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SPECIAL AND DIFFERENTIAL TREATMENT FOR DEVELOPING COUNTRIES

Abstract

Special and Differential Treatment for Developing Countries (SDT) constitutes a central feature of the GATT/WTO system. Its formal goal is to foster export-led growth in developing countries. Its theoretical foundations and empirical support are, however, weak at best. In particular, SDT conflicts with the GATT's two key principles of reciprocity and nondiscrimination, compromising the efficiency of the multilateral trading system. Still, if SDT provisions help those who most need help, sacrificing economic efficiency may be justifiable. However, there are numerous criticisms, on theoretical and empirical grounds, to the premises and the achievements of SDT-based disciplines, casting serious doubt on its effectiveness in helping developing countries trade and grow. For researchers, the good news is that there is plenty of room for progress, with several important areas where our understanding remains unsatisfactory but progress is feasible---that is, where the expected return to research effort seems unusually high.

JEL Classification: F13, F55, F63, F68, O19, O24

Keywords: Generalized System of Preferences, preferential tariffs, trade policy, World Trade Organization, terms of trade, firm delocation, export-led growth

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Special and Differential Treatment for Developing Countries

Chapter prepared for the Handbook of Commercial Policy

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Abstract

Special and Differential Treatment for Developing Countries (SDT) constitutes a central feature of the GATT/WTO system. Its formal goal is to foster export-led growth in developing countries. Its theoretical foundations and empirical support are, however, weak at best. In particular, SDT conflicts with the GATT's two key principles of reciprocity and nondiscrimination, compromising the efficiency of the multilateral trading system. Still, if SDT provisions help those who most need help, sacrificing economic efficiency may be justifiable. However, there are numerous criticisms, on theoretical and empirical grounds, to the premises and the achievements of SDT-based disciplines, casting serious doubt on its effectiveness in helping developing countries trade and grow. For researchers, the good news is that there is plenty of room for progress, with several important areas where our understanding remains unsatisfactory but progress is feasible—that is, where the expected return to research effort seems unusually high.

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1 Introduction

Special and Differential Treatment for Developing Countries (SDT) is a staple of the world trading system. It is present in many forms. For example, members of the World Trade Organization (WTO) can sidestep the nondiscrimination requirement established in Article I of the General Agreement on Tariffs and Trade (GATT), which establishes Most-Favoured-Nation (MFN) treatment among its members, to offer preferential access to developing countries. Similarly, developing countries need not adhere to all the agreements in the GATT, have more time to implement them, and have a lower level of obligations. The underlying justification is that those countries could benefit from temporary protection to foster infant industries and diversify their industrial base. This process would be strengthened by the scale economies obtained through preferential access to larger markets. Intriguingly, despite its obvious relevance this is a topic that has received relatively little attention in the trade literature in the last 20 years.[1]

The formal goal of SDT is to foster economic growth of developing countries. But is SDT actually good for growth? Unfortunately, answering this question convincingly is extremely difficult, theoretically and especially empirically. Alternatively, one may investigate ancillary questions that could provide inputs to help assess the impact of SDT on growth. For example, a necessary (but not sufficient) condition for an answer in the affirmative is that SDT causes a sustained growth in the *exports* of developing countries. If SDT does not even affect their export performance in a sustained way, then it surely cannot encourage economic growth either. Similarly, we can look at the effect of SDT provisions on the trade policies of countries, rich and poor. If SDT makes the world less protectionist in the long term, it may achieve its goals eventually; otherwise, the task would be much harder.

Still, reaching solid conclusions about the virtues and vices of SDT constitutes a formidable challenge. Even if an ancillary issue can be convincingly assessed, gener-

[1] Much of the earlier literature on SDT is collected in the volume edited by Hoekman and Ozden (2006).

alizations about the desirability of SDT would require caution. For example, if one finds that nonreciprocal preferences offered by developed countries do not help to create viable industries in developing countries, then we may conclude that it can only provide a temporary increase in income, or 'rents' from the higher price attainable in the foreign markets. Yet even if it does help to create viable industries, one must still ask at what cost to donors, recipients and the rest of the world. The benefit to some developing countries could happen, for instance, at the expense of other developing countries through trade diversion. One may also question the cost effectiveness in terms of the burden to consumers/taxpayers in donor countries. Much also depends on how the additional income is distributed within the recipient economies, and between donor and recipient countries.

Those difficulties notwithstanding, in this chapter I address the main themes surrounding SDT by examining the (rather limited) literature whose focus is on SDT, while (somewhat differently from previous reviews of SDT) also borrowing insights from other lines of research in international trade. Specifically, I seek to answer the following main questions:

1. Is SDT justifiable, theoretically and/or empirically?

2. Can/do nonreciprocal preferences provide a sustainable boost to the exports of developing countries?

3. Can/does SDT promote growth in developing countries?

4. Do nonreciprocal preferences to developing countries induce them to adopt more liberal trade policies?

5. Do nonreciprocal preferences to developing countries induce the preference-granting countries to adopt more liberal trade policies?

To avoid setting expectations too high, let me be clear from the outset: I will not be able to answer those questions very satisfactorily. Still, for the more anxious

readers I can provide some short, unqualified answers. Those would be, respectively, "hardly," "maybe," "unlikely," "hard to say," and "no."

Throughout the chapter, I will qualify those short answers relying on the literature directly aimed at SDT issues, as well as on the research that does not target but that helps us understand the consequences and the desirability of SDT disciplines. I also examine other, more specific questions related to SDT. In the discussion, it will become clear that we need more research on this topic. Throughout the text, and especially in the conclusion, I will emphasize the specific areas in which knowledge is lacking but a better understanding is feasible. I should note that, when discussing the consequences of developed countries' nonreciprocal preferences to developing economies, I concentrate on the latter. The reason is that research on the consequences of nonreciprocal preferences granted by developed countries on developed countries themselves is rather scarce (except for the small but interesting research on the consequences of nonreciprocal preferences for the trade policy of the donor countries, which I do discuss).

I start with an overview of the institutional setting defining SDT in the world trading system. In section 3, I discuss the theoretical analyses of the rationale and of the possible consequences of SDT. In section 4, I review the existing empirical analyses that help us assess the impact of SDT disciplines. I finish the chapter summing up what we know about the consequences of SDT, with suggestions for future research aimed at the issues where our understanding remains unsatisfactory but progress is feasible.

2 The institutional setting

Historically, the GATT has been very permissible with developing countries. They have not been expected to fully reciprocate market concessions in multilateral negotiations, and were not required to subscribe to new disciplines. On the other hand, the nondiscrimination principle ensured that all liberalization carried out by developed

economies were extended to them.

Several articles of the GATT codify such special and differential treatment. The three articles of Part IV of the GATT—which was not in the original agreement but was added in 1965—are concerned solely with the development needs of developing economies, and especially with those of least developed countries (LDCs). For example, Article XXXVI explicitly allows nonreciprocity in liberalization vis-à-vis developing countries due to their special needs. But such exceptions are not confined to Part IV. For example, Article XII (on Restrictions to Safeguard the Balance of Payments) permits developing countries to use quantitative trade restrictions for balance-of-payments purposes, whereas Article XVIII (on Government Assistance to Economic Development) allows LDCs to engage in infant-industry protection with both tariff and non-tariff barriers.[2]

Such provisions have historically been interpreted rather liberally, effectively granting developing countries significant leeway in the design of their trade policies. This has resulted, for example, in considerably lax liberalization commitments by developing countries in GATT negotiations, reflected in a relatively small share of products with tariff bindings and in large differences between applied and bound tariffs (a "tariff overhang," in WTO parlance, sometimes also referred to as the amount of "water in the tariff") when tariffs are bound.

Table 1 illustrates those points. The table shows the percentage of tariff lines bound, the bound and applied (simple) average tariffs, and their difference for a developed economy (the U.S.), three large emerging economies (Brazil, India and China), and four smaller developing countries, two in Sub-Saharan Africa (Nigeria and Angola) and two in South Asia (Thailand and Vietnam). Among the emerging economies, Brazil and India are original signatories of the GATT, whereas China joined the WTO only in 2001. Among the other developing countries in the table, two are old members of the GATT (Nigeria and Thailand) whereas the other two

[2] **Chapter 5** of this Handbook offers a discussion of the legal aspects of special and differential treatment for developing countries.

joined either at the end of the Uruguay Round (Angola) or more recently (Vietnam). Within that group, Angola and Thailand have about the same level of income per capita, whereas the other two are significantly poorer.

– insert Table 1 around here –

Six regularities stand out in Table 1. First, and most obviously, developing country tariffs, bound and applied, are considerably higher than those in developed economies, like the U.S. Second, products that are typically considered exporting products of developing countries, like agricultural items, clothing and textiles, face duties significantly higher than average in the American market.[3] Ironically, this is also the case in the markets of developing countries themselves, and in fact this asymmetry across product types is more pronounced there. For example, tariffs on agricultural products are on average bound at below 5% in the U.S., but above 100% in India and at 150% in Nigeria; textile and clothing items are bound respectively at averages of 8% and 12% in the U.S., but at 60% in Angola. A qualitatively similar pattern is observed in applied tariffs.[4]

The situation changed somewhat during the Uruguay Round (UR) of multilateral negotiations, when SDT was viewed as an outdated concept in need of change. One of the goals of the UR was precisely to integrate developing countries into the rules of the world trading system. As a result, during the UR developing countries were required to liberalize and to adapt their trade procedures to GATT rules and obligations to an extent not observed in previous rounds. They no longer could opt out of the agreements, a requirement of the Single Undertaking negotiation method, although they were still allowed longer periods to comply. Furthermore, new acceding countries became subject to considerably more stringent liberalization accession requirements

[3]Further illustrating this point, Hoekman, Ng and Olarreaga (2002) show that developed countries' tariff preferences to developing economies are smaller and less frequent in products subject to tariff peaks, which are precisely the products in which developing countries tend to have comparative advantage.

[4]Those observations follow the discussion in Bown (2009).

since the UR. The Chinese accession is the most salient case, but this was a general change that affected the accession rules of all developing countries.

The other four regularities in Table 1 reflect this change in perspective. First, the countries that have not bound all their tariffs are old, developing GATT members. Strikingly, Angola (which joined in 1994) has bound all its tariffs, but Nigeria (a Sub-Saharan African nation like Angola, but a member since 1960) has bindings on only 19% of tariff lines, and Thailand (with the same GDP per capita as Angola but a member since 1982) on 75% of tariff lines. Second, the average bound tariff is significantly lower for more recent members than for similar countries that have been members for a longer period. For example, China's average bound tariff is 10%, but other large emerging economies have substantially higher average bounds: Brazil's is over 30% and India's is almost 50%. Similarly, Nigeria's average bound tariff is twice Angola's and over ten times Vietnam's, which is poorer but a newcomer to the WTO. Vietnam's average bound tariff is also less than half of its richer but old GATT member neighbor Thailand. An analogous but significantly less pronounced pattern is observed with respect to the average applied tariffs.

A final regularity reflects the previous two: the average tariff overhang is typically substantially larger for old developing member countries than for more recent ones. For example, while Brazil's average tariff overhang is around 18 percentage points and India's is twice that level, China hardly has any "water" in its tariffs: its average tariff overhang is of the same size as that of the U.S.—almost zero.

It is important to observe that those regularities are *not* a peculiar feature of the countries in Table 1. Rather, the economies featured in the table were chosen precisely to illustrate general patterns of the trade policy of WTO members. Those general patterns can be documented more systematically with a simple linear regression like

$$y_j = \alpha + \beta_1 Developing_j + \beta_2 \left(Developing_j \times UR_j\right) + \beta_3 \ln(GDPpc_j) + \epsilon_j, \qquad (1)$$

where $Developing_j$ is a dummy for non-high income economies (i.e., countries with gross national income per capita below \$12,616) in 2013 according to the World Bank classification (http://data.worldbank.org/news/new-country-classifications), UR_j is

a dummy for GATT/WTO members that joined since 1993, near the end of the Uruguay Round, and $GDPpc_j$ is the 2013 GDP per capita from the World Bank. I use four different dependent variables: the percentage of tariff lines bound and countries' (simple) average tariff, average bound tariff and average tariff overhang, all in 2013 according to the WTO (http://stat.wto.org/Home/WSDBHome.aspx). Table 2 shows the results from estimating equation (1) using only the dummy for developing countries, for all products and for three specific sectors (agriculture, clothing and textiles). In Table 3 I add the other regressors but only run the regressions for all products.

– insert Tables 2 and 3 around here –

The tables confirm that the regularities illustrated by Table 1. From Table 2 it is clear, first, that in general developing countries have significantly higher bound and applied tariffs than developed economies—almost twice as large. Second, as a comparison of the estimates of the regression constant indicate, developed countries' applied and bound average tariffs are significantly higher in agriculture and clothing (although not in textiles) than in other sectors. This pattern is also observed in the applied and bound tariffs of developing countries (textiles included).

Likewise, it is clear from Table 3 that the developing economies that have been GATT signatories before 1993 have much fewer tariff lines bound than developed economies, but that this is not true for developing economies that joined since 1993. In fact, column 1 shows that developing countries that are new members have on average slightly *more* tariff lines bound than developed economies. Furthermore, as column 5 shows, the higher average bound tariffs of developing countries are largely limited to those that are old signatories of the GATT. A similar but smaller differential effect is present for the applied tariffs (column 3). Finally, the "excess" of tariff overhang in developing countries virtually vanishes when one looks at those who joined since 1993 (column 7). The even columns of Table 3 show a similar pattern after controlling

for GDP per capita, which has the expected effects (richer countries have more tariff lines bound, lower applied and bound tariffs, and less water in the tariff).[5]

Now, the UR-sponsored changes mentioned above notwithstanding, with the onset of the Doha Round (or informally, the 'Development Round') of trade negotiations the view that developing countries should be treated differently resurfaced. A consensus seems to have developed among WTO members that the UR requirements were too stringent and too costly to implement for poor countries. Illustratively, at the launch of the Doha Round WTO ministers stated that a central goal of the negotiations was "to improve the trading prospects [and to] ensure that developing countries, and especially the least-developed among them, secure a share in the growth of world trade commensurate with the needs of their economic development."[6] As a result, efforts to broaden market access for LDCs and to lower the costs of implementing the UR new disciplines have been at the center of the Doha Round negotiations.

2.1 GSP and other nonreciprocal arrangements

Although SDT encompasses a wide range of clauses and rules distinguishing the treatment of developed and developing economies in the world trading system, its most salient dimension is arguably the developed countries' nonreciprocal system of preferences, of which the Generalized System of Preferences (GSP) is the most extensive.

The idea of a GSP was initially suggested in 1964, at the first United Nations Conference on Trade and Development (UNCTAD I). Its goals would be to increase the export earnings, to promote industrialization, and to accelerate the growth of

[5] One can also observe (in results not shown) that the effect of new (post 1993) accession on the trade policies of developing countries is heterogeneous across sectors. The heterogeneity suggests that new accession implies, in addition to lower applied tariffs, either more bindings coverage or, when coverage is already extensive, lower bound levels. In agriculture, new accession has no distinguishable effect on bindings coverage—which is almost 100% in most countries anyway. On the other hand, its effect on the levels of bound tariffs and of the tariff overhang is more than thrice the effect on non-agricultural sectors. In contrast, for textiles and clothing new accession has a particularly strong effect on bindings coverage, but no discernible impact on the bound levels.

[6] http://www.wto.org/english/tratop_e/dda_e/dda_e.htm#declaration.

developing countries. In the subsequent year, GATT Contracting Parties formally amended the agreement to recognize 'the special economic needs of developing countries' and allow nonreciprocity. In 1971, they waived Article I for developing countries for ten years, explicitly authorizing "temporary" more favorable tariff treatment to their exports. The initially temporary more favorable treatment became permanent in 1979 after the Tokyo Round of negotiations, under the 'Enabling Clause' (formally the "Decision on Differential and More Favorable Treatment, Reciprocity and Fuller Participation of Developing Countries"), which provides the WTO legal basis for GSP. Since then, GATT members were allowed to grant tariff preferences to developing and Least Developed Countries (LDCs) without having to extend the same treatment to industrialized countries.[7]

The Enabling Clause is ostensibly vague on the range of goods and the list of countries that should, or could, be contemplated by preference-granting countries. Accordingly, preference-granting countries enjoy significant discretion for picking-and-choosing beneficiary countries and eligible products. One consequence is the wide discrimination across recipients. This contrasts with the original goals of UNCTAD, which stated that the preferences should be nondiscriminatory across the beneficiaries, except that LDCs may be offered better treatment. Nevertheless, this guideline is often disregarded without meaningful consequences for the preference-granting countries. Furthermore, unlike most other GATT concessions, GSP can be changed or

[7] The Enabling Clause also provides the WTO legal basis for the Global System of Trade Preferences among Developing Countries. As the name suggests, it regulates preferences among developing countries. In force since 1989, it currently has 43 signatories. It allows widespread discretion in terms of the depth and width of the preferences. However, and perhaps because of its permissibility, in practice the typical member of the system offers only small preferences in a few dozen products. Similarly, the Enabling Clause made it GATT-compatible for developing countries to form free trade areas (FTAs) and customs unions (CUs) without the need to comply with requirements of GATT's Article XXIV. That article establishes that the formation of such trading groups is allowed provided that members eliminate trade barriers on "substantially all" trade between them within a "reasonable length of time," and that "on the whole" they do not raise trade barriers on nonmembers. Although the requirements are rather vague, they at least provide some guidelines to discipline the formation of FTAs and CUs; if the agreement is notified to the WTO under the Enabling Clause, the guidelines can be sidestepped altogether.

withdrawn at any time, at the will of the donor country.[8]

The Enabling Clause also presumes that preferences should be offered on a non-reciprocal basis. Nevertheless, eligibility (or eligibility to wider or deeper preferences) is often linked to 'good behavior' in nontrade areas by the candidate countries. Although some sort of reciprocity has always been present, it has become more explicit over time. For example, when justifying deeper preferences for some countries under its "GSP+" program, the European Commission (2014) explicitly states, "since 2005, the scheme has taken up a new role: to provide incentives to those vulnerable countries committed to promote sustainable development and good governance," and after the last revision "the E.U. has provided for *more incentives for countries to join the GSP+* arrangement, while at the same time *enhancing its monitoring to ensure those rights and principles are effectively respected*" (emphasis in the original). Thus, in reality Enabling-Clause "nonreciprocity" may be defined more appropriately as "nontrade reciprocity." Accordingly, although I will keep referring to those programs as "nonreciprocal agreements" throughout the chapter to follow conventional terminology, it should be understood that whereas they are nonreciprocal *with respect to exchange of market access*, they often require some other type of reciprocity.

Another prominent feature of developed economies' nonreciprocal arrangements with developing countries is their rules of origin (ROOs) requirements. Essentially, to export under a certain preferential scheme an exporter typically needs to show that a share of the shipment's value added has been generated in countries that qualify for the same preference. Otherwise, the shipment is deemed ineligible for the preferential rate. This raises two problems. First, documentation costs can be relatively high, especially for occasional exporters and when the preferential margin is small. Second, the growth of global value chains worldwide underscores the importance of efficient sourcing strategies. If a firm is restricted to source from developing economies under the same nonreciprocal arrangement, in many instances this will have adverse conse-

[8] See Grossman and Sykes (2005) for an excellent discussion of the European and American GSP programs, and of the legal and economic aspects regarding discrimination across devoping countires under the Enabling Clause.

quences for the firms' productivity. Firms may instead decide to forgo the preference so that they can source efficiently and do not need to incur in documentation costs. Therefore, demanding rules of origin requirements tend to reduce the gains from the preferences offered to developing country exporters by simply inhibiting their use.[9]

Currently, all developed countries have their own GSP scheme, as well as other programs of (supposedly) nonreciprocal preferences. Since the 2000s, some developing countries have also started their own GSP programs. They focus on LDCs but are typically limited in scope. In the Appendix, Table A.1, we list the existing multi-country Enabling Clause-based programs of preferential access, including their starting year, current number of beneficiaries and key features. Table A.2 provides the main online source of information for each program.

Now, despite the proliferation of the programs of unilateral trade preferences, due to the size of their economies the American and the European remain by far the most important. Accordingly, we provide below a more through account of their programs, briefly describing their breadth, depth, main features, and the nature of the required nontrade reciprocity from beneficiaries.

2.1.1 The American nonreciprocal arrangements

The GSP of the United States took effect on January 1976. It currently offers duty-free access on around 3,500 tariff lines to 122 countries. Another 1,500 tariff lines are included for 43 LDCs. Its statute specifies various criteria under which a developing country may not qualify—being 'communist,' expropriating U.S. citizens, not recognizing worker rights, not recognizing intellectual property rights, allowing child labor, etc. Countries in those categories may be taken out, permanently or provisionally, fully or partially, from the recipients' list. The American GSP also excludes several sensitive items. Some statutory exclusions are explicit (e.g., 'watches') whereas others allow for more discretion ('import-sensitive electronic articles').

[9] The World Trade Organization (2014) provides an account of the many hurdles LDCs face in fulfilling ROOs requirements. It also explains the difficulties in comparing the stringency of different ROOs systems, since they often vary in several dimensions.

The program needs periodical renewal by Congress. Historically, there have been several periods during which it was temporarily suspended due to lack of authorization by Congress, although it has always been renewed retroactively, with duties paid during expiration periods been reimbursed to exporters after re-authorization. Remarkably, such retroactive payments have always taken place despite the lack of a statutory requirement imposing them.

In addition to GSP, the U.S. currently has two other major non-GSP schemes of nonreciprocal preferences: the African Growth and Opportunity Act (AGOA, in force since 2001) and the Caribbean Basin Initiative (CBI, launched under a different name in 1983 and expanded in 2000).[10] The beneficiaries of the non-GSP programs are usually GSP beneficiaries. A key difference is that they receive broader preferences than they would under standard GSP. AGOA also provides more flexibility (to some members) in terms of compliance with rules of origin.[11]

The top portion of Table 4 details the breadth and depth of the main American nonreciprocal programs. Over a third of the tariff lines are already zero on an MFN basis. Relative to the tariff lines with strictly positive MFN duties, regular GSP beneficiaries can export duty-free in just over half of them. LDCs have duty-free access in an additional 21.5% of dutiable tariff lines. AGOA and CBI beneficiaries have even broader access, being able to export around 40% more products duty-free to the American market than regular GSP beneficiaries countries are allowed to. Table 4 also distinguishes between agriculture (where several developing countries have comparative advantage) and non-agricultural products. It is worth noting that only in about 21% of agricultural products there is duty-free MFN access to the American market. Moreover, regular GSP beneficiaries have preferences in just about

[10] The CBI has two main tiers: CBERA and CBTPA. Members of the latter are offered duty-free access in about 5% more tariff lines than members of the former. Under CBTPA, there are also subprograms that offer additional benefits to Haiti regarding the exports of certain textile and apparel goods.

[11] Under the Special Rule for Lesser Developed Countries, AGOA members with GNP per capita below US$1500 in 1998 can source fabrics from anywhere in the world without needing to reach a minimum local content requirement to qualify for the preference when exporting apparel products.

40% of the dutiable agricultural goods. Countries included in the broader programs, on the other hand, are eligible to export duty-free a larger fraction of agricultural than of non-agricultural dutiable products.

– insert Table 4 around here –

The breadth of the American GSP program has been relatively stable over the last two decades, as Figure 1 shows. After a drop in the late 1990s, the number of GSP-eligible tariff lines has fluctuated just around 50%-51% of the total nonzero MFN tariff lines.

– insert Figure 1 around here –

The top portion of Table 5 shows instead the importance, in terms of trade value, of the imports entering the U.S. under its nonreciprocal arrangements. It makes clear that, from the perspective of the U.S., the preferences do not have a major impact: the imports that are eligible for preferences under *all* of its nonreciprocal programs combined amount to less than 3% of the value of the American imports (or about 5% of the American imports of dutiable products). Observe also that these are the figures for *eligible* imports; if one considers only the imports that actually claim preferences, the proportion would be significantly smaller, as I discuss in section 4.2.3. The corresponding values for agricultural products are only slightly higher.

Interestingly, although the number of GSP-eligible tariff lines has remained roughly constant since 2000 (Figure 1), their relative importance has changed more significantly. This is especially true for agricultural products, as Figure 2 illustrates. Reaching over 12% of the value of all dutiable agricultural imports in 1997, and remaining above 10% until 2006, that figure has declined to just 5% in 2014.

– insert Figure 2 around here –

In addition to the requirements in nontrade areas mentioned above, countries 'graduate' if they reach a certain level of income, in which case they lose the right to preferential access. Furthermore, a product-country pair may be excluded as well if there is no longer a 'competitive need,' where the competitive need limit (CNL) is defined by a monetary threshold or as a percentage of American imports of that product in a year.[12] By construction, exclusions under this criterion target precisely the most successful exporters.[13]

2.1.2 The European nonreciprocal arrangements

The European GSP system is the oldest, beginning right after the initial GATT authorization in 1971. It has been revised several times since then, but the current system, implemented on 1 January 2014, will last for 10 years without revision (rather than being revised every 3 years, as it had been the case until 2013).

The current system has three main categories: standard GSP, "GSP+" and "Everything but Arms" (EBA) arrangements. The first offers tariff reductions from 15% to 100% of the MFN tariff. Thus, unlike the American program, GSP eligibility in the Europe Union need not imply duty-free treatment. On the other hand, its coverage is much wider than the American program. GSP+ applies to roughly the same products, but does offer duty-free access. To qualify for GSP+, a country must formally apply for it; to be accepted, it needs to be considered 'vulnerable' and "ratify and effectively implement 27 core international conventions on human rights, labour rights and other sustainable development and good governance conventions" (European Commission, 2014). As of the end of 2014, 13 countries were

[12] The value threshold was US$160 million in 2013, with a statutory annual increase of US$5 million. The share threshold is 50% of U.S. imports of the product. This last criterion may be waived if U.S. imports of the product in the year do not reach a de minimum value (set at US$21.5 million in 2013, with an annual increment of US$0.5 million). This and other possible waivers are considered on a case-by-case basis, every year (USTR, 2013). AGOA countries (as well as other LDCs) are not subjected to CNLs.

[13] Blanchard and Hakobyan (2015) document the potential and the observed discretion exercised by the U.S. government when deciding eligibility of countries, products and country-product pairs. As they stress, the system is indeed far from a 'generalized' system.

GSP+ beneficiaries. EBA, in place since 2001, offers duty-free access to all LDCs for all products except arms and ammunitions. Since 2011, its beneficiaries also receive more favorable ROOs. Unlike GSP and GSP+, EBA has no expiry date.

The bottom portion of Table 4 provides details on the breadth and depth of the main European nonreciprocal programs. A quarter of the European tariff lines are already zero on an MFN basis. GSP beneficiaries receive preferential access in about 87% of the remaining three quarters (a much larger share than in the American GSP), but in less than half of them *preference* represents *free access* (except for GSP+ and EBA beneficiaries, as indicated above). For the European GSP and GSP+ schemes there is a much sharper distinction between agricultural and non-agricultural products than in the American ones. In the E.U., almost all non-agricultural goods are eligible for preferential treatment, but only about half of the dutiable agricultural products are, and regular GSP beneficiaries have duty-free access in just 7% of them.

As the bottom portion of Table 5 shows, of the 40% of dutiable imports entering the E.U., over half is eligible for preferences under GSP. Exports eligible for preferences under EBA and GSP+ combined, however, amount to just over 1% of European imports. That figure is over 4% if we consider only agricultural products.

Similarly to the U.S., countries 'graduate' from the European GSP if they reach a certain income threshold. This happens frequently. For example, in the 2014 revision 32 countries graduated from GSP. Country-product pairs (and entire sectors) can graduate as well, if deemed 'competitive.' A country-product graduates if it reaches 17.5% of E.U. imports under GSP (14.5% for textiles). This also happens frequently. For example, on January 2014 several entire sectors from China (especially), India, Indonesia, Nigeria, Thailand and Ukraine were excluded from the program. Graduation does not apply to GSP+ countries. EBA beneficiaries are excluded only if they leave the United Nations' list of LDCs (after a 'grace period' of three years).[14]

[14] The United Nations' criteria for graduation from the LDC list depends on the country meeting at least 2 out of 3 thresholds, based on per capita income, a "human assets index," and an "economic vulnerability index." The United Nations also allows for a 3-year grace period before graduation takes place (http://unohrlls.org/about-ldcs/criteria-for-ldcs/).

The E.U. also has a history of other, non-GSP schemes of nonreciprocal preferences with developing countries. Those schemes have favored numerous (currently 79) African, Caribbean and Pacific (ACP) countries, usually former colonies of European countries. This has been changing, however. The system has been challenged at the WTO and found to be in breach of GATT rules for being discriminatory and not open to all developing economies. Thus, it infringes Article I without qualifying for Article XXXVI. The solution has been to turn those arrangements into free trade areas (FTAs) and invoke Article XXIV. This requires, in turn, that "substantially all trade" be liberalized. More fundamentally, all parties in the FTAs need to liberalize, turning the arrangements into reciprocal ones, trade-wise. After a 7-year waiver, interim Economic Partnership Agreements (EPAs) with that purpose were signed in 2007. Transition periods are nevertheless rather long, and even in 2015 only a few of them were already in force.[15]

3 Theoretical analyses

Formally, the clauses codifying special and differential treatment for developing countries in the GATT/WTO system seek to recognize the specific needs of developing countries. It is assumed that greater access to the markets of industrialized economies will help them grow, but that they need more time and flexibility to liberalize their own markets. The key issues are therefore whether better access to the markets of developed economies can indeed help developing countries to grow (or to improve their economic performance more generally), and whether this can be achieved at the same time that they keep their own markets closed.

Thus, we start this section by assessing SDT in the context of the prevailing theories of trade agreements, and then evaluate the channels through which SDT could enhance economic growth. An indirect way in which SDT, and in particular nonreciprocal preferences, can affect economic performance is by altering countries'

[15] See http://trade.ec.europa.eu/doclib/docs/2009/september/tradoc_144912.pdf. Fontagne, Laborde and Mitaritonna (2010) offer an ex-ante evaluation of the European EPAs.

(donors and recipients) other trade policies; the last two parts of this section discusses those channels.

3.1 SDT and the multilateral trading system

Multilateral trade negotiations based on reciprocity and nondiscrimination, as in the GATT/WTO system, may be interpreted as facilitating efficient outcomes from the perspectives of governments. Conversely, if either reciprocity or nondiscrimination are absent, then the resulting equilibrium is generally inefficient (Bagwell and Staiger, 1999; see also **chapter 8** of this Handbook). SDT clauses violate both principles. They allow developing countries to not reciprocate, and through GSP and other preferential arrangements they infringe nondiscrimination. Furthermore, unlike other types of trade agreements, arrangements based on SDT provide no 'commitment technology' for politically weak governments facing time-inconsistent problems. For all those reasons, the presumption of efficiency is severely challenged under SDT. We discuss the consequences of departing from each principle in turn.

3.1.1 Lack of reciprocity

If efficiency in multilateral negotiations were sacrificed in favor of higher growth rates in developing economies, SDT might be justified. A necessary condition for this higher growth is that SDT will cause a significant boost to the export sectors of developing countries. The problem is, if a country does not liberalize itself, its import-competing sectors will remain a strong competitor for domestic resources, limiting the expansion of its exports.

In fact, as Bagwell and Staiger (2014) elegantly demonstrate, in a multilateral system that is otherwise based on nondiscrimination and reciprocity, the consequences for the export sector of bystander countries tend to be even more extreme. Consider a static 2-good, 3-country competitive model where country 1 imports good x from the other countries, which in turn import good y from country 1. That is, countries 2 and 3 are "competing exporters" of good x. Each country imposes ad valorem

tariffs on its imported good. This creates a wedge between local and world prices. Equilibrium world prices equate export supply and import demand for each good. Given the tariffs, local prices are determined. In turn, local and world prices pin down consumption, production, imports and exports of each good in each country.

All countries are "large" in the sense that their policies affect world prices. As a result, because the incidence of a tariff is partially borne by foreign exporters, in the Nash equilibrium tariffs are inefficiently high and trade volumes inefficient low. Bagwell and Staiger (1999) show that a trade agreement between the three countries, following the principles of reciprocity and nondiscrimination, corrects that inefficiency. Suppose, however, that countries 1 and 2 negotiate according to GATT rules but country 3 stays out of the negotiations. Because of nondiscrimination, country 3 would nevertheless enjoy lower tariffs in the markets of countries 1 and 2 when they liberalize. As Bagwell and Staiger (2014) demonstrate, however, such a liberalization by countries 1 and 2 would bring *no* benefit to country 3.

To see that, observe first that, in equilibrium, trade must be balanced in all countries. In particular, it must be balanced for country 2 both before the agreement (let subscript N denote all pre-agreement "Nash" variables) and after the agreement (subscript T denotes all post-trade agreement variables). This can be represented as

$$M_N^2 = p_N^w E_N^2 \tag{2}$$

and

$$M_T^2 = p_T^w E_T^2, \tag{3}$$

where M_j^2 denotes the country 2 equilibrium level of imports of good y, E_j^2 denotes the country 2 equilibrium level of exports of good x, and p_j^w denotes the equilibrium relative world price of good x in period $j = N, T$.[16]

[16] Although I do not make it explicit to lighten the notation, observe that p_j^w is a function of the tariffs in all countries in period j, M_j^2 and E_j^2 are functions of p_j^w and of country 2's relative local price in period j, and country 2's relative local price in period j is a function of p_j^w and of its tariff in period j. In period N, in addition to equation (2), an analogous trade balance equation for country 1 and a market-clearing condition in world markets determine the equilibrium of the economy. Analogous conditions yield the equilibrium of the economy in period T.

As the negotiations between countries 1 and 2 follow nondiscrimination, any tariff reduction they agree on is extended to country 3, which in turn keeps itself out of the negotiations and thus keeps its own tariff unchanged. Now, as the change in tariffs negotiated by countries 1 and 2 also follow reciprocity, the resulting change in value of their imports must equal the change in value of their exports evaluated at the initial world price. For country 2, this can be written as

$$p_N^w \left[E_T^2 - E_N^2\right] = \left[M_T^2 - M_N^2\right]. \tag{4}$$

Substituting (2) and (3) into (4), we obtain

$$E_T^2 \left[p_N^w - p_T^w\right] = 0.$$

The implication is that the world relative price of good x is not altered by the agreement. But notice that, because of nondiscrimination, countries 2 and 3 face exactly the same world relative price. Since country 3 keeps its tariff constant and faces the same terms of trade before and after the agreement between countries 1 and 2, its local relative price does not change either. Therefore, consumption, production, imports and exports—and thus welfare—in country 3 remain at *exactly* the same level as they were before the agreement.

Surprising as this result may seem at first, it follows directly from nondiscrimination and reciprocity in trade agreements. Intuitively, the problem for country 3 is that, although it faces a lower tariff in country 1 after the agreement, it has to compete with the then more "export-oriented" country 2, where resources have flowed from sector y to sector x. The general message is that the upside for a free rider of the WTO system is severely limited by the negotiation rules of the system.

Observe that, although reciprocity and nondiscrimination imply no benefits for free riders, the "glass half-full" interpretation of the consequences of those rules is that developing countries do not lose either. One might suspect, plausibly, that developed countries engaged in multilateral liberalization could design their schedule of tariff concessions to benefit each other at the expense of nonparticipating developing

countries. However, Bagwell and Staiger (2005a) show that negotiations that follow reciprocity and nondiscrimination prevent such a bilateral opportunism. Moreover, those are precisely the rules that allow the engaged countries to fully benefit from their bargaining. In fact, without one of the two guiding principles negotiations would stall as each country would fear that the benefit from its current negotiations could be eroded in the future. In the example above, country 1 could fear that future bargaining between countries 2 and 3 may wear down the value of its current agreement with country 2, and as a result decide to not negotiate with country 2. However, using logic similar to the one described above, Bagwell and Staiger (2005a) show that such fear is prevented if bargaining occurs under reciprocity and nondiscrimination.[17]

Hence, the problem with the effective lack of participation of developing countries is largely limited to themselves. Put differently, the rules of the system are designed in a way that benefits the countries that actively participate in multilateral negotiations, but offer nothing—good or bad—to bystanders.[18]

3.1.2 Lack of nondiscrimination

A different issue concerns the departure from nondiscrimination represented by the preferential treatment offered under GSP and other related arrangements. If one takes a general equilibrium perspective, and assumes that the receiving countries are "large," then one finds that the departure from MFN distorts the efficiency of the

[17] An implication of this reasoning for the ongoing Doha Round (as well as for future multilateral rounds of negotiation) is that bringing developing countries to the negotiating table at this stage, after developed economies have already liberalized their markets considerably, is not a problem for the multilateral system from a conceptual point of view. Moreover, the system has worked well in previous similar circumstances, for example when countries like Japan and China joined it. On the other hand, the scale of the current "latecomers" problem is unprecedented. Bagwell and Staiger (2014) discuss ways to accommodate this issue under existing negotiating rules.

[18] As Bown (2009) points out, an additional problem relates to enforcement. With SDT, developing countries offer little in terms of market access concessions. Thus, when rich countries backtrack on the commitments that are valuable to developing countries, the latter cannot do much about it, since there is little that can be taken away. Thus, without (standard market access-based) reciprocity, the WTO dispute system does not serve developing countries well. As Bown (2009, p. 44) puts, "foreign market access is only as good as it is enforceable."

GATT/WTO negotiations and of its ensuing outcomes. Although I am not aware of any study that makes this point explicitly in the context of nonreciprocal preferences, such a conclusion follows from the analyses of reciprocal preferences under preferential trade agreements by Bagwell and Staiger (1999, 2005a).

In fact, the existing nonreciprocal preferential arrangements may be especially inefficient given that there is not only discrimination between developed and developing economies, but also *across* the latter. This possibility is codified in the GATT in its distinction between developing countries and LDCs, but in reality discrimination is significant even within each group: as mentioned in section 2.1, donor countries face very soft constraints when deciding which countries, which products, how much, and when to offer preferential access, and they often exercise their discretion (Blanchard and Hakobyan, 2015; Grossman and Sykes, 2005). This discrimination yields a negative externality for the developing countries that do not qualify for the preferential treatment. However, the precise nature of the ensued inefficiency is a matter that requires further research, as does the distribution of gains/losses across countries.

An attenuating aspect is that in some markets developing countries may be considered "small" in the theoretical sense. In that case, offering nonreciprocal preferences to them, as well as letting them out of multilateral negotiations, would be immaterial for the efficiency of the world trading system. At the same time, their exporters would receive higher prices due to preferential access to large markets. The main problem with this viewpoint is that the small country assumption is often unrealistic. At a more basic level, there are nowadays a number of countries (the "BRICs" being the most notorious examples) that are individually responsible for relatively large shares of world trade in several markets. Furthermore, a body of recent empirical research has formally made the point that most countries do have the ability to affect their terms of trade on many imported goods (see the discussion Bagwell, Bown and Staiger, 2016).

Still, at least for LDCs taken individually, the small-country assumption could be a reasonable approximation. Thus, if they are offered preferential access to foreign

markets, it means an improvement in their own terms of trade "for free," akin to a unilateral transfer. It remains true, however, that although such a gift would be useful to the recipient country, it may not foster economic growth of the country on a permanent basis, as the Enabling Clause formally seeks out.

A more benign view of GSP is that it provides a carrot to induce developing countries to participate in a multilateral trading system based on welfare-improving nondiscrimination (except for GSP). This is how Saggi and Sengul (2009) suggest GSP could be interpreted. In a partial-equilibrium context, where firms compete a la Cournot in each other's markets, they model the emergence of the nondiscrimination rule. Saggi and Sengul (2009) show that nondiscrimination enhances world welfare, but at the expense of high-cost ('developing') countries. In fact, under sufficiently high cost asymmetries, developing countries prefer to stay out of the 'MFN club.' But if low-cost ('developed') countries offer nonreciprocal preferences to them, as in GSP, developing countries may decide to 'join the club'—even though they may prefer a multilateral system with no MFN rule at all. This logic is consistent with the timing of accession in the GATT/WTO: most developing countries joined after the Enabling Clause, and especially after GSP programs became more widespread. It can also help to justify the existence of GSP in the first place.

Another, largely unexplored way of looking at SDT is as a mechanism that allows *flexibility* relative to MFN. Policy flexibility can be desirable in the presence of privately observed shocks (Bagwell and Staiger, 2005b) or under contracting costs (Horn et al., 2010). The most obvious dimension of flexibility obtained through SDT is for developing countries. As discussed in section 2, SDT disciplines have allowed developing economies to set their bound tariffs at rather high levels. Some of those countries also have numerous tariff lines that are not bound. Although this may prove useful in some circumstances, most likely SDT provides an excess of flexibility in the design of developing countries' trade policies

But GSP also affords flexibility to advanced economies in the design of their policies. The clearest type is downward: developing countries can be offered lower-

than-MFN tariffs. Now, the GATT/WTO already provides downward flexibility to all of its members, since MFN tariffs determine only a cap on tariffs. One difference with GSP is that it allows for downward flexibility *together* with discrimination. Furthermore, and more subtly, GSP also provides *upward* flexibility, which is otherwise not permitted under the GATT/WTO system except in special circumstances. As discussed in section 2.1, donor countries enjoy significant discretion when offering GSP preferences. They can be taken away from all recipients at the will of the donor countries; specific recipient countries (or specific country-product pairs) can similarly be taken out from the list of beneficiaries. **Chapter 8** of the Handbook addresses the issue of flexibility in trade agreements more thoroughly. Perhaps surprisingly, GSP has not yet been featured in that context.

3.1.3 Lack of commitment

When the government of a small developing country suffers from a commitment problem, a trade agreement with large countries could play a fundamental role in mitigating structural problems of the economy by helping governments solve domestic time-inconsistency problems (Maggi and Rodriguez-Clare, 1998, 2007). In the traditional, liberal way in which developing countries have participated in the GATT system, such a role was unlikely to be fulfilled, as it presumed little/no commitment to domestic trade liberalization. On the other hand, the more demanding WTO accession rules since the UR, commanding significant liberalization of new members, constitute a fitting example of a *departure* from the standard SDT view that could help to attenuate commitment problems.[19]

Similarly, as originally envisaged by the Enabling Clause, nonreciprocal arrangements are unlikely to effectively play such a role. Still, as the discussion in section

[19] In a related fashion, Liu and Ornelas (2014) argue that liberalization in the context of full-fledged, reciprocal FTAs (but not under shallower, less binding agreements) help countries to stabilize fledgling democracies. The mechanism operates through a rent-destruction effect, as defined by Ornelas (2005a), which takes place provided that trade within the FTA is significantly liberalized. This would tie the hands of would-be autocrats and, as a result, discourage a coup d'état.

2.1 makes clear, the 'nonreciprocal' preferences of developed countries often, and increasingly, do require nontrade (and sometimes) noneconomic reciprocity. Possible benefits depend critically, however, on what those conditionalities are and on the nature of the inefficiency that they may solve.[20]

3.1.4 SDT and the received literature on trade agreements

Overall, the received theoretical literature on trade agreements, based on either terms of trade or commitment, offers little support for SDT in its current form. Rather than benefitting developing countries, the permissiveness with which they have been treated in the world trading system may have slowed their economies down, by making it harder to neutralize inefficiencies due to terms-of-trade manipulation and by weakening the commitment role of trade agreements. From that perspective, one may even argue that the root of the demise of the Doha Round could be precisely its "developing" nature, going back to the pre-UR approach to multilateral liberalization.

3.2 SDT and economic growth

One dimension that the standard trade agreements literature does not address is the possibility of dynamic benefits stemming from better access to foreign markets. It is conceivable that, even without domestic liberalization, better foreign market access may improve productivity and boost growth in developing countries. But can SDT actually help developing countries speed their economic growth, its stated objective? As Grossman and Helpman (2015) indicate, several mechanisms linking globalization and economic growth have been identified, although empirical validation for most of them is lacking.

[20] The E.U. recent EPAs, in particular, may be more effective in solving commitment problems related to domestic market liberalization, as they require the partner developing countries to open up in exchange for preferential access to the European markets. To the extent that their internal liberalization is credible to the relevant economic agents, the EPAs may serve the role of a "commitment device" for the EPA partners.

3.2.1 Aggregate productivity and firm delocation effects

In the context of SDT, one possible mechanism through which better export opportunities via preferences in the markets of developed economies could lead to (one-off) economic growth in developing economies is by increasing aggregate productivity. In a setting a la Melitz (2003), an increase in exports due to better access to foreign markets would induce the expansion of the most efficient firms, thus improving the allocation of resources in the economy. Such aggregate gains would be accrued at the expense of purely domestic firms, which would be hurt as the expanding exporting firms bid local wages up. But if, in the spirit of SDT, the domestic government implements policies to prevent the decline of purely domestic firms, they would also avert the expansion of the exporting firms, and the better access to foreign markets would not have its desired effects on the allocation of resources.

In models that display delocation effects, as in Melitz and Ottaviano (2008)—and in the context of trade agreements, Ossa (2011)—the rationale for SDT is stronger. On top of the main mechanism in Melitz (2003), the model of Melitz and Ottaviano features a "home market effect" where less domestic competition, as well as better access to foreign markets, induces firm entry. This is beneficial in itself for the country in question in the presence of increasing returns to scale and international trade costs (Ossa, 2011). Furthermore, with firm heterogeneity as in Melitz and Ottaviano (2008), more entry also yields higher industry productivity. What the model does not have, relative to Melitz's, is a general equilibrium effect reflecting the demand for domestic resources (a competitive sector whose product enters linearly in the consumers' utility function absorbs all changes in the demand for domestic labor). Thus, although increases in aggregate productivity through firm entry can be an important channel for economic growth, they would be limited by competition over domestic resources if purely domestic firms remain large and protected.

3.2.2 Foreign market access and dynamic trade gains

Alternatively, SDT may spur economic growth if the sectors that expand as a result of foreign preferences generate learning spillovers. Hausmann and Rodrik (2003) develop a possible mechanism (although not in the specific context of SDT). Ex ante, export opportunities are unknown to domestic firms. However, they can be gauged from the experience of export pioneers, who effectively provide a public good to the rest of the industry. Preferential schemes like GSP may catalyze developing countries' exports by promoting pioneer firms which domestic rivals can learn from. Similarly, Albornoz, Calvo-Pardo, Corcos and Ornelas (2012) propose a simple model of firm export dynamics that features firm-market specific uncertainty. In that context, a preference in a foreign market could lead to more export entry in the market offering the preference and also in other destinations, as firms learn their own export capabilities and potential. In that sense, foreign preferences may serve as a springboard for export growth in the beneficiary countries.

Likewise, and potentially more importantly, better export opportunities could spur innovation. The main driving force for innovation would be a scale effect whereby the larger potential market for the firm increases the expected return from innovation, as for example in the models of Lileeva and Trefler (2010) and Bustos (2011). Lileeva and Trefler (2010), in particular, emphasize that the complementarity between innovation and exporting implies that the firms whose productivity are more likely to increase with exporting are those that are compelled by new export opportunities to innovate and to *start* to export, especially some initially low-productivity firms.

Observe however that, although all of the mechanisms discussed above are conceivable, they are not specific to SDT-like contexts (i.e., preferential access to foreign markets and a protected domestic economy). In the specific context of nonreciprocal preferences, there is an older debate on whether the resulting preference rents could be generated more efficiently if the "donor" countries provided aid instead of preferences. Adam and O'Connell (2004) show in a simple neoclassical setting with a non-traded good that, absent market imperfections, the two instruments are welfare-equivalent.

However, due to effects on the terms of trade, the export response of the recipient country is stronger with tariff preferences than with the equivalent transfer. It follows that, *if* there are externalities to exporting, e.g. due to learning-by-doing, then preferences are superior to aid from an efficiency point of view. This line of reasoning formalizes the original idea behind SDT. The difficulty, of course, is in identifying whether the export industries and products included in existing nonreciprocal preferential schemes are those that display meaningful learning spillovers.

The debate preference vs. aid may also be framed in the context of the endogenous growth model of Acemoglu and Ventura (2002), although I am not aware of attempts to do so. Acemoglu and Ventura show that a country that experiences high growth in a sufficiently open world eventually faces a reduction of its export prices, which in turn holds back its growth. Thus, export-led growth in a country sows the seeds for slower growth in the future due to a terms-of-trade effect, leading to growth convergence across countries in the long run. In that context, the terms-of-trade boost that stems from receiving preferences a la GSP could mitigate the negative growth feedback through terms of trade. In that sense, preferences could yield a superior outcome for developing countries relative to foreign aid. Investigating this channel in detail could yield interesting insights on potential dynamic SDT benefits.

3.2.3 The insecurity of preferences

In reality, it is unclear whether SDT, and arrangements of nonreciprocal preferences in particular, promote the industries that would do the most to foster economic growth over the long run. It is not impossible that they do. For example, the export sectors promoted by GSP arrangements could be 'infant industries' subject to positive learning spillovers. However, since product and country eligibilities are defined by the 'donor' countries, there is nothing that suggests that they choose precisely the products that would generate learning externalities (assuming that they know which products are in that category). If anything, the opposite may be closer to real practices. After all, at least in terms of trade flows, the successful product-

country pairs are the ones that 'graduate,' suggesting that the industries that could leverage GSP-sponsored growth in developing countries may be precisely those whose preferences tend to be withdrawn.

The insecurity about the preferences also tends to prevent the most basic aim of the system, namely to promote developing countries' exports. Assume that the preferences would boost short-run profits of incipient export sectors, and this would allow them to invest to obtain future productivity growth. If such sectors are, say, financially constrained, the program could be fixing an important market failure in developing countries' export sector. However, if the preferences are uncertain, averting a clear horizon for proper planning, this investment incentive would be weakened, implying that export flows may not react as expected. Rather, the explicit (but flexible) criteria for graduation (and to reach a CNL in the American GSP), as well as the occasional overhauls in nonreciprocal preferential systems (as recently happened in the European GSP), imply that the GSP benefits may be more similar to aid, in the sense that they do not induce export expansion beyond a certain level. In such a case, there would not be any marginal, only inframarginal benefits to the exporting countries, with no resulting dynamic gains.

To my knowledge no one has studied the impact of uncertain preferences on the value of GSP, theoretically or empirically. However, Sala, Schroder and Yalcin (2010) and Handley (2014) develop models to explain how tariff bindings can reduce trade policy uncertainty and induce firm export entry from countries serving that market. Handley and Limao (2015) provide a framework to study trade policy uncertainty more generally. The main insights from those papers could probably be extended to study the specific consequences of the insecurity of GSP preferences.

3.3 GSP and recipients' trade policies

In addition to asking what the direct effects of GSP (and of other nonreciprocal preferences) are on the exports and on other economic performance measures of recipient countries, one may ask about their impact on those countries' trade *policies*. If re-

ceiving GSP affects a country's trade policies, it will impact its welfare indirectly through that channel.

To explain how a country's trade policy would be affected by the unilateral policies of other countries, Krishna and Mitra (2005) rely on a political-economy model where industries need to incur a fixed cost to organize and become able to lobby. The key mechanism is as follows. Unilateral liberalization in the foreign country increases the Home country's export price. This raises the return to Home exporters from organizing themselves in lobbies to affect Home's trade policies. Under plausible conditions, exporters will pay the organization fixed cost and start lobbying for more liberal trade policies. Thus, through this political-economy channel, unilateral liberalization abroad (as in GSP) would induce domestic liberalization.[21]

However, one could look at the Home country's policy reaction from a different angle. As Ozden and Reinhardt (2005) propose, since GSP does not require liberalization from the recipient country, its export sector may become reluctant to incur lobbying costs as it already has free access to the foreign country. Moreover, and possibly more importantly, the export sector anticipates that if its foreign sales increase too much, the preferences would be withdrawn—the country-sector may 'graduate' in the E.U., or achieve a 'competitive need' limit in the U.S. Thus, due to the nature of GSP, domestic trade liberalization may actually be counterproductive for exporters, making them unwilling to pressure for it.

Conconi and Perroni (2012, 2015) agree that, without reciprocity, developing countries may resist liberalization of their own economies and may ultimately not profit from the SDT concessions, as their export sectors will not be able to expand. However, they argue that SDT could be interpreted as reciprocal but *asynchronous* concessions. This would make sense, helping developing countries achieve a welfare-superior equilibrium, if their governments suffered from a time-consistency problem. In a line

[21] A related mechanism is developed by Coates and Ludema (2001). They consider the impact of unilateral trade liberalization on the outcome of trade negotiations when there is a domestic "political risk" threatening the implementation of the negotiations. In that context, foreign liberalization lowers the political risk, thus inducing the domestic government to negotiate deeper tariff cuts.

of reasoning akin to Maggi and Rodriguez-Clare's (1998), they develop a 2-country model where the optimal policy for a small country is free trade, but its government has an incentive to increase protection after investment in the import-competing sector becomes sunk, for political-economy reasons. Anticipating that, firms in that sector over-invest, and as a result the government over-protects. The government would be better off, however, if it could commit to free trade. A trade agreement could be the vehicle for such a commitment.

While this reasoning is well known, the main contribution of Conconi and Perroni (2015) is in showing that, when investment in the import-competing sector depreciates slowly overtime, the optimal form of such a trade agreement would require immediate but conditional liberalization by the large country (assumed large enough to be indifferent to what happens in the small country) in exchange for *delayed* liberalization by the small country. Requiring simultaneous liberalization by the large and the small economies may not be politically sustainable for the latter—in the sense that, if imposed, it may be in the interest of the small country government to simply not liberalize at all. If this is what SDT clauses are about—providing a 'carrot' to developing economies in the form of freer access to the market of rich economies, together with a 'stick' in the form of the removal of such an access if the developing economy does not liberalize eventually—then they could be serving their purposes adequately. Conconi and Perroni's (2015) key point is thus that reciprocity in liberalization does not require simultaneity in liberalization, and this may be the intended purpose of SDT.

This rationale could help to explain why some developing countries choose to enter in reciprocal preferential trade agreements (PTAs) with developed economies that already offer significant preferences to them under GSP. Recent FTAs between the U.S. and Central American and Caribbean economies are fitting examples. However, one may argue that the main goal of those economies when forming the FTA was to secure the preferences they enjoyed in the American market by removing the uncertainties of GSP, rather than to provide incentives for their own future liberalization.

In fact, it is unclear whether what Conconi and Perroni (2015) claim is what SDT is actually about. For example, although some SDT rules are about flexibility—i.e., extended periods—in the adoption of WTO agreements, their interpretation is often that of a 'free pass' for developing countries, not a concession conditional on the future liberalization of the recipient country. To some extent, GSP concessions are actually related to the *lack* of liberalization of the recipient country. The reason is that, if the developing country eventually opens up its market, this will have a positive impact on its export sector. But this is precisely what *cannot* happen, lest the developing country be 'graduated' and lose its preferences. Thus, the actual design of the 'stick' component of the policy seems to be at odds with the rationale put forward by Conconi and Perroni (2015). Furthermore, unlike in their model, where the rich/large economy is indifferent to the actions of the smaller one, in reality they usually are not. Since their liberalization under GSP is not legally binding (unlike reciprocal liberalization under 'regular' GATT rules) and can be reversed at their discretion if their own circumstances change, it may not function as a credible 'carrot' either, thus being ineffective in liberating developing countries from their domestic credibility problems. In sum, if SDT clauses, including GSP, were indeed to become formally defined to represent asynchronous reciprocity, then they could become a vehicle for developing economies to overcome institutional time-consistency problems. At the moment, that does not seem to be the case.

A related but subtler way in which GSP may affect recipients' trade policies is by keeping them from violating their WTO commitments. The reason is as follows. The WTO does not provide for retrospective remedies, only prospective ones. Moreover, the application of the remedy takes time. First, the trading parties of the breaching country need to identify the infringement; they then need to prepare a case and litigate. The litigation itself often takes multiple years. And once a verdict is reached, the Dispute Settlement Body allows some time for the violator to reform its policies. Thus, when a member breaches its WTO commitments, it can 'get away' with the violation for a rather long period. The ensuing question is why we do not observe

more frequent WTO breaches. Wu (2015) is one of the few to tackle this issue.[22] He argues that power asymmetries in an incomplete contract such as the WTO imply that the most powerful economies, which have an interest in making the system function well, "exert sufficient leverage over smaller and/or weaker states to bring forth their compliance" (p.99). An important mechanism delivering such leverage is GSP. The implicit threat is that recurrent breaches could lead to the loss of GSP benefits in large economies. While Wu's (2015) hypothesis has not been formally tested (and it would be difficult to do so), it is compelling. Wu also provides interesting examples consistent with the threat of GSP suspension serving as a 'stick' to prevent developing countries from breaching their WTO commitments.

Finally, extending a line of reasoning first put forward by Richardson (1995), Crivelli (2015) points out that receiving preferences in a relatively protected market can induce a small country to either raise or lower its tariff. The preference will induce the producers from the small country to shift their domestic sales to the more protected market of its trading partner, where the price is higher. Accordingly, they will stop lobbying and the political economy motivation for protection will vanish. Crivelli (2015) adds, however, that a tariff revenue motive could induce the small country to instead raise its tariffs as a result of the preferences received. The reason is that the deflection of domestic production to the foreign market makes tariff revenue more responsive to tariff changes. If the government of the small economy values $1 in tariff revenue more than $1 in the hands of consumers, increasing tariffs to boost tariff revenue would then be an optimal reaction. Although such a condition may be unjustified in developed economies, which typically have more efficient means of raising fiscal revenue, it seems plausible for small, developing countries, which often lack the capability to raise fiscal revenues in less distortionary ways.[23]

[22] See **chapter 9** of this Handbook for a broader discussion of WTO enforcement and dispute system.

[23] Other authors have addressed the revenue-generating role of tariffs when studying optimal trade policies, although not in the context of preferential access to foreign markets. For example, Matschke (2008) introduces costs to raise fiscal revenues into an otherwise standard "protection for sale" model, which she then estimates; Amador and Bagwell (2012) introduce private shocks to the value of tariff

3.4 GSP and donors' trade policies

A different but related question regards the effect of GSP (and of other nonreciprocal preferences) on the incentives of the donor countries to liberalize multilaterally. This question is closely related to the debate on the complementarity or substitutability between MFN and preferential tariffs.[24]

A central distinction in that debate is the purpose of the preference. When preferential market access is offered in exchange for reciprocal trade concessions, as in most FTAs, it induces the involved countries to extend liberalization to countries not involved in the agreement (see for example Ornelas, 2005a, 2005b). One of the reasons is to avoid the cost of trade diversion. Another reflects the destruction of rents stemming from the preferential access, which weakens protectionist forces in the country offering the preferences, thus inducing less protection also vis-à-vis other countries. In contrast, when preferential market access is offered in exchange for non-trade concessions, it tends to undermine the incentives of the country offering the preference to engage in multilateral liberalization (Limao, 2007). The reason is that the goal of the preference is to offer a volume of rents to the beneficiary country high enough to keep the latter's incentive to cooperate in nontrade areas. Since lower MFN tariffs would erode the value of the rents and the incentives of the recipient country to cooperate, the donor country needs to keep the tariff on third parties high enough. The scenario where developed countries offer preferences in exchange for cooperation in nontrade (or even non-economic) areas seems to fit the realities of GSP fairly well.

Thus, a prediction of this body of theoretical work is that when nonreciprocal preferences become reciprocal, we should observe the 'donor' country (as well as its trading partner) also liberalize vis-à-vis other countries. This prediction has not yet been assessed empirically, but could in principle be tested in the context of the E.U.'s

revenue for governments when studying the optimal design of trade agreements.

[24] See McCulloch and Pinera (1977) for an early analysis of how a developed economy may want to alter its MFN tariffs when given the possibility to offer preferential access to some of its imports. For a broader discussion of this topic in the context of FTAs and CUs, see **chapter 14** of this Handbook and the surveys by Freund and Ornelas (2010) and Maggi (2014).

EPAs.

A different mechanism links a country's trade policy to the activities of its multinational firms (MNFs) abroad. In a 2-country model, Blanchard (2007) shows that vertical foreign direct investment (FDI) should induce a (large) source country to lower its tariffs. The reasoning is simple: the beggar-thy-neighbor motivation to keep tariffs high is weakened when a fraction of the cost of the tariffs shifts from foreigners to domestic firms through their multinational activities, which the government internalizes. Thus, as firms from rich economies spread their (vertical) activities abroad, their governments would tend to lower their MFN tariffs if they cannot discriminate. However, if offering preferences is possible—as in the context of GSP—we should observe not changes in MFN tariffs, but instead more generous and more ample GSP preferences when vertical MNFs expand their activities to developing countries. In that sense, GSP could be working as a brake on multilateral liberalization driven by developed economies.

A related line of inquiry evaluates the determinants of whether/when nonreciprocal tariff preferences will be offered—and, when they are, their levels[25]—in the context of global value chains (GVCs). Extending the terms-of-trade theory to that environment, Blanchard et al. (2016) show that protection should decrease in the domestic value added of foreign final goods. The intuition is simple: although protection can help a country by improving its terms of trade, it does less so when part of the value added in the imported good is generated in the country. (A similar logic implies that protection should also decrease in the foreign value added of domestic final goods.) Since MFN tariffs are negotiated at the multilateral level, Blanchard et al. (2016) focus their analysis on bilateral preferential tariffs, of which GSP rates constitute a central source of variation. A key prediction is then that, as GVCs expand to developing countries, GSP preferences should become more generous.

Thus, the few models linking MFN tariffs to nonreciprocal (or at least not recipro-

[25] Recall that, although in the American GSP all preferential tariffs are zero, this is not the case in the European GSP. In most other GSP systems, nonzero preferences are common as well.

cal in terms of market access) preferences, as in GSP, indicate that those preferences are likely to reduce the incentives of developed countries to liberalize multilaterally. However, making the preferences reciprocal—as in a typical free trade agreement—could have the opposite effect.

4 Empirical evidence on the effects of SDT

4.1 The "SDT trade effect" and other SDT consequences

Evaluating empirically the effects of SDT is challenging, as SDT is present in many forms and its influence is spread out over time. However, there are several lines of research that provide insights on how SDT influences developing countries' trade flows, even though their focus lies elsewhere. There is, in particular, a body of research that investigates the trade effects of GATT/WTO membership, which delivers results that are particularly useful for understanding the trade effects of SDT disciplines.

That line of research begun with the influential, if controversial, contribution of Rose (2004), who estimates a gravity model of bilateral trade to study how membership in the GATT/WTO affects members' trade flows, finding that it does not. In the debate that followed Rose's paper, it has become clear that SDT exemptions are a central factor shaping such lack of a "WTO trade effect." This is observed most clearly by focusing on WTO effects upon accession. As pointed out above, until the Uruguay Round membership in the GATT for developing economies came with few strings attached. This changed during the UR, after which accession started to require significant liberalization from entrants. That change can provide indirect evidence on what may be termed the "SDT trade effect," which can be inferred by contrasting the WTO trade effect for developing countries before and after the change in accession requirements.[26]

[26] Naturally, a concern that affects most of this literature, and therefore also my inquiry into the "SDT trade effect," is the endogeneity of the accession decision. I bypass that discussion, simply because the literature has largely bypassed it, too.

Rose's (2004) empirical model is very standard. Its basic formulation consists of an OLS gravity estimation of the form

$$\ln(T_{ijt}) = \beta_d \ln D_{ij} + \beta_y \ln(Y_i Y_j)_t + \gamma_1 Bothin_{ijt} + \gamma_2 Onein_{ijt} + \boldsymbol{\beta}_x \mathbf{X}_{ijt} + \epsilon_{ijt}, \quad (5)$$

where T_{ijt} is average bilateral trade between countries i and j in year t; D_{ij} is the distance between i and j; Y_i and Y_j are real GDP for countries i and j; $Bothin_{ijt}$ is a dummy that is unity if i and j are both GATT/WTO members, whereas $Onein_{ijt}$ is a dummy set to unity if either i or j is a member of GATT/WTO in year t. $\mathbf{X}_{ijt}$ is a vector of controls. His sample covers the period 1950-2000 and includes 175 countries. After estimating numerous related specifications, Rose (2004) observes that the WTO dummies have small and often negative coefficients, and in any case neither is different from zero at conventional significance levels. He concludes that membership at the GATT/WTO has not improved trade among its members.

Several researchers have questioned Rose's (2004) results in subsequent analyses. One of the main criticisms, which is at the heart of the topic of this chapter, is the asymmetry between developing and developed economies, as pointed out by Subramanian and Wei (2007). As discussed in section 2, developing countries have historically not participated actively in rounds of multilateral liberalization, their formal membership notwithstanding. As a result, sectors like textile, footwear and agriculture, where several developing countries possess comparative advantage, have not been liberalized in developed economies as much as other sectors. In addition, developing countries have not liberalized their own markets much either. One therefore should expect the effects of GATT/WTO membership to be much more pronounced in industrialized economies than in developing ones, and perhaps only present in the former.

Once Subramanian and Wei (2007) account for that asymmetry, they actually find a positive and significant effect of GATT/WTO membership in promoting trade. Yet as their title stresses, the effects are "uneven," restricted to industrialized countries that have been consistently active participants of multilateral trade negotiations, and

to the sectors over which they negotiate reciprocal concessions.[27]

In addition, Subramanian and Wei (2007) find important differential effects between countries that joined the GATT before the UR and those that joined during or after its conclusion in 1994: whereas GATT/WTO membership does not have any discernible effect on the import levels of developing countries that joined before the UR, it has a positive and statistically significant impact for those that joined later. This reflects one of the central objectives of the Uruguay Round, namely to reduce the gap between developed and developing countries in terms of their obligations and degrees of liberalization, as discussed in section 2.

It is interesting to stress that, in Subramanian and Wei's (2007) analysis, the WTO trade effect remains insignificant in the post-WTO period for developing countries that joined in the early GATT period. In line with the correlations displayed in tables 2 and 3 in the Appendix, this reveals that SDT provisions remain consequential for early GATT members, despite the change in accession requirements since the UR. Overall, the results of Subramanian and Wei (2007) indicate that (lack of) SDT seems critical for the WTO effectiveness in promoting trade—or put differently, that there are compelling signs of a negative SDT trade effect.

The effect of 'removing' SDT is clearer in the analysis of Tang and Wei (2009). They show that developing countries acceding to the WTO under the stricter accession rules experienced higher growth and investment rates in the five years following accession. To explain this result Tang and Wei observe that, to have their membership applications approved after the UR, countries had not only to liberalize trade, but also to implement other market-oriented reforms. Furthermore, and critically, to generate such effects WTO accession must be believed by economic actors to confer a permanent character to those reforms. In other words, using the rationale put forward by Maggi and Rodrigues-Clare (1998, 2007), Tang and Wei (2009) argue that WTO

[27] Eicher and Henn (2011) argue that the industrialized-country WTO effect obtained by Subramanian and Wei (2007) actually reflects the effect of PTAs among those countries. Nevertheless, Eicher and Henn also find that there are positive WTO effects for the countries that have more to gain from trade negotiations (as proxied by their import volumes at accession), in line with the predictions of the terms-of-trade theory of trade agreements.

accession after the UR has a commitment value strong enough to have a positive growth impact. Indeed, they find that the effects are particularly large in countries with weak governance, where external policy commitments have a bigger role to play.

Liu and Ornelas (2014) seek to understand how the formation of FTAs affects the survival of democracy in the member countries through the destruction of protectionist rents. They argue that the lagged FTA import share is an effective proxy for the rent destruction effect engendered by those agreements. Liu and Ornelas distinguish, however, between agreements ratified under GATT's Article XXIV and those notified to the WTO under the Enabling Clause. Developed countries must notify their FTAs to the WTO under Article XXIV. However, trading blocs formed only by developing economies have the choice to notify either under Article XXIV or under the Enabling Clause. As indicated in footnote 7, the Enabling Clause imposes almost no constraints on what bloc members must accomplish. As a result, implementation rates are usually significantly higher for agreements ratified under Article XXIV than for those based on the Enabling Clause.

Interestingly, Liu and Ornelas (2014) find that while the coefficient of the lagged FTA import share is positive and statistically significant for those ratified under Article XXIV, the coefficient of the FTA import share is always statistically indistinguishable from zero for Enabling Clause-based FTAs. This indicates that unlike the full-fledged FTAs, partial, incomplete processes of preferential trade liberalization have no meaningful effect on the destruction of protectionist rents (and thus on democracy survival). More generally, the results of Liu and Ornelas (2014) provide additional support to the view that commitments in trade agreements are valuable, but that SDT-based trade agreements do not fulfill that role effectively.

4.2 The trade effects of nonreciprocal preferences

4.2.1 Aggregate trade flows

The empirical literature on the WTO trade effects has always included "controls" for GSP status. As a result, that line of inquiry has created an "incidental literature" that fosters understanding of SDT by helping us to infer the effectiveness of GSP in promoting trade.

Rose (2004) simply introduces in equation (5) a dummy indicating whether country i is a GSP beneficiary of country j or vice versa in year t in the vector of controls $\mathbf{X}_{ijt}$. He estimates that providing GSP status raises trade by over 100 percent.[28] But starting from Rose's baseline equation, estimation procedure and sample classification, there have been numerous advances on how to better identify WTO, and thus GSP, trade effects, in addition to the split between types of economies mentioned in section 4.1.

First, the subsequent literature (with the exception of Chang and Lee, 2011) replaces Rose's dependent variable with the more appropriate log-value of the *imports* of country i from country j in year t. Tomz, Goldstein and Rivers (2007) also argue that Rose's *de jure* definition of GATT/WTO membership is inaccurate, mistakenly classifying a subset of countries as nonparticipants. In particular, they argue that colonies, provisional and other *de facto* members should be codified as GATT/WTO members. Subramanian and Wei (2007) point out that Rose does not control for "multilateral resistance," as pointed out by Anderson and van Wincoop (2003), and include time-varying importer and exporter fixed effects for that purpose. Liu (2009), observing that the typical log-linear gravity approach suffers from heteroskedasticity and non-normality of residuals in bilateral trade flows, employs the Poisson Pseudo-Maximum Likelihood (PPML) estimator developed by Santos-Silva and Tenreyro (2006) to address those problems. More fundamentally, Liu emphasizes the distinction between intensive and extensive margins: as the standard approach

[28] Rose (2004) uses that estimate to emphasize that his empirical specification has the power to yield statistically significant effects of trade agreements.

restricts the analysis to country pairs for which positive trade is observed—the intensive margin—it ignores extensive margin effects, a channel through which he finds that the GATT/WTO membership has had a particularly strong effect. Eicher and Henn (2011) introduce country-pair fixed effects to better control for unobserved heterogeneity, extend the coverage of PTAs and allow for differences in trade effects across PTA partners. Chang and Lee (2011) claim that the econometric specification employed by Rose and others is inadequate, proposing non-parametric methods to correct potential misspecification biases in the conventional approach and to allow a more general treatment of heterogeneous effects.

Another source of difference across studies is the coding of trade agreement (WTO, PTA and GSP) dummies. Rose (2004) follows the most straightforward approach of assigning $1s$ whenever a trade agreement relationship is observed. However, Subramanian and Wei (2007) observe that, if a pair of countries belongs to a common PTA, their WTO and GSP relationships become redundant. The observation is based on the presumption that the WTO, GSP and PTAs encompass increasing degrees of liberalization. In that case, if one sets $WTO = GSP = 1$ the WTO and GSP effects are downplayed. Instead, in order to only capture the 'net effects,' Subramanian and Wei classify 'no agreement,' GSP, WTO and PTA as mutually exclusive states. They also make the central distinction between countries that grant and receive GSP, assigning the GSP indicator to zero when an industrial country is exporting to a developing country, since GSP is always granted by an industrialized country to a developing one, not the reverse.

Most of the analyses inspired by Rose's (2004) approach yield positive WTO effects of some sort, although estimates can vary greatly from one study to another. Like the WTO effect, the trade effect of GSP also hinges on sample selection, coding definitions, econometric specification and method of estimation.

The positive, large and significant effect of GSP obtained by Rose (2004) is roughly preserved in the analyses of Tomz et al. (2007) and Chang and Lee (2011). The findings of Subramanian and Wei (2007) are subtler. In most specifications, they

find that GSP promotes aggregate imports. However, when disaggregating by (five) sectors, the GSP coefficient becomes unstable. In fact, in some sectors where little liberalization has occurred, the effect becomes strongly negative. Those heterogeneous effects may reflect donors' discretion in the design of their own GSP system. Similarly, Liu's (2009) estimates for the GSP trade effect are statistically significant and very high when he relies on a log-linear specification. However, when Liu adopts PPML the GSP coefficient becomes unstable, depending on whether zero trade flows and country-pair fixed effects are included. Herz and Wagner (2011) also employ a Poisson maximum likelihood estimator. They evaluate the effects of GSP on aggregate trade flows, distinguishing short- from long-run effects, and find that although GSP may boost short-run exports, it decreases long-run exports from developing countries. More critically, in Eicher and Henn's (2011) analysis the GSP effect is *negative* and statistically significant in most specifications. It is difficult to pin down what explains this entirely different (and unintuitive) result. A candidate could be Eicher and Henn's coding of GSP only since 1980, missing the preferences offered in the 1970s.

Gil-Pareja, Llorca-Vivero and Martínez-Serrano (2014) study GSP together with other nonreciprocal arrangements permitted under SDT. The distinction is potentially important, as there is heterogeneity across GSP beneficiaries. In particular, countries in arrangements like AGOA and EBA are "more preferred" than other developing countries. Gil-Pareja et al. (2014) also extend coverage to 2008. As Eicher and Henn (2011), they include time-varying importer, time-varying exporter and country-pair fixed effects. They use both PPML and a specification a la Helpman et al. (2008) to control for selection at the extensive margin. When bundling all GSP and non-reciprocal schemes together, the results are unequivocally positive and strong. When disaggregating by program, Gil-Pareja et al. find that not all arrangements positively affect exports from beneficiaries. For example, the effects of the Andean Trade Preference Act[29] and (depending on the specification) CBI are negative and statistically

[29] ATPA was an American program of nonreciprocal preferences offered to Bolivia, Colombia, Ecuador and Peru in exchange to efforts from those countries in combating drug production and trafficking. It was enacted in 1991 and expanded in 2002, when it was renamed the Andean

significant. There is no statistically discernible effect for Australia's, Japan's and New Zealand's GSP arrangements. On the other hand, AGOA, EBA, ACP and GSP from other developed economies have a clear positive effect on beneficiaries' exports.

Overall, the literature on the aggregate trade effect of GSP and other nonreciprocal preferences points to a (probably) positive but unstable effect, and is not conclusive. First, the magnitude and statistical significance of the positive effect varies widely across (and sometimes within) studies. Furthermore, the contrasting findings of Eicher and Henn (2011), and of other studies when disaggregating by sector or by program of preference, call for further research to determine the factors behind the sensitivity of the estimates, and to determine whether we can be confident about a positive "GSP effect."

Now, even if future research convincingly establishes those points, an important limitation inherent in this literature is the very high level of aggregation of the analyses. The aggregation matters, as usually not all products qualify for preferential treatment. Similarly, GSP and other nonreciprocal preference schemes differ in terms of the product coverage, depth of tariff cuts, safeguards and rules of origin. As a result, taking GSP as a dichotomous variable in aggregate trade data can mask subtle heterogeneous effects—and may help to explain the instability of the coefficient of the GSP dummy across studies. Furthermore, the identification strategy in those analyses makes it difficult to infer the causal effect of GSP status on trade flows.

4.2.2 Disaggregated trade flows

Some of the analyses discussed above identify the trade effects of unilateral preferences mostly from cross-section variations. Moreover, they focus on aggregate trade flows, with only occasional but minor concerns about heterogeneity. This raises concerns of whether the estimated coefficients actually reflect the causal effects of the preferences.

Trade Promotion and Drug Eradication Act (ATPDEA). It expired in 2013, after Colombia and Peru implemented FTAs with the U.S. and Bolivia and Ecuador were declared ineligible (http://web.ita.doc.gov/tacgi/eamain.nsf/6e1600e39721316c852570ab0056f719/53018ab5e2d8426a852573940049684c).

Surprisingly, there are very few studies that concentrate on disaggregated *within* variation. But there are notable exceptions.

Frazer and Van Biesebroeck (2010) are to my knowledge the first to fully exploit time-varying status of nonreciprocal preference schemes to evaluate their trade impact. Using data from 1988 to 2006, they study AGOA, which came into force in 2001. The analysis is at the country-product-year level. AGOA status and tariffs are defined at the HS 8-digit, but to avoid an exceedingly high number of zero entries, Frazer and Van Biesebroeck keep the analysis at the HS 6-digit level, using weighted averages for aggregation. The dependent variable is either log(exports)[30] or a dummy for strictly positive exports to the U.S. The main estimates have country-product, country-year and product-year fixed effects, with the key independent variable being the triple interaction of dummies for country eligibility, product eligibility and the years since 2001, when AGOA was implemented.

For non-apparel products, Frazer and Van Biesebroeck (2010) find that AGOA led to an increase of almost 13% in export volumes of the affected country-product pairs. Moreover, they obtain an effect 3 to 4 times larger for apparel. This probably reflects two factors. One is the lower competition from other countries due to the widespread use of quotas until the end of 2004. The other is the provision exempting the poorest AGOA countries from rules of origin requirements, as mentioned in footnote 11. They also find that an AGOA preference increases in 1 percentage point the probability that a country-product will be exported, a very large effect relative to the unconstrained probability of 1.6% that a product is exported to the U.S. under AGOA. When disaggregating the estimates by year, Frazer and Van Biesebroeck (2010) observe that the AGOA effects increase over time, possibly reflecting some sort of learning, or of capacity/capabilities building. It could also reflect adjustment costs related to the flow of resources to the expanding sectors and away from the rest of the economy. Furthermore, the effects are larger for products whose MFN tariffs are

[30] When there is zero or no registered trade flow, Frazer and Van Biesebroeck (2010) add US$1 to the entry, so it becomes log(1) and is kept in the sample.

higher. Interestingly, there is no sign of trade deflection, as measured by lower exports to the E.U. In fact, exports of manufactured (non-apparel) products to the E.U. *increased*, implying a positive third-market effect that could possibly reflect higher productivity in the expanding industries.[31]

Although AGOA was implemented in 2001, its beneficiaries were already GSP recipients. As discussed in section 2.1.1, AGOA preferences are broader and more secure than the standard American GSP preferences. This is why Frazer and Van Biesebroeck (2010) are able to identify effects stemming from AGOA. But since they include in their sample non-AGOA but GSP-eligible countries and products, as well as GSP-ineligible countries and products, their findings are a mix of the gains from receiving AGOA preferences relative to regular GSP preferences in GSP-eligible products, and the gains from receiving AGOA preferences relative to no preferences in GSP-ineligible products. If we presume that the trade effects of regular GSP are positive, the effects of AGOA on beneficiaries' exports, relative to what they would export under MFN, would actually be *larger* than the figures that Frazer and Van Biesebroeck (2010) report. It would be interesting to make that empirical distinction, identifying separately the effects of GSP to which AGOA adds.

More recently, Thelle, Jeppesen, Gjødesen-Lund and Van Biesebroeck (2015) adopt the same methodology of Frazer and Van Biesebroeck (2010) to analyze the effects of the nonreciprocal arrangements of the E.U., where they do make the distinction between different nonreciprocal arrangements. Identification comes from the introduction of EBA in 2001 and from changes in the E.U. GSP throughout the period. Focusing on imports of the first 15 members of the E.U. from 1995 to 2012, they use detailed trade and tariff information for products at the HS 6-digit level. Since E.U. preferential tariffs are not necessarily zero, and vary across products and countries of origin, it is possible to assess the effects of the size of the preferential margins on exports of developing countries. Thelle et al. (2015) find that GSP pref-

[31] Such a positive third-market effect is in line with the findings of Defever and Ornelas (2015) for Chinese exports of textiles and clothing products after the end of the Multifiber Arrangement in 2005.

erences boost the exports of the covered products by almost 5% on average. However, the impact is twice as big for LDCs. In line with that result, the authors find that the average impact of EBA is about 75% larger than the impact of regular GSP or GSP+. The authors speculate, sensibly, that the differential effect may reflect the more permanent nature of EBA. Interestingly, the positive effects are present even for products where the MFN tariff is very low, suggesting that compliance with ROOs has not been a central problem in the E.U. nonreciprocal arrangements.[32] Thelle et al. (2015) also look at the extensive margin effects. They find that being covered by GSP increases the likelihood that a given product will be exported to the E.U. by a developing country, but the effect is on average very small. However, for LDCs (covered by EBA) the probability of exporting increases by 25%. Interestingly, the effects are larger for some types of manufactured products, rather than for commodities.[33]

Hakobyan (2013) follows a very similar approach when exploiting GSP expiration in the U.S. during ten months in 2011 to identify the trade effects of GSP. As in the study of Frazer and Van Biesebroeck (2010), preferences and tariffs are defined at the HS 8-digit but the analysis is at the HS 6-digit level, using weighted averages for aggregation.[34] The main specification is entirely analogous to Frazer and Van Biesebroeck's (2010), with the key independent variable being the triple interaction of dummies for country GSP eligibility, product GSP eligibility and 2011, the year where the GSP program expired and was not immediately renewed by Congress. The GSP eligibility dummy does not include the countries that are eligible for duty-free access through other programs, such as AGOA and ATPA, since those programs were

[32] In fact, the results of Thelle et al. (2015) indicate that exports are stimulated by more for products with *lower* MFN. This merits further scrutiny. Two possibilities are aggregation problems (their analysis is at the 6-digit level, although tariffs are defined at the 10-digit level) and the structure of MFN tariffs in the E.U., which may be negatively related to the price elasticity of the product. In a detailed analysis, which includes but is not restricted to GSP, Keck and Lendle (2012) do find, in any case, evidence of high utilization rates of preferences for the E.U. (and three other countries) even for very low preferential margins.

[33] Also for the extensive margin effects, effects are larger for products with *lower* MFN rates.

[34] Hakobyan (2013) presents a few results at the HS 8-digit level, which are roughly equivalent to her 6-digit estimations.

maintained throughout 2011. The analysis uses data from 2010 to 2012.

Hakobyan (2013) finds that the suspension caused a reduction of almost 3% in export volumes of the affected country-product pairs. This figure comes from an estimation that uses a balanced panel, including all nil export flows.[35] If she considers only the country-product pairs that are strictly positive in at least one year of the sample, the estimated reduction jumps to 18%. The extensive margin effect is also statistically significant but relatively small (a 0.3 percentage point reduction, relative to a 7.9 percentage point that a product-country pair flow will be strictly positive). The effects are larger for products whose MFN tariffs are higher, indicating that the size of the preferential margin matters in the American GSP as one would expect. There is no sign of 'export diversion,' as measured by higher exports to the E.U., where GSP did not expire.

As mentioned in section 2.1.1, there have been other cases of American GSP expirations in the past. Invariably, when the program was renewed, duties paid were refunded to the exporters. Thus, the identified negative effects point towards some sort of credit constraints. Since the suspension affects only developing economies, this explanation is sensible, especially in light of recent analyses demonstrating the importance of credit constraints for exporters.[36] This possible explanation is reinforced by the finding that the effects are larger for the smaller (product-country) exporters. Thus, the analysis of Hakobyan (2013) points toward a neglected but apparently critical benefit of nonreciprocal preferences to developing countries, namely the removal/weakening of constraints to the growth of their existing export industries.

A different issue is the varying degrees of preferences across programs from a single donor country. This raises at least two concerns. First, about the WTO legality of discrimination across developing countries, as Grossman and Sykes (2005) discuss at length. Second, about trade diversion *within* the program. Borchert (2009) analyzes the latter for the European system, contrasting in particular the ACP preferences

[35] As Frazer and Van Biesebroeck (2010), Hakobyan (2013) adds US$1 to the zero entries, so they become log(1) and are kept in the sample.

[36] See for example Manova (2013) and Paravisini, Rappoport, Schnabl and Wolfenzon (2014).

relative to "regular" GSP. His analysis is at the HS 6-digit level for the period 1996-2001, and his dependent variable is imports into the E.U. relative to imports into the U.S., which treated the two groups of countries similarly during the sample period.[37] Borchert (2009) finds evidence of nontrivial trade diversion across developing countries in manufacturing (although not in agriculture), from regular GSP beneficiaries to ACP members. His findings contrast with the lack of export diversion observed by Hakobyan (2013) and with the positive export diversion/third-market effect obtained by Frazer and Van Biesebroeck (2010) *across* destination markets.

Now, one factor that may prevent GSP from achieving its stated goals in the U.S. is the existence of Competitive Needs Limits. Again, evidence is scant for the effects of CNL exclusion, both for those who lose the preferential treatment and for others. Nevertheless, Hakobyan (2014) provides such an analysis. She studies 202 cases of CNL exclusions between 1997 and 2009. The analysis is at the HS 8-digit level. The main empirical specification is an OLS estimation at the product-country level of either U.S. import values or U.S. import shares on separate dummies for CNL exclusion in the year of exclusion and in the three subsequent years, with year and exporter country fixed effects, in addition to usual controls. Hakobyan (2014) documents a significant drop in the exports of the affected country-product pairs, in the year of exclusion and even more in the subsequent years, resulting in a collapse of U.S. imports after three years to an average of one fourth of the value just before exclusion. Again, the effects are larger, the higher the MFN tariff. Most of the 'lost' sales are replaced by non-GSP recipients, contrarily to the formal goals of CNLs. When Hakobyan applies a difference-in-differences approach using other dutiable products imported from the affected countries as well as other exporters of the products affected as control groups, she obtains smaller but still economically and statistically important effects.

An interesting regularity is that, in 86% of the exclusion cases, the threshold that

[37] For "regular" GSP beneficiaries, Borchert (2009) considers only seven relative large developing countries, including Brazil, China and India.

triggered exclusion was the share, not the value imported. Moreover, in three-quarters of the former the country-products excluded were eligible to a waiver (but did not receive one) due to the low value of imports. Hakobyan (2014) shows that the negative effects of the exclusion are observed *only* when the CNL share threshold is reached. For the country-product pairs with large exported volumes, exclusion from GSP has no statistically identifiable effect. Those results suggest that the CNL criteria could be excluding from the American GSP program not the "most competitive" exporters, as it claims to do, but mainly those that depend heavily on the preferences to prosper. This raises the question of whether the American GSP program has been dropping countries and products exactly in the circumstances when the program is having an impact.

Another unanswered question is whether—and if so, to what extent—exporting firms switched to other, similar but preference-receiving, products. If such a switch was prevalent, then the welfare impact of the CNL limits would be significantly lower than the drastic drop of exports suggests. However, if that happened the coefficient in the difference-in-differences estimation would tend to be *larger* than the coefficient in the OLS estimation, not smaller. Nevertheless, this is relatively difficult to pin down without firm-level export data.

Overall, the results from the studies focusing on "within variation" offer more consistent findings between them than the analyses of aggregate trade flows. They show that nonreciprocal preferences can have a meaningful impact on developing countries' exports, presumably by mitigating constraints to their growth, and possibly leading to productivity growth.

Still, to really understand the nature of the operating forces and mechanisms, one needs firm-level analyses. Given that such studies have become pervasive in the broader international trade literature, their virtual absence in the SDT/GSP literature is rather puzzling—if not for LDCs, for which availability of reliable firm-level data is rather limited, at least for non-LDC developing countries. The only exception appears to be the ongoing study of Albornoz et al. (2016), who exploit the

permanent suspension of American GSP benefits for several (but not all) products imported from Argentina in 1997 due to an infringement of intellectual property rights (in areas unrelated to those where the preferences were halted). Their results indicate that the suspension had a sizeable negative impact on the exporters of the affected products, harming them at both the intensive and the extensive margins. Furthermore, when exploring the multi-product dimension of the exporting firms, Albornoz et al. reveal that firms' reactions also involve substitution of products, with the precise nature of the substation varying across firm characteristics such us size, export experience and number of exported products. Nevertheless, further research exploring similar policy shocks in other countries and periods is needed to assess more generally how firms react to preferences that vary across products.

4.2.3 Utilization rates and preference uncertainty

Naturally, preferences can promote exports only if firms use them. From the perspective of an exporter, the gain from utilizing a preference can be proxied by the product between its exported volume and the preferential margin. In turn, the cost from utilizing a preference is related to the stringency of ROOs. Since compliance with ROOs requires administrative costs, part of which have a fixed cost nature (e.g., setting up a compliance system and hiring workers to operate it), firms will choose to use their preferences only if they expected to use them enough to compensate for the fixed costs. All else equal, this is more likely to happen if the firm sells large volumes and if the preference is expected to stay in place for a sufficiently long period. A similar trade off arises when a firm considers whether to alter its sourcing decisions to comply with ROOs, since input sourcing often involves customization, which in turn requires long-term commitments to be attractive. A firm will incur such switching costs only if it expects to export relatively large volumes for a reasonable period of time to the preference-giving country.

Hakobyan (2015) offers the clearest account of the factors affecting GSP utilization rates. Evaluating exports from 68 countries to the U.S. from 1997 to 2008 under

GSP, she notes that the producers of about 40% of GSP-eligible American imports do not claim the GSP benefits. Part of the reason is that some producers have access to more generous ROOs schemes, such as AGOA. Still, there is significant underutilization of preferences. Employing a variety of specifications, Hakobyan finds that utilization increases with the preferential margin and with the volume of exports, both of which raise the benefits of the preference. In turn, utilization decreases with the degree of processing of the product, in line with the presumption that a significant share of value added is imported for products with a high degree of processing, and that distorting the sourcing strategy in such cases to enjoy preferential tariffs is not worthwhile. While this result is not surprising, it contrasts with the formal goal of the Enabling Clause, of promoting new, dynamic industries in developing countries. The results from Hakobyan (2015) indicate instead that the firms that can comply with ROOs and benefit from preferential access in the markets of developed economies are mostly the producers of primary and other simple products. Moreover, as global value chains increase in importance worldwide, the set of products that makes it worthwhile complying with ROOs tend to shrink overtime.

A related issue is the insecurity of nonreciprocal preferences. Postigo (2014) offers suggestive evidence that the underutilization of GSP could be a sign of that insecurity. Studying the decision of Japan and Thailand to form an FTA, Postigo documents intense lobbying for the agreement by firms located in Thailand that had GSP treatment in Japan, including Thai subsidiaries of Japanese firms. After the implementation of the FTA, Postigo observes that the GSP utilization rate in those sectors drops sharply at the same time that the FTA utilization rate rises. Thus, he posits that firms spent resources lobbying for an FTA that would not change the preferential tariff levels they faced, but which would presumably decrease the insecurity of the preferences.

Postigo's (2014) observations are also in line with the findings of Manger and Shadlen (2014). Relying on the plausible assumption that countries for which a greater share of exports enjoy GSP preferences are more exposed to GSP uncertainty,

Manger and Shadlen test whether those countries are more likely to seek and form FTAs with the E.U. and U.S., as the preferences should become more stable with an FTA than under GSP. Using data from 1990 to 2010, they define the share of exports entering those markets under GSP as their key measure of "political trade dependence." Manger and Shadlen (2014) find that the lagged GSP-based exports share is indeed a strong predictor of future FTAs with the E.U. and/or the U.S. While it is possible to think of factors that could affect both the share of GSP-based export and the likelihood of FTA formation (e.g., political alignment with the major economies), the results of Manger and Shadlen (2014) are consistent with the hypothesis of preference uncertainty breeding FTAs, a topic that is certainly worth further research.

Employing a structural approach, Handley and Limao (2015) evaluate the gains from reducing trade policy uncertainty stemming from Portugal's accession to the European Community in 1986. Even though that policy change is not directly linked to SDT, it informs that literature by emphasizing the value of reducing the uncertainty of preferential treatment. In fact, Portugal's accession entailed little change in the levels of trade barriers—since as a member of the European Free Trade Association Portugal already had virtually free access to the European market. Still, Handley and Limao estimate a large impact on export entry rates and sales of Portuguese firms due to the accession, which can be linked to reduction of trade policy uncertainty.

A related line of research studies how the policy uncertainty due to large tariff overhangs can prevent foreign firm export entry. Groppo and Piermartini (2014), studying the bindings of all WTO members from 1996 to 2011, show that they indeed matter for the level and the variability of applied rates: bindings reduce the probability of increases and raise the probability of decreases in applied rates, even when there is "water" in the tariff. The effects are weakened when the level of the water rises. In turn, Handley (2014) provides evidence that large tariff overhangs limit the entry of foreign exporters. He does so using Australian data, where trade policy uncertainty increased after applied tariffs fell significantly during the later 1980s

and 1990s, without corresponding changes in the bound rates. Since nonreciprocal preferences produce similar trade policy uncertainty, it is plausible that they yield effects analogous to those of tariff overhangs. To date there has not been, however, any study that explicitly estimates those effects.

4.3 The impact of greater export opportunities

As pointed out at the outset, the formal goal of SDT is to promote export-led growth. If developing countries acquire better access to large markets, scale economies could spur productivity and lead to economic growth. Although theoretically plausible, identifying such a mechanism empirically is a tall order. One of the main difficulties is that policies that increase export opportunities are usually implemented together with many other economic changes, making isolating the effects a challenge. In particular, most of the circumstances when foreign markets become more accessible to domestic producers are observed in the context of trade agreements, when the country also opens up to foreign producers, in contrast with the SDT/GSP context. Moreover, those policies are often endogenous to the question in analysis. As a result, reliable estimations of the effects of increased market access on growth (and on related measures) remain relatively rare.

Although difficult, there is a set of papers that uncover "learning-by-exporting" effects. Van Biesebroeck (2005) is the first to provide evidence for productivity improvements following export market entry in firms from eight sub-Saharan African countries. Employing a matching estimator to construct a benchmark from which to properly measure the performance of exporters, De Loecker (2007) also finds learning-by-exporting effects for Slovenia for the period when the country joined the E.U., soon after its transition out of a planned economy. The effects are larger for firms selling to more developed countries, in line with a mechanism where sellers learn from their interaction with more sophisticated buyers.

One of the main challenges in identifying productivity gains from exporting is in disentangling them from price effects (De Loecker, 2011). If more productive firms

charge lower prices per unit of quality, as many theoretical models would suggest, then productivity measures based on firm revenue, as in most empirical analyses, will mix the two effects and underestimate productivity gains from exporting. An alternative is to use data on physical quantities, but their availability is scarce. Garcia-Marin and Voigtländer (2014) are able to filter out those measurement problems. Computing plant-product level marginal cost for Chilean manufacturing plants, they find strong learning-by-exporting effects, especially (but not only) for export entrants.

A possible reason why firm productivity may increase upon exporting is that enhanced market access can alter firms' incentives to innovate. There are few but remarkable efforts attempting to identify such a channel. Lileeva and Trefler (2010) do so for Canada following the Canada-U.S. free trade agreement of 1988 (CUSTA) by constructing a plant-specific tariff cut instrument, based on plant production and bilateral tariff changes data. That data allow them to estimate a heterogeneous response model, where the underlying assumptions are that firms are heterogeneous in productivity *and* in their return from investing. Lileeva and Trefler (2010) find that better access to the American market encouraged innovation in Canadian firms by expanding the effectively available market for Canadian firms, but only for some of them. Furthermore, they find that, among the firms that started to export as a result of CUSTA, the innovation response was higher for initially *less* productive plants. This result underscores the complementarity between innovation and exporting: firms that did not export prior to CUSTA decided to innovate because of the new export opportunity, and decided to export because they could do so with a higher productivity. Bustos (2011) finds, similarly, that Argentinean firms increased innovation as a result of better access to Brazil's market following the formation of MERCOSUR.

Now, even if better access to the market of developed economies does not have clear effects on the growth of developing countries, it can have other similarly worthy benefits. Again, proper identification of such effects is the main difficulty. However, in a series of papers McCaig (2011) and McCaig and Pavcnik (2014a, 2014b) provide notable exceptions by exploiting the 2001 U.S.-Vietnam Bilateral Trade Agree-

ment (BTA). The implementation of the BTA provides an excellent environment to study the consequences of better access to developed countries' markets, precisely the channel through which GSP seeks to accomplish its goals. First, it is a very large shock from Vietnam's perspective. Under the BTA, the U.S. immediately granted Normal Trade Relations to Vietnam, implying that Vietnam would then face MFN tariffs rather than "Column 2" duties, applied to a few countries deemed "communist." Manufacturing tariffs, for example, fell from an average of 34% to around 3%. Indeed, Vietnam exports reacted quickly and strongly, but heterogeneously across industries, depending on the industry tariff cut. Second, the tariff changes were instantaneous, not phased in over many years as usual. Third, although Vietnam also had commitments under the BTA, they required little trade liberalization and would be implemented over several years. Fourth, the BTA is largely immune of endogeneity issues, as the tariff changes represented a simple reclassification of Vietnam, entitling it to move from one pre-determined tariff schedule to another. Neither of them is plausibly affected by Vietnamese export flows: one is the MFN tariff schedule of the U.S., defined during the Uruguay Round, which ended in 1994; the other was defined in the 1930s. Moreover, from the American perspective, Vietnam is a very small trading partner. The upshot is that the BTA provides a very clean policy shock, entailing liberalization by a large developed economy without reciprocal liberalization by a small developing country—just like GSP presumes.

McCaig (2011) estimates the impact of the BTA on poverty rates in Vietnam. Controlling for pre-existing trends, and defining tariff cuts at the province level (based on pre-BTA sector employment shares), he finds that the BTA caused a steeper decrease in poverty rates in the provinces more exposed to the tariff reductions. The effects are statistically and economically significant. The main mechanism appears to be an increase in the wage rate of unskilled labor, precisely the factor of production used intensively in the industries that reacted more strongly to the tariff cuts.

McCaig and Pavcnik (2014a) estimate instead how enhanced access to the American market under the BTA affected worker allocation across types of firms. They

find that the BTA led to worker reallocation from household businesses to formal enterprises, especially in areas near major seaports. As a result, aggregate productivity in Vietnam increased, since formal firms are on average significantly more productive than household businesses (the estimates depend heavily on the empirical method employed, though, ranging from a modest 0.1 percent to a very large 5.5 percent).[38] Interestingly, in a companion paper McCaig and Pavcnik (2014b) find that the BTA also caused reallocation *within* the household business sector. In the sectors more affected by the American tariff cuts, household businesses expanded income and became more likely to hire outside labor. Moreover, the larger household firms within those sectors expanded while the smaller ones contracted. Thus, the BTA generated an expansion of the formal sector relative to the informal sector, at the same time that it engendered reallocation within the latter. Both channels point toward an increase in aggregate productivity.

Valuable as the lessons from those studies are, the case of Vietnam and its BTA with the U.S. is not directly generalizable to preferences under GSP. First, GSP preferences are offered to (almost) all developing countries, whereas the BTA entailed reclassification of Vietnam only. Second, GSP preferences are relative to MFN tariffs, already rather low in most developed economies' industries, whereas the BTA implied the end of very high discriminatory tariffs against Vietnam. And third, all the uncertainties discussed above involving GSP are absent in the BTA. For each of those reasons, although the BTA features several *qualitative* similarities with liberalization through GSP, its *quantitative* impact on Vietnamese exports is considerably larger than one could ever hope to achieve through GSP. Thus, one may view the impacts of the BTA on Vietnam's poverty rate and aggregate productivity as a (generous) upper bound of what developing countries may achieve through GSP.

Now, when better export opportunities arise from the concession of preferences,

[38] Paz (2014) shows related evidence for informality in Brazil during the 1990s. In line with other studies, Paz finds that Brazil's own liberalization led to an increase in informality, but that liberalization in Brazil's main export markets had the opposite effect. In his underlying model, the effect of better access in foreign markets on informality arises because existing exporters expand, and they are more likely to be formal.

the usual presumption is that the ensuing gains will be kept by the preference-receiving countries. In a competitive market, that would be the case. However, this may not happen if importers (or distributors) in the preference-granting countries have market power.

To my knowledge, Olarreaga and Ozden (2005) provide the only analysis of such a critical issue. They investigate how AGOA's preferences affected the prices received by apparel exporters in the first half of the 2000s (therefore before the end of the apparel quotas in 2005). Olarreaga and Ozden observe that on average the export price of AGOA exporters increased by no more than a third of the MFN tariff, indicating that a large share of the preference rent was in fact captured by importers/distributors in the U.S. The share accrued to the exporters is especially low for poorer and smaller countries, which have fewer export alternatives, and in products with lower MFN tariffs. Suggestively, Olarreaga and Ozden (2005) find a strong negative correlation between the preference rent kept by the AGOA exporters and an index of the concentration of U.S. buyers at the product level. Thus, their results indicate that preferential market access can be valuable for developing countries, but that the magnitude of those gains will be strongly affected by the market structure in the importing country. The recent literature identifying the large size of importers (e.g. Bernard, Jensen, Redding and Schott, 2010) and the line of research emphasizing relationship-specificity in international transactions (see Antràs, 2015) suggest that such a possibility is not far-fetched.

4.4 The effect of GSP on recipients' trade policy

There is a dearth of analyses investigating empirically how nonreciprocal preferences affects the trade policy of beneficiary countries. A notable exception is Ozden and Reinhardt (2005), who investigate empirically how the concession of GSP affects the trade policies of recipient countries. They include all 154 countries that benefited from GSP in the U.S. from the beginning of its program in 1976 until 2000. Identification comes from cross-sectional variation and also from the loss of GSP benefits by some

countries throughout the period. Ozden and Reinhardt run OLS regressions of different measures of trade policies (duties/imports, average tariff, imports/GDP) on GSP status, controlling for standard covariates. They also employ an IV approach using distance to the U.S., a dummy indicating a formal alliance with the U.S., and other arguably exogenous instruments for GSP status. The results indicate that GSP fosters more protectionist policies. A concern is, however, that unobserved heterogeneity could be driving the results: most of the variation in the dataset is cross-sectional, which is why the authors do not use country fixed effects in the analysis.

More recently, Crivelli (2015) evaluates empirically how preferential access received affects a member's external tariff. She tests the predictions of her model using data for several Latin America preferential agreements from Estevadeordal, Freund and Ornelas (2008), but unlike those authors Crivelli focuses is on preferential access *received*, not granted.[39] Thus, although the data is for reciprocal FTA liberalization, her different perspective can provide lessons for the consequences of preferences in nonreciprocal arrangements like GSP. In line with her model, Crivelli (2015) finds that high-tariff countries (in a bilateral relationship) tend to significantly lower their external tariffs upon receiving preferences. In contrast, low-tariff countries tend to raise their external tariffs after being granted preferences, *provided that* tariff revenue is an important source of their governments' fiscal revenues. This raises a concern: the countries that are more likely to increase tariffs because of arrangements like GSP may be precisely the less developed ones, which tend to rely more heavily on border taxes to raise fiscal revenue.

4.5 The effect of GSP on donors' trade policies

As the discussion in section 3.4 indicates, offering preferential access in one's market has a theoretically ambiguous effect on the trade barriers that the country imposes on imports coming from non-preferential sources. Empirically, there is a body of research showing that preferences in free trade areas tend to induce lower external tariffs—see

[39] Crivelli (2015) does, however, control for preferential access granted.

e.g. Calvo-Pardo, Freund and Ornelas (2011) for ASEAN, Estevadeordal et al. (2008) for Latin American FTAs, and Ketterer, Bernhofen and Milner (2014a) and Stoyanov and Mai (2015) for Canada in the context of CUSTA and UR tariff cuts.[40] On the other hand, Limao (2006), Karacaovali and Limao (2008) and Ketterer, Bernhofen and Milner (2014b) find that the U.S., the E.U. and Japan, respectively, lowered MFN tariffs by less during the UR in products where they offered preferences. Many (although not all) of those preferences were offered in the context of GSP and other nonreciprocal arrangements.[41]

Those empirical results, which are broadly in line with the theoretical forces discussed in section 3.4, indicate that the *motive* of the preference is critical for its impact on the trade policies vis-à-vis other countries. When preferences are offered in the context of reciprocal exchange of market access, as in most FTAs, they tend to be associated with more liberal external trade policies. However, when preferences are nonreciprocal (or the reciprocity is with respect to nontrade benefits), as in the context of Enabling Clause-based arrangements, they tend to be associated with less liberalization toward third countries. This distinction becomes especially visible when one compares the results of Ketterer et al. (2014a) and Ketterer et al. (2014b). The former study how CUSTA preferences affected Canada's MFN tariffs; the latter study how GSP preferences affected Japan's MFN tariffs. Despite employing an identical empirical methodology and identification strategy in both papers (which follow Limao's, 2006, closely), the two analyses yield opposite results. This suggests that the nonreciprocal nature of SDT-based preferential arrangements can have neg-

[40] Estevadeordal et al. (2008) show that those findings do not extend to customs unions. Crivelli (2014) qualifies the results of Estevadeordal et al. by allowing for heterogeneous effects. She finds that the reduction of external tariffs following a drop in preferential tariffs in free trade areas is especially strong for the bloc's highest tariff member (in the sector). In contrast, the tariff complementarity for the low-tariff countries is either weaker or absent. See Freund and Ornelas (2010), Maggi (2014) and **chapter 14** of this Handbook for broader discussions of the empirical effects of preferential liberalization on countries' external trade policies.

[41] In particular, Ketterer et al. (2014b) consider *only* GSP preferences, as Japan did not participate in any reciprocal FTA until the early 2000s. On the other hand, it is worth noting that Limao (2006) also finds a similar result for American's NAFTA preferences.

ative consequences for the openness of the multilateral system, but that making them reciprocal could reverse this effect.

A different question concerns the motives for offering preferential access in the first place. Which countries should receive preferences, and how extensive should they be? Blanchard and Matschke (2015) provide compelling evidence that vertical MNFs are an important force promoting GSP preferences. Using detailed 8-digit product level data on U.S. foreign affiliates and American preferences, their main challenge is reverse causality: surely U.S. MNFs must be more inclined to locate in countries that receive preferential treatment in the American market. Blanchard and Matschke (2015) deal with that difficulty using a clever IV strategy. They instrument for vertical multinational activities with (pure) horizontal multinational activity. Theory poses that domestic trade policy should not influence domestic firms' horizontal multinational choices. On the other hand, vertical and horizontal FDI in a country are surely positively correlated, as location and the general business climate in the host country affect both types of investment.

Blanchard and Matschke (2015) find that vertical FDI is indeed a strong cause of preferential access offered by the U.S. The effect is particularly strong for developing countries, indicating a greater-than-one elasticity between the sales of U.S. MNFs back to the U.S. and the share of products receiving duty-free treatment. This differential effect is largely driven by GSP, which is precisely the dimension in which the U.S. enjoys more flexibility to offer and withdraw preferences to specific product-country pairs.[42] Their results thus suggest that, as FDI flows increase overtime, we should expect a widening of the product and country GSP scopes. Furthermore, following the logic of Blanchard's (2007) model, such expansion of GSP can be thought of as a substitute for MFN liberalization.

A similar rationale applies to the impact of GVCs on the pervasiveness and on the levels of preferences, as discussed in section 3.4. Since the tariffs of the largest

[42] If the U.S. wanted to offer preferences to certain products originating from another developed economy, it would need to create a full-fledged FTA with that country, and would then need to satisfy GATT's Article XXIV requirements to avoid Article I.

economies are defined in multilateral negotiations, to test those predictions Blanchard et al. (2016) focus on bilateral tariffs in preferential arrangements. FTAs provide such variation, but in FTAs reciprocity matters. Moreover, Article XXIV imposes limits on discretion. Thus, the implications of GVCs for FTA preferences becomes somewhat blurred. The other main source of variation, where discretion is more permissible—and therefore the forces in the model of Blanchard et al. can be tested more directly—are GSP preferences. Using information on the value-added contents of 14 major economies from 1995 to 2009, Blanchard et al. (2016) confirm that an increase in the domestic value added of foreign final goods leads to lower GSP preferences. Their results point to interesting trade policy dynamics, where the expansion of global value chains breeds trade liberalization, and yields in particular more generous tariff preferences in nonreciprocal arrangements.

5 Concluding remarks and future research

Rules determining special and differential treatment for developing countries have been present in the multilateral trading system since the inception of the GATT, and have extended their reach since the introduction of the Enabling Clause in the 1970s. The exceptions entail the possibility that developing countries may adopt fewer liberalization commitments in multilateral rounds of negotiation; that commitments can be relatively lax; and that developing countries may simply act as bystanders in multilateral trade negotiations. One of the consequences of such special and differential treatment has been the maintenance of relative high trade barriers, and particularly large "tariff overhangs," in developing countries. Another is a tariff structure in industrialized economies that is biased against products in which developing countries possess comparative advantage, although they enjoy (qualified) preferential access in those markets. Since the Uruguay Round the situation has changed somewhat for countries acceding to the WTO, but not for old members.

5.1 Answering the main questions

Returning to the first question raised in the Introduction (Is SDT justifiable, theoretically and/or empirically?), one can conclude that the literature to date offers a mixed view, but with a clear negative inclination. The main theories of trade agreements, based either on terms of trade or on commitment, offer no basis for SDT. That literature views developing countries, especially until the Uruguay Round, as ineffective "free riders" of the multilateral trading system. While developed economies negotiated market access reciprocally and extended the tariff concessions to all GATT members, developing countries were not required to reciprocate. Although such "free" market access may have promoted specific export sectors of bystander GATT members, general equilibrium forces dictate that the expansion of their export sectors as a whole are severely constrained by the lack of their own liberalization. Now, if delocation and learning effects are important, the role of SDT might be rationalized. This would require, however, "clever design" of the underlying SDT policies. On top of requiring information probably unavailable to policymakers, an aggravating problem is that many SDT policies, such as the nonreciprocal preferences under the Generalized System of Preferences, are defined by developed economies. It seems unrealistic to presume that they would design policies having as their primary goal the interests of developing countries. Indeed, the products and sectors where developing countries would benefit the most from better foreign market access tend to be the least open in advanced economies.[43]

On the empirical side, evaluating the impact of SDT as a whole is challenging, as isolating its effects is typically unfeasible. An option is to compare the behavior of similar countries that joined the GATT/WTO system before and after the UR. Another is to contrast the impact of FTAs based on Article XXIV to those notified to the WTO under the Enabling Clause. The few attempts to explore those differences point toward a clear benefit in moving *away* from SDT disciplines.

The dimension of SDT that is more prone to empirical analysis is the Enabling

[43] See Hoekman, Michalopoulos and Winters (2004) for proposals to make SDT more effective.

Clause-based preferential arrangements, such as GSP. They could help us answer our second question: Can/do nonreciprocal preferences provide a sustainable boost to the exports of developing countries? The gravity-based studies, carried out at a highly aggregate level and identifying effects mostly from cross-sectional variation, tend to find positive trade effects from GSP, but results are sensitive to econometric technique and coding definitions. Further research is needed to pin down more precisely the source of this sensitivity. Moreover, allowing for differential effects across sectors and arrangements reveals significant heterogeneity. The handful of analyses that use disaggregated data (typically at the 6-digit product level) and explore within variation, on the other hand, unanimously conclude that nonreciprocal preferences promote exports of the relevant country-product pairs (relative to a control group without preferences). A concern is, however, the negative impact of the uncertain nature of the preferences.

Now, even if nonreciprocal preferences indeed promote exports of receiving countries, the answer to the deeper, more relevant question of whether they promote economic growth or simply yield rents to selected country-industry pairs (question 3 from the Introduction) remains elusive. There are studies that identify benefits from better access to the markets of developed countries, ranging from higher firm productivity to less poverty and informality. However, while they are useful to understand the *potential* benefits of GSP and other arrangements based on nontrade reciprocity, those studies are not based on them, and thus only reveal the effects from better foreign market access in general.

In terms of trade policy, by design the set of rules characterizing SDT compel developing economies to remain relatively closed by letting them stay away from multilateral trade negotiations. Does that imply that we can confidently answer our fourth main question, of whether nonreciprocal preferences to developing countries make their own trade policies more liberal, in the negative? Unfortunately, the theoretical literature on this issue is ambiguous, and its empirical counterpart is very incipient. If anything, they support the view that a one-fits-all answer does not exist.

Now, the existing schemes of nonreciprocal preferences, whereby developed economies use preferences as bargaining chips to demand cooperation from developing countries in nontrade areas, seem to constitute an important force toward keeping multilateral tariffs high. This follows from a literature that indicates that nonreciprocal preferences are associated with tariff substitutability. The flexibility of GSP also has a similar effect, inducing multinational firms to push for lower preferential duties, rather than for lower MFN tariffs. This suggests that the answer to our fifth question, of whether nonreciprocal preferences to developing countries induce the preference-granting countries to adopt more liberal trade policies, is probably in the negative. But the literature also indicates that reciprocal exchange of preferential access tends to yield tariff complementarity. Thus, if preferential tariff negotiations had to occur in the context of full-fledged FTAs, we may observe instead lower multilateral tariffs.[44]

5.2 Further research

Overall, although significant progress has been made, there is still much to learn about the consequences of SDT. In particular, there is a clear need for more research whose *focus* is on SDT. This matters, as many of the its disciplines are likely to stay in place for the long haul. Moreover, countries are increasingly forming bilateral and plurilateral trade agreements, but struggling to move forward on GATT-based multilateral negotiations. Thus, it is important to understand, on one hand, whether/how SDT may be affecting this trade-agreement dynamics. And on the other hand, what the consequences of those developments tend to be for developing countries and for the effectiveness (or lack thereof) of SDT-based rules. I outline below a few areas in which future research could help answer those questions.

Under the lens of the strict version of the terms-of-trade theory of trade agreements, offering nonreciprocal preferences to developing countries is either immaterial

[44] This, of course, presumes that developing countries would be willing to engage in such arrangements. Put differently, the counterfactual of banning nonreciprocal preferences is not necessarily reciprocal FTAs. In the context of the E.U. and the ACP countries, that is (slowly) happening, but in other contexts banning nonreciprocal liberalization may as well lead to no liberalization at all.

(if developing countries are assumed small) or unreasonable for the donor countries, as they would yield a terms-of-trade deterioration with nothing in return. But in reality those preferences are often conditional on the "good behavior" of the beneficiary countries, and on those countries not using the preferences "too much." This suggests that incorporating those preferences in the framework of the terms-of-trade theory would require extending the objective function of negotiating governments to encompass noneconomic issues. At the same time, to integrate graduation and CNL rules in the analysis, preferences need to be offered conditional on affecting their terms of trade only up *to a point*. It would be interesting to see how those extensions would affect the nature of the equilibrium outcome of multilateral negotiations.

Similarly, the insecurity of preferences in nonreciprocal systems of preferences based on the Enabling Clause likely affects their trade impact. Nevertheless, this has not been theoretically or empirically studied yet. Theoretically, the existing analyses of the role of tariff bindings in reducing uncertainty for foreign exporters could provide a useful framework that could be extended to study GSP. The empirical implementation could also follow that fledgling but growing literature, with the margin of preferences replacing the tariff overhang as the proxy for trade policy uncertainty in an initial step.

Another potential interesting area, on which there is currently virtually no research, is the assessment of what/how much developed countries actually gain—if anything—with their Enabling Clause-based nontrade reciprocity. A possible line of inquiry could follow the empirical strategy of Berger et al. (2013) and Dube et al. (2011), who study the consequences of foreign CIA interventions on American economic outcomes. A related literature studies how the U.S. uses loans and other types of foreign assistance to enlist support in international organizations from other countries (see, among others, Dreher and Jensen, 2007).

Another potentially interesting avenue for research would be to investigate how small developing countries may optimally design their trade policies in the SDT/GSP context. Such research could be particularly fruitful if developed in a framework based

on heterogeneous firms featuring firm delocation effects. That would allow a tighter connection with the literature that investigates how trade liberalization and better access to foreign markets affects aggregate productivity and welfare in a country. Although that body of research has evolved in many dimensions, only very recently it has moved toward investigating optimal trade policy.[45] As that literature develops, it could also address the nature of the optimal policy reactions for developing countries facing preferences in larger, developed markets.

Now, a policy change that could help economists to evaluate empirically the impact of reciprocal vs. nonreciprocal preferences in developing countries more generally is the E.U. move toward Economic Partnership Agreements with the African, Caribbean and Pacific countries. The change was required by the WTO and has been resisted by several ACP countries. Albeit slowly, the transition is nevertheless happening. A comparison of the performance of the ACP countries that moved to the reciprocal scheme early with those moving later is one dimension that could be explored empirically, even though the endogeneity of the timing would be an obvious issue. Alternatively, a difference-in-differences comparison between the ACP countries that turn to reciprocal preferences relatively late (simply because they would not have a more palatable option) and those under GSP that were not given that option would also shed light on the impact of moving from reciprocal to nonreciprocal preferences. A difficulty is that we still need to wait a few years to make such an evaluation.

Finally, despite increased availability of data, there are surprisingly few product-level studies on the impact of nonreciprocal preferences on the performance of developing countries. A few notable papers do use detailed product-level information to estimate the response of developing country exports to the preferences, but ideally we would like to know also their impact on firm and industry productivity, learning effects and spillovers. After all, those are the formal motives behind the Enabling

[45] For example, Demidova (2015) studies optimal import policies in a model a la Melitz and Ottaviano (2008), but with income effects, when liberalization entails reduction of tariffs or of non-tariff trade costs, and for small and large countries. Bagwell and Lee (2015) work instead with a 2-country version of Melitz and Ottaviano (2008) and characterize optimal trade policies more broadly, including export tariffs/subsidies, in both Nash and the cooperative equilibria.

Clause. This would require firm-level analyses that exploit product eligibility changes in GSP status.

Appendix: Programs of nonreciprocal preferences

Table A.1 provides basic information on all current Enabling Clause-based programs of preferential trade liberalization worldwide. It includes their starting year, their number of beneficiaries as of 2014-2015, and their key features. The information in Table A.1 was compiled from the WTO database on Preferential Trade Arrangements (http://ptadb.wto.org/) and from the websites of the individual programs. Table A.2 provides the main online source of information for each individual program.

– insert Table A.1 around here –

– insert Table A.2 around here –

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Table 1: Applied and bound average tariffs for selected WTO members, 2013

Country (GDP per capita)	GATT/WTO accession date	Products	% tariff lines bound	AVG bound tariff	AVG applied tariff	AVG overhang
U.S.	1948	All	100	3,5	3,4	0,1
(US$ 53000)		Agricultural	100	4,9	5,3	-0,4
		Nonagricultural	100	3,3	3,1	0,2
		Textiles	100	8	7,9	0,1
		Clothing	100	11,6	11,6	0
Brazil	1948	All	100	31,4	13,5	17,9
(US$ 11208)		Agricultural	100	35,4	10,2	25,2
		Nonagricultural	100	30,8	14,1	16,7
		Textiles	100	34,8	23,3	11,5
		Clothing	100	35	35	0
India	1948	All	74,4	48,6	13,5	35,1
(US$ 1498)		Agricultural	100	113,5	33,5	80
		Nonagricultural	70,5	34,6	10,2	24,4
		Textiles	69,9	27,8	12,2	15,6
		Clothing	58,4	37,5	13	24,5
China	2001	All	100	10	9,9	0,1
(US$ 6807)		Agricultural	100	15,8	15,6	0,2
		Nonagricultural	100	9,1	9	0,1
		Textiles	100	9,7	9,6	0,1
		Clothing	100	16,2	16	0,2
Nigeria	1960	All	19,1	118,3	11,7	106,6
(US$ 3005)		Agricultural	99,7	150	15,6	134,4
		Nonagricultural	7	49,2	11,1	38,1
		Textiles	1,4	60	14,1	45,9
		Clothing	0	-	20	-
Angola	1994	All	100	59,2	7,3	51,9
(US$ 5783)		Agricultural	100	52,8	9,8	43
		Nonagricultural	100	60,1	6,9	53,2
		Textiles	100	60,4	6,1	54,3
		Clothing	100	60	15	45
Thailand	1982	All	75	27,8	11,4	16,4
(US$ 5779)		Agricultural	99,8	38,9	29,9	9
		Nonagricultural	71,3	25,4	8,3	17,1
		Textiles	93,6	28,4	8,7	19,7
		Clothing	99,6	30	29,6	0,4
Vietnam	2007	All	100	11,5	9,5	2
(US$ 1910)		Agricultural	100	19,1	16,2	2,9
		Nonagricultural	100	10,4	8,3	2,1
		Textiles	100	10,4	9,6	0,8
		Clothing	100	19,9	19,9	0

Source: World Trade Organization Tariff Profiles (http://stat.wto.org/TariffProfile/WSDBTariffPFHome.aspx) and World Bank. Obs.: GDP per capita in current U.S. dollars for 2013.

Table 2: Average applied and bound tariffs, selected sectors

	all products		agriculture		clothing		textiles	
	AVG applied tariff	AVG bound tariff	AVG applied tariff	AVG bound tariff	AVG applied tariff	AVG bound tariff	AVG applied tariff	AVG bound tariff
constant	5.843***	23.97***	13.76***	44.42***	10.09***	27.46***	5.339***	22.90***
	(0.655)	(4.659)	(2.556)	(7.511)	(1.270)	(4.489)	(0.681)	(4.413)
Developing	4.308***	19.34***	1.939	15.00*	10.37***	7.240	6.527***	9.117*
	(0.767)	(5.577)	(2.700)	(8.517)	(1.658)	(4.899)	(0.897)	(4.841)
# obs	126	131	126	131	126	113	126	124
R2	0.181	0.069	0.007	0.023	0.163	0.025	0.206	0.035

Obs.: Robust standard errors in parenthesis. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 3: Percentage of tariff lines bound and average applied and bound tariffs

	all products							
	% tariff lines bound		AVG applied tariff		AVG bound tariff		AVG overhang	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
constant	91.83***	-21.21	5.843***	19.97***	23.97***	130.8***	18.08***	105.6***
	(3.252)	(27.29)	(0.658)	(3.451)	(4.677)	(26.36)	(4.551)	(25.98)
Developing	-28.09***	2.040	5.223***	1.672	28.49***	-0.0536	24.11***	0.427
	(5.692)	(8.248)	(0.824)	(1.275)	(6.190)	(7.884)	(6.103)	(7.961)
Developing*UR	31.54***	28.99***	-2.422***	-2.197***	-23.94***	-21.72***	-23.87***	-21.32***
	(5.277)	(4.889)	(0.772)	(0.766)	(5.392)	(5.183)	(5.067)	(4.945)
lnGDPpc		10.78***		-1.351***		-10.15***		-8.302***
		(2.630)		(0.323)		(2.457)		(2.425)
test Developing + Developing*UR = 0	0.000	0.000	0.000	0.019	0.000	0.0002	0.000	0.0001
# obs	131	129	126	124	131	129	126	124
R2	0.225	0.321	0.241	0.338	0.181	0.270	0.170	0.234

Obs.: Robust standard errors in parenthesis. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 4: Tariff lines covered by the American and the European programs of nonreciprocal preferences, 2014

			All products		Agricultural goods*		Non-agricultural gooods*	
			# of tariff lines	as % of dutiable tariff lines	# of tariff lines	as % of dutiable tariff lines	# of tariff lines	as % of dutiable tariff lines
U.S.	Tariff schedule	Total number of tariff lines	10713		1897		8823	
		Number of MFN duty-free tariff lines	3871		395		3480	
		Number of MFN dutiable tariff lines	6842		1502		5343	
	GSP	Number of duty-free lines	3507	51,3%	598	39,8%	2911	54,5%
	GSP-LDCs	Number of duty-free lines	4980	72,8%	1230	81,9%	3753	70,2%
	AGOA	Number of duty-free lines	5247	76,7%	1259	83,8%	3991	74,7%
	CBI/CBERA	Number of duty-free lines	5499	80,4%	1269	84,5%	4233	79,2%
	CBI/CBTPA	Number of duty-free lines	5756	84,1%	1269	84,5%	4490	84,0%
E.U.	Tariff schedule	Total number of tariff lines	9379		2076		7310	
		Number of MFN duty-free tariff lines	2356		400		1959	
		Number of MFN dutiable tariff lines	7023		1676		5351	
	GSP	Number of preferential tariff lines	6137	87,4%	867	51,7%	5274	98,6%
		of which: Number of duty-free lines	2994	42,6%	124	7,4%	2872	53,7%
	GSP+	Number of preferential tariff lines	6197	88,2%	917	54,7%	5284	98,7%
		of which: Number of duty-free lines	6004	85,5%	731	43,6%	5276	98,6%
	EBA	Number of preferential tariff lines	6932	98,7%	1603	95,6%	5333	99,7%
		of which: Number of duty-free lines	6932	98,7%	1603	95,6%	5333	99,7%

Source: WTO database on Preferential Trade Arrengements.

Obs.: For the U.S., all preferential tariffs are duty-free.

* WTO standard definition of agricultural and non-agricultural goods.

Table 5: Imports into the U.S. and the E.U. from beneficiaries of programs of nonreciprocal preferences, as a percent of their total imports

Imports from nonreciprocal programs beneficiaries (% of total imports)			All products	Agricultural goods*	Non-agricultural goods*
U.S. (2014)	All partners	Imports entering MFN duty-free	47,6%	41,1%	48%
	GSP beneficiaries	Total imports	11,9%	15,7%	11,7%
		Imports entering MFN duty-free	5,5%	9,5%	5,2%
		Imports eligible for GSP benefits	1,6%	3%	1,5%
	LDC GSP Beneficiaries	Total imports	0,8%	0,4%	0,8%
		Imports entering MFN duty-free	0,1%	0,3%	0,1%
		Imports eligible for GSP benefits	0,3%	0,1%	0,3%
	AGOA beneficiaries	Total imports	1,1%	1,8%	1,1%
		Imports entering MFN duty-free	0,4%	1,3%	0,3%
		Imports eligible for AGOA benefits	0,6%	0,3%	0,6%
	CBI/CBERA beneficiaries	Total imports	0,3%	0,2%	0,4%
		Imports entering MFN duty-free	0,2%	0,1%	0,2%
		Imports eligible for CBERA benefits	0,1%	0,1%	0,1%
	CBI/CBTPA beneficiaries	Total imports	0,3%	0,02%	0,3%
		Imports entering MFN duty-free	0,2%	0,1%	0,2%
		Imports eligible for CBTPA benefits	0,04%	-	0,05%
E.U. (2012)	All partners	Imports entering MFN duty-free	59,3%	42,9%	60,4%
	GSP beneficiaries	Total imports	60,6%	65,3%	60,3%
		Imports entering MFN duty-free	38,4%	31,7%	38,8%
		Imports eligible for GSP benefits	21%	19,3%	21,1%
	GSP+ beneficiaries	Total imports	2,6%	8,9%	2,2%
		Imports entering MFN duty-free	2,1%	3,6%	2%
		Imports eligible for GSP+ benefits	0,3%	2,9%	0,2%
	EBA beneficiaries	Total imports	1,9%	2,6%	1,9%
		Imports entering MFN duty-free	1%	1,3%	1%
		Imports eligible for EBA benefits	0,9%	1,3%	0,9%

Source: WTO database on Preferential Trade Arrengements.

* WTO standard definition of agricultural and non-agricultural goods.

Table A.1: Main programs of nonreciprocal tariff preferences active in 2014/2015

Nonreciprocal Program		Starting Year	# of Beneficiaries (2014/2015)	Features
U.S.	GSP	1976	122	Includes sub-scheme for LDCs.
	CBI/CBERA	1983	17	Duty-free access to the U.S. market for most goods of Central America and Caribbean countries.
	AGOA	2000	40	Trade preferences for sub-saharan African countries. There are sub-schemes concerning textiles and apparels for some of the beneficiaries.
	CBI/CBTPA	2000	8	All beneficiary countries are also CBERA beneficiaries. CBTPA includes preferences mainly relating to textiles and petroleum.
E.U.	GSP	1971	92	Duty reductions for ca. 66% of all EU tariff lines.
	Everything but Arms	2001	49	Full duty-free and quota-free access to the EU market for all LDC's exports with the exception of arms and armaments.
	GSP+	2009	13	Deeper preferences for almost the same tariff lines as ordinary GSP. Beneficiaries must sign international conventions on human and labour rights, sustainable development and good governance.
Others	GSP Japan	1971	151	Includes LDC sub-scheme.
	GSP Norway	1971	89	Includes duty free treatment for LDCs and a GSP+ scheme.
	GSP New Zealand	1972	141	Includes LDC sub-scheme.
	GSP Switzerland	1972	130	Sub-schemes for least-developed countries (LDCs) and countries undergoing debt relief.
	GSP Canada	1974	102	Includes LDC sub-scheme.
	GSP Australia	1974	165	Includes LDC sub-scheme.
	Sparteca	1981	13	Preferences granted by New Zealand and Australia with duty-free and unrestricted access for specified products from developing Pacific islands.
	Commonwealth Caribbean Countries Tariff - Canada	1986	18	Economic and trade development assistance program for the Commonwealth Caribbean countries and territories.
	Preferential Tariff for LDCs - Republic of Korea	2000	48	LDC specific.
	Trade preferences for countries of the Western Balkans	2000	6	Trade preferences from the European Union for Albania, Bosnia and Herzegovina, Montenegro , Serbia, the former Yugoslav Republic of Macedonia and Kosovo.
	Duty-free treatment for African LDCs - Morocco	2001	33	LDC specific.
	GSP Turkey	2002	176	Turkey's GSP is almost fully aligned with EU's GSP. There are sub-schemes for LDCs and other developing countries.
	GSP Iceland	2002	48	Access to GSP scheme is exclusive to LDCs.

	Duty-free treatment for LDCs - Chinese Taipei	2003	48	LDC specific.
	Duty-free treatment for LDCs - Kyrgyz Republic	2006	46	LDC specific.
	Duty-Free Tariff Preference Scheme for LDCs - India	2008	48	LDC specific.
	Duty-free treatment for LDCs - China	2010	40	LDC specific.
	GSP Belarus, Kazakhstan and Russia	2010	151	Joint preferences given through countries' custom union. Includes LDC sub-scheme.
	Duty-free treatment for LDCs – Chile	2014	49	LDC specific.
	Duty-free treatment for LDCs – Thailand	2015	48	LDC specific.

Source: WTO database on Preferential Trade Arrengements and programs' websites.

Table A.2: Main sources of information about the programs of nonreciprocal tariff preferences active in 2014/2015

Information sources:		
U.S.	GSP	https://ustr.gov/sites/default/files/GSP-by-the-numbers-10072014-final.pdf
	CBI/CBERA	https://ustr.gov/issue-areas/trade-development/preference-programs/caribbean-basin-initiative-cbi
	CBI/CBTPA	https://ustr.gov/issue-areas/trade-development/preference-programs/caribbean-basin-initiative-cbi
	AGOA	http://trade.gov/agoa/eligibility/index.asp
E.U.	GSP	http://trade.ec.europa.eu/doclib/docs/2015/august/tradoc_153732.pdf
	EBA	http://trade.ec.europa.eu/doclib/docs/2014/october/tradoc_152839.pdf
	GSP+	http://trade.ec.europa.eu/doclib/docs/2014/october/tradoc_152839.pdf
Others	Japan	WTO database on Preferential Trade Arrengements
	Norway	http://www.toll.no/en/corporate/import/free-trade/gsp---generalized-system-of-preference/
	GSP New Zealand	WTO database on Preferential Trade Arrengements
	GSP Switzerland	WTO database on Preferential Trade Arrengements
	GSP Canada	WTO database on Preferential Trade Arrengements
	GSP Australia	WTO database on Preferential Trade Arrengements
	Sparteca	http://investmentpolicyhub.unctad.org/IIA/CountryGroupingDetails/1
	GSP Turkey	http://unctad.org/en/Docs/itcdtsbmisc74_en.pdf
	GSP Iceland	http://esango.un.org/ldcportal/trade/ism/-/asset_publisher/R2dBsjYiLdZ4/content/preferential-market-access-iceland-gsp/19799
	GSP Belarus, Kazakhstan and Russia	WTO database on Preferential Trade Arrengements
	LDC-specific schemes	WTO database on Preferential Trade Arrengements

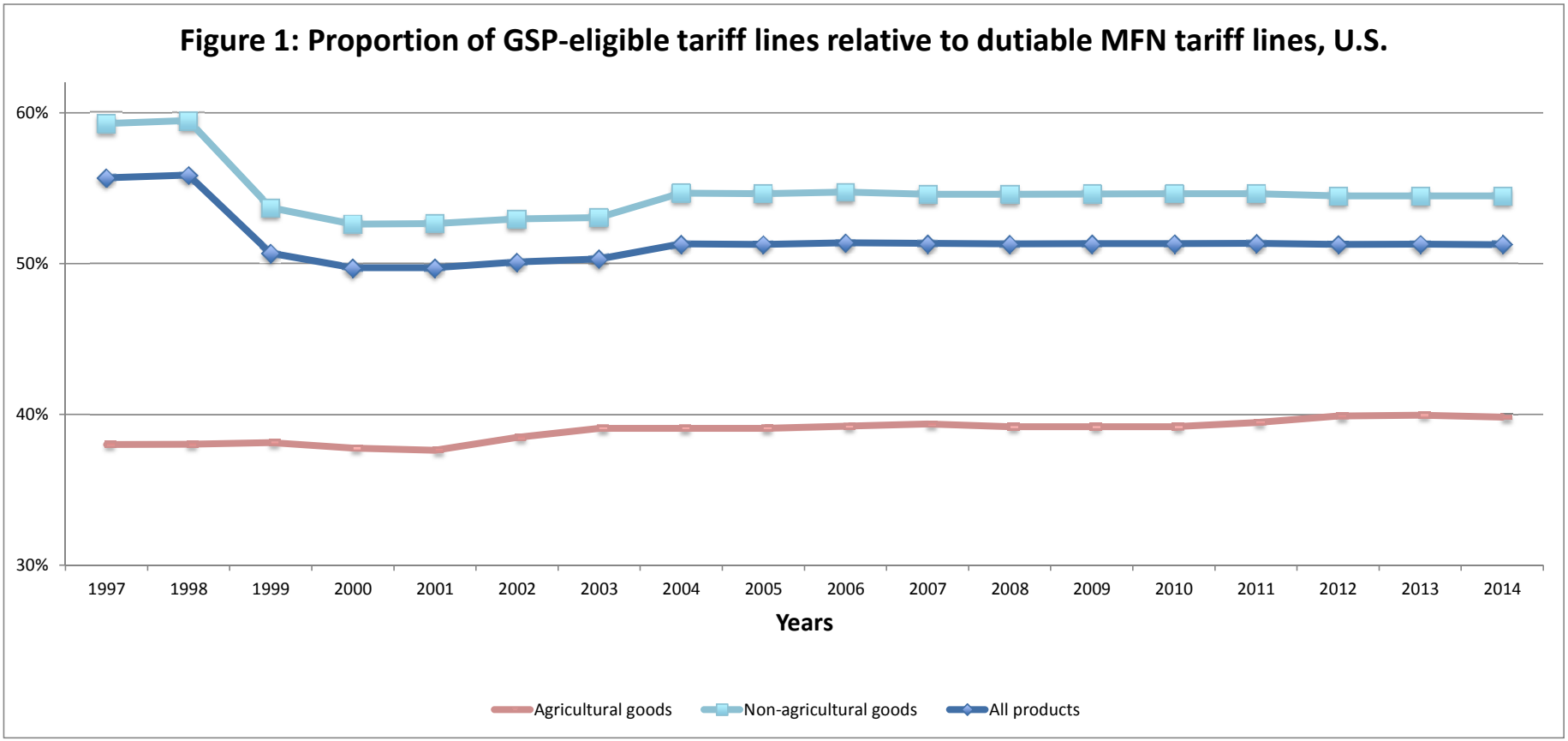
Figure 1: Proportion of GSP-eligible tariff lines relative to dutiable MFN tariff lines, U.S.
60%
50%
40%
30%
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Years
Agricultural goods
Non-agricultural goods
All products

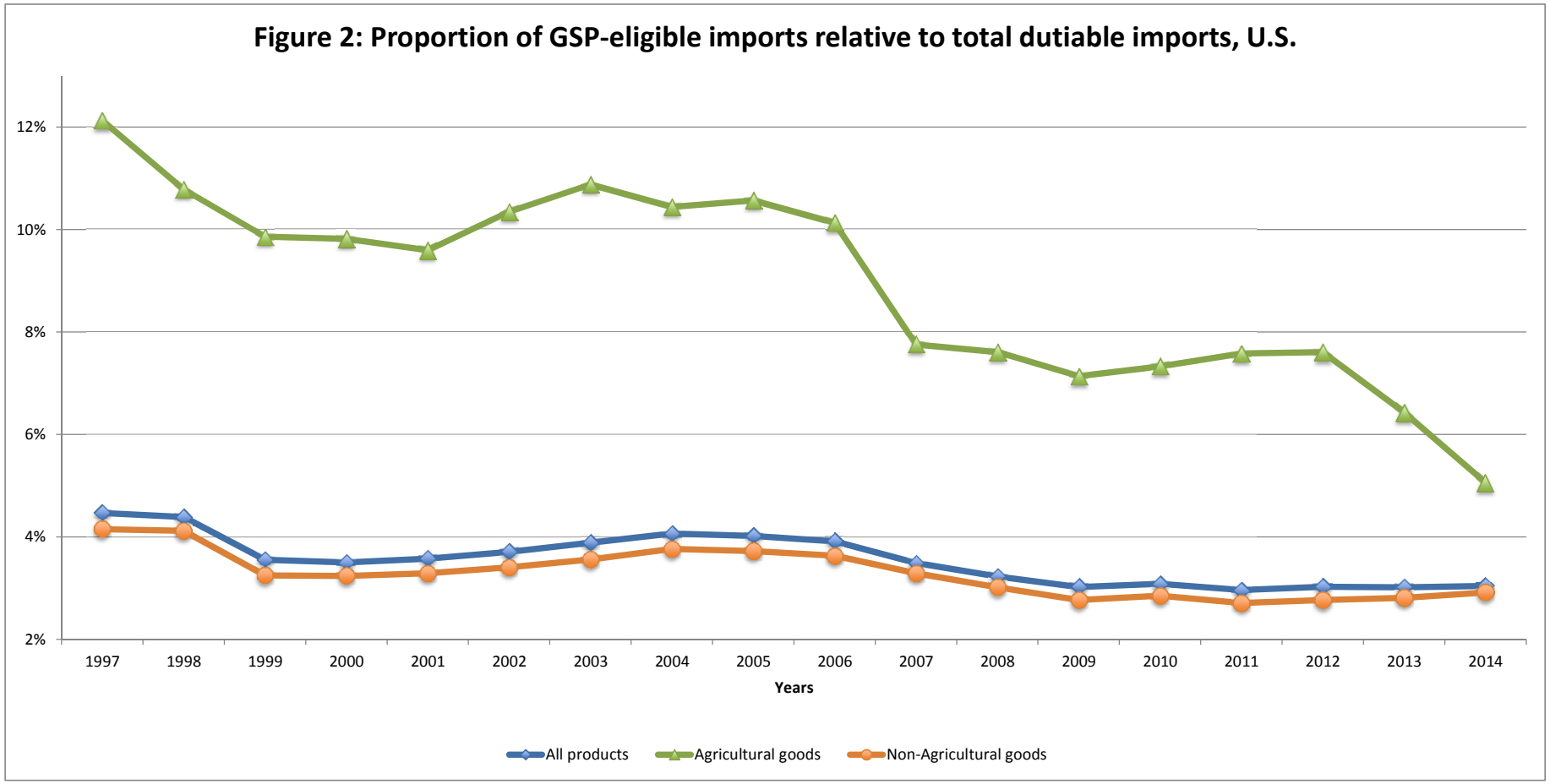
Figure 2: Proportion of GSP-eligible imports relative to total dutiable imports, U.S.
12%
10%
8%
6%
4%
2%
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Years
All products
Agricultural goods
Non-Agricultural goods