

ACADEMIC PAPER

WILEY

An assessment of United Kingdom's trade with developing countries under the generalised system of preferences

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The European Union (EU) generalised system of preferences (GSP Scheme) grants preferential treatment to 88 eligible countries. There are, however, concerns that the restrictive features (such as rules of origin, low preference margin and low coverage) of the existing scheme indicate gravitation towards commercial trade agenda to which efficiency imperatives appear subordinated. Whether these concerns are genuine is an empirical question whose answer largely determines whether, after Brexit, the United Kingdom continues with the existing specifics of the EU scheme or develops a more inclusive United Kingdom-specific GSP framework. This study quantitatively examines the efficiency of the EU GSP as it relates to United Kingdom beneficiaries from 2014 to 2017. We draw on the descriptive efficiency estimation (the utilisation rate, potential coverage rate and the utility rate) using import data across 88 beneficiary countries and agricultural products of the Harmonised System Code Chapter 1 to 24. Besides the Rules of Origin that, generally, harm the uptake of GSP, low preference margin is found to cause low utilisation rates in a non-linear manner. Essentially, a more robust option (such that allows “global Cumulation” or broader product coverage) could, substantially, lower the existing barriers to trade and upsurge the efficiency of the GSP scheme.

1 | INTRODUCTION

Membership of the European Union (EU) Customs union allows the United Kingdom to apply the EU tariff schedule to its imports (Holmes, Rollo, Dawar, & Mathis, 2016). This includes the application of preferential terms to exports of developing countries within the special and differential treatment (SDT) framework (Mendez-Parra, te Velde, & Kennan, 2016). Such “special and differential treatment,” offered based on “non-reciprocity,” specifically models the assertion that “treating unequals equally simply exacerbated inequalities” (UNCTAD, 2015). This was not the intention of the Generalised System of Preferences (GSP hereafter), which was an essential aspect of the SDT framework, and designed to integrate developing countries into the world trading system (Brenton, 2003). Brexit has meant that the United Kingdom designed its GSP scheme and given the paucity

of time it is agreed that the existing EU GSP scheme will be rolled over to ensure continuity in the trading arrangement with developing and least developed countries.

There appears to be a consensus that unless GSP arrangements are put in place, the trade regime of the EU will no longer apply to imports into the United Kingdom immediately after Brexit (Jones, 2016; Stevens & Kennan, 2016). The easiest way to overcome the resultant market access challenge involves replicating the EU's GSP scheme in the short term (Hoekman, Rollo, Wilkinson, & Winters, 2016; Jones, 2016; Marx, 2018; Molinuevo, 2017). Such a route would allow the United Kingdom to stabilise its trade relationships with developing countries and situate effective transitional market access arrangements in the immediate post-Brexit period (Herman, 2016; Mendez-Parra et al., 2016; Ungphakorn, 2016).

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However, the 2014 EU's revision to the GSP scheme indicates an inclination towards commercial intents to which efficiency imperatives appear subordinated (Siles-Brügge, 2014). The reform made all high-income and upper-middle-income countries ineligible for GSP treatment while also made it easier for a beneficiary's competitive product sections to be graduated (De Ville and Orbie 2014; Siles-Brügge, 2014). The basis for reducing GSP beneficiaries from 176 to 88 and for introducing the so-called "graduation" mechanism is to keep with the EU's claim of being "the world's major development actor". Rather than representing a move towards improving the value of trade preferences for the "economies most in need," there are however reasons to argue that the revision theoretically provides the EU with more leverage to pursue its commercial interests (Damro, 2015; De Bièvre & Poletti, 2013; De Gucht & Barnier, 2012; De Ville, Orbie, & Relations, 2014; Langan & Price, 2016; Larik, 2015). Whether these concerns are genuine is an empirical question whose answer largely determines whether, after Brexit, the United Kingdom continues with the existing specifics of the EU scheme or develops a more inclusive United Kingdom-specific GSP framework.

This article, therefore, evaluates the United Kingdom's trade under the current EU GSP scheme to ascertain the utilisation of preferences by beneficiary developing countries. Secondly, identifies thematic recommendations applicable to the United Kingdom GSP stemming from the evaluation of the current system and relative efficiency of the different regimes—GSP, GSP+ and Everything But Arms (EBA). Broadly speaking, the recommendations are targeted at facilitating policy options towards designing a new United Kingdom GSP regime that is better at supporting development than the *status quo*. The efficiency evaluation of the existing GSP scheme is based on estimations of the utilisation rates, utility rates and potential coverage.

The outlook of the efficiency indicators is matched to the four core features of the existing GSP scheme—preference margins, rules of origin, non-tariff barriers and product coverage. A dataset of 88 GSP beneficiary countries is used for the period 2014–2017 and exporter-products estimation is carried out at 6-digit level across HS Chapter 1 to 24.

The section that follows presents a review of the literature featuring efficiency, utilisation of the GSP scheme, the rules of origin, value of preference as well as preference utilisation. This is followed by data and methods in Section 3, while Section 4 discusses the main findings of the study. Section 5 makes valuable post-Brexit trade policy recommendations.

2 | LITERATURE REVIEW

The current study reviews past studies that assess the linkage between existing EU GSP scheme and the strategies adopted by the United Kingdom. This matters for the growth and strength of the economy, alongside other studies that have either assessed macroeconomic policy, the role of energy in the growth-emissions nexus (Adedoyin, Alola, & Bekun, 2020; Adedoyin & Zakari, 2020; Kirikkaleli, Adedoyin, & Bekun, 2020) as well as the importance of trade and FDI in an

economy (Adedoyin, Bello, Isah, & Agabo, 2020; Udi, Adedoyin, & Sarkodie, 2020; Udi, Bekun, & Adedoyin, 2020).

2.1 | The efficiency and the value of existing EU GSP

Several studies highlight the development relevance of non-reciprocal preferences for developing countries and express concerns about preference erosion that could arise from the coexistence of "reciprocity." Theoretically, non-reciprocal trade preferences (such as the GSP scheme) are a vital element of protection patterns across the globe and play a crucial role in shaping trade opportunities for beneficiary developing countries. This is particularly the case for the 88 beneficiaries of EU generalised system of preferences (GSP). It is not surprising that the gravitation towards reciprocity raises concerns about the erosion of preferences and betrayal of "trade-development" nexus of the GSP scheme. Whether these concerns are genuine, and how they might be addressed is largely dependent on the "interpretation of reality" of these arrangements. Within this context, this study aims to estimate how much the existing EU preferences are utilised by exporters, how the utilisation rates diverge across eligible products and countries and situating the resultant divergence within the existing features of the scheme.

So far, the majority of empirical studies have assessed the efficiency of EU preferences based on the entire preferential regimes that exporters are eligible for (DeMaria, Drogue, & Matthews, 2008; Keck & Lendle, 2012; Wijayasiri, 2007). Keck and Lendle (2012) opine that this is more realistic than estimating the efficiency of a specific regime alone. However, this does not necessarily reflect the actual picture of each regime especially with the likelihood of putting both reciprocal and non-reciprocal arrangements in the same basket. This, indeed, overstates the efficiency rates even in the face of eroded preference margins or restrictive rules of origins (RoOs). The efficiency estimation must, therefore, be adapted specifically to each regime, given that the administrative requirements and the rules of origin vary from one preference regime to the other.

This study follows Zhou and Cuyvers (2012) which specifically examines the efficiency of the EU GSP scheme as it relates to ASEAN beneficiary countries, for the period 1990–2007. However, the study of Zhou and Cuyvers (2012) is dated especially that the 2011 Rules of Origin revision and the 2014 GSP reform remain unaccounted for. By adapting the efficiency estimation of United Kingdom GSP to this specific context and by covering all the beneficiary countries, this study aims to derive more general conclusions about the efficiency estimates and fill the gap in the literature.

2.2 | The utilisation of GSP scheme

A first approach to examining the economic value of a preferential regime is to assess the degree of utilisation (Cirera, Foliano, & Gasiorok, 2016). The GSP utilisation rate is the proportion of goods

eligible for GSP treatment that use it. This is given as the ratio of imports that enter via a preferential arrangement and the eligible imports that could have benefitted from preferential treatment. (Hakobyan, 2015) suggests that low utilisation rates are evidence that trade preferences confer little or no economic value. It is posited by some others that the utilisation rate may not give the best perspective of the value of a preferential regime. According to Persson and Wilhelmsson (2016), the utilisation rate may be informative in some ways. For instance, low utilisation rates could reveal certain hidden costs (related to rules of origin requirements, administrative cost and other compliance costs) that come with requesting preferential treatment. These unobserved trade costs constitute Non-Tariff Barriers (NTBs) and unambiguously lowered export volumes while having ambiguous effects on the value of trade preferences.

Differently, low utilisation rates could indicate an insufficient difference between the preferential tariff and non-preferential tariff rates—preference margin (Nilsson, 2016) or it could indicate inadequate product coverage (Cirera & Cooke, 2015). On the basis thereof, the vast majority of the assessment of ineffectiveness of preferential arrangement emanates from the evidence of low utilisation rates. Table A1 shows empirical studies on the utilisation of trade preferences.

2.3 | Rules of origin

At a time when an increasing number of exporters are globalising their parts procurement and production networks, it becomes imperative to determine where goods originate (Donner Abreu, 2013). The economic nationality of imported goods must be ascertained and should be suitably linked to trade policy measures (Tsirekidze, 2017). To achieve this, certain criteria such as rule of origin requirements are applied. The rules of origin require that products are deemed to have originated from a particular country if they are either wholly obtained in that country or sufficiently worked or processed there (Tsirekidze, 2017).

Products are “wholly” obtained in a particular beneficiary country if only the entire production is carried out in the same country (Krishna, 2005). In such a case, the smallest addition or input from any other country disqualifies such product from being “wholly obtained.” This categorisation applies mainly to things that have natural occurrence and to products that are made entirely from them (Bombarda & Gamberoni, 2013). Nevertheless, originating status can still be obtained on the condition that the non-originating materials used have gone through “sufficient working or processing” (Tsirekidze, 2017).

2.4 | The value of preference margin

The most widely used measure of the value of trade preferences is the Value of Preference Margin (VPM). In most cases, the preference margin reflects a static welfare gain derived for using trade

preferences. Against this backdrop, the value of preference margin is computed as the quantity exported multiply by the absolute difference between the “most favoured nation (MFN)” tariff and the preferential tariff given to preference beneficiaries.

One of the earliest evidence of the value of preference margin was by Yamazaki (1996). Yamazaki evaluated the effect of the “Uruguay Round Agreement on Agriculture” on the value of preferences. As a percentage of imports, the author reported 9% preferential imports for the EU, 2% for Japan and 6% for the United States. The aggregate value of preferences across the three donor countries amounted to \$1,853 million, in which the EU provided roughly 73% with Japan and the United States providing 14% with each. In the case of the EU, the benefits accrued to sugar was about 46%.

Recent studies have made a further attempt to measure the value of EU preferences. For instance, Candau and Jean (2009) estimate the value of preferences on aggregate trade for 2001. The authors estimated preference margin as a percentage of dutiable exports into the EU, thereby revealing the extent to which recipients’ trade relations with the EU depend on preferential market access. Assuming full utilisation, the preferential access granted by the EU to African LDC was worth Eur 182 million, to non-LDC in Sub-Saharan Africa, Eur 521 million, and about Eur 510 million worth granted to other LDCs. The estimation in Candau and Jean (2009) covered all products exported into the EU but not extended to those covered under preferential tariff rate quotas (such as bananas, beef and sugar) which accounted for a substantial share of rents.

2.5 | Preference utilisation and preference margin nexus

The probability of preference usage is positively related to preference margin (Keck & Lendle, 2012). There is an easy explanation to this; given that certain costs, such as rules of origin requirement and administrative costs, are linked to preference usage, trade preferences may only be used when exports are enough to generate significant duty savings. Using different methodologies, studies reveal that utilisation rates adjust in response to preference margins and volume of exports across different regimes (Alexandraki, 2004; Bureau, Chakir, & Gallezot, 2007; Candau, Fontagne, & Jean, 2004; DeMaria & Drogue, 2008; Inama, 2003; Manchin, 2006; Wijayasiri, 2007). A number of these studies specifically relate to either the United States or the EU market. For instance, Candau et al. (2004) evaluate the utilisation of EU trade preferences for 2001. The study reveals generally high utilisation rates averaging 82% and more for products with high preference margins. For 2002 agricultural imports in the United States and EU, Bureau et al (2007) adopt a probit model using highly disaggregated data at the exporter-product level. Their analysis reflects a direct linkage between the probability of preference usage and both preference margins and volume of exports, with aggregate utilisation rates above 80%. Hakobyan (2011) finds a positive impact of preference margins and export volumes on the United States GSP utilisation rates by using panel data.

A similar study by Candau and Jean (2009) reports a preference utilisation rate well over 82% for 2001 product exports into the EU and higher for products with sufficient preferential margins. However, Hakobyan (2011) indirectly recognises the significance of fixed costs by illustrating a possible non-linear linkage between the preference margin and the utilisation rate. Specifically, Hakobyan examined a ceiling beyond which the positive linkage fades out. This finding is insightful and particularly corroborate Manchin (2006) which establishes that preference margin has a little or no effect on the size of preferential trade following the decision to request preferential treatments.

3 | DATA AND METHODS

3.1 | Data description

A renewed GSP regulation applied from 1 January 2014 following changes agreed in October 2012. This new GSP regulated the preferential treatment granted to developing countries over 10 years. The new regulation simplified the previous scheme such that beneficiaries' list was reviewed from 176 to 88 and competitive sectors excluded. It is worthwhile to mention that most existing studies have not taken the most recent changes into account. As such this article covers the period after the new regulation (from 2014 to 2017). This article adopted three different complementary approaches to assess the efficiency of the United Kingdom GSP, namely (a) quantitative analysis of the efficiency indicators—utilisation rate, coverage rate and the utility rate; (b) country and product case studies; (c) Frequency distribution analysis of preference margins and the origin rules.

The analysis of the scheme is carried out using the most current and detailed trade and tariff data obtained from Eurostat of the European Commission. Tabulation is used in presenting the extent to which eligible countries and products have utilised the United Kingdom GSP at the post-reform period. Throughout this analysis, it is acknowledged that the extent to which GSP preferences could be offered to developing countries is primarily dependent on the utilisation level. Additionally, it is identified that GSP utilisation level depends on other factors like preference margin, product coverage, rules of origin requirements and non-tariff barriers.

An in-depth estimation of the GSP efficiency is conducted, bearing in mind the aforementioned factors which could hinder effective utilisation. Trade data by country and by products were matched with tariff data at 6-digit level. Precisely, the analysis is based on export flows towards the United Kingdom market of roughly 472 agricultural products of HS Chapter 1–24. The rationale for focusing on agricultural products is that substantial trade preferences are granted to developing countries for agricultural exports, while the EU applies a modest trade restriction to its non-agricultural imports. The trade data of the 88 beneficiaries are segmented into three in line with the variants of GSP scheme: 27 countries benefiting from the basic GSP, 13 countries for GSP+ and 48 beneficiaries of the EBA program.

To allow for simplicity in presentation, some of the results are aggregated across products and countries at the 2-digit level. The analysis used trade data for the 4 years after the scheme's reform. Any analysis extended beyond this period could result in a significant data distortion because of changes in policy over the years. Hence, this article allows for an accurate evaluation of the influence of the modified regulation.

To achieve a good level of data consistency, the United Kingdom import data was used against the beneficiaries' export data. This is because the reliability and accessibility of the United Kingdom import data are far better than that of all the beneficiary countries under investigation. The overall consistency of the findings in this article is thus enhanced.

Import data for the United Kingdom is taken from Eurostat which allows downloading data by preference eligibility and by import regime. There is no such information as to whether product imports entered via a preferential quota regime. It must be noted that exporting countries are faced with different preferential regimes (such as EPA, SADC, PAC and ESA) and offered by the United Kingdom, and as such preference regimes are found to overlap for many products. The EU data only shows regimes for MFN = 0, MFN > 0, GSP = 0, GSP > 0, Preference = 0, Preference > 0 and Unknown. It then becomes difficult to identify how many preferential arrangements fall under the "Preference" category. Taking all preference regimes together could give the wrong impression that overall preference utilisation is high. As the focus of this article is on GSP scheme and its variants, this article used data that applies to only MFN = 0, MFN > 0, GSP = 0 and GSP > 0 by import regime and data for "only MFN" and "only GSP" by preference eligibility. Imports for which the regime used is "unknown" are disregarded.

3.2 | Estimation technique

This article provides tables in which the efficiency indicators are summarised, hence ignoring all imports that enter via non-dutiable MFN rate (MFN = 0) or imports that are not eligible for GSP preference. The presented tables show a summary of the obtained data based on the estimation of the utilisation rate, coverage rate and the utility rate for different subsets of the data. Table 1 shows utilisation rates for different agricultural products at the 2-digit level. As expected, we find that the utilisation rate increases with the coverage rate for most of the products. For some other products, utilisation rates remain high even for coverage rates below average. While the latter indicates the existence of huge potentials for coverage expansion, one cannot possibly observe any clear "threshold" beyond which additional coverage either stagnates or diminishes the utilisation rate.

We also aggregated import flows by HS section. Table 2 shows utilisation rates for each section. A noticeable pattern in all countries is that utilisation rates are high across agricultural products of section 4 (*Prepared Foodstuffs, Beverages, etc.—HS Chapter 16–24*). However, one may expect that the utilisation rate is relatively lower

TABLE 1 The efficiency indicators for United Kingdom's import at 2-digit product level

HS chapters	Product groups	Total imports (£)	Utilisation rate (%)	Potential coverage rate (%)	Utility rate (%)
1	Live animals	509,833	0.00	0.00	0.00
2	Meat and edible meat offal	5,407,807	0.00	0.00	0.00
3	Fish and crustaceans, molluscs	373,728,718	86.39	99.37	85.85
4	Dairy and dairy products	2,696,245	100.00	23.69	23.69
5	Products of animal origin	2,346,769	0.00	0.00	0.00
6	Live trees and other plants	18,429,217	99.32	96.26	95.61
7	Edible vegetables and certain roots and tubers	87,389,298	97.10	55.39	53.78
8	Fresh apples, pears and other fresh fruits	291,872,808	97.21	15.40	14.97
9	Coffee, tea and spices	405,312,019	85.54	14.31	12.24
10	Grains	237,694,589	99.46	4.93	4.90
11	Products of malt; starches	11,477,059	97.90	41.83	40.95
12	Oil seeds and oleaginous fruits; medicinal plants; straw and fodder	31,119,059	82.79	3.85	3.18
13	Lac; gums, resins, vegetable saps and extracts	22,993,210	47.54	0.22	0.10
14	Vegetable plaiting materials	5,541,985	0.00	0.00	0.00
15	Animal or vegetable fats and oils	73,288,927	96.27	37.94	36.53
16	Prepared meat, fish, crustaceans, molluscs or other aquatic invertebrates	189,670,635	98.55	98.49	97.06
17	Sugars and sugar confectionary	28,566,939	97.47	28.33	27.61
18	Cocoa and cocoa preparations	4,706,464	79.33	93.31	74.03
19	Prepared cereals, flour, starch or milk; pastry cooks' products	15,348,898	97.34	97.06	94.63
20	Seed fruits products (in seed equivalent)	55,894,127	95.43	78.20	74.63
21	Miscellaneous edible preparations	45,886,224	92.80	97.53	90.51
23	Residues/waste from food industries; prepared animal fodder	101,465,529	93.17	8.40	7.83
24	Tobacco and manufactured tobacco substitutes	13,133,164	99.36	79.61	79.10

Abbreviation: HS, harmonised system. *Source:* Author's calculation based on Eurostat data.

TABLE 2 The efficiency indicators for United Kingdom's import by HS section-wise, 2017

Section	MFN + GSP total imports	Total dutiable imports	MFN dutiable imports	Imports covered by GSP scheme	Imports via GSP	Potential coverage	Utilisation rate	Utility rate 6/2 (%)
	2 (£)	3 (£)	4 (£)	5 (£)	6 (£)	5/2 (%)	6/5 (%)	
Section 1	384,646,966	254,189,215	12,330,384	372,022,427	321,478,991	95.72	86.41	83.58
Section 2	916,720,288	148,980,249	78,923,402	186,868,755	175,307,231	20.38	93.81	19.12
Section 3	73,178,424	59,061,579	45,396,648	27,809,024	26,772,242	38.00	96.27	36.58
Section 4	469,296,707	240,095,337	13,605,202	340,583,680	330,180,888	72.57	96.95	70.36
Total	1,843,842,385	702,326,380	150,255,636	927,283,886	853,739,352	50.29	92.07	46.30

Abbreviations: GSP, generalised system of preferences; HS, harmonised system; MFN, most favoured nation. *Source:* Author's calculation based on Eurostat data.

for cocoa and cocoa preparations (HS Chapter 18) despite that it falls in the section 4 category. Partly, this is because the MFN tariffs on cocoa beans (raw or roasted) are currently set at 0% which reflects a low level of competition at the primary production stage. Also, developing countries which are moving up to the next stage of the

production process (cocoa preparations) are faced with tariff escalation and restrictive rules of origin.

Table 3 shows utilisation rates, coverage rates and utility rates for the largest exporters into the United Kingdom (by imports value), while Table 4 aggregates at an exporter-products level across all GSP

TABLE 3 The average of United Kingdom's GSP efficiency indicators by top GSP trading countries (2014–2017)

Countries	GSP variants 1	MFN + GSP total imports 2 (£)	Total dutiable imports 3 (£)	MFN dutiable imports 4 (£)	Imports covered by GSP scheme 5 (£)	Imports via GSP 6 (£)	Potential coverage 5/2 (%)	Utilisation rate 6/5 (%)	Utility rate 6/2 (%)
China	GSP	159,331,602,342	89,356,247,561	89,328,248,060	37,887,077	29,119,486	0.02	76.86	0.02
India	GSP	22,482,404,802	10,475,091,656	4,467,249,838	12,087,917,389	10,875,660,150	53.77	89.97	48.37
Vietnam	GSP	16,419,731,944	4,143,307,090	1,925,026,317	4,883,500,180	2,934,445,526	29.74	60.09	17.87
Thailand	GSP	9,146,515,527	6,635,079,306	6,215,236,196	1,003,431,663	790,841,013	10.97	78.81	8.65
Nigeria	GSP	5,928,653,909	53,760,576	24,503,462	81,239,405	57,249,288	1.37	70.47	0.97
Bangladesh	EBA	7,783,181,874	74,690,612	74,690,612	7,742,295,211	7,666,173,025	99.47	99.02	98.50
Costa Rica	GSP+	2,368,643,488	2,291	2,291	–	–	0.00	0.00	0.00
Pakistan	GSP+	4,064,969,362	129,416,534	116,416,951	3,659,508,794	3,583,056,027	90.03	97.91	88.14
Peru	GSP+	1,100,507,989	25,061	25,061	–	–	0.00	0.00	0.00
Cambodia	EBA	2,969,457,021	51,313,247	51,313,247	2,827,449,323	2,776,136,076	95.22	98.19	93.49
Equatoria Guinea	EBA	1,608,251,755	3,818,259	3,818,259	3,818,259	–	0.24	0.00	0.00
Ecuador	GSP+	498,935,313	167,567,053	150,499,346	65,784,682	62,803,932	13.19	95.47	12.59
Major trading partners		233,702,855,327	111,090,319,246	102,357,029,641	32,392,831,984	28,775,484,522	13.86	88.83	12.31
Total—all developing countries		252,372,414,203	116,110,862,359	104,911,701,700	39,730,215,571	34,122,162,665	37.87	85.88	29.39

Abbreviations: EBA, Everything But Arms; GSP, generalised system of preferences; MFN, most favoured nation. Source: Author's calculation based on Eurostat data.

TABLE 4 United Kingdom's imports and GSP efficiency indicators from all effective beneficiaries

Year	MFN + GSP total imports	Total dutiable imports	MFN dutiable imports	Imports covered by GSP scheme	Imports via GSP	Potential coverage	Utilisation rate	Utility rate 6/3 (%)
1	2 (£)	3 (£)	4 (£)	5 (£)	6 (£)	5/4 (%)	6/5 (%)	(%)
2014	59,717,734,331	26,662,249,453	23,595,214,537	9,771,191,228	8,430,261,234	41.41	86.28	31.62
2015	60,297,926,525	27,937,944,857	25,374,130,871	9,214,043,698	7,980,369,811	36.31	86.61	28.56
2016	62,047,202,866	29,225,686,477	26,531,192,265	9,823,217,571	8,374,989,777	37.03	85.26	28.66
2017	70,309,550,481	32,284,981,572	29,411,164,026	10,921,763,073	9,336,541,843	37.13	85.49	28.92
Total	252,372,414,203	116,110,862,359	104,911,701,700	39,730,215,571	34,122,162,665	37.87	85.88	29.39

Abbreviations: GSP, generalised system of preferences; MFN, most favoured nation. *Source:* Author's calculations based on Eurostat data.

regimes. This is an aggregation across both country and product groups. For the estimation in Table 3, it is assumed that each country gets only one of the GSP variants. For instance, the utilisation rate of EBA is based on the aggregation of all eligible exports into the United Kingdom for which EBA is the only regime, even if some exports may enter the United Kingdom under the basic GSP or GSP+. This way, the problem of overlapping regimes is avoided.

Table 5 is a frequency distribution table constructed based on the number of occurrences of 340 agricultural imports for each rule of origin classification and across four ranges of utilisation rate. In a nutshell, it involves building on simple combinatorics and the assumption that each product import is likely to occur under any of the four origin rules. Having estimated the total number of occurrences for each rule, we created four ranges of utilisation rate and then matched product observations to each of the ranges.

3.3 | Estimating GSP efficiency via descriptive efficiency indicators

A primary approach to estimating the effectiveness of the GSP is to assess the extent of utilisation. Until preferences are utilised, it is difficult to specify the definite value derived by beneficiaries. Largely, the empirical literature has employed descriptive indicators like the utilisation rate (UR), potential coverage rate (PCR) and the utility rate (U_yR).

3.3.1 | Preference utilisation rate

Preference utilisation rate indicates the usage level of the existing preferential Scheme. A preference regime offers a lower tariff rate, relative to the MFN rate, to a beneficiary country for a specific product. This could be granted within a reciprocal arrangement (such as the *Economic Partnership Agreements*—EPAs) or a non-reciprocal preferential scheme (such as the *GSP scheme*). Imports are described as dutiable (MFN ≠ 0) if they originate from a non-preference-receiving country. In some instances, dutiable imports could come from a preference-receiving country especially if certain products are not eligible for preferential treatment. As a rule, preferential regimes have exclusion lists and as such, do not accommodate all products from a

preference-receiving country in all cases. A few times, the MFN rates for certain products are non-dutiable (MFN = 0) even in a no-preference situation. Because of this, this study classifies importer-exporter-product level import flows into four categories as shown in Figure 1.

The utilisation rate of the GSP regime μ_{GSP} is given as “the ratio of imports that enter via the GSP regime and the imports eligible for GSP treatments.” Simply put,

$$\mu_{GSP} = D \times \frac{1}{C + D} \quad (1)$$

Import flows A and B are disregarded, as they are not within the “covered by GSP scheme” classification. Essentially, imports are described as eligible for GSP treatment if products from a beneficiary country are covered by the GSP scheme based on the tariff schedule. In effect, MFN tariff $T_{MFNZ} \neq 0$. It, therefore, follows those products with MFN tariff $T_{MFNZ} = zero$ are ignored. In most cases, preferential tariff T_{xyz}^* is mostly non-dutiable ($T_{xyz}^* = 0$) and if dutiable often takes a lower value than the MFN tariff T_{MFNZ} (that is $T_{MFNZ} > T_{xyz}^*$). In such a case, the exporting country derives a welfare gain from a preferential arrangement because of the positive difference between T_{MFNZ} and T_{xyz}^* (known as *Preference Margin*).

Based on the foregoing, Equation (1) is modified as:

$$\mu_{GSP}(z, x) = \frac{M_{GSP}(z, x)}{E_{GSP}(z, x)} \quad (2)$$

where,

$M_{GSP}(z, x)$ indicates imports that enter via the GSP regime.

$E_{GSP}(z, x)$ represents total imports eligible for GSP treatments.

Equation (2) above defines preference utilisation for product z from exporting country x . The value of $\mu_{GSP}(z, x)$ for an individual transaction is either 0 or 1. However, since data at the exporter-product level is an aggregation of various transactions, then $\mu_{GSP}(z, x)$ takes a value between 0 and 1. To present a descriptive analysis, this study aggregates data at the importer-product level across import regime, GSP eligibility, HS chapters and exporters. Keck and Lendle (2012) state three ways in which data aggregation can be carried out; a simple average approach, a trade-weighted average approach and a duty-weighted average approach. While the three stated measure of preference utilisation gives

TABLE 5 Frequency distribution table illustrating preference margin–GSP utilisation relationship

EBA	GSP					
	Preference margin	pm ≤ 5%	5% < pm ≤ 10%	10% < pm ≤ 20%	Utilisation rate	Preference margin
u = 0%	34	62	123	138	u = 0%	3
0% < u < 100%	7	8	7	92	0% < u < 100%	2
u = 100%	18	33	48	74	u = 100%	5
GSP+	59	103	178	304		10
	Preference margin					
		p ≤ 5%				
u = 0%			96	62		67
0% < u < 100%			9	17		11
u = 100%			13	29		36
			118	108		114

Abbreviation: GSP, generalised system of preferences.
Source: Author's computation based on Eurostat data.

the same result for transaction-level data, there is a noticeable variation in the results for aggregated data. Nonetheless, the most suitable measure of preference utilisation for aggregated data (country group or product group) is the trade-weighted approach (Keck & Lendle, 2012). The simple average approach shows a downswing biasedness as a result of modest usage of preferences in several small transactions. Similarly, certain product imports do not attract duties especially if the preferential regime is used and this tends to understate preference utilisation rate in the case of duty-weighted average approach. In this light, this study estimates product-exporter GSP utilisation using the Trade-weighted Average approach.

3.3.2 | Utilisation rate by trade-weighted average

This is given as the ratio of total preferential imports (in import value term) and the total preference eligible imports. By aggregating across the exporter-product level x and z , utilisation rate by trade-weighted average (URTWA) is illustrated thus;

$$H^{\text{TradeWeighted},z\bar{x}} = \frac{\sum_{z \in \bar{z}} \sum_{x \in \bar{x}} M_{\text{GSP}(z,x)}}{\sum_{z \in \bar{z}} \sum_{x \in \bar{x}} E_{\text{GSP}(z,x)}} \quad (3)$$

Equation (3) above represents the aggregated utilisation rate at the exporter-product level. The utilisation rate of GSP based on Equation (3) illustrates the share of eligible imports used by beneficiaries. In a strict sense, this may be too restrictive, given that it reflects only actual exports. A wider approach takes account of product exports of GSP beneficiaries that are not covered or that are excluded by the scheme (often referred to as potential coverage). A higher percentage of such estimate indicates how completely generalised the GSP scheme appears for products.

3.3.3 | Potential coverage rate

The potential coverage rate is the ratio of imports eligible for GSP treatment and the total dutiable imports. At the individual transaction level, the potential coverage rate is calculated based on the following formula:

$$PCR_{\text{GSP}} = \frac{E_{\text{GSP}(z,x)}}{M_{\text{DUTY}(z,x)}} \quad (4)$$

where,

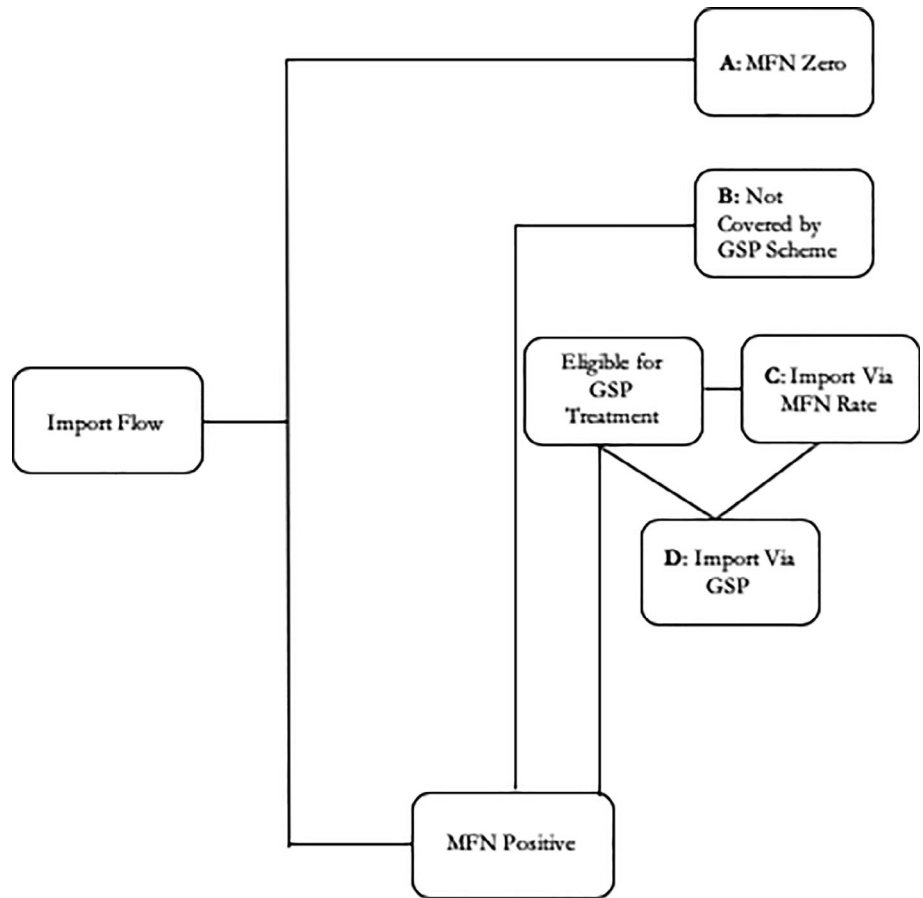
$E_{\text{GSP}(z,x)}$ represents GSP eligible imports.

$M_{\text{DUTY}(z,x)}$ is the dutiable imports.

By aggregating across the exporter-product level x and z , Equation (4) becomes:

$$PCR_{\text{GSP}} = \frac{\sum_{z \in \bar{z}} \sum_{x \in \bar{x}} E_{\text{GSP}(z,x)}}{\sum_{z \in \bar{z}} \sum_{x \in \bar{x}} M_{\text{DUTY}(z,x)}} \quad (5)$$

FIGURE 1 Types of import flows.
Source: Adapted from Keck and Lendle (2012)



3.3.4 | Utility rate

The utility rate offers and indicates how much of imports pay preferential rates compared to MFN rates. This is the ratio of imports receiving preferential treatment and total dutiable imports. At the product level, the Utility Rate is estimated using the formula below:

$$U_y R_{GSP} = \frac{M_{GSP(z,x)}}{M_{DUTY(z,x)}} \quad (6)$$

where,

$M_{GSP(z,x)}$ represents imports via the GSP scheme.

$M_{DUTY(z,x)}$ is the dutiable imports.

When Equation (6) is aggregated at the exporter-product level, it becomes:

$$U_y R_{GSP} = \frac{\sum_{z \in \bar{z}} \sum_{x \in \bar{x}} M_{GSP(z,x)}}{\sum_{z \in \bar{z}} \sum_{x \in \bar{x}} M_{DUTY(z,x)}} \quad (7)$$

4 | RESULTS, DISCUSSION AND IMPLICATIONS OF MAIN FINDINGS

The analysis in this article is limited to only agricultural products because most developing countries rely on the creation of substantial

agricultural exports without having to face tariff escalation. The question as to whether such exports have expedited development is beyond the scope of this study and not considered. We also limit our analysis to 2014–2017, a period in which the effects of 2014 GSP revision can be captured. Since this article aims not to compare the pre-reform and post-reform GSP efficiency, a period before the 2014 reform is not covered.

Table 1 shows the efficiency indicators for agricultural products (HS Chapter 1–24) imported into the United Kingdom in 2017 from 88 developing countries. The analysis of the United Kingdom GSP shows that the utilisation rate exceeds 90% in certain products but as low as 47% in others across HS Chapter 1–24 products. This averaged 92.07% across products and exporters, exceeding the 2010 EU average of 85.0 and 41.5% United States average based on the analysis in Davies and Nilsson (2013).

The 2-digit level analysis revealed products of HS 9 as the most imported in terms of value. Nevertheless, the utilisation rate is highest for “Dairy and Dairy Products” (HS4). There are various reasons for the variation in GSP utilisation rate, but most studies recognised the substantial effect of rules of origin criteria. Besides the RoOs that could create a non-tariff barrier to preferential market access, this article finds a noticeable effect of preference margin on the United Kingdom GSP utilisation. For instance, in 2017, the preference margins for products of HS1, HS2, HS13 and HS14 are low as illustrated in Figure 2, and this provides a basis for low utilisation rates.

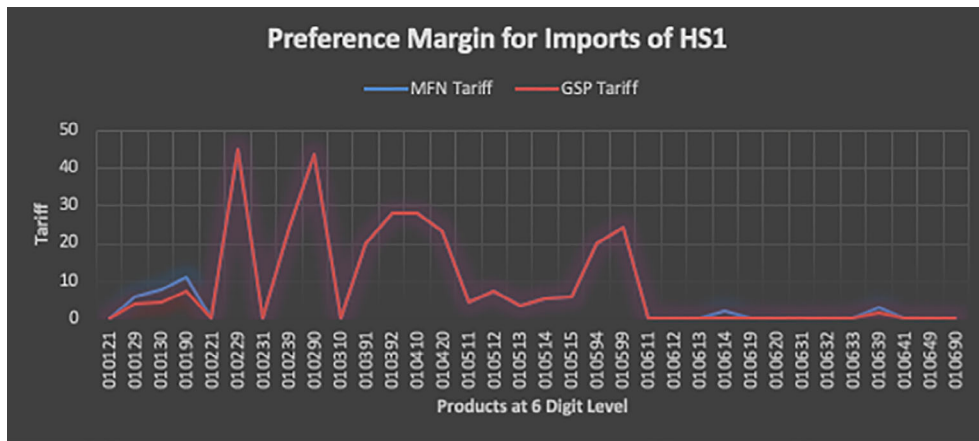


FIGURE 2 Preference margins based on MFN rates and GSP rates, by product. GSP, generalised system of preferences; MFN, most favoured nation. *Source:* Author's creation based on Eurostat data

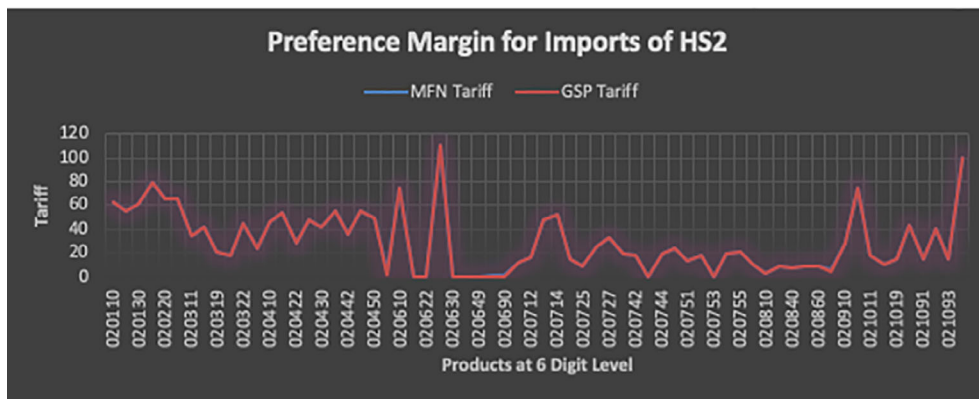
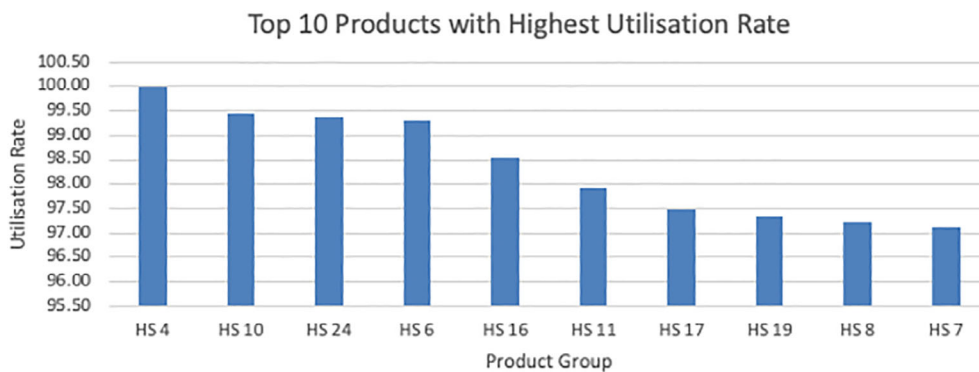


FIGURE 3 The United Kingdom's top 10 agricultural import with highest utilisation rate. *Source:* Author's creation based on Eurostat data



The absolute difference between the MFN rates and the GSP rates is termed “GSP Margins.” In most cases, MFN tariffs are higher than the GSP tariffs, making the two graphs to deviate and reflect a gap. In the graphical analysis above, the two graphs are found to overlap each other across most of the imported HS1 and HS2 products (at 6-digit level). This status of no gap between the MFN tariff graph and the GSP tariff graph indicates a condition of insufficient GSP margins and explains the rationale behind low GSP utilisation rate. This finding is consistent with Keck and Lendle (2012) in the case of Canada (where the utilisation rate is only 17% for preference margins below 1 and 75% for margins above 1%). Although, the authors reported high utilisation rates for the United States and EU even with low preference margins.

Given that the MFN rates for products of HS1, HS2 and HS5 are set at zero (non-dutiable) in 2017, exporters are more inclined to

export under MFN conditions without having to comply with rules of origin requirements and utilisation rate would naturally tend towards zero (as in Nilsson & Dotter, 2011).

Figure 3 ranks the United Kingdom's imports across HS chapter 1–24 based on top 10 products with highest utilisation rate. Similar to Dean and Wainio (2006), the 100% utilisation rate of HS 4 product goes with an exceptionally low potential coverage rate of 23.69%. This is informative and suggests that the efficiency of the GSP scheme should not be assessed by estimating only the utilisation rate in isolation of the coverage rate and the utility rate. Otherwise, certain products, for which there exist potentials to expand products coverage, would be ignored. For instance, even with the utilisation rates above 97% for products of HS4, HS8, HS10, HS11 and HS17, the coverage rates are still below average. What could be responsible for these significant coverage gaps?

In recent time, some EU GSP beneficiaries have been faced with a tariff increase in higher-value products as a consequence of their decision to increase processing capacity. As revealed by the 6-digit level analysis of HS 9 products (coffee, tea and spices) where unroasted green coffee beans attract no tariff under the United Kingdom GSP. However, roasted coffee beans attract a 2.6% ad valorem tariff and unroasted decaffeinated coffee attracts a tariff of 4.8%. Even in the face of increased tariff for higher-value products, GSP tariff for some products remains below the MFN duties, but such tariff increase places a huge restriction on product coverage.

Table 2 presents a section-wise analysis of the GSP efficiency indicators for HS Chapter 1–24 products imported into the United Kingdom in 2017.

Section 1: Live Animals and Products (HS Chapters 01–05),

Section 2: Vegetable Products (HS Chapters 06–14),

Section 3: Fats and Oils (HS Chapter 15),

Section 4: Prepared Foodstuffs, Beverages, etc. (HS Chapter 16–24).

The coverage offered under the United Kingdom GSP is quite extensive for Section 1: Live Animals and Products (HS Chapters 01–05)—roughly 96.72% of imports are eligible for GSP preferences despite having a much lower utilisation rate (86.41%) than the other sections. The utility rate of section 1 at 83.58% shows that a large percentage of the imports received preferential treatment and as a result did not pay the MFN rate. Besides, products of section 4 (Prepared Foodstuffs, Beverages, etc.—HS Chapter 16–24) that exhibited similar behaviour (utilisation rate at 96.95%, coverage rate at 72.57% and utility rate at 70.36%), both sections 2 and 3 show significantly low utility rate and potential coverage. It means that a large part of the imports for sections 2 and 3 paid the MFN rate and coverage of these products is quite low under the United Kingdom GSP. The low utility rates of section 2 and 3 confirm the stringency of non-tariff barriers discussed in Siles-Brügge (2014).

Table 3 gives a breakdown of preferential imports as well as the utilisation rate of the major GSP trading partners (identified in terms of total imports via the GSP scheme).

During 2014–2017, the average GSP utilisation rate by major trading partners was 88.83% and this figure exceeds the 85.88% average utilisation rate by all the beneficiaries. In other words, the major trading partners utilised the scheme by an additional 2.95% relative to the other beneficiaries. Based on the estimation of imports via GSP and how it relates to the imports covered by the GSP scheme, Bangladesh (EBA) shows an average utilisation rate of 99.02%. Other countries with significant GSP utilisation rates are India (GSP) 89.97%, and Pakistan (GSP+) 97.91%.

The utility rate by the major beneficiaries is 12.31% against the average of 29.39% for all beneficiaries during 2014–2017. A lower utility rate is an indication that the majority of imports into the United Kingdom come under the MFN tariffs. This is particularly insightful and corroborates the finding in Mohan, Khorana, and Choudhury (2012) that factors other than tariffs (coverage, RoOs, compliance costs, administrative costs) significantly determine GSP utilisation.

The degree of utilisation also responded to the introduced new-10-year cycle in 2014 in which the previous scheme was largely modified. As expressed in Ahmed (2014), exporters in beneficiary countries required some time to adjust to the renewed GSP scheme and the degree of utilisation reacted accordingly. Between 2014 and 2017, the average utilisation rate by all beneficiaries was 85.88%. The analysis in Table 3 reveals the average utilisation rates were higher at 86.28 and 86.61% in 2014 and 2015, respectively. Conversely, the average utilisation rates were lower at 85.26 and 85.49% in 2016 and 2017, respectively. Following the 2014 revision to the GSP scheme, the exclusion of too many sensitive products lowered the participation of major trading partners in the United Kingdom GSP. For instance, between 2014 and 2017, the utilisation rate for China declined from 76.86 to 0%, India from 91.12 to 88.70%, Vietnam from 61.79 to 60.37%, Thailand from 78.81 to 0% and Nigeria from 88.51 to 58.47%. The exclusion of several “sensitive” products, as noted in Siles-Brügge (2014), further undermined preferential treatment and resulted in lower product coverage.

It is worth noting that, other factors, such as preference margin, rules of origin requirements, administrative costs (non-tariff measures) also influence the utilisation of preferences. Many of these are related to the existing conditions and the operational structure of the GSP scheme. So, even in the face of extensive product coverage, beneficiary countries may still not utilise the GSP scheme adequately (Gasiorek et al., 2010). This is reflected in the case of Vietnam whose GSP covered imports (£4,883,500,180) far exceeded that of Pakistan (£3,659,508,794). Yet, Pakistan recorded a greater value of “imports via GSP” (Vietnam—£ 2,934,445,526, Pakistan—£3,583,056,027). This is not to undermine the ability of products coverage extension in driving GSP utilisation but a direct call to suggest a policy mix around product coverage, eligibility criteria, rules of origin and supply-side initiative. Table 4 contains aggregate imports data for the United Kingdom from 88 beneficiary developing countries.

During the period 2014–2017, aggregate imports from 88 beneficiary countries were £252.37 billion. Of this figure, only £39.73 billion were eligible for GSP preferences. This suggests that only 6.35% of the total imports from developing countries were covered under the GSP scheme. By implication, the remaining 93.65% of the total products was imported under the MFN tariffs. The paltry 6.35% of the imports covered between 2014 and 2017, maybe traceable to several factors but largely to the revision of the scheme that became effective in 2014. As pointed out earlier in this article, such revision resulted in a downward review of GSP beneficiary list from 176 to 88 and graduation of certain sectors. As a result, the scope for preferential imports considerably reduced.

It may be insufficient to assess the effectiveness of the GSP scheme by merely looking at the share of total imports (MFN + GSP) covered by the scheme (Zhou & Cuyvers, 2012). While it seems logical to assume a direct relationship between product coverage and preference utilisation, it is much more important to assess the success of a preferential scheme by looking at how much available preferences are utilised. The utilisation rate indicates how well the inherent benefits of the GSP scheme are tapped by beneficiaries. It follows that more

attention should be paid to actual imports via the GSP scheme. A look at Table 4 shows that a total £34.12 billion benefitted from the scheme out of the £39.73 billion imports covered. This figure represents a significant 85.88% utilisation rate of the United Kingdom GSP. However, with 6.35% of imports covered by the GSP scheme of the total imports (MFN + GSP), there exists a tremendous potential to improve products coverage. Especially, considering that the potential coverage ratios across all beneficiaries show a disappointingly low average of 37.87% from 2014 to 2017. As noted earlier in this article, such a low average of 37.87% indicates an insufficient coverage of products under the United Kingdom GSP.

The analysis of GSP utilisation reveals that imports via GSP scheme stagnated between 2014 and 2016, although with a slight 11.5% improvement in 2017. Despite this, both the aggregate dutiable imports and the total MFN dutiable imports consistently increased year on year. What factors could be responsible for this?

Recently, tariff liberalisation has been witnessed at all levels: multilaterally, regionally, bilaterally and unilaterally. This liberalisation process propelled reduction in MFN tariffs. Expectedly, a continuous reduction of MFN rate eroded preferential margins and impair the utilisation of GSP. It is, therefore, logical to attribute the behaviour of utilisation rate between 2014 and 2016 to the reduction of MFN tariff during the same period. This finding is theory consistent, as noted in Persson (2015) and evidenced the direct relationship between preference margins and preference utilisation. As a result, fewer beneficiaries utilised the United Kingdom GSP, during the period of low preference margins.

The relationship between preference margins and the United Kingdom GSP utilisation is further illustrated using a frequency distribution table as shown in Table 5.

The analysis in Table 5 shows the frequency distribution of 340 agricultural products eligible under each variant of the United Kingdom GSP. Of the 340 products analysed under the basic GSP, about 304 products come under preference margin of less than 5% ($PM < 5\%$), 26 products under preference margin 5–10% ($5\% < PM \leq 10\%$) and 10 products under preference margin 10–20% ($10\% < PM \leq 20\%$). Out of the 304 products of “ $PM < 5\%$ ” category, about 138 (45.39%) products recorded zero rates of GSP utilisation, 92 products (30.26%) with a utilisation rate of less than 100% but greater than 0% and 74 products (24.34%) with 100% utilisation rate. This suggests that GSP beneficiaries took less advantage of the United Kingdom GSP scheme when preference margin was low ($PM < 5\%$) by

not using preferences at all for roughly 45.39% and utilising only 24.34% of the 304 products eligible under the scheme.

On the flip side, in the scenario of a relatively higher preference margin ($10\% < PM \leq 20\%$), about 50% of the eligible products recorded 100% utilisation. This is higher than the 24.34% obtained in a low preference margin scenario. And directly refute the generalisation of Manchin (2006) that preferential margin does not affect the amount of preferential trade, once the decision to use a preferential arrangement has been made.

However, the analysis of preference margin—GSP utilisation relationship for EBA and GSP+ shows a widely divergent route. For instance, despite $10\% < PM \leq 20\%$, higher percentages (69.1%—EBA and 58.77%—GSP+) of the eligible products (178 products—EBA and 114—GSP+) recorded GSP utilisation rate of 0%. This finding once again emphasises the “economic puzzle” (as discussed earlier in this article) regarding the linkage between preference margin and preference utilisation. Essentially, we are inclined to agree to the conclusion of Hakobyan (2011) about the existence of a non-linear relationship between preference margin and utilisation rate. Hakobyan estimated a cut-off point outside which the positive relationship between the two variables vanishes. This finding is insightful and particularly points out that low preference margin is not an overriding cause of low utilisation in all cases. There is, therefore, a scope to further investigate the specific beneficiaries' country-product features of the United Kingdom GSP relating to local content of the product (rules of origin) and/or the bureaucratic requirements of claiming GSP preference. Table 6 shows the frequency distribution for rules of origin classification and how it relates to the utilisation rate.

The frequency distribution table above shows the frequency of occurrence for the four “rules of origin” classifications, along with four ranges of the United Kingdom's GSP utilisation rate. The analysis illustrates the utilisation rates of 340 agricultural products based on RoOs classification. About 175 products come under the “Wholly” rule and this represents 51.47% of the total products analysed. It is not surprising that such percentage of agricultural products was imported under the “wholly” rule as this categorisation applies mainly to things that have natural occurrence and to products that are made entirely from them. We also find that roughly 109 (62.28%) of the total “wholly” imports showed significant utilisation rates of between 76 and 100%.

Understandably, the figures are less in the other categories. For instance, fewer products were imported under the “Specific” rule (115), “Any Heading” rule (41) and “% Value” (9). However, the

Utilisation rate (%)	% values	Any heading	Specific rule	Wholly
0–25	5	16	25	54
26–50	0	1	2	6
51–75	2	1	4	6
76–100	2	23	84	109
Total	9	41	115	175

TABLE 6 Frequency distribution table illustrating RoOs—GSP utilisation relationship

“Specific” criterion recorded a higher percentage (73.04%), of the total “specific rule” imports, having utilisation rates of between 76 and 100%. This simply suggests that despite agricultural products having natural occurrence which adequately qualifies them as “wholly obtained.” Developing countries are still attempting to increase their processing capacity and have become enthusiastic in processing agricultural products beyond their natural form before exporting. Quite frankly, the United Kingdom's GSP rules of origin make some provisions for higher-value products, but developing countries are required to satisfy the “sufficient working or processing” before originating can be obtained.

Essentially, RoOs could act as a “push factor” for developing countries to consider further processing of agricultural products both for local consumption and for exports, having obtained originating status via “sufficient working or processing” (Hoekman et al., 2016). Meanwhile, stringent RoOs depress higher-value agricultural exports and subsequent utilisation. This finding specifically points out to one issue identified in Khanal (2011) that RoOs discourage the utilisation of GSP preferences. This article, therefore, presents an entirely different lens through which RoOs could be seen as posing a challenge to GSP utilisation.

5 | POST-BREXIT PROSPECTS AND CONCLUSION

The existing GSP arrangements have the potential to benefit preference recipients through diverse channels – Export growth, Preference margin, cumulation rules (Helpman, Melitz, and Rubinstein, 2008; Melitz, 2003; Panagariya, 2002). The potential benefits, however, are dependent on certain features of the existing scheme; First, RoO is found to impact on product exports of developing countries by increasing the cost of using the scheme (Bombarda & Gamberoni, 2013; Georges, 2010; Grinols & Silva, 2008; Jakob & Fiebiger, 2003). Second, the magnitude of product coverage in the beneficiary countries incentivizes preference utilisation especially for products that are classified as country's main exports (Candau & Jean, 2004; Chaplin & Matthews, 2005; Manchin, 2006). Third, the extent of NTBs faced by developing countries specifically restricts the utilisation of preferential arrangements (Mohan, Khorana, & Choudhury, 2013).

The idea that the above-mentioned features may moderate the likelihood to utilise the GSP scheme is not entirely new; however, to the best of our knowledge, the United Kingdom's GSP has not been examined in a unified context of these features. We fill this gap.

The results in this article could lead us to an intuitive conclusion that GSP beneficiaries failed to utilise the preferences to the full extent in trade with the United Kingdom. While the utilisation rates of GSP are typically high and positively related to the size of preference margin, it was found that both utilisation and coverage rates significantly declined at the post-reform period. As such, the modified scheme has not provided further market access for all the beneficiaries and products in the United Kingdom. This can be attributed to several factors. For instance, successive turns of multilateral trade

liberalisation which eroded preference margins and made it difficult for many of the beneficiaries to keep up with expected utilisation rates. Also, the growing figure of economic partnership agreements and FTAs finalised by the EU in recent years further undermined the relevancy of the GSP scheme.

In what follows, the present United Kingdom GSP has only favoured a relatively small cluster of developing countries that appear to be well integrated into the multilateral trading system. This is evidenced by the result in Table 3 where the average GSP utilisation rate by major trading partners was 88.83% and exceeding the 85.88% average utilisation rate by all the beneficiaries. Further evidence comes from the fact that Cambodia and Bangladesh benefit the most while many EBA sub-Saharan African countries gain so little. Taking these into account, coupled with the disappointingly low coverage and utility rates across products and countries, it would be a significant missed opportunity for the United Kingdom to simply copy existing arrangements rather than seek to improve upon the EU's approach to GSP. In the short run, it is recommended that the existing GSP approach be strengthened by incorporating improved preference margins and products coverage, together with more liberal rules of origin criteria for preferential imports. In the long run, it is advised that; (a) GSP eligibility criteria be reviewed to adequately capture economic vulnerability metrics as this will make United Kingdom GSP more geared towards developing countries most in need, (b) the existing supply chain constraints in the beneficiary countries should be addressed to enhance their competitiveness and catalyse their integration into the global economy. The short and long run recommendations are fully described below.

5.1 | Improve preference margins for product imported under the United Kingdom GSP

This article shed new light on the utilisation of the United Kingdom GSP by looking at three ranges of preference margins. Our analysis demonstrates that utilisation widens with the spread of preference margin and the value of export. It is also revealed that only about 50% of the agricultural imports showcased significant preference margins—largely products of HS Chapters 16–24 (*Prepared Foodstuffs, Beverages, etc.*). And the other products with low preference margins are found to feature low MFN tariffs. This suggests that the scope for providing preferential access through tariff reductions is limited, and this is a fundamental feature of the EU GSP, arising from a widespread low level of MFN tariffs.

As tariffs reduction becomes widespread across the globe, the margins created by the preferential tariffs become increasingly insignificant. While the existing GSP scheme will probably not be suspended as a result of reduced utilisation of the scheme, it will possibly lose its relative relevance sooner or later if insufficient margins persist. This, therefore, calls for a strengthened framework of the United Kingdom preferential tariffs post-Brexit such that MFN rates are lowered in relation to preferential tariffs to maintain a reasonably high preferential margin.

5.2 | Allow broader product coverage for product imports under the United Kingdom GSP

As illustrated earlier, the preferential market access offered via the United Kingdom GSP showcases an extensive coverage gap across the applicable regime. Even though, the United Kingdom GSP covers roughly 66% of product lines, a 6-digit level analysis revealed that only about 28% of the dutiable imports (with MFN > 0) from developing countries are offered duty-free access. The exclusion of certain products and countries under the GSP program further heightened the existing coverage gaps. For instance, the two main exports of Belize (banana and sugar), two exports of Ghana (bananas and yams), three exports of Jamaica (sugar, sweet oranges and rum) and four of Swaziland's main exports are not covered under the current United Kingdom GSP regime.

Resulting from the insufficient coverage of developing countries' main exports are strong efforts by them to increase their processing capacity. However, they are faced with tariff escalation in higher-value products and this has inhibited their capacity to process agricultural products beyond their natural form. This undermines the developmental impact of a preferential arrangement and the affected developing countries might be tempted to believe that GSP scheme is a hoax. Given this, the alternative preferential arrangement becomes appealing to them and the utilisation rates of GSP dwindle. The case of EBA is much better as beneficiaries are offered duty-free access to everything except arms. As such, there is an extensive product coverage to around 99% of product lines. However, EBA eligibility is restricted to least developed countries (LDCs).

A redesigned post-Brexit GSP scheme by the United Kingdom could scale up the EU's approach by unifying the three variants of the United Kingdom GSP to align with the developmental expectations of eligible countries. To achieve this, it is recommended that the United Kingdom extend the comprehensive product coverage of the EBA program to non-LDCs. This would allow the main exports of developing countries to benefit from improved market access and offer an enhanced capacity to diversify via removal of tariff peaks and escalation.

5.3 | Streamline the existing rules of origin

It is important to point out that, rules of origin provide a good platform to subject product imports to checks to ascertain compliance with regulatory standards and to consider for appropriate tariffs. However, excessively stringent rules of origin could be harmful to regional cooperation and restrain the scope to enhance developing countries' share of value addition. A handful number of developing countries depend on components and products that are not produced locally. When such parts are imported and added to the list of raw materials in production, products of developing countries might be disqualified as "wholly obtained" under rules of origin criteria. This, essentially, limit the ability to develop countries to process and export higher-value products, and in effect, restrict their exports of primary

products. This description reflects the complex approach of the current EU scheme in which the regulation on GSP rules of origin includes different thresholds depending on the relevant HS chapter.

By streamlining the United Kingdom rules of origin criteria to allow for a robust Cumulation, materials from other countries can be combined, processed, and exported by developing countries without necessarily facing tariff escalation or penalty. The post-Brexit GSP scheme could encompass the proposals of developing countries in the Nairobi WTO ministerial declaration by adopting flexible and simple rules of origin that allow the Cumulation of products from any eligible country. The United Kingdom could even pursue a more robust option of allowing the LDCs to effectively abolish rules of origin by creating a "global Cumulation" classification. This would mainly relax the origin criterion to a maximum of 100% foreign content, lower the existing barriers to trade and increase the utilisation rate of the GSP scheme.

5.4 | Enhance the eligibility criteria for preferential market access under the United Kingdom GSP

The WTO rules specifically condition GSP eligibility on objective developmental criteria. However, there is no universally agreed-upon criterion for what makes a country developing, making it contentious to identify certain developing countries as most in need of GSP treatment. The World Bank classification of countries based on income groups has attracted huge criticisms on account that it does not adequately capture certain developmental metrics. This article does not aim to recommend a one-size-fits-all approach but rather suggests a flexible framework that can address a variety of needs. The United Kingdom can essentially design inclusive criteria that cover non-economic indicators, whether it be social, socioeconomic, or environmental, to determine the eligibility of developing countries for GSP treatment.

It is recommended that such methodology captures a large set of indicators such as educational attainment, the tendency of natural disaster, level of gender equality and carbon embodiment. This way, the United Kingdom would come up with a future-oriented GSP scheme that addresses the needs of structurally weak, vulnerable, and small economies (SWVSEs). The adoption of such criteria would also enable a wider range of "countries most in need" to be granted GSP treatment than may have been excluded based on income classification alone. This offers an opportunity for the United Kingdom to pioneer a forward-thinking assessment for identifying countries most in need under the GSP scheme.

5.5 | Address supply chain constraints, regulatory institutions and economic governance in developing countries

The effectiveness of the GSP scheme can be strengthened by aid for trade, regulatory cooperation, trade facilitation and investment promotion. Specifically, aids for trade can make a real difference in

improving supply capacity and that could be linked to the utilisation of the GSP scheme. On theoretical grounds, schemes of trade preferences should not be isolated from the above-mentioned factors if deeper trade and development partnership is considered necessary to address supply-side constraints. Such efforts would make SMEs thrive and could result in enhanced effectiveness of the GSP scheme.

Of huge importance are other supports that extend beyond the capacity of supply-side projects and targeted at improving regulatory institutions and economic governance in developing countries. Notwithstanding the EU is the largest provider of aid for trade, literature evidenced a lack of success in using such instrument to build developing countries' trade capacity and the infrastructure they need to benefit from GSP scheme. Also, despite the EU Policy Coherence for Development, it has been noticed that both DG TRADE and DG DEVCO, which deal with trade and development agenda, are less integrated at the EU level than they are with some individual member states. As a result, the EU schemes of trade preferences and other trade agenda with developing countries have been criticised as having fewer impacts on developmental parameters.

After Brexit, the United Kingdom could play an important role in showing how the above-mentioned policies can be integrated into trade policy initiatives and in essence make GSP scheme an effective instrument of economic development. This would provide demonstration effects regarding the benefits of United Kingdom GSP and highlight the opportunities it creates.

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How to cite this article: Akinmade B, Khorana S, Adedoyin FF. An assessment of United Kingdom's trade with developing countries under the generalised system of preferences. *J Public Affairs*. 2020;e2308. <https://doi.org/10.1002/pa.2308>

APPENDIX A.

TABLE A1 Studies on utilisation of trade preferences

S/N	Authors	Period covered	Country	Variables	Data sources	Methodology	Findings
1	Candau and Jean (2004)	2001	EU	Coverage rate; utilisation rate; utility rate	Eurostat	Descriptive efficiency estimation	Weak utilisation rate caused by strict RoOs
2	Gallezot and Bureau (2005)	2002	EU	Utilisation rate Preference margin	TRADEPREF database	Descriptive efficiency estimation	Weak utilisation rates. Preferences are more used when more predictable and durable
3	Wijayasiri (2007)	2000–2004	EU and US	Utilisation rate Coverage rate Utility rate	Eurostat	Descriptive efficiency estimation	The weak utilisation rate for the EU GSP scheme caused by strict rules of origin criteria
4	Aiello and Demaria (2010)	2001–2007	EU	Export flows	COMTRADE database	Gravity model	High utilisation at country level, mixed evidence at the product level
5	Bureau et al. (2007)	2002	EU and United States	Utilisation rate Preference margin Export volume	TRADEPREF database	Probit model	High utilisation linked to preference margin
6	Gallezot and Bureau (2005)	2002	EU	Utilisation rate Preference margin	TRADEPREF database	Descriptive efficiency estimation	High utilisation rate across several products and countries
7	Hakobyan (2011)	2008	United States	Utilisation rate	USITC trade database	Descriptive efficiency estimation	Low utilisation rates caused by weak production structure of beneficiary countries
8	Keck and Lendle (2012)	2008	Australia, Canada, EU and the United States	Utilisation rate	Eurostat and USITC	Descriptive efficiency estimation	High utilisation rates and increases with the size of the preference margin and the export value
9	Demaria and Drogue (2008)	2013	EU	Utilisation rate	Eurostat	Descriptive efficiency estimation	Overall high utilisation rates

Abbreviations: GSP, generalised system of preferences; RoOs, rules of origins.