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Analyzing the Expiration of the United States Generalized System of Preferences and Its Impact on Imports from Developing Countries

Abstract

Many developed countries grant preferential tariffs to exporters from developing countries through the Generalized System of Preferences (GSP), aiming to enhance growth through exporting. On December 31st, 2020, the US GSP expired because the US Congress failed to agree on renewing the program's funding. We use the expiration as a natural experiment to analyze the trade effects of the GSP countries' loss of preferential access to the US market. Using a triple difference approach, we find that the expiration caused a significant pain for previously eligible exporters from developing countries: US imports of eligible products from eligible countries dropped by 5-10% due to the expiration.

JEL-Codes: F130, O190.

Keywords: GSP, preferential tariffs.

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1 Introduction

The United States and many other developed countries grant preferential tariffs to developing countries through the Generalized System of Preferences (GSP). These tariff preferences are meant to stimulate exports from developing countries by lowering the effective price of goods from eligible exporters in the US market. However, the effectiveness of the scheme in practice is disputed. GSP preferences often come with rules of origin (RoO) attached, which constrain exporters' sourcing possibilities and burden them with documentation requirements.¹ In this paper, we use the 2021 expiration of the US GSP as a natural experiment to study the impact of GSP tariff preferences on trade. We analyse whether and to what extent the reversal of GSP tariff preferences has impacted US imports from beneficiary countries.

On December 31, 2020, the US GSP expired because Congress failed to pass legislation ensuring continuity of funding beyond this date. Expirations have occurred several times in the past, yet Congress typically acted quickly to pass a bill that reinstated the funding and authorized retroactive refunds of tariffs paid by importers of eligible products during the expiration. At the time of writing, the program was still on hold, making the current expiration the longest in the history of the program.

In 2020, the US GSP program covered products valued at \$16.9 billion entering the United States duty-free from eligible countries. The total imports from these countries was valued at \$152 billion, meaning the program covers over 10% of US imports from GSP countries (Wong 2023). If the program did indeed work as intended, enhancing economic development and alleviating poverty in the beneficiary countries, then its renewal is of utmost importance. Accordingly, in February 2023, a group of 27 GSP

¹In order to receive preferential access, the beneficiary countries must fulfill certain requirements. The main one is proving that the product originates from the beneficiary country. These rules of origin (RoO), as defined by the WTO, serve as "criteria needed to determine the national source of a product." (WTO 2024b). The general rule is that a certain percentage of input factors must come from the exporting country or other accepted countries. In the case of the US, the rule requires a minimum of 35% of value to come from a beneficiary developing country (Wong 2023).

beneficiary countries called for the renewal of the program, stating:

"For many years, each of our countries has utilized the trade preference program to further our economic development and raise standards of living according to its objectives". The letter continued "Through decades the program boosted growth across many sectors benefiting companies of all sizes." After three years with no access to GSP benefits, the countries consider renewal a high priority: "the urgent re-authorization of the program has become a central piece on the trade agenda of our countries." (Sandler, Travis & Rosenberg, P.A. 2023, para.4).

From a theoretical and empirical perspective, however, the trade effect of the GSP expiration is less clear-cut. It hinges on the extent to which GSP preferences were actually utilized before the expiration. In practice, utilization rates are consistently lower than unity, suggesting that there are substantial costs associated with utilization (Krishna et al. 2021). Since GSP preferences require compliance with RoO, preferential tariffs will only be used if the tariff savings are sufficiently large to compensate for cost of the RoO. Fulfilling the RoO requirements represents both fixed and variable costs for exporters, which come in the form of having to source input factors domestically or from other beneficiary countries to comply with the RoO as well as documenting this fact to the customs office (Cadot and De Melo 2007; Sytsma 2021; Moran and Cebreros 2023). Moreover, the effect of the GSP expiration depends on how much these preferences were actually worth in terms of effective tariff reductions. If the fall-back option is a low most-favoured nation tariff, the effect is expected to be small or zero, considering the additional cost of RoO attached to the preferences. Likewise, for several countries, the GSP overlaps with other preferential trade agreements (PTAs) that potentially offer comparable tariff preferences. Lastly, the program's dependency on political consensus and its history of expirations imply substantial uncertainty, which reduces importers' and exporters' willingness to make irreversible investments in trade relationships.²

²Handley and Limão (2015) and Pierce and Schott (2018) show, respectively, that reducing

The empirical evidence on the trade effects of GSP preferences is mixed. Using trade data from 178 countries between 1948 to 1999, Rose (2004) finds that GSP programs approximately doubled trade between issuing and beneficiary countries. Dutt (2020), on the other hand, finds a negative effect of GSP eligibility using a state-of-the-art empirical gravity model with fixed effects. Moreover, there is empirical evidence on the trade effect based on other instances of preferential tariff withdrawals. Hakobyan (2020) analyzes the effect of the expiration of the US GSP in 2011 and finds that imports fell by 3% on average from eligible countries. Tanaka (2022) examines the withdrawal of Cambodia's preferential access to the EU and finds a reduction in imports from Cambodia by 33.6%. Similarly, Gnutzmann and Gnutzmann-Mkrtchyan (2022) look at the removal of Belarus from the EU GSP program and find an export drop of 27%.

This paper contributes to the existing research by examining the latest and longest-ever expiration of the US GSP. Since the EU GSP differ in terms of RoO and fall-back tariffs, and the analysed cases of preference withdrawal were expected to be permanent from the start, the above evidence is only partly informative of the effects of the expiration of the US program. Compared to the 10-month-long expiration of the US program in 2011, that is studied by Hakobyan (2020), the current expiration analyzed in this paper is expected to have different effects, due to its longer duration and the low standing on the priority list of Congress.

We use data from 2018 to 2022 to analyze the effect of the current expiration of the GSP program using a triple-difference approach (DiDiD). We estimate the differential change in US imports of eligible products from eligible countries between the pre- and post-expiration period using a fully saturated fixed-effects model, where origin-product, origin-time, and product-time fixed effects control for unobserved confounders, such as the demand and supply effects of the Covid-19 pandemic. Compared to three-year

trade policy uncertainty by institutionalizing trade preferences can stimulate trade and investment substantially.

period surrounding the 10-month-long 2018 expiration studied by Hakobyan (2020), the longer time period allows us to estimate the medium-term effects of the expiration and to thoroughly test for the absence of pre-trends. Additionally, the use of the 10-digit American Harmonized Tariff Schedule (HTS) product codes gives us more granularity compared to the analysis by Hakobyan (2020), which was based on data aggregated to the 6-digit level of the HS classification.

To preview our results, we find that the value of imports of eligible products from beneficiary countries decreased by 5% on average post-expiration. When narrowing down the control group to non-industrialized countries, the effect increases to 10%. Consistent with the presumption that maneuvering the RoO requirements requires a certain degree of sophistication on the part of the exporter, we also find a stronger effect when excluding the least-developed countries, which presumably had lower utilization rates to begin with. Moreover, we find no evidence that overlapping PTAs prevented the negative consequences of the expiration for exporters from GSP countries.

This paper proceeds as follows: Section 2 describes the institutional background of the US GSP program, Section 3 describes our data. Section 4 presents our triple-difference estimation setup and Section 5 presents the main result. Section 6 contains additional results and robustness checks. Section 7 concludes.

2 Background: The US GSP program

GSPs are a form of PTAs, which are defined by the World Trade Organization (WTO) as "lower or zero tariffs, which a member may offer to a trade partner unilaterally" (WTO 2024a). The US GSP program was first introduced in the Trade Act of 1974. Its purported goals are to promote economic growth in developing countries, support American jobs, uphold competitiveness for American firms through lower prices of intermediate inputs, and promote American values in the beneficiary countries (United

States Trade Representative 2024b). Moreover, the system can be used to enforce intellectual property rights, human rights, and other interests of the US by threatening to remove preferential access if these rights are not respected.

For example, Thailand received two GSP eligibility reviews from the United States Trade Representative (USTR) in 2019 and 2020. In 2019, the USTR suspended GSP eligibility on products with a total value of \$1.2 billion. This suspension affected 573 products at the HS-8 level. One of the most notable removals was that of all seafood products. The reason for the removal of these products, according to the US government, was the lack of worker rights and collective bargaining rights. In 2020, another \$817 million worth of products were to be removed from December 30, 2020, onward. The stated reason for this removal was that Thailand had failed to provide the US with equitable market access to pork products. This suspension coincided with the expiration of the program, so the removal had no effect on trade except through the potential retroactive refund (EY 2019; EY 2020).

In the 2019 review, changes were also made to Ukraine's GSP eligibility. The US reinstated GSP eligibility on 148 product groups at the HS-8 level code. The cited reason was the passage of legislation that introduced collective management organisations to the country, which secured rights for US intellectual property owners, such as writers and musicians.

India and Turkey were made ineligible for preferential access through GSP by the Trump administration in 2019. India was the largest exporter in the program at the time, with 25% of GSP imports coming from India in 2018 (Chauhan 2020). The reason invoked for removing India's preferential treatment was that they had not assured the US equitable and reasonable market access. Turkey, the 6th largest GSP exporter at the time, was removed because of its increased level of economic development (Akhtar and Jones 2019).

The US GSP program needs funding allocated at regular intervals to uphold its function.

Funding for the program from a designated start date to an end date is allocated through legislation passed by the US Congress. Every renewal requires passing a new bill.³ Since its inception, the program has expired 10 times. Only five times has it been renewed prior to its expiration. The previous longest recorded expiration was from July 31, 2013, to July 29, 2015, lasting 728 days. Each past renewal included a retroactive refund of the tariffs paid during the expiration. The most recent extension of the program was included in the Consolidated Appropriations Act of 2018, ensuring funding until December 31, 2020. However, no subsequent bill passed in 2020 or later reinstated this funding. At the close of 2020, the US legislature had other priorities, and there was minimal discussion regarding the imminent expiration of the GSP. Hence, at the end of 2020, the US GSP expired again. It has still not been renewed, making it the longest shutdown in the program's history. Given the retroactive effect of renewals up until now, the US Customs and Border Protection is encouraging exporters to still document RoO in order to receive a potential refund when the program eventually gets reinstated (Wong 2023). However, even though fractions of both parties are currently trying to reinstate the program, they lack the necessary majority (Williams and Alghazali 2024). According to the Congressional Research Service, the GSP program encompassed 3,500 products at the HS-8 level before its expiration. Additionally, there were 1,500 products, also at the HS-8 level, designated for least developed countries (LDC). In 2020, the value of products entering the US using the GSP amounted to \$16.9 billion, while the total imports from GSP-eligible countries was \$152.0 billion. Comparatively, total imports to the US was \$2.3 trillion (Wong 2023).

³In the past, the program has been used by politicians to protect domestic US companies. In 2010, Jeff Sessions (R-AL), who was a senator at the time, put legislation renewing the GSP on hold at the request of a US-based sleeping bag manufacturer, which led to the program's expiration. The program was not reinstated until the Obama administration agreed to remove GSP eligibility from the products in question (Blanchard and Hakobyan 2015).

3 Data

We use US trade data from the US Census Bureau provided by Peter Schott⁴. It includes the value of US imports for consumption from all countries at the 10-digit HTS code level. We use the years 2018 to 2022 in our analysis and aggregate the US district-level imports to the country level (preserving the time, product, and destination dimensions).

We use the list of GSP-eligible countries and territories in 2020 from Wong (2023). The lists of beneficiary countries of the African Growth and Opportunity Act (AGOA) and Caribbean Basin Initiative (CBI) that we use also reflect the status in 2020 and are taken from United States Trade Representative (2020) and United States Trade Representative (2024a), respectively. Tables A3 and A4 in the Appendix list the countries and the programs they are eligible for.⁵

Out of the 229 countries in our data, 116 were eligible for the GSP program. In our sample, however, we define GSP countries as those that are part of only the GSP program and not of alternative PTA. Countries that are also part of alternative PTAs could start using their specific program for exports after the expiration of the GSP, distorting the estimated effect of the expiration. The effect of including these countries in the set of treated GSP countries will be discussed in our robustness section.

Moreover, we exclude four countries that experienced significant changes in their GSP eligibility between 2018 and 2020 from our sample: India, Turkey, Thailand, and Ukraine have been removed completely from the data. These changes, described in the previous section, are documented in Table A1 in the Appendix.

These restrictions leave us with only 67 GSP countries in our sample. For the GSP-

 $^{^{4}{\}rm The}$ data is described in Schott (2008) and available at https://faculty.som.yale.edu/peterschott/international-trade-data/

⁵We define countries as all US trading partners, which means non-independent countries and territories recognised by the United States are included.

Table 1: Summary statistics 2019				
	GSP Countries (67)			
	Log (mean)	Log (st. dev.)	N Products (mean)	N Products
All Products	17.18	3.54	156	10,434
Non-GSP Products	14.82	3.85	116	7,744
GSP Products	16.93	3.54	40	$2,\!690$
	Non-GSP Countries (162)			
	Log (mean)	Log (st. dev.)	N Products (mean)	N Products
All Products	19.33	3.54	110	17,802
Non-GSP Products	16.53	4.12	90	$14,\!587$
GSP Products	19.16	3.52	20	3,216
	All Countries (229)			
	Log (mean)	Log (st. dev.)	N Products (mean)	N Products
All Products	18.72	3.63	78	17,867
Non-GSP Products	16.05	4.11	64	$14,\!664$
GSP Products	18.53	3.66	14	3,223

eligible products, we compiled a list of HTS codes for which GSP countries were granted preferential access in US trade data in 2019 (*DataWeb USITC* 2024). Using this list, we created a dummy variable for product groups that are eligible regardless of whether or not GSP was used. There is a possibility that some GSP-eligible products were not traded in 2019 and thus are not counted as GSP products. We argue that if a product was not imported from any trading partner in 2019, the impact it would have if included would be negligible.

There have also been a few additional changes made to the list of GSP-eligible products by the United States Trade Representative. According to the "Competitive Needs Limit (CNL)," GSP eligibility is removed for a specific product and country if its exports value exceeds the \$210 million threshold (Williams and Alghazali 2024). We simplify our analysis by assuming that all GSP products are eligible for every GSP country.⁶

 $^{^{6}{\}rm The}$ number of country-and-product-specific CNL exclusions between 2018 and 2020 is very small; see Appendix Table A2.



Figure 1: US imports of GSP- and non-GSP goods from 2018 to 2022

Table 1 reports the summary statistics for US imports in the benchmark year of 2019. There were a total of 17,867 product categories at the HTS level that were imported by the US. Of these, 14,664 were non-GSP products and 3,223 were GSP products. The average number of different products imported was 78, and average value of log imports was 18.72.

The US imported 10,725 different products from GSP countries with the average number of products per country being 156, of which 40 were GSP products. The average value of log imports was 17.18. Non-GSP countries export more products to the US in total (17,802), but fewer per country (110). This reflects the fact that Non-GSP countries include OECD countries as well as small island nations and dependent territories. The average value of log exports for Non-GSP countries was higher than for GSP countries (19.33).

Figure 1 shows the general trend of US imports between 2018 and 2022. We see that imports were declining until 2020 and then increased thereafter. We attribute this first downturn in imports to the COVID-19 pandemic and its lockdown measures. The increase after 2020 is attributed to post-lockdown pent-up demand (U.S Bureau of Labor Statistics 2022).

4 Estimation Method and Model Specification

To assess the impact of the expiration, we use the following triple-difference model:

 $lnImports_{cpt} = \beta_1 GSP country_c \times GSPP roduct_p \times Expired_t + \gamma_{cp} + \theta_{ct} + \delta_{pt} + \epsilon_{cpt}.$ (1)

The dependent variable is the logarithm of US imports in dollars of product p from country c in year t. The explanatory variable is the triple difference $GSPcountry_c \times$ $GSPProduct_p \times Expired_t$. GSPCountry is a dummy variable with value 1 if the import comes from a GSP country and 0 otherwise. GSPProduct is a similar dummy for GSP products and Expired is a dummy variable with value 1 for years after expiration. We control for country-product γ_{cp} , country-year θ_{ct} , and product-year δ_{pt} interactive fixed effects. These interactive fixed effects allow us to control for heterogeneous trends across the three variables that might have resulted from the coinciding economic effects of the Covid-19 pandemic.

The intuition behind the DiDiD approach is that we use the trends in the control group as the counterfactual scenario for the treated group. This approach relies on the assumption that the trends in imports between the two product groups would have been the same in GSP and non-GSP countries if the program had not been discontinued. We discuss the validity of the parallel trends assumption in Section 5.2.

Results 5

5.1**Baseline** results

Table	<u>e 2: Main 1</u>	results	
		Main	OECD countries
		DiDiD	removed
	(1)	(2)	(3)
$GSPCountry \times GSPProduct \times Expired$	398	0472*	0971***
	(.290)	(.0261)	(.0307)
Observations	1,496,248	1,312,807	497,023
Adj. R^2	0.00	0.873	0.864
Fixed effects		country-year	country-year
		country-product	country-product
		product-year	product-year

Notes: Dependent variable is lnImports. Standard errors are clustered at country and product level. ***p < 0.01, $p^{**} p < 0.05, p^{*} p < 0.1.$

Table 2 presents our main result. While the simple OLS regression without fixed effects yields a large, negative but insignificant coefficient for the triple difference (column 1), our preferred estimate from the fully saturated fixed effects model (column 2) is -.047, statistically significant at the 10% level.⁷ Hence, we find that US imports of eligible products from eligible countries declined by about 5% after the expiration of the GSP. The effect is larger than the 3% reduction in imports of eligible products found by Hakobyan (2020) during the 2011 GSP expiration. This is plausible, given that the 2021 expiration was longer and a reinstatement of preferences is not in sight.

In column (3), we present the same estimation based on a sample where the control group excludes OECD countries. Since there are no developed countries among the GSP beneficiaries, this choice leads to greater similarity between the treated and control

⁷Standard errors are robust to two-way clustering at the country and product level.

group – at the expense of a smaller sample size. The results from the estimation without OECD countries are reported in column (3) of Table 2. The estimate is negative and significant as well, and about twice as large as the baseline effect (-0.097).

5.2 The parallel trends assumption

Our interpretation of the triple-difference estimate as the impact of the expiration hinges on the validity of the parallel trends assumption. In our setting, this assumption requires that the treated and control products would have followed similar trends in the absence of the expiration, conditional on the fixed effects. While there is no outright test for the validity of this assumption, we can rule out a large set of obvious confounding factors thanks to the inclusion of product-time, country-time, and product-time fixed effects. Moreover, we can test for the absence of differential pre-trends to enhance our confidence in the results.

To assess potential differences in pretrends, we conduct an event study analysis regression. We specify a treatment dummy for each year $GSPCountry \times GSPProduct \times year_t$ as opposed to the general $GSPCountry \times GSPProduct \times Expired$. and estimate the following model:

$$lnImports_{cpt} = \beta_1 GSP country_c \times GSPP roduct_p \times year_t + \gamma_{cp} + \theta_{ct} + \delta_{pt} + \epsilon_{cpt} \quad (2)$$

If the treated and control group were on different trends prior already prior to the expiration, we would expect significant coefficients for the year dummies 2018-2020. The results from the regression where the year of expiration, 2021, is omitted, are reported in Table 3. Figure 2 visualizes the estimated effects for all years.

We find no significant differences between the treated and control group in any year prior to expiration. The p-value from the joint test of significance is 0.38. The event study also shows no sign of an anticipation effect. As described in Tanaka (2022),

	Study. Tegression results
	(1)
VARIABLES	Placebo
GSPCountry x GSPProduct x 2018	-0.0164
	(0.0426)
GSPCountry x GSPProduct x 2019	0.0137
	(0.0313)
GSPCountry x GSPProduct x 2020	0.0278
	(0.0226)
omitted	
GSPCountry x GSPProduct x 2021	-
GSPCountry x GSPProduct x 2022	-0.0798***
	(0.0241)
Constant	11 67***
Constant	(0.000580)
	(0.000389)
Observations	1.312.807
Adjusted R-squared	0.873
Fixed Effects	country-year country-product product-year
F-test 2018 2019 2020	
Prob > F	0.3829
Dependent variable is lnImports. Standa	rd errors are clustered at country and product level.

Table 3. Event study: regression results

*** p<0.01, ** p<0.05, * p<0.1

anticipation of the end of a preference program is likely to lead to increased exports in the last period in which the preferences are available. If the expiration of the GSP program had been predicted by American importers prior to its occurrence, it could have triggered a last-minute import boom from the eligible countries, confounding the estimated treatment effect in our baseline specification. The absence of visible anticipation effects is consistent with other observations. As late as November 2020, there were changes made to the list of eligible products (EY 2020). Although this does not exclude the possibility of importers anticipating it, neither the expiration nor its duration was signaled by the authorities.

Another interesting insight from the event study is that the estimated effect in 2022 is large (-8%) and statistically different from the baseline year 2021. This implies that



the negative effect of the expiration was growing over time (at least for the two years we observe in our data), which is consistent with eligible exporters and importers updating their beliefs regarding the probability of a quick, if any, reinstatement of the program. Despite the apparent absence of differential pre-trends, we have to be concerned about differential trends starting in 2021. One obvious confounder is the Covid-19 pandemic with its manifold economic consequences. US imports fell in 2020 as a result of lockdowns and other responses to the pandemic, but quickly increased again in 2021 and 2022 (Economic Analysis 2024). The impact of the pandemic was arguably not the same for all countries or product categories, thus introducing heterogeneity in import responses. It is likely that developing countries, which mostly make up GSP-eligible countries, and developed countries, which are non-GSP countries, responded differently to the pandemic, and hence, exporters from the two country groups faced different kinds of challenges. Likewise, it is reasonable to assume that supply of and demand for eligible products was affected differently than non-eligible products. However, effects of the pandemic that were specific to products or countries are filtered out by our fixed effects. In the event study, we find no significant difference between the pre-pandemic years and the year 2020, when lockdown stringency indices peaked in most countries. This suggests that the fixed effects take care of the potentially asymmetric effects of the pandemic.

Finally, the likelihood of parallel trends is higher the more similar the treatment group and control group are. In our case, these groups are different by design. The GSP program is designed to make developing countries more competitive relative to developed economies. While the decision of which countries are included is sometimes political, for the majority of cases, the decision is based on development status. As shown in the previous section, our results are reinforced when we make the control group more similar to the treated group by dropping developed countries.

A final potential threat to the parallel trends assumption is the existence of spillover effects. If the expiration leads to a fall in imports of eligible products from GSP countries, competition in the US market for these products is weakened, benefiting exporters from non-GSP countries. However, GSP countries also benefit from weaker competition from their peers in other treated GSP countries. In other words, the spillover effect working through competition is a general equilibrium effect affecting every exporter. And, hence, the effect is absorbed by our product-time fixed effects.⁸

6 Robustness Checks

In order to assess the robustness of the results from the main model, we conduct several additional estimations. Across these tests, we modify the sample in the main model in the following ways: removing LDCs from the sample, including GSP-eligible

⁸This argument is similar to the case for including multilateral resistance terms in the gravity equation, the workhorse model of the empirical trade literature. Changes in importer multilateral resistance, induced by bilateral trade cost changes, can be absorbed by (importer)-product-time fixed effects; see Baier and Bergstrand (2009).

AGOA and CBI countries in the GSP beneficiary category, and removing 2018. In what follows, we discuss the reasoning behind each of these robustness checks. The results are summarized in Table 4.

		Table 4: Robust	ness check	s	
	Main	LDC and territories	LDC	With AGOA	2019-2022
	DiDiD	removed	removed	and CBI	
	(1)	(2)	(3)	(4)	(5)
GSPCountry	0472*	0556**	0552**	0513**	0625***
$\times GSPP roduct$	(.0261)	(.0259)	(.0259)	(.0231)	(.0239)
$\times Expired$					
Observations	$1,\!312,\!807$	1,282,012	1,282,817	$1,\!312,\!807$	1,024,763
Adj. R^2	0.873	.874	.874	.873 .881	

Notes: Dependent variable is lnImports. Standard errors are clustered at country and product level. ***p < 0.01, **p < 0.05, *p < 0.1. All columns include country-year, product-year, and product-country fixed effects.

Removing LDC countries. We conduct a robustness check that removes all eligible least developed countries (LDCs) from the sample. We expect to find a larger estimated effect when excluding LDCs, since smaller countries are less equipped to utilize the GSP program due to smaller markets and more significant trade barriers.

The results from this test are reported in columns (2) and (3) of Table 4, dropping LDCs and territories, or only LDCs, respectively. The reported results for both columns are similar, as expected due to the negligible impact of the small territories. Focusing on column (2), we find a stronger coefficient than in our main model that is statistically significant. These results confirm our intuition. The LDC countries and territories are likely to be less affected by the expiration and thus their removal leads to a stronger estimated effect. This is consistent with Sytsma (2021), who finds that LDCs are less affected by revision in RoO strictness.

Including AGOA and CBI. In our baseline model, we have excluded countries that are also part of alternative PTA programs such as AGOA and CBI from the GSP

category. The intuition is that these countries have access to an equivalent preference program to which they could have switched when the expiration came into effect. As such, these countries would be affected to a lesser degree than other beneficiary countries that do not have this possibility.

Table 5. 1 focults co	wered in	country	groups
	GSP	AGOA	CBI
By own program	3,022	1,895	513
Common with GSP		777	239
Only covered by GSP		$1,\!105$	325

Table 5: Products covered in country groups

Table 5 summarises the overlap of products between the programs. The GSP covers the most products at 3,022 with AGOA and CBI at 1,895 and 513, respectively. There is a large overlap between the GSP and the two other programs. A total of 777 products are included both in AGOA and GSP, and 239 products are included both in CBI and GSP. Interestingly, the 40 AGOA countries, all of which are GSP countries, exported 1,105 product categories covered by GSP but not AGOA. The same number for CBI countries is 325, but in this case, only 8 of the 17 CBI countries are included in the GSP. Given that AGOA and CBI export a non-negligible number of GSP-exclusive products, an expiration is likely to have an impact. Still, due to their alternative preferential access, the effect of the expiration is likely to be lower than for other countries.

Column (4) shows the effect of the triple difference estimator when both the AGOA and CBI countries are included in the treated group. The estimate is -0.0513% and statistically significant. The effect is marginally larger than in our main specification. Hence, we find no evidence for the hypothesis that overlapping PTAs shielded the countries covered by AGOA and CBI from the negative effects of the GSP expiration.

Removing 2018. Our sample includes a short GSP expiration from January 1, 2018, to April 22, 2018. As with the earlier expirations, it was followed by a retroactive refund of tariffs paid during this period. The 2018 expiration likely had a small but differential

impact on our control group, which could bias the results from our baseline estimation towards zero. Consistent with this presumption, we find a larger effect on the treated group when excluding 2018, which is statistically significant; see column (5) in Table 4.

7 Conclusion

In this paper, we study how the expiration of the US GSP program at the end of 2020 impacted the import of eligible products from beneficiary countries in the developing world. By the time of writing, the program had still not been reinstated. Using a triple-difference approach, we estimate that imports covered by the GSP program fell by 5 to 10% due to the expiration. We also find that the least developed countries were affected less by the expiration, which can be explained by lower utilization rates. This is in line with the extant literature arguing that there are costs associated with the utilization of preferential tariffs, e.g., due to RoOs, which bar the least sophisticated exporters from exploiting the agreement. Additional results suggest that overlapping PTAs did not fully substitute for the withdrawal of GSP preferences.

Moreover, find that the negative effect on imports increased over time, possibly because, as time went by, importers and exporters realized that the expiration was not going to be reversed in the foreseeable future. Our estimates are larger than the impact of the short expiration in 2011 estimated by Hakobyan (2020), suggesting as well that more detrimental effects occur when the expiration appears more likely to be permanent. As a consequence, we may interpret our estimates as lower bounds of the true effects, since at the end of 2022, when our sample period ends, some exporters and importers may still have been expecting a reversal. The longer the expiration lasts, the more likely it is to affect exporters' willingness to comply with RoO requirements and pay the costs without receiving the benefits. And, once supply chains have been adjusted, restarting trade under the GSP after a possible renewal of the program in the future will be costly. In sum, our findings imply that the expiration of the GSP significantly hurts the beneficiaries from the developing world. If helping developing countries grow through exporting and maintaining lower input prices for domestic industries are priorities for the US, renewal of the program should be made a priority. Moreover, since uncertainty around the duration of the tariff preferences is likely to reduce exporters' willingness to adjust their supply chains in line with the RoO and to pay any sunk costs associated with finding trading partners in the US, regular and predictable renewals would likely increase the impact of the program in the future.

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Appendix A Data

Country Name	year	Estimated value	Amount of HTS	Type
			affected	
Thailand	2020	\$ 817 million	-	Removal
Thailand	2019	1.3 billion	573	Removal
India	2019	6.3 billion	-	Removal
Turkey	2019	\$ 1.8 billion	-	Removal
Ukraine	2019	-	148	Reinstated

Table A1: Country spesicic HTS changes

Sources: (EY 2019), (EY 2020) and (Akhtar and Jones 2019)

Country Name	Year	HTS code	Description
Ecuador	2020	0714.40.10	Fresh or chilled taro (Colocasia spp.)
Argentina	2020	2909.19.14	Methyl tertiay-butyl ether. (MTBE)
Brazil	2020	3805.10.00	Gum, wood or sulfate turpentine oils
Equador	2020	4412.34.32	Plywood sheets n/o 6mm thick
Indonesia	2020	7113.19.29	Gold necklaces and neck chains
Brazil	2020	8502.12.00	Electric generating sets with compression-
			ignition internal-combustion piston en-
			gines.
North Macedonia	2019	8702.10.31	Motor vehicles w/diesel engine, to trans-
			port 16 or more persons, incl driver .

Table A2: CNL exclusions 2018-2020

Sources: (United States Trade Representative 2019) and (United States Trade Representative 2020)

Belize+	Jamaica+	Haiti+	$\operatorname{Anguilla}$
Montserrat+	Dominica+	Saint Vincent and the Grenadines+	$\operatorname{Grenada+}$
Guyana+	Suriname	Ecuador	Bolivia
Brazil	Paraguay	Argentina	Falkland Islands (Islas Malvinas)
Ukraine	Armenia	Azerbaijan	Georgia
Kazakhstan	m Kyrgyzstan	Moldova (Republic of Moldova)	Uzbekistan
Bosnia and Herzegovina	North Macedonia	Serbia	Kosovo
Montenegro	Albania	Lebanon	Iraq
za Strip administered by Israel	West Bank administered by Israel	Jordan	Yemen (Republic of Yemen)
Afghanistan	Pakistan	Sri Lanka	Burma (Myanmar)
Thailand	Cambodia	Indonesia	Timor-Leste
Philippines	Bhutan	Maldives	Norfolk Island
Cocos (Keeling) Islands (Christmas Island (in the Indian Ocean)	Heard Island and McDonald Islands	Papua New Guinea
Cook Islands	Tokelau	Niue	Samoa (Western Samoa)
Solomon Islands	Vanuatu	Pitcairn Islands	Kiribati
Tuvalu	Wallis and Futuna	Fiji	Tonga
Algeria	Tunisia	Egypt	South Sudan
Mauritania	Cameroon	$Senegal^*$	$Mali^*$
$Guinea^*$	$Sierra Leone^*$	Cote d'Ivoire*	${ m Ghana}^*$
$Gambia^*$	Niger*	$Togo^*$	Nigeria*
Central African Republic [*]	$Gabon^*$	Chad*	Saint Helena
Burkina Faso*	Benin*	$Angola^*$	Congo, Republic of the Congo *
Guinea-Bissau*	$Cabo Verde^*$	Sao Tome and Principe [*]	Liberia*
ratic Republic of the Congo (formerly Zaire)	Burundi	Rwanda*	Somalia
Eritrea	$Ethiopia^*$	$Djibouti^*$	$Uganda^*$
Kenya*	British Indian Ocean Territory	Tanzania (United Republic of Tanzania) *	$Mauritius^*$
$Mozambique^*$	Madagascar [*]	Comoros*	South Africa [*]
Namibia*	${ m Botswana}^*$	$Zambia^*$	$Eswatini^*$
Zimbabwe	$Malawi^*$	$Lesotho^*$	Nepal'

Table A3: zible countries and

A4:
Table Description