The trade effects of GSP+

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Abstract

The General Scheme of Preferences (GSP) is a trade promoting program offered by the EU to several developing countries. An extension of the program, GSP+, offer more beneficial market access contingent on positive conditionality. I use the gravity equation to estimate effects on export flows for the participants when changing from GSP to the more generous GSP+ using a sample of 53 countries over the time period 1988-2006. I conduct the estimation as a gravity equation estimated with Poisson Pseudo Maximum Likelihood. I find insignificant over-all effects of entering the GSP+ program which is contrary to most of earlier research. On product level however, the effect becomes significant. For some product groups the effect is negative and for some positive.

Acronyms and abbreviations

ACP: African, Caribbean and Pacific

CET: Common External Tariff

CN: Combined Nomenclature

DFQF: Duty-Free Quota-Free

EBA: Everything But Arms

EEC: European Economic Community

EU: European Union

GSP: General Scheme of Preferences

LDC: Least Developed Countries

GATT: General Agreement on Tariffs and Trade

HS: Harmonized System

ILO: International Labour Organisation

MFN: Most Favored Nation

PPML: Poisson Pseudo Maximum Likelihood

SMC: Southern Mediterranean Countries

SITC: Standard International Trade classification

UNCTAD: United Nations Conference on Trade and Development

Table of Contents

1. Introduction

The European Union (EU) has been an international forerunner for using unilateral trade preferences to boost exports from developing countries. By granting preferential access to the inner market of the EU to developing countries through offering tariffs that are lower than the Most Favored Nation (MFN) tariffs, beneficiaries can start to export or expand existing export industries. Preferential access to developed market is percieved to increase trade and promote industrialization in the receiving countries. The EU has implemented schemes of trade preferences since the Treaty of Rome in 1957 (Cirera, Foliano, & Gasiorek, 2011).

The EU currently implements different preferential schemes to different countries depending on their level of development and historical ties. The programs I pay attention to in this paper are the General Scheme of Preferences (GSP) and the extended version GSP+. The GSP offer more preferential access to the inner market of the EU than the MFN tariff permits while the GSP+ is an even more favorable version of the GSP. The EU uses GSP+ to simultaneously promote trade and core values through positive conditionality. By conditioning the additional preferences of GSP+ on whether or not the benefiting country ratify agreements and conventions on human rights, child labor, labor rights, environmental protection and more, the EU can support these values.

If it is more profitable for the developing country to have access to GSP+ as compared to GSP, they ought to be more inclined to ratify and comply with the conventions in question. This is the underlying assumption of the structure of the GSP+; an upgrade from GSP to GSP+ results in more trade. In this paper I assess whether this is the case by comparing trade flows over time for a number of countries out of which some have upgraded to GSP+ during the time period.

I will use a gravity model with panel data disaggregated to two digits. The estimation method I use is the Poisson Pseudo Maximum Likelihood (PPML) which is the model suggested for gravity equation estimations by Tenreyro & Silva (2006).

The paper proceeds as follows. Chapter two provides a brief overview of EU trade preferences with focus on GSP and GSP+. A theoretical framework is presented in part three. Part four contains previous research in the area of trade preferences and in part five I present my empirical analysis, the data and method and the results. Lastly, I conduct a discussion and present some conclusions.

2. Overview of EU trade preferences

Trade preferences are a form of trade enhancing policy measures that are widely implemented across the world. Today all developed nations use some form of trade preferences, and the EU has the most generous version. Trade preferences are reductions to the general import tariffs, or the MFN rate.

The GSP comprises of different parts and I will limit myself in this paper to investigation the general preferences, GSP, and one type of additional preferences, namely GSP+. The GSP+ works through positive conditionality meaning that the EU poses certain demands on countries before they can access the preferences. The EU has a history of promoting good governance and sustainability and GSP+ is a natural continuation of that tradition. The future of this tradition however, depends on whether or not the additional trade preferences indeed lead to more trade. This is the reason I want to estimate effects of GSP+ in comparison with GSP. Ultimately, the results can say something about the role of the EU as promoter of human rights and sustainability in the world, at least within the GSP framework.

Other programs of trade preferences are beyond the scope of this paper but I will shortly account for them here. These programs include the Everything But Arms-program (EBA) which offers the most generous preferences under the GSP framework to Least Developed Countries (LDC). EBA consists of duty-free and quota-free (DFQF) exports to the EU with the exception of arms and ammunition. Furthermore, the African, Caribbean and Pacific (ACP) countries as well as Southern-Mediterranean Countries (SMC), all benefit from special trade preferences and aid schemes for historical and geographical reasons. I exclude these programs from this paper.

In this section I provide a short overview of the historical and legal background of trade preferences and a description of GSP and GSP+ today as well as the recent changes to the programs and why they were necessary.

2.1 Historical and legal background of GSP and GSP+

The tradition of European trade preferences goes back to the Treaty of Rome and the establishment of the European Economic Community (EEC) in 1957. The Treaty of Rome aimed at creating a common market for the EC and resulted in part in the EEC Common External Tariff (CET) which was a protectionist arrangement with some exceptions to special imports (cocoa, coffee etc). Former and present colonies were granted beneficial access to the inner market of the European Union. This feature is still visible today through the ACP-program.

When African territories declared independence, the first so called Yaoundé Convention was established in 1963 and the second in 1969. The Yaoundé Convention followed the EEC Treaty closely and dependent territories remained under the Treaty although now as reciprocal bilateral arrangements (Persson & Wilhelmsson, 2006).

Trade liberalization under the EEC Treaty and the Yaoundé Conventions was largely reciprocal. This means that the countries of the EEC officially had equal access to the associated foreign markets as they had to the common market. As developing countries became less important for the EEC trade relations, it became clear that the agreement had failed in its objective to assist the participating countries (Bartels, 2007).

Non-reciprocal trade preferences were first advocated during the first two rounds of United Nations Conference on Trade and Development (UNCTAD) in 1964 and 1968. The idea

was for developed nations to grant developing nations trade preferences without expecting the same in return (European Commission Directorate-General for Trade, 2004). In the second UNCTAD conference in 1968, the Resolution 21 (ii) stated that a

"generalized, non-reciprocal, non-discriminatory system of preferences in favor of the developing countries, including special measures in favor of the least advanced among the developing countries"

should be recognized and implemented by developed nations. The main goal for the preferences was to induce an increase in export revenue for developing countries, to promote industrialization and to accelerate economic growth (Persson 2012, Persson 2013, Bartels 2007, Grossman & Sykes 2005).

Resolution 21 (ii) violated the current General Agreement on Tariffs and Trade (GATT), and could therefore not be implemented. The problem was that the MFN-principle of the GATT advocated non-discrimination. Implicitly, this did not allow for non-reciprocal programs. The conflict between the Article 1 of GATT and the Resolution 21 of UNCTAD has been debated comprehensively and still gives reason for confusion in international trade.

In 1971, a waiver was issued by the name "GSP Decision" with validity for ten years, making way for the full employment of trade preferences. The waiver was later on, in 1979, changed into the permanent "Enabling Clause"[1] (Persson, 2013). The establishment of the Enabling Clause meant that GSP was fully in action through ten-year programs. The GSP has since been altered and updated on several occasions (European Commission 2004, Grossman & Sykes 2005).

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[1] Which also goes by the name "Differential and More Favorable Treatment, Reciprocity and Fuller Participation of Developing Countries"

To begin with, GSP worked principally through import quotas. The system was complicated and not up-to-date for which products to be included in the quotas and so countries failed to utilize their rightful preferences. Now the GSP works instead through tariff modulation for defined product groups. The latest alteration of GSP is effective of January 1st 2014 (Bartels 2007, Borchert 2009, Grossman & Sykes 2005).

The GSP+ program has its roots in the "European Union's Special arrangements to combat drug production and trafficking" or the so called "Drug Regime". This was a trade preference tool aimed specifically at drug-producing countries which started in 1991 and covered 12 countries. The aim of the program was to steer away from drug production and promote trade in other goods. The program included additional preferences on top of GSP, especially for agricultural goods, to give incentives for farmers to produce other crops than drugs. The Drug Regime is no longer in use but paved way for the GSP+ program that is a more general scheme and was implemented starting from 1994. GSP+ is granted to countries participating in GSP and complying with international conventions and standards concerning mainly environmental and workers' protection. The EU has a history of trying to include human rights clauses in their trade agreements and programs and has had a clause on human rights conditionality in all external arrangements since 1992 (Yap, 2013). The full list of the 27 conventions included in GSP+ is enclosed in Appendix 1.

2.2 GSP and GSP+ today

In this subchapter I will attempt to provide a picture over what makes GSP and GSP+ different. This is one of the main points in this paper since it is the difference between the two that I target in my estimation. Product inclusion and tariffs offered to participants are the two most interesting themes.

GSP and GSP+ are not trade agreements in the sense that they are contractual and agreed upon by two parties. It is rather a program provided by the EU that developing countries can be eligible for and can apply for in order to become beneficiaries. Depending on the vulnerability of the developing country and its export industry the country can access the baseline preferences of GSP or the more generous version EBA. If a GSP country ratifies 21 conventions on human rights, good governance, sustainability and more it can apply for GSP+[2]. The preferential access to the EU market is more beneficial for the GSP+ countries than the GSP participants, but less so then the EBA preferences. The non-contractual nature of the program means that the EU can unilaterally suspend preferences. This can bring about insecurity for the exporting firms, but the preferences are not likely to be suspended out of the blue. Additional preferences can be suspended if the beneficiary fail to comply with the requirements of GSP+.

The preferential tariffs are decided on basis of the so called sensitivity of the type of products. Products are classified as sensitive or non-sensitive after the CN8-product classification. Sensitivity in this sense represents how competitive the industry in the EU is (Nilsson, 2002). The product classification for tariffs is down to eight digits. I present the product classifications to the two-digit precision and the respective sensitivity of the products in Appendix 3.

The preference program of GSP can be viewed as four sub-programs. The first group covers for industrial products, the second group is coal and steel products, the third is for agricultural products and lastly one group for textiles. The industrial products are furthermore divided into four provision depending on the sensitivity of the products. Products from the industrial category (excluded from products defined in the other groups) enter the inner market of the EU freely. Around 130 products are excluded, hence

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[2] See full list in Appendix 1

sensitive. Trade of products in the group for steel and coal is restricted through quotas and ceilings to which the preferential import can amount to. Agricultural products are generally not duty free but have some tariff reductions. These products are furthermore reviewed on a product-basis and may be duty-free but several other restrictions apply. The textile group comprises of 91 categories, all of which the general agreement restrict through tariffs and quotas, but preferences are nevertheless available (Nilsson, 2002).

Out of the product lines covered by GSP, 20 percent are duty free and the remaining products enjoy preferences amounting to 20-50 percent tariff reductions. These reductions apply as long as the country follows the rules set up for the GSP, most notably the rules of origin, or a product or country does not "graduate", that is becomes too competitive to be granted preferences (Nilsson, 2002).

The non-sensitive products are duty-free under the GSP+ and ad valorem tariffs are suspended while the ones combined with an ad valorem duty is not. Specific duties are furthermore suspended.

2.2.1 Changes to the programs

Changes have been done to the GSP and GSP+ programs to make them more effective. Extensive evaluation of the GSP instrument has led to the conclusion that the global conditions for trade have changed and hence necessitate an update of the GSP. MFN has been lowered on several occasions giving rise to preference erosion for the beneficiary countries. Preference erosion is the diminishing difference between MFN and preferential tariffs. Hence, preferential tariffs must be lowered in relation to MFN in order to remain relevant. Furthermore, the difference between entering the GSP program and the GSP+ program should be large in order to give incentives to developing countries to comply with GSP+ demands. In this study I provide hands-on empirics on whether or not it is trade

enhancing for countries to apply to and follow GSP+. The current changes to the programs suggest that these incentives are too small, which will be an interesting point as I evaluate my results.

The way the schemes are constructed as far as product inclusion and tariff reductions go is important for the success of the scheme. A trade preference scheme works better the larger product coverage the program has and the types of products included also matters. The inclusion of products of which a country has comparative advantage gives a more positive effect on trade volume than inclusion of other products. Nevertheless, comparative advantages can change as an economy evolves and preferences often fail to keep up (Persson, 2012). The early GSP scheme excluded almost all agricultural products for protectionist reasons and since the beneficiaries mostly traded in agricultural goods or a few key products, the resulting trade developments showed that GSP can become inapt if the relevant products are not covered.

As beneficiaries of trade preferences have or are on their way to becoming advanced economies and other beneficiary countries are still left behind, preference margins erode. As a consequence countries with the same market access are becoming more differentiated among themselves and more competitive. This causes the developing countries that don't experience as rapid growth to lose out on the competitive advantage first induced by preferences. Subsequently the conditions for inclusion in the preference schemes has become more limited to avoid that the preferences do not have an actual impact any more.

The changes of January 1st to GSP take these developments and scenarios describes above into account. The changes aim at the countries most in need, to further benefit the countries who follow the EU's "core principles of sustainable development and good governance" and to improve the legality and stability of the agreements (European Commission, 2013).

When the modified regulation comes into place a smaller number of beneficiaries will be included in the program than before. The incentives to join GSP+ will be stronger through improved market access and the monitoring of the countries' compliance with the 27 core conventions will improve. The efficacy of the EBA scheme is going to be reinforced as the GSP scheme becomes more limited and the EBA gains a larger relevance in relative terms. This also entails that countries no longer considered developing countries will lose all or some of their trade preferences. The transition phase is set out to be three years so that the domestic economies will not experience shocks when they change trade preferences (European Commission, 2013).

Some countries will as of January 1st not benefit from all tariff reductions. China, India, Indonesia, Nigeria, Thailand and Ukraine will continue to participate in the GSP program but only be eligible for preferences within certain sectors due to graduation.

3. Theoretical framework

In the theoretical analysis of trade preferences I pay attention to the effects to trade volume as that is what I examine in the empirical part of this paper. I examine here trade preferences through a partial equilibrium model adapted to my purposes by taking into account the situation for GSP countries and the expected change in trade volume for countries benefitting from GSP+. This section draws mainly on Grossman & Sykes (2005).

3.1 Partial equilibrium analysis

I conduct the partial equilibrium analysis using a graphical representation. The figure describes a simple supply-demand relationship in the price-quantity plane representing the situation in the GSP+ beneficiary country. I assume that the countries receiving additional preferences are small and unable to affect the world price of the traded goods. This is also

true in reality as the GSP+ benefitting countries are only thirteen and do not represent a significant fraction of total trade.

P* is the price of the good in question in the market of the preference granting country (the price can also represent an index of prices of all traded goods. The effect is nevertheless the same). Exporters to this country face the price $P*/(1+t_{GSP})$ to which they must sell to be competitive. In addition this price will also prevail at the home market of the country granted GSP tariffs as no producer would want to sell for a lower price than they can get at the export market. Neither are they able to sell at a higher price than in the competitive equilibrium. The duties for GSP amounts to t_{GSP} and is the tariff that applies to exports before additional preferences are introduced. This is described in Figure 1.

Figure 1.
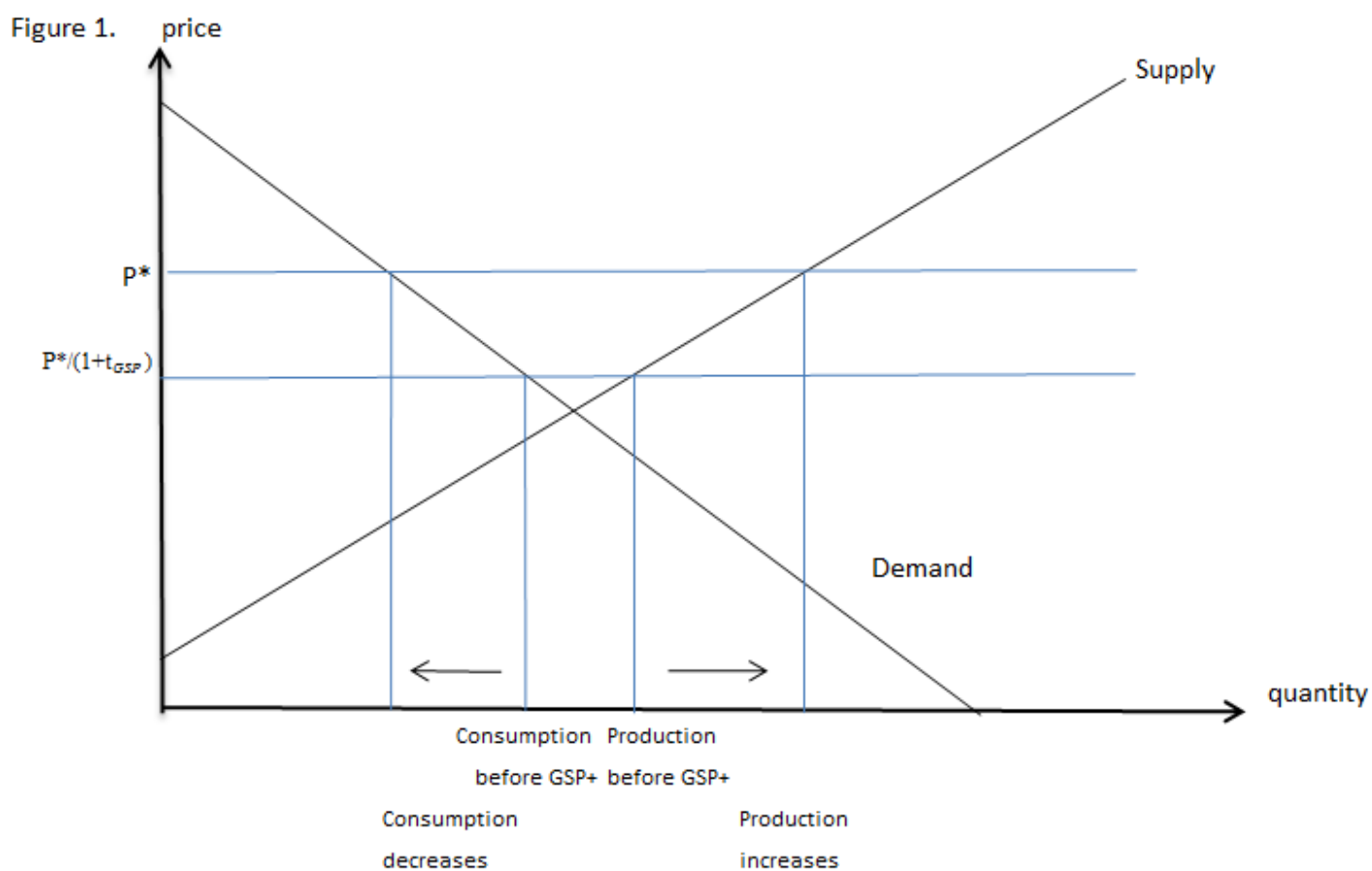
When additional preferences are introduced the GSP rate is suspended and the beneficiaries sell at price P* on the importing market. As the group of countries with GSP+ preferences is small, they do not affect the price in the granting country which hence remains at *P**.

As demonstrated in Figure 1, the exporters with GSP+ preferences can charge a higher price and expand their production. The consumption in the GSP+ country diminishes because the consumers must pay higher price than before. Exports increase as a consequence of both these effects. The welfare gain in the preference receiving country is represented by the area between the demand- and supply curves and the both price levels. What happens as a consequence of adding GSP+ is a positive effect on exports through trade creation (Grossman & Sykes, 2005).

Gains for the beneficiary country are thus induced by two reasons. Firstly, lower tariffs give the producers room to charge higher prices. Secondly the production volume increases in the exporting country through the trade creation. Accordingly, preferences can be considered a voluntary resource transfer from the granting country to the receiving country, or a gift (Persson, 2013).

3.2 Interpretation in the context of GSP and GSP+

Applying the partial equilibrium analysis to my context provides a foundation for what I can expect from the empirical analysis. The section above draws on the theoretical framework provided by Grossman and Sykes (2005) and is adapted to the GSP and GSP+ scenario. The lowered tariffs offered to countries participating in the GSP+ creates the effect shown in the partial equilibrium analysis and is interpreted as trade creation.

In my empirical analysis I will use this as the interpretation of the coefficient for my goal variable, which is the trade effect of entering the GSP+ as a former GSP participant. This is important for me as different effects of trade enhancing instruments are differently measured. Trade creation and trade diversion for example are two different effects on trade flows. Based on the analysis in this chapter, I will contain myself to trade creation.

4. Previous research

It is not always evident that trade preferences do the intended job, and some suggest even that effects are negative. As demonstrated in the theory part, unilaterally granted preferential market access is expected to increase trade volumes and also lead to the development of new and more efficient industries due to the margin created by the preferences. Furthermore, more investment, higher productivity, diversification of industries and increased competitiveness are supposed to be positive effects of trade preferences (Cirera, Foliano, & Gasiorek, 2011). In this section, I will present what empiric research tells us about the outcomes of decades of trade preferences and pay special focus on trade creation effects rather than other effects such as trade diversion.

Studies can be difficult to compare because some studies measure the value of imports to the EU, others measure the volume. Some measure the number of tariff lines covered by the different preferences while others consider the de facto utilization rates to convey coverage. Furthermore, the preferences are updated at several points in time and most of the previous research has not taken into account the most recent changes. I concentrate on the studies of trade creation.

4.1 Have preferences worked?

How can we tell if trade preferences have done the intended job? Since we do not know how trade patterns would have looked without trade preferences, this is hard to estimate. Gravity models, which I shall apply in this paper can produce a counterfactual, that is what trade would have looked like in the absence of preferences (Persson, 2013).

In an early study of trade preferences, Sapir (1981) found positive effects for GSP for the years 1973 and 1974 with a trade creating effect of GSP up to 93 percent. Another study, by Oguledo and Macphee (1994) identify positive effects of GSP for 1976. For 1973-1992, Nilsson (2002) found positive effects for most of the years but not all. For effects of the SMC program 1975-2001, Péridy (2005) estimate the trade creation to approximately 38 percent. Persson and Wilhelmsson (2006) find positive effects for most trade preference programs for the time period 1960-2002. Their estimates are lower than the result in the studies presented above and estimate around 4 percent trade creation for GSP.

Some papers have found no significant indicators that preferences always benefit trade. Cirero, Foliano & Gasiorek (2011) estimated a small impact on trade creation of GSP. When taking trade diversification into account, the effect even turned out negative. This signifies that GSP seems to have worked at the intensive margin, meaning the prevailing trade flows, but not in the extensive margin. When both margins were included, GSP had negative effect on trade. It follows that the measured effect of preferential regimes depends on how the regime is measured.

Another research paper that identifies little or negative effects of trade preferences is an ex-post comparative analysis of the trade effects for the participants of the American GSP-program (Özden & Reinhardt, 2004). Two reasons for this are identified. Primarily GSP can encourage protectionism in the benefiting country and secondly, the arrangement can

be altered due to lobbyism or pressure from exogenous groups. The researchers behind these findings go so far as stating that GSP in its current form has failed and they promote instead reciprocal trade agreements (Özden & Reinhardt, 2004). On the other hand, the African Growth and Opportunity Act (AGOA) that was implemented by the US in 2000, has had large positive effects for the import of manufactured goods to the US (Frazer & Van Biesebroeck, 2010).

Relatively few studies have examined the effects of GSP+. One study examining the forerunner of GSP+, The Drug Regime, proves the effects to be positive and statistically significant. Gross Trade Creation of the drug regime is estimated to around 50 percent (Persson, 2004). A study by Persson & Wilhelmsson (2006) that studies the Drug Regime estimate the gains in trade to be insignificant compared to using only GSP preferences. They further conclude that preferences in general have positive effects on exports but that the magnitude depends on the generosity of the preferences. As the Drug Regime and subsequent GSP+ are not among the most generous preferences, that may explain the small trade creating effects.

Over all, most findings seem to point toward positive effects on measurable trade flows of trade preferences in general. The impression of previous studies is that the effect on trade is larger the more beneficial the preferences are. The effect of GSP+ compared to GSP has not been estimated before, hence it is difficult to claim anything about its effects.

5. Data and methodology

Firstly in this chapter I will present the gravity equation which is the model I employ to estimate the trade flows and then I move on to present my data. In the following section I discuss some estimation techniques and motivate my choice of method after which I

estimate the model in some different specifications. The first test the general effect of joining GSP+, the second estimates effects based on product group and the third estimates the time effect. The last estimation approximates cross section effects rather than the changes over time. Hence I will also try the estimation of the general effect on trade flows in two specified time periods with a break in 2000.

I present the results in the last subchapter.

5.1 Methodology

The gravity model in its simplest form states that bilateral exports from country i to country j are proportional to their GDP and bilateral distance. Anderson (1979) developed the theoretical foundation for the gravity model and Sapir (1981) was one of the first papers to use the gravity model with cross-sectional data to estimate effects of the GSP scheme.

Historically and empirically, the gravity model has been very successful and complies with theories of trade such as the Heckscher-Ohlin, the Ricardian approach and the model with increasing returns to scale (Nilsson, 2002). The model was questioned theoretically in the 1980's but is since then the standard work horse of trade estimations.

Cross-sectional data has been common in previous papers, primarily until the 1990's but makes it impossible to control for country heterogeneity. The consequence is that the results vary depending on which countries are selected for the estimation which entails estimation bias (Gómez Herrera & Milgram Baleix, 2009). Péridy (2005) is an example of a study that uses panel data and finds estimates that seem more reasonable in magnitude (Persson, 2012).

In my study I use panel data. Heterogeneity may be a problem for my data set because market access is not solely determined by tariffs. Other barriers to trade are also frequent and would make my estimation results biased if I failed to introduce proper control variables (Mayer & Zignago, 2005).

 I control for heterogeneity through two types of fixed effects, one controlling for factors that change over time and one controlling for country specific factors.

Time fixed effects are added to the model to capture effects that vary over time but are shared by all countries, such as a business cycle effects (Mátyás, 1997). The time fixed effects works as one dummy for each year which always takes the value zero except for trade occurring during the year denoted by the dummy. Time fixed effects makes the model more flexible in the case of a non-linear relationship compared to how the model would have behaved with a time trend for example.

I further include fixed effects for each country, so called within estimation for country specific effects. This captures effects stemming from development of trade related market measures such as market access and international openness, or changes in unobserved heterogeneity such as supply capacity or competitiveness for each specific country (Persson & Wilhelmsson 2007, Bun & Klaassen 2003). In addition to controlling for country heterogeneity, this also control for multilateral trade resistance which is a type of border effect, that is what effects the border itself has on trade between two countries (Anderson & van Wincoop 2001, Gauto 2012). A within estimation for country specific effects makes the model more flexible compared to employing country-pair effects.

The model I test is the following:

$$imports_{ijt} = \exp(\beta_1)\, GDP_{it}^{\beta_2}\, GDP_{jt}^{\beta_3}\, Pop_{it}^{\beta_4}\, Pop_{jt}^{\beta_5}\, Dist_{ij}^{\beta_6}$$

$$\exp(\beta_7 Comlangoff_{ij} + \beta_8 Contig_{ij} + \beta_9 comlangethno_{ij} + \beta_{10} colony_{ij}$$

$$+ \beta_{11} col45_{ij} + \beta_{12} comcol_{ij} + \beta_{13} curcol_{ij} + \beta_{13} smctry_{ij} + \beta_{14}\, GSPplus)$$

$$\exp(\mu_j + \lambda_t + \tau_k)\, \varepsilon_{ijtk}$$

My dependent variable *Imports* is bilateral trade volume which is imports to EU15 countries (i) from GSP-participating countries (j). *GDP* is GDP per capita based on purchasing power parity for country i or j respectively where t denotes the year of the observation. Population is represented by the variable *Pop* with index t for time and i and j respectively for reporter and importer countries. GDP and population are proxies for the size of supply and demand in respective countries. Distance is the traditional proxy for all types of barriers to trade over borders and I have included that in my parameters as the variable *Dist*. Since distance is not sufficient for estimating economic trade barriers I include traditional gravity variables. For a common language between the trading partners I have two variables; *Comlangoff* for official common language and *comlangethno* for ethnic common language. A shared border is expected to have a positive trade effect and is here the variable *Contig*. The same effect is anticipated for the occurrence shared colonial history of trading partners; *colony* is the variable for colonial history before 1945, col45 for colonial history continuing after 1945, and *curcol* for current colonial relationship, furthermore, the variable *smctry* denotes if the countries have ever been the same country. Data over GDP per capita and population comes from the IMF data base (April 2014) and the gravity variables comes from CEPII database (April 2014). The trade data comes from United Nations Comtrade Database (June 2014).

The variable μ denotes the country fixed effects with index j for each country; the variable λ is the time fixed effect with index t for each year. The variable τ represents the ten different product categories in the data with the index k taking any value between 0 and 9. The error term has indices for importing countries (i), exporting countries (j), time (t) and product category (k).

The way to define the trade regime or the trade preferences differs widely between studies. In some previous studies of the EU trade preferences a dummy is used for the examined preferences, for example in Nilsson (2002) and Péridy (2005). The dummy is then interpreted as both gross trade creation and trade diversion (Persson, 2004). One way to separate between the two effects or the so-called "intra-bloc" trade is to use three dummies as in Soloaga and Winters (2001). Through this method they authors can separate between trade within the countries that share an agreement, imports from all countries in the world and thirdly, the exports from participating countries to the rest of the world. I do not have such extensive data and thus exclude this method. Others employ a continuous variable approach for the trade regime using preference margins estimated by actual utilization of the preferences as a way to control for country heterogeneity and the trade preferences simultaneously (Nilsson & Matsson 2009, Magrini, Montalbano, & Ninci 2014, Hoekman & Nicita 2008). This is a faulty strategy since using utilization rates entails that the dependent variable is present at the right hand side of the regression and would produce inconsistent results. A fourth approach is to use instruments for the trade preferences. Some researchers point out problems with endogeneity between trade flows and trade policies which necessitates the use of an instrument (Baier & Bergstrand, 2007). My variable for additional trade preferences takes the form of a binary dummy. The dummy is constructed so that countries using Drug Regime preferences or later GSP+ are captured, by letting the dummy take the value one from the entry-year and the following years. A

table describing each member's enter date is provided in Appendix 4. The preceding trade scheme Drug Regime offered similar tariff reductions and this is why it also is included in the dummy. The interpretation of the dummy is gross trade creation of the extended preferences.

For all dummies, one is excluded to avoid complete collinearity but the software Stata which I use automatically excludes variables that show collinearity so I need not worry about this aspect. Multicollinearity is not an issue with panel data (Gómez Herrera & Milgram Baleix, 2009).

5.2 Data

The data that I use is UN import panel data for EU14 and is disaggregated at the product level to two digits. In attempts with more disaggregated data, the data set became too large to estimate in Stata. Thus I had to resort to less disaggregated data. This is unfortunate because I will receive less detail in my results. The main findings will not be affected however. The data is ordered by the Standard International Trade Classification (SITC). It is balanced data and covers the period 1988-2006[3].

Tariffs employed by the EU are defined at the 8-digit precision and the EU uses the classification system Combined Nomenclature (CN), called CN8. CN8 comprises of the Harmonized System (HS) nomenclature, community subdivisions called CN subheadings and preliminary provisions in accordance with Council Regulation (EEC) No 2658/87. Import data with the CN8 classification was at the time of my estimation unavailable despite many trials at obtaining the data and so I have used the UN data classification instead. This slightly complicates the procedure of calculating the effects of the GSP+

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[3] Trade data is missing for Cook Islands, Micronesia, Niue, Nauru, Moldova and Marshall Islands.

program on the product level as product lines are differently specified. It does not affect the general effect of GSP+ on trade.

Countries that have additional preferences, meaning the ACP and SMC-countries, are excluded from the data set. I choose to do this because the preferences become overlapping and exporting firms can use any of the tariffs available to them. This makes it difficult to distinguish the effect of the GSP+ program. Furthermore and more significantly, these agreements are generally more beneficial for the participating countries and so there is little reason to believe they would use the GSP preferences anyway. Even if a country within the ACP or SMC group were eligible for the GSP+-preferences, it is not certain that would be preferable for them either (Persson & Wilhelmsson, 2006). The GSP countries serve as control group. For a list of all countries in my data set, see Appendix 2.

5.3 Estimation

Several different estimation techniques are available for estimating the gravity equation. Here I use the PPML method.

A common problem in the estimation process is the zero value of trade flows, which is the event of no trade between two partners at a certain point and for a certain product. Since my data contain a large amount of zero flows, I will briefly discuss how this can be handled methodologically. Zero flows can depend on trade being unobservable or on the exporter's decision to not sell (Helpman, Melitz, & Rubinstein, 2007). Some possible estimations techniques are at hand. Elimination of zero flows through truncation is one solution but lacks theoretical support and evidently results in huge losses of information. Many other solutions exist; Tobit estimation, Nonlinear Least Squares (NLS), Feasible General Least Squares (FGLS) and maybe most notably the Heckman sample selection model of Helpman, Melitz and Rubenstein (2007). This method might be a good estimator

but necessitates joint normality in the estimated residuals. It is furthermore insensitive to heterogeneity of products and countries. (Gómez Herrera & Milgram Baleix, 2009). The PPML method also deals well with zeroes in the data set, according to Cirera, Foliano and Gasiorek (2011). Moreover, Tenreyro & Silva (2006) compare their results using a PPML technique to Monte Carlo simulations and find that their model outperform most other estimators. Also Westerlund & Wilhelmsson (2009) support the Poisson ML estimator.

I furthermore rule out the log-linearized method which is the method most commonly used based on the argument by Tenreyro & Silva (2006) that the log-linearized model produces biased estimates. In addition, as I have included the zero flows the exponential form becomes impossible because the logarithm of zero is undefined (Gauto, 2012). Instead I employ a multiplicative exponential form of the gravity equation as can be seen from the model specification above.

Admittedly, the inclusion of fixed effects and control variables amount to high computational costs. But as the number of observations exceeds 450000, I am not too concerned about this.

As a first approach, I try the general effect of GSP+ on all trade. I then move on to testing it for the different product groups as defined by SITC classification. This must be handled with care because the SITC and HS8-classifications differ and can give spurious results. Thirdly, I will include the time aspect and estimate whether the effects on trade have been different at different points in time.

5.4 Results

The number of observations is 484217 and the number of parameters is 86 in the baseline regression but varied depending on model specification.

The estimation results are presented in Table 1. As could be expected, the coefficients for variables for GDP per capita are positive and significant. The size of the population in the exporting country is highly negative in one of the estimations and insignificant in another. The population size of the importing country seems unimportant in all estimations, exempt in the baseline regression with the GSP+ variable where population size in the exporting country seems to have a negative impact on trade. Not unexpectedly, the coefficient of the distance variable takes a large negative value and is significant in all three regressions. A shared language shows no significant effects on trade flows. Surprisingly however, a colonial history between the trading partners before 1945 has a significant and negative effect on trade flows. For colonial relationships which have lasted after 1945, the coefficients turn out significant and positive.

The estimate of the coefficient for the GSP+ variable is close to zero on the negative side but insignificant. This entails that the over-all effect on trade of gaining access to the additional preferences of GSP+ is virtually non-existing. The findings are in contrast with most of earlier research and theory. It is furthermore counterintuitive as a more beneficial trade agreement should lead to more trade. One reason for the results could be that the GSP+ does not only deliver increased preferential access to the EU inner market but it also imposes demands in the beneficiaries through the positive conditionality. This could be a reason for trade to actually decrease to begin with when the transition process of complying with the EU standards (see list in appendix1) is still ongoing. It is not unreasonable that a consequence may be that the preferences do not produce more trade.

Table 1	Pseudo Poisson Maximum Likelihood					
	Coefficient	Semirobust Std. Err.	Coefficient	Semirobust Std. Err.	Coefficient	Semirobust Std. Err.
GDPcap (exporter)	1.3746***	.09833	1.6553***	.10149	1.6415***	.10556
GDPcap (importer)	1.6133***	.41906	1.5203***	.41548	1.5282***	.42012
Pop exporter)	-2.0276***	.52390	.31209	.33998	.31738	.347110
Pop(importer)	1.9770	1.5268	1.8032	1.5067	1.7978	1.5248
Dist	-2.9183**	.26517	-2.9214***	.26341	-2.9230***	.26316
comlang_off	.10201	.32280	.11600	.32140	.11548	.32154
comlang_ethn	.10491	.31533	.08507	.31425	.08543	.31420
colony	-.52566***	.13173	-.52092***	.13031	-.51978***	.13139
col45	.77751***	.13616	.77688***	.1348	.77572***	.13591
GSP+	-.00978	.08900	-	-	-	-
sitc0GSPplus	-	-	2.0859***	.09278	-	-
sitc1GSPplus	-	-	1.0761***	.16743	-	-
sitc2GSPplus	-	-	.7588***	.10621	-	-
sitc3GSPplus	-	-	.62574***	.14281	-	-
sitc4GSPplus	-	-	-.68267***	.19143	-	-
sitc5GSPplus	-	-	-.62043***	.13022	-	-
sitc6GSPplus	-	-	-.11777	.11385	-	-
sitc7GSPplus	-	-	-1.2193***	.19084	-	-
sitc8GSPplus	-	-	-1.6516***	.15895	-	-
sitc9GSPplus	-	-	-.07236	.20191	-	-
1989GSP+	-	-	-	-	-	-
1990GSP+	-	-	-	-	-	-
1991GSP+	-	-	-	-	-.0234	.21224
1992GSP+	-	-	-	-	.08442	.17844
1993GSP+	-	-	-	-	-.04152	.17348
1994GSP+	-	-	-	-	.05858	.16820
1995GSP+	-	-	-	-	.10253	.16241
1996GSP+	-	-	-	-	.058312	.14376
1997GSP+	-	-	-	-	.05527	.14086
1998GSP+	-	-	-	-	-.08703	.13981
1999GSP+	-	-	-	-	-.08968	.13827
2000GSP+	-	-	-	-	-.23532	.14459
2001GSP+	-	-	-	-	-.24191	.14769
2002GSP+	-	-	-	-	-.11874	.1380
2003GSP+	-	-	-	-	-.10375	.1454
2004GSP+	-	-	-	-	-.09338	.15048
2005GSP+	-	-	-	-	-.06652	.13949
2006GSP+	-	-	-	-	-.00404	.13761

The estimates for interaction variables between GSP+ and the SITC classification groups provide differing indications. For product groups zero to three, the effects of GSP+ are positive and significant. These are product groups that include live animals and animal products, beverages and tobacco, crude inedible materials except fuels, mineral fuels, lubricants and related materials.

Negative effects are visible for product groups four, five, seven and eight. These groups contain animal and vegetable oils and fats, chemicals, Machinery and transport equipment and miscellaneous manufactured articles.

Results are insignificant for the remaining product groups six and nine. In these groups we find commodities and transactions not classified according to kind and manufactured goods classified chiefly by material. Tariffs do not correspond exactly to these product groups which makes it difficult to explain the exact factors for the estimates. In appendix 3 a list of products classified by SITC is provided along with the corresponding CN8 classification and the product sensitivity. This provides a basis for comparing results with the sensitivity of the products.

Estimates for interaction variables between GSP+ and year variable are all insignificant. Note that the interpretation of the coefficients for these variables differs from the earlier cases. Here I see the difference in trade flows in a specific year for GSP+ countries compared to the control group that is a cross section estimate as compared to the changes over time. It is not unexpected that results are insignificant; GSP and GSP+ countries are not necessarily different in their export flows. Nonetheless, dividing the sample into two samples and running separate regressions can give an indication of when extended preferences have been more or less beneficial. A test of running regressions on estimations

from 1988-1999 and 2000-2006 yields a positive but insignificant estimate for the latter period and a negative but insignificant effect on the earlier period. Based on these arguments, I cannot support any differing effects of the extended preferences over time.

Three of the GSP+ participants, Armenia, Azerbaijan and Georgia, joined the program late, in fact later than my data set reaches. This should not bias the results since they were all part of GSP before and hence contributes to the control group. When omitting these countries from the data set, the results are indeed unchanged for the GSP+ estimate.

Another robustness test of the data is to exclude control variables which are highly correlated with one another. For example several variables for common language are bound to have a correlation, as well as the variables for colonial past. When reducing the control variables to just on controlling for shared language and one for colonial history I receive results similar to before. The coefficient for membership in GSP+ is slightly negative and insignificant.

To check the adequacy of the models I perform a Ramsey RESET (Regression Equation Specification Error Test) test. The null hypothesis of the test is no misspecification in which case the coefficient of the fitted variable is zero. This means that the fitted value would be insignificant if the model has a correct specification. I follow the RESET recommendations for PPML of Tenreyro & Silva (2006). The results indicate misspecification as the fitted value is significantly separated from zero but shows a value close to zero. This is true for the cases of using all gravity variables or leaving some out as in the last robustness test. Reasons for a misspecification can be numerous. A Heckman Sample Selection model could be interesting (Helpman, Melitz, & Rubinstein, 2007) or an instrument variable approach since exogeneity of the trade preferences cannot be excluded (Baier & Bergstrand, 2007). I leave to further research to test this.

Due to lack of previous studies of the GSP+, I cannot compare my results to what others have found. Persson & Wilhelmsson (2006) estimate effects of the Drug Regime, the forerunner of GSP+, and fins no significant effect either. They find effects on the more generous preference programs or agreements, suggesting that the Drug Regime, or GSP+, is simply not beneficial enough to induce increases in trade. Persson & Wilhelmsson (2006) further points out that the entry dates to the programme of the countries is not the same date as exporting firms start using the preferences. It is furthermore not obligatory for firms to use the preferences at all and there is reason to believe that firms are slow at using new tariffs or that they never come around to use them at all. This seems especially likely if the difference between preferential tariffs and MFN is not very large.

In contrast to Persson & Wilhelmsson (2006), Nilsson (2002) finds positive trade creation effects of the baseline GSP program, not including the extended GSP+. He also estimated the trade creating effects as larger the more beneficial the preferences are, Nilsson finds for example more positive effects of the Lomé agreement than the general preferences. Because I compare trade creation effects of GSP+ using GSP as control group, I cannot find support for his findings in this paper, but can underline the possibility that the difference between preferences offered within the GSP and within the GSP+ may be too small to promote significant effects on trade.

Additional reasons for why the estimated coefficients are insignificant in this study can be numerous. Previous studies have concluded that estimation of preferences with disaggregated data produce higher estimates than aggregated trade data (Agostino, Aiello, & Cardamone, 2007). This scenario could offer support to my conflicting results, but that seems a bit far-fetched. After all, I have data that is disaggregated to the second digit and not completely aggregated.

Other explanations lie with the importing and exporting firms. For the preference benefiting countries to gain from the tariff decrease, importing firms cannot hold too much market power and subsequently capture the gains of the preference. Studies find that some exporters only capture one third of the preference benefits and sometimes even lower than that (Olarreaga & Özden 2005, Persson 2013). It is not impossible that there is a case of that here as well.

Just as conditions in the importing country may affect gains from trade preferences, local conditions in the exporting country may play a role. If the export capacity in the benefiting country is low and necessary institutions are lacking, then the tariff reduction is not automatically a way towards more exports due to supply side constraints (Persson, 2013).

Moreover, the gradual effect of the preferences on trade flows can be captured by the time fixed effects. This could maybe partly explain the insignificance of the general estimate. I could have included real exchange rate as a variable to further control for changes in competitiveness over time but have chosen not to do so (Persson & Wilhelmsson, 2006). That may be a subject for future research.

An additional aspect that could be interesting for future research are the externalities of the preferences. From the point of view of a beneficiary country, the question of participation is whether the costs of complying with the demands of the GSP+ program are smaller than the gains from increased exports. This may seem straight forward, but because some countries choose to participate in the GSP+ and some countries choose not to, this can create negative externalities for the ones who choose to stand outside. For the outsiders, is may well have been better if no positive conditionality was offered to anyone at all (Persson, 2013). I do not measure this in this paper but could be interesting for further research to look in to.

6. Conclusions

I have in this study estimated the effects of gaining access to the trade preferences of the GSP+ program as compared to the GSP program. I have used a PPML estimation technique for estimating a gravity equation with panel data covering 53 countries from 1988 to 2006. My findings are not conclusive but points in the direction of little or none effect of GSP+ on trade flows in general and differing effects depending on product group. The model shows signs to be specified which signifies the need for further investigation into the GSP+ preferences.

When it comes to implications of my results for the future of trade preferences, it may point further towards the path of reciprocal trade agreements. The GSP-program will probably not be suspended in the early future but will possibly loose its relative importance sooner or later. As tariffs are generally lowered in the world, for example with the TTIP negotiations pushing forward, the margins created by the preferential tariffs become increasingly insignificant.

One example of how preferential trade agreements are phased out is the Cotonou agreement between the EU and ACP countries which incorporates trade preferences among other things. This agreement will be renegotiated in 2020 and may take on a much more reciprocal shape.

Relying on this paper, GSP+ does not have much future as a trade enhancing tool and thus the future for the EU to promote core values through positive conditionality seems limited in the current shape. However, I will not draw too many conclusions about the future of GSP+ from the seemingly nonexisting impact of GSP+ as compared to GSP based on this study. The sample of countries is small and the time period covered also rather short, mainly due to the fact that GSP+ has not been around for very long.

The changes to GSP that are effective of Januray 1st 2014 are of course an indicator that the programs have not had the intended effect. It remains to see what the effects will be on trade flows when the updated programs kick in.

As far as policy implications go, I believe the supply side of the economy to be an important determinant of the success of preferences, The underlying assumption for preferences to work is that the supply side in the receiving country is ready for expansion. One cannot exclude that constrictions on the supply side limits the possibilities to growth thanks to trade preferences. In that case, investments must be made in the beneficiary country so that preferences can be fully utilized.

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Appendix 1: the GSP+ conventions

Annex VIII of Regulation (EU) No 978/2012 of 31 October 2012

Core human and labour rights UN/ILO Conventions
1. Convention on the Prevention and Punishment of the Crime of Genocide (1948)
2. International Convention on the Elimination of All Forms of Racial Discrimination (1965)
3. International Covenant on Civil and Political Rights (1966)
4. International Covenant on Economic Social and Cultural Rights (1966)
5. Convention on the Elimination of All Forms of Discrimination Against Women (1979)
6. Convention Against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment (1984)
7. Convention on the Rights of the Child (1989)
8. Convention concerning Forced or Compulsory Labour, No 29 (1930)
9. Convention concerning Freedom of Association and Protection of the Right to Organise, No 87 (1948)
10. Convention concerning the Application of the Principles of the Right to Organise and to Bargain Collectively, No 98 (1949)
11. Convention concerning Equal Remuneration of Men and Women Workers for Work of Equal Value, No 100 (1951)
12. Convention concerning the Abolition of Forced Labour, No 105 (1957)
13. Convention concerning Discrimination in Respect of Employment and Occupation, No 111 (1958)
14. Convention concerning Minimum Age for Admission to Employment, No 138 (1973)
15. Convention concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour, No 182 (1999)

Conventions related to the environment and to governance principles
16. Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973)
17. Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
18. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989)
19. Convention on Biological Diversity (1992)
20. The United Nations Framework Convention on Climate Change (1992)
21. Cartagena Protocol on Biosafety (2000)
22. Stockholm Convention on persistent Organic Pollutants (2001)EN L 303/60 Official Journal of the European Union 31.10.2012
23. Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998)
24. United Nations Single Convention on Narcotic Drugs (1961)
25. United Nations Convention on Psychotropic Substances (1971)
26. United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)
27. United Nations Convention against Corruption (2004)

Appendix 2

Countries included in the data set. The ones in parenthesis are not included due to lacking trade data.

EU15	GSP	GSP+
Austria	China	Armenia
Belgium	Colombia	Bolivia
Denmark	Congo	Cape Verde
Finland	(Cook Islands)	Costa Rica
France	Honduras	Ecuador
Germany	India	El Salvador
Greece Irland	Indonesia	Georgia
Italy	Iraq	Guatemala
Luxembourg	Kyrgistan	(Moldova)
Netherlands	Maldives	Mongolia
Portugal	(Marshall Islands)	Pakistan
Spain	(Micronesia)	Panama
Sweden	(Nauru)	Paraguay
United Kingdom	Nicaragua	Peru
	Nigeria	
	(Niue)	
	Philippines	
	Sri Lanka	
	Syrian Arab Republic	
	Tajikistan	
	Thailand	
	Tonga	
	Turkmenistan	
	Ukraine	
	Uzbekistan	
	Viet Nam	

Appendix 3: comparison between the SITC and SN8 product classifications

SITC 1:st revision		CN8		Sensitive (S) / Non-Sensitive (NS)
0	**Food and live animals**	**Section I**	**Live animals; animal products**	
00	Live animals	1	Live animals	S
01	Meat and meat preparations	2	Meat and edible meat offal	S NS: 0208 Frogs leg's
02	Dairy products and eggs	4	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	S
03	Fish and fish preparations	3	Fish and crustaceans, molluscs and other aquatic invertebrates	S NS: 0301 Live ornamental saltwater fish
		5	Products of animal origin, not elsewhere specified or included	S
		Section II	**Vegetable products**	
04	Cereals and cereal preparations	6	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	S
05	Fruit and vegetables	7	Edible vegetables and certain roots and tubers	S NS: 0714 Dried potatoes etc, Artichokes etc
06	Sugar, sugar preparations and honey	8	Edible fruit and nuts; peel of citrus fruit or melons	S NS : 0802, 0805,0812,0813, 0814 Nuts of different kinds, grapefruits, papaya, dried papaya, dried fruit not elsewhere specified and Peel of citrus fruit, fresh frozen, dried or provisionally preserved in brine etc:
07	Coffee, tea, cocoa, spices & manufacs. Thereof	9	Coffee, tea, maté and spices	NS: Coffee, tea, mate and spices, with exception of coffee;, roasted, not roasted, decaffeinated or not decaffeinated; coffee substitutes; sweet peppers, vanilla, cloves, thyme, bay leaves, other spices
08	Feed. Stuff for animals excl. Unmilled cereals	10	Cereals	S
09	Miscellaneous food preparations	11	Products of the milling industry; malt; starches; inulin; wheat gluten	S
		12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder	S NS: Lucerne, fescue feed, lupine seeds, other forage seeds, other vegetable

				seeds, all used for sowing
		13	Lac; gums, resins and other vegetable saps and extracts	S NS: Vegetable saps and extracts of liquorice
		14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	S
1	**Beverages and tobacco**	**Section IV**	**Prepared foodstuffs; beverages, spirits and vinegar; tobacco ets**	
11	Beverages	16	Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates	S
12	Tobacco and tobacco manufactures	17	Sugars and sugar confectionery	S
		18	Cocoa and cocoa preparations	S
		19	Preparations of cereals, flour, starch or milk; pastrycooks' products	S NS: Mixes and dough for preparation of certain baker's wares, others under certain provisions.
		20	Preparations of vegetables, fruit, nuts or other parts of plants	S NS: 2008, Pinapples, prepared or preserved, containing spirits.
		21	Miscellaneous edible preparations	S NS: 2101, Extracts, essences and concentrates of tea and maté, preparations based on these, inactive yeasts
		22	Beverages, spirits and vinegar	S
		23	Residues and waste from the food industries; prepared animal fodder	S NS: 2308, 2309, Other vegetable materials and vegetable waste, vegitable resiues and vegetable by-products, whether or not incertain forms not elsewhere specified. Fish or marine mammal solubles of a kind of animal feeding
		24	Tobacco and manufactured tobacco substitutes	S
2	**Crude materials, inedible, except fuels**			
21	Hides, skins and fur skins, undressed			
22	Oil seeds, oil nuts and oil kernels			
23	Crude rubber including			

	synthetic and reclaimed			
24	Wood, lumber and cork			
25	Pulp and paper			
26	Textile fibres, not manufactured, and waste			
27	Crude fertilizers and crude minerals, nes			
28	Metalliferous ores and metal scrap			
29	Crude animal and vegetable materials, nes			
3	**Mineral fuels, lubricants and related materials**	**Section V**	**Mineral products**	
		25	Salt; sulphur; earths and stone; plastering materials, lime and cement	NS
		26	Ores, slag and ash	S
		27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	NS
32	Coal, coke and briquettes			
33	Petroleum and petroleum products			
34	Gas, natural and manufactured			
35	Electric energy			
4	**Animal and vegetable oils and fats**	**Section III**	**Animal or vegetable fats and oils and their cleavage products; etc**	
42	Fixed vegetable oils and fats	15	Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	S NS: 1515, Hydrogenated castor oil
43	Animal and vegetable oils and fats, processed			
5	**Chemicals**	**Section VI**	**Products of the chemical or allied industries**	
51	Chemical elements and compounds	28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes	NS S: 2814, 2815, 2817-2820, 2823, 2825, 2827, 2830, 2835, 2836, 2841, 2849, 2850 Ammonia, anhydrous

				or in aqueous solution, sodium hydroxide (caustic soda); potassium hydroxide (caustic potash); perox-ide of sodium or potassium.
52	Crude chemicals from coal, petroleum and gas	29	Organic chemicals	S NS: 2904, 2905-2907, 2908, 2910-2912, 2913-2914, 2916, 2917, 2918, 2919-2920, 2923, 2924-2926, 2928, 2929-2930, 2931-2932, 2933, 2934,2938, 2940-2942 Sulphonated, nitrated or nitrosated derivatives of hydrocarbons, whether or not halogenated, except for products under subheading 2904 20 00, Glycerol, cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives, phenols, with some exceptions, Etc.
53	Dyeing, tanning and colouring materials	30	Pharmaceutical products	S
54	Medicinal and pharmaceutica l products	31	Fertilisers	S
55	Perfume materials, toilet & cleansing preptions	32	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks	NS S: 3204, 3206 Synthetic organ colouring matter, other colouring matter etc.
56	Fertilizers, manufactured	33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	NS
57	Explosives and pyrotechnic products	34	Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, 'dental waxes' and dental preparations with a basis of plaster	NS
		35	Albuminoidal substances; modified starches; glues; enzymes	S
		36	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	S NS: 3502-3506 Albuminates and other albumin derivates, gelatin and gelatin derivates, other glues of animal origin, peptones and their

				derivatives, other protein substances and their derivatives, not elsewhere specified,
		37	Photographic or cinematographic goods	NS
		38	Miscellaneous chemical products	NS
58	Plastic materials, etc.	**Section VII**	**Plastics and articles thereof; rubber and articles thereof**	
59	Chemical materials and products, nes	39	Plastics and articles thereof	NS
		40	Rubber and articles thereof	NS
6	**Manufact goods classified chiefly by material**	**Section VIII**	**Raw hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)**	
61	Leather, lthr. Manufs., nes & dressed fur skins	41	Raw hides and skins (other than furskins) and leather	S NS: 4106, 4113 Tanned or crust hides and skins of swine, without hair on, in the wet state, split but not further prepared exclusions under subheading 41063110, Leather further prepared after tanning or crusting, including parchment-dressed leather, of other animals, without wool or hair on, whether or not split, other than leather under heading 4114
62	Rubber manufactures, nes	42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	NS
		43	Furskins and artificial fur; manufactures thereof	NS
63	Wood and cork manufactures excluding furniture	**Section IX**	**Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork**	
		44	Wood and articles of wood; wood charcoal	NS
		45	Cork and articles of cork	NS
		46	Manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	S
64	Paper, paperboard and manufactures thereof	**Section X**	**Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard; paper and paperboard and articles thereof**	

		47	Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	S
		48	Paper and paperboard; articles of paper pulp, of paper or of paperboard	S
		49	Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans	S
65	Textile yarn, fabrics, made up articles, etc.	**Section XI**	**Textiles and textile articles**	
		50	Silk	S
		51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric	S
		52	Cotton	S
		53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	S
		54	Man-made filaments; strip and the like of man-made textile materials	S
		55	Man-made staple fibres	S
		56	Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof	S
		57	Carpets and other textile floor coverings	S
		58	Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	S
		59	Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable for industrial use	S
		60	Knitted or crocheted fabrics	S
66	Non metallic mineral manufactures, nes	**Section XIII**	**Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware**	
		68	Articles of stone, plaster, cement, asbestos, mica or similar materials	NS
		69	Ceramic products	S
		70	Glass and glassware	S
67	Iron and steel	**Section XV**	**Base metals and articles of base metal**	
		72	Iron and steel	S
		73	Articles of iron or steel	NS
		74	Copper and articles thereof	S
		75	Nickel and articles thereof	S NS: 7505-7507, Bars, rods and profiles of nickel alloys, wire of nickel alloys, plates, sheets, strip and foil of nickel alloys, nickel tube

				or pipe fitting.
		76	Aluminium and articles thereof	S
		77	(Reserved for possible future use in the Harmonised System)	S
		78	Lead and articles thereof	S
		79	Zinc and articles thereof	S
		80	Tin and articles thereof	S
		81	Other base metals; cermets; articles thereof	S
68	Non ferrous metals	82	Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	S
69	Manufactures of metal, nes	83	Miscellaneous articles of base metal	S
7	**Machinery and transport equipment**	**Section XVI**	**Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles**	
71	Machinery, other than electric	84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	NS
72	Electrical machinery, apparatus and appliances	85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	NS
73	Transport equipment	**Section XVII**	**Vehicles, aircraft, vessels and associated transport equipment**	
		86	Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electromechanical) traffic signalling equipment of all kinds	NS
		87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	NS
		88	Aircraft, spacecraft, and parts thereof	NS
		89	Ships, boats and floating structures	NS
8	**Miscellaneous manufactured articles**			
81	Sanitary, plumbing, heating and lighting fixt.			
82	Furniture			
83	Travel goods, handbags and			

	similar articles			
84	Clothing	61	Articles of apparel and clothing accessories, knitted or crocheted	S
		62	Articles of apparel and clothing accessories, not knitted or crocheted	S
		63	Other made-up textile articles; sets; worn clothing and worn textile articles; rags	S
85	Footwear	**Section XII**	**Footwear, headgear, umbrellas, sun umbrellas, walking sticks, seat-sticks, whips, riding-crops and parts thereof; prepared feathers and articles made therewith; artificial flowers; articles of human hair**	
		64	Footwear, gaiters and the like; parts of such articles	S
		65	Headgear and parts thereof	NS
		66	Umbrellas, sun umbrellas, walking sticks, seat-sticks, whips, riding-crops and parts thereof	S
		67	Prepared feathers and down and articles made of feathers or of down; artificial flowers; articles of human hair	NS
86	Scientif & control instrum, photogr gds, clocks	**Section XVIII**	**Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof**	
		90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	S
		91	Clocks and watches and parts thereof	S
		92	Musical instruments; parts and accessories of such articles	NS
89	Miscellaneous manufactured articles, nes	**Section XX**	**Miscellaneous manufactured articles**	
		94	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated nameplates and the like; prefabricated buildings	NS
		95	Toys, games and sports requisites; parts and accessories thereof	NS
		96	Miscellaneous manufactured articles	NS
9	**Commod. &**			

	transacts. Not class. Accord. To kind			
91	Postal packages not class. According to kind			
93	Special transact. Not class. According to kind	**Section XXI**	**Works of art, collectors' pieces and antiques**	
		97	Works of art, collectors' pieces and antiques	S
		98	Complete industrial plant	S
		99	Special Combined Nomenclature codes	S
94	Animals, nes, incl. Zoo animals, dogs and cats			
95	Firearms of war and ammunition therefor	**Section XIX**	**Arms and ammunition; parts and accessories thereof**	
		93	Arms and ammunition; parts and accessories thereof	S
96	Coin, other than gold coin, not legal tender	**Section XIV**	**Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin**	
		71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	NS

Appendix 4: Entry date of GSP+ countries

Country	Date of entry into Drug Regime and GSP+
Armenia	2009 (out of sample)
Azerbadjan	2011 (out of sample)
Bolivia	1991
China	-
Congo	-
Colombia	1991
Cape Verde	2013 (out of sample)
Costa Rica	1992
Ecuador	1991
Micronesia	-
Georgia	2006
Guatemala	1992
Honduras	1992
Indonesia	-
India	-
Iraq	-
Kyrgyzstan	-
Sri Lanka	2006
Moldova	-
Marshall Islands	-
Mongolia	2006
Nigeria	-
Nicaragua	1992
Pakistan	2002
Panama	1992
Peru	1991
Philippines	-
Paraguay	2010
El Salvador	1992
Syria	-
Thailand	-
Tadjikistan	-
Turkmenistan	-
Tonga	-
Ukraine	-
Uzbekistan	-
Venezuela	1995
Vietnam	-