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From Trade Preferences to Trade Facilitation: Taking Stock of the Issues

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Abstract The objective of the paper is to explore and give an overview of two central policy alternatives to improve the integration between the European Union and developing countries by removing barriers to trade: trade preferences and trade facilitation. The author reviews the relevant literatures and discusses the issues which constitute problems or opportunities for practitioners and researchers in both areas. She concludes that while at least some trade preferences actually have been less of a failure than their reputation suggests, trade facilitation is a far more promising policy option for the future.

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1 Introduction

The European Union (EU) is the largest trading partner for many of the world's developing countries, but there is nevertheless a large potential to expand that trade. Given that increased trade is widely believed to be one of the keys to alleviating poverty and improving standards of living in developing countries, from a policy perspective it is crucial to understand the options available for economic integration between the EU and developing countries. The objective of this paper is therefore to explore and give an overview of two central policy alternatives to improve the integration between the EU and developing countries by removing barriers to trade: *trade preferences* and *trade facilitation.* Non-reciprocal trade preferences for low- and middle-income countries have been used by the European Union since at least the 1960s, and have in a broader sense been at the heart of the North-South trade policy debate for the last half century. By contrast, trade facilitation, i.e. loosely speaking cutting red tape at the border, is a relatively new issue, but one that has quickly risen high on the policy agenda.

The paper starts by defining what trade preferences are and what they are meant to achieve, and then puts this policy option into its historical context. Noting that many commentators tend to regard trade preferences as a failed policy – something which interestingly is not necessarily what the reviewed empirical research finds – the paper discusses several dimensions that may be important when determining preferences' trade-creating potential.

The paper then moves on to discuss how to define trade facilitation, outline why and how inefficient trade procedures constitute costs for traders and give an overview of what the likely economic effects are of reform in the area. In particular, the empirical literature on trade facilitation is reviewed, including the few papers that explicitly link trade facilitation and European integration. This section also gives examples of concrete measures that governments could take to reduce transaction costs related to inefficient trade procedures, and it closes by considering how to properly measure trade facilitation, and what kind of data researchers would need to better be able to analyze the causal effects.

The last section summarizes the historic shift from a focus on trade preferences in trade relations between industrialized and developing countries to a focus on other policies, where trade facilitation is a particularly interesting area.

2 Trade Preferences for Developing Countries

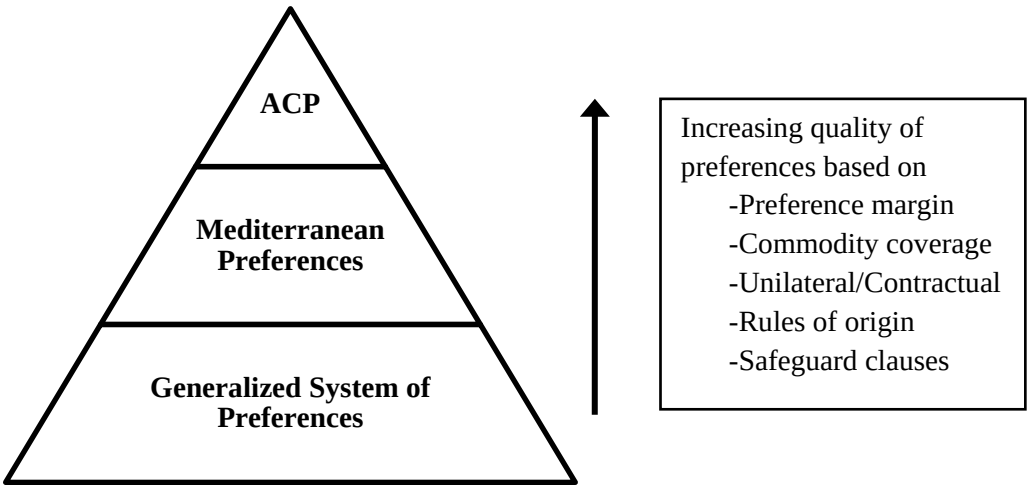
Developed countries' trade preferences for developing countries have been one of the largest issues in North-South trade for the last half century. Generally speaking, if a country offers trade preferences to another country, this simply refers to the fact that the latter country faces less restrictive trade barriers than the donor country's other trade partners. The term has, however, mostly come to specifically refer to when developed countries offer lower trade barriers to developing countries than to other developed trade partners, usually without being offered more beneficial market access in return.

In a multilateral context, the breakthrough for trade preferences was the first United Nations Conference on Trade and Development (UNCTAD) in 1964, which recommended that non-reciprocal trade preferences be granted to all developing countries by the developed countries. This recommendation was followed up at the second conference in 1968 by a resolution that spoke of creating a "generalized, non-reciprocal, non-discriminatory system of preferences in favour of the developing countries, including special measures in favour of the least advanced among the developing countries" (UNCTAD 2008). Since a system where trade preferences are granted to developing countries but not to developed countries normally would violate the Most-Favoured-Nation (MFN) obligation of GATT's Article I, a ten-year waiver was granted in 1971, which allowed such a system – referred to as a *Generalized System of Preferences* (GSP) – to become operational. In 1979, the waiver was replaced by the "Enabling Clause", which provides a legal basis for granting trade preferences in favour of developing countries, and also allows for special treatment of the least developed countries (see e.g. Grossman and Sykes 2005 and Bartels 2003).[1]

[1] The interpretation of the Enabling Clause has historically been that the same preferences should be offered to all developing countries, with the only exception that least developed countries (LDCs) could be offered more generous terms. However, following a complaint by India concerning the EU's *Special Arrangements to Combat Drug Production and Trafficking*, offering additional GSP preferences to only a subset of developing countries, a WTO Appellate Body has ruled that "non-discriminatory" preferences do not require identical treatment of all developing countries, and that additional preferences may be offered to developing countries sharing the same "development, financial or trade need". For a discussion, see e.g. Grossman and Sykes (2005) or Bartels (2007).

Most industrialized countries today offer developing countries preferences under a GSP scheme. The EU has done so since 1971, when it became the first developed importer to introduce such a scheme. However, more generous preferences were offered by the EU to groups of developing countries long before it became legal to do so under GATT rules. The Treaty of Rome, which laid the foundation for the EU in 1957, created a so-called "association", which involved free trade provisions between the community and member countries' colonies. Following independence, these *African, Caribbean and Pacific* (ACP) countries signed agreements with the EU and had arguably the best developing country market access to the EU under the Yaoundé and Lomé Conventions. In addition to ACP countries, developing countries around the Mediterranean Sea have also had preferential access better than mere GSP preferences, though not quite as beneficial as ACP preferences, since the 1960s. For a discussion of these EU preference schemes and an empirical assessment of their effects, see Persson and Wilhelmsson (2007). Figure 1 broadly summarizes the relationship between the various preference schemes by illustrating their position in the so-called *pyramid of privilege*.

Figure 1. EU Trade Preferences: The "Pyramid of Privilege"



Source: Persson and Wilhelmsson (2007).

The economic rationale behind trade preferences for developing countries is to increase these countries' export earnings and to diversify their economies and exports. Export earnings are expected to increase because, when tariffs are removed or lowered for a subset of trade partners, these can charge a higher price than before, which in turn will lead to increased production and export volumes. So, export earnings increase through a higher price for each exported unit and more exported units. The effects of preferences on export diversification have been much less discussed, but traditional explanations have typically been based on some sort of "infant industry" argument. In other words, developing countries are thought to have potential comparative advantages in some types of industry production, but because of external effects, production will initially have to take place with high costs. Facing lower tariffs than other potential exporters will allow the high-cost producers to remain in business and, over time, to become competitive. There are, however, other possible ways to explain the relation between lower tariffs in the export markets and export diversification. Heterogeneous firm trade theory – see e.g. Melitz (2003) – predicts that lower trade costs, such as lower tariffs, will increase the extensive margin of trade, and this may very reasonably be interpreted as export diversification.

Even though trade preferences are offered as a way to increase the value of developing countries' exports and make them more diversified, there is widespread scepticism about whether they in general have succeeded in achieving this stated goal. A common argument is that the share of imports to, for example, the EU from preference-receiving countries has decreased over time. As discussed in Persson and Wilhelmsson (2007), this may not be a very good argument, since trade could very well have developed slowly due to other factors so that the situation would have been even worse without preferences. A bigger concern is perhaps reports that traders do not even request preferential treatment, but instead export under MFN tariffs, to the extent that they export at all. For example, Inama (2003) and Brenton (2003) both note that preferential treatment under the *Everything But Arms* initiative was requested for less than 50 percent of exports from non-ACP LDCs in 2001, even though this offers duty-free access for practically all goods and is the best system on offer for these countries. Such low utilization rates may be a strong indicator that preferences are either very hard to use in practice, or that the extra value they could transfer is not big enough to make it worthwhile.

2.1 Review of Empirical Studies

A common way to assess the effects of trade preferences has been to estimate gravity models, incorporating dummy variables for various preference schemes. An early such study is Sapir (1981) which uses yearly cross-sectional regressions for 1967–1978 to estimate the effect of the EU's GSP regime. He finds a significant and positive effect for 1973 and 1974. Using the estimated coefficients to calculate gross trade creation (GTC), the estimations suggest that the GSP created 91-93% extra trade.[2]

In another early gravity study, Oguledo and MacPhee (1994) find positive and statistically significant effects for GSP, Mediterranean and Lomé preferences for the year 1976. The Lomé effect is larger than the Mediterranean effect, which in turn exceeds that of the GSP. The corresponding gross trade creation is very large indeed, with the value for the Lomé preferences actually approaching 2000%. In a similar study, Nilsson (2002) estimates the gravity model on three-year-averages for 1973–1992. Nilsson finds a significant and positive effect for most though not all years for GSP and Lomé, and that the effect of the latter is larger. The Mediterranean preferences are mostly insignificant. Again, the estimated gross trade creation is quite sizable, with figures for the Lomé preferences at most exceeding 400%.

Sapir (1981), Oguledo and MacPhee (1994) and Nilsson (2002) made important contributions by being able to show that – contrary to the bleak view taken by many commentators regarding the effectiveness of preferences – when controlling for other important factors that may work against developing countries' export prospects, preferences actually have positive effects. On the other hand, the cross-sectional methods used in these papers made it impossible to control for unobserved heterogeneity between countries, and the implied omitted variable bias may be an explanation for the remarkably large effects that were found. A more recent paper which takes this into account is Péridy (2005), estimating the effect of Mediterranean preferences for 1975–2001 in a sample of OECD and some developing countries. Péridy uses various panel data methods that can control for

[2] The papers in the literature use somewhat different ways to calculate gross trade creation. To enable comparisons, all effects have therefore been recalculated here, using the same formula. For details, please see Table 1 in the Appendix, where all studies mentioned here are also briefly summarized.

time- and country unobserved heterogeneity, and finds a Mediterranean dummy that is highly significant in all cases, and with similar magnitudes in all specifications. Using the coefficient from the fixed effects specification to calculate gross trade creation, this would be about 38%, which intuitively seems like a more reasonable magnitude of the effect than what is found in previous studies.

While Péridy (2005) focuses on the Mediterranean preferences, Persson and Wilhelmsson (2007) use data for a very long time period, 1960-2002, to estimate the effects of all types of non-reciprocal trade preferences that have been used by the EU. Estimating a gravity model with fixed effects to capture country-pair and time specific unobserved heterogeneity, and bilateral time trends to capture changes over time in the heterogeneity across country-pairs, significant and positive effects are found for most, though not all versions of trade preferences. The magnitude of the estimated gross trade creation is again much more modest than in the earlier studies, with for example the GSP regime being estimated to have increased trade by about 4%, and the Lomé convention by about 30%.[3]

2.2 Why Some Preferences May Not Work

While the empirical literature, as outlined above, actually tends to find statistically significant effects of at least some of the EU's preference schemes, in policy and academic circles, many commentators still tend to view trade preferences as having failed in their stated goals of increasing the value of developing countries' exports and leading to diversified exports. This section will outline some of the factors that have been discussed as potential reasons for preferences not to work.

2.2.1 Preference Margins

A key factor in determining the value of trade preferences is the *preference margin*, i.e. the difference between the preferential tariff rate and the MFN rate.

[3] Besides these studies that focus on volume effects of entire preference regimes, there are other studies that investigate volume effects on specific sectors or particular products. Some papers have also started to look into the issue of export diversification – see e.g. Amurgo-Pacheco (2006), Gamberoni (2007), Wilhelmsson and Persson (2009), and Bensassi et al. (2011).

All else equal, the larger the margin, the higher the expected gains. Given that there are administrative costs associated with requesting preferential treatment, some authors have suggested that there is actually a minimum level of preference margin that is needed for countries to ask for preferential treatment. Using data on trade between ACP countries and the EU, Francois et al. (2006) find that the minimum preferential tariff should be 4–4.5 percentage points lower than MFN tariffs for traders to request preferential treatment. Small preference margins will, in other words, reduce the value of preferences and, if they are too small, traders may not even apply for preferential treatment.

When discussing the size of the preference margin, it is important to note that this has been reduced over time, a process often termed *preference erosion*. One cause of preference erosion may be the inclusion over time of more beneficiary countries, but a reason that certainly has been much more discussed is the lowering of MFN tariffs. Since the preference margin is measured against the MFN tariff,[4] a reduction of this that is not accompanied by a reduction in the preferential rate will decrease the size of the margin. Therefore, the fear among developing countries has often been that the value of trade preferences will be diminished by multilateral trade liberalization. For a discussion on preference erosion, see e.g. Francois et al. (2006), Alexandraki and Lankes (2004), Amiti and Romalis (2007) or Inama (2003).

Whether or not preferences work in their stated goal of increasing developing countries' export earnings also depends on who captures the preference margin. While the idea is that this rent should accrue to the exporters, if importers are not faced with much competition, they may have the chance to influence prices and capture parts of the rent – see Olarreaga and Özden (2005) for a discussion. These authors also test the hypothesis for apparel trade under the US African Growth and Opportunity Act (AGOA), and find that higher concentration among importers leads to lower rents to the exporters.[5]

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[4] When the donor country, like the EU, has more than one preference system, this of course gets more complicated since the relevant tariff with which to compare the preferential rate could also be that offered under a different preference system.

[5] Olarreaga and Özden (2005) also report that for this particular trade, exporters on average receive one third of the tariff rent, with even lower shares for exporters in poor and small countries.

2.2.2 Product Coverage

Another reason why preferences may fail to meet their expected goals is inadequate product coverage. All else equal, the more products that are included in a preference scheme, the better. Therefore, disregarding products where the MFN tariff is zero, which implies that their inclusion in a preference scheme is irrelevant, more extensive schemes will generally also be more valuable. Obviously, the type of product included matters a lot. For an individual developing country, it makes a large difference whether its comparative advantage products are included or not. On the other hand, given that preferences are supposed to enhance diversification into new products, evaluating preferences solely on the basis of what is historically perceived as comparative advantages is a mistake, and the inclusion of non-traditional export goods may also be important. See Brenton (2003) for an interesting discussion of how the current export structures of LDCs matter for the relevance of the preferences they are offered, in terms of both increasing the value of exports and leading to diversification.

2.2.3 Certainty of Access

A problem with trade preferences may also be that the improved market access they offer is unstable or uncertain. An important distinction in this respect is whether the preferences are available on a contractual basis or unilaterally granted by the donor country. If preferences are offered unilaterally by the donor country, they may be altered or withdrawn at short notice, which means that there are small incentives for investors to allocate resources based on the preferential market access. Preferences that are available as part of a negotiated agreement between two parties will generally offer stable market access for at least a few years, which will reduce the risks involved in investing in potential export sectors. These contractual preferences are therefore, as a rule, easier to use. One should note, however, that this is a complex issue. Even if preferences are offered as part of a legally binding agreement, the time horizon is central. A market access agreement lasting only a few years will be more difficult to use than one that has unlimited duration. On the other hand, as discussed above, even an agreement with unlimited duration will not offer constant benefits over time, since the value of preferences may be eroded due to multilateral trade liberalization, or the offering of similar preferences to more beneficiaries. Likewise, a unilaterally granted preference

scheme could be made more attractive if the donor country credibly fixes the level of market access for a number of years.

2.2.4 Rules of Origin

Complicated and restrictive rules of origin are often pointed out as a major reason for the low utilization of preferences. Rules of origin are needed to prevent trade deflection, whereby products from non-beneficiary countries are redirected through beneficiary countries to exploit the preferences that are available. Still, there are at least two types of costs associated with restrictive and complicated rules of origin. First, there are administrative costs for providing the necessary documentation to prove that the rules have been complied with. Cadot et al. (2006) estimate that for the relevant EU rules of origin, these administrative costs represent 6.8 percent of the traded goods' value.[6] From the discussion on preference margins above, it follows that if margins are not wide enough to cover these costs, exporters will not have any incentive to request preferential treatment, and will (if at all) export under the MFN tariff.

A second type of cost related to restrictive rules of origin is concerned with the production process. If an exporter wants to obtain preferential treatment, there are strict limits to the possibilities of sourcing inputs from the lowest cost location in other countries. For producers in larger markets, this may lead to unnecessarily high production costs, which will have to be weighed against the potential extra gains from preferential tariff treatment. For producers in small markets, and many preference receiving countries will certainly fall into this category, local sourcing of inputs may not even be possible, leaving the firm with the option of not producing, or importing the necessary inputs and then exporting the good under the MFN tariff. Depending on how they are formulated, rules on cumulation of origin may ameliorate this problem, but in many cases, the countries from which inputs can be imported, without affecting the origin of the final product, are not

[6] As noted by Brenton (2003), in the case of preferential exports to the EU, these compliance costs will tend to be particularly high if the good is not shipped directly to the EU, because there are very strict rules concerning transit through other countries, and it is difficult to provide the necessary documentation to prove that these transit rules have been followed. This is particularly relevant for developing countries, for which transit through other countries is often necessary.

low-cost locations. For more on the importance of rules of origin, see e.g. Brenton (2003), Augier et al. (2005), Cadot et al. (2006) or Brenton and Manchin (2003).[7]

2.3 Could Preferences Be Harmful?

The discussion above suggests that many factors influence how valuable preferences are, and may explain why traders either do not request preferential treatment or perhaps do not export at all. In other words, it is far from certain that a given preference will have positive effects on trade. In fact, it has also been suggested that preferences are not just ineffective, but may even have overall *negative* effects. This subsection will discuss some of these arguments.

An obvious potential negative effect is trade diversion. In some sense, a major point of preferences is to divert trade away from developed countries to assist in the development of low- and middle-income countries. As long as the beneficiary countries are not too successful, this is generally not seen as very controversial. However, given the EU's (and some other industrialized countries') multilayered and extremely complex system of preferences, it is not just well-off countries that may be negatively affected, but indeed also other developing countries if they are offered less generous market access. Countries only having access to the general arrangements of the EU GSP might, for example, plausibly argue that their export prospects are hurt by preferences offered to ACP or Mediterranean countries.

Further, as noted by e.g. Grossman and Sykes (2005), since preferences generally do not cover all dutiable products, there is a risk that they could distort investment decisions in favour of sectors eligible for preferences, and away from sectors where there are prospects for long-term growth. This danger is underlined by the fact that preferential access changes over time, because of changed rules about preferential margins or product coverage, graduation of products or countries, changed rules of origin or, for that matter, because the MFN tariffs change as a result of multilateral trade negotiations. Hence, if investors expect an

[7] It is sometimes argued that rules of origin may be deliberately used as a trade barrier – for an early discussion of this, see e.g. Krueger (1997). Lending some support to this notion, Cadot et al. (2006), using a restrictiveness index to capture the cost-raising potential of rules of origin at the tariff-line level, find evidence that rules of origin are more restrictive in sectors that also have high MFN tariffs.

advantageous preferential access for a product, and the market access conditions then change, the result could be a serious misallocation of resources.

Another potential negative effect of trade preferences, pointed out by Özden and Reinhardt (2005), is that they may slow down the developing countries' own trade liberalization. While import-competing sectors may have an incentive to lobby for trade barriers, this political pressure is often thought to be counteracted by the export sectors who can be expected to lobby for trade liberalization at home in order to achieve better market access in their export markets. However, with preferences, market access in developed countries is already settled, which reduces the incentive that the export sectors have for lobbying for trade liberalization at home. Hence, the political balance shifts in favour of the import-competing sectors, which could result in slower progress toward the dismantling of trade barriers. Özden and Reinhardt (2005) offer empirical evidence in favour of this hypothesis. Looking at beneficiaries of the US GSP from 1976 to 2000 – and considering the potential endogeneity problems – they find that countries that are dropped from the GSP scheme adopt more liberal trade policies than countries that remain eligible.

In addition to obstructing developing countries' own tariff liberalization, trade preferences may also hinder multilateral trade negotiation by developed countries. The argument, discussed in e.g. Limão and Olarreaga (2006), is that developing countries that have preferential access to developed countries markets' will oppose multilateral trade liberalization because this would lead to an erosion of preferences.[8] Arguing from a slightly different perspective, but reaching a similar conclusion, Hart and Dymond (2003) suggest that since the non-reciprocity of trade preferences means that developing countries do not have to, in a sense, "pay" for new export opportunities, they will have difficulties in persuading developed countries to open up their markets for products of particular export interest, such as tropical agricultural products, and standard-technology, labour-intensive consumer products.

[8] Limão and Olarreaga (2006) also suggest that developed countries may have an extra incentive to keep the current level of preferences intact if these preferences can be seen as "side payment" for cooperation on non-trade issues.

3 Trade Facilitation

Put simply, trade facilitation is concerned with cutting excessive red tape at the border. Complicated bureaucratic procedures have probably always been a burden to traders, causing costly delays and heavy compliance costs. Despite this, it is fair to say that the issue has received markedly increased attention lately. The main reason for this is arguably that when tariffs and other non-tariff barriers to trade have been gradually dismantled over the years, this has increased the relative costs of having inefficient trade procedures. In other words, the same multilateral trade liberalization, which has worked to erode the value of preferences to developing countries, is also a major factor in explaining why trade facilitation nowadays is high up on the international trade agenda. Ironically, one of the other major problems associated with trade preferences – the use of very complicated rules of origin – is one area which could be addressed under the heading of trade facilitation. Hence, while preferences are thought by some to be passé, trade facilitation is actually one way of making them more attractive to developing countries.[9]

In the WTO, the matter of trade transaction costs has been discussed for some time, but the real breakthrough for trade facilitation was when the Singapore Ministerial Conference in 1996 gave instructions to the WTO Goods Council to start with background work on the subject. Trade facilitation is, in other words, one of the four so-called *Singapore issues*.[10] Each of these were later included in the Doha Development Agenda. When no decision could be taken to start negotiations at the 2003 Ministerial Conference in Cancún, all the other Singapore

[9] There are also other factors, besides multilateral trade liberalization, which may play a role in explaining the increased focus on trade procedures. For instance, it is often thought that excessive red tape constitutes a larger problem for small and medium sized enterprises, which in turn play an increasing role in world trade, and are particularly important for developing countries (see e.g. Messerlin and Zarrouk 2000). In addition, compared with other types of liberalization, trade facilitation is a relatively easy subject to agree on because it will (in general) not lead to reduced government revenue – it may in fact increase it.

[10] The others being trade and investment, competition policy and transparency in government procurements.

issues were dropped and only trade facilitation remained in the 2004 *July Package*, where the decision was taken to start negotiations.[11]

Many countries have already reformed their bureaucratic trade procedures, so, with or without a multilateral deal on trade facilitation, progress is being made. Still, despite the general acknowledgements of the fact that inefficient trade procedures constitute an important trade barrier, there is also a negative development where in some cases it becomes even more difficult for traders to send goods across borders. This is particularly the case with the many security initiatives that have been introduced since September 11, 2001. To reduce the risk of terrorist attacks against the delivery chain, it is tempting to make stricter rules for border crossings and demand much more documentation from traders. While this may be understandable from a security perspective, it risks building up new trade costs, particularly for trade with poorer countries.

3.1 Definition of Trade Facilitation

Trade facilitation has become something of a buzzword, but there is no exact definition that is generally agreed upon. In fact, there are many different ways of approaching the subject, ranging from a very narrow focus, to quite broad perspectives.

Perhaps the most commonly used way to define the issue (generally attributed to the WTO, and cited in e.g. Engman 2005) states that trade facilitation is "the simplification and harmonization of international trade procedures", where international trade procedures are the "activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade". In a similar definition, the Doha Ministerial Declaration (WTO 2001) formally refers to trade facilitation as "expediting the movement, release and clearance of goods, including goods in transit". Hence, loosely speaking, trade facilitation refers to reforms aimed at

[11] Negotiations on trade facilitation are to cover GATT article V (freedom of transit), article VIII (fees and formalities connected with importation and exportation) and article X (publication and administration of trade regulations). For more on trade facilitation in the WTO context, see WTO (2011a). Note that trade facilitation is sometimes linked to the issue of "Aid for Trade" – for more on this, see WTO (2011b).

making it easier for traders to move goods across borders, with a specific focus on lowering transaction costs associated with cross-border trade procedures.

On the other hand, many authors – see e.g. Wilson, Mann and Otsuki (2003; 2005) see trade facilitation as consisting of more than these procedural issues, and would include factors such as port infrastructure or the general regulatory environment in countries. Both perspectives are nicely summed up by Roy and Bagai (2005), who say that "trade facilitation [...] aims to make trade procedures as efficient as possible through the simplification and harmonization of documentation, procedures and information flows." They add:

> In a narrow sense, it addresses the logistics of moving goods through ports or customs. More broadly, it encompasses several inter-related factors such as customs and border agencies, transport infrastructure (roads, ports, airports etc.), services and information technology (as it relates to better logistics), regulatory environment, product standards, Technical Barriers to Trade [...] etc. in order to lower [the] cost of moving goods between destinations and across international borders.

3.2 Why Are Inefficient Trade Procedures Costly?

There are several ways to look at the question of how cumbersome trade procedures constitute costs to traders, but these costs are usually thought of as transaction costs.[12] One can, like e.g. Milner et al. (2008), divide these transaction costs into direct and indirect costs. Generally speaking, the direct costs include compliance costs associated with providing information and documentation or direct charges for trade-related services. Indirect costs include time delays due to inefficient procedures.

To be a bit more specific, it is sometimes helpful to think of the direct costs in terms of being *sunk*, *fixed* or *variable*. Before being able to start exporting to the world market, a potential trader has to obtain information about the trade procedures that must be complied with – and it is relevant to point out that those

[12] This section draws heavily on Persson (2012). I also want to thank an anonymous referee for making excellent suggestions about how to classify the types of costs associated with trade procedures.

procedures may take place both in the importing country itself and at the destination market. The more complex the procedures, the higher the cost for the trader. A firm only has to pay this cost once, so this may be seen as a one-time sunk cost of entering the market. However, each time that goods are to be sent across borders, all relevant procedures (in all countries involved) must be complied with, so even though the firm has paid the sunk market entry cost and knows what to do, it still has to take the time and effort to, for instance, submit information about the shipment to all relevant authorities. The magnitude of these compliance costs will generally not depend on the volume of the shipment, so they may be characterized as fixed, but they will have to be paid each time goods are shipped. Obviously, the more complicated and extensive the rules, the higher the costs of complying with them. Further, there are also variable costs, i.e. costs that depend on the size of the shipment. Those may e.g. include certain charges for trade-related services.

Indirect costs are best described by the time delays that are caused by complex and inefficient trade procedures. All else equal, complicated and inefficient trade procedures will increase the time required to trade a product across borders. Time delays may in turn lead to costs in various ways. First, depending on the type of good, there may be depreciation costs. These could be in terms of physical depreciation – e.g. spoiled agricultural goods – or because products quickly lose their market value (for instance technology-intensive products or fashion items). Second, with long delays, companies will have to keep goods in store to a larger extent instead of just being able to quickly ship the goods. For agricultural goods, storage costs may further not just be a matter of misallocated resources, but could lead to even higher costs for refrigeration etc. Third, long delays are associated with increased uncertainty about delivery times, which means that companies will have to waste resources on having wider safety margins. Fourth, with long and uncertain delivery times, companies may simply be unable to take advantage of business opportunities.

3.3 Economic Effects of Trade Facilitation

The literature on trade facilitation points out at least three general areas where effects can be expected: trade, government revenue and foreign direct investment. The first of these areas has by far received the most attention from researchers.

3.3.1 Effects on Trade[13]

From a theoretical point of view, since inefficient import and export procedures give rise to trade costs, new heterogeneous firm trade theory would predict that they have a negative effect on both the intensive and the extensive margins of trade (see e.g. Melitz 2003 and Chaney 2008). In other words, the costs associated with inefficient procedures should not only affect the *volumes* of trade, but also *how many* products that are traded internationally. It follows that trade facilitation – i.e. reforms that improve the efficiency of trade procedures – should lead to both increased trade flows and export (or import) diversification. Persson (2012) discusses these theoretical predictions in more detail.[14]

Using various ways to define and measure trade facilitation and to estimate its results – and focusing on various geographical areas – a number of empirical papers have confirmed the expected negative effects from inefficient trade procedures on aggregated trade volumes. For example, Djankov et al. (2010) find that for every additional day that a product is delayed, trade is reduced by at least 1 percent. Other papers in this literature include Wilson et al. (2003; 2005), Nordås et al. (2006), Soloaga et al. (2006), Iwanow and Kirkpatrick (2007; 2009), Lee and Park (2007), and Shepherd and Wilson (2009). Using less aggregated data on trade volumes, Sadikov (2007) and Martínez-Zarzoso and Márquez-Ramos (2008) have illustrated that export volumes of differentiated products are more sensitive to trade procedures than export volumes of homogeneous goods.

While there are now several studies of volume effects, there are still few studies which investigate the effects of trade facilitation on the extensive margin of trade. Using similar empirical setups by employing the number of exported products as a measure of the extensive margin, Dennis and Shepherd (2011) and Persson (2012) both find evidence that inefficient trade procedures is associated with fewer export products. Persson (2012) further illustrates that – consistent with the theoretical treatment in Chaney (2008) – this negative effect is more

13 See Table 2 in the Appendix for a short description of all empirical studies mentioned in this section.

14 The effects of trade facilitation are thus similar to the intended effects of trade preferences. However, one crucial difference is that while trade preferences require a "donor" country to give up potential tariff revenue, there is no corresponding cost in the case of trade facilitation.

pronounced for differentiated products than it is for homogeneous goods. Shepherd (2010) focuses on geographical diversification rather than product diversification, and concludes that trade facilitation also has the potential to increase the number of export markets.

Given the objective of this paper to explore options available for economic integration between the EU and developing countries, it is also worth mentioning that there are a few papers which specifically focus on the link between trade facilitation and European trade integration. Wilson et al. (2006) focus on trade facilitation in the new EU members from the enlargements in 2004 and 2007 (plus Turkey). Using the same methodology as Wilson et al. (2005), they present results from individual simulations of letting all countries improve half-way to the EU-15 average. They identify IT infrastructure as the single most effective area of reform. Persson (2008) investigates the probable effects of trade facilitation within the framework of the Economic Partnership Agreements which are in the process of replaceing the previous trade preferences offered by the EU to ACP countries. Persson shows that the elasticity for the time needed to export and import is not constant, but declines at higher levels of border delays. This is particularly important in the context of ACP countries, who typically experience very inefficient trade procedures, with correspondingly long border delays. Persson (2008) finds that on average, lowering border delays by one day in the exporting (importing) country is associated with 1 % (0.5 %) increased exports. However, the results for the six EPA negotiating groups are greater in magnitude than for the average developing country, suggesting that this should be an area of focus when designing the EPAs.

Bourdet and Persson (2012) notice that there are vast differences between EU countries regarding practices for import procedures – for example, according to the *Doing Business Database* (see World Bank 2011), it takes five times as long to import a good in Greece as it does in Denmark. The authors point out that this implies that, despite the fact that the EU is formally a customs union, exporters in the rest of the world face very different trade barriers depending on which country within the union they ship their goods to. Simulating what the effects would be of harmonizing trade procedures to the level of the most efficient EU countries, the authors find that aggregated exports to the EU would increase by 20 percent for the average exporter. Bourdet and Persson (2011) focus on the Euro-Mediterranean partnership, and find that there is great scope to both boost export

volumes and achieve export diversification by including trade facilitation in the integration process.

3.3.2 Effects on Government Revenue

Trade facilitation may also have a positive effect on government revenue. First, customs modernization will likely lead to a more efficient and reliable collection of trade taxes. Engman (2005) surveys some country case studies that suggest that trade facilitation does indeed have a positive effect on customs revenue collection. Second, to the extent that trade facilitation increases the value of trade flows, the tax base will also increase. Both these effects may be particularly important for developing countries, which rely on trade taxes to raise government revenue, often to a larger extent than developed countries. Third, in the long run, government revenue may also be affected through changes in the domestic production following increased trade.

3.3.3 Effects on Foreign Direct Investment

Besides its effects on trade and government revenue, trade facilitation is also likely to affect foreign direct investments. A priori, the effects could be either positive or negative. A multinational firm could locate a plant in a large market to avoid trade transaction costs related to inefficient trade procedures. For most developing countries, where trade procedures as a rule tend to be particularly costly, it is, however, more likely that the firm will aim to establish production capacity for export markets. In this case, inefficient trade procedures, which make it more costly both to export the firms' own goods and to import necessary intermediates, will decrease the likelihood that a multinational will locate in this country. For a background to this and an overview of the very limited empirical literature, see Engman (2005).[15]

[15] It is worth pointing out that since the existing literature concerning effects on government revenue and foreign direct investment is so very limited, these issues are areas where further research would be very welcome.

3.4 Concrete Examples of Reform

What can countries do to make it easier for goods to cross borders?[16] First of all, as stressed by Hellquist (2003), it is important to address inefficient procedures in the whole trade chain, starting from the stage where a buyer and a seller reach a business agreement, reaching over the transport and customs phases, and not ending until the buyer receives the goods and the seller collects payment. This means that a great number of agents are involved. To summarize the kinds of reform that may typically be involved, the Swedish National Board of Trade (2008) succinctly describes trade facilitation reforms with four principles: *transparency*, *harmonization*, *standardization* and *simplification*.

The first general area where these principles could be applied is likely to be *documentation* requirements. These requirements should be as simple and few as possible, and they should also be standardized among the various agencies involved. Preferably, documents should also be as similar as possible between countries. Second, whatever the requirements and procedures are, it is crucial to make correct and understandable *information* about them publicly available to traders. Therefore, laws, procedures and other rules should be published (before they enter into force). One easy way to facilitate trade could e.g. be to have a webpage where all relevant information is collected. Further, the use of *information technology* can help in making it easier for traders to supply documentation and to get hold of the information they need, but there are also wider gains to be made by making working procedures at the relevant agencies more efficient.

Trade facilitation will often involve *training* of both management and staff at e.g. the customs authority, so that they can increase their productivity. Further, often more than one (public or private) agency will be involved in the trade chain, and increasing the degree of *cooperation* and communication between these agencies may remove some barriers, for example by harmonizing their activities and requirements. Allowing traders to *appeal* against incorrect treatment is another reform that is sometimes discussed.

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[16] For overviews of concrete reforms, see e.g. Hellqvist (2003), Swedish National Board of Trade (2008) or Milner et al. (2008).

Customs clearing can be made more efficient by the use of *audit-based control* coupled with *risk-assessment techniques*, as opposed to controlling every shipment. While not always included in the discussion about trade facilitation, there are certainly gains to be made by also addressing weak *infrastructure*, for example in ports and airports. Interestingly, one could reap some of these gains even without any physical investment, simply by using the available infrastructure more efficiently, such as by increasing opening hours.

3.5 Measurement of Trade Facilitation

From a research perspective, one of the difficulties with trade facilitation is that even though most agree that it is an important topic, it is not easy to measure the various costs that reform is meant to lower. One common way in the literature has been to rely on the World Bank's *Doing Business Database*.[17] Data from this survey has e.g. been employed by Sadikov (2007), Martínez-Zarzoso and Márquez-Ramos (2008), Persson (2008; 2012), Iwanow and Kirkpatrick (2009), Djankov et al. (2010), Shepherd (2010), Bourdet and Persson (2011; 2012) and Dennis and Shepherd (2011). In the *Trading Across Borders* section of the survey, local freight forwarders, shipping lines, customs brokers and port officials are asked about how much time, documents and costs would be involved for a hypothetical trading firm to export or import a well-defined, standardized good. Other survey data is used by e.g. Wilson et al. (2003; 2005).

Referring the reader to for example Persson (2012) for a discussion of the *Doing Business Database*, this section will focus less on what *is* available and instead discuss what kind of data one could want. The arguably most important problem with the data that we have access to today (such as the *Doing Business Database*) is that there is no real time series variation.[18] Since there is hardly any information about how things change over time (except for particular countries in

[17] See World Bank (2011).

[18] There are indeed a few years of data available on e.g. time delays at the border in the *Doing Business Database*. However, upon closer inspection, the number of days needed to export or import varies very little over the years for almost all countries. Of course, this may to some extent reflect the fact that things change rather slowly, but the researcher is nevertheless not helped since the only variation in the data is across countries rather than over time.

case studies), the researcher must instead rely on the cross-sectional variation between countries. Econometrically, this creates problems because it makes controlling for unobserved heterogeneity much more difficult. Obviously, making statements about causal links is also a lot trickier without being able to observe the situation before and after a reform. Hence, time-series data is at the top of the data wishing list.

Another problem with the available data is that it does not differentiate between products. This is problematic for at least two reasons. First, it seems likely that the delays caused by inefficient trade procedures differ greatly among products simply because rules are much stricter for some goods, meaning that there are more inspections, documents to fill out etc. involved for some goods than for others. Second, for reasons discussed above, a given time delay may be very costly for some goods, while the value of other goods is only marginally affected. Thus, product-specific measures of trade facilitation outcomes would be very useful.

A third, and related, problem is that the data does not differentiate between different destination or origin countries, even though trade between some country pairs is much more surrounded by complicated procedures than that between others. The complicated rules of origin that apply to EU preferential imports from some, but not all, developing countries is a case in point. Still, the available data is (export or import) country-specific, and not bilateral, meaning that it is implicitly assumed in the surveys that trade with all destinations or origins faces the same costs.

A fourth improvement that could be wished for is data that differentiates costs depending on the size of the trading firm, since large companies tend to be in a better position to deal with trade procedures (for instance by hiring staff that only do this). One way to obtain this data is to utilize the available firm level trade data which sometimes includes information about trade procedures. The downside is that you then tend to only have information from one country.

4 Concluding Remarks

Trade preferences for developing countries have dominated the history of North-South trade relations since at least the 1960s – perhaps, in fact, even more so for

the European Union than for most other industrialized countries. While often criticized for not having had any effect on developing countries' export flows, the empirical literature has in fact found that preferences have actually helped raise the value of exports compared with what would otherwise have been the case. In other words, as disappointing as many countries' trade records have been, the situation would have been *even worse* without preferences.

Still, the clock is ticking for trade preferences. All else equal, a multilateral agreement on trade liberalization in the Doha Round will erode the value of trade preferences even further. With many tariffs already being very low, it is increasingly difficult to find products where a wide enough preference margin can be offered. At the heart of the problem is the fact that if you want one trade partner to be preferred, you have to keep trade barriers against another. The more normal trade barriers are lowered – and this is of course something we tend to see as a good thing in itself – the smaller the preference margin you can offer to preferred partners.

There are certainly things that can be done to stall this development where preferences are becoming irrelevant. Product coverage could be improved in the preference schemes so that certain key products that are excluded today are given preferential treatment. Market access could be made more certain and predictable to increase the incentives for long-term investments – the EU's decision to indefinitely give duty-free access for all products to LDCs under the *Everything But Arms* is a good example of a step in the right direction. In particular, there is still considerable room for increasing the utilization of preferences by improving the rules of origin. Examples of relatively easy reforms could be to make the rules as clear and transparent as possible in order to make it easier for traders to understand them and avoid unnecessary and costly mistakes; to make all the relevant information readily available; to reduce excessive documentation requirements and to harmonize different systems. In other words, while it is most likely only a matter of time until preferences no longer play a role in stimulating developing countries' exports, *trade facilitation* is one way to prolong their usefulness.

If trade preferences represent the history of the EU's trade relations with developing countries, trade facilitation is probably an important part of the future. Given the extremely inefficient trade procedures present in many developing countries as well as in several EU countries, there is a vast potential for

improvement. While at least initial reforms do not have to be expensive, empirical studies have found that their effects are potentially large. Further, recent studies illustrate that an important mechanism through which trade facilitation expands the value of trade is by enabling countries to start exporting new products that they simply could not export before. These effects are particularly pronounced for differentiated goods, i.e. goods that are linked to industrialisation, and which trade preferences, incidentally, were supposed to support. Hence, trade facilitation will likely not only increase the value of countries' trade, but also make this trade more diversified. Together with the positive links to increased FDI flows and improved government revenue, it all implies that trade facilitation is certainly a very interesting policy option.

In summary, while at least some trade preferences actually have been less of a failure than their reputation suggests, trade facilitation is a far more promising policy option for the future. Reforming complicated and burdensome procedures in developing *and* developed economies may bring about greatly improved chances of achieving increased trade for developing countries. In other words, trade facilitation should be seen as a key future area when it comes to economic integration between the EU and developing countries.

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Annex

Table 1. Selected Gravity Studies on Trade Volume Effects of EU Non-Reciprocal Trade Preferences

Reference	*Summary*
Nilsson (2002)	Cross-sectional OLS regressions on three-year averages, 1973-1992. Exporters are EU preference beneficiaries + OECD. Mixed results over the time period. GSP when positive and significant (is at one point *negative* and significant): GTC range is 80-263%. Mediterranean: very mixed results. Lomé: GTC range is 134-437%.
Oguledo and MacPhee (1994)	Cross-sectional OLS for 1976. EU imports from 162 exporters. GTC: GSP 293%, Mediterranean 372%, Lomé 1953%.
Péridy (2005)	Various panel data methods (e.g. Fixed Effects, Random Effects, Hausman-Taylor) for 1975-2001. Mediterranean exporters, 42 importers. GTC of Mediterranean preferences in FE estimation: 38%.
Persson and Wilhelmsson (2007)	Fixed effects model (country-pair and year effects) with bilateral time trends, 1960-2002. EU-15 imports from all developing countries. GTC: GSP: 3.6%, Yaoundé: 29%, LDC (not Lomé): 21%, GSP Drug regime: insignificant, Mediterranean: 14%, Lomé (not LDC): 30%, Lomé and LDC: 33%.
Sapir (1981)	Yearly cross-sectional OLS regressions 1967-1978. 9 importers + 20 exporters. Only manufactures. EU GSP dummy significant and positive 1973, 1974. GTC: 91-93%.

Notes: All studies use gravity-type models with dummy variables to capture the effect of various EU non-reciprocal preference systems (for simplicity, the term "EU" is used, even tough, of course, the correct terminology would for some of the studies be e.g. "EC"). The authors have used different ways to calculate Gross Trade Creation (GTC), so to facilitate comparisons, the estimated coefficients from each paper have been used to recalculate GTC according to the formula GTC = (exp(coeff)-1)*100.

Table 2. Overview of Empirical Studies of Trade Effects from Trade Facilitation (TF)

Reference	*Summary*
Bourdet and Persson (2011)	**Question/Focus:** Effects of TF on export volumes and export diversification within the framework of the EU/Southern Mediterranean integration process **Sample:** Bilateral exports from countries in the Middle East and North Africa (MENA) to EU-27 countries 2006-2009 **Export and/or import procedures:** Both **Measure of TF:** Time to export and import from *Doing Business*. **Main results:** Reduction of 10 % in time to export associated with 6 % larger export volumes and 2 % more export products. Reduction of 10 % in time to import associated with 3 % larger export volumes and 3 % more export products. Full harmonization to best levels within EU for import time and within MENA region for export time associated with 34 % larger export volumes and 21 % more export products.
Bourdet and Persson (2012)	**Question/Focus:** Effects of import procedure harmonization within the EU on export volumes from the rest of the world (ROW). **Sample:** Bilateral exports from ROW to EU-27 countries 2006-2008. **Export and/or import procedures:** Import **Measure of TF:** Time to import from *Doing Business*. **Main results:** Reduction of 10 % in time to import in EU associated with 4 % larger export volumes from countries in ROW. Harmonization to best practice levels within EU (interpreted as completing the customs union) associated with 20 % increase in aggregated exports to the EU for average ROW country.
Dennis and Shepherd (2011)	**Question/Focus:** Effects of TF on export diversification **Sample:** Exports from 118 developing countries to EU-15 in 2005 **Export and/or import procedures:** Export **Measure of TF:** Costs to export (and cost to enter market) from *Doing Business*. **Main results:** Reduction of 10 % in time to export associated with 3 % increase in export diversification.
Djankov, Freund and Pham (2010)	**Question/Focus:** Effect of time delays on export volumes **Sample:** Average export 2001-2003 for 126 countries (TF from 2005) **Export and/or import procedures:** Export **Measure of TF**: Time to export from *Doing Business* **Main results:** Reduction of time to export by 10 % associated with 3-4 % larger export volumes. One extra day needed to export reduces export by 1 %.
Iwanow and Kirkpatrick (2007)	**Question/Focus:** Volume effects of TF, controlling for regulatory quality and infrastructure quality **Sample:** 2000-2004, 78 countries, manufactures **Export and/or import procedures:** Both **Measure of TF:** (i) Index based on "hidden export barriers" and "irregular payments" from *Global Competitiveness Report*; (ii) Index based on number of documents, time and costs from *Doing Business*. **Main results:** 10 % improvement in TF associated with 5 % larger export volumes.
Lee and Park (2007)	**Question/Focus:** Effects of TF on trade volumes, trade creation/trade diversion **Sample:** 50 countries, 1994-1999 **Export and/or import procedures:** bilateral index created **Measure of TF:** Indices for (i) port efficiency, (ii) irregular payments, (iii) hidden import barriers and (iv) efficiency of customs procedures based on *Global Competitiveness Report* combined into one bilateral index, or, alternatively, dummy for "good" TF. **Main results:** 10 % improvement in TF associated with 6 % more trade. RTAs consisting of countries with "good" TF more likely to be trade creating and less likely to be trade diverting.

Martínez-Zarzoso and Márquez-Ramos (2008)	**Question/Focus:** Effects of TF on disaggregated (sectoral) trade volumes. **Sample:** 13 exporters and 167 importers in 2000. **Export and/or import procedures:** Both **Measure of TF:** cost, time and documents needed to export and/or import from *Doing Business* **Main results:** Selected results include: Reduction of 10 % in time to export associated with 0.4 % increase in export volumes. Reduction of 10 % in time to import associated with 1.5 % increase in export volumes. One less day needed to export (import) associated with 0.22 % (0.83 %) increase in export volumes. Exports of homogeneous goods less time-sensitive than exports of differentiated goods.
Nordås, Pinali and Geloso Grosso (2006)	**Question/Focus:** Effects of time needed to satisfy import and export procedures on probability to trade and trade volumes **Sample:** Exports to Australia, Japan and the UK from 140 countries in 2004. **Export and/or import procedures:** Export **Measure of TF:** Time to export and import from *Doing Business* **Results:** Reductions in the time to export increases probability to export and export volumes
Persson (2008)	**Question/Focus:** Effects of TF on export volumes from ACP EPAs **Sample:** Two-way bilateral trade between 22 EU countries and 100 developing countries in 2005 **Export and/or import procedures:** Both **Measure of TF:** Time to export and import from *Doing Business* **Results:** Non-constant elasticity for time needed to export and import: elasticity declines at higher levels of time. Lowering border delays by one day in the exporting (importing) country associated with 1 % (0.5 %) increased exports. All EPAs except the Caribbean group has significant effects from time to export, and they are stronger than the average for developing countries.
Persson (2012)	**Question/Focus:** Effects of TF on extensive margin. Effect the same for differentiated and homogeneous goods? **Sample:** Bilateral exports to EU-25 from 130 developing countries (GSP eligible) **Export and/or import procedures:** Export **Measure of TF:** Time to export from *Doing Business* **Results:** A 10 % reduction in the time to export associated with a 6 % increase in the number of exported differentiated products, and a 3 % increase in the number of exported homogeneous products. If all exporters were as time efficient as the most efficient country at the same level of development, the number of exported differentiated (homogeneous) products would increase by 62 % (26 %).
Sadikov (2007)	**Question/Focus:** Effect of TF on export volume and export composition **Sample:** Bilateral exports between all country pairs (?) in 2004 **Export and/or import procedures:** Export **Measure of TF:** Number of signatures to export from *Doing Business* **Results:** One additional signature to export reduces export volumes by 4.2 %. Effect stems from effect on differentiated goods: insignificant effect for homogeneous goods, but significantly negative for differentiated goods. Each signature lower exports of differentiated products by 8.4 %.
Shepherd (2010)	**Question/Focus:** Effect of TF (and other trade costs) on geographical diversification (no. of foreign markets served) **Sample:** All low- and middle income countries as exporters in 2005 **Export and/or import procedures:** Export **Measure of TF:** Cost to export from *Doing Business* **Results:** A 10 % points reduction in ratio of export costs to per capita income is associated with a 1.5 % increase in the number of foreign markets served. A reduction of export costs relative to per capita income by one standard deviation increases geographical diversification by 12 %.

Shepherd and Wilson (2009)	**Question/Focus:** Effects of TF on trade volumes **Sample:** 12 countries in South East Asia, 2000-2005 **Export and/or import procedures:** Average for the bilateral pair. **Measure of TF:** Indices for (i) efficiency of maritime and air ports, (ii) extent of irregular payments in relation to import/export licenses and (iii) level of competition among internet service providers, using data from *Global Competitiveness Report*. Average for the bilateral pair. **Results:** A 1 % improvement in air transport infrastructure associated with 5 % increase in trade. A 1 % improvement in competition among internet service providers associated with 1 % increase in trade. If TF measures improve so no country falls below current regional average, this is associated with increases in trade of the magnitude 7.5 % (maritime port infrastructure), 42 % (air transport infrastructure), 2.3 % (irregular payments), and 5.7 % (competition among internet service providers).
Soloaga, Wilson and Mejía (2006)	**Question/Focus:** Effects of TF on trade volumes, focus on Mexico **Sample:** 75 countries, average manufacture trade for 2000-2003 (TF for 2000-2001) **Export and/or import procedures:** Both **Measure of TF:** Indices for (i) port efficiency, (ii) customs environment, (iii) regulatory environment and (iv) service sector infrastructure created using survey data from *Global Competitiveness Report*, *World Competitiveness Yearbook*, and *Kaufmann, Kraay and Zoido-Lobaton (2002)*. **Results:** If all countries with below-average performance improve halfway to the average, total trade would increase by 7 %. Unilateral improvement by Mexico would increase manufacture exports by 22%, and manufacture imports by 11 %.
Wilson, Luo and Broadman (2006)	**Question/Focus:** Effects of TF on trade volumes **Sample:** 8 EU members and 4 candidate countries, all transition countries in the Europe and Central Asia region. TF data for 2000-2001, trade? **Export and/or import procedures:** Both **Measure of TF:** Indices for (i) port efficiency, (ii) customs regimes, (iii) regulatory policy and (iv) information technology infrastructure created using survey data from *Global Competitiveness Report*, *World Competitiveness Yearbook*, and *Kaufmann, Kraay and Zoido-Lobaton (2002)*. **Results:** Presents results from individual simulations of letting all countries improve half-way to the EU-average. Largest effects from reforms of IT infrastructure.
Wilson, Mann and Otsuki (2003)	**Question/Focus:** Effects of TF on trade volumes **Sample:** APEC members' manufacture export 1989-2000 (TF data for 1999 or 2000) **Export and/or import procedures:** Import **Measure of TF:** Indices for (i) port efficiency, (ii) customs environment, (iii) regulatory environment and (iv) e-business usage created using survey data from *Global Competitiveness Report*, *World Competitiveness Yearbook*, *Global Corruption Report* and *Clark et al (2002)* **Results:** If all APEC members with below-average performance improve halfway to the APEC average, intra-APEC trade would increase by 21 %. Largest parts of increase stem from port efficiency (9.7 %) and regulatory environment (7.3 %).
Wilson, Mann and Otsuki (2005)	**Question/Focus:** Effects of TF on trade volumes **Sample:** Bilateral manufacture trade for 75 countries, in 2000-2001 **Export and/or import procedures:** Both **Measure of TF:** Indices for (i) port efficiency, (ii) customs environment, (iii) regulatory environment and (iv) service sector infrastructure created using survey data from *Global Competitiveness Report*, *World Competitiveness Yearbook*, and *Kaufmann, Kraay and Zoido-Lobaton (2002)*. **Results:** If all countries with below-average performance improve halfway to the average, total trade would increase by 10 %. Largest result from reform of service sector infrastructure.

Note: All reviewed studies use some version of a gravity-type model. "TF" should be read "trade facilitation".

References

Alexandraki, K. and H.P. Lankes (2004). The Impact of Preference Erosion on Middle-Income Developing Countries. IMF Working Paper No. 04/169, Washington D.C.: International Monetary Fund.
http://www.imf.org/external/pubs/ft/wp/2004/wp04169.pdf

Amiti, M. and J. Romalis (2007). Will the Doha Round Lead to Preference Erosion? *IMF Staff Papers* 54(2): 338–384.
http://ideas.repec.org/a/pal/imfstp/v54y2007i2p338-384.html

Amurgo-Pacheco, A. (2006). Preferential Trade Liberalization and the Range of Exported Products: The Case of the Euro-Mediterranean FTA. HEI Working Paper No: 18/2006, Geneva: Graduate Institute of International Studies.
http://ideas.repec.org/p/gii/giihei/heiwp18-2006.html

Augier, P., M. Gasiorek and C. Lai-Tong (2005). The Impact of Rules of Origin on Trade Flows. *Economic Policy* 20(43): 567–624.
http://ideas.repec.org/a/bla/ecpoli/v20y2005i43p567-624.html

Bartels, L. (2003). The WTO Enabling Clause and Positive Conditionality in the European Community's GSP Program. *Journal of International Economic Law* 6(2): 507–532.
http://jiel.oxfordjournals.org/content/6/2/507.abstract

Bartels, L. (2007). The WTO Legality of the EU's GSP+ Arrangement. *Journal of International Economic Law* 10(4): 869–886.
http://jiel.oxfordjournals.org/content/10/4/869.abstract

Bensassi, S., L. Márquez-Ramos and I. Martínez-Zarzoso (2011). Economic Integration and the Two Margins of Trade: The Impact of the Barcelona Process on North African Countries' Exports. *Journal of African Economies* 21(2): 228–265.
http://jae.oxfordjournals.org/content/early/2011/11/13/jae.ejr038.short?rss=1

Brenton, P. (2003). Integrating the Least Developed Countries into the World Trading System: The Current Impact of European Union Preferences Under Everything But Arms. *Journal of World Trade* 37(3): 623–646.

Brenton, P. and M. Manchin (2003). Making EU Trade Agreements Work: The Role of Rules of Origin. *World Economy* 26(5): 755–769.
http://ideas.repec.org/a/bla/worlde/v26y2003i5p755-769.html

Bourdet, Y. and M. Persson (2011). Reaping the Benefits of Deeper Euro-Med Integration Through Trade Facilitation. Department of Economics Working Paper No. 2011:15, Lund: Lund University.
http://econpapers.repec.org/paper/hhslunewp/2011_5f015.htm

Bourdet, Y. and M. Persson (2012). Completing the EU Customs Union. The Effects of Trade Procedure Harmonization. *JCMS: Journal of Common Market Studies* 50(2): 300–314.

Cadot, O., C. Carrère, J. de Melo and B. Tumurchudur (2006). Product-Specific Rules of Origin in EU and US Preferential Trading Arrangements: An Assessment. *World Trade Review* 5(2): 199–224.
http://ideas.repec.org/a/cup/wotrrv/v5y2006i02p199-224_00.html

Chaney, T. (2008). Distorted Gravity: The Intensive and Extensive Margins of International Trade. *American Economic Review* 98(4): 1707–1721.
http://ideas.repec.org/a/aea/aecrev/v98y2008i4p1707-21.html

Clark, X., D. Dollar and A. Micco (2002). Maritime Transport Costs and Port Efficiency. World Bank Policy Research Working Paper No. 2781, Washington D.C.: World Bank.
http://ideas.repec.org/p/wbk/wbrwps/2781.html

Dennis, A. and B. Shepherd (2011). Trade Facilitation and Export Diversification. *World Economy* 34(1): 101–122.
http://ideas.repec.org/a/bla/worlde/v34y2011i1p101-122.html

Djankov, S., C. Freund and C.S. Pham (2010). Trading on Time. *Review of Economics and Statistics* 92(1): 166–173.
http://ideas.repec.org/a/tpr/restat/v92y2010i1p166-173.html

Engman, M. (2005). The Economic Impact of Trade Facilitation. OECD Trade Policy Working Paper No. 21, Paris: Organisation for Economic Co-operation and Development. http://ideas.repec.org/p/oec/traaab/21-en.html

Francois, J., B. Hoekman and M. Manchin (2006). Preference Erosion and Multilateral Trade Liberalization. *World Bank Economic Review* 20(2): 197–216. http://ideas.repec.org/a/oup/wbecrv/v20y2006i2p197-216.html

Gamberoni, E. (2007). Do Unilateral Trade Preferences Help Export Diversification? HEI Working Paper No: 17/2007, Geneva: Graduate Institute of International Studies. http://ideas.repec.org/p/gii/giihei/heiwp17-2007.html

Grossman, G.M. and A.O. Sykes (2005). A Preference for Development: The Law and Economics of GSP. *World Trade Review* 4(1): 41–67.
http://ideas.repec.org/a/cup/wotrrv/v4y2005i01p41-67_00.html

Hart, M. and B. Dymond (2003). Special and Differential Treatment and the Doha 'Development' Round. *Journal of World Trade* 37(2): 395–415.

Hellqvist, M. (2003). *Trade Facilitation from a Developing Country Perspective.* Stockholm: SWEPRO/National Board of Trade.

Inama, S. (2003). Trade Preferences and the World Trade Organization Negotiations on Market Access. Battling for Compensation of Erosion of GSP, ACP and Other Trade Preferences or Assessing and Improving Their Utilization and Value by Addressing Rules of Origin and Graduation? *Journal of World Trade* 37(5): 959–976.

Iwanow, T. and C. Kirkpatrick (2007). Trade Facilitation, Regulatory Quality and Export Performance. *Journal of International Development* 19(6): 735–753.
http://ideas.repec.org/a/wly/jintdv/v19y2007i6p735-753.html

Iwanow, T. and C. Kirkpatrick (2009). Trade Facilitation and Manufactured Exports: Is Africa Different? *World Development* 37(6): 1039–1050.
http://ideas.repec.org/a/eee/wdevel/v37y2009i6p1039-1050.html

Kaufmann, D, A. Kraay and P. Loido-Lobaton (2002). Governance Matters II: Updated Indicators for 2000-2001. World Bank Policy Research Working Paper No. 2772, Washington D.C.: World Bank.
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=297497

Krueger, A.O. (1997). Free Trade Agreements versus Customs Unions. *Journal of Development Economics* 54(1): 169–187.
http://ideas.repec.org/a/eee/deveco/v54y1997i1p169-187.html

Lee, H. and I. Park (2007). In Search of Optimised Regional Trade Agreements and Applications to East Asia. *World Economy* 30(5): 783–806.
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=981624

Limão, N. and M. Olarreaga (2006). Trade Preferences to Small Developing Countries and the Welfare Costs of Lost Multilateral Liberalization. *World Bank Economic Review* 20(2): 217–240.
http://wber.oxfordjournals.org/content/20/2/217.abstract

Martínez-Zarzoso, I. and L. Márquez-Ramos (2008). The Effect of Trade Facilitation on Sectoral Trade. *B.E. Journal of Economic Analysis & Policy* 8(1): Article 42. http://ideas.repec.org/a/bpj/bejeap/v8y2008i1n42.html

Melitz, M.J. (2003). The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity. *Econometrica* 71(6): 1695–1725. http://scholar.harvard.edu/melitz/files/aggprod_ECMA.pdf

Messerlin, P.A. and J. Zarrouk (2000). Trade Facilitation: Technical Regulations and Customs Procedures. *World Economy* 23(4): 577–593. http://ideas.repec.org/a/bla/worlde/v23y2000i04p577-593.html

Milner, C., O. Morrissey and E. Zgovu (2008). Trade Facilitation in Developing Countries. CREDIT Research Paper No. 08/05, Nottingham: Centre for Research in Economic Development and International Trade. http://ideas.repec.org/p/not/notcre/08-05.html

Nilsson, L. (2002). Trading Relations: Is the Roadmap from Lomé to Cotonou Correct? *Applied Economics* 34(4): 439–452. http://www.ingentaconnect.com/content/routledg/raef/2002/00000034/00000004/art00005

Nordås, H.K., E. Pinali and M. Geloso Grosso (2006). Logistics and Time as a Trade Barrier. OECD Trade Policy Working Paper No. 35, Paris: Organisation for Economic Co-operation and Development. http://ideas.repec.org/p/oec/traaab/35-en.html

Oguledo, V.I. and C.R. MacPhee (1994). Gravity Models: A Reformulation and an Application to Discriminatory Trade Arrangements. *Applied Economics* 26(2): 107–120. http://www.tandfonline.com/doi/abs/10.1080/00036849400000066

Olarreaga, M. and C. Özden (2005). AGOA and Apparel: Who Captures the Tariff Rent in the Presence of Preferential Market Access. *World Economy* 28(1): 63–77. http://ideas.repec.org/a/bla/worlde/v28y2005i1p63-77.html

Özden, C. and E. Reinhardt (2005). The Perversity of Preferences: GSP and Developing Country Trade Policies, 1976–2000. *Journal of Development Economics* 78(1): 1–21. http://ideas.repec.org/a/eee/deveco/v78y2005i1p1-21.html

Péridy, N. (2005). The Trade Effects of the Euro-Mediterranean Partnership: What Are the Lessons for ASEAN Countries? *Journal of Asian Economics* 16(1): 125–139. http://ideas.repec.org/a/eee/asieco/v16y2005i1p125-139.html

Persson, M. (2008). Trade Facilitation and the EU-ACP Economic Partnership Agreements. *Journal of Economic Integration* 23(3): 518–546. http://econpapers.repec.org/article/risintegr/0444.htm

Persson, M. (2012). Trade Facilitation and the Extensive Margin. *Journal of International Trade and Economic Development*, forthcoming. DOI:10.1080/09638199.2011.587019

Persson, M. and F. Wilhelmsson (2007). Assessing the Effects of EU Trade Preferences for Developing Countries. In Y. Bourdet, J. Gullstrand and K. Olofsdotter (eds.): *The European Union and Developing Countries: Trade, Aid and Growth in an Integrating World.* Cheltenham: Edward Elgar.

Roy, J. and S. Bagai (2005). Key Issues in Trade Facilitation. Summary of World Bank/EU Workshops in Dhaka and Shanghai in 2004. World Bank Policy Research Working Paper No. 3703, Washington D.C.: World Bank. http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-3703

Sadikov, A. (2007). Border and Behind-the-Border Trade Barriers and Country Exports. IMF Working Paper No. 07/292, Washington D.C.: International Monetary Fund. http://www.imf.org/external/pubs/ft/wp/2007/wp07292.pdf

Sapir, A. (1981). Trade Benefits under the EEC Generalized System of Preferences. *European Economic Review* 15(3): 339–355. http://ideas.repec.org/p/ulb/ulbeco/2013-8290.html

Shepherd, B. (2010). Geographical Diversification of Developing Country Exports. *World Development* 38(9): 1217–1228. http://ideas.repec.org/a/eee/wdevel/v38y2010i9p1217-1228.html

Shepherd, B. and J.S. Wilson (2009). Trade Facilitation in ASEAN Member Countries: Measuring Progress and Assessing Priorities. *Journal of Asian Economics* 20(4): 367–383. http://ideas.repec.org/a/eee/asieco/v20y2009i4p367-383.html

Soloaga, I., J.S. Wilson and A. Mejía (2006). Moving Forward Faster: Trade Facilitation Reform and Mexican Competitiveness. World Bank Policy Research Working Paper No. 3953, Washington D.C.: World Bank. http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-3953

Swedish National Board of Trade (2008). *Trade Facilitation and Swedish Experiences.* Stockholm: Swedish National Board of Trade. http://www.kommers.se/upload/Analysarkiv/Arbetsomr%E5den/Handelsprocedurer/Trade%20Facilitation%20kursmaterial_webben.pdf

UNCTAD (2008). About GSP.
http://www.unctad.org/Templates/Page.asp?intItemID=2309&lang=1

Wilhelmsson, F. and M. Persson (2009). EU Trade Preferences and Export Diversification. Paper prepared for the *Trade, Growth and Governance* project at the Norwegian Institute of International Affairs (NUPI).

Wilson, J.S., X. Luo and H.G. Broadman (2006). Entering the Union: European Accession and Trade Facilitation Priorities. World Bank Policy Research Working Paper No. 3832, Washington D.C.: World Bank

Wilson, J.S., C.L. Mann and T. Otsuki (2003). Trade Facilitation and Economic Development: A New Approach to Quantifying the Impact. *World Bank Economic Review* 17(3): 367–389.
http://ideas.repec.org/a/oup/wbecrv/v17y2003i3p367-389.html

Wilson, J.S., C.L. Mann and T. Otsuki (2005). Assessing the Benefits of Trade Facilitation: A Global Perspective. *World Economy* 28(6): 841–71.
http://ideas.repec.org/a/bla/worlde/v28y2005i6p841-871.html

World Bank (2011). *The Doing Business Database. Washington, D.C.: World Bank.*
http://www.doingbusiness.org/

WTO (2001). Ministerial Conference. Fourth Session. Doha, 9-14 November 2001, 'Ministerial Declaration', WT/MIN(01)/DEC/1.
http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.pdf

WTO (2011a). Trade Facilitation. Geneva: World Trade Organization.
http://www.wto.org/english/tratop_e/tradfa_e/tradfa_e.htm

WTO (2011b). Aid for Trade. Geneva: World Trade Organization.
http://www.wto.org/english/tratop_e/devel_e/a4t_e/aid4trade_e.htm