be associated with an increased growth of sugar especially from Cambodia.



Chapter 2



Changes in the EU trade policy regimes and developing countries' export performance



2.1 Introduction

A central aspect of the EU's trade policy towards developing countries, is the use of preferential trade regimes, under which exports from developing countries can be imported into the EU either duty free or at a reduced tariff rate. Preferences fall under two main umbrellas, consisting either of schemes that grant non-reciprocal preferential access to the EU market, and those which entail an element of reciprocity, i.e. where EU exports gain preferential access to developing countries' markets in return.

Non-reciprocal preferences include the General System of Preferences (GSP) under which goods from developing countries can be imported into the EU either duty free or at a reduced tariff rate. The GSP currently consists of three distinct preference schemes including the GSP General Arrangement open to most developing countries, the GSP+ offering enhanced preferences for certain vulnerable countries, and the Everything But Arms (EBA) offering duty free access on all products, with the exception of arms, from the Least Developed Countries (LDCs).⁴⁵

The motivation behind non-reciprocal preferences especially is to encourage exports from the beneficiary countries by providing their exporters with a competitive advantage vis- a-vis exports from other countries, and thereby stimulating economic activity.

The value of the given preference scheme granted and its impact on exports from beneficiary countries to the EU will depend on the one hand on the size of the preferential tariff margin granted and on the other hand on the capacity of the country to effectively exploit the preference. As EU trade barriers are progressively lowered via both the multilateral system and other regional or bilateral negotiated free trade agreements, the value of the preferences granted under a given scheme diminishes.

Furthermore, the fact that a country may be eligible to export goods to the EU under a highly preferential scheme, such as the Everything But Arms agreement does not automatically mean that suppliers in beneficiary countries will be able to take advantage of the scheme. In order to avoid so-called trade deflection,

which occurs when products originating in countries not eligible for access under a given scheme is shipped through a beneficiary country simply in order to obtain preferential access to the EU market, preferential access is conditional on the fulfilment of the Rules of Origin specified under a given scheme. While Rules of Origin help ensure that preferences are used only by those for which they were intended, they can in some cases also restrict suppliers' ability to take advantage of the specific preferences granted.

Finally, the degree to which trade preferences can encourage exports is limited by supply side constraints. As noted by the European Centre for Development Policy and Management (2001), trade preferences can only offer a 'helping-hand' to exporters in developing countries, but cannot compensate for factors such as high production costs, poor infrastructure or other factors severely limiting the competitiveness of their exports⁴⁶.

The impact that trade preferences actually have on exports from developing countries into the EU is therefore an empirical question and one which we assess in this chapter. Using advanced econometric analysis we assess the causal impact of preference programmes on the growth of developing countries' export to the EU.

To do so, we estimate a triple-difference model which allows us to identify the causal impact of trade preferences on the growth of exports to the EU. The data used for this exercise includes EU import data at a detailed product level for all countries combined with information on the tariff rates applied to each product under a given access scheme. As we only have this information for the trade regimes under the GSP, this part of the analysis is limited to those regimes. Finally, in order to account for EU expansion, we undertake the analysis for the time period 1995 – 2012 and use the EU15 as our definition of the EU.

⁴⁵— See chapter 1 for an overview of trade regimes in place.

⁴⁶— In order to help addressing inter alia such challenges, Aid for Trade has been progressively mainstreamed into economic development policies, in particular since the launch of the WTO Aid For Trade Initiative at the Hong Kong Ministerial Conference in 2005.

2.2 The impact of EU trade regimes on the growth of exports from developing countries

In this section we conduct an advanced econometric analysis on the impact of GSP preferences on the growth of EU15 imports from developing countries, since the formation of the EU15 in 1995 until 2012, which is the last year for which we have trade data. The methodology we use is a triple-difference estimator, which allows us to identify the causal impact of the EU's GSP preferences on the growth of exports from the beneficiary countries

Methodology

Our preferred methodology is a triple-difference estimator. This robust and flexible methodology has been used to study the effect of U.S. import liberalisation on African countries' export performance under the African Growth and Opportunity Act (see Frazer and Van Biesebroeck, 2010)⁴⁸. The benefits of this methodology are its robustness to policy endogeneity and the very flexible benchmark to which export growth is compared.

The most commonly used methodology to evaluate effects of a policy change is the standard difference-in-difference estimator applied to the country dimension (). The change in exports for an eligible product (subscript 1) from an eligible developing country (Treatment) which became subject to the new policy between period t and t-1 is compared to the change in exports over the same

to the EU across sectors, income classifications and across the specific preference schemes, including the GSP general arrangement, the GSP+ and the Everything But Arms regime.⁴⁷

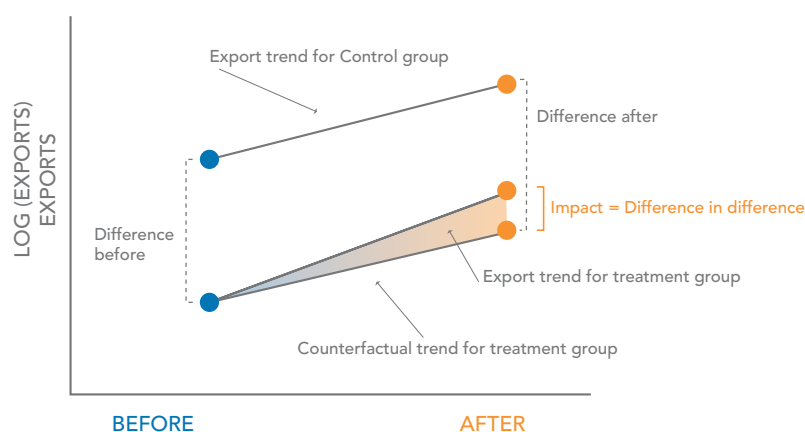
Below we explain the methodology in detail, followed by an overview of the data used and initial summary statistics. Finally we present the results obtained.

period for the same product from an ineligible country (Control):

$$DD_c = (\Delta \ln EXP_{1t})^{Treatment} - (\Delta \ln EXP_{1t})^{Control} \quad (1)$$

The estimated effect is represented graphically in Figure 30. The export trend for the control group, the top line in the figure, is subtracted from the observed export trend for the treatment group. The remaining growth in exports for the treatment group, indicated in pink, is the difference-in-differences estimate of the policy impact. The same estimate can be described in an alternative way. After subtracting the initial difference in export levels for the two countries (before) from the difference observed following the policy change (after), the remaining difference in export levels is interpreted as the impact of the policy.

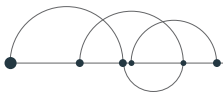
Figure 30 - Difference-in-difference



Source: Copenhagen Economics based on Figure 5.2.1 in Angrist, Joshua D. and Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics: An Empiricists Guide*. Princeton University Press.

47— We focus on GSP preferences as these are the preferences for which we have tariff data. Furthermore, GSP preferences cover all unilateral preference schemes currently offered by the EU to developing countries. Historically, ACP countries have also been eligible for unilateral preferential access to the EU market via the succession of Lomé Conventions and under the Cotonou agreement, until the expiry of 2007. Hereafter, ACP preferences have been replaced by reciprocal Economic Partnership Agreements, cf. Chapter 1, section 1.2 for further details.

48— Frazer G, Van Biesebroeck J. (2010). "Trade growth following the African Growth and Opportunity Act", *Review of Economics and Statistics*, vol. 91, no. 1, pp. 128 – 144.



A limitation of this approach is that non-random awarding of market access preferences biases the estimate.⁴⁹ For example, the GSP+ scheme explicitly imposes a good governance criterion on developing countries in order to benefit from a trade preference. If a country only becomes eligible for such a scheme following the end of a civil war, the improved market access to the EU would coincide with an overall improvement in the country's own economy, which in itself may lead to increased exports. Undertaking a simple *difference-in-difference* analysis along the country dimension would in this case result in the entire growth in exports being attributed to improved market access, not to the normalisation of the economy.

$$DD_p = (\Delta \ln EXP_{1t} - \Delta \ln EXP_{0t})^{Treatment} \quad (2)$$

The main limitation of differencing along the product-dimension is again due to the fact that access might not be random. It is highly likely that preferential market access is only granted or more generously awarded for products that are likely to see a strong increase in import demand. For example, there will be less lobbying to maintain import tariffs for goods where domestic producers face supply bottlenecks. As a result, imports of these goods should be expected to increase with or without trade preferences. As the benchmark used in the simple *difference-in-difference* analysis along the product dimension is non-eligible products (i.e. those

$$DDD = (\Delta \ln EXP_{1t} - \Delta \ln EXP_{0t})^{Treatment} - (\Delta \ln EXP_{1t} - \Delta \ln EXP_{0t})^{Control} \quad (3)$$

Comparing equation (3) to equation (2) immediately reveals that the triple-difference estimate is simply the difference between two product-dimension difference-in-differences, once for the treated and once for the control observations: $(DD_p^{Treatment} - DD_p^{Control})$. Rearranging equation (3) it is straightforward to show that one would obtain the identical estimate by differencing country-dimensions difference-in-differences for eligible and ineligible products: $(DD_c^1 - DD_c^0)$

In practice, equation (3) is estimated in a regression framework by pooling a whole set of countries and products in different years and not by taking actual differences. Each country-product-time observation can be eligible for trade preferences, or not, and an appropriate set of fixed effects create the desired benchmark. A flexible way to achieve the differencing along the three different dimensions is to include three

$$\ln EXP_{cpt} = \beta \cdot (T_{cpt}^{MFN} - T_{cpt}^{Preferential}) + \gamma_{cp} + \gamma_{ct} + \gamma_{pt} + \varepsilon_{cpt} \quad (4)$$

One can avoid this problem by applying the *difference-in-difference* estimator along the product dimension () instead of across countries. Here the growth of the beneficiary countries' exports to the EU for a product eligible for preferential access (subscript 1) is compared to the growth in exports for products that do not qualify for preferential access (subscript 0). It implicitly controls for time-invariant product specific factors, which may cause demand for certain products to be higher than the demand for others, throughout the time period. Any country-specific variation that influences exports of all products in a similar way, such as ending a civil war, has no impact on this estimate.

for which demand is not anticipated to increase), the general surge in imports due to a demand shock would be attributed to the preference scheme.

The methodology proposed by Frazer and Van Biesebroeck (2010) is to apply the differencing to both the country and product dimension. It is only feasible in circumstances where the market access policy as well as the dependent variable vary along the three dimensions in the data set, i.e. over time, between countries, and across products. The increased exports when a country-product pair becomes eligible for preferential market access is estimated as follows:

sets of interacted fixed effects:

- Country-year fixed effects control for the business cycle in each trading partner and in the EU, as well as country-specific factors that are time-invariant. They also control for time-varying factors that influence a country's eligibility for trade preferences.
- Product-year fixed effects control for (EU) demand variation for particular products as well as product-specific supply changes, for example due to technological change. They also control for product-specific evolutions that influence the existence or magnitude of trade preferences.
- Country-product fixed effects control for the comparative advantage of each country at a very detailed product level.

49— See Besley, T. and Case, A. (2000). "Unnatural Experiments? Estimating the Incidence of Endogenous Policies." *Economic Journal*, November, Vol. 110, pp. F672-F694.

The coefficient on an eligibility variable in the regression with three sets of interaction fixed effects captures one specific correlation in the data. Namely the correlation between deviations from the country-product specific export benchmark and the time-varying eligibility policy variable, while flexibly controlling for the product-specific time-variation that is common to all goods the EU imports and for the country-specific time-variation that is common to all exports of that country. A positive estimate indicates that in years that a country-product pair is eligible for trade preferences its exports are higher than the average level for that particular country-product pair after flexible controlling for product-specific and country-specific time variation. In specification (4), the coefficient of interest is β which captures the effect of the awarded trade preference, while three full sets of interaction fixed effects indicated by γ are not of interest in themselves, but they establish an appropriate benchmark for the relevant effect of interest.

We will estimate the model using only exports into the EU15 from all countries in the world, whether they got trade preferences or not. Results evaluating the impact of the US AGOA programme suggest that trade diversion is of minor importance (see Frazer and Van Biesebroeck 2010). Moreover, many countries were also awarded trade preferences in other export destinations (US, Japan, even China) or got their existing trade preferences expanded. In the absence of detailed information on all those programmes we cannot control for it, but the country-year fixed effects control for changes in the average level of preferences

Data

While the methodology ensures that we identify the actual causal impact of preferential market access, it is highly data intensive and requires information on preferences granted at a detailed product level. Furthermore, in order to estimate the impact of the magnitude of the preferences granted, information on the size of the preferential tariff margin granted under each preference scheme is required.

In order to assure consistency in the data quality across all countries, we use EU import data, as opposed to export data from each country. Import data is obtained from UN COM trade and is downloaded for the EU15 at the 6-digit product level for each year throughout the time period, using the Harmonised System (HS) 1988 nomenclature, which at this level contains just over

the exporters received elsewhere and the product-year dummies capture the impact this has on overall EU imports.

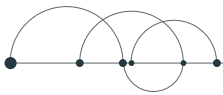
In all of the above specifications, the dependent variable will be the logarithm of the value of exports. In order to deal with zero export flows, we add €1 to all export values before taking logs such that the actual dependent variable is $\ln(1+EXP_{pct})$. This implicitly assumes that the responses to the EU preference programmes are the same along the intensive (products that are already being exported from an eligible country) and extensive margin of exports (products not initially exported to the EU from an eligible country). This approach is standard in the literature if one does not want to drop zero trade observations to avoid potential bias introduced by sample selection. As discussed in Head and Mayer (2013),⁵⁰ there are more sophisticated approaches to deal with zeros, e.g. Poisson Pseudo ML estimation or Tobit regression, but these approaches come at the expense of not being able to introduce controls that are as flexible. They are sometimes considered in the estimation of gravity models, but are only feasible if the country-time variation is handled using observable variables, rather than country-year fixed effects. In our case, with the three sets of interaction fixed effects these methods are not possible without dropping the vast majority of controls (even product-fixed effects).

In Chapter 3 below, we specifically zoom in on the extensive margin effects and use discrete dummy variables for the existence of a trade flow as a dependent variable. Those estimates will indicate whether trade preferences help countries with economic diversification.

5 000 different products. We merge this with tariff data, containing information on the tariff rates applicable under each GSP scheme for all beneficiary countries through time. In order to calculate the preferential tariff margin, defined as the difference in preferential and non-preferential tariff rates, we further include the MFN tariff rate for all products.

The tariff data is obtained from the TARIC database via extracts from the European Commission Directorate General for Taxation and Customs Union, as the database is not set-up to for the download of large quantities of data.

50— Head, K. and T. Mayer (2013). "Gravity equations: Workhorse, toolkit, and cookbook," in E. Helpman, K. Rogoff, and G. Gopinath (eds.) *Handbook of International Economics Vol. 4*. Elsevier.



The dataset contains detailed information on tariff rates applicable to a given product from a given origin in a given time period under the various tariff regimes for all tariff measures. Tariff regimes includes preferential access schemes in addition to the third country duty rate applicable to all countries (*erga omnes*), while tariff measures refers to the type of tariff imposed of which we use only those classified as 1) a tariff preference, 2) a preferential tariff quota, 3) a third country duty (MFN) and 4) a non-preferential tariff quota.⁵¹ As we are interested in identifying the impact of preferences under the GSP trade regime, we focus on identifying preferences afforded under this trade regime, in addition to the third country duty rate, which we abbreviate as MFN henceforth.

As both GSP preferences and MFN tariffs are available for a large number of countries, the TARIC database contain a numerical identifier for the group of countries to which a given tariff applies. In the case where a country begins or stops being eligible for a specific trade regime, the country enters or exits the group. The latter is for example the case for Singapore, Hong Kong and Korea, who graduated from the GSP general arrangement in 1998, after which they no longer received GSP preferences (cf. Chapter 1, Section 1.2 for details on the graduation policy introduced in the 1995 GSP revision).

As noted in Chapter 1, graduation may also be at the country/sector level. This means that GSP preferences may be removed on individual products for any country deemed to be sufficiently competitive in that product/sector to no longer require preferential treatment for the given product/sector, but still remain eligible for preferences on other products. In the data this is captured via information on exemptions, which contain all product/country combinations exempted from a given tariff regime in a given year. This is, for example, the case for China, for which the majority of manufactured goods are exempted from preferential access under the GSP general arrangement, or for India for which textiles have been exempted from the GSP general arrangement from 1997 onwards.⁵² Exemptions also cover countries, which have been temporally excluded from a given tariff regime due to violations of human rights etc. This is, for example, the case for Myanmar, which had GSP preferences withdrawn in 1997 due to serious and

systematic violations of the principles of the International Labour Organisation (ILO) Convention on forced labour, cf. Chapter 1, section 1.2.

Thus at the country level the tariff data contains information on entry and exit into specific tariff regimes as well as country exemptions for individual products under a given regime.

Product codes are defined up to the 10-digit level in the TARIC database. This is a further breakdown of the 8-digit Combined Nomenclature (CN) used by the EU, of which the first six digits are taken from the Harmonised System (HS) nomenclature. However, as both the HS and CN nomenclature are regularly updated, some product codes may no longer be used after a certain period of time, whereas others may be introduced, amended or merged. In order to make sure we track the same products through time, and retain historical concessions, we converted the product codes at the six-digit level in the tariff data to the same nomenclature used for the import data using conversion tables from the WITS database, cf. See Appendix B for details on how this was done and all other steps involved in the cleaning of the tariff data.

As the tariff data is given at a more detailed level than the import data, we average all tariffs at the six-digit level after converting all product codes to the common nomenclature. Thus, the tariff rates we work with are simple averages across all 10-digit product codes within a 6-digit product category. Finally, we only calculated this for products covered by an *ad valorem* tariff. For products subject to quotas, fixed or combined tariffs, we calculated the average share of 10-digit products within a 6-digit category, which are eligible for a given preference.

After cleaning and merging the import and tariff data, we were left with a dataset covering EU imports of 4561 individual products over the period 1995- 2012, from 176 different countries. These included 133 of the developing countries included in the analysis in Part I and a further 43 countries which are either OECD members outside the EU, oil-producing countries with high incomes or other countries, cf. Table B.1 for a full list of the countries.^{53,54}

51— Other types of tariff measures include amongst others preferential and non-preferential tariffs under end use, outward processing tariff preference (not used since October 2000) and autonomous tariff suspension.

52— Indian textiles exempted from GSP since 1997 includes silk (50), wool (51), cotton (52), other vegetable textile fibres (53), man-made filaments (54), man-made staple-fibres (55), wadding, felt and non-woven yarns and twines (56), carpet and other textile floor coverings (57), special woven fabric (58), impregnated, coated, covered or laminated textiles (59), knitted or crocheted fabrics (60), where the figure in parenthesis is the 2-digit HS1988 code.

53— The four countries from Table A1 not included in the sample are Cook Islands, Timor-Leste, Niue and Occupied Palestinian Territory.

54— Countries that become EU member states in later years are excluded throughout, as well as countries that originate from the breakup of Yugoslavia.

Of the 4 561 individual products, 491 were dropped as the MFN rate was zero throughout the time-period meaning that no real preferences were ever granted for these products. In addition, 662 products have a non-*ad valorem* tariff (quotas, specific or combined tariffs). As we cannot compute the preferential tariff margin for these products, they are not included in our main specifications but are dealt with in a separate specification. Thus, excluding these leaves us with a full dataset containing 3 408 different 6-digit products and a total dataset of close to 11 million country/year/product observations. Including products with non-*ad valorem* tariffs expands the dataset to over 12 million observations.

Measures of preferential tariff margins and summary statistics

For the products which have only an *ad valorem* tariff rate we capture the magnitude of the trade preferences in three different ways:

1. The difference in applicable import tariff between the best available preference and the MFN rate, measured in percentage points⁵⁶
2. The ratio of applicable import tariff under the best available preference relative to the MFN rate⁵⁷
3. A dummy variable depending on whether the best available preference is better than the MFN rate⁵⁸

Where measure (1) is the preference margin relative to the MFN rate, measured in percentage points and (2) is the preference margin measured in percent. Thus if the MFN *ad valorem* tariff rate on a particular product is 20%, and a given country is eligible for a preferential tariff rate of 5%, the preference margin relative to the MFN rate is 15 percentage points but 75%. Finally, measure (3) is a simple binary variable equal to one if a country is eligible for GSP preferences for a given product in a given year and zero otherwise.

In Table 10 we display summary statistics of these measures across the whole sample and for products covered by GSP General Arrangement or GSP+ as well as for products covered by preferences under the Everything but Arms Scheme.

The effect of preferences for these 662 products are dealt with in a separate specification (reported in Table 14). This introduces an additional, discrete preference category for products covered by a specific or combined tariff or a quota that still receive a preference. We do not know how large these preferences are, but the magnitude of the point estimate on this additional treatment variable is directly comparable to the third way we include preferences to *ad valorem* tariffs (see the section below).⁵⁵

Below we explain how we measure the magnitude of the tariff preferences afforded under the GSP and provide summary statistics of these measures across the whole sample, individual sectors and individual GSP schemes.

From the first column, we see that across all observations in the data, i.e. including all 3 408 6-digit products⁵⁹ over the entire time period, the average MFN tariff is 4.7%. In the part of the table relating to the Tariff Difference, we further see that across the whole sample the preference margin is on average 2.9 percentage points, with 90% of the sample showing a preference margin below 6.5 percentage points. This means that GSP beneficiaries on average face a preferential tariff 2.9 percentage points lower than the MFN rate. Measured in percent, the average preference margin is 61.3% across the whole sample, cf. Table 10, column 1. These preference margins are computed across all product/year/country combinations and therefore also include products for which a given country in a given year enjoyed no GSP preferences. From the second last row in Table 10, we see that in total, 75.3% of all product/year/country observation are covered by a GSP preference.

In column 2 of Table 10, the equivalent statistics are displayed for products covered by either the GSP General Arrangement or the GSP+ scheme in a given year for a given country. As seen in the last rows of this column, this applies to just over 6.5 million observations, equivalent to 60.7% of the data. For these observations, the average preference margin increased to 3.5 when measured in percentage points and to 77% when measured in percent. This simply means that on average across the entire time period and across all beneficiaries, preferential tariffs for products covered by the GSP (GA) or the GSP+ is on average cut by 3.5 percentage points or 77% compared to the MFN rate.

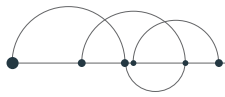
55— To preview the results, we find the point estimates on the treatment indicator for “any preference to the *ad-valorem* tariff” and for “any non-*ad-valorem* preference” to be very similar, suggesting our benchmark specification is not materially affected by the exclusion of those 662 products.

56— This calculated as $(T_{MFN} - T_{pref})$

57— This is calculated as $(1 - T_{pref}/T_{MFN})$

58— This is defined as 1 if $T_{pref} < T_{MFN}$ and zero otherwise.

59— Products subject to quotas or covered by specific or combined tariffs are not included in these summary statistics. In total this applies to 662 products.



Finally, summary statistics for products covered by the EBA regime are displayed in Column (3). As expected a preference margin of 100% applies to these products, indicating that tariffs are fully removed under this scheme.

Table 10 - Summary statistics: Preference margins

	All products	Products covered by GSP (GA) or GSP+	Products covered by EBA preferences
MFN ad valorem tariff (percentage points)	0.047	0.053	0.053
Tariff Difference (preference margin in percentage points)			
Average	0.029	0.035	0.053
10th percentile	0.000	0.012	0.017
90th percentile	0.065	0.065	0.117
Tariff Ratio (Preference margin in percent)			
Average	61.3%	77.1%	100.0%
10th percentile	0.0%	20.0%	100.0%
90th percentile	100.0%	100.0%	100.0%
Share of products covered by a preference (ad valorem only)			
Share of products covered by a preference (ad valorem only)	75.3%	60.7%	14.5%
Observations	10 796 544	6 557 377	1 567 527

Note: Products with a quota, fixed or combined tariff are excluded.

Source: Authors' own calculations based on TARIC data

In Table 11, we display the average preference margins for agriculture, processed foods and manufacturing. Measured in percentage points, the highest preference margin is found for processed foods (10.9 percentage points, versus 5.1 in agriculture and 3.6 in manufacturing). However, as the average MFN rate is also much higher for processed food products (16%, versus 7% in agriculture and 4.4% in manufacturing), this is actually the sector with the lowest preference margin, when measured in percent (66%, versus 74% in agriculture and 82% in manufacturing). Processed food is also the sector in which the largest share of products are covered by a quota, specific or combined tariff (27% versus 3% in agriculture and 0.2% in manufacturing).

Table 11 - Preference margins by sectors

	Agriculture	Processed food	Manufacturing
MFN ad valorem tariff	0.070	0.161	0.044
Preference margin, if covered (percentage points)			
Preference margin, if covered (percentage points)	0.051	0.109	0.036
Preference margin, if covered (percent)			
Preference margin, if covered (percent)	73.9%	66.6%	82.1%
Share of products covered by a preference (ad valorem tariff)			
Share of products covered by a preference (ad valorem tariff)	69.0%	73.4%	75.9%
Observations	1 298 880	510 048	10 983 456

Note: Products with a quota, fixed or combined tariff are excluded.

Source: Authors' own calculations based on TARIC data

Over time the proportional preference margin has increased for both LDCs and Non-LDCs reflecting that GSP preferences have become more generous over time. Thus, the average preference margin in percent for Non-LDCs was 68% in 1995 compared to 77% in 2012, cf. Column 2 Table 12.

As described in Section 1.2, in Chapter 1, LDCs have enjoyed generous GSP preferences since 1977 following a series of supplementary measures, which almost totally liberalised GSP access for these countries. This is reflected in the high preference margins (measured in percent) on covered products throughout the period, cf. Column 2, Table 12. The share of country/product combinations covered by ad valorem preferences has also consistently been higher for LDCs than Non-LDCs, cf. Column (3) Table 12.

Table 12 - Preference margins over time by LDC status

	Preference margin (percentage points)	Preference margin (%)	Share of products covered by a Preference (ad valorem only)
1995			
Non-LDC	0.038	68.2%	79.3%
LDC	0.066	98.7%	93.0%
2005			
Non-LDC	0.032	77.3%	68.2%
LDC	0.054	100.0%	80.3%
2012			
Non-LDC	0.034	77.4%	68.2%
LDC	0.053	100.0%	80.3%

Note: Products with a quota, fixed or combined tariff are excluded.

Source: Authors' own calculations based on TARIC data.

Measured in percentage points, the preference margin has decreased slightly for both groups, cf. Column 1 Table 12. However, this merely indicates that the average MFN rates have fallen over the period. This is also the reason why we, for both groups, see a reduction in the share of products covered by a preference over time in Column (3). As this only includes products for which the preferential rate is strictly less than the MFN rate, the apparent reduction in coverage rates in 2005 and 2012 compared to 1995, merely reflects that more MFN rates are at the same level as preferential tariffs in the later periods.

Baseline results

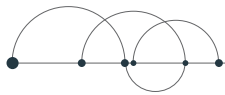
In the baseline results we include all preference programmes under a single "market access" variable. This will result in the estimation of a single coefficient measuring the average causal effect of all GSP preferences granted by the EU. The magnitude of the trade preferences is captured in the three different ways explained above.

As we are pooling observations from different country-product pairs where the magnitude of the awarded preference varies, we are forced to take a specific stand

on the way we expect trade to respond to a specific preference. In the benchmark specification we therefore implicitly assume that reducing tariffs from 20% to 19% has the same effect as lowering tariffs from 2% to 1%, when measuring the preference margin in percentage points.⁶⁰ Similarly, the impact of halving tariffs from 20% to 10% is assumed to be equivalent to the impact of halving tariffs from 2% to 1%, when measuring the preference margin in percentages.⁶¹

⁶⁰— This assumes a constant semi-elasticity of the trade flow.

⁶¹— This assumes a constant elasticity of the trade flow.



Finally, when measuring preferences by a simple binary variable, the impact of preferences are assumed constant, regardless of the magnitude of the preference. In extensions to this benchmark model, we allow for non-linear effects which relaxes these assumption.

Table 13 - Baseline Results

Dependent variable:	ln(EXP+1)		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Effect of preferences:	0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
R-squared	0.860	0.860	0.860
No. of observations	10,796,544	10,796,545	10,796,546

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. Sample includes all countries for which we have complete data and is balanced over 176 countries, 3 408 products, and 18 years. Standard errors (in brackets) are clustered at the country-product level. ***, **, * indicates significance at the 1, 5, and 10 percent level respectively.

Source: Authors' own calculations based on data from UNCOM trade and TARIC database.

The baseline result for the triple-difference model are summarised in Table 13. Each of the three different estimates, shown in different columns, are obtained by a separate regression. They use all 176 countries in the data set including the 133 developing countries from Part I. Results based on this sample achieve identification by obtaining a product-year specific benchmark that pools all exporters not eligible for EU trade preferences and the observations of eligible exporters in the years prior to eligibility.

The point estimates in the three columns are rather different, but that reflects the very different units of the explanatory variables used: i.e. how the extent of trade preferences enter the specification. This can be a difference in tariff rates, in column (1), a ratio of tariff rates, in column (2), or an indicator for a positive difference in tariff rates, in column (3). As discussed before, either choice implicitly assumes some constancy of effect.

The way we defined the explanatory variables means that the positive coefficient estimates all imply that the trade preferences have boosted exports to the EU as

expected. All point estimates are highly statistically significant, even after clustering the standard errors at the country-product level. We now discuss how to interpret the different magnitudes.

The first point estimate of 0.3135 in Column (1) implies that for each percentage point reduction in EU import tariffs granted as trade preference, i.e. each percentage point below the MFN rate that an eligible country faces, exports to the EU have been 0.32% higher. In the benchmark estimates, we do not distinguish between whether the preference was granted as part of the GSP, GSP+, or EBA schemes. In each case, the counterfactual scenario were tariff rates according to MFN.

On average, across all country-product-year observations covered by a trade preference, the average tariff difference between preferential and MFN rates is 3.85 percentage points. As each percentage point below the MFN rate has, on average, boosted exports by 0.32%, we can say that trade preferences enacted during the period in question, has, on average, increased exports of eligible products by 1.2%.

For the estimates in column (2), we do not assume a constant response to each percentage point reduction in tariff rates, but a constant response to a constant relative decline in tariffs. Awarding preferences that imply a halving of the MFN tariff is assumed to cause a similar export growth whether initial tariffs are 20% or 2%. The point estimate of 0.0617 means that a total elimination of the import tariff has, on average, raised exports of products for which this is true by 6.2%, while a halving of the tariff has boosted exports of products for which this is true by 3.1%. Given that 81.7% of the MFN rate, on covered products, has on average been removed during the time period in question preferences have on average increased exports by 5%, according to this specification.

The average effects obtained in the second specification, where we assume a constant elasticity, are clearly higher than the average effects obtained in the first specification, where we assume a constant semi-elasticity. One explanation is that there is a lot more variation in the absolute, percentage point reductions in tariffs than in the proportional reductions. In almost 72% of the cases where a preference is granted, the tariff is abolished entirely. In contrast, the 90th percentile absolute reduction in tariffs is more than 2.6 times higher than the median and it is likely that export growth is higher for this group of products. If we allow for nonlinear effects, as we do below, we only need to make the assumption of a constant effect over part of the tariff range and we expect the differences between the different explanatory variables to diminish. However, given the structure of the data, we prefer specification (2) to specification (1). This is also supported by the fact that the effects obtained under specification (2) are more similar to those in specification (3), where no functional form is imposed.

Finally, the estimates in column (3) assume a constant effect of trade preferences irrespective of the magnitude of the tariff reduction. Given the above discussion, it is intuitive that these results are a lot closer to the estimates in the second than in the first column. The point estimate of 0.0557 implies, that the preferences granted during the period, has on average increased exports of eligible products by 5.6%.

Note that we have estimated all these effects in a model with the level of exports as the dependent variable, but including country-year and product-year

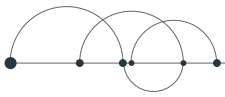
fixed effects as controls. As a result, all these effects should be interpreted as changes in exports due to trade preferences only. The effects identified indicate the average annual increase in exports of an eligible product, in all years after the enactment of a preference. The effects are therefore present for as long as the preferences remain in place. They are not year-on-year boosts in export growth but average annual differences relative to a pre-preference level-of-exports benchmark that is estimated from the baseline export level for each country-product pair and controlling for changes in export levels experienced by observations from the same products or the same country that faced MFN tariffs.

All three specifications identify a benchmark level of exports in the pre-preference period and a higher level of exports in the post-preference period. The estimated effects, evaluated at the mean tariff reduction, suggest that on average exports have reached a higher level when a country-product observation has benefitted from trade preferences compared to what would have been exported if the observation had still faced MFN tariffs. The average jump in exports amount to between 1.2%, 5%, or 5.6% of the pre-preference export level, depending on the specification used.

These jumps are averages across all country-product observations and a specific impact depends on the magnitude of the observed tariff decline. For a country-product observation that has enjoyed a 10 percentage point reduction in import tariffs the estimates predict that exports have been boosted by 3.2% due to preferences.⁶² At the same time, the actual adjustment in export levels will not have happened overnight when a preference is granted, cf. Table 19.

A number of robustness checks were carried out on the baseline estimates, which are all presented and discussed in Appendix B. First, all the impacts above are estimated relative to the MFN rate, while in fact a number of countries have and still enjoy preferential access through other schemes than the GSP. As the actual magnitude of the preferential margin enjoyed by GSP beneficiaries may therefore in reality have been less than when measured relative to the MFN rate, the estimated impacts may be underestimated. As we have only collected detailed tariff information for GSP preferences, we were not able to control for other preferences in the benchmark results presented above.

62— In the benchmark results we impose a linear response. Therefore, a tariff reduction that is 2.5 times larger (10% rather than the average of 3.85%) raise imports 2.5 times as much (3.2% versus 1.2%). In robustness checks below we estimate different specifications that allow for non-linear effects, e.g. more (or less) than proportional trade responses to different tariff cuts. In those specifications we cannot obtain the average effect simply by multiplying the point estimates with the average tariff reduction.



Instead we undertook a number of robustness checks in which we estimate the impacts across different country groups. First we estimate results including only the 133 countries from Part I and secondly, we estimate the results separately for countries with or without an FTA. The results of these exercises, show that the results obtained in the baseline model are robust, even when excluding countries with an FTA in place or when focusing only on the 133 countries from Part I (cf. Table B.1 in Appendix B). As a final robustness check, we also estimate a weighted regression in order to take into account that countries have vastly different export flows,

Results by GSP scheme

The first dimension we explore is whether there are heterogeneous effects for different GSP preference schemes. From the data, we can identify whether a tariff cut is awarded as part of the GSP general arrangement, or via special incentive programmes (known as the GSP+ from 2005 and onwards) or as part of the EBA. Moreover, we now also include observations in the sample where the protection under MFN took the form of a quota, a specific or a combined tariff. In those cases, we cannot quantify the extent of the preferences granted, but we are able to say whether any preference was granted or not.

Differential effects by GSP regime are presented in the first two rows of Panel (b) in Table 14, where the first row displays results for the GSP general arrangement (GSP GA) and the GSP+, followed by results for the EBA in the second row.

The estimates yield two important insights. Tariff cuts under EBA have generated higher responses than those under the non-EBA schemes. The first two point estimates in Panel (b) in Column (1) imply each percentage point reduction in EU import tariffs granted via GSP/GSP+ has led to an increase in exports of 0.35% compared to an increase of 1.2% under EBA.

In order to assess the average impact that each of these regimes have had over the time period in question, we evaluate each of these effects at the average tariff cut observed under each of the two regimes.

As seen from Table 10, the average percentage point reduction in EU import tariffs under the GSP/GSP+ has been 3.5, compared to 5.3 under EBA. Multiplying these by the point estimates in column (1) imply an average export increase of 6.2% under the EBA compared to an average export increase of 1.2% for eligible products under the remaining GSP schemes.

which shows that larger exporters are more responsive to trade preferences.

The baseline estimates capture the average causal effect across different schemes of trade preferences. It is likely that the magnitudes of trade responses differ along some dimensions. We now investigate to what extent and along which dimensions the effects are heterogeneous. Immediately below we show results for specific GSP schemes, followed by results for different country and product groups. Hereafter we present results by the initial level of protection and finally we estimate the impact of preferences over time.

The coefficients in column (2) further show that the average increase in exports, for products where tariffs have been fully eliminated, has been 6.7% under the EBA and 3.8% under the remaining GSP schemes. The larger impact of preferences under the EBA is quite intuitive, to the extent that complying with import tariffs imposes fixed costs on firms. Surely the biggest advantage of the EBA scheme is its simplicity. To some extent, the very strong effects reflect the total elimination of uncertainty and red tape.

In this perspective it is useful to mention the work of Hakobyan (2013).⁶³ He shows that the preferences given by the US under the GSP occasionally expire and need to be renewed. As this is subject to the usual political battles, there are often times where the schemes lapse. At those times import tariffs are due, but they have always been rebated ex post when the preferences were restored. As such, there is no actual cost of this lapsing and renewing for exporters, but the uncertainty and transactions costs it induces does appear to suppress their exports.

63— Hakobyan (2013). "GSP Expiration and Declining Exports from Developing Countries," Working Paper.

Table 14 - Results by GSP preference scheme

Dependent variable:	ln(EXP+1)		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
Effect of preferences:	0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
Panel (b)	Differential effects		
Tariff cuts under GSP/GSP+	0.3493*** (0.0608)	0.0381*** (0.0041)	0.0277*** (0.0048)
Tariff cuts under EBA	1.1657*** (0.0767)	0.0672*** (0.0045)	0.0569*** (0.0049)
Any preference on a product ever receiving a quota or specific tariff	0.0447*** (0.0071)	0.0430*** (0.0071)	0.0436*** (0.0071)
R-squared	0.862	0.862	0.862
No. of observations	12,893,760	12,893,760	12,893,760

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively. Source: Authors' own calculations based on data from UNCOM trade and TARIC database.

Finally, in the last row of Panel (b) in Table 14, we display the results specifically for products covered by quotas, specific or combined tariffs. In each of the three columns, these preferences are captured by a dummy variable and its magnitude has to be compared to the estimates in column (3). The point estimates imply that preferences on these type of products on average have caused exports

to grow by 4.3%.

The pattern that emerges from the above results is that preferences under EBA have been the most effective compared to those granted under GSP (GA) or GSP+. The impact of preferences on products covered by quotas, fixed or combined tariffs lies in between the two.

Results for different country-groups

In this section we split the sample by different LDC status and income classification, allowing us to ascertain whether the impact of preferences vary across the different country groups. As in the baseline specification, we include all preference programmes under a single "market access" variable and thus obtain a single coefficient measuring what the average causal effect of all GSP preferences granted by the EU has been for each

country group. The results by LDC status are presented first, followed by impacts across income classifications. In each case, this is accomplished by interacting the tariff difference with dummies that identify the different country groups.

Results by LDC status

In order to examine whether GSP preferences have impacted the Least Developed Countries differently than other countries, we estimate the impact for both LDCs and Non-LDCs according to their status in 2012, cf. Table A in Appendix A for a full list of LDCs.

The results are displayed in Table 15. For convenience, the baseline results are reproduced in Panel (a). Panel (b) contains the results by LDC status.

The point estimate displayed in the first column in Panel (b), is slightly smaller for LDCs than for the remaining countries. In contrast point estimates displayed in column (2) and (3) are significantly higher for LDCs than for the remaining countries and are almost identical in terms of magnitude. This is not surprising, as preferences afforded to this group of countries almost always entails a complete elimination of MFN tariffs for covered products, even before the introduction of the EBA in 2001, cf. Chapter 1 for section 1.2.⁶⁴ The boost in exports resulting from a complete elimination of MFN tariffs, as implied by the estimate in column (2), is therefore equivalent to the impact obtained when measuring preferences by a simple indicator variable, as in column (3), for this group of countries.

In terms of magnitude, these estimates imply that the average increase in exports for products where tariffs have been fully removed, has been 10% for LDCs. As 99.7% of the MFN tariff has, on average, been removed for eligible products for this group of countries, the average increase in export, due to preferences granted over the period in question, has also been approximately 10%. Evaluated at the mean, the export response is therefore approximately twice as large for LDCs compared to the benchmark case and the difference is statistically significant.

Table 15 - Results by LDCs Status

Dependent variable:	ln(EXP+1)		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
panel (a)	Baseline		
Effect of preferences:	0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
panel (b)	By LDC Status		
LDCs (49)	0.1910*** (0.0760)	0.1028*** (0.0055)	0.1009*** (0.0064)
Non-LDCs (127)	0.3670*** (0.0676)	0.0518*** (0.0052)	0.0446*** (0.0064)
No. of observations	10,796,544	10,796,544	10,796,544

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively. Source: Authors' own calculations based on data from UNCOM trade and TARIC database.

⁶⁴— On average across the entire time period, 99.7% of the MFN rate is abolished when a preference is in place for LDCs.

Results across income classifications

Next, we estimate heterogeneous responses by grouping all countries in four exhaustive groups by income level. We use the time-varying World Bank classification of countries into low income, lower middle income, upper-middle income, and high income groups. The results from this exercise are shown in Table 16, where baseline results are reproduced in Panel (a) for convenience, followed by the estimated impacts for each income group in Panel (b).

The results displayed in panel (b) show the impact of preferences are strongest for the low income and lower-middle income countries. Only for these two country groups, are all three point estimates statistically significant.

Point estimates displayed in Column (1) imply that each percentage point tariff reduction has led to 0.27% higher export growth for a low income country, compared to 0.40% for a lower middle income country. Evaluating these responses at the mean tariff cuts over the period in question, imply that the average boost in exports, due to preferences, have been very similar for the two groups with an average increase of 1.3% for low-income countries and 1.5% for lower middle income countries, as the average tariff cut has been slightly larger for the former group.⁶⁵

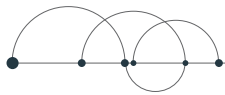
The estimates in the second and third column imply larger impacts for both of these groups and are also statistically significant for the upper middle and high-income countries. Point estimates in both columns indicate that the impact of preferences fall as income-levels increase. In addition to the greater responsiveness, preferences granted have been more generous for poorer countries. Evaluated at the mean tariff ratio, the estimates in column (2), thus imply that the average boost in exports due to preferences has been 7.6% for low income countries, 5.1% for lower-middle income countries, 3.8% for upper middle income countries and 2.2% for high income countries.⁶⁶

This pattern is to be expected, as the magnitude of the response is a combination of the EU's import demand elasticity and the benefiting country's export supply elasticity. Given that richer countries are more likely to export high quality, differentiated products, the relevant EU import demand elasticity is likely to be lower for them. At the same time, flexibility in the economy to shift resources between sectors as well as average growth rates tend to be lower as countries grow richer. Both factors are likely to lead to lower export supply elasticities with income.⁶⁷

⁶⁵— The average tariff cut is 4.7 percentage points for low-income countries versus 3.8 percentage points for lower-middle income countries.

⁶⁶— Of course, these results underestimate the difference in impact also because even the presence of trade preferences is less likely as a country's income level is higher.

⁶⁷— Frazer and Van Biesebroeck (2010) list a few sources from the literature that predict smaller response for poor countries as low institutional quality and bad infrastructure make it more difficult to exploit trade preferences that they receive. There is little evidence for this, however, and also in the case of AGOA it was found that poor countries were very responsive.


Table 16 - Results by income classification

Dependent variable:	ln(EXP+1)		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
Effect of preferences:	0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
Panel (b)	By Income Classification		
Low (53)	0.2673*** (0.0663)	0.0828*** (0.0054)	0.0740*** (0.0064)
Lower middle (51)	0.4035*** (0.0685)	0.0629*** (0.0056)	0.0621*** (0.0068)
Upper middle (30)	0.1326 (0.0905)	0.0516*** (0.0062)	0.0312*** (0.0074)
High (30)	0.1422 (0.1208)	0.0301*** (0.0069)	0.0302*** (0.0080)
No. of observations	10 060 416	10 060 416	10 060 416

Note: Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively. Source: Authors' own calculations based on data from UNCOM trade and TARIC database.

Results for different product groups

We now turn to two specifications that evaluate the robustness and sensitivity of the results with respect to product categories.

First, we estimated a specification in which we eliminated fuels from the sample. This includes coal, petroleum, gas, and related products. This eliminates approximately 1% of the total volume of trade and, of course, a much larger share for some countries, but it has barely any impact on the point estimates.⁶⁸ It highlights the robustness of the methodology with the very flexible set of interaction fixed effects. Results for this specification are found in Table B.2 in Appendix B.

In Table 17, the results for eight broad product

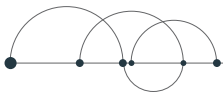
categories are displayed in Panel (b). Here many of the point estimates, especially in the first column, differ notably from the average estimate captured in the baseline (reproduced in Panel (a)). To some extent this reflects the much wider variation in tariff reductions in some products than others. We now provide a few comments on each of the categories.

⁶⁸— It should be noted that the 1% of the sample referred above, only include the value of fuel imports for products that do not have an MFN rate of zero. As most fuel products come in to the EU duty free, the average share of fuels in total imports is thus much higher than 1%, cf. Chapter 1.

Table 17 - Results by product groups

Dependent variable:	ln(EXP+1)		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline: All products		
Effect of preferences:	0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
Panel (b)	By product groups		
Agricultural products	0.1755 (0.1273)	0.0221* (0.0116)	0.0102 (0.0095)
Processed foodstuffs	0.1222 (0.0999)	0.0836*** (0.0277)	0.0742*** (0.0239)
Mining products & fuels	-7.8695** (3.9330)	-0.0480 (0.0697)	-0.0433*** (0.0698)
Chemicals & chem. Prods	0.7217*** (0.1563)	0.0665*** (0.0103)	0.0852*** (0.0121)
Wood & paper products	1.1551*** (0.4821)	0.0875*** (0.0220)	0.0770*** (0.0259)
Leather, textile, apparel	-0.1575 (0.0978)	0.0607*** (0.0088)	0.0540*** (0.0143)
Basic manufactures	1.8881*** (0.2282)	0.0781*** (0.0091)	0.0675*** (0.0107)
Machinery & equipment	1.0951*** (0.2099)	0.0512*** (0.0093)	0.0583*** (0.0127)
No. of observations	10 755 360	10 755 360	10 755 360

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively. Source: Authors' own calculations based on data from UNCOM trade and TARIC database.



1. Agricultural products: While we expect many countries benefitting from trade preferences to have a comparative advantage in these products, the estimates do not imply significant impacts for these products. Only the estimate in column (2) is weakly significant and the implied effect of a 2% boost in exports due to a complete elimination of tariffs is small compared to the average effects in the baseline. This could indicate a low supply elasticity.
2. Processed foodstuffs: The point estimate in column (1) is again insignificant but we now find strongly significant effects in columns (2) and (3). The estimate in column (2) implies that exports of products, where the tariff has been completely removed, have on average increased by 8.4%. However, on average, only 66% of the MFN tariff has been removed on products covered by a preference in this category. Evaluated at the mean, the average boost in exports due to preferences, has thus been 5.5% for products in this category and there is still scope for future export growth. It should be noted that specific or combined tariffs or quotas are most prevalent in this product category and the results in Table 17 only cover products protected by ad-valorem tariffs.
3. Mining products & fuels: The across the board negative estimates reflect that it is very hard for countries to expand exports. Recall that the benchmark is the export evolution for the same products for countries not receiving trade preferences. This means that if countries receiving preferences have not increased their exports of a specific product at the same rate as countries which did not receive preferences, they have fallen short of the benchmark, giving rise to a negative estimate.⁶⁹ During the period in question fuel exports in particular increased a lot and countries receiving preferences seem to have lower than average supply elasticities.⁷⁰
4. Chemicals & chemical products: All three point estimates are higher than on average implying a higher than average responsiveness to preferences for this product group.
5. Wood and paper products: Point estimates are remarkably high given that we expected the supply elasticity to be quite low here. Exports are more concentrated by country than for some of the other categories below.
6. Leather, textile, apparel: This large product category is one of the groups where we expected the largest effect and where large effects would also be particularly valuable as it provides countries great opportunities to improve along the value chain. However, the point estimate in column (1) is insignificant, while those in column (2) and (3) imply a responsiveness of exports to preferences, which is very similar to the average impact.
7. Basic manufactures: The responsiveness of exports to preferences in this product category is very strong, and above average across all three specifications.
8. Machinery & equipment: While the point estimate displayed in column (1) for this category is the third highest of the eight categories, initial protection is very low for these products (less than 3% on average). This leads to a higher estimated response to each percentage point reduction in tariffs, all else being equal. It is also not an area where we expected preference countries to have a strong comparative advantage. It is therefore not entirely surprising then that being awarded any preference in this area has a close to average impact—captured by the point estimate of 5.8% in column (3).

One final remark is that across most of the categories, the point estimates are positive and statistically different from zero in the majority of specifications, implying a positive and statistically significant impact of preferences on the growth of exports.

The only exceptions to this are for products in the mining and fuel category, where capacity constraints are expected to be very binding, and in agriculture, where supply elasticities may be low. The results highlight that export growth in response to trade preferences is a broad phenomenon and has not been driven by a few products. Cutting most types of tariffs can be expected to generate an export boost, only the absolute size will be larger if it is in an area where poorer countries have a comparative advantage.

⁶⁹— As the benchmark is product specific, the number of different products covered by preferences in a given category does not matter.

⁷⁰— In their study on the impact of AGOA, Frazer and Van Biesebroeck (2010), also finds evidence of a negative or insignificant effect on petroleum products across different specifications, supporting the explanation of low supply elasticities suggested here.

Results for different specifications

As noted above, the benchmark estimates incorporate a number of assumptions. We now verify the robustness of the effects when some of the assumptions are relaxed or changed.

First, we allow the trade response to vary with the extent of initial protection or with the extent of the magnitude of the tariff decline. In order to obtain an estimate using a diverse set of observations, one needs to impose some dimension along which all observations included in the sample are expected to display the same response. This parameter is then estimated using statistical techniques. In the baseline model, we obtained one estimate assuming that each percentage point reduction in import tariffs will lead to the same export growth for all observations in the sample (constant semi-elasticity). We obtained a different estimate assuming that the response to a given proportionate change in tariffs is constant (constant elasticity).⁷¹

If we allow for some nonlinearity in the effect, any assumption of a constant response only has to hold over a narrower range, which makes it less restrictive. We incorporate this in the model by interacting the tariff-rate explanatory variables with dummy variables for the magnitude of protection under MFN or the magnitude of the preference, i.e. the difference with the MFN rate.

The results are displayed in Panel (b) in Table 18, which also contain the baseline estimates in Panel (a) for convenience. In Panel (b), all three point estimates fall with the level of protectionism, indicating that the responsiveness is relatively higher for products with a relatively low MFN rate.

A few specific estimates are worth highlighting. The entire elimination of a tiny tariff (less than 1%) or a small one (1-5%) has almost the same absolute effect on export growth. Thus, the total elimination of tariffs that were less than 1% has raised exports by 8%, while the total elimination of tariffs that were between 1% and 5%, has raised exports by 7.3%. In comparison, the total elimination of tariffs that were between 5%-10% has raised exports by 5% while the elimination of tariffs that were higher than 10% raises exports only by 0.3%.

The relatively large impact of eliminating very small tariffs is especially noteworthy, as the results imply that producers in the beneficiary countries are able to take advantage of preferences and comply with rules of origin even when preference margins are low.

It is relevant, at this point, to point out that most tariffs and preferences are specified at a finer, 10-digit level of product aggregation than we use in the analysis. We work at the 6-digit level and average the protection over all underlying 10-digit products. This is important for two reasons. First, some of the very low tariff rates are the result of averaging over several products that enter duty free and one or a few products attracting a higher rate. It is not the case that the EU deliberately sets some tariff rates between 0 and 1%.

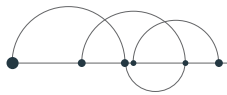
Second, the results clearly show that the responsiveness of imports, at the 6-digit level, to a 1 percent tariff decline varies with the initial level of protection. If this also holds at the 8 or 10-digit level the true impact may be overestimated.⁷² However, as the 6-digit product level is still very detailed with only a limited number of lower level products contained within each product group, this is a minor issue and thus underlines the advantage of conducting this type of analysis at such a detailed level, as opposed to more aggregate analyses where the risk of overestimation becomes much more severe.

While it may at first seem strange that the impact is so small for products with the highest initial MFN tariffs, it should be noted that only a few products have very high initial tariff rates and these tend to remain high even after preferences have been granted. In the last year of the sample there are, for example, only 18 different 6-digit product codes with an MFN rate larger than 20%, all of which are either agricultural or processed food products.⁷³

71— We obtained a third estimate assuming a constant response to any trade preference, irrespective of the magnitude.

72— The estimates in Table 18 suggest a convex relation between the import response and the tariff decline at the 6-digit level. If this same convexity also holds at an even more detailed level, averaging from the 10-digit to the 6-digit level might imply an overestimate of true effects as we are uncovering the average of the responsiveness at two different initial MFN rates, which will be higher than the responsiveness at the average MFN rate at the 6-digit level.

73— These 18 products are all found in the agricultural and processed foods sector under the following six four-digit (HS1988) product categories: 0302 (Fresh or chilled fish), 0303 (Frozen fish), 1604 (Prepared or preserved fish), 1605 (Crustaceans and other aquatic invertebrates) and 2402 and 2403 which cover cigars, cigarettes and tobacco.



The average tariff reduction on these products is 5% and the average preferential ad valorem tariff is 35%, across all beneficiary countries. This suggests that not all preferences for products with very high initial MFN rates are sufficiently large to increase the competitiveness of these products enough for beneficiary countries to obtain a faster growth in the exports of these products than non-beneficiary countries.

The results found in Table 18 are broadly similar when allowing for heterogeneous effects by the magnitude of the preference granted, cf. Table B.2 in Appendix B. The reason is that the reduction in tariffs becomes lower if the MFN rate gets higher, but the reduction is less than proportionate. As a result, observations that see higher tariff declines also tend to be observations with high initial levels of protectionism.

Table 18 - Results by initial level of protection

Dependent variable:	ln(EXP+1)		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
Effect of preferences:	0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
Panel b	Nonlinear effects by level of MFN tariff		
Tiny tariff (0-1%)	7.9646*** (1.5803)	0.0814*** (0.0122)	0.0909*** (0.0126)
Low tariff (1-5%)	2.2778*** (0.1617)	0.0729*** (0.0059)	0.0825*** (0.0075)
Intermediate tariff (5-10%)	0.7154*** (0.0848)	0.0507*** (0.0063)	0.0617*** (0.0085)
High tariff (>10%)	-0.0062 (0.0636)	0.0028*** (0.0083)	-0.0549*** (0.0109)
No. of observations	10 796 544	10 796 544	10 796 544

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors' own calculations based on data from UNCOM trade and TARIC database.

A second dimension of the adjustment we explore is the timing. In the benchmark results, the trade evolution is implicitly modelled as a discrete and permanent jump of exports when preferences are granted. After appropriately controlling for common product trends and common country trends, exports are implicitly modelled as following a step function and we estimated

the average difference on the pre-preference and post-preference export volumes.

If it is the case that adjustment to the new situation after preferences are granted is only gradual, the effect will be underestimated. The pre-preference level will be estimated appropriately, but the post-preference

level will partially reflect exports in years immediately following the enactment of preferences, when export volumes have not yet reached their new steady state.

An easy solution for this is to estimate the model not every year, but only using interspaced years. We thus estimate a specification in which we only include 4 years in the sample: 1995, 2000, 2006, and 2012. We now only measure changes in export volumes over longer periods and attribute all of this to changes in preferences in the

intervening years. If a preference is granted early in the period, for example enacting the EBA in 2001, we only measure their impact several years later.

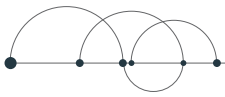
The results, from this specification is shown in Panel (b) in Table 19. The point estimates in column (2) and (3) are similar to those in the baseline suggesting that the full impact is felt several years later. The relatively lower estimate in column (1) on the other hand, suggests that there may be some adjustment over time.

Table 19 - Results by timing

Dependent variable: $\ln(\text{EXP}+1)$		(1)	(2)	(3)
Explanatory variable:		Tariff difference ($\text{TMFN} - \text{Tpref.}$)	Tariff ratio ($1 - \text{Tpref.}/\text{TMFN}$)	Preference indicator (1 if $\text{Tpref.} < \text{TMFN}$)
Panel (a)	Baseline			
Effect of preferences:		0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
Panel (b)	Long (time) differences			
Includes only some years		0.2066*** (0.0754)	0.0613*** (0.0068)	0.0608*** (0.0082)
Panel (c)	Lagged adjustment			
Initial effect		0.4084*** (0.1493)	0.0362*** (0.0107)	0.0317*** (0.0098)
One year lag		0.4262*** (0.1586)	0.0362*** (0.0112)	0.0166* (0.0087)
Two years lag		-0.4178*** (0.1325)	-0.0149 (0.0097)	-0.0087 (0.0083)

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors' own calculations based on data from UNCOM trade and TARIC database.



,An alternative way to address the same issue is to separately estimate contemporaneous and lagged effects. We do this again by interacting the explanatory variables of interest with indicator variables showing how long ago preferences were introduced.

The results are in panel (c) in Table 19. Point estimates in the first row in column (2) and (3) are lower point estimates than before for the un-interacted preference variables. This is as expected, as those point estimates now only capture the contemporaneous effect on exports i.e. within the same year in which the preference is granted. The effects are also estimated positively and significant for the following year but turns insignificant after that, suggesting that the full impact arises within two years after preferences are granted. The magnitude of the estimates in column (2) suggest that approximately half of the effects take one year to arrive.

Again, the results in column (1), suggest that there may be some adjustment over time, with relatively large positive effects occurring within two years after preferences are granted, while effects turn negative in the third year. This could be due to a degree of

experimentation among exporters, initially entering the market to test demand etc., but later exiting again.

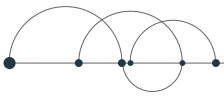
To get the full long-term effect of preferences, one has to sum the coefficients. For the three columns, this produces the following cumulative effect on export levels: 0.43% boost for each percentage point reduction in tariff, 7.3% boost with total elimination of tariffs, 4.8% boost for the presence of any trade preference. With the exception of the latter, these effects are notably higher than the benchmark effects.

Not surprisingly, the effects on the intensive margin shown here take a shorter time to materialise than the extensive margin, i.e. the product mix, which will be discussed in Chapter 3. In that case, no impact is found in the same year that preferences are granted. This implies that part of the adjustment in the volume of exports occur faster than the adjustments in the product mix.

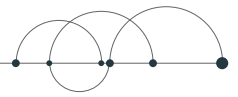
2.3 Conclusion

We apply a new and advanced micro-econometric technique to an extremely large dataset of more than 12 million observations, containing detailed tariff information at the 6-digit product-level. This allows us to isolate the causal impact of GSP preferences on the growth of exports. To the best of our knowledge, this is the first time that this has been done in an EU context.

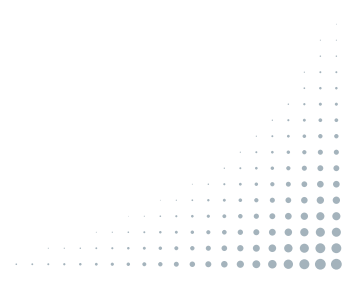
- GSP preferences have, on average, caused exports of covered products to increase by up to 5%, compared to the pre-preference export level. This impact is evaluated across all individual GSP schemes combined and at the average tariff reduction relative to the MFN rate.
- Preferences under the Everything but Arms scheme has generated higher export responses than preferences under the GSP General Arrangement or GSP+ scheme. Fully eliminating a tariff under the Everything but Arms scheme has on average lead to a 7% growth in exports for products where this has occurred compared to 4% under the other two schemes.
- GSP preferences have had an especially large impact on Least Developed Countries, which are also the beneficiaries of the Everything But Arms Scheme. The growth in exports of a product granted duty-free access to the EU has been approximately two times higher for Least Developed Countries compared to the average across all countries.
- Across different levels of income, the results suggests that GSP preferences have had the greatest impact on the low and lower middle income countries compared to the upper middle and high income countries. Evaluated at the average tariff reduction, the results suggests that GSP preferences have led to an average boost in exports to the EU of 7.6% for low income countries, 5.1% for lower middle income countries, 3.8% for upper middle income countries and 2.2% for high income countries.
- In manufacturing the impacts have been strongest for chemicals and chemical products, wood and paper products, basic manufactures and machinery and equipment.
- Outside of manufacturing sectors we also find significant and relatively high effects for processed food, but find very little evidence for significant effects in agriculture, indicating a low supply elasticity for products in this sector.
- GSP preferences are further found to have had a relatively large impact on exports of products for which the initial (i.e. pre-preference) tariff rate has been relatively low. This implies that producers in the beneficiary countries have been able to take advantage of preferences and comply with rules of origin, even when preference margins have been low.
- Finally, the results suggest that the full impact of GSP preferences have arisen within two years after preferences have been granted.

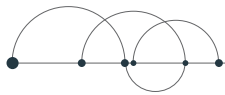


Chapter 3



EU trade regimes and economic diversification





In this chapter we examine the causal impact of the GSP, including the GSP general arrangement, the Everything But Arms and the GSP+ scheme on the diversification of EU imports from developing countries. The chapter starts with an outline of why export diversification is important in the process of economic development. Subsequently we present our analysis and discuss the results.

3.1 Economic development and export diversification⁷⁴

Many of the Least Developed Countries have a highly concentrated export structure in terms of the products they export. Examples include Bangladesh for whom 91% of exports to the EU in 2012 comprised of clothing, or the Maldives whose exports to the EU in the same year was almost exclusively comprised of fish products, cf. Chapter 1. Other developing countries, such as Angola and Equatorial Guinea and a number of countries in especially the region of the Middle East and North Africa, export almost exclusive fuel products.

While exports is an important driver of growth for many developing countries constrained by small domestic markets, cf. chapter 4, there are a number of risk involved in having a highly concentrated export structure including a high exposure to economic shocks on the international market. Diversifying exports along the product margin may both insulate against shocks and help drive the process of economic development. Below we outline the most important channels through which export diversification can stimulate economic development.

Export diversification reduces volatility

The most straightforward argument as to why diversification of exports matter to economic development, is that it reduces countries vulnerability to economic shocks (Kaulich, 2012). Countries with a more diversified export structure are thus less sensitive to, for example, international price fluctuations or demand shocks affecting export earnings from a specific commodity or product.

Exports can stimulate diversification of the local production

In addition to the diversification of the production structure in the developing countries we can measure via the diversification of the exports (e.g. more products being exported) increasing exports following from trade preferences may also lead to indirect diversification effects.

The increase in exports overall (and the eventual diversification of the export base) may also help stimulate the creation of new industries via linkages between sectors.⁷⁵ Local production of intermediate goods used as inputs for the exporter may thus stimulate economic activity in downstream industries via demand for locally produced goods or in upstream industries, where the specific product is used as an input. In this way, exports may lead to a more diversified industry structure in the developing country even in the case where the export base is not diversified, but just bigger. Such linkages will be larger in industries with scale economies as the increase in local demand caused by producers in upstream industries with high export volumes may generate sufficient local market size for local downstream producers to enter the market.

Regardless of whether the diversification of the economic structure in the developing country happens directly via the export composition or indirectly via scale economies and the diversification of supplier industries, a diversification away from primary products, i.e. agricultural products towards manufacturing products, may be especially important for the following reasons:

Export diversification away from primary products improves terms of trade

A key argument in favour of diversification towards manufacturing products was formulated in the 1950s in the so-called Prebisch-Singer hypothesis. The argument relies on the premise that world prices for primary exports relative to manufactured exports decline over time. As a result, countries which mainly export primary products and import manufacturing products will, over time, experience a decline in their ratio of export prices relative to import prices – their terms of trade – which in turn will inhibit economic growth.⁷⁶

⁷⁴— This section is heavily based on Kaulich (2012)

⁷⁵— Hirschman, Albert O. 1958. *The Strategy of Economic Development*. New Haven, Yale University Press (cited in Kaulich (2012))

⁷⁶— See Raul, Prebisch. 1950. *The Economic Development of Latin America and Its Principal Problems*. New York: united Nations, and Hans W. Singer. 1950. "The distribution of gains between borrowing and investing countries". *American Economic Review*.

Diversification away from agriculture liberates countries from diminishing return to scale

A key difference between agriculture and manufacturing is that agricultural production is subject to so-called diminishing return to scale. Because land supply is fixed, the additional output obtained from each additional unit of labour will start to decrease at some point, implying a decrease in productivity. In comparison, mass production of manufacturing products is most commonly associated with a productivity increase as the unit cost of production falls as production increases (Kaulich, 2012).

In addition to the key arguments outlined above, export diversification can also impact on the development process in a number of other ways. As noted by Collier

(2002) a heavy reliance on income from natural resources may also increase the likelihood of poor governance as governments becomes less reliant on broad-based taxation. Similarly, the likelihood of civil war may also increase as natural resources can become a source of income for rebel groups. Finally, high export earnings from commodities or natural resources may in itself crowd out other sectors such as manufacturing via a phenomenon known as Dutch Disease. When the world price of a given commodity increases or when there is a boom in exports due to, for example, newly discovered deposits of natural resources, the countries exchange rate will appreciate and reduce the competitiveness of the country's other exports such as manufacturing (Frankel, 2010)⁷⁷.

3.2 Empirical analysis

To identify the impact of EU trade regimes on export diversification we use the same *triple-difference* estimator as in Chapter 2. The advantages and intuition are the same as before. Only the dependent variable in the regression is not the (log) value of exports anymore, but a dummy variable that takes the value of one if there is a positive export flow for that particular country c , product p , time period t and zero otherwise:

$$X_{cpt} = \begin{cases} 1 & \text{if } EXP_{cpt} > 0 \\ 0 & \text{if } EXP_{cpt} = 0 \end{cases} \quad (5)$$

The specification we estimate then is the linear probability model in (6). Using ordinary least squares regression the dummy variable is related to the extent of tariff preferences awarded while still using the same set of double-interaction fixed effects as controls.⁷⁸ This approach minimises the usual disadvantage of linear probability models that the predicted value of the dummy dependent variable is not constrained to lie in the zero-one interval. Given the very rich set of controls, the tariff preferences will only have a very local effect on the export behaviour. They will only change the probability of exporting marginally once the flexible benchmark is taken into account. There is no risk that a switch from ineligibility to eligibility will raise the expected probability of exporting above one.

$$DDD = (\Delta X_{1t} - \Delta X_{0t})^{Treatment} - (\Delta X_{1t} - \Delta X_{0t})^{Control} \quad (6)$$

As before, the coefficient of interest is β and the interpretation is now as a percentage increase in the likelihood of exporting due to a percentage point reduction in import tariff. As before, we can instead use one minus the ratio of the tariff rates as the explanatory variable to make the constant elasticity assumption or a dummy variable for the presence or not of any market access preference. Below we report results for all three specifications.

The intuition for the increased likelihood of exports to the EU when a country-product pair becomes eligible for preferential market access is still given by the following equation:

$$X_{cpt} = \beta \cdot (\tau_{cpt}^{MFN} - \tau_{cpt}^{Preferential}) + \gamma_{cp} + \gamma_{ct} + \gamma_{pt} + \varepsilon_{cpt}$$

The term will have a value of one only if a new export-relationship becomes established between periods t and $t-1$. For continuing relationships or for product markets where there is no entry, the terms will take a value of zero. The average of the number of newly established relationships for eligible products and treatment countries, appropriately normalized by the number of new relationships in ineligible country-product pairs, is the triple-difference estimate.

77—A popular approach to estimate models with a dummy dependent variable is a Probit specification, but due to its inherent nonlinearity this would limit the number of control variables that can be included. In our specification with interaction fixed effects we implicitly include almost one million control variables which would not be feasible in a Probit specification. For the same reason, we cannot estimate the intensive and extensive margin response at the same time using a Tobit specification.

Data and Measures of preferential tariff margins

The data used is the same as in chapter 2 and we refer to the data section in that chapter for a presentation of the data.

As in chapter 2, we capture the magnitude of the trade preferences in three different ways, for products with an ad valorem tariff only. For convenience, these are reproduced below:

1. The difference in applicable import tariff between the best available preference and the MFN rate, measured in percentage points⁷⁸
2. The ratio of applicable import tariff under the best available preference available relative to the MFN rate⁷⁹
3. A dummy variable whether the best available preference is better than the MFN rate⁸⁰

Where measure (1) is the preference margin relative to the MFN rate measured in percentage points and (2) is the preference margin measured in percent. Thus if the MFN ad valorem tariff rate on a particular product is 20%, and a given country is eligible for a preferential tariff rate of 5%, the preference margin relative to the MFN rate is 15 percentage points but 75%.

Finally, measure (3) is a simple binary variable equal to one if a country is eligible for GSP preferences for a given product and zero otherwise.

Chapter 2 contains summary statistics relating to each measure and Table 20 displays the average export propensities across country groups and years for all goods covered by a preference at some point in time. Across all countries, the average export propensity across the whole period is 12%, which means that of all country-product combinations covered by a preference at some point in time, positive exports to the EU are found in 12% of the cases. Over time, this has been on the increase with an average export propensity of 10% in 1995, compared to 12% in 2005 and 15% in 2012. This pattern is repeated across individual country-groups. Comparing LDCs and Non-LDCs reveals, not surprisingly, that the likelihood of exporting a given product is much higher for Non-LDCs than for LDCs, with the average export propensity over the whole period being 15% for the former compared to 4% for the latter. Across individual income groups, low-income countries consistently have the lowest export propensity, while no clear pattern emerges among the last three groups.

Table 20 - Export propensities across country groups and years

	Average over whole period	1995	2005	2012
All countries	12%	10%	12%	15%
LDCs	4%	3%	4%	6%
Non-LDCs	15%	13%	16%	19%
Low-income countries	7%	7%	8%	7%
Lower-middle income countries	15%	11%	17%	18%
Upper-middle income countries	19%	18%	18%	22%
High-income countries	11%	14%	11%	15%

Note: The table contains export propensity for country-product pairs receiving a preference on the ad valorem tariff.

Source: Authors' own calculations.

78— This calculated as $(T_{MFN} - T_{pref})$

79— This is calculated as $(1 - T_{pref}/T_{MFN})$

80— This is defined as 1 if $T_{pref} < T_{MFN}$ and zero otherwise.

Across individual sectors, the average export propensity across the whole period is largest for the group of products in the machinery and equipment sector, in which positive exports are found for 15% of the country-product observations. The lowest propensities are found among products in the mining and fuel sector, in which positive exports were found for only 5% of observations. With the exception of chemicals, where the likelihood of exporting is also relatively low, the remaining sectors have similar propensities around 11%-13%.

Table 21 - Export propensities across sectors

	Average across whole period
Agricultural products	12%
Processed foodstuffs	13%
Mining products & fuels	5%
Chemicals & chem. Prods	7%
Wood & paper products	13%
Leather, textile, apparel	13%
Basic manufactures	11%
Machinery & equipment	15%

Note: The table contains export propensity for country-product pairs receiving a preference in each sector, on the ad valorem tariff.

Source: Authors' own calculations.

Results

As in chapter 2, we include all GSP preference programmes under a single "market access" variable in the baseline results. This means that we estimate a single coefficient measuring the average causal effects of all GSP preferences on the probability of a given country exporting a given product in a given year.

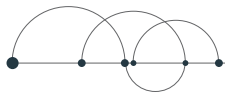
Results are given in Table 22. The point estimates are positive and statistically significant in two of the three specifications. This suggests that awarding preferential market access raises the likelihood that eligible countries start exporting an eligible product to the EU.

In terms of magnitude, the estimate obtained in column (2) implies that a complete elimination of tariffs on a given product has on average increased the likelihood of this product being exported from a beneficiary country by 0.4%. Evaluated at the average reduction in tariffs of 81.7% over the period, this implies an increase in the likelihood of exporting by 0.33% or 1/36th of the average likelihood of exporting for covered product.

This is equivalent to the implied impact found in column (3), where the point estimate suggests that preferences, regardless of magnitude, have increased the likelihood of exporting by 0.32%.

While these impacts are modest, it is important to keep in mind that (i) they are permanent, (ii) they are identified from year-on-year changes while the full response might take some time⁸¹, and (iii) the volume effects identified in Chapter 2 will add to these effects over time as the products which countries start to export due to preferences also benefit from the growth effect estimated in the previous chapter. As these products would not otherwise have been exported, the whole effect can be attributed to preferences. However, as countries also start exporting products for other reasons than trade preferences, we cannot in the data identify exactly which products belong in which category, and can therefore not calculate the overall volume of exports that are due to preferences.

⁸¹— The estimates are not cumulative effects but annual average changes computed as the difference between the annual average level of exports in the years pre- and post a preference, after differencing out all other reasons.


Table 22 - Baseline Results

Dependent variable:	Dummy for positive exports		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Effect of preferences:	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
R-squared	0.687	0.687	0.687
No. of observations	10 796 544	10 796 545	10 796 546

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. Sample includes all countries for which we have complete data and is balanced over 176 countries, 3408 products, and 18 years. Standard errors (in brackets) are clustered at the country-product level. ***, **, * indicates significance at the 1, 5, and 10 percent level respectively.

Source: Authors' own calculations based on data from UNCOM Trade and the TARIC database.

The insignificant estimate in the first column is obtained assuming a constant semi-elasticity of responses, i.e. that each percentage point reduction in tariffs elicit the same impact on the likelihood of exporting. Thus reducing tariffs from 20% - 19% is assumed to have the same impact as reducing tariffs from 2% to 1%. In the specifications displayed in column (2) we instead assume a constant elasticity of responses, i.e. that the same percentage reduction in tariffs elicit the same impact on the likelihood of exporting. Halving exports from 20% to 10% is thus assumed to have the impact as halving tariffs from 2% to 1%. Finally, in the specification displayed in column (3), where preferences are measured simply by an indicator variable, we assume a constant effect of preferences regardless of the magnitude of the preference margin.

As discussed in Chapter 2, there is a lot more variation in

Results by GSP scheme

As in chapter 2, we allow the impact to differ between individual GSP schemes, where we estimate separately the impact of EBA from other non-EBA preferences, i.e. the GSP general arrangement and the GSP+. Results are shown in Panel (b) of Table 23.

Preferences provided under the EBA are positive and statistically significant in all three specifications, whereas for the GSP/GSP+ this is only the case in the second specification. The estimates displayed in column (2) imply that the export likelihood of products for which tariffs have been fully eliminated under GSP/GSP+ has

the absolute percentage point reductions in tariffs than in the proportional reductions, as the tariff is abolished completely in 72% of cases where a preference is given.⁸² The insignificant effect found in column (1) could therefore be driven by a less than proportional response to each additional percentage point reduction in tariffs for products where preferences entail a high percentage-point reduction. Given the structure of the data, we therefore prefer specification (2) to specification (1). This is also supported by the fact that the effects obtained under specification (2) are remarkably similar to those in specification (3), where no functional form is imposed.

As in chapter 2, a number of robustness checks were carried out on the baseline estimates, cf. Appendix C. In none of these specifications do the estimates change very much.

increased by only 0.17%, while the equivalent effect under the EBA is 0.4%, as in the baseline. However, as the average export probability under the EBA is only 5.2% and thus significantly lower than the average likelihood, this implies that preferences under the EBA have raised the average probability of exporting by 1/12th.

In the last row of Table 23, we show the average impact across all preferences on the likelihood of exporting products covered by a quota, or a specific or combined tariff. The results show that there is a positive and significant impact also for these products.

⁸²— In contrast, when measured in percentage-points, the 90th percentile absolute reduction in tariffs is more than 2.6 times higher than the median.

Table 23 - Results by GSP scheme

Dependent variable:	Dummy for positive exports		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
Panel (b)	Differential effects		
Tariff cuts under GSP/GSP+	0.0046 (0.0128)	0.0017** (0.0008)	0.0004 (0.0008)
Tariff cuts under EBA	0.0377** (0.0162)	0.0044*** (0.0009)	0.0032*** (0.0009)
Any preference on a product ever receiving a quota or specific tariff	0.0027** (0.0013)	0.0029** (0.0013)	0.0029** (0.0013)
R-squared	0.688	0.688	0.688
No. of observations	12 893 760	12 893 760	12 893 760

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

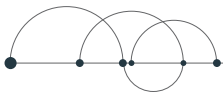
Source: Authors' own calculations based on data from UNCOM Trade and TARIC.

Results for different country groups

In this section, we allow the impact of preferences to vary across countries according to whether or not they are defined as LDCs in 2012 and across income classifications. As in chapter 2, this is accomplished by interacting the tariff difference with dummies that identify the different groups of countries.

Results by LDC Status

The results by LDC status are displayed in Table 24. For purposes of comparison, the baseline results obtained using the whole sample are reproduced in Panel (a) followed by the key results in Panel (b).


Table - 24 Results by LDC Status

Dependent variable:	Dummy for positive exports		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
Panel (b)	By LDC Status		
LDCs (49)	0.0252 (0.0162)	0.0099*** (0.0011)	0.0099*** (0.0012)
non-LDCs (127)	-0.0063 (0.0146)	0.0025*** (0.0010)	0.0016 (0.0011)
No. Observations	10 796 544	10 796 544	10 796 544

Note: Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors' own calculations based on data from UNCOM Trade and TARIC.

As in the baseline, no significant impact is found in column (1) for either of the country groups. In line with the relatively larger impact of EBA preferences, the point estimate in Column (2) implies a greater responsiveness to preferences among LDCs than Non-LDCs. These estimates imply that the likelihood of exporting a product for which the full tariff has been eliminated due to preferences has increased by 0.9% for LDCs compared to 0.3% for the Non-LDCs. While this sounds like a small effect, it should be noted that on average 99.7% of tariffs have been removed on products subject to preferences for LDCs, meaning that this effect is not limited to a small group of products but is in fact the effect evaluated at the average tariff reduction. Furthermore, the average export probability for the group of LDCs is only 4%. Relative to that, preferences have increased the likelihood of exporting a covered product by 1/4th for LDCs, which is indeed a very large impact.

Results by income classification

In order to further examine whether the average impact of preferences on the probability of exports differ according to the level of income, we follow the approach from chapter 2 and divide all countries in the sample into four exclusive groups, including Low income countries, Lower Middle income countries, Upper Middle income countries and High-income countries. The threshold for each group is defined by the World Bank and varies through time.

The results are displayed in Table 25, where the baseline is reproduced in Panel (a) for convenience and Panel (b) contains the key results. Estimates from column (2) and (3) indicate that preferences have had the largest impact on the likelihood of exporting for the low-income countries followed by the lower middle income countries.

The group of low income countries has also benefitted from a larger average reduction in the MFN rate as a results of preferences. Thus, on average, 92% of the MFN tariffs has been removed on products covered by preferences in low-income countries⁸³ compared to 81% for lower middle income countries. Evaluated at these average tariff cuts, the estimates in Column (2) imply a boost in the average probability of exporting by 1/12th for low-income countries and 1/50th for lower-middle income countries.

For the upper middle and high income countries the estimates in column (1) seem to suggest a negative impact.

83— This reflects the fact that most LDCs are in this group.

However, the significance is not confirmed by the estimates in any of the other two specifications. In the case of upper middle countries, the effect in column (2) actually suggests a positive effect, while no significant impact is found in column (3). The results for both these country groups are thus less clear than for the low and lower-middle income countries.

Table 25 - Results by income classification

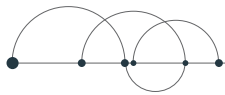
Dependent variable:	Dummy for positive exports		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
Panel (b)	By Income Classification		
Low (53)	0.0276* (0.0146)	0.0068*** (0.0010)	0.0067*** (0.0012)
Lower middle (51)	0.0119 (0.0147)	0.0036*** (0.0011)	0.0032*** (0.0012)
Upper middle (30)	-0.0692*** (0.0199)	0.0039*** (0.0012)	-0.0001 (0.0013)
High (30)	-0.0700*** (0.0258)	-0.0005 (0.0014)	-0.0001 (0.0014)
No. of observations	10 060 416	10 060 416	10 060 416

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors' own calculations based on data from UNCOM Trade and TARIC.

Results for different product groups

Next, we allow for heterogeneous effects across different product groups meaning that we assess the average response in the probability of exporting a given product within selected product groups. The results are displayed in Panel (b) in Table 26. For comparison, Panel (a) contains the baseline results, which show the average response across all products.


Table 26 - Results by product groups

Dependent variable:	Dummy for positive exports		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
Panel (b)	By product groups		
Agricultural products	-0.0050 (0.0262)	-0.0009 (0.0024)	-0.0005 (0.0020)
Processed foodstuffs	0.0344 (0.0246)	0.0067 (0.0061)	0.0002 (0.0048)
Mining products & fuels	-0.9543 (0.5813)	-0.0015 (0.0108)	-0.0013 (0.0108)
Chemicals & chem. prods	-0.0400 (0.0300)	-0.0029 (0.0020)	0.0028 (0.0022)
Wood & paper products	0.0737 (0.0831)	0.086** (0.0039)	0.0081* (0.0043)
Leather, textile, apparel	-0.0664*** (0.0230)	-0.0002 (0.0020)	-0.0003 (0.0026)
Basic manufactures	0.2561*** (0.0414)	0.0092*** (0.0016)	0.0045** (0.0018)
Machinery & equipment	0.0774*** (0.0410)	0.0057*** (0.0017)	0.0067*** (0.0022)
No. Observations.	10 755 360	10 755 360	10 755 360

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors' own calculations based on data from UNCOM Trade and TARIC.

For wood and paper products, positive and significant impacts are found in column (2) and (3), while estimates in all three columns are positive and significant for basic manufacturing, and machinery and equipment.

In Chapter 2, these three sectors were also those for which the largest impacts were found in terms of the growth of exports. The results shown here add to these previous findings as preferences increase the chances of exporting new products in these sectors, which in turn benefit from the response estimated in Part II.

In comparison to these sectors, the results reveal no significant impact on the likelihood of exporting in

Results for different specifications

As shown in chapter 2, we verify the baseline estimates by relaxing some of the initial assumptions. Whereas all estimates provided so far have relied on some kind of constancy effect, for example that each percent reduction in tariffs exhibits the same response in probabilities, regardless of the initial level of tariffs, we now relax that assumption and estimate impacts conditional on initial levels of protection.

Results are shown in Table 27 and are similar to the equivalent results found in Chapter 2. The positive impact of preferences on the likelihood of exporting is thus concentrated among products with low initial rates of protection.

As shown in Chapter 2, it is relevant to point out that most tariffs and preferences are specified at a finer, 10-digit level of product aggregation than we use in the analysis. We work at the 6-digit level and average the protection over all underlying 10-digit products. Thus, some of the very low tariff rates are the result of averaging over several products that enter duty free and one or a few products attracting a higher rate. It is not the case that the EU deliberately sets some tariff rates between 0 and 1%.

The fact that we find no positive and significant impact in any of the specifications for products with an initial tariff above 10% again suggests that the preferences granted on these product have not been sufficient to entice beneficiary countries to start exporting new products in this group. On the basis of the current analysis, we cannot know whether other factors such as supply constraints, rules of origin or non-tariff barriers may be holding back potential exporters of new products in this category, we can merely acknowledge that the preferences provided have not caused a significant

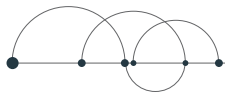
agriculture, processed foods, mining or chemicals.

Finally, the estimate in the first column for leather, textile and apparel is negative, suggesting that preferences have lowered the likelihood of exporting a given product within this sector. However, this is not confirmed by the results in column (2) and (3), which both indicate that impacts are non-significant.

Keeping in mind the initial discussion of the role of export diversification in the development process provided at the beginning of the chapter, it is reassuring that the impacts have been especially large for most of the manufacturing sectors.

increase in the likelihood of exporting products in this group of products.

Again, it should also be noted that the only remaining products in our dataset with very high MFN tariffs (i.e. above 20%) are found in the agricultural and processed food categories, for which no impact was found in Table 26.


Table 27 - Results by initial level of protection

Dependent variable:	Dummy for positive exports		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
Panel (b)	Nonlinear effects by level of MFN tariff		
Tiny tariff (0-1%)	0.6749*** (0.2954)	0.0077*** (0.0023)	0.0085*** (0.0023)
Low tariff (1-5%)	0.1427*** (0.0292)	0.0056*** (0.0011)	0.0055*** (0.0013)
Intermediate tariff (5-10%)	0.0117 (0.0169)	0.0009 (0.0012)	0.0052*** (0.0015)
High tariff (>10%)	-0.0125 (0.0141)	-0.0019 (0.0018)	-0.0097*** (0.0020)
No. of observations	10 796 544	10 796 544	10 796 544

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors' own calculations based on data from UNCOM Trade and TARIC.

Finally, we allow the impact to differ depending on the time period that has lapsed since preferences were granted, cf. Chapter 2 for details on the estimation methodology. Results are displayed in Table 28, where the Panel (a) contains the baseline estimates for purposes of comparison. In Panel (b) all results are estimated using only every four years in the sample and attribute all impacts to changes in preferences in the preceding years

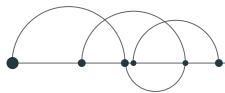
In Panel (c) we look closer at the impacts over time. In contrast to the findings in Chapter 2, the results suggest no effect within the same year that preferences are granted. In the following year, there is a relatively large positive impact, followed by a possible degree of adjustment in the subsequent year.

Table 28 - Results by timing

Dependent variable: Dummy for positive exports			
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
Panel (b)	Long (time) differences		
Includes only some years	-0.0306 (0.0189)	0.0037*** (0.0015)	0.0026 (0.0017)
panel (c)	Lagged adjustment		
Initial effect	0.0114 (0.0400)	0.0002 (0.0024)	0.0015 (0.0021)
One year lag	0.1041** (0.0433)	0.0061** (0.0027)	0.0027 (0.0021)
Two years lag	-0.0973*** (0.0353)	-0.0032 (0.0022)	-0.0031 (0.0019)

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

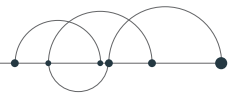
Source: Authors' own calculations based on data from UNCOM Trade and TARIC.

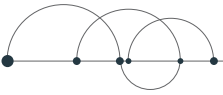


3.3 Conclusion

In this chapter we examined the impact of the EU's GSP preferences on the probability of exporting across a wide range of products. The main findings can be summarised as follows:

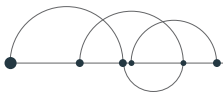
- GSP preferences have raised the likelihood that beneficiary countries begin exporting a covered product to the EU. On average, across all schemes, the results indicate that the likelihood of exporting a covered product into the EU has increased by 1/36th when evaluated at the average reduction in tariffs under the GSP.
- Preferences granted under the Everything but Arms scheme have had a relatively larger impact and have boosted the likelihood of exporting by 1/12th as a response to a complete tariff elimination on a given product.
- The impact is especially large for LDCs. GSP preferences have increased the likelihood of exporting a covered product by 1/4th for this group.
- The positive impact of GSP preferences on the likelihood of exporting falls as income levels rise. Relative to the pre-preference likelihood, the likelihood of exporting a product for which tariffs have been fully eliminated has increased by 1/12th for low-income countries, compared to 1/51th for lower-middle income countries. For upper middle and high income countries the results are less clear and show no strong evidence of a positive impact.
- Across individual product groups, positive and significant effects are found for wood and paper products, basic manufacturing and machinery and equipment. These are also the product groups for which the largest impacts were found on the growth of exports in Part II. These results therefore suggest that preferences have increased the chances of exporting new products in these sectors, which may in turn also have grown more subsequently due to the same preferences.
- Similar to the equivalent results in Part II, we find that the impact of GSP preferences on the likelihood of exporting has been concentrated among products with low initial rates of protection. This further underlines that producers in the beneficiary countries have been able to take advantage of preferences and comply with rules of origin, even when preference margins have been low.
- Contrary to the results in Part II, we find no impact of preferences on the likelihood of exporting in the same year in which preferences have been granted, indicating that a slightly longer adjustment period is needed in order to start exporting new products than to increase the volume of products already being exported to the EU. The full effect of preferences are, however, felt already the year after preferences have been granted.
- While average impacts found across most specifications were found to be relatively small, the impacts are permanent over time and suggest, in combination with the results from Chapter 2, that preferences awarded under the EU's GSP scheme have led to larger export volumes of more products from developing countries.





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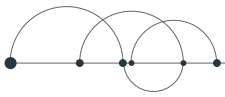
Appendix A

Appendix for Chapter 1

Table A.1 - list of developing countries (137)

Afghanistan	Congo, Rep.	Iran	Myanmar (Burma)	St.Vincent & Grenadines
Algeria	Cook Islands	Iraq	Namibia	Sudan
Angola	Costa Rica	Israel	Nauru	Suriname
Antigua & Barbuda	Cote d'Ivoire	Jamaica	Nepal	Swaziland
Argentina	Cuba	Jordan	Nicaragua	Syria
Armenia	Djibouti	Kazakhstan	Niger	Tajikistan
Azerbaijan	Dominica	Kenya	Nigeria	Tanzania
Bangladesh	Dominican Republic	Kiribati	Niue	Thailand
Barbados	Ecuador	Kyrgyz Rep.	Occupied Palestinian territory	Timor-Leste
Belarus	Egypt	Laos	Pakistan	Togo
Belize	El Salvador	Lebanon	Palau	Tonga
Benin	Equatorial Guinea	Lesotho	Panama	Trinidad & Tobago
Bhutan	Eritrea	Liberia	Papua New Guinea	Tunisia
Bolivia	Ethiopia	Libya	Paraguay	Turkmenistan
Botswana	Fiji	Madagascar	Peru	Tuvalu
Brazil	Gabon	Malawi	Philippines	Uganda
Burkina Faso	Gambia	Malaysia	Rwanda	Ukraine
Burundi	Georgia	Maldives	Samoa	Uruguay
Cambodia	Ghana	Mali	Sao Tome & Principe	Uzbekistan
Cameroon	Grenada	Marshall Islands	Senegal	Vanuatu
Cape Verde	Guatemala	Mauritania	Seychelles	Venezuela
Central African Rep.	Guinea	Mauritius	Sierra Leone	Viet Nam
Chad	Guinea-Bissau	Mexico	Solomon Islands	Yemen
Chile	Guyana	Micronesia, Fed. Sts.	Somalia	Zambia
China	Haiti	Moldova	South Africa	Zimbabwe
Colombia	Honduras	Mongolia	Sri Lanka	
Comoros	India	Morocco	St.Kitts-Nevis	
Congo, Dem. Rep.	Indonesia	Mozambique	St.Lucia	

Source: Copenhagen Economics

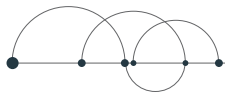

Table A.2 - List of EU9, EU15 and EU27 countries

EU9	EU15	EU27
Belgium	Belgium	Belgium
Denmark	Denmark	Denmark
France	Finland	Finland
Germany	France	France
Holland	Germany	Germany
Italy	Holland	Holland
Ireland	Italy	Italy
Luxemburg	Sweden	Sweden
UK	UK	UK
	Austria	Austria
	Greece	Greece
	Ireland	Ireland
	Luxemburg	Luxemburg
	Portugal	Portugal
	Spain	Spain
		Cyprus
		Czech Republic
		Estonia
		Hungary
		Latvia
		Lithuania
		Malta
		Poland
		Slovakia
		Slovenia
		Bulgaria
		Romania

Source: Copenhagen Economics

Table A.3 - Sectoral groupings of products

2-digit SITC revision 1	Product group	Product description
00	Agricultural products	Live animals
01	Agricultural products	Meat and meat preparations
02	Agricultural products	Dairy products and eggs
03	Agricultural products	Fish and fish preparations
04	Agricultural products	Cereals and cereal preparations
05	Agricultural products	Fruit and vegetables
06	Agricultural products	Sugar, sugar preparations and honey
07	Agricultural products	Coffee, tea, cocoa, spices & manufactures thereof
08	Agricultural products	Feed. Stuff for animals excl. Unmilled cereals
09	Agricultural products	Miscellaneous food preparations
11	Agricultural products	Beverages
12	Agricultural products	Tobacco and tobacco manufactures
21	Agricultural products	Hides, skins and fur skins, undressed
22	Agricultural products	Oil seeds, oil nuts and oil kernels
23	Agricultural products	Crude rubber including synthetic and reclaimed
24	Agricultural products	Wood, lumber and cork
25	Agricultural products	Pulp and paper
26	Agricultural products	Textile fibres, not manufactured, and waste
27	Other	Crude fertilizers and crude minerals, not elsewhere specified
28	Other	Metalliferous ores and metal scrap
29	Agricultural products	Crude animal and vegetable materials, not elsewhere specified
32	Fuels	Coal, coke and briquettes
33	Fuels	Petroleum and petroleum products
34	Fuels	Gas, natural and manufactured
35	Fuels	Electric energy
41	Agricultural products	Animal oils and fats



42	Agricultural products	Fixed vegetable oils and fats
43	Agricultural products	Animal and vegetable oils and fats, processed
51	Manufactures	Chemical elements and compounds
52	Manufactures	Crude chemicals from coal, petroleum and gas
53	Manufactures	Dyeing, tanning and colouring materials
54	Manufactures	Medicinal and pharmaceutical products
55	Manufactures	Perfume materials, toilet & cleansing preparations
56	Manufactures	Fertilizers, manufactured
57	Manufactures	Explosives and pyrotechnic products
58	Manufactures	Plastic materials, etc.
59	Manufactures	Chemical materials and products, not elsewhere specified
61	Manufactures	Leather, leather manufactures not elsewhere specified & dressed fur skins
62	Manufactures	Rubber manufactures, not elsewhere specified
63	Manufactures	Wood and cork manufactures excluding furniture
64	Manufactures	Paper, paperboard and manufactures thereof
65	Manufactures	Textile yarn, fabrics, made up articles, etc.
66	Manufactures	Non-metallic mineral manufactures, not elsewhere specified
67	Manufactures	Iron and steel
68	Other	Nonferrous metals
69	Manufactures	Manufactures of metal, not elsewhere specified
71	Manufactures	Machinery, other than electric
72	Manufactures	Electrical machinery, apparatus and appliances
73	Manufactures	Transport equipment
81	Manufactures	Sanitary, plumbing, heating and lighting fixtures.
82	Manufactures	Furniture
83	Manufactures	Travel goods, handbags and similar articles
84	Manufactures	Clothing
85	Manufactures	Footwear



86	Manufactures	Scientific & control instruments, photogr gds, clocks
89	Manufactures	Miscellaneous manufactured articles, not elsewhere specified
91	Other	Postal packages not class. According to kind
93	Other	Special transact. Not class. According to kind
94	Agricultural products	Animals, not elsewhere specified , incl. Zoo animals, dogs and cats
95	Other	Firearms of war and ammunition therefor
96	Manufactures	Coin, other than gold coin, not legal tender

Source: UNCom Trade via WITS.




Table A.4 - Least Developed Countries, 2012

Afghanistan	Gambia	Rwanda
Angola	Guinea	Samoa
Bangladesh	Guinea-Bissau	Sao Tome & Principe
Benin	Haiti	Senegal
Bhutan	Kiribati	Sierra Leone
Burkina Faso	Laos	Solomon Islands
Burundi	Lesotho	Somalia
Cambodia	Liberia	Sudan
Central African Rep.	Madagascar	Tanzania
Chad	Malawi	Timor-Leste
Comoros	Mali	Togo
Congo, Dem. Rep.	Mauritania	Tuvalu
Djibouti	Mozambique	Uganda
Equatorial Guinea	Myanmar (Burma)	Vanuatu
Eritrea	Nepal	Yemen
Ethiopia	Niger	Zambia

Note: Botswana graduated in December 1994, Cape Verde in December 2007, Maldives in January 2011 and Samoa in January 2014.

Source: UNCTAD (2012)

Table A.5 - Trade regimes 1973 onwards

Others	ACP (non-least developed)	FTA	Original GSP (non ACP, Non FTA, Non LDC)	Least developed (ACP)	Least developed (Non-ACP)
Armenia	Antigua and Barbuda	Algeria	Argentina	Angola	Afghanistan
Azerbaijan	Barbados	Chile	Bolivia	Benin	Bangladesh
Belarus	Belize	Egypt, Arab Rep.	Brazil	Burkina Faso	Bhutan
China	Botswana	Israel	Colombia	Burundi	Cambodia
Georgia	Cameroon	Jordan	Costa Rica	Central African Republic	Lao PDR
Kazakhstan	Cape Verde	Lebanon	Ecuador	Chad	Maldives
Kyrgyz Republic	Congo, Rep.	Mexico	El Salvador	Comoros	Myanmar
Moldova	Cook Islands	Morocco	Guatemala	Congo, Dem. Rep.	Nepal
Mongolia	Cote d'Ivoire	Occ.Pal.Terr	Honduras	Djibouti	Yemen
Paraguay	Cuba	Syrian Arab Republic	India	East Timor	
Tajikistan	Dominica	Tunisia	Indonesia	Equatorial Guinea	
Turkmenistan	Dominican Republic		Iran, Islamic Rep.	Eritrea	
Ukraine	Fiji		Iraq	Ethiopia(excludes Eritrea)	
Uzbekistan	Gabon		Libya	Gambia, The	
	Ghana		Malaysia	Guinea	
	Grenada		Nicaragua	Guinea-Bissau	
	Guyana		Pakistan	Haiti	
	Jamaica		Panama	Kiribati	
	Kenya		Peru	Lesotho	
	Marshall Islands		Philippines	Liberia	
	Mauritius		Sri Lanka	Madagascar	
	Micronesia, Fed. Sts.		Thailand	Malawi	
	Namibia		Uruguay	Mali	
	Nauru		Venezuela	Mauritania	
	Nigeria		Vietnam	Mozambique	
	Niue			Niger	
	Palau			Rwanda	



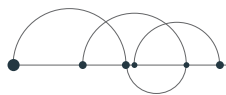
Papua New Guinea	Samoa
Seychelles	Sao Tome and Principe
South Africa	Senegal
St. Kitts and Nevis	Sierra Leone
St. Lucia	Solomon Islands
St. Vincent and the Grenadines	Somalia
Suriname	Sudan
Swaziland	Tanzania
Tonga	Togo
Trinidad and Tobago	Tuvalu
Zimbabwe	Uganda
	Vanuatu
	Zambia

Note: The group of FTA countries is identified using information from DG Trade's website, while ACP countries are listed in Chapter 1. As the original beneficiary countries to the GSP were primarily equated with the group of 77 in UNCTAD, the list above contains the original G77 members, excluding LDC countries and countries eligible for ACP preferences or which have signed an FTA with the EU. Information on the original membership of the G77 is obtained from 'Joint Declaration of the Seventy-Seven Developing Countries Made at the Conclusion of the United Nations Conference on Trade and Development, Geneva 15 June 1964).

Source: Copenhagen Economics.

Table A.6 - Country eligibility to preference schemes (1995 onwards)

FTA	ACP	GA	GSPPLUS	EBA
Algeria	Antigua and Barbuda	Argentina	Bolivia	Afghanistan
Chile	Barbados	Armenia	Colombia	Angola
Egypt, Arab Rep.	Belize	Azerbaijan	Costa Rica	Bangladesh
Israel	Botswana	Belarus	Ecuador	Benin
Jordan	Cameroon	Brazil	El Salvador	Bhutan
Lebanon	Congo, Rep.	China	Georgia	Burkina Faso
Mexico	Cook Islands	India	Guatemala	Burundi
Morocco	Cote d'Ivoire	Indonesia	Honduras	Cambodia
Occ.Pal.Terr	Cuba	Iran, Islamic Rep.	Mongolia	Cape Verde
Syrian Arab Republic	Dominica	Iraq	Nicaragua	Central African Republic
Tunisia	Dominican Republic	Kazakhstan	Panama	Chad
	East Timor	Kyrgyz Republic	Peru	Comoros
	Fiji	Libya	Sri Lanka	Congo, Dem. Rep.
	Gabon	Malaysia	Venezuela	Djibouti
	Ghana	Moldova		Equatorial Guinea
	Grenada	Pakistan		Eritrea
	Guyana	Paraguay		Ethiopia(excludes Eritrea)
	Jamaica	Philippines		Gambia, The
	Kenya	Tajikistan		Guinea
	Marshall Islands	Thailand		Guinea-Bissau
	Mauritius	Turkmenistan		Haiti
	Micronesia, Fed. Sts.	Ukraine		Kiribati
	Namibia	Uruguay		Lao PDR
	Nauru	Uzbekistan		Lesotho
	Nigeria	Vietnam		Liberia
	Niue			Madagascar
	Palau			Malawi
	Papua New Guinea			Maldives
	Seychelles			Mali
	South Africa			Mauritania



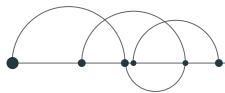
St. Kitts and Nevis	Mozambique
St. Lucia	Myanmar
Vincent and the Grenadines	Nepal
Suriname	Niger
Swaziland	Rwanda
Tonga	Samoa
Trinidad and Tobago	Sao Tome and Principe
Zimbabwe	Senegal
	Sierra Leone
	Solomon Islands
	Somalia
	Sudan
	Tanzania
	Togo
	Tuvalu
	Uganda
	Vanuatu
	Yemen
	Zambia

Note: For the GSPPLUS and the EBA, only countries eligible from the start of the regimes are included in order to have consistent country groupings through time. Countries joining the schemes after their initiation are included in the General Arrangement group.

Source: Copenhagen Economics using data from TARIC.

Table A.7 - Geographical groupings

East Asia and Pacific (25)	Europe and Central Asia (11)	Latin America and Caribbean (32)	Middle East and North Africa (14)	South Asia (8)	Sub-Saharan Africa (47)	
Cambodia	Armenia	Antigua & Barbuda*	Algeria	Afghanistan	Angola	Mauritania
China	Azerbaijan	Argentina	Djibouti	Bangladesh	Benin	Mauritius
Cook Islands*	Belarus	Barbados*	Egypt, Arab Rep.	Bhutan	Botswana	Mozambique
Fiji	Georgia	Belize	Iran, Islamic Rep.	India	Burkina Faso	Namibia
Indonesia	Kazakhstan	Bolivia	Iraq	Maldives	Burundi	Niger
Kiribati	Kyrgyz Republic	Brazil	Israel*	Nepal	Cameroon	Nigeria
Laos	Moldova	Chile*	Jordan	Pakistan	Cape Verde	Rwanda
Malaysia	Tajikistan	Colombia	Lebanon	Sri Lanka	Central African Republic	São Tomé and Príncipe
Marshall Islands	Turkmenistan	Costa Rica	Libya		Chad	Senegal
Micronesia, Fed. Sts	Ukraine	Cuba	Morocco		Comoros	Seychelles
Mongolia	Uzbekistan	Dominica	Occupied Palestinian Territory*		Congo, Dem. Rep.	Sierra Leone
Myanmar		Dominican Republic	Syrian Arab Republic		Congo, Rep	Somalia
Nauru*		Ecuador	Tunisia		Côte d'Ivoire	South Africa
Niue*		El Salvador	Yemen, Rep.		Equatorial Guinea*	Sudan
Palau		Grenada			Eritrea	Swaziland
Papua New Guinea		Guatemala			Ethiopia	Tanzania
Philippines		Guyana			Gabon	Togo
Samoa		Haiti			Gambia, The	Uganda
Solomon Islands		Honduras			Ghana	Zambia
Thailand		Jamaica			Guinea	Zimbabwe

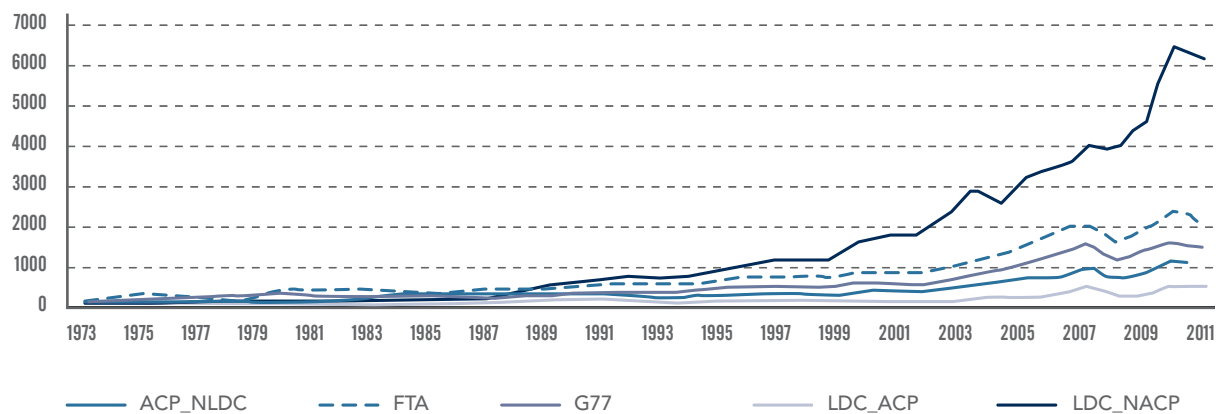


Timor-Leste	Mexico	Guinea-Bissau
Tuvalu	Nicaragua	Kenya
Tonga	Panama	Lesotho
Vanuatu	Paraguay	Liberia
Vietnam	Peru	Madagascar
	St. Kitts and Nevis*	Malawi
	St. Lucia	Mali
	St. Vincent and the Grenadines	
	Suriname	
	Trinidad and Tobago*	
	Uruguay*	
	Venezuela, RB	

Note: Countries with * are not contained in the geographical classification provided by the World Bank as this is only available for low and middle income countries with a population exceeding 30.000. Countries which are underlined are LDCs in 2012 (Maldives is included despite their graduation in 2011)

Source: Copenhagen Economics using the World Bank geographical classification.

Figure A.1 - Trends for EU9 total imports (Excl. fuel) from DC by trade regimes, 1973 -2012

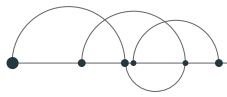


Source: Copenhagen Economics using data from UNCOM Trade

Table A.8 Top five origins of EU import from Non-LDCs by region and decade

Decade	EAP		LAC		MEA		SA		SSA	
	country	%	country	%	country	%	country	%	country	%
1970s	Malaysia	27	Brazil	31	Iran	32	India	73	Nigeria	42
	China	21	Argentina	17	Libya	21	Pakistan	18	South Africa	27
	Indonesia	17	Venezuela	8	Iraq	18	Sri Lanka	9	Cote d'Ivoire	12
	Thailand	16	Chile	7	Algeria	12			Gabon	5
	Philippines	11	Colombia	6	Morocco	4			Cameroon	5
Total		93		70		87		100		89
1980s	China	34	Brazil	35	Libya	22	India	70	Nigeria	36
	Malaysia	21	Argentina	11	Algeria	22	Pakistan	21	South Africa	27
	Thailand	18	Venezuela	10	Iran	15	Sri Lanka	9	Cote d'Ivoire	10
	Indonesia	13	Mexico	10	Iraq	12			Cameroon	8
	Philippines	10	Chile	7	Egypt	9			Gabon	5
Total		96		74		79		100		86
1990s	China	49	Brazil	37	Algeria	18	India	72	South Africa	38
	Malaysia	16	Argentina	12	Libya	18	Pakistan	18	Nigeria	17
	Thailand	14	Chile	10	Israel	15	Sri Lanka	10	Cote d'Ivoire	12
	Indonesia	12	Mexico	8	Iran	14			Cameroon	7
	Philippines	6	Colombia	7	Morocco	11			Mauritius	6
Total		96		74		76		100		80
200s	China	76	Brazil	36	Libya	23	India	81	South Africa	42
	Malaysia	7	Mexico	14	Algeria	20	Pakistan	12	Nigeria	28
	Thailand	6	Chile	11	Israel	11	Sri Lanka	7	Cote d'Ivoire	6
	Indonesia	5	Argentina	10	Iran	11			Cameroon	5
	Vietnam	3	Colombia	5	Tunisia	9			Botswana	4
Total		97		76		74		100		84

Note: The EU9 is used for the 1970s, 1980s and 1990s. For the 2000s, the EU15 is used. Country shares are computed as the country share of total EU imports from a given region in a given decade. Fuels are included. In total there 16 countries in the EPA group, 31 in the LAC group, 11 in the ECA group, 12 in the MEA group, 3 in the SA group and 15 in the SSA group. Source: Copenhagen Economics using data from UNCOM Trade.


Table A.9 - Top five origin of EU imports from LDCs by region and decade

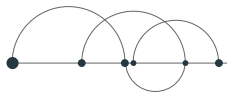
Decade	East Asia and Pacific		South Asia		Sub-Saharan Africa	
	country	%	country	%	country	%
1970s	Myanmar	54	Bangladesh	55	Congo, Dem. Rep.	26%
	Vanuatu	18	Afghanistan	41	Zambia	13%
	Solomon Islands	17	Nepal	4	Liberia	9%
	Samoa	6			Senegal	7%
	East Timor	3			Sudan	5%
Total		98		100		60%
1980s	Myanmar	55	Bangladesh	64	Congo, Dem. Rep.	23%
	Solomon Islands	17	Afghanistan	23	Liberia	11%
	Vanuatu	17	Nepal	12	Angola	8%
	Samoa	5	Maldives	1	Zambia	7%
	Kiribati	3			Senegal	6%
Total		97		100		55%
1990s	Myanmar	34	Bangladesh	85	Congo, Dem. Rep.	16%
	Cambodia	30	Nepal	10	Angola	14%
	Lao PDR	22	Afghanistan	3	Liberia	9%
	Solomon Islands	8	Maldives	1	Madagascar	7%
	Vanuatu	5			Guinea	6%
Total		99		100		52%
2000s	Cambodia	64	Bangladesh	97	Angola	30%
	Myanmar	20	Nepal	2	Equatorial Guinea	17%
	Lao PDR	11	Maldives	1	Mozambique	8%
	Tuvalu	3			Congo, Dem. Rep.	6%
	Solomon Islands	1			Madagascar	4%
Total		99		100		66%

Note: EU15 in 2000s. Latin America is excluded as the only LDC in that region is Haiti. MEA is also excluded as only Yemen and Djibouti are LDCs in that region. Fuels are included. In total there are 9 countries in the EPA group, 5 in the SA group and 32 in the SSA group. The region of Latin America is excluded as only Haiti is an LDC in that region. The region of Middle East and North Africa is likewise excluded, as only Djibouti and Yemen are LDCs in that region.

Source: Copenhagen Economics using data from UNCOM Trade.

Table A.10 - Products 2012, Non-LDCs (excluding China)

Product description	Value in billion Euro	Share of imports from Non-LDCs (excl. China)
Petroleum and petroleum products	158.1	31.4%
Electrical machinery, apparatus and	34.1	6.8%
Gas, natural and manufactured	26.0	5.2%
Machinery, other than electric	24.7	4.9%
Clothing	22.6	4.5%
Metalliferous ores and metal scrap	18.9	3.8%
Fruit and vegetables	17.9	3.6%
Coffee, tea, cocoa, spices & manufa	13.5	2.7%
Transport equipment	13.0	2.6%
Chemical elements and compounds	10.9	2.2%
Iron and steel	9.9	2.0%
Non metallic mineral manufactures,	9.9	2.0%
Special transact. Not class. Accord	9.1	1.8%
Non ferrous metals	9.0	1.8%
Feed. Stuff for animals excl. Unmil	9.0	1.8%
Miscellaneous manufactured articles	8.9	1.8%
Fish and fish preparations	8.3	1.6%
Footwear	7.4	1.5%
Fixed vegetable oils and fats	7.2	1.4%
Textile yarn, fabrics, made up arti	6.6	1.3%
Coal, coke and briquettes	6.4	1.3%
Oil seeds, oil nuts and oil kernels	5.8	1.2%
Medicinal and pharmaceutical produc	5.0	1.0%
Scientif & control instrum, photogr	4.9	1.0%
Chemical materials and products, n.	4.2	0.8%
Meat and meat preparations	3.8	0.8%
Crude rubber including synthetic an	3.8	0.8%
Manufactures of metal, n.e.s	3.3	0.7%
Cereals and cereal preparations	3.2	0.6%
Plastic materials, etc.	3.1	0.6%
Furniture	2.9	0.6%



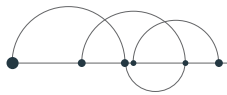
Pulp and paper	2.9	0.6%
Leather, lthr. Manufs., n.e.s & dre	2.8	0.5%
Rubber manufactures, n.e.s.	2.4	0.5%
Fertilizers, manufactured	2.3	0.5%
Crude fertilizers and crude mineral	2.2	0.4%
Crude animal and vegetable material	2.1	0.4%
Sugar, sugar preparations and honey	2.0	0.4%
Beverages	1.9	0.4%
Wood, lumber and cork	1.8	0.4%
Wood and cork manufactures excluding	1.7	0.3%
Tobacco and tobacco manufactures	1.6	0.3%
Travel goods, handbags and similar	1.3	0.3%
Paper, paperboard and manufactures	1.1	0.2%
Textile fibres, not manufactured, a	1.1	0.2%
Perfume materials, toilet & cleansi	1.0	0.2%
Animal and vegetable oils and fats,	1.0	0.2%
Dyeing, tanning and colouring mater	0.8	0.2%
Miscellaneous food preparations	0.7	0.1%
Sanitary, plumbing, heating and lig	0.5	0.1%
Electric energy	0.4	0.1%
Animal oils and fats	0.3	0.1%
Hides, skins and fur skins, undress	0.2	0.0%
Crude chemicals from coal, petroleum	0.1	0.0%
Firearms of war and ammunition ther	0.1	0.0%
Dairy products and eggs	0.0	0.0%
Animals, n.e.s., incl. Zoo animals,	0.0	0.0%
Coin, other than gold coin, not leg	0.0	0.0%
Explosives and pyrotechnic products	0.0	0.0%
Live animals	0.0	0.0%

Note: The original data is in USD and converted to Euro using the average 2012 US/Euro exchange rate of 1.2859 obtained from the US Federal reserve.

Source: Copenhagen Economics using data from UNCOM Trade.

Table A.11 - Products 2012, LDCs

Product description	Value in Billion Euro	Share of imports from LDCs
Clothing	13.0	36.7%
Petroleum and petroleum products	11.2	31.6%
Non ferrous metals	1.6	4.4%
Metalliferous ores and metal scrap	1.2	3.3%
Coffee, tea, cocoa, spices & manufa	1.1	3.1%
Fish and fish preparations	1.1	3.0%
Non metallic mineral manufactures,	1.1	3.0%
Chemical elements and compounds	0.7	1.9%
Transport equipment	0.6	1.6%
Tobacco and tobacco manufactures	0.5	1.5%
Footwear	0.5	1.5%
Textile yarn, fabrics, made up arti	0.4	1.2%
Crude animal and vegetable material	0.4	1.0%
Sugar, sugar preparations and honey	0.3	0.9%
Gas, natural and manufactured	0.3	0.9%
Fruit and vegetables	0.3	0.8%
Special transact. Not class. Accord	0.2	0.7%
Crude fertilizers and crude mineral	0.1	0.4%
Leather, lthr. Manufs., n.e.s & dre	0.1	0.4%
Cereals and cereal preparations	0.1	0.3%
Machinery, other than electric	0.1	0.3%
Wood, lumber and cork	0.1	0.2%
Crude rubber including synthetic an	0.1	0.2%
Fixed vegetable oils and fats	0.1	0.2%
Miscellaneous manufactured articles	0.1	0.2%
Textile fibres, not manufactured, a	0.1	0.1%
Oil seeds, oil nuts and oil kernels	0.0	0.1%
Electrical machinery, apparatus and	0.0	0.1%
Coal, coke and briquettes	0.0	0.1%
Travel goods, handbags and similar	0.0	0.1%
Hides, skins and fur skins, undress	0.0	0.1%



Perfume materials, toilet & cleansi	0.0	0.1%
Scientif & control instrum, photogr	0.0	0.1%
Wood and cork manufactures excluding	0.0	0.1%
Feed. Stuff for animals excl. Unmil	0.0	0.0%
Iron and steel	0.0	0.0%
Furniture	0.0	0.0%
Plastic materials, etc.	0.0	0.0%
Manufactures of metal, n.e.s	0.0	0.0%
Medicinal and pharmaceutical produc	0.0	0.0%
Animal oils and fats	0.0	0.0%
Paper, paperboard and manufactures	0.0	0.0%
Animal and vegetable oils and fats,	0.0	0.0%
Miscellaneous food preparations	0.0	0.0%
Rubber manufactures, n.e.s.	0.0	0.0%
Beverages	0.0	0.0%
Sanitary, plumbing, heating and lig	0.0	0.0%
Animals, n.e.s., incl. Zoo animals,	0.0	0.0%
Chemical materials and products, n.	0.0	0.0%
Dyeing, tanning and colouring mater	0.0	0.0%
Firearms of war and ammunition ther	0.0	0.0%
Meat and meat preparations	0.0	0.0%
Dairy products and eggs	0.0	0.0%
Fertilizers, manufactured	0.0	0.0%
Crude chemicals from coal, petroleu	0.0	0.0%
Coin, other than gold coin, not leg	0.0	0.0%
Pulp and paper	0.0	0.0%
Explosives and pyrotechnic products	0.0	0.0%
Live animals	0.0	0.0%

Note: The original data is in USD and converted to Euro using the average 2012 US/Euro exchange rate of 1.2859 obtained from the US Federal reserve.

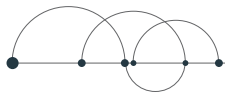
Source: Copenhagen Economics using data from UNCOM Trade.

Table A.12 - Top three products in total regional imports of Agriculture and manufacturing products from Non-LDCs 2012

region	Agriculture	%	Manufacturing	%
China	Fish and fish preparations	24%	Electrical machinery, apparatus and	25%
	Fruit and vegetables	23%	Machinery, other than electric	22%
	Crude animal and vegetable material	13%	Clothing	12%
	Total	61%		59%
EAP	Fixed vegetable oils and fats	30%	Electrical machinery, apparatus and	31%
	Crude rubber including synthetic an	16%	Machinery, other than electric	18%
	Coffee, tea, cocoa, spices & manufa	14%	Clothing	10%
	Total	60%		59%
ECA	Cereals and cereal preparations	31%	Iron and steel	38%
	Oil seeds, oil nuts and oil kernels	22%	Electrical machinery, apparatus and	13%
	Fixed vegetable oils and fats	13%	Chemical elements and compounds	8%
	Total	66%		59%
LAC	Fruit and vegetables	24%	Machinery, other than electric	21%
	Feed. Stuff for animals excl. Unmil	18%	Transport equipment	15%
	Coffee, tea, cocoa, spices & manufa	13%	Electrical machinery, apparatus and	14%
	Total	55%		49%
MEA	Fruit and vegetables	53%	Electrical machinery, apparatus and	20%
	Fish and fish preparations	18%	Clothing	19%
	Crude animal and vegetable material	9%	Medicinal and pharmaceutical produc	9%
	Total	80%		47%
SA	Fruit and vegetables	18%	Clothing	25%
	Coffee, tea, cocoa, spices & manufa	18%	Textile yarn, fabrics, made up arti	11%
	Fish and fish preparations	17%	Chemical elements and compounds	8%
	Total	53%		43%
SSA	Coffee, tea, cocoa, spices & manufa	39%	Non metallic mineral manufactures,	35%
	Fruit and vegetables	22%	Machinery, other than electric	15%
	Fish and fish preparations	12%	Textile yarn, fabrics, made up arti	14%
	Total	72%		64%

Note: The table shows the top three product groups in terms of EU27 total import value from each region of agricultural and manufacturing products in 2012.

Source: Copenhagen Economics using data from UNCOM Trade.


Table A.13 - Top three products in total regional imports of Agriculture and manufacturing products from LDCs 2012

region	Agriculture	%	Manufacturing	%
Bangladesh	Fish and fish preparations	86%	Clothing	94%
	Tobacco and tobacco manufactures	6%	Textile yarn, fabrics, made up arti	3%
	Fruit and vegetables	4%	Footwear	1%
	Total	96%		98%
EAP	Cereals and cereal preparations	34%	Clothing	77%
	Fish and fish preparations	15%	Footwear	14%
	Sugar, sugar preparations and honey	14%	Transport equipment	7%
	Total	64%		98%
LAC	Coffee, tea, cocoa, spices & manufa	44%	Clothing	57%
	Fruit and vegetables	22%	Perfume materials, toilet & cleansi	31%
	Crude animal and vegetable material	19%	Electrical machinery, apparatus and	8%
Total	84%		97%	
MEA	Fish and fish preparations	54%	Transport equipment	21%
	Hides, skins and fur skins, undress	20%	Machinery, other than electric	20%
	Coffee, tea, cocoa, spices & manufa	15%	Electrical machinery, apparatus and	20%
Total	89%		61%	
SA	Fish and fish preparations	78%	Clothing	34%
	Hides, skins and fur skins, undress	9%	Textile yarn, fabrics, made up arti	32%
	Fruit and vegetables	5%	Miscellaneous manufactured articles	7%
Total	93%		73%	
SSA	Coffee, tea, cocoa, spices & manufa	31%	Non metallic mineral manufactures,	40%
	Fish and fish preparations	19%	Chemical elements and compounds	25%
	Tobacco and tobacco manufactures	15%	Clothing	12%
Total	66%		77%	

Note: The table shows the top three product groups in terms of EU27 total import value from each region of agricultural and manufacturing products in 2012.

Source: Copenhagen Economics using data from UNCOM Trade.

Table A.14 - Summary statistics of the sectors shares in total imports from East Asian and Pacific Non-LDCs by decade

Decade	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	60%	3%	27%	10%
	Median	69%	0%	18%	3%
	Min	10%	0%	0%	0%
	Max	98%	19%	90%	52%
	Std Dev	29%	6%	30%	15%
	N	12	6	12	11
1980s	Mean	58%	1%	27%	13%
	Median	54%	0%	34%	5%
	Min	25%	0%	1%	0%
	Max	98%	10%	50%	46%
	Std Dev	22%	3%	18%	16%
	N	12	7	12	12
1990s	Mean	34%	0%	54%	11%
	Median	22%	0%	56%	1%
	Min	0%	0%	1%	0%
	Max	96%	3%	100%	94%
	Std Dev	31%	1%	35%	25%
	N	14	8	15	14
2000s	Mean	33%	1%	58%	7%
	Median	24%	0%	62%	6%
	Min	0%	0%	2%	1%
	Max	97%	11%	97%	24%
	Std Dev	29%	3%	31%	7%
	N	15	13	15	15

Source: Copenhagen Economics using data from UNCOM Trade


Table A.15 - Summary statistics of the sectors shares in total imports from Eastern European and Central Asian Non-LDCs by decade

Decade	Statistic	Agriculture	fuels	manufacturing	Other
1990s	Mean	30%	18%	34%	18%
	Median	17%	3%	23%	10%
	Min	1%	0%	5%	1%
	Max	86%	63%	87%	68%
	Std Dev	30%	24%	29%	20%
	N	11	11	11	11
2000s	Mean	12%	35%	35%	18%
	Median	14%	11%	31%	7%
	Min	0%	0%	1%	0%
	Max	24%	99%	71%	59%
	Std Dev	9%	40%	27%	20%
	N	11	11	11	11

Source: Copenhagen Economics using data from UNCOM Trade

Table A.16 - Summary statistics of the sectors shares in total imports from Latin American Non-LDCs by decade

	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	67%	6%	13%	14%
	Median	74%	0%	7%	2%
	Min	3%	0%	0%	0%
	Max	98%	80%	46%	91%
	Std Dev	30%	19%	14%	24%
	N	28	16	28	28
1980s	Mean	64%	9%	15%	12%
	Median	77%	0%	7%	1%
	Min	1%	0%	1%	0%
	Max	99%	87%	78%	88%
	Std Dev	33%	21%	18%	22%
	N	31	26	31	31
1990s	Mean	65%	4%	21%	10%
	Median	75%	0%	13%	2%
	Min	5%	0%	3%	0%
	Max	97%	64%	69%	73%
	Std Dev	29%	12%	20%	18%
	N	31	26	31	31
2000s	Mean	52%	10%	29%	9%
	Median	50%	0%	19%	2%
	Min	2%	0%	3%	0%
	Max	96%	74%	93%	59%
	Std Dev	28%	21%	25%	16%
	N	31	31	31	31

Source: Copenhagen Economics using data from UNCOM Trade


Table A.17 - Summary statistics of the sectors shares in total imports from Middle East and North African Non-LDCs by decade

	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	15%	55%	21%	8%
	Median	10%	71%	8%	2%
	Min	0%	0%	0%	0%
	Max	44%	100%	61%	36%
	Std Dev	16%	43%	23%	13%
	N	11	11	11	11
1980s	Mean	11%	54%	27%	7%
	Median	7%	80%	8%	4%
	Min	0%	1%	2%	0%
	Max	32%	98%	67%	22%
	Std Dev	13%	44%	28%	8%
	N	11	11	11	11
1990s	Mean	9%	46%	38%	8%
	Median	9%	52%	33%	4%
	Min	0%	0%	1%	0%
	Max	22%	99%	84%	33%
	Std Dev	7%	43%	34%	11%
	N	11	11	11	11
2000s	Mean	12%	45%	38%	6%
	Median	6%	31%	36%	3%
	Min	0%	0%	0%	0%
	Max	58%	100%	83%	25%
	Std Dev	16%	45%	33%	8%
	N	12	12	12	12

Source: Copenhagen Economics using data from UNCOM Trade

Table A.18 - Summary statistics of the sectors shares in total imports from South Asian Non-LDCs by decade

	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	48%	1%	47%	4%
	Median	33%	2%	59%	2%
	Min	25%	0%	10%	1%
	Max	87%	2%	71%	8%
	Std Dev	34%	1%	33%	4%
	N	3	3	3	3
1980s	Mean	31%	2%	65%	2%
	Median	22%	2%	72%	2%
	Min	21%	0%	48%	1%
	Max	50%	4%	76%	3%
	Std Dev	17%	2%	15%	1%
	N	3	3	3	3
1990s	Mean	14%	0%	84%	1%
	Median	13%	0%	83%	1%
	Min	11%	0%	82%	0%
	Max	18%	1%	88%	3%
	Std Dev	3%	0%	3%	1%
	N	3	3	3	3
2000s	Mean	9%	3%	87%	2%
	Median	9%	0%	89%	2%
	Min	8%	0%	81%	1%
	Max	11%	8%	91%	3%
	Std Dev	2%	5%	5%	1%
	N	3	3	3	3

Source: Copenhagen Economics using data from UNCOM Trade


Table A.19 - Summary statistics of the sectors shares in total imports from Sub-Saharan African Non-LDCs by decade

	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	54%	17%	13%	16%
	Median	54%	1%	7%	7%
	Min	4%	0%	1%	0%
	Max	97%	89%	41%	88%
	Std Dev	35%	31%	12%	25%
	N	12	9	12	12
1980s	Mean	54%	24%	14%	8%
	Median	53%	2%	10%	4%
	Min	5%	0%	1%	0%
	Max	94%	94%	46%	31%
	Std Dev	32%	33%	13%	10%
	N	12	12	12	12
1990s	Mean	47%	19%	26%	8%
	Median	46%	1%	12%	2%
	Min	10%	0%	4%	0%
	Max	93%	83%	75%	29%
	Std Dev	31%	28%	25%	10%
	N	12	11	12	12
2000s	Mean	47%	21%	24%	7%
	Median	46%	3%	12%	5%
	Min	2%	0%	2%	0%
	Max	92%	94%	89%	30%
	Std Dev	32%	31%	26%	9%
	N	15	15	15	15

Source: Copenhagen Economics using data from UNCOM Trade

Table A.20 - Summary statistics of the sectors shares in total imports from East Asian and Pacific LDCs by decade

	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	67%	0%	22%	11%
	Median	80%	0%	11%	2%
	Min	0%	0%	0%	0%
	Max	100%	3%	100%	67%
	Std Dev	39%	1%	33%	23%
	N	7	2	8	7
1980s	Mean	73%	2%	20%	6%
	Median	74%	0%	9%	3%
	Min	28%	0%	1%	0%
	Max	97%	13%	69%	17%
	Std Dev	25%	5%	23%	7%
	N	8	3	8	8
1990s	Mean	56%	0%	42%	1%
	Median	56%	0%	43%	1%
	Min	3%	0%	1%	0%
	Max	99%	1%	97%	5%
	Std Dev	39%	0%	38%	2%
	N	8	2	8	8
2000s	Mean	41%	1%	56%	2%
	Median	35%	0%	61%	1%
	Min	2%	0%	3%	0%
	Max	95%	4%	98%	8%
	Std Dev	36%	1%	36%	2%
	N	9	7	9	9

Source: Copenhagen Economics using data from UNCOM Trade


Table A.21 - Summary statistics of the sectors shares in total imports from Middle East and North African LDCs by decade

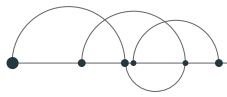
	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	44%	12%	40%	4%
	Median	44%	12%	40%	4%
	Min	44%	0%	31%	1%
	Max	45%	24%	49%	6%
	Std Dev	0%	17%	13%	3%
	N	2	1	2	2
1980s	Mean	21%	49%	27%	3%
	Median	21%	49%	27%	3%
	Min	5%	9%	4%	0%
	Max	37%	90%	49%	6%
	Std Dev	22%	57%	32%	4%
	N	2	2	2	2
1990s	Mean	16%	49%	22%	13%
	Median	16%	49%	22%	13%
	Min	4%	6%	4%	1%
	Max	29%	91%	40%	25%
	Std Dev	18%	60%	25%	17%
	N	2	2	2	2
2000s	Mean	32%	41%	19%	8%
	Median	32%	41%	19%	8%
	Min	22%	14%	5%	6%
	Max	41%	67%	33%	11%
	Std Dev	13%	38%	20%	4%
	N	2	2	2	2

Source: Copenhagen Economics using data from UNCOM Trade

Table A.22 Summary statistics of the sectors shares in total imports from South Asian LDCs by decade

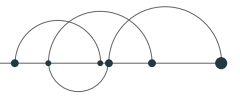
	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	58%	0%	40%	2%
	Median	55%	0%	44%	1%
	Min	30%	0%	1%	0%
	Max	93%	0%	70%	6%
	Std Dev	27%	0%	30%	3%
	N	4	2	4	3
1980s	Mean	37%	0%	57%	6%
	Median	34%	0%	56%	1%
	Min	2%	0%	17%	0%
	Max	80%	0%	97%	20%
	Std Dev	39%	0%	35%	10%
	N	4	3	4	4
1990s	Mean	32%	4%	63%	0%
	Median	29%	0%	62%	0%
	Min	0%	0%	29%	0%
	Max	71%	17%	99%	0%
	Std Dev	37%	8%	33%	0%
	N	4	3	4	4
2000s	Mean	40%	1%	55%	4%
	Median	35%	0%	58%	3%
	Min	4%	0%	10%	1%
	Max	88%	3%	96%	8%
	Std Dev	42%	2%	44%	3%
	N	4	4	4	4

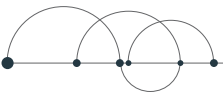
Source: Copenhagen Economics using data from UNCOM Trade


Table A.23 - Summary statistics of the sectors shares in total imports from Sub-Saharan African LDCs by decade

	Statistic	Agriculture	fuels	manufacturing	Other
1970s	Mean	66%	1%	8%	24%
	Median	80%	0%	3%	8%
	Min	2%	0%	1%	0%
	Max	99%	24%	39%	97%
	Std Dev	34%	5%	10%	32%
	N	29	18	29	29
1980s	Mean	62%	4%	16%	18%
	Median	77%	1%	7%	3%
	Min	1%	0%	0%	0%
	Max	98%	86%	97%	95%
	Std Dev	34%	16%	20%	28%
	N	29	24	29	29
1990s	Mean	55%	4%	30%	11%
	Median	63%	0%	20%	2%
	Min	0%	0%	1%	0%
	Max	98%	69%	93%	86%
	Std Dev	36%	13%	30%	22%
	N	31	24	31	31
2000s	Mean	48%	9%	28%	14%
	Median	49%	0%	12%	2%
	Min	0%	0%	1%	0%
	Max	99%	93%	99%	85%
	Std Dev	34%	24%	30%	25%
	N	32	28	32	32

Source: Copenhagen Economics using data from UNCOM Trade





Appendix B

Appendix for chapter 2

Tariff Data

Tariff data was obtained from the TARIC database (via extracts from the European Commission). The database contains detailed information on tariff rates applicable to a given product from given origin in a given time period under the various tariff regimes for all tariff measures. The former includes all preferential access schemes in addition to the third country duty rate applicable to all countries (*erga omnes*), while the latter refers to the type of tariff imposed, of which we use only tariff measures classified as a 1) tariff preference, 2) preferential tariff quota, 3) third country duty (MFN) or 4) non-preferential tariff quota.⁸⁴ As we are interested in identifying the impact of preferences under the GSP trade regime, we focus on identifying preferences afforded under this trade regime, in addition to the third country duty rate, which we abbreviate MFN henceforth.

Eligibility at the country-level

As both GSP preferences and MFN tariffs are available to a large number of countries, the TARIC database contain a numerical identifier for the group of countries to which a given tariff applies (under a given regulation). In the case where a country begins or stops being eligible for a specific trade regime, the country enters or exits the group. Similarly, if the tariff rate does not apply to a given product originating in an individual or several countries within the group, this is evident via information on exclusions from a given trade regime at the country and product level.

For the GSP the country groups of relevance are:

- Group 2020, which contains all countries eligible for the GSP general arrangement.
- Group 2015, which supplements group 2020 in the years 1997-2001. This group contains all preferences for industrial products in 1997 and 1998 (under regulation 3281/94), while only agricultural preferences granted under regulation 1256/96 are contained under Group 2020 in these two years.
- Group 2005, which contains all countries eligible for the EBA and covers preferences for these countries since 1997.
- Group 2027, which contains all countries eligible for the GSP+ or earlier special incentive programmes.
- Group 2010, which contains the Least Developed Countries and ten South American countries.⁸⁵ This group covers additional preferences available for these countries prior to 2001 and thus supplements groups 2005 and 2027. The group covers all industrial preferences available to these countries in in 1997 and 1998. For these years the only agricultural preferences captured by Groups 2005 and 2027.
- Group 1030, which is a combination of the above groups used in 1995 – 1995.

In addition Groups 2021 (Morocco), 2022 (Mexico), and 2023 (Tunisia) are of relevance in 2003-2004, where preferences were phased out or re-established for specific product groups for these countries under Reg. 815/2003. Similarly, country group 2024 is of relevance for Sri Lanka and Moldova in 2004 and 2005, under Reg. 2501/2001.

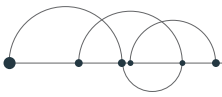
The fact that groups 2027 and 2005 contain all countries eligible for the GSP+ and the EBA, respectively, does not automatically mean that the GSP preferences available to these countries fall under these regimes in all years.

As noted in chapter 1, the GSP+ scheme in itself is a combination of previous special incentive programmes and was introduced via regulation 980/2005. Tariff rates under this regulation or subsequent amending regulations are therefore identified as preferences given specifically under the GSP+ scheme.

Similarly, more favourable GSP preferences were already given for some products for the least developed countries, which are included in country groups 2010 and 2005, before the introduction of the EBA in 2001 under regulation 416/2001. EBA preferences are thus identified as tariff rates given under this regulation or subsequent amending regulations.

84— Other types of tariff measures include amongst others preferential and non-preferential tariffs under end use, outward processing tariff preference (not used since October 2000) and autonomous tariff suspension.

85—Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Honduras, Nicaragua, Panama, Peru and Venezuela.



Eligibility at the product-level

In the TARIC database product codes are defined up to the 10-digit level, which is a further breakdown of the 8-digit Combined Nomenclature used by the EU for tariff and statistical purposes. The first six digits of the Combined Nomenclature are taken from the Harmonised System (HS) nomenclature, which is used by the 179 Member States of the World Customs Organisation, and which is the most detailed level at which data on trade flows is available through the UN COM Trade database.

The Combined Nomenclature is updated annually, which means that a given product may not have the same numerical product classification over time. In the database start and end dates are thus given for both the 10-digit product code and the tariff in place. When a product code is no longer used it is closed with an end date. The same end date is applied to the tariff linked to this code. Thus in order to assure that we track the same product over time and that the expiry date of a given tariff is not just a reflection of the expiry date of the product code, we had to convert the various product codes to a common nomenclature. As the trade data is in the HS1988 6-digit level, this is the nomenclature to which we finally converted the tariff data. Furthermore, the product codes included in the data were both declarable and non-declarable codes. The former means that the code refers to a specific product (i.e. is a leaf of the nomenclature structure), while the latter is a code that covers multiple products (i.e. is a node of the nomenclature structure) requiring us to identify all the product codes to which the tariff applies.

Below we explain how this was done and the product and year dimension of the data was generated. This is followed by a short description of the remaining data cleaning process, in which the country dimension was added to the data.

Data cleaning: Product and year dimension

In order to assure that all declarable product codes are assigned the correct tariff rate and ensure that we track the same product through time, the following steps were taken:

Step 1: Initial cleaning and identification of the entry into force of the GSP+ and the EBA

The raw data contains one variable for tariffs which are either ad valorem rates, specific or combined with both an ad valorem and specific component. For the purposes of this study we treat ad valorem and specific tariffs slightly differently as we are only able to identify the magnitude of the preference margin under a given scheme vis-à-vis the MFN rate for products with only an ad valorem tariff in place. For products with a specific or combined tariff we instead include a dummy variable in our model which takes the value of one if a given preference is in place and zero otherwise.

The first step in the data cleaning thus consisted of splitting the tariff variable, so only the ad valorem rate remained and replacing specific or combined tariffs with a code so we could identify these in the final dataset.

Furthermore, a variable indicating preferences under the GSP+ and the EBA was generated on the basis of the specific regulation listed for each tariff rate applicable to country groups 2005 and 2027.

Step 2: Introduction of time dimension to the data

The raw data received only contained the start and end date of the code and the tariff, requiring us to introduce a time dimension in order to get all observations at the product/year level for all years in the period 1995 – 2012. The combined data for GSP preferences and the MFN rate⁸⁶ was therefore expanded to give us all observations for each of the years in the time period. Thereafter all product/year combinations were dropped for which the year lies outside of the start and end date of the product code and tariff. For a small share of product codes this leaves us with more than one observation per year due to seasonal tariffs. In these cases the minimum annual tariff was used for all country groups.

Step 3: Tariffs assigned to leaves of all non-declarable codes

In order to assign the correct tariff to each leaf, we use data obtained from the European Commission detailing

⁸⁶— Country groups 1030, 2005, 2027, 2020 and 1011, where the latter refers to the *erga omnes* country group. All the country groups under the GSP only tariffs of the type 'preferential tariffs' were kept, while only the third country duty rate was kept for the *erga omnes* group.

which codes were declarable and which were not in a given year. The tariff data is then split by the country group identifier, so only tariffs applicable to a given country group is contained in an individual dataset. Each of these are then merged with the data detailing whether or not the code is declarable and the dataset now contains all codes valid in a given year. For each non-declarable code the tariff assigned to it is then assigned to all of the leaves in a hierarchical fashion. Thus if a tariff is assigned to a non-declarable product code at the 8-digit level all 10 digit codes within the 8-digit code are assigned this tariff. An example of this would be code 0711901000, which is assigned an ad valorem rate of 0% for country group 2005 in 1997. The code is non-declarable and all 10-digit codes for which the first 8-digits are 07119010 is thus assigned the same tariff rate for this country group in 1997. Similarly, tariffs may be linked in the TARIC database to the 6-, 4- or 2-digit level, depending on the code. If no preferential tariff is given at any level, all remaining leaves are assigned no preferential rate.

The individual datasets for each country group, including that which covers the MFN, is then merged by year and the product code so the data now contains a tariff for each country group/product/year observation. As no preferential tariff will be indicated in those instances where the MFN rate is zero, all product/year combinations for all the GSP country groups are assigned a tariff of zero if the MFN for the given product in the given year is equal to zero. For GSP country group an indicator variable is then generated, which is equal to 1 if a given product is eligible for preferential tariff in a given year, including so-called empty preferences, i.e. where the MFN tariff is zero. If no preference is in place for a given country group/product/year combination the indicator variable takes the value zero.

Step 4: Convert all 6-digit codes to the HS1988 nomenclature

In order to convert all product codes to the same nomenclature and thus ensure that we track the same product over time, regardless of whether the code used to identify has changed over time, we converted all product codes to a common nomenclature. As the import data to which the tariffs are eventually matched are in the 6-digit HS1988 nomenclature, this is the nomenclature to which we convert all product codes. From the six first digits in the 10-digit code HS codes, we generate a six-digit product code for each 10-digit product code consisting of the first six digits.

Since, the Harmonised System (HS) was introduced in 1988, revisions have taken place in 1996, 2002, 2007 and 2012. To identify which HS nomenclature the various 6-digit product codes belong to, we use information on the start date of the 10-digit product code given in the raw data received from the European Commission. The earliest year in which a 10-digit code within a 6-digit group was first used is then used to identify the specific nomenclature. If the start date is earlier than 1996, the HS1988 nomenclature is assigned. If the earliest start date is between 1996 and 2001, the HS1996 nomenclature is assigned. If the earliest start date is between 2002 and 2006, the HS2002 nomenclature is assigned. If the earliest start date is between 2007 and 2011, the HS2007 nomenclature is assigned. Finally if the earliest start date is 2012, the HS2012 nomenclature is assigned.

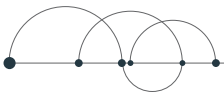
Using conversion tables between the various HS Nomenclatures, obtained from the WITS database, all 6-digit codes are then converted into the HS1988 Nomenclature.

Step 5: Average all 10-digit tariff rates at the 6-digit level

As the import data we use is at the 6-digit level, we take the mean of all tariff rates and the indicator variables for whether or not a preference is in place at the 6-digit HS1988 level. This again is done for each country group.

Step 6: Introducing the country dimension

In a separate file received from the European Commission, all countries included in a given country group is listed with the start and end date of their group membership. Thus, when a country graduates from a given trade regime, their group membership expires. This is, for example, the case for Singapore, Hong Kong and Korea who graduated from the GSP general arrangement in 1998. After this year, these countries are therefore no longer members of the group of countries eligible for preferences via this scheme. This information is merged into the tariff data at the product/year level for the specific country group keeping only those country/year combinations for which a given



country is a member of the group. This is done separately for all country groups and the individual datasets are then merged.

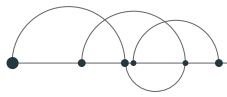
Step 7: Introducing exclusions

As not all countries in a given country group are eligible for preferences on all products, we finally integrate information on country/product year exclusions from a given tariff preferential duty. Thus, while some countries may be eligible for preferential access via a given scheme, they may have graduated from the scheme for specific products, cf. chapter 1 for details on graduation from the GSP program. This information was also obtained from the European Commission at the 10-digit product level. For efficiency reasons the information is merged in at the 6-digit level as introducing the country dimension at the 10-digit product level would have made the dataset too large to work with efficiently. The data on exclusions contain the country, 10-digit product code and the time period in which a country/product combination was excluded from a given preferential duty.

As with the tariff data, some of the product codes are non-declarable and thus cover a number of non-listed product codes at a more detailed level. In a similar fashion we thus assigned an exclusion indicator variable equal to one for all 10-digit codes excluded for a given country in a given country group in a given year. After converting all 6-digit codes to the HS1988 level, this indicator variable was averaged at the 6-digit level. In the majority of cases, the average at the 6-digit level is equal to one, indicating that all 10-digit product codes within a given 6-digit code is excluded from a given tariff rate, if an exclusion is in place. However, in order to assure that we do not assign preferential tariff access to given country for a 6-digit product for which the majority of 10-digit products are in fact excluded, all 6-digit product groups for which half or more of all 10-digit products are excluded as treated as such for a given country and year combination. Thus, when merged in with the tariff data, the given tariff to which this applies is removed.

Table B.1 Countries included in Triple-difference- analysis (176)

Afghanistan	China	Honduras	Moldova	Sierra Leone	Zambia
Algeria	Colombia	Hong Kong, China	Mongolia	Solomon Islands	Zimbabwe
Angola	Comoros	India	Morocco	Somalia	Bahamas
Anguila	Congo, Dem. Rep.	Indonesia	Mozambique	South Africa	Bahrain
Antigua & Barbuda	Congo, Rep.	Iran	Myanmar (Burma)	Sri Lanka	Brunei
Argentina	Costa Rica	Iraq	Namibia	St.Kitts-Nevis	Canada
Armenia	Cote d'Ivoire	Israel	Nauru	St.Lucia	Cayman Islands
Aruba	Cuba	Jamaica	Nepal	St.Vincent & Grenadines	Faeroe Islands
Australia	Djibouti	Jordan	Netherlands Antilles	Sudan	French Polynesia
Azerbaijan	Dominica	Kazakhstan	New Caledonia	Suriname	Iceland
Bangladesh	Dominican Republic	Kenya	New Zealand	Swaziland	Japan
Barbados	Ecuador	Kiribati	Nicaragua	Syria	Korea, Dem. Rep.
Belarus	Egypt	Korea, Rep.	Niger	Tajikistan	Macao
Belize	El Salvador	Kuwait	Nigeria	Tanzania	Mayotte
Benin	Equatorial Guinea	Kyrgyz Rep.	Norway	Thailand	Montserrat
Bermuda	Eritrea	Laos	Pakistan	Togo	Northern Mariana Islands
Bhutan	Ethiopia	Lebanon	Palau	Tonga	Oman
Bolivia	Falkland Island	Lesotho	Panama	Trinidad & Tobago	Pitcairn
Botswana	Fiji	Liberia	Papua New Guinea	Tunisia	Qatar
Brazil	Gabon	Libya	Paraguay	Turkmenistan	Saint Helena
British Indian Ocean Ter.	Gambia	Madagascar	Peru	Turks and Caicos Isl.	Singapore
British Virgin Islands	Georgia	Malawi	Philippines	Tuvalu	Switzerland
Burkina Faso	Ghana	Malaysia	Russian Federation	Uganda	Turkey
Burundi	Greenland	Maldives	Rwanda	Ukraine	United Arab Emirates
Cambodia	Grenada	Mali	Saint Pierre and Miquelon	Uruguay	United States
Cameroon	Guatemala	Marshall Islands	Samoa	Uzbekistan	Wallis and Futura Isl.



Cape Verde	Guinea	Mauritania	Sao Tome & Principe	Vanuatu
Central African Rep.	Guinea-Bissau	Mauritius	Saudi Arabia	Venezuela
Chad	Guyana	Mexico	Senegal	Viet Nam
Chile	Haiti	Micronesia, Fed. Sts.	Seychelles	Yemen

Note: countries in *Italic* are only included in the full sample

Robustness check for triple-diff results

Table B.1 Robustness checks for Baseline results

Dependent variable:	ln(EXP+1)		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
Panel (b)	By country groups		
Countries in part I (133)	0.3324*** (0.0616)	0.0667*** (0.0052)	0.0600*** (0.0063)
Remaining countries (43)	0.0934 (0.1242)	0.0394*** (0.0063)	0.0409*** (0.0074)
Panel (c)	By FTA Status		
Non-FTA countries (164)	0.2969*** (0.0617)	0.0600*** (0.0051)	0.0569*** (0.0063)
FTA countries (12)	1.4859*** (0.2962)	0.1023*** (0.0134)	0.0299** (0.0145)
Panel (d)	Weighted regression, weight = 1995 log-exports.		
All countries (176)	0.4671*** (0.0767)	0.0775*** (0.0063)	0.0644*** (0.0073)

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors own calculations based on data from UNCOM trade and TARIC database.

In Panel (b) we estimate separate effects for the set of developing countries included in Part I of the study. These are obtained by interacting the explanatory variables for the presence of trade preferences with a dummy for whether the country is in this group. We were able to collect non missing information for 133 of the 137 countries included in Part I. All were eligible for preferences at some point in time for at least some products. To avoid relying entirely on a before-after comparison to identify the effects, we still include the other countries in the regression, but allow effects of trade preferences to vary across the two groups.⁸⁷

All point estimates are slightly higher for the group of countries included in Part I than in the baseline estimates presented in Panel (a). For countries not included in Part I, we see no significant effect of preferences in Column (1). In Column (2) and (3) we do, however, find significant results, but compared to the equivalent effects in the baseline, the estimates are much smaller.

Thus, we can conclude that including the richer economies in the sample to help pin down the controls has only a minor effect. It underscores that the country-year and the country-product interaction effects included in either specification already do a very good job pinning down the benchmark export growth in the absence of trade preferences (the control group of observations).

In the next specification presented in Panel (c) we estimate separate effects for countries that entered into a FTA agreement with the EU over the sample period.⁸⁸ As we do not know the product-specific tariff reductions that these FTAs involved, the estimated effect are still only those on the non-reciprocal tariff preferences, as for the other countries. The advantage, however, is that the trade response of the FTA countries does not influence the point estimate anymore for non-FTA countries.

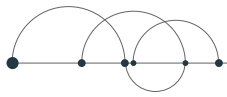
The results indicate, however, that any impact has been minimal. The point estimates for non-FTA countries are very similar to the benchmark estimates. FTA countries themselves, however, seem to display an enhanced response to trade preferences. To some extent this simply reflects that we are not using the appropriate tariff variation on the right-hand side as these countries enjoy additional tariff reductions that we do not measure, but which contribute to higher exports. Their total export response is larger, but this is likely to merely reflect larger tariff declines for them. Given that the estimate in column (3) is lower for FTA countries, we should not conclude that they are more responsive, only that they got larger (unmeasured) preferences.

The next results presented in Panel (d) use weighted regression to take into account that countries have vastly different export flows. We do not use the specific export flow for each observation as weights, as that is the dependent variable in the regression. Rather we use the aggregate country-level exports in 1995 - the first year of the sample. This is intended to capture the relative export potential of each country for the different goods.

Given that weighting tends to increase all point estimates, we can conclude that larger exporters are more responsive to trade preferences. This is not unexpected. Countries with a low weight are less prolific exporters initially and subsequently they also increase their exports less for each percentage point tariff reduction.

87—If we had excluded the other countries altogether, the product-year benchmarks that we control for in the evolution of trade flows over time would only be obtained from the pre-eligibility years for those same countries and not accurately capture evolving (import) demand for each product in the EU.

88—The estimates for FTA countries are not influenced by the trade evolution for EFTA countries (Iceland, Norway, Faroe Islands, and Switzerland) which did not experience a change in duties over the sample period.

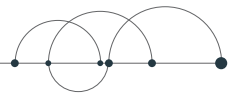


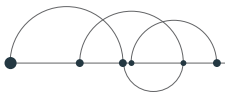
In Table. B.2 we list additional results referred to and explained in the main text.

Table B.2 Additional Results			
Dependent variable:	ln(EXP+1)		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	baseline		
Effect of preferences:	0.3135*** (0.0617)	0.0617*** (0.0051)	0.0557*** (0.0062)
Panel (b)	Excluding fuels		
All products except fuel	0.3200*** (0.0617)	0.0621*** (0.0051)	0.0561*** (0.0062)
Panel (c)	Nonlinear effects by extent of preference (DIFF)		
Tiny preference (0-1%)	4.3342*** (0.7309)	0.0855*** (0.0117)	0.0584*** (0.0077)
Small preference (1-5%)	1.5217*** (0.1348)	0.0711*** (0.0057)	0.0557*** (0.0063)
Interm. preference (5-10%)	0.6708*** (0.0800)	0.0514*** (0.0055)	0.0563*** (0.0071)
Large preference (>10%)	0.2031*** (0.0619)	0.0247*** (0.0070)	0.0386*** (0.0085)

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors own calculations based on data from UNCOM trade and TARIC database.





Appendix C

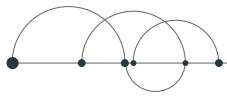
Appendix for chapter 3

Table C.1 Robustness for baseline Results

Dependent variable: Dummy for positive exports			
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
Panel (b)	By country groups		
Countries in Part I (133)	0.0046 (0.0132)	0.0046*** (0.0010)	0.0037*** (0.0011)
Remaining countries (43)	-0.0128 (0.0248)	0.0010 (0.0012)	0.0014 (0.0013)
Panel (c)	By FTA Status		
non-FTA countries (164)	0.0007 (0.0130)	0.0037*** (0.0009)	0.0034*** (0.0011)
FTA countries (12)	0.1839*** (0.0587)	0.0102*** (0.0026)	-0.0011 (0.0027)
Panel (d)	Weighted regression, weight = 1995 log-exports.		
All countries (176)	0.0096 (0.0150)	0.0054*** (0.0011)	0.0039*** (0.0012)

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors own calculations based on data from UNCOM trade and TARIC database.


Table C.2 Additional Results

Dependent variable:	Dummy for positive exports		
	(1)	(2)	(3)
Explanatory variable:	Tariff difference (TMFN – Tpref.)	Tariff ratio (1 – Tpref./TMFN)	Preference indicator (1 if Tpref.<TMFN)
Panel (a)	Baseline		
All countries (176)	0.0033 (0.0130)	0.0040*** (0.0009)	0.0032*** (0.0011)
Panel (b)	Excluding fuels		
All products except fuel	0.004 (0.0131)	0.0040*** (0.0009)	0.0033*** (0.0011)
Panel (c)	Nonlinear effects by extent of preference (DIFF)		
Tiny preference (0-1%)	0.2552* (0.1478)	0.0067*** (0.0021)	0.0044*** (0.0014)
Small preference (1-5%)	0.0674*** (0.0247)	0.0053*** (0.0010)	0.0034*** (0.0011)
Interm. preference (5-10%)	0.0024 (0.0116)	0.0016 (0.0011)	0.0014 (0.0013)
Large preference (>10%)	0.0037 (0.0135)	0.0013 (0.0016)	0.0015 (0.0018)

Note: Statistics are point estimates on the one explanatory variable of interest estimated in separate regressions. The sample varies in the different rows, but is always balanced over the country, product, and year dimensions. Standard errors (in brackets) are clustered at the country-product level. *, **, and *** indicate significance at the 10%, 5%, and 1% level respectively.

Source: Authors own calculations based on data from UNCOM trade and TARIC database.



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