Assessing the Effectiveness of European Union Generalised System of Preferences: Framework Development and Empirical Analysis

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Abstract

This study developed a multi-dimensional framework to examine the effectiveness of the EU Generalised System of Preferences (GSP). The EU GSP scheme is designed to address a range of developmental challenges, foremost being poverty reduction and the integration of developing nations into the global trading system. Despite prolonged participation, numerous countries continue to experience persistent poverty and face significant barriers to global market integration. This necessitates a critical evaluation of the GSP's effectiveness, highlighting both the developmental challenges in beneficiary countries and the optimisation status from the EU as the donor country. Existing research on GSP effectiveness is fragmented and varies widely in conceptual focus, complicating the monitoring and prediction of outcomes. To address this, this thesis constructs a comprehensive framework to objectively evaluate GSP efficiency, poverty reduction, and integration into Global Value Chains (GVCs). The framework is empirically tested across three chapters using Fixed Effect estimation (FE), Structural Equation Modelling (SEM), and Generalised Least Squares (GLS) with datasets spanning from 2010 to 2019. The first key finding reveals that the EU GSP scheme has been largely inefficient for beneficiary countries, with an average utility rate of 23.73% among effective beneficiaries. These finding challenges previous studies that equate high preference utilisation with GSP efficiency, which often overlook the scheme's procedural limitations that are reflected in the utility rate. The second finding, derived through SEM and non-linear estimations, indicates that the GSP is ineffective in reducing poverty within beneficiary countries, with the overall impact on poverty being positive and significant. Finally, the study finds that increased restrictiveness in rules of origin (RoO) exacerbates difficulties in GVC integration. However, incorporating cumulation provisions mitigates this adverse impact, reducing the negative effect to 12%. The significant positive coefficient of the cumulation variable highlights its vital role in facilitating GVC integration. The study also notes significant variability among GSP beneficiary countries in accessing the cumulation provisions influenced their potential for GVC integration. While the continuation of the GSP is recommended, this study underscores the need for substantial equitable improvements to ensure that market access conditions for developing economies align with and support the scheme's developmental objectives.

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List of Abbreviations

Abbreviation	Definition
ACP	African, Caribbean, and Pacific regions
ASEAN	Association of Southeast Asian Nations
AVE	Ad Valorem Equivalent
BIT	Bilateral investment treaties
CEPII	Centre d'Études Prospectives et d'Informations Internationales
CGE	Computable General Equilibrium
CPI	Consumer Price Index
CTC	Change in Tariff Classification
DESTA	Design of Trade Agreements (DESTA) Database
DVA	Domestic Value Added
DVX	Indirect value Added.
EBA	Everything but Arms
EC	European Commission
EEC	European Economic Community
EPA	Economic Partnership Agreement
ESA	Event Study Analysis
EU	European Union
FB	Fiscal Balance
FDI	Foreign Direct Investment
FE	Fixed Effect Estimation
FTAs	Free trade agreements
FTT	Farmer's Terms of Trade (FTT) Index
FVA	Foreign Value Added
GAM	Goal Attainment Model
GDP	Gross Domestic Product
GE	Gravity Equation
GLS	Generalised Least Squares
GSP	Generalised System of Preferences

GVCs	Global Value chains
HLM	Harberger-Laursen-Metzler
H-O-S	Heckscher-Ohlin-Samuelson
HS	The Harmonised System, HS, nomenclature
IPM	Internal Process Model
ITN	International Trade Network
LDC	Least-developed Countries
MFN	Most-Favored-Nation
MLE	Maximum Likelihood Estimator
NAFTA	North America Free Trade Agreement
NTBs	Non-Tariff barriers
NTMs	Non-Tariff Measures
ODI	Oversea Development Institute
OECD	Organisation for Economic Co-operation and Development
OKR	Objectives and key results
OLS	Ordinary Least Squares
PTA	Preferential Trade Agreements
RMSEA	Root Mean Square Error of Approximation
RoO	Rules of Origin
RTA	Regional Trade Agreement
SAARC	South Asian Association for Regional Cooperation
SCM	Strategic-Constituency Model
SDT	Special and Differential Treatment
SEM	Structural Equation Model
SRM	System Resource Model
SSA	Sub-Saharan African
TFEU	Treaty on the Functioning of the European Union
ToT	Terms of Trade
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development

US	United State
VAT	Value-Added Tax
VIF	Variance Inflation Factor
VSS	Voluntary Sustainability Standards
WDI	World Bank's Development Indicators
WIOD	World Input-Output Database
WION	World Input-Output Network
WTS	World Trading System
WTO	World Trade Organization
WTW	World Trade Web

Chapter 1 Introduction

1.1 Background

The Generalised System of Preferences (GSP) scheme of the European Union (EU)[1] has its origin in the broader principle of special and differential treatment (SDT)[2] for developing countries (Das 2007). It was argued, primarily within the United Nations Conference on Trade and Development (UNCTAD), that trade on a most-favoured-nation (MFN)[3] basis ignored unequal economic realities among trading nations, especially between developing and developed ones, in terms of stages of development, factor endowments, size of markets, efficiency and diversification of production structures (Murray and Murray 1977; Karsenty and Laird 1987). As part of global policy responses to correct the imbalances in global economic relations, special and differential treatment needed to be provided to developing countries. This treatment includes the reduction/elimination of tariff barriers to exports of developing countries without requiring reciprocal treatment (Baldwin and Murray 1977)

The concept of non-reciprocal trade preferences was not widely supported. Several developed countries argued against trade preferences and any trade arrangement not compatible with non-discriminatory trade under MFN conditions (Baldwin and Murray 1977; Karsenty and Laird 1987). The divergences in views were captured in the final compromise that was adopted in 1968 by the international community at the second UNCTAD conference (Bhattacharya 1976). At its core, the GSP scheme was conceived as a tool to address multifaceted developmental challenges, foremost among them being poverty reduction (Snyder 2011). Additionally, it aimed to facilitate the integration of developing countries into the World Trading System (WTS) (Özden and E. Reinhardt 2005). Underpinning the economic spirit of the GSP scheme was an implicit expectation that participating countries would ascend the developmental ladder, eventually attaining a point where they could engage in reciprocal trade relations with their developed counterparts. This is particularly noteworthy as the GSP scheme grants beneficiary countries preferential market access, either through duty-free entry or significantly reduced tariffs compared to the standard MFN rates, for products originating in these countries. By lowering or eliminating MFN tariffs, the GSP scheme enhances the competitive edge of beneficiary exports in terms of pricing when compared to similar products subject to MFN duties (Grossman and Sykes 2005; Anson et al. 2009; Snyder 2011).

[1] Hereafter referred to as "GSP scheme", created following UNCTAD recommendations in 1971.

[2] The principle of Special and Differential Treatment (SDT) recognises the differences in development levels among WTO member countries and aims to address these variations by providing certain flexibilities and favourable treatment to developing and least-developed countries (LDCs) within the global trading system.

[3] the standard or non-preferential tariff rate applied to imported goods from a specific country, ensuring a level playing field in trade by avoiding discriminatory tariffs or preferences among trading partners.

Despite decades of participation in the GSP scheme, a significant number of countries[4] remain ensnared in persistent poverty crisis (ODI 2011; Siles-Brügge 2014; Gnangnon 2023). Moreover, their integration into the global trading system remains a challenge yet to be fully realised (Peers 1995; Özden and Reinhardt 2005; Schmülling 2011). This prompts a critical examination of the GSP scheme's effectiveness[5], emphasising the realisation that the GSP has not served as a panacea for addressing the challenges that informed its objectives. These observations have precipitated two plausible suppositions. First, the possibility that certain elements within the GSP policy framework have hindered the realisation of the scheme's objectives – *Structural impediments* (Gasiorek et al. 2010; De Bie`vre and Eckhardt 2011; Holland and Doidge 2012; De Bie`vre and Poletti 2013). Second, the reality that some participating countries lack the requisite institutional frameworks to harness the economic advantages presented by the GSP scheme – *Institutional capacity gaps* (Faber and Orbie 2009).

The *Structural impediments* indicate that specific drawbacks are inherent to the GSP framework and pose significant obstacles to achieving the intended objectives (Hoekman and Ozden, 2006, Dowlah 2008). A case in point is the complexity of rules of origin (RoO)[6] which induces huge costs relating to specific technical requirements and administrative procedures (Anson et al. 2009; Carrere and de Melo 2011; Brenton and Manchin 2003). It is also noted in relevant GSP literature that a country or specific products can be excluded (*ex-ante*) or graduated (*ex-post*) from GSP treatment, which might be products in which GSP countries have a comparative advantage (Panagariya 2000; Grossman and Sykes 2005). As GSP has no reciprocal binding, exclusion/graduation can be done unilaterally by the donor countries. The analysis of *institutional capacity gaps* has typically been pursued in a gravity modelling context where some country-level parameters have been reported to increase or decrease trade costs. Particularly important has been in this respect the contribution of Hakobyan (2011); Keck and Lendle (2012) and Hayakawa et al. (2019), where they emphasise the adverse implication of trade costs on the gains of GSP participation.

Consequent to both the structural impediments and the institutional capacity gaps, the European Commission (EC) introduced a major revision of the RoO in 2011[7], and at a stroke went from having one of the most

[4] These countries, classified as Least Developed Countries (LDCs) and developing countries during the nascent years of the scheme, have mostly remained in similar level of development since the 1970s.

[5] refers to the degree to which a trade arrangement, policy, or intervention achieves its intended goals and objectives.

[6] the origin requirements must be fully met within one exporting preference-receiving country, which must also be the country where the finished products are manufactured.

[7] The key change was from origin being determined by a minimum local content rule of 60 per cent (dating from the 1970s) to it being determined by a maximum foreign content of 70 per cent.

restrictive RoO among GSP donors[8] to among the most liberal (Hoekman et al 2016). This was immediately followed by the announcement of a new trade and development strategy in January 2012, proposing concrete ways to enhance synergies between trade and development policies. Crucially, the communication emphasised specific prioritisation for the neediest countries[9], viewing GSP as a vital tool in combating poverty (Siles-Brugge 2014; Hoekman et al. 2016). Furthermore, the new GSP regulation came into effect in January 2014, intended to focus the GSP scheme on the countries lacking product diversification and those poorly integrated into the world economy (Carbone and Orbie 2014; Heron 2014; Beke and Hachez 2015)

The European Commission has justified these reforms in terms of providing GSP countries with the space to develop their export markets. As noted in the framing communication on Trade, growth and development[10], the European Commission asserted that the diverse reforms undertaken align with the pertinent effectiveness criteria. The noticeable increase in the utilisation rate[11] from 48.97% in 2010 to 64.41% at the end of 2014 (Akinmade et al 2020), perhaps, gave credence to this claim. This has followed a body of scholarship which has situated GSP effectiveness within the context of the utilisation rate. Aligned with this concept, the scholarly discourse has also put forth other interpretations such as export growth and preference margins (Manchin 2006; Dowlah 2008; Wagner 2010; Keck and Lendle, 2012; Zhou and Cuyvers 2012; Thelle et al. 2015; Cirera et al, 2016); Voluntary Sustainability Standards (VSS) (Marx 2018); stability, product coverage, flexible rules of origin and robust eligibility provisions (Snyder 2011).

Siles-Brugge (2014) argues that, if the GSP scheme was as effective as claimed, there would not be noticeable oscillations (at 60%) in the average utilisation rates across effective beneficiaries. Even at its peak in 2014 (at 64.41%) the utilisation rate was sub-optimal. The author reported the influence of restrictive eligibility criteria and graduation threshold on GSP effectiveness. Young and Peterson (2013) echo similar sentiments, stating that the EU's commercial trade agenda has eroded the effectiveness of GSP treatment. Studies like Gasiorek et al. (2010), and De Bie`vre and Eckhardt (2011) highlight the reduction of preference margins[12] for some

[8] often compared unfavourably with AGOA rules and notably the US rule that allowed third country cloth to count as domestic.
[9] These are countries facing significant challenges in terms of poverty, underdevelopment, and limited access to global markets.

[10] See Commission, 2011a. Proposal for a regulation of the European parliament and of the council applying a scheme of generalised tariff preferences. COM (2011) 241 final. Brussels: European Commission.
[11] It measures the percentage of eligible products that is exported to the EU market under the GSP scheme.
[12] Preference margins refer to the difference between the normal (non-preferential) tariff rates applied by the EU and the reduced or zero tariffs offered to eligible goods under the GSP schemes.

products[13]of interest to EU importers. According to the authors, these are products through which some beneficiaries could establish a foothold in the EU market.

Clearly, the concept of effectiveness has been perceived and presented very differently in GSP literature and adopting one in isolation would result in weak approximations of the actual picture. It would be expected that, with decades of varying methodological approaches, GSP effectiveness should be less contested and vague (Manchin 2006; Dowlah 2008; Wagner 2010; Keck and Lendle, 2012; Zhou and Cuyvers 2012; Thelle et al. 2015; Cirera et al, 2016). Yet, the evaluation of effectiveness continues to be constructed within self-selected approaches with no standardised theoretical underpinning. The constant struggle to understand why GSP effectiveness is not situated within a unified framework has plagued researchers and policymakers for decades. So, bringing into focus the concept of effectiveness[14] allows to review the ways it has been perceived and presented.

This thesis argues that a unified framework for ex-post analysis is lacking across empirical literature. While studies such as Cirera et al. (2016); Guda et al. (2016); Darounphanh (2017); and Lebzelter and Marx (2020) provide relevant insights, the adopted approaches are riffed with different conceptual foci, making it difficult to accurately monitor and anticipate effectiveness outcomes. The differences in approaches would matter little if effectiveness outcomes converge across existing studies. The noticeable divergence has continued to threaten the relevance of the GSP scheme to a point where donor countries are gradually gravitating towards reciprocity. There is, therefore, a growing realisation that GSP effectiveness needs to be rethought within a consistent context that establishes a greater understanding of what effectiveness means in theory and practice. This thesis provides insight across different perspectives and with effectiveness considerations covering GSP procedural elements as well as the beneficiary countries' specific characteristics. This has become important between 2010 and 2020, a period where several reforms were undertaken to improve the effectiveness of the EU scheme. This thesis empirically answers the questions put forward in theoretical literature where GSP reforms are situated within the wider context of the EU's commercial trade policy. In the words of Siles-Brugge (2014), the reforms have not made GSP an effective tool of development and must be seen as part of the move towards improving leverage in ongoing reciprocal trade negotiations.

[13] such as textiles and clothing

[14] Effectiveness indeed refers to the ability of a program or policy to achieve its intended objectives. This refers to the extent to which GSP intervention achieves its intended objectives. It focuses on GSP outcomes and whether they align with the desired goals. In essence, effectiveness answers the question, "Did the program work?"

This thesis aims to construct a unified framework based on the procedural[15], substantive[16], transactive[17] and normative[18] elements of GSP operations. This process draws on the logic model[19] to identify possible linkages between the criteria of effectiveness classification and across the stages of the GSP cycle. The framework is further applied in an empirical context using the Fixed Effect estimation (FE), the Structural Equation Model and Generalised Least Squares (GLS) to provide a unified picture of the effectiveness of the EU GSP scheme. There is little evidence that such comprehensive work has been attempted to date.

1.2 Research Question and Philosophy

Despite the paradoxes associated with the evaluation of GSP effectiveness, the search for a unified assessment framework remains central in the empirical literature. This thesis argues that effectiveness is a construct and can indeed have an empirical basis. An exploration of the diverse effectiveness criteria is, therefore, requisite in constructing a more inclusive perspective. The relevant viewpoints include Wagan (2015) which examines GSP effectiveness within its ability to promote the exports of beneficiary countries; Agostino et al. (2011) which focuses on export flows but considers the mediating role of RoO compliance costs; Ahmed (2014) which analyses the role of GSP revisions on effectiveness via exports; Khanal (2011) observes GSP effectiveness via the effects of preferential Rules of Origin; Lubinga et al. (2017) explore a preference margin approach; Abreu (2016) highlights the conditions of GSP regimes such as the Rules of Origin requirement; Gasiorek and Gonzalez (2011) report the erosion of preference margins following expansion in Reciprocal Trade Agreements (RTAs); Siles-Brugge (2014) discusses the exclusion of key products following reforms; Jones and Copeland (2017) mention the graduation clauses embedded in GSP provisions and the eligibility criteria. With these conditions being key drivers of effectiveness, they have continued to feature prominently in the contemporary GSP empirics, particularly in the context of how much they could *facilitate* or mar the attainment of GSP objectives.

[15] As an input to policy measures, effective GSP must provide beneficiaries with friendly procedures and conducive policy to utilise the GSP scheme (Snyder 2011; Persson and Wilhelmsson 2016).
[16] Does GSP increase exports, facilitate poverty reduction or foster integration into the World Trading System market integration? Which objectives are achieved? (Zhou and Cuyvers 2012).
[17] Does the GSP scheme deliver maximum objectives at the lowest cost and within the least time possible? (Agostino et al. 2010)
[18] Investigation involves uncovering alignment with established norms, legal frameworks, and ethical standards governing trade policies and developmental initiatives (Herz and Wagner 2011).
[19] A visual representation to understand how various inputs, activities, outputs, and outcomes are interconnected and contribute to the achievement of specific goals and objectives.

The pursuit to formulate GSP effectiveness criteria is not entirely new. In fact, in the early discussions of GSP in the 1960s, the scheme was visibly tied to the integration of developing countries into the World Trading System (Cuyvers and Soeng 2013). Such integration is illustrated by developing countries being active participants in regional and global value-added trade through the cumulation mechanism[20]. Article 208 of the Treaty on the Functioning of the European Union (TFEU) also identifies the eradication of poverty as one endpoint of an effective GSP scheme (Hout 2016).

Multiplicity in perspective, however, has not offered a consistent approach to assess GSP effectiveness. More so, existing literature appears fragmented and fails to present a clear definition, much less a cosmic model for assessing it. The approaches in the literature are conceptually different, making it knotty for GSP effectiveness to be globally interpreted. Meanwhile, each approach is valuable and instructive for assessing effectiveness in some instances, though with inherent narrowness if considered in isolation.

Given the empirical character of GSP effectiveness, it would be expected to situate the embedded observations of effectiveness criteria within an existing economic model. In this case, this study holds that effectiveness is best rooted in a grand model that adequately measures the entire interacting components of the GSP framework. While the mainstream trade models offer some insight from which assessment can be made, the construction of an effectiveness framework requires considering multiple dimensions and perspectives. This limitation constrains the questions around GSP effectiveness and raises two particularly symbiotic pathways. Firstly, the need to associate existing approaches with specific models, and secondly, to identify a grand model that effectively links all observations in the GSP system. In any case, this study is based on economic principle, in the form of Special and Differential Treatment (SDT), but considerations are extended to management models of effectiveness. In some way, creating a comprehensive framework for assessing GSP effectiveness would require a new synthesis of management and economic models. This entails subsuming the existing perspectives under four models - the goal attainment model, the system-resource model, the internal process model, and the strategic-constituencies model - such models are prevalently adopted in management studies to assess organizational effectiveness (*see* Chanchitpricha and Bond 2013; Winand et al. 2014; Eydi 2015). It is worth noting that these models are not widely used in trade empirics or economic studies in general. However, their versatility and application in various contexts over the last five

[20] Cumulation allows beneficiary countries to source inputs or processing from other eligible countries within a specified geographic region, promoting regional economic integration and value addition in production.

decades (especially similarity in aims[21]), offer substantial opportunities for adapting these models to trade policy priorities.

The key research question is whether the participation of countries in the EU GSP effectively leads to the realisation of the program's intended objectives. This is the prism through which GSP effectiveness is constructed in this thesis. Ancillary questions relate to the key criteria of effectiveness, namely GSP efficiency[22], poverty reduction and Integration into the World Trading System (in the Global Value Chains context).

It is crucial to recognise the foundation of research philosophy, as it encapsulates the core of this thesis and the profound philosophical principles that underpin the research. Establishing the philosophical research framework empowers researchers to substantiate the assumptions made in the context of a specific research study (Flick, 2011). This thesis is grounded in theory and employs secondary empirical data to formulate falsifiable conclusions. The ontological perspective acknowledges an external reality, requiring the logical organisation of external data. The epistemological stance relies on facts, numbers, and observations, leading to an axiology characterised by objectivity and value neutrality. The philosophical underpinnings align with both positivism and critical realism, echoing the falsifiability of scientific statements (Popper 2005).

1.3 Relevant Economic Theories

The Generalised System of Preferences (GSP) framework is deeply rooted in the principles of Special and Differential Treatment (SDT), which fundamentally recognises and addresses the distinct needs, challenges, and vulnerabilities faced by developing countries (Keck and Low 2006; Ornelas 2016; Ukpe and Khorana 2021). Specifically, GSP extends preferential trade terms to eligible developing nations in alignment with the core tenets of SDT, with a primary focus on levelling the global trade playing field for these nations (Hoekman et al. 2004; Fritz 2005; Das 2007). This provides a solid basis for anticipating specific developmental imperatives arising from participation in the GSP. This thesis underscores the intrinsic connection between GSP and the SDT framework, emphasising that GSP's design is underpinned by a detailed understanding of the disparities among trading partners. In this case, GSP's effectiveness hinges on its ability to tailor trade provisions to suit the unique requirements and circumstances of beneficiary developing countries. Notably,

[21] seeking to understand the term "effectiveness" and conceptualizing a unified framework to assess it.

[22] Efficiency is a relevant factor to consider when assessing the effectiveness of a program, relating to the resource utilisation in achieving GSP outcomes.

the GSP scheme shares a common overarching goal with the SDT framework (Moon 2009; Hopewell 2022), necessitating a meticulous assessment of pertinent provisions intended to transform GSP into an effective instrument tool of development. Within this context, this study delves into the genuine application of the SDT principle within the realm of the EU's GSP, to assess the actualisation of its intended objectives.

Importantly, the symbiotic relationship between tariff reduction and export competitiveness offers a perspective on how the GSP scheme can markedly create economic gains. The reduction or elimination of tariffs is one fundamental mechanism to enhance the competitiveness of beneficiary countries' products in the EU markets (Ahmed 2009; Greear and Muhammad 2021). By reducing the cost of exporting goods, countries derive a significant price advantage over non-GSP competitors. This aligns with the principle of cost efficiency, a key aspect of comparative advantage discussed in the seminal work "Principles of Political Economy and Taxation" published in 1817 (Gerber and Weder 2017; Ramirez 2019). David Ricardo postulated that even when a country exhibits superior efficiency in the production of all goods compared to their counterparts in other nations, international trade could still be mutually beneficial. Ricardo's analysis, conducted with a focus on two distinct goods, unveiled a counterintuitive yet economically profound insight (Abbas and Waheed 2017; Bernhofen and Brown 2018). When nations allocate their resources to produce the goods in which they possess a comparative advantage (where production costs are relatively lower), they can simultaneously augment their overall production and consumption levels. This entails exporting the commodity of comparative advantage and importing others. Ricardo's theory fundamentally underscores the predominance of specialisation as the driving force behind a substantial portion of international trade (Laursen 2015).

Adam Smith's "The Wealth of Nations" of 1776 laid the foundation for the idea of specialization (Larson 2015; Collins 2017; Irwin 2020). Smith used a pin factory to illustrate the benefits of the division of labour and argued that specialisation of tasks resulted in increased productivity and, consequently, greater economic wealth. The underlying principle is that specialisation allows countries to focus on what they produce more efficiently than other countries (Ginzberg 2017; Gilles and Gilles 2018; Schumacher 2020). The significance of the GSP arrangement lies in its ability to reinforce the notion of specialisation (Cirera et al. 2016; Facchini et al. 2021). This is rooted in the provisions[23] that encourage participating countries to identify and nurture

[23] **Reduction in import duties** lowers the cost of exporting goods; **Sectoral Preferences** provide enhanced preferences for products from those sectors; **rules of origin** are designed to incentivise countries to use locally sourced materials or engage in value-added activities; **Market Access** encourages countries to specialise in exporting goods and services that are in demand in EU markets.

specific industries where they are most efficient. As most GSP beneficiary countries are endowed with an abundance of agricultural resources but constrained by limited industrial infrastructure, GSP policies act as catalysts for specialisation in agricultural production (Klasen et al. 2016; Ratna 2016; Cipollina and Demaria 2020). This is made possible by the elimination of tariffs and quotas on agricultural exports, paving the way for a focused and economically efficient approach to agricultural development. This thesis therefore explores how the comparative advantage theory influences a country's export potential in the global market when utilizing the EU scheme.

There, also, exists the Cumulation provision, intricately tied to the economic integration theory (Campos 2016; Molle 2017; Chiang et al. 2019). Richard Cobden promoted the idea of economic integration through the Cobden-Chevalier Treaty of 1860 between Great Britain and France (Howe 2018; Becuwe et al. 2021; Timini 2023). This treaty aimed to reduce tariffs and trade barriers between the two countries, promoting economic cooperation and integration. Cobden's efforts on the benefits of trade and economic integration contributed to the broader discourse on these topics during the 19th century. The cumulation provision, as a pivotal component of the GSP scheme, assumes a central role in facilitating economic integration by fostering the participation of countries in the tapestry of GVCs (Pietrangeli 2016; Ramdoo and Bilal 2016; Hsieh 2022). It operates on the foundational principle that economic integration hinges on the collaborative engagement of countries at various stages of production and processing.

This encourages cooperation by allowing countries to cumulate the origin of materials and components used in production within a designated region (Pietrangeli 2016). It, therefore, should foster closer economic ties among countries within the same region and enhance collective economic strength (Abreu 2016; Ratna 2016). This study brings into relevance the application of economic integration theory where a glimpse of cooperation exists among GSP countries through the cumulation provisions. Expectedly, the cumulation provision would incentivise countries to engage in complementary roles within the value chain, encouraging specialisation and efficiency. This symbiotic relationship, where each participant contributes specific value-added components, engenders an ecosystem of economic interdependence. As a result, countries become integral to the GVCs, not merely as standalone entities but as interwoven threads in a larger economic fabric. The broader significance is that the GSP scheme offers the potential that transcend traditional trade paradigms, beyond the movement of finished products, to include the interplay of value addition across multiple countries (Hayakawa and Shiino 2021).

It follows that an effective GSP arrangement would trigger value chain participation and Global Production Networks, given that many products are not produced entirely within one country but involve various stages of production across international borders (Flentø and Ponte 2017; Hayakawa et al. 2020; Angeli et al. 2020; Thang et al. 2021). This insight is prominently underscored in this thesis, with particular emphasis on the intricate trade networks that emerge from the cumulation zones. Network theory is also considered as it provides insights into how products move through the network, where value is added, and how cumulation provisions influence the distribution of economic benefits among participating countries (Abreu 2016).

There is the likelihood of trade creation where the cumulation provisions incentivise the beneficiary countries to trade more among themselves (Hayakawa and Shiino 2021). It is important to acknowledge that the dynamics of trade creation are not always straightforward within the GSP framework. One critical factor is the choice of cumulation partners given the multiple potential partners in the cumulation regions. In some cases, GSP countries are locked into trade networks with proximate non-efficient cumulation partners (Hayakawa and Mukunoki 2020; Hayakawa 2023; Alhassan and Payaslioğlu 2023). This occurs when an efficient trade partner is located outside the cumulation region despite offering competitive advantages or unique resources that make trade economically attractive. While the likelihood of trade creation is a central aim of cumulation provisions, it coexists with the potential for GSP countries to engage in trade with more efficient partners outside the cumulation region. This thesis therefore acknowledges the relevance of Trade creation and pinpoints the risk of trade diversion when the cumulation provisions undermine the possibility of trading with more efficient external partners.

Another insightful aspect considered is the substantial influence of country-specific characteristics. It is paramount to delve into this perspective to avoid the over-simplification of attributing the effectiveness of the GSP solely to the actions of the donor countries. Indeed, there exist instances where the procedural elements within the GSP policy framework prove insufficient. In such cases, it becomes evident that specific country-level characteristics of the recipient nations wield some influence, either facilitating or hindering the attainment of GSP objectives (Krisztin and Fischer 2015; Baier et al. 2018; Heid et al. 2021). These characteristics encapsulate a constellation of factors that operate within the gravity theory of international trade. As such, a rigorous application of the gravity theory is explored, an established economic framework, to examine the interplay between beneficiary countries' specific attributes and the achievement of GSP objectives.

One key aspect of gravity theory that is highly relevant to GSP effectiveness is the role of economic size. When GSP beneficiary countries possess relatively larger economies, they are better positioned to capitalise on preferential trade terms, which may lead to increased trade creation (Kahouli and Maktouf 2015; Akram and Rashid 2016; Li and Qiu 2021). This is significant, as trade creation can enhance economic imperatives, leading to the attainment of GSP objectives. Moreover, the concept of cost efficiency within the framework of gravity theory highlights that shorter distances and improved infrastructure can lead to more cost-effective trade (Deme and Ndrianasy 2017). The gravity theory emphasises the importance of distance as a critical variable affecting trade flows. It is essential to consider how geographic proximity or distance to the EU market influences GSP participation, hence the discussion on the effects of GSP cumulation.

1.4 Empirical Methodology – Four Strategies

The thesis employs a diverse range of four empirical strategies across three empirical chapters, each carefully selected to provide a comprehensive and robust analysis. These methodologies include the Random Effect Model which offers a solid foundation for evaluating the implication of country-specific characteristics on GSP efficiency. The estimation of GSP efficiency is intrinsically linked to the fundamental premise that efficiency serves as a pivotal component within the broader spectrum of GSP effectiveness.

Two distinct models are utilised in Chapter 5 as a means of conducting a robustness check on the obtained results, with each model being deliberately tailored to fulfil separate analytical functions. Both the FE and SEM are treatment models; in that they explore the effectiveness of the EU GSP to reduce poverty in the beneficiary countries. The initial phase of the analysis entailed the employment of the Fixed Effect estimation to assess the direct effect of GSP participation on poverty, without considering the possibility of mediating effect. The initial findings revealed a weak and non-significant coefficient for GSP participation. This observation offered valuable insights, indicating that the effect of GSP participation on poverty might be mediated by specific channel variables. The non-significant coefficient emphasised the potential presence of indirect effects, justifying the transition to Structural Equation Modelling (SEM), which permits the simultaneous examination of both direct and indirect effects within a unified framework. The SEM model incorporates channel variables (Terms of Trade, Output Gross Domestic Product (GDP), Employment and Fiscal Balance), believed to mediate the interaction between GSP participation and poverty, offering a more robust understanding of the interplay among variables shaping poverty. To further enhance the depth of the analysis, the application of the Non-Linear Combination of Estimators allowed for an examination of the

total effect when all mediation variables were considered concurrently. A comprehensive post-estimation analysis was conducted using the Baron and Kenny approach. Sobel Monte Carlo tests were employed for significance testing, providing a rigorous examination of the mediation effects. This step enabled the quantification of the mediating role of the channel variables and the establishment of their significance in the interplay between GSP participation and poverty reduction.

The incorporation of both FE and SEM methods within this analysis derives from the recognition of the complex and multi-dimensional nature of the relationship between GSP participation and poverty. While FE provided an initial assessment, the non-significant coefficient underscored the potential for mediation effects. SEM, with its capacity to simultaneously examine direct and mediated pathways, allowed for the exploration of these complexities in depth. The employment of both methods ensured a comprehensive evaluation, ultimately enhancing the robustness and validity of the findings.

In Chapter 5, the GLS is used to estimate parameters within a gravity model, examining the effectiveness of the GSP in integrating beneficiary countries into the GVCs. GLS is particularly well-suited for mitigating the challenges posed by heteroscedasticity and overdispersion within the dataset, aligning with the imperative of precise and rigorous analysis. This methodological choice not only ensures the statistical soundness of the examination but also enhances the reliability and accuracy of the findings. The baseline model consists of a measure of GSP restrictiveness and other gravity estimates like GDP and Distance. The analysis embarked on an exploration of the potential protectionist effects of restrictive Rules of Origin (RoO) on GVC integration. This was a crucial facet of the methodology as it allowed the unravelling of the multifaceted influence of RoO on beneficiary countries' participation in GVCs. The empirical scrutiny is grounded in the acknowledgement of RoO as influential determinants of trade patterns and integration dynamics. This model is then extended to account for the regime-wide rules, serving to ameliorate the potential protectionist effects of restrictive RoO on GVC integration. This is an essential component of the analysis, capturing the interplay between GVCs and the regulatory frameworks that govern GSP trade. Lastly, the methodology explores the potential mitigating effect of Regional Trade Agreement (RTA) membership on the adverse influence of restrictive RoO on GVCs integration. This segment of the analysis underscores the relevance of institutional affiliations in shaping integration dynamics within the GVC context.

1.5 Thesis Structure

This thesis is structured into seven chapters. The first chapter, the introduction, provides an overview of the research. It introduces the research background, outlines the motivation, presents the main research question, and presents the relevant theories, which serve as reference points for the discussions and conclusions. Generally, the goal of the GSP is to provide trade preferences to developing countries, aimed at addressing the imbalances in global trade relations and promoting development. In the case of the EU GSP, the specific objectives include poverty reduction and integration into the world trading system. The European Commission has claimed that the series of GSP reforms are targeted at making the trade arrangement an effective tool of development, with particular attention to objectives such as poverty alleviation and global economic integration. This thesis examines the veracity of the claims through a framework that captures the intended objectives of the GSP scheme. Specifically, it pursues three major themes namely, the examination of GSP efficiency, the potential for poverty reduction and the effect on Global Value chains. Additionally, it reviews the influence of country-specific characteristics (in gravity context) albeit, acknowledging their fundamental role as control variables.

The choice of themes is based on a review of existing literature, which predominantly examines GSP effectiveness very differently. Such studies test the development-relevance of the Special and Differential Treatment (SDT) framework by assessing the immediate outcomes of the GSP, which when put together enable an insightful commentary on the EU GSP. This thesis adds a further dimension, informed by an extensive review of the literature on preferential trade and development studies. This dimension facilitates a partial integration of the development responses of beneficiary countries to their participation in the GSP.
Chapter 2 is the literature review. This section critically examines both theoretical discourse and empirical findings about each component of the effectiveness framework. These components include GSP efficiency, poverty reduction, and GVC integration of Global Value Chains (GVCs). The assertion of GSP efficiency is scrutinised by referencing evidence found in the literature. This examination involves a critical evaluation of the Utilisation rate as a measure of efficiency, with specific attention to its limitations, notably its failure to encompass key imperatives such as coverage level, which reflects eligibility and graduation criteria. This is followed by an in-depth examination of the literature to explore the GSP's potential in reducing poverty, with a particular focus on identifying the precise mechanisms through which GSP benefits may reach the household level where poverty manifests. A pass-through effect is hypothesised for the impact of GSP on poverty, involving distribution channels that include price changes and market expansion, the enterprise

channel with a focus on wages and employment, and the government channel which considers fiscal revenue and government expenditure. The impact of each of these channels on poverty in beneficiary countries is discussed with reference to the existing literature.

Chapter 3 presents the construction of the GSP effectiveness framework and the overall rationale behind it. It classifies the various effectiveness approaches in the literature within four specific classifications – procedural, substantive, transactive and normative. These classifications are later subsumed under four models namely the goal attainment model, the system-resource model, the internal process model, and the strategic-constituencies model. Such models are prevalently adopted in management studies to assess organizational effectiveness (*see* Chanchitpricha and Bond 2013; Winand et al. 2014; Eydi 2015). The richness of applications over the last five decades and similarity in aims (seeking to understand the term "effectiveness" and conceptualising a unified framework) provide enormous scope for adapting the models to trade policy priorities. The criteria of each effectiveness classification are mapped to four stages of the GSP cycle through a junction table to construct an objective-based framework. This chapter brings noticeable novelty, being the first attempt to bring together all the effectiveness classifications with a view to establishing a more inclusive approach for assessing GSP effectiveness empirically.

A specific review is conducted to explore how GSP countries integrate into the world trading system through their participation in Global Value Chains. This discussion highlights the roles of GSP provisions, with particular attention to the cumulation rules. These rules are essential for understanding the potential for value-added trade among GSP countries and, consequently, indicate a greater degree of connectedness within the Global Value Chains. The literature review aids in the identification of research gaps, subsequently paving the way for the formulation of hypotheses. These hypotheses are further explored in the empirical chapters.

Chapter 4 provides an overview of the data used and the rationale behind its selection. Three existing descriptive efficiency measures are estimated namely the utilisation rate, the coverage rate and the utility rate. In general, these indicators are not entirely novel; the literature has previously delved into each of them in depth but often as separate estimates. Studies such as Gasiorek et al. (2010); Agostino et al. (2010); and Nilsson (2011) have exclusively focused on the utilisation rate while overlooking the potential coverage rate and utility rate. However, this thesis repositions the existing discussion and argues that the utility rate embodies a *power set* that includes subsets of the coverage rate and the utilisation rate. In this context, it is argued that while the utilisation rate is a central factor, the other indicators play crucial roles and should not

be analysed in isolation. This chapter offers a deeper insight by cross-referencing one set of indicators with another, thus augmenting the reliability of efficiency assessments. Consequently, the efficiency of the EU GSP is reflected in the utility rate, and it is deemed robust as it illustrates "input-output" interactions, akin to a simplified gravity analysis. The datasets, sourced from Eurostat, are employed to estimate GSP efficiency from 2010 to 2020. Additionally, World Bank data is incorporated to investigate how country-specific characteristics influence GSP efficiency measures. The influence of country-specific characteristics is undertaken through the Random Effect Model and its adoption is justified. Lastly, the findings in this chapter challenge the narrative that the EU GSP scheme has been efficient for beneficiary countries, with the average total utility rate being 23.73% across effective beneficiaries. These findings are contextualised within the existing literature, and their implications for relevant policies are explored.

Chapter 5 presents data and empirical analysis on the GSP-poverty nexus. The rationale is that the European Commission has sought to develop a model of poverty reduction based on non-reciprocal preferences. This thesis examines the effectiveness of the scheme in attaining this objective. Two different models are considered in this chapter namely the FE model and the SEM for mediation model. Examining the direct effect, through FE, is the first crucial step in mediation analysis because it provides a foundational understanding of the relationship between GSP participation and poverty. Also, it helps to determine if mediation is a plausible mechanism for explaining the GSP-Poverty nexus. It sets the stage for testing specific mediation hypotheses related to the mediation process.

Using datasets obtained from Eurostat and the World Bank Database between 2010 and 2019, the baseline FE model shows that poverty is reduced by 0.1% for every change in GSP exports. However, it is important to note that this effect is both weak and statistically insignificant. Hence, the mechanism underlying the observed effect of GSP trade on poverty requires the inclusion of mediator variables through the SEM for the mediation model. The mediation analysis is built on a structural equation model. This model is designed to understand the impacts of GSP policy on poverty through mediator variables like Terms of trade, Output GDP, Employment and Fiscal Balance. The model includes a poverty equation and a set of channel equations that examine how GSP trade affect the poverty variable. These equations together form the structural model, which is derived from relevant empirical literature and economic theory. The channel variables are treated as endogenous, while GSP trade is considered exogenous. Importantly, only observed variables are employed, with no latent variables included in the analysis.

A post-estimation, through the Baron and Kenny approach, is adopted to examine the mediational hypotheses relating to Terms of Trade. The two mediation pathways (GSP → ToT and ToT→Pov) are not significant, indicating no mediation through Terms of Trade. However, the non-linear combinations of estimators reveal that this outcome is not significant. In contrast, the result of post-estimation shows that GSP→Poverty interactions are fully mediated by productivity. Specifically, about 72% of the effect of GSP trade on Poverty is mediated by productivity. That is, the mediated effect is about 2.6 times as large as the direct effect of GSP on poverty. This study finds that only 1% of the effect of GSP on poverty is mediated by Unemployment. This effect is weak and not significant. The unemployment→poverty interaction is positive and theory consistent, however not significant. The significance testing of indirect effect reveals no mediation through unemployment. While GSP trade is found to improve the government's fiscal balance, the result is not significant. Similarly, an increased fiscal balance is found to reduce poverty in GSP beneficiary countries, this outcome is however not significant. The results from the significance testing following the Baron and Kenny approach do not indicate that fiscal balance plays a mediating role. In summary, the total effect estimation demonstrates a statistically significant positive impact of GSP trade on poverty. This suggests that engagement in EU GSP trade has widened poverty levels in the beneficiary countries.

Chapter 6 investigates the effectiveness of the EU GSP scheme in integrating beneficiary countries into Global Value Chains (GVCs). The analysis is conducted using datasets from the UNCTAD-Eora GVC database, DESTA datasets, supplemented by data sourced from the CEPII database, and country-level information from the World Development Indicators published by the World Bank.

The empirical analysis is based on three distinct strands of literature, which also form the foundation for hypothesis development. First, this chapter assesses the protectionist implications of Rules of Origin (RoO) on GVC trade, emphasising their role in determining eligibility for GSP participation. Second, the determinants of GVC participation are examined, an area that has experienced rapid growth but limited attention in GSP-related literature. The second literature strand explores how GSP-regime provisions mitigate the protectionist effects of RoO on GVC integration. Specifically, GVC integration with cumulation is analysed to support the hypothesis that cumulation provisions enhance GVC trade. Finally, insights are drawn from the network literature to investigate the interconnectivity of GSP countries through existing Regional Trade Agreements (RTAs).

Previous theoretical research has pointed out the potential trade diversion effects of RoO. However, empirical evidence in this regard has been scarce due to the complexity of these rules. Nevertheless, the baseline model in this chapter aligns with existing literature, demonstrating that the restrictiveness of RoO hampers cross-border trade, thereby impairing GVC integration. This chapter finds that, for every 1% increase in RoO restrictiveness, GVC integration worsened by 14.39%. However, when cumulation provisions are introduced into the model, they mitigate the negative effect of stringent RoO on GVC integration, decreasing it to 10%. These findings underscore the significance of cumulation provisions in alleviating some of the trade-distorting effects associated with RoO. Cumulation provisions enable firms to incorporate inputs from various countries within the GSP region, thereby easing the burden of strict origin requirements and promoting greater participation in Global Value Chains (GVCs).

Chapter 7 presents a summary of the findings and conclusions, anchored in relevant theories and existing literature. It also offers policy recommendations, acknowledges the limitations of the study, and suggests potential areas for future research.

1.6 Contribution to Knowledge and Literature

This research contributes by constructing a focused framework to test the most fundamental claims of the European Commission that the "developmental" trade policies in the case of the GSP reforms are a paradigm for the attainment of GSP's intended objectives. The supposed internationalisation of the structural impediments and the institutional capacity gaps by the EU has provided such an opportunity to assess a unified framework. This offers the opportunity to contextualise GSP effectiveness in the broader context of development trade policy and commercial trade agenda. This thesis brings a holistic narrative to the issue of preferential trade policy reforms, an important topic within trade literature. By delving into a paradigm that has underpinned GSP policy considerations for the past six decades, this study significantly advances the body of knowledge in this domain. A comparison of GSP allowances among beneficiary countries, based on regional affiliations, provides a treatment and control group not previously evaluated in depth. Additionally, the fusion of country-specific factors, recognised in literature as pivotal, within the treatment group, reveals the areas of strengths and weaknesses in the fundamental drivers of GSP effectiveness.

The literature review covers a range of subjects relevant to the research including the context of GSP efficiency, gains of trade through poverty reduction channels, the emergence of Trade networks, GVCs integration and the political economy background of trade policy. The entire discussion has emanated from

the theoretical expectation that countries' engagement in GSP trade would facilitate the attainment of GSP objectives. The constructed effectiveness framework reflects the objectives of the GSP arrangement and analytical frameworks are presented to showcase the theoretical pathways towards achieving each objective. This essentially guides the review of relevant literature, hypotheses formulation and variables selection. Notably, each analytical model is uniquely aligned with pertinent economic theories, theoretical discourse, and the existing body of empirical literature. The data chapter provides a detailed description of the macroeconomic data used in this study. These datasets serve as the foundation for the research findings and analysis in the subsequent chapters of the thesis. The literature review and the data chapters hold significance as they offer a critical review of pertinent knowledge, which in turn shapes the empirical findings. Additionally, they stand as a substantial scholarly contribution by consolidating existing knowledge and providing a valuable synthesis of the extant literature.

Chapters 4 to Chapter 6 adopt distinct models. First, this study synthesises the existing efficiency indicators by classifying the utility rate as a cartesian product of the utilisation rate and the coverage rate, thereby situating GSP efficiency within a composite parameter. This approach provides a global view of efficiency using a single indicator, such that captures different procedural elements driving GSP uptake, including the determinants of GSP coverage. This approach reveals that the EU GSP scheme has been inefficient for beneficiary countries, with the average total utility rate being 23.73% across effective beneficiaries. However, empirical considerations are extended to cover the influence of specific country characteristics on GSP efficiency, thus examining factors exogenous to the GSP system which may impair the derivation of GSP benefits.

Second, this study developed a conceptual framework to examine the GSP-poverty nexus dynamically, based on GSP outcome measure (GSP exports) and through activities in the beneficiary countries. There is a recognition that GSP exports are primarily measured at the firm level and then aggregated at the country level, whereas poverty is witnessed at the household level. Since these two phenomena occur at different levels of measurement, it is postulated that the impact of GSP exports may have a "trickle-down" effect through specific pathways that influence household welfare. This conceptualisation led to an innovative empirical methodology in which pertinent mediation factors were identified. The strength of this approach is underscored by the initial FE model estimation, with the subsequent non-significance of the GSP coefficient providing an empirical basis for SEM mediation analysis. Lastly, GLS estimation is applied in a baseline gravity model to assess the protectionist implications of GSP Rules of Origin on GVC trade, an area that has received

limited attention in the GSP-related literature. Insights were drawn from the network literature to investigate the interconnectivity of GSP countries via the cumulation provisions and the existing RTAs.

The integration of contextual insights from the literature review and data chapters with the empirical findings provides strong evidence to suggest deficiencies in the effectiveness of the EU GSP scheme. The extensive scope of this study and its findings through objective-driven effectiveness pathways validate the claim that it constitutes a substantial addition to the body of trade literature. It offers compelling evidence that questions the effectiveness of the EU GSP program as a developmental tool. Taken more broadly, the empirical approach extends beyond the immediate GSP outcomes, such as utilisation rate or export flows, to focus on whether the program contributes to the broader, long-term development goals of beneficiary countries and aligns with the program's overarching objectives. However, empirical research conducted in this area has painted a different picture compared to the results obtained in this thesis. In those studies, effectiveness has been portrayed in the context of immediate GSP outcomes. This predominantly pertains to beneficiary countries that the EU has strategically targeted for negotiations on free trade agreements (FTAs). This thesis establishes that GSP outcomes are naturally better in such beneficiary countries, illustrating that the political economic forces shaping trade policies in other entities play an important role in the EU as well. Thus, adding to a body of literature that seeks to situate the assessment of EU external economic diplomacy within the wider political economy of trade.

Chapter 2 Literature Review

2.1 Introduction

This literature review chapter undertakes a comprehensive exploration into the effectiveness of the European Union's Generalised System of Preferences (EU GSP) scheme. It discusses three distinctive criteria that capture the different perspectives through which GSP effectiveness has been perceived and presented. This study acknowledges that there are multiple GSP objectives, and the parties may have different objectives that informed GSP participation. In this case, the objectives are separately discussed and analysed given there is not a single criterion to judge GSP effectiveness. This study also acknowledges that there is no simple means to combine several objectives, however, attempts are made to put together objectives that are informed by similar provisions or those whose outcomes align within the GSP framework.

The initial discourse addresses the descriptive efficiency indicators utilised within the existing literature, notably focusing on the utilisation rate, coverage rate, and utility rate. While the utilisation rate stands prominent in previous studies, this chapter critically assesses the potential limitations arising from the singular adoption of this indicator. Emphasising the broader scope of efficiency estimates, this thesis integrates the utility rate, a composite parameter derived from the intersection of the utilisation and coverage rates. This input-output approach situates GSP efficiency within a more comprehensive assessment metric.

Moving beyond traditional evaluations, the second discussion delves into the realm of poverty reduction outcomes resulting from participation in the GSP - an area often overlooked in GSP literature. Understanding that the benefits of trade are quantified at the national level while poverty persists predominantly at the household level, this exploration navigates the pathways through which GSP trade gains impact poverty. Encompassing three pivotal channels of influence, namely the distribution, enterprise, and government channels, this analysis dissects the intricate mechanisms through which GSP trade affects productivity and market prices, wages, employment, taxes, and government expenditure.

Furthermore, this chapter delves into the third discussion, examining the role of Rules of Origin (RoO), in the integration of GSP countries into the Global Value Chains (GVCs). This exploration aims to uncover the mechanisms and impact of RoO on the involvement of GSP countries in the intricate web of GVCs.

Together, these discussions unravel the multifaceted dimensions of GSP effectiveness, its operational dynamics and impacts across various economic aspects.

2.2 Evaluating the Efficiency of the EU GSP Scheme.

The early investigations into GSP efficiency introduced key metrics such as the Utilisation rate, coverage rate, and utility rate (Inama 2004; Candau et al. 2004; Candau and Jean 2005). These metrics were initially perceived as benchmarks, signifying an advancement from traditional methodologies that assessed efficiency solely based on the total value of preferential imports. Over time, efficiency assessment has become pivotal in GSP empirical studies, marking a deliberate effort to evaluate the ongoing significance of the GSP scheme. Despite the availability of three distinct indicators, scholarly attention within GSP literature has predominantly focused on assessing the utilisation rate. One would anticipate that the successive reforms and regulations aimed at bolstering GSP gains in beneficiary countries should prompt a comprehensive measure of GSP efficiency, encapsulating essential procedural aspects. However, the predominant reliance on the utilisation rate in several studies raises questions about the adequacy of this singular metric. By predominantly fixating on the utilisation rate, these studies overlook other pertinent indicators crucial for a rounded assessment of GSP efficiency.

In studies (Nilsson 2011; Davies and Nilsson 2013; Cirera 2014) where the three efficiency indicators are captured, each is either examined in isolation or the relevance of Coverage and Utility rates is ignored. The GSP policy framework arguably forms the backdrop for a pertinent efficiency assessment, comprising procedural elements[24], each perceived to wield a structural influence on overall efficiency. Exploring a synergistic approach between the efficiency indicators becomes crucial, where one indicator complements another, and each proves inadequate in isolation. In any case, the utilisation rate reflects the choices made by exporters in selecting between alternative access schemes, while coverage represents a policy choice made by the EU. This distinction underscores the complexity inherent in trade policy evaluation and highlights the multifaceted nature of efficiency measurement within this domain.

However, the attempt to synthesise these measures into the utility rate stems from the aim of providing a more comprehensive assessment of efficiency. By multiplying the utilisation rate and coverage rate, the utility rate seeks to capture both the extent to which trade preferences are utilised by exporters and the breadth of coverage offered by the policy framework. In doing so, it aims to offer a more holistic perspective on the efficiency of trade policies and their impact on market access and utilisation.

[24] Procedural elements illustrate the overall tolerance level of the GSP framework - RoO, Eligibility/Exclusion criteria, coverage rate and other administrative requirements.

While acknowledging the technical challenges and potential limitations associated with combining these measures, the theoretical rationale of capturing efficiency from both the exporters perspective as wellas from the donor country's viewpoint provides empirical robustness. In which case, the utility rate offers a synthesized view that accounts for both exporter behaviour and policy design, providing a more robust understanding of trade policy outcomes.

Meanwhile, Keck and Lendle (2012) evaluate the efficiency of EU preferences based on the utilisation rate across various preferential regimes accessible to exporters. This is in consideration of the prevalent overlap in existing trade preferences. The approach attempts to rebalance preference efficiency estimation by encompassing multiple regimes, rather than focusing solely on a specific one. However, this generalised assessment across diverse preferential arrangements is challenged in this thesis. The act of amalgamating both reciprocal and non-reciprocal preferences into one analysis is deemed unrealistic due to the inherent heterogeneity in their procedural elements. Consequently, this thesis adopts a GSP-specific approach akin to Zhou and Cuyvers (2012), albeit dated and confined to Association of Southeast Asian Nations (ASEAN) beneficiaries. The scope here extends to encompass all existing beneficiaries, spanning the period from 2010 to 2019, a time marked by RoO revision and general GSP reform.

2.2.1. The Concept of GSP Utilisation in EU GSP Framework

The GSP utilisation rate is the proportion of goods eligible for GSP treatment that apply in exports (Akinmade et al. 2020). In theory, the depth of tariff reductions within the GSP arrangement would trigger utilisation and export flows from developing countries (Galkin et al. 2018). However, between2017 and 2019, roughly half of GSP beneficiaries utilised less than 80% of available preferences (European Commission 2020b). Countries such as Indonesia, Madagascar, Nigeria and Tanzania utilised less than 10% in 2019, and a host of others (Congo DR – 20.9%, Equatorial Guinea – 42.7% and Lesotho – 17.4%) used less than 50% (European Commission 2020). In any case, the outcomes in Bangladesh – 97.2%, Mauritania – 98.6%, Sierra Leone – 99.8%, and Vietnam – 97.9% make it difficult to argue that GSP utilisation has been generally sub-optimal (European Commission 2020b). It is not far-fetched that similar procedural conditions would trigger near-optimality in some countries and near-zero in others. There is clear empirical evidence to suggest the influence of country-specific factors and supply-side constraints whereby, production in some beneficiary economies fails to keep pace with GSP export potential in the d, resulting in under-utilisation (Cirera and Cooke 2015).

Tariff reduction or suspension in a preferential arrangement generates the extra markup on export price through which efficiency gains are realised (Beke and Hachez 2015). Such gains could take the form of preference margins, the percentage by which tariffs are lowered relative to "Most-Favoured-Nation" tariffs faced by non-GSP countries (Hakobyan 2015). Theoretically, a boosted preference margin would trigger more usage of trade preferences and drive exports positively - the "Gravity effect" (Yotov et al. 2016). However, tariffs are not the only barrier to GSP trade. Non-tariff measures (NTMs) tend to widen trade costs, almost in a manner as a tariff, and impede GSP participation (Cipollina and Demaria 2020). However, in certain instances, NTMs are catalytic, helping to overcome information asymmetries that would otherwise keep exporters out of markets (Beghin and Xiong 2018). This is usually the case when export products diverge widely, creating a consumption imbalance in the donor market. In this case, NTMs would correct the information deficit, signalling to buyers that all exporters conform to similar procedural rules, thereby stimulating demand diffusion and encouraging GSP usage. So, aside from corroborating existing perspectives, the core discussion must highlight the simultaneous determination of GSP efficiency vis-à-vis tariff and non-tariff barriers (NTBs).

Meanwhile, less prohibitive trade restrictions would foster preference utilisation (Persson and Wilhelmsson 2016). However, observation is prevalent that insufficient product coverage could constrain existing protection above prohibitive levels, thereby causing sub-optimal utilisation (Bandara and Naranpanawa 2015). This particularly brings into context the technical changes to Europe's lattice of GSP scheme where all high- and upper-middle-income countries lost eligibility and several products graduated. In this case, barriers to efficiency can be extended to include policy priorities, and the institutional features of the donor country's attitude towards preference beneficiaries (Siles-Brugge 2014).

Mizuo (2019) reports the effect of Rules of Origin effect on GSP usage where a product's origin is one major determinant of preference eligibility. The deepening of tariff cuts has meant that such rules are becoming more complex, much like a "spaghetti bowl" in which rules and tariffs diverge vis-à-vis the product's origin (Yi 2015). The distortionary effect of restricting production to originating intermediates and the administrative cost associated with origin compliance could widen trade costs (Felbermayr et al. 2019). Similar findings are echoed in Keck and Lendle (2012) where utilisation remains low despite high preference margins. It does suggest a non-linear interaction, a pointer that utilisation is linked to costs other than a tariff. Moreover, this is closely demonstrated in the exports of textile products where origin rules are of considerable importance (Curran and Nadvi 2015). A case in point is Bangladesh's 75.7% utilisation rate for textiles and

textile articles (product section 11a) in 2019 (Akinmade et al. 2020). One would expect duty-free access (under the Everything But Arms - EBA) to motivate optimal utilisation, but obviously, rules of origin are a cost component[25] in trade preferences and exporters may sometimes prefer paying the MFN duties than adapting production patterns towards rules of origin requirements.

As illustratively noted in the literature, the associated non-tariff cost of complying with RoO may exceed tariff benefits (Hai-lian and Li 2017; Mavroidis 2018; Mukunoki and Okoshi 2019). This becomes apparent when such costs are expressed in *Ad Valorem* Equivalent (AVE)[26], where a higher value indicates costly RoO requirements. In Cadestin et al (2016) for instance, the RoO *Ad Valorem* Equivalent is estimated as 8 – 9% for Latin American preferential agreements, which significantly exceeds the average MFN duty, also found to have eroded the tariff gains of existing preferences. It can therefore be argued that there exists a threshold beyond which exporters can no longer take advantage of trade preferences.

Important to mention that the utilisation rate reflects choices made by exporters selecting between alternative access schemes. However, the discussion of "utilisation cost" cannot entirely overlook the inherent benefit of regime-wide rules relating to cumulation[27] and *de minimis* thresholds[28] (Ramanujan 2015). Such rules establish a tolerance (or de minimis), allowing non-originating materials to acquire origin, and be excluded from the calculation of non-origin-based value-added. The RoO liberalisation, in this context, allows better access to foreign intermediate input in production without losing preferential eligibility (Cadestin et al 2016). In a world where cross-border production sharing has become prevalent, RoO liberalisation enables exporters to access more efficient suppliers via cumulation, thereby becoming more competitive through a reduction in production costs (Webb et al. 2020). The likelihood of increased margins of trade - intensive and extensive, and the possibility of profitable exports are incentives to further utilise trade preferences.

[25] Compliance with rules of origin can be administratively burdensome and costly for exporters. Any errors or inaccuracies in meeting the rules of origin criteria could lead to the loss of preferential tariffs, resulting in higher tariffs or even rejection of the goods at the border, further impacting costs and logistics.

[26] The ad valorem equivalent (AVE) of non-tariff measures (NTMs) is the uniform tariff that will result in the same trade impacts on the import of a product due to the presence of the NTMs. In other words, the AVEs represent the additional costs that the presence of NTMs has on imports.

[27] Cumulation of rules of origin is a term which is used to define the extent to which a country can count intermediate inputs from another country as equivalent to its own in determining origin.

[28] The GSP system contains a **de minimis rule**, which allows for a specified maximum percentage of non-originating materials to be used without affecting **origin.**

Given the foregoing, GSP empirics have generally sought to answer whether exporters' choices to utilise the GSP scheme are driven by the policy choice made by the EU. In this context, it is a question whether "utilisation growth" specifically follows RoO liberalisation (Nilsson 2011; Yi 2015; Andersson 2016). This has been mostly pursued in the context of *ex-ante* modelling of regime-wide rules, which involves numerical simulation of RoO changes (Mavroidis 2018). The prevalent reference to the 2011 reform of RoO is instructive, especially how such reform played an important role in the EU commercial trade policy, where they noticeably had a discernible effect not only on the utilisation rate but also, on the EU imports (Hoekman et al. 2016). The reform has to be seen as part of the move towards improving GSP trade previously depressed by RoO restrictiveness, necessitating changes to origin determination from 60% minimum local content to 70% maximum foreign content (Abreu 2016). At a stroke, the utilisation rate of GSP went from 84% in 2010 to 95% in 2014 (Hoekman et al. 2016). Arguably, whatever prompted the EU to carry out such reform indicates that RoO depressed GSP trade quite severely, particularly, considering that total imports from beneficiary countries doubled in three years when the RoO were relaxed.

That being said, the literature argues that the GSP has become less attractive due to the complexity of RoO and the substantial compliance cost on exporters (Yi 2015; Geraets et al. 2015; Felbermayr et al. 2019). There is however the obvious exception of agriculture where most export products come under the "wholly obtained" category, and RoO may not present a major problem (Hayakawa et al. 2014). Nonetheless, given the increasing likelihood of widened trade cost, abolishing RoO via a category of global cumulation has been eagerly suggested as the cheapest stimulus to attain optimal utilisation (Hoekman et al. 2016).

2.2.2 Potential Coverage Rate of EU GSP

An important step towards understanding the efficiency of trade preferences is the estimation of coverage rate – the proportion of dutiable imports from beneficiary countries that are eligible for preferential treatment (Akinmade et al. 2020). Besides looking at GSP coverage via eligibility lenses, the reality of coverage has been defined through graduation (*ex-post*) and exclusion (*ex-ante*) criteria (Sile-Brugge 2014). However, both factors breed a procedural restriction on competitiveness. In the specific case of EU GSP, changes in eligibility criteria caused a significant reduction in the pool of eligible countries from 177 to 75 countries. It is important to mention the "graduation threshold" in which competitive product sections are graduated if exceed 17.5% of the total GSP imports - 14.5% for textiles (Rahman and Inkyo 2014). Both perspectives could have deleterious consequences on GSP coverage and can be seen to indicate reduced preferential treatment for

exports that would have benefitted substantially from GSP. Naturally, exporters would not overlook the impact of eligibility restriction, as well as the graduation of competitive product sections. And it would be misguided to consider GSP efficiency in isolation of the resulting export losses, particularly since "eligibility" is a significant "input parameter" in the efficiency estimate, with export, a huge output variable.

Whereas, the EU, have firmly maintained that eligibility and exclusion criteria are intended to improve the value of GSP preferences (Beretta 2013). This symbolises the EU's intent to attain fairer trade relations, especially since emerging economies, with increasingly competitive sectors, were found to claim a sizeable proportion of available preferences at the expense of countries in greater need (Awan et al. 2015). In this case, eligibility criteria are needed to focus GSP preferences on poorer countries, with the graduation mechanism oriented to "liquidate progressively competitive product sections" for those countries with continued eligibility. Europe's pursuit of fairer trade preferences (via eligibility and graduation criteria) has, however, not helped the poor, uncompetitive beneficiaries (Rahman and Inkyo 2014). Siles-Brugge (2014) argues that many of the goods on which "graduation" is applied are the ones in which concerned countries are most competitive, products in which they could potentially establish a foothold in the World Trading System.

The cases of countries excluded from the scheme (*such* as Argentina, Brazil and Malaysia) provide an illustrative snapshot of this normativity-outcome gap where exports are significantly and negatively affected following the new "exclusion" criteria (Gnutzmanna and Gnutzmann-Mkrtchyana 2017). These concerns are also mirrored in "product graduation" for those countries which remain within the GSP scheme. India and Vietnam, for example, lost preferences on about 2.4% and 4.1% of total export respectively, with roughly 45.2% and 76.1% facing MFN tariffs of at least 5% (Siles-Brugge 2014). With clear implications on export potentials, beneficiaries would be generally dissatisfied with "graduation and exclusion" even if they are inclined to see the benefit in terms of simplicity in the GSP regime. It can be argued, rather intuitively, that if the poorer unaffected countries, with continued eligibility, produce some of the graduated products (of high and upper-middle-income countries), then graduation would be beneficial. However, it would be only a matter of time before further production was deemed "too competitive" and associated products graduated again for poorer countries. The likelihood of eventual graduation based on short-run competitiveness level has left participating countries generally dissatisfied with GSP regulation, seeing as undermining developmental imperatives (Hradilová and Svoboda 2018). Such precariousness of export potentials is a factor worth considering in the determination of GSP efficiency, at least from exporters' perspective. So, not only is the

erosion of tariff preferences a constant worry, but beneficiary countries may also choose to ignore preference eligibility if graduation and exclusion criteria threaten the realisation of GSP "promises".

2.2.3 The Utility Rate of EU GSP

In some instances, optimal utilisation does not indicate better market access, especially since utilisation rates could remain high even after massive exclusion and graduation. One expanded indicator, which attempts to measure the multi-dimensional aspect of GSP operations is the utility rate, better suited to track the progress, not only of preference utilisation but also as a share of dutiable imports. The utility rate indicates how much of the imports pay the preferential rate instead of the MFN rate (Inama 2003; Candau et al. 2004; Jha 2013). Its robustness in portraying "input-output" interactions mirrors a simplified gravity analysis, where the output variable (*say* utilisation or export flow) responds to changes in input variables.

It is within this context that the linearity of the preference margins-utilisation nexus appears deficient. Such discussion, which, has tended to focus on tariff advantage and how it is an important determinant of GSP usage, has seen exporters as mostly motivated by duty savings (Keck and Lendle 2012). However, applied tariffs have progressively weakened over the past two decades, having declined from roughly 10% in 2000 to less than 7% in 2016 (Saggi 2019). This would imply some erosion of tariff margins, and less incentive to utilise available preferences. Meanwhile, the same period witnessed an increasing role of Non-tariff barriers in GSP utilisation, with associated trade costs more than double that of ordinary customs tariffs (Kinzius et al. 2019). With the simultaneous interplay of these variables, preference beneficiaries may choose to export GSP-eligible products via the MFN duty especially since the associated NTBs may have heightened preference erosion. This switching dynamics between paying MFN duties or satisfying GSP conditions is reflected in the utility rate, defined as the share of dutiable imports that utilise GSP preferences.

A higher utility rate, therefore, implies that a larger share of dutiable imports entered under the GSP preference —rather than the MFN (Mizuo 2019). So, the utility rate answers the question of restrictiveness, relating to tariffs and NTBs. Notably, exporters' inclination to ignore preferential tariffs in favour of a higher MFN duty indicates the relative weight of NTBs, perhaps accounting for a far more significant role in GSP usage. The re-direction of trade flows, due to NTBs, raises broader implications for the "GSP-exports" nexus, especially with causality moving from utilisation to exports.

Arguably, combining the utilisation rate and the coverage into a single metric may present some technical issues given the components represent divergent priorities. However, this study argues that the utility rate is driven by similar factors that determine preference utilisation, including preferential coverage. That being said, one of the broader contributions of this study is to uphold the inherent synergy between the efficiency indicators, whereby one complements the other, and each is insufficient to be treated in isolation. Echoing the posture of this paper, preference beneficiaries have advanced a coherent narrative across the breadth of existing estimates, with the utility rate seen as capturing distinct efficiency imperatives. The recent concerns of some developing countries have, therefore, emerged from sub-optimal utility rates. In Akinmade et al (2020) for instance, low utility rates are recorded for India (48.37%), Vietnam (17.87%) and Thailand (8.65%), the same countries prevalently affected by the 2014 GSP reform, which are also singled out by the European Commission for alternative reciprocal market access (Siles-Brugge 2014). Both the resistance to the "reciprocity" proposal and the bogus claim of improved preferences (following revision) can be explained within the estimates of the utility rate.

Essentially, the utility rate captures the effect of suspension of preferential access across all GSP-eligible countries and products, extending beyond mere eligibility as depicted in the utilisation rate. So, estimating the utility rate is particularly relevant in the current GSP climate where exclusion and graduation are seen as new forms of trade barriers. Thus, it provides another lens through which to think about GSP policy uncertainty, even though it does not provide estimates of GSP uncertainty directly.

2.3 Examining GSP Effectiveness through Poverty Reduction

Preferential trade has long been seen as a vital instrument of development policy – and the GSP scheme is a necessary effort toward advancing it (Spilker et al. 2018). However, continued poverty in GSP beneficiary countries is perhaps the primary failing on the contemporary preferential trade canvas, given the expectation of poverty reduction when countries utilise the GSP scheme. This thesis asks how concerns about poverty influence the general understanding of GSP effectiveness, with empirical questions emerging about the poverty-reducing potential of the GSP scheme. This construct is considered from a general perspective, based on economic theories, which ultimately guide the construction of a conceptual framework.

Broadly, the economic promises on which the GSP scheme was introduced make it a crucial instrument in the fight against poverty (Winters 2000); supposedly envisaged to improve average incomes due to offering

tariff suspension/reduction with which to enhance existing resources (Sokolovska 2016). While, theoretically, it should improve income distribution, it appears not to do so in reality given the persistence of income poverty in the participating countries. Siles-Brugges (2014) reports the procedural elements within the EU GSP framework as presenting some unintended consequences of hurting income and possibly pushing people into, or deeper into poverty. In any case, it is important to not jump from this reflection to the conclusion that the linkages between GSP trade and poverty are always straightforward. Moreover, GSP trade and poverty are both measured differently; with the former, primarily occurring at the firm level, and ultimately aggregated at the country level, and the latter mainly occurring at the household level. If GSP trade and poverty were both primarily measured at the same level, or if there were empirical attempts that characterised GSP trade as improving the poverty situation, then it would be easier to pinpoint the association between the two. Evidence linking GSP and poverty, in the case of the EU, remains scarce in the existing literature. The current associations are mostly confined to theoretical discussions, offering limited empirical support for the GSP-poverty nexus.

Conventional trade theories suggest that, over time and on average, trade liberalisation should alleviate poverty. Empirical findings generally support this perspective, indicating no widespread adverse impact from trade liberalisation (Bhagwati and Srinivasan 2002; Heo and Doanh 2009; Le Goff and Singh 2014; Brambilla and Porto 2017; Fauzel 2022). However, it is essential to note that trade policy might not always be the primary driver of poverty reduction, and the immediate effects of liberalisation might not uniformly benefit the impoverished. Trade liberalisation inherently entails shifts in distribution, potentially impacting certain groups, including some among the impoverished, especially in the short term. While there is reason for optimism that trade liberalisation can positively contribute to poverty reduction, the actual outcome hinges on numerous variables. These include the initial economic conditions, specific trade reform strategies implemented, the demographics of the impoverished, and their means of sustenance. Therefore, while trade liberalisation offers promise for poverty reduction, its actual impact is contingent on multifaceted factors that influence its outcomes.

Studies like McCulloch et al. (2001) and Winters et al. (2004) explore relevant linkages which can be subsumed into three broad channels of influence: the distribution channel which affects households' income through the market (via price transmission), the enterprise channel which affects wages and employment (through export firms) and the government channel (via income distribution) which affects taxes and government expenditure. While these channels have been applied in the context of reciprocal trade agreements, there is a

dearth of studies applying this approach in GSP literature. This chapter, therefore, embraces two important possibilities largely omitted in existing studies; firstly, that different macro factors may be operating simultaneously when examining GSP gains or losses; and secondly, that GSP trade may also attract some dynamic costs, regardless of whether these are offset by the gains from trade.

2.3.1 The Gains of Trade and Poverty Reduction Channels

Poverty affects real households, and the characterisation of the households allows the identification of poverty-reducing channels. The characterisation of households from both income and consumption angles is common in economic literature, especially in studies related to poverty, welfare, and standards of living (Lanjouw and Ravallion 1995; Deaton 2001a; Ravallion 2000; Deaton and Tarozzi 2000). These studies have specifically applied the utility theory, where household welfare reflects the total utility derived from all goods and services consumed (Ngo 2018). Blundell et al. (2016a) posit that household consumption is primarily driven by income levels and the prevailing cost of goods. Income, often regarded as the accumulation of a household's labour value, predominantly arises from employment within firms (Bick et al. 2022). This aligns with the neoclassical and classical economic theories which underscore income as a fundamental metric for assessing poverty and economic welfare. These theories hinge upon income's quantifiable nature, enabling straightforward measurement and comparison across households or individuals. Elevated income levels are typically associated with an improved standard of living and reduced poverty rates, forming the cornerstone for evaluating economic well-being within these theoretical frameworks (Jung and Smith 2007)

Households are recognised for contributing diverse forms of labour, encompassing both skilled and unskilled work, resulting in income generation from various sources. The potential impact of trade policy on firms' labour demand or a decline in overall production might significantly affect this income mix, potentially leading to a reduction in overall working hours (Freeman 1995). Theoretically, an effective trade policy provides firms with incentives to create employment or increase wages such that poverty is substantially reduced in the beneficiary country (Egger and Etzel 2012). However, the implication of domestic prices on household income cannot be ignored; especially because aggregate exports are demand-driven and may alter the prices of exported goods which the domestic household also consumes (Cirera 2014). Put differently, export goods are produced at the firm level, channelled through local marketing routes, and aggregated into the national supply of goods. In this process, the institutions involved incur costs and add mark-ups, all of which enter

the final price. If the export prices of goods are given by the prevailing price in the destination markets, all such additions would reflect in the domestic prices that determine household welfare.

This, also, follows the positive inflation-poverty nexus in Sanchez-Martinez and Davis (2014) where prices are found to be exogenously determined in the developing countries investigated. It thus suggests that an increase in the prices of export goods as well as in wages increases the average prices in the domestic markets. In this case, a higher price reduces the buying power of income, which leads to buying less of the goods and worsening the poverty level. However, the impact on poverty can be mitigated if suitable substitutes for that tradeable good are readily available at lower prices (Lipton 2023). This scenario mitigates the effects of rising prices and their implications on the overall cost of living, thereby potentially reducing the severity of the impact on individuals or households living in poverty. Similarly, if households move to jobs with higher pay, it can mitigate the consequences of a price increase (Sheng and Wang 2022). In any case, some significant shocks, such as those caused by changes in trade policies have been found to result in welfare losses regardless of whether households consume alternative goods or switch employments (Siles-Brugge 2014)

The common presumption, in theoretical economics, is that an effective trade arrangement will cause government revenue to increase either through company income tax following growth in production or through personal income tax due to increased wages/employment (Winters 2002; Winters et al. 2004) In both cases, social expenditures are inclined to widen and the poor benefits. However, there is a historical basis to argue that trade liberalisation could also result in a loss of government revenue (Mulat 1997). For instance, the series of GSP reforms has led to limiting or cutting off preferences for some countries. The reduction of preference margins for some products of interest in those countries (such as textiles and clothing in the case of Bangladesh - see Gasiorek et al. 2010, p. 8) has created unemployment and/or a huge decline in wages. This caused a declining government revenue in Bangladesh between 2013 and 2017, and clearly, created cases where annual growth of expenditure was severely cut back (Razzaque et al. 2017). This was particularly true for expenditure on education, general health, and security in Bangladesh.

The international community shares a collective goal of poverty alleviation, notably within developing nations. Agenda 2030[29] articulates this aspiration as its primary aim, seeking to 'end poverty in all its forms everywhere.'

[29] The document 'Transforming our world: the 2030 Agenda for Sustainable Development' was adopted by the General Assembly of the United Nations on 25 September 2015. It is the new universal Agenda that contains 17 Sustainable Development Goals (of which the first is related to poverty) and 169 targets which are to be met by the international community by the 2030.

Developed nations possess pivotal policy tools—trade policies, development aid, and migration policies—to assist developing countries in fostering economic growth and advancement (Mitchell et al. 2021). Among these, trade policies have long seen developed nations (also known as 'old-industrialised countries') granting unilateral trade preferences to their developing counterparts over decades. The theoretical underpinning for providing a Generalised System of Preferences (GSP) to developing nations stems from foundational works by Prebisch (1950) and Singer (1950). These scholars emphasised a persistent decline in the relative prices of primary commodities compared to manufactured goods, asserting that stability and employment opportunities in developing nations predominantly lay within the manufacturing sector (UNCTAD 1985)

Does the EU GSP help to reduce poverty in beneficiary countries? The extent to which the EU Generalised System of Preferences (GSP) contributes to poverty reduction in beneficiary countries remains an underexplored area in empirical research. This question aligns with the broader literature examining the impact of foreign trade policies, particularly those implemented by affluent nations, on poverty levels and living standards in developing countries (Brambilla et al. 2012, McCaig 2011). For instance, in the context of the bilateral trade agreement between the United States and Vietnam, McCaig (2011) investigated whether Vietnam's enhanced access to the US market correlated with poverty reduction within the country. His findings revealed that Vietnamese provinces more exposed to tariff reductions by the United States exhibited swifter declines in poverty. Notably, these provinces experienced rapid wage growth among low-skilled workers, while the same trend was not observed among highly educated workers. Additionally, Brambilla et al. (2012) highlighted that the imposition of anti-dumping duties by the United States on Vietnamese catfish exports resulted in a significant income decline among households primarily engaged in aquaculture product production.

This thesis contributes to the emerging body of literature investigating the impact of enhanced access for developing countries to the EU market on poverty within these nations. While extensive research has explored the GSP scheme's effectiveness in enhancing beneficiary countries' export earnings, a limited number of studies have delved into its role in fostering industrial growth in these nations (De Melo and Portugal-Perez 2008, Gamberoni 2007, Gnangnon 2023, Gradeva and Martinez-Zarzoso 2016, Persson and Wilhelmson 2016, Yannopoulos 1986). Recent scholarly work has also examined the link between GSP and economic growth in recipient countries, aiming to assess its efficacy in promoting overall economic development (Gnangnon 2021). Despite definable empirical connections between GSP and poverty, existing research has primarily relied on correlation-based analyses rather than establishing a causal relationship between EU GSP

and poverty levels. Notably, studies like that of Stibora and de Vaal (2015) have investigated the impact of preferential trade agreements, specifically reciprocal trade agreements, on poverty. Their findings suggest that membership in such agreements yields welfare gains solely for countries unable to import goods produced by wealthier nations. For other countries, the welfare effects of these agreements hinge on global income distribution and the strength of comparative advantages.

Page and Hewitt (2002) observed that the European Union's implementation of the Everything But Arms (EBA) initiative, offering duty-free and quota-free access for products originating from Least Developed Countries (LDCs), might result in trade diversion from other, sometimes poorer countries. This scenario arises as the LDC group might not be a 'neutral measure of poverty.' While the EBA initiative could potentially alleviate poverty in LDCs, it might concurrently exacerbate poverty in other impoverished nations. Consequently, the authors concluded that the European Union's adoption of the EBA policy stemmed primarily from political motives rather than developmental objectives. Similarly, Freres and Mold (2004) highlighted the lack of success of the European Union's GSP in poverty reduction within Latin American countries, attributing this failure to various factors. These encompassed domestic socioeconomic conditions within the recipient countries (Latin American nations) and inadequacies within the design and execution of the GSP scheme by the European Union. The identified issues included uncertainties surrounding the preferences, limited understanding of the European market dynamics, insufficient support for enhancing the technological capabilities of small-scale producers in Latin American recipient countries, and excessively stringent rules of origin within the preference scheme. Consequently, Freres and Mold (2004) proposed policy recommendations aimed at ensuring sustained benefits from the European Union's GSP scheme for the Latin American nations.

The premise established in the preceding trade discussion substantiates the application of poverty reduction channels in GSP analysis. In investigating empirically, the effect of GSP participation on poverty, this thesis advances that this effect works through different channels. The concept of poverty channels is postulated on the ground that the positioning of an economy's tradeable sectors within the global trade network matters significantly for the trajectory of poverty reduction. Despite the primary focus on understanding how GSP trade impacts poverty through these channels, the first hypothesis is formulated without considering specific channel effects. This approach is adopted for completeness and as a prerequisite for conducting channel analysis (Baron and Kenny 1986).

Hypothesis 1 GSP trade facilitates poverty reduction in GSP beneficiary countries.

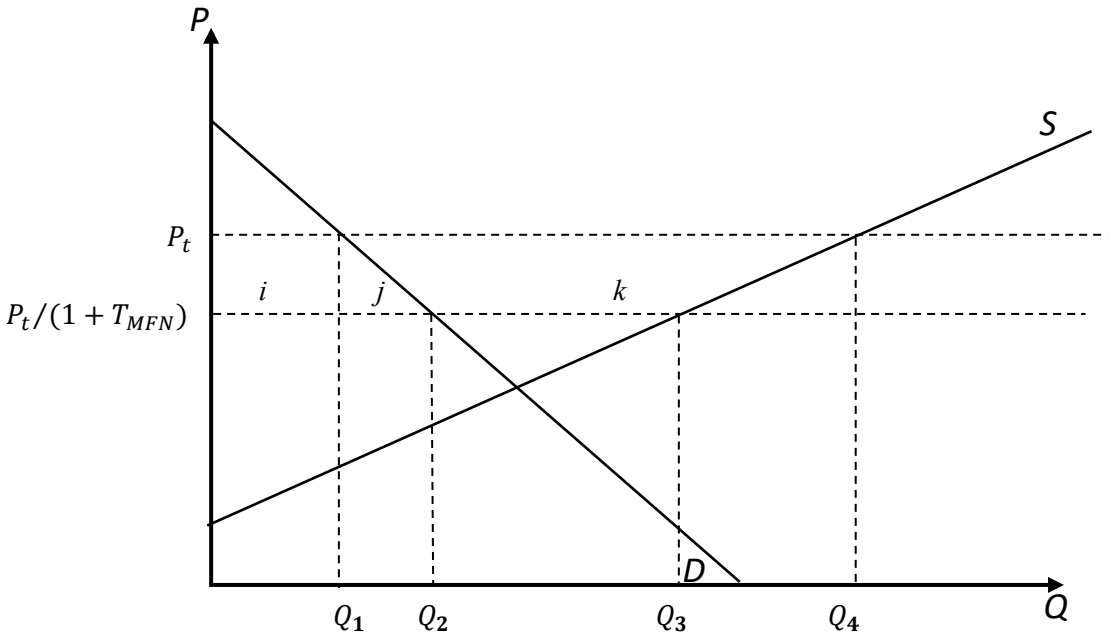
2.3.2 The Distribution Channel of Poverty

The distribution channel delineates households and markets as fundamental components in defining poverty. It predominantly illustrates how changes in prices and market mechanisms affect the welfare of impoverished households concerning their consumption and production patterns (Hasan 2017). This concept mirrors Winters (2000) "farm household" framework, acknowledging households as both consumers and producers within the economy (Kassie et al. 2018). While it may not universally apply across all sectors, it serves as a valuable tool for assessing poverty, especially in underdeveloped regions where a significant proportion of the world's poorest individuals reside. These populations are particularly susceptible to price fluctuations and rely heavily on low-income activities for sustenance and livelihoods.

2.3.2.1 Trade and Domestic Price Changes

Generally, the overall export levels impact domestic prices of goods. Positive shocks tend to enhance real income for goods produced by households, while negative price shocks can adversely affect producers' income (Arndt et al. 2015; Persson and Wilhelmsson 2016; Amiti et al. 2019). When considering a net consumer household, positive price shocks can worsen disposable income and negatively impact consumption patterns (McCalman 2018). In essence, positive shocks within a net producer scenario or negative shocks within a net consumer household are necessary conditions for effective poverty reduction (Headey and Martin 2016). Exporters in developing countries serve as net producers, benefiting from positive price shocks until global market prices reach equilibrium (Sokolovska 2016). However, these exporters also act as consumers, experiencing higher domestic market prices. The dual impact within a single scenario makes it complex to succinctly describe the welfare effect of trade. Nonetheless, the Partial Equilibrium Analysis, by Grossman and Sykes (2005), offers some clarification that illustrates the welfare cost and benefits in a typical preferential trade system. This is shown in **Figure 2.1** below:

Figure 2.1. Price Transmission and Welfare Effects of GSP Exports



Source: Adapted from Grossman and Sykes (2005)

In what appears like an Event Study Analysis (ESA) involving the partitioning of trade activities into pre-GSP and post-GSP periods, this study hold that exporters face an Ad Valorem Tariff (T_{MFN}) at the pre-GSP period. With the donor country's market price at P_t, exporters must sell at $\frac{P_t}{(1+T_{MFN})}$ to remain competitive in the donor country's market. This also is the price in exporters' domestic market given producers would not sell any lower than can be realised in the donor's market. Producers would also not sell above it, considering the export price $\frac{P_t}{(1+T_{MFN})}$ offers a competitive equilibrium. At this price, exports stay at (Q_3 - Q_2).

With preferential access, exporters pay a tariff lower than $T_{MFN.}$ If the beneficiary countries are collectively small, the donor country's market price remains unaffected and stays at P_t. Essentially, exporters could sell at higher than the Pre-GSP export price ($> \frac{P_t}{(1+T_{MFN})} \leq P_t$) and remain competitive in the donor country's market. Consequently, exports expand to (Q_4 - Q_1) while consumption contracts in the exporting country as the price upsurges. The contraction of consumption as well as the prospect to charge a higher price at the donor country's market both result in further exports and export earnings.

Regardless of whether GSP exporters are more net producers than net consumers or vice versa, the welfare effect of GSP exports can be illustrated via the movements in Terms of Trade (ToTs), expressed as the quantity of exports needed to obtain a given quantity of imports (Gnangnon 2018). Focusing on the prospect of selling at a higher price and given the scope to expand exports until marginal cost matches the price P_t , exporters (*as producers*) benefit from "terms of trade" (reflecting trade creation) with welfare gains equal to regions *i, j and k*. On the flip side, exporters (*as consumers*) are worse off as price increases and consumer surplus contracts by regions *i* and *j*. The net welfare gain is represented by region *k*.

The Prebisch-Singer hypothesis[30] suggests that developing countries ought to diversify their exports away from primary goods, as the prolonged export of these goods tends to lead to a decline in their Terms of Trade (ToT) over time. Despite the agreement that developing countries were expected to face declining ToT and should diversify their exports, Prebisch and Singer offered distinct explanations for this phenomenon (Prebisch 1950; Singer 1950). Singer proposed a demand-side theory, contending that industrialised countries predominantly exported manufactured goods, which have a higher income elasticity of demand compared to agricultural products, the primary exports of developing nations. This argument implies that as global income rises, the demand for manufactured goods increases more rapidly than that for agricultural products, leading to divergent price trends. In contrast, Prebisch presented a supply-side explanation, arguing that strong labour unions in industrialised nations contribute to continually rising manufacturing wages, whereas weaker labour unions in developing countries fail to prevent declining wages in agriculture. Consequently, during economic upswings, the costs of agricultural products increase at a slower rate than those of manufactures, and during downturns, agricultural product costs decrease more than those of manufacturers. This imbalance ultimately results in the long-term deterioration of developing countries' Terms of Trade.

The Prebisch-Singer hypothesis assumes a long-run decline in the terms of trade of countries that depend on exports of primary commodities (see Prebisch 1950; Singer 1950). This is the case for most developing countries under the EU GSP scheme given their substantial exports of agricultural products. Countries heavily reliant on exporting primary commodities often face a persistent decline in their terms of trade over the long term. This decline is attributed to the notion that prices of primary goods tend to rise at a slower rate compared to prices of manufactured goods. Studies such as Baffes and Dennis (2013), Ocampo and Parra

[30] Raul Prebisch and Hans Singer, both eminent development economists, separately proposed a concept in the 1950s, now recognised as the Prebisch-Singer hypothesis.

(2007), and Grilli and Yang (1988) support the Prebisch-Singer Hypothesis. Essentially, the world prices of primary commodities experience a less favourable trend compared to manufactured goods due to several reasons. Nurkse (1961) argues that the demand for primary commodities globally might not be sufficient to keep their prices buoyant. Others highlight the concept that the demand for primary goods is more responsive to price changes compared to the supply. Conversely, for manufactured goods, the supply is more responsive to price changes than the demand. This difference in responsiveness means that the prices of primary commodities are primarily driven by demand fluctuations, whereas the prices of manufactured goods are more influenced by supply dynamics.

The Prebisch-Singer hypothesis, given its implications for the distribution of gains in trade between developing and developed countries, has sparked intense debate since its inception. This hypothesis offers two primary distributional implications. Firstly, it suggests that nations primarily exporting raw materials may not benefit equitably compared to those exporting manufactured goods. Secondly, it indicates that trade growth might exacerbate inequality in per capita incomes between these two groups of countries.

There have been a lot of studies both supporting and challenging the hypothesis in the last six decades. However, this study, coupled with recent literature, cautiously embraces the relevance of the Prebisch-Singer hypothesis in the GSP context. Notably, Brenton and Manchin (2003); Ganberoni (2007); Gasiorek et al. (2010); Cirera et al. (2016); and Persson and Wilhelmsson (2016) question whether the EU GSP fosters diversification into the export of higher value products (the extensive margin of trade). The study of Persson and Wilhelmsson (2016) covered the period 1962–2007 and incorporated all trade preference programmes that have been offered by the EU to groups of developing countries. The authors test whether countries that are offered trade preferences respond by increasing the number of products exported over time and find that some trade preference programmes are indeed associated with increasing ranges of export products. For instance, the GSP showed positive effects on export diversification. By contrast, preferences offered to Mediterranean countries typically have no significant effects on the range of products exported. Interestingly, further indications are revealed that ACP preferences have negative effects, suggesting that ACP countries over time respond negatively to preferences by specialising in fewer goods.

Gamberoni (2007) analyses the impact of the EU's unilateral trade preferences on both the intensive and the extensive margin of trade using a Tobit and Probit estimation. The authors found an anti-diversification effect alongside a concentration of exports in agricultural products. This is most noticeable in the case of more

stable preferential schemes like the African Caribbean and Pacific trade preferences. They also confirm that the GSP for least developing countries did not change the beneficiaries' export pattern, while the traditional GSP and the regime to combat drug production tend to promote diversification of exports. Brenton and Manchin (2003) recommend that attention must be paid to the rules of origin and the extent to which these limit the possibilities for export diversification. The rules of origin are particularly restrictive for simple manufactured products, such as clothing, and for processed food products, precisely those manufactured products where export diversification may be feasible for GSP beneficiaries.

The potential for diversification allows specific consideration that the GSP may foster export sophistication and consequent growth of higher-value exports by GSP beneficiary countries. In any case, the Prebisch-Singer hypothesis is not limited to the developing exporting primary products but is also based on structural differences between the developing countries and the developed ones. These structural differences are relevant, even though many developing countries now export basic manufactures, while the developed countries export more sophisticated manufactures and services. Sarkar and Singer (1991) observed a significant transformation in the export composition of developing countries. They found that these countries showed a dominance of manufactures in their non-fuel exports, with a substantial increase in the volume of manufactured goods exported. Despite the shift towards manufacturing, the evolution of these countries' Terms of Trade (ToT) from 1965 to 1985 shows unequal exchange dynamics with developed nations. Specifically, the Terms of Trade for manufactured goods of developing countries demonstrated weakness rather than improvement, indicating that even as they increased their focus on manufacturing, they still faced challenges and did not necessarily achieve better trading terms.

Following the widespread adoption of the Solow growth model during the 1960s, numerous theoretical models emerged, aiming to either support or challenge the Prebisch-Singer hypothesis. Among these models, some corroborated the hypothesis, while others presented conflicting perspectives. Findlay (1981) provided a comprehensive summary, highlighting three primary strands of the Prebisch-Singer hypothesis that offer comprehensive explanations for the Terms of Trade decline in developing countries. The first one is that the income elasticity of demand for imports from the South is low in the North, while the income elasticity of demand for imports from the North is high in the South. The second strand is that technological progress in the North tends to reduce the demand for imports from the South, while technological progress in the South tends to occur in the export sector. The third strand of the Prebisch-Singer hypothesis is that the structure of product and factor markets tends to be much more monopolistic in the North than the South, on account of

the existence of large corporations and this well-organised labour unions. This makes technological progress to trigger a rise in incomes in the North, whereas it leads to a decline in the relative prices of exportable products in the South.

Expanding on Solow's foundational work (1956 and 1957), Findlay (1981) develops an intricate model to ascertain the Terms of Trade (ToT). This model assumes that the Northern Hemisphere produces a singular composite commodity, typically "manufactures," which serves purposes of both consumption and investment. In essence, Findlay's conclusion centres on the idea that "the fundamental determinants of the terms of trade are preferences, technological advancements, and the resources available to trading partners." Furthermore, Findlay emphasises that differing structural characteristics in growth rate determination between the Northern and Southern regions create asymmetrical impacts on the Terms of Trade given variances in technology and saving tendencies. Drawing from Lewis (1954) dual economy model, Chichilnisky (1981) explores scenarios where a dualistic economy exists in the production of goods, coupled with an abundance of labour supply in the Southern region. Chichilnisky demonstrated that, under specific conditions, an increase in the volume of exports from the South could lead to a persistent deterioration in the South's Terms of Trade (ToT). This decline might occur even if the surge in exports is driven by an increased demand from the North.

While each model has its distinctive features, many of them share a common assumption: the South primarily produces and exports raw materials, whereas the North specialises in manufacturing and exporting industrial goods. However, a crucial question arises - can these models explain why a developing country, whose primary exports have shifted from raw materials to manufactured goods, still faces declining Terms of Trade (ToT)? The answer is affirmative, provided the model assumes an unlimited supply of labour in the South. This signifies that the Prebisch-Singer hypothesis is not confined solely to situations where the South exports raw materials. Instead, it is rooted in structural disparities between the South and the North. These structural differences remain pertinent even when many developing countries transition to exporting basic manufactured goods, while industrialised nations specialise in exporting more sophisticated manufactures and services.

One conclusion can be drawn from the foregoing. The initial models describing the Prebisch-Singer hypothesis by focusing on developing countries exporting raw materials are still capable of explaining the declining Terms of Trade (ToT) even when these countries transition to exporting basic manufactured goods.

This is the point Saadi (2012) refers to when an increase in the sophistication of developing countries' exports is accompanied by a deterioration of their terms of trade. The author pointed out the fallacy of the composition effect where the simultaneous expansion of manufacturing export capacity in many developing countries resulted in system-wide excess capacity, creating declining international prices of the associated goods. In the GSP context, the terms of trade effect of the 'fallacy of composition' takes place when increases in exports by a group of developing countries result in the deterioration of export prices. To make up for the losses from lower prices, export volumes are increased, which moves export prices lower along the supply curve (see Mayer et al. 2003; Kaplinsky and Morris 2009; Razmi and Blecker 2008). The literature on the 'fallacy of composition' has given some cause for the 'new terms of trade pessimism'. In recent decades, the simultaneous entry of several countries into the same markets has led in some cases to an oversupply of exports, reflected in terms of trade deterioration for developing countries as a group. This fallacy of composition phenomenon can be identified not only in primary commodities but also in basic manufactures and, more generally, manufactures that can be transferred easily from one country to another (see Ocampo and Parra 2007). The deterioration of the developing countries' terms of trade is consistent with the competitive pressures associated with these asymmetric market structures in global value chains. The continual entry of new developing country supplier firms generates global excess capacity. This deteriorates the terms of trade of developing countries' manufactures and enhances the scope for lead firms to induce intense competition among supplier firms, which places more downward pressure on lead firms' input costs (see Milberg and Schöller 2008). It is thus, an empirical question whether the participation in the EU GSP has worsened terms of trade in the beneficiary countries.

Hypothesis 2 GSP trade worsens Terms of Trade in beneficiary countries.

2.3.2.2 Price Changes and Household Welfare

The observation in Easterly et al. (1993) offers a good starting point in the discussion of terms-of-trade shocks, further examined by Blattman et al. (2003) where welfare growth rates are generally found to vary more widely than their underlying drivers. Blattman et al. argue that changes in ToTs contribute more significantly to the variability of these fundamental drivers. However, existing ToTs literature has continued to focus on price movements or trends analysis, reflecting the Prebisch-Singer hypothesis rather than evaluating the effect of ToTs shocks on long-term economic welfare (Hadass and Williamson 2003). For developing nations, the implications of terms-of-trade shocks are inseparable from their reliance on primary commodities. One of the

earliest delineations of the "resource curse", often associated with enduring terms-of-trade shocks, is exemplified by the Dutch disease (Corden and Neary 1982). This phenomenon emerged from the 1960s discovery of gas in Holland, which significantly bolstered revenues while concurrently undermining the competitiveness of Dutch exports.

Essentially, booming exports cause the real exchange rate to appreciate in the exporting countries, but at the expense of the non-traded sector and export diversification. This, however, is not the case when trade policies are relaxed enough to accommodate diversification into higher-value products. The analysis by Badeeb et al (2017) reveals evidence of a Dutch disease effect in commodity-rich countries. According to Williamson (2008), declining ToT follow developing countries' concentration in primary products. Heavy reliance on exporting primary commodities (whose prices might decrease in a declining ToT scenario), can lead to reduced income from exports. This might affect the livelihoods of those directly involved in producing these commodities, potentially impacting poor households dependent on these industries. This reflects the findings of De la Huerta and Garcia-Cicco (2019) where declining ToTs had negative effects on total factor productivity in the Chilean industry.

The seminal approach of Harberger (1950), and Laursen and Metzler (1950) provide a different perspective to examining the impact of terms of trade shocks. Their discussion focused on the likely conflict arising between internal (price stability and full employment) and external (current account) balance. While Laursen and Metzler (1950) examine the extent to which flexible exchange rates isolate countries from exogenous shocks, Harberger brought real income effects into focus when exploring the effect of devaluation on the balance of trade. The consideration for ToTs – real income nexus harmonised the two studies and incited the Harberger-Laursen-Metzler (HLM) effect. However, the HLM effect draws on a static approach (including consumption smoothing), with investment being constant and no government; thus, a negative change in ToTs indicates a decrease in real income.

The macro-micro simulation analysis of Bussolo and Luongo (2017) assesses how ToTs affect poverty, inequality, and shared prosperity in the case of the Russian Federation. The negative oil price movement created a reverse Dutch disease that affected sectoral employment, factor returns, and consumer prices. It also caused a contraction of employment and wages in more skill-intensive (non-tradable) sectors and a reduction in consumer prices. When mapped to changes in incomes at the micro level, all households are affected, and poverty rates increase by 1 to 4 percentage points. Arbatli (2016) presents empirical predictions

for Ottoman income growth under various counterfactual ToT scenarios to provide a perspective on the absolute and relative importance of ToT shocks for the Ottoman economy. Arbatli's findings reveal that Ottoman GDP per capita could have grown about 0.63–0.80 percentage points faster on average per year over the period 1800–1870 if the empire faced only half the decadal ToTs volatility it experienced over the same period. Asmara et al. (2016) examine the welfare of farmers by calculating the Farmer's Terms of Trade (FTT) Index. The study was conducted in Jombang Regency and Data was obtained via survey method on 183 households of farmers. The results showed that the Farmer's Terms of Trade (FTT) Index in Jombang decreased year on year by 0.117% between 2015 and 2014. The decrease in the FTT index worsened farmers' welfare during the period reviewed.

Vidyattama et al (2014) linked a spatial microsimulation model to the national Computable General Equilibrium framework (CGE-microsimulation framework) in a top-down manner to capture the distribution of income in response to changes in ToTs. The authors simulated a potential decline in Australian terms of trade from 2012-13 to 2017-18 and found significant distributional impacts on households' income at national, state and territory levels. It is much more important to examine the declining ToTs and poverty reduction in GSP countries especially since the effects of ToTs changes on economic welfare tend to be stronger for developing countries due to less developed financial sectors (Aghion et al. 2010). Hausmann et al. (2013) find that ToTs changes are 3 times higher in developing countries than the developed ones, resulting in a higher real income shock. Given the foregoing, this study tests the third hypothesis below.

Hypothesis 3 GSP-Poverty relationships are mediated by changes in ToTs.

2.3.2.3 Trade and Market Creation/Destruction

The impact of trade on poverty often operates significantly within market dynamics (Pavcnik 2017). This influence is closely linked to the creation or destruction of markets. From a theoretical standpoint, trade can drive poverty alleviation through two primary avenues. Firstly, by increasing the export volume of existing products, known as the intensive margin. Secondly, it can create opportunities for diversification into new products, referred to as the extensive margin (Spilker et al. 2018). However, in preferential trade parlance, markets might be eroded due to several factors such as insufficient preference margins, country graduation, exclusion of specific products, and the presence of restrictive Rules of Origin (RoO) (Persson 2015; Mizuo

2019). Keane (2016) highlights exclusion and graduation as having the most adverse welfare effects within preferential trade policies, often leading to diminished participation in value chains and potential market loss.

The semi-log linear estimation in Cuyvers and Soeng (2013) reveals that similar changes, between1994 and 2007, worsened agricultural exports in ASEAN countries, China and Latin America. In the same study, however, there is a remark on industrial products reacting positively to changes in GSP policy. Regardless of the desirability for GSP changes, the export flows of certain beneficiaries have been affected. This is demonstrated in the simulation analysis of Siles-Brugge (2014) where given income graduation, Argentina was estimated to witness a 7.31% trade decline, 8.96% for Brazil and 12.2% for Malaysia. The same holds for product graduation with India estimated to lose 2.37% of total exports and 4.13% in the case of Vietnam. This outcome aligns with the empirical findings in Keck and Lendle (2012), emphasising that productivity is interrupted, often stemming from export disruptions. This occurs when the costs associated with utilising trade preferences outweigh the actual gains, leading to the eventual destruction of the market. In essence, when trade preferences become economically unviable for exporters, it results in a market collapse or erosion due to unfavourable trade conditions.

In some cases, studies reveal increased exports even in the face of eroded preference margins or restrictive RoO (Hayakawa and Laksanapanyakul 2017; Akinmade et al. 2020). This is the case where exports become unresponsive to some unfavourable procedural elements, a common outlook for products classified as "Wholly obtained" and not particularly affected by the stringency of origin requirements. However, there exists a limited possibility for duty savings at some point, especially as beneficiary countries are faced with tariff escalation while upscaling to higher-value products. A point is reached where participation begins to decline, and welfare costs become substantial (Akinmade et al. 2020).

As GSP participation widens, Keck and Lendle (2010) hint at significant benefits to exporters in four primary donor markets (Australia, Canada, EU, and the United State), leading to market expansion. However, in instances where trade preferences or related adjustments lead to market erosion, households are entirely severed from the trade gains, resulting in a considerable loss of income. This would mean that disruptions to market dynamics directly impact households, detaching them from the benefits of trade and causing substantial loss of income. Essentially, there are specific provisions of preferential arrangement that destroy the market (Young and Peterson 2013; Langan 2014; Siles-Brugge 2014). It is why Grossman and Sykes (2005) argue that preferential schemes are riffed with provisions that stifle trade expansion, one of them being

preference beneficiaries facing tariff escalation when upscaling to export higher-value products. This is one mostly ignored possibility when examining the effectiveness of GSP trade, notably where inherent provisions result in the undoing of preferential gains. In India's case, for example, changes in GSP provisions resulted in a 2.37% loss on preferential exports between2008 and 2010, with roughly 44.8% of exports facing at least 5% MFN tariffs (Siles-Brugge 2014). For Vietnam, the Overseas Development Institute reported a 4.13% loss on preferential exports and about 76.1% of exports facing 5% MFN tariffs or more.

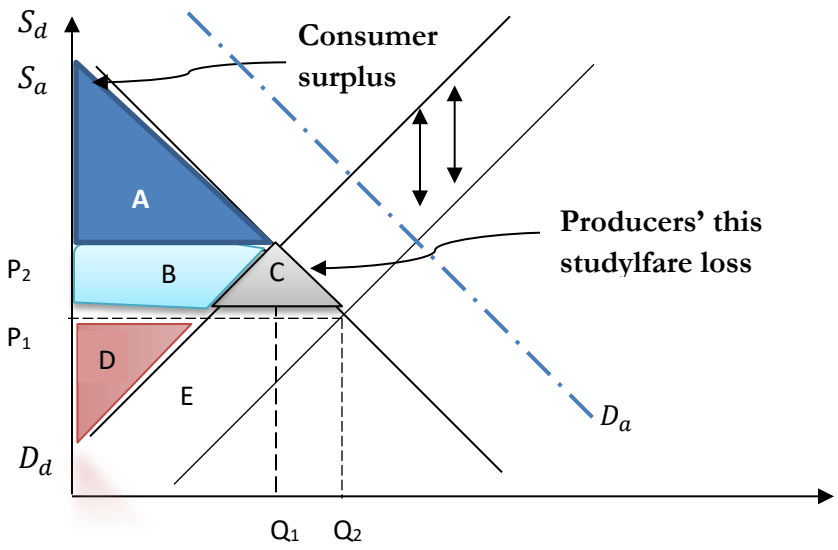
The market is destroyed when the export supply from GSP beneficiaries fails to meet the preferential import demand (Nilsson 2007). This scenario emerges because of a mismatch between the demand for goods under preferential terms and the provisions to enhance the export capacity of beneficiary countries. When exporters face challenges in meeting specific requirements under standard tariff conditions or encounter obstacles in pursuing alternative trade avenues, the market experiences a decline or erosion. De Gucht (2011), however, downplays the argument that a restrictive GSP outlook destroys the market. As illustratively noted by the European Commission, there are no countries that stand to lose preferential benefits that are not already in advanced FTA negotiations with the EU. This is evident in Thailand's successful negotiation of FTA with the EU in 2013 before the expiration of GSP preferences. Nevertheless, cases such as India, Indonesia and Vietnam have revealed that in sectors where graduation is applied or when utilisation becomes costly, the beneficiaries' market is destroyed resulting in production cessation (Holland and Doidge 2012).

Hypothesis 4 GSP trade impairs productivity (Market creation) in beneficiary countries.

2.3.2.4 Market Creation/Destruction and Household Welfare

According to Panagariya (2000) and Bhagwati (2014), loss of preferential trade results in the cessation of production lines in the long run, or in the short run, creating an excess domestic supply of goods originally intended for exports. When compliance costs increase and utilisation costs widen to a level where trade preferences confer no economic advantage, the market is out of equilibrium and exporters (producers) are worse off. Figure 2.2 below illustrates this scenario, a shift in preferential equilibrium when domestic supply widens to $S_{a,}$ as restrictive procedural elements make exports more expensive and less likely (GSP inefficiency). Figure 2.2 also demonstrates welfare changes for positive supply and demand changes (GSP efficiency)

Figure 2.2. Changes in welfare from a supply shift



Source: Author's construction

A trade arrangement with restrictive provisions would cause short-run quantity supply to increase to Q_2 in the domestic market and prices downwards to P_1. This would result from a lack of participation after domestic production had previously been increased to meet foreign demand. The resulting welfare loss to producers is represented by region C, while a portion of producer surplus B is transferred to the domestic consumer. Producers would either continue to sell at P_1 (lower than the global price level) or reduce production to Q_1 to reverse welfare loss. Nevertheless, at P_1, consumer surplus widens to A+B+C, domestic consumers derive welfare benefits through enhanced "consumer surplus", and overall welfare increases to C+E. When GSP procedural elements become restrictive, leading to less-than-optimal utilisation, exporters are likely to respond by reducing production, opting for the Most Favored Nation (MFN) regime, or seeking alternative preferential systems. In these scenarios, there might be an increase in producer surplus, although it may not match the gains achieved under a generous GSP scheme.

However, the snapshot of short-run welfare benefits provides an incomplete picture of the prevalence of poverty (Jenkins 2011; Dawe and Maltsoglou 2014). Specifically, identifying a percentage of people in a country as poor during a specific period (cross-sectional or current poverty) does not clarify whether poverty for these individuals is persistent or transitory (Haddad and Ahmed 2003; Arif and Bilquees 2007). In theory, an effective trade arrangement generates a positive shift in both supply and demand, facilitating equilibrium

and consequently augmenting revenue and overall welfare for producers and domestic consumers. Welfare benefit would, therefore, be a question of effectiveness considering that producer and consumer surplus tend to widen substantially within an effective trade system (Bagwell and Staiger 2012; Linotte 2018; Kashif and Akram 2021)

Empirical studies consistently highlight increased export revenue as crucial for reducing poverty (Dorosh and Sahn 2000; Heo and Doanh 2009; Gnangnon and Brun 2017). These studies underscore the primary impact on household incomes via productivity. Ivanic and Martin (2018) use the GTAP model to estimate the price implications of the simulated productivity gains and find that, in poor countries, increases in agricultural productivity have a significant poverty-reduction effect than increases in services. However, these differential declines as average incomes rise because agriculture as a share of the economy becomes smaller, and partly because agricultural productivity growth becomes less effective in reducing poverty. Devkota and Upadhyay (2013) explore the link between productivity and poverty using Sen's poverty index and find that productivity growth substantially fostered poverty reduction in Nepal. Darko et al (2018) analysed the micro-level welfare effects of agricultural productivity using a two-wave nationally representative panel data from rural Malawi. The poverty impact of agricultural productivity was estimated with a household fixed effects estimator, a two-part estimator or a correlated-random effect ordered probit estimator. The results indicate that growth in agricultural productivity has the expected welfare-improving effect. In terms of economic magnitude, however, both the direct effect and economy-wide spillover effect (in the non-farm sector) of a percentage increase in agricultural productivity on the poverty and food security measures are small. Given the foregoing, the following hypotheses are tested.

Hypothesis 5 GSP-Poverty relationships are mediated by changes in Productivity.

2.3.3 The Enterprise Channel of Poverty

Poor households, in most developing countries, rely on the labour market for the bulk of their income (Hanna and Olken 2018). Thus, making the labour markets one core pathway out of poverty (via employment) or into it (via unemployment). The effects of trade on this pathway are increasingly becoming significant in developing countries, especially for unskilled workers. An increase in wages or employment (or both) would be expected when trade arrangements strengthen the demand for labour-intensive products (Pavcnik 2017). However, poverty may be unaffected or worsened if the poor engage mostly in unskilled employment while

the production of tradable products requires more semi-skilled labour. A closely related instance is when trade triggers skill-biased technical changes (via diversification), such that sway welfare gains towards skilled labour (Stokke and Rattso 2012).

2.3.3.1 The Influence of Trade on Wages and Employment

The Heckscher-Ohlin-Samuelson (H-O-S) framework offers somewhat straightforward expectations about the impact of trade on employment (Nam 2008; Sheng et al. 2008; Odeleye 2016). The supposition within the H-O-S framework indicates an expansion of the export sector when trade barriers are reduced, with employment more inclined to increase. The crux of the H-O-S argument is that trade results in a redistribution of employment away from the import-substitute sector towards the export-oriented sector, providing a profound theoretical basis within which trade and employment linkages can be situated.

The relationship between trade liberalization and employment has been extensively studied in academic literature, revealing two main strands of thought. The theoretical predictions often support a positive correlation between trade openness and employment, suggesting various channels such as technological diffusion, export promotion, efficient resource allocation, local value addition, and improved domestic industry competitiveness. However, empirical evidence on this relationship shows a more mixed and complex scenario than the theoretical predictions would imply, as indicated by various studies across different regions and periods.

Importantly, two effects of trade liberalisation on labour market outcomes are plausible. One that results in the shrinkage of firms facing import competition (Bloom et al. 2016) to exit the market and displace workers. On the other hand, firms benefiting from enhanced access to foreign markets tend to expand productivity and therefore create more employment (Christev et al. 2008; Goaied and Sassi 2015). Feenstra et al. (2019) examine the employment effect of the US export expansion. The authors find that although import competition reduces jobs, export expansion also creates a significant number of jobs. At the industry level, job gains due to US export expansion largely compensated for job losses due to Chinese import competition, resulting in a net gain of 379 thousand jobs from 1991–2011.

Turco and Maggioni (2013) concluded that between 2003 and 2008, the Turkish manufacturing sector witnessed an increase in the absolute size of the labour market. Their investigation of trade intensity reveals

that the positive effects on labour demand hold, regardless of a firm's degree of involvement in foreign markets. Firms entering the export markets with high-intensity experience higher employment growth. For Vietnam, Ha and Tran (2017) observed a modest and mostly positive linkage between international trade and employment between 2010 and 2015. Similarly, Christev et al. (2008) studied trade liberalisation effects on job creation in Ukraine, uncovering positive impacts on sectoral employment through diverse channels based on trading areas. The study of Kien and Heo (2009) in Vietnam confirmed positive impacts on sectoral employment, especially through export expansion, even showing that import expansion did not necessarily lead to negative employment effects in Vietnam.

In contrast, the assessment of Baldwin and Picot (1995) suggest that trade openness does not significantly affect employment or, in some cases, has a negative effect in low-tech sectors like textiles and agricultural industries. The investigation of Lee and Vivarelli (2006) across developing countries found varied impacts, with only Vietnam showing positive employment effects post-liberalization, emphasizing the role of country-specific factors. Other studies, such as Kakarlapudi (2010) examination of Indian manufacturing and Malik et al. (2011) study in Pakistan, suggest a deceleration in employment growth following trade liberalization. The study of Peluffo (2013) in Uruguay concluded that trade liberalization led to decreased employment generation, higher unemployment rates among unskilled workers, and an increased probability of unemployment among qualified workers. These diverse findings highlight the complexity of the relationship between trade openness and employment, emphasizing the importance of contextual factors and policy specifics in shaping outcomes.

Hypothesis 6 GSP trade improves employment in beneficiary countries.

2.3.3.2 The Effect of Changes in Wages and Employment on Poverty

Income shocks among producers are directly linked to price variations, coupled with alterations in output or exports. Conversely, for employees, price shocks are drivers of factor prices, affecting wages, labour market dynamics, and employment opportunities (Erten et al. 2019). The existing body of literature underscores the paramount importance of increasing employment in poverty alleviation or to counteract income erosion. So, accentuating the pivotal role of labour market intricacies becomes imperative when exploring the effect of trade liberalisation on wages and employment dynamics. This perspective highlights the necessity to examine

how trade policies influence labour market structure, ultimately shaping employment rates and income variations, key components in strategies aimed at poverty reduction.

In conventional trade theory, there is an assumption of a fixed factor supply and potentially flexible wages (Llull, 2018). According to the Specific Factors model, an increase in the price of goods would lead to an increase in their production and, consequently, in the real wage associated with a labour-intensive production process (Rosso 2019). This supposition, while insightful, provides no sufficient answer to trade and poverty queries in the real world. Specifically, its interpretive limitation within multi-factor and multi-commodity models (Jones 2015), and loosened portrayal of the linkages between functional and personal distributions of income (Dafermos and Papatheodorou 2015), pose questions about its robustness. It would mean that, even if unskilled wages respond positively to increased prices of unskilled-labour-intensive products, poverty will only reduce in households with utmost reliance on unskilled wage earners.

While the headcount index measures the number of individuals below the poverty line, examining wage rates concerning this line is equally important. When wages rise and surpass the poverty threshold, or when export sectors provide wages exceeding this threshold, the headcount index typically decreases. However, when wages move upwards but not beyond the poverty line, poverty becomes unresponsive, despite variations in welfare. In any case, poverty is not a static phenomenon (Dartanto and Otsubo 2016) and income dynamics at every point within and beyond the poverty line cannot be ignored. It is also important to point out the effect of factor mobility between different income strata (Redding 2016). Essentially, changes in income distribution around the poverty line (**Poverty gap**) provide better information on the intensity of poverty (Kyzyma 2020).

A different perspective of the labour market structure discusses labour supply as perfectly elastic, keeping wages exogenously fixed across sectors, with adjustments only occurring in terms of employment (Dustmann et al. 2017). The justification for keeping wages fixed is worth noting. If the fixity of wages is implemented in the subsistence sector, then the gravitation of workers toward the formal sector would reduce poverty. However, this occurs only if labour movement results in wage growth in response to declining supply. Another possibility relates to the segmentation of the labour markets along with institutional motives (Harasztosi and Lindner 2019). In the case where trade shock raises the marginal product of labour in the formal sector (perhaps due to increasing export price), then trade reduces real producer wage, increases employment, and reduces poverty. However, if a trade shock lowers the marginal product of labour, and

consequently reduces employment, then poverty is heightened. In any case, poverty outcomes are not dependent only on employment but also on how far off wage levels are from the poverty line (Santos-Paulino 2017).

The impact of international trade on poverty reduction remains a multifaceted topic with varying implications. Increased access to foreign markets and augmented export prices for labour-intensive goods are expected to elevate the demand for unskilled labour, particularly in developing nations with a comparative advantage in this area. Such demand shifts can potentially lead to positive outcomes in poverty reduction through heightened employment or increased wages, contingent upon two fundamental theories: trade theory, assuming inelastic factor supply, and development theory, presuming infinitely elastic factor supply (Winters, 2001).

Trade promotion is generally perceived as a beneficial contributor to poverty reduction within countries due to its potential for fostering growth, employment, and income growth, thereby facilitating sustained poverty reduction in the long term. The impact and pattern of a country's trade also significantly influence its poverty status. Expansion of service exports is recognised as a poverty alleviation tool. However, to fully harness the growth generated from trade enhancement for poverty reduction, domestic reforms such as education geared toward skill development, land reforms, and women's empowerment are imperative.

The adoption of an export-led growth strategy, especially in developing economies leveraging their comparative advantage in labour-intensive production, is regarded as an avenue for expanding manufactured exports, potentially leading to increased employment. Scholars like Krueger (1997), and Balassa and Williamson (1987) argue that where labour is widely distributed in an economy, trade liberalisation could result in expanded employment, subsequently reducing poverty and income inequality.

Nevertheless, the impacts of trade liberalisation on poverty are multi-faceted and transmitted through various channels such as prices and goods availability, factor prices and employment, government revenue and spending, short-term adjustment costs, external shocks, and long-term growth. Krueger (1983) argues that poverty can be alleviated in countries that leverage their comparative advantage in labour-intensive goods for exports, aligning with the Stolper-Samuelson theory. However, Frankel and Romer (1999) stress the complexity of the trade-growth relationship, albeit acknowledging the significant effect of openness on economic growth. Winters (2002) developed a framework that explores the relationship between trade

liberalisation and poverty, considering its effects on tradable goods prices and subsequent impacts on household welfare. World Bank (2000) emphasises the pivotal role of removing protectionist measures in global poverty alleviation, reflecting substantial welfare gains stemming from such measures' elimination (Anderson, 2003). Rajan and Bird (2002) correlate rapid growth and poverty reduction with countries that have integrated into the global economy in a market-consistent manner. However, observations by Zhu and Trefler (2005) reveal that countries experiencing the sharpest wage inequalities are those whose export shares have shifted towards more skill-intensive goods, challenging the core of the Hecksher-Ohlin theory.
Furthermore, Porto (2005) presents a comprehensive framework considering household heterogeneity in a general equilibrium model to study trade's impact on poverty. Mamoon (2007) utilises the Heckscher-Ohlin theory to investigate the relationship between trade liberalisation and poverty, suggesting that liberalisation plays a crucial role in reducing inequality.

The expansion of exports is recognised as an essential driver of growth, but its impact on livelihoods and poverty is not straightforward. In some cases, exports primarily benefit specific economic activities or fail to create new livelihood opportunities, particularly when focused on raw, unprocessed materials or activities leading to environmental degradation. For instance, the findings of Khan (2009) in Bangladesh highlight the rapid expansion of a narrow set of exports, mainly garments and fisheries, with limited incremental output benefits. Empirical analysis by Dollar and Kraay (2004), and Goldberg and Pavcnik (2003) support the notion that expanded trade often leads to faster growth and poverty reduction in poor countries. However, the relationship between trade reforms and poverty reduction may not be straightforward in all cases. Several studies, including those by Jensen and Tarp (2003), Bolaky and Freund (2004) underscore the complexities and potential adverse distributional effects of trade liberalization.

Hypothesis 7 GSP-Poverty relationships are mediated by changes in employment.

2.3.4 The Government Channel of Poverty

The government channel is an indirect one whereby household income adjusts to changes in tax revenue and government expenditure (Martinez-Aguilar et al. 2017). This, also, is largely derived from the response of production and consumption choices to price changes, whereby price changes are driven by preferential trade. Can and Gozgor (2018) argue that trade preferences are associated with the upgrading of export quality or

quantity. However, there are questions as to whether export improvement ultimately improves government revenue in developing countries. As such, two lines of argument are explored. First, export improvement (quality or quantity) is a means of reducing countries' exposure to future shocks and also lessening the government's inclination to generate higher revenue (Gnangnon and Brun 2017). This is the case when governments are less incentivised to raise more tax revenue, resulting in a general reduction in taxes on consumers and producers. Arguably, this scenario is less likely in most developing countries, considering their dependence on foreign aid to address external shocks (Asongu 2015). Nonetheless, increasing exposure to shocks may motivate exploring a more balanced non-resource tax revenue, and in effect, less reliance on foreign aid (Ayenew 2016).

With increasing exports comes increasing production, so the trade effect of tax revenue can equally be seen from the perspective of production taxes. Expectedly, export growth or diversification generates higher export revenue for producers, being either the "farm households" or the formal sector, causing an increase in wages or employment (Atkin et al. 2017). However, producers in developing countries prevalently evade taxes (Ahamed 2016), and export growth may likely not increase domestic tax revenue, including non-resource tax revenue. In this vein, export growth or diversification could have negative effects on non-resource tax revenue or dampen the need to mobilise more tax revenue generally.

The second line of argument relates to export growth causing higher domestic tax revenue through the effects of trade gains on producers' wages and consumption. Theoretically, increased exports or diversification would heighten trade gains for exporters (Atkin et al. 2017), for both private (Small and Medium Enterprises) and public sectors (public enterprises) involved in preferential trade. This study would expect a rise in exporters' profit, perhaps an increase in employees' income (wages) and potentially a positive re-direction in the hiring dynamics of the respective sectors – employment. In this context, direct tax revenue would respond positively (the result of increased taxes on corporate and personal income) and aggregate tax revenue in the same direction (Gaalya 2015). This positive income effect may also trigger consumption, hence higher indirect tax revenue (via Value Added Tax and excise tax). Nevertheless, a higher tax revenue (due to export growth or diversification) largely depends on the accounting treatment of exporters' profit (Gnangnon and Brun 2017), and whether the increase in indirect tax revenues (via consumption of export sectors) adequately compensates for the declining revenue from existing trade profits.

In the abstract, this study would also anticipate a higher trade tax revenue if improvement in exporters' profit translates into higher imports (Feng et al. 2016). A common occurrence within the "cumulation" tolerance of the Rules of Origin, such that allows imports of inputs in the production of higher-value export products (Andersson 2016). However, to prompt a higher non-resource tax revenue, imports of the export sectors must increase by more than a proportionate decline in the existing export profit (Gnangnon and Brun 2017). This would also depend on the scale of import tariffs as well as the size of existing exports.

The empirical findings on the trade effect of tax revenue are at best mixed, reflecting the foregoing theoretical discussion. Adam et al. (2001), for example, examine the tax revenue in Sub-Saharan African (SSA) countries to provide evidence that trade improves general tax revenue in CFA franc countries but has minimal impact in non-CFA franc countries. Their decomposition analysis of total revenue reveals that trade only raises trade-related tax revenues but lowers services tax revenue. The claim that trade lowers tax revenue in developing countries is further examined by Khattry and Rao (2002) based on the structural characteristics of the sampled countries, notably to assess the potential for a transition from trade to domestic taxes. They find empirical evidence of a negative interaction between trade and total tax revenue. However, the decline in tax revenue is, largely, the result of specific structural characteristics (trade openness, population size, age-dependency ratio and degree of urbanisation) of low-income and upper-middle-income countries. Despite the evidence in Agbeyegbe et al. (2006) that the trade-tax revenue relationship is not strongly linked, the authors found the existing relationship to depend on the specific measure of trade liberalisation, though one measure of trade liberalisation is linked to higher income tax revenue.

Questions have, therefore, emerged regarding the ability of countries to recoup from domestic taxes the revenues lost from previous trade interactions. Baunsgaard and Keen (2010) find high-income countries more able to generate tax revenue from trade, and middle-income countries show robust signs of recovery from both revenue loss and long-run dollar-for-dollar. However, in low-income countries, signs of recovery from revenue loss are weaker. In any case, recent studies (Thomas and Trevino 2013; Gnangnon and Brun 2017) find a positive effect of trade on non-resource tax revenue, with Chu et al. (2003) obtaining a mixed result. What is more, Ahmed et al. (2016) show evidence that export growth or diversification improves aggregate non-resource tax via per capita economic growth, which, generally, is a significant driver of government revenue and non-resource-tax revenue specifically.

Hypothesis 8 GSP trade impairs Government Fiscal Balance in beneficiary countries.

2.3.4.1 Fiscal Revenue and Household Welfare

A bias in poverty statistics may arise from using solely household wages, rather than disposable income or consumption as the basis for welfare assessment. Essentially, consumption-based estimates suggest lower poverty levels and better progress in reducing poverty within the same timeframe (Mohanty et al. 2016). Ideally, if poverty indicates the absolute level at which a section of the population fails to attain a minimum standard of living (Zheleznyakov and Tarasov 2016), then an assessment of taxes or other statutory deductions that diminish wages or producer's income is imperative. It would be inadequate to solely identify the poor based on income-before-tax since this well-being also follows the consumption of goods and services (Wimer et al. 2016). In this case, household welfare would be represented by an indirect utility function that depends on the vector of prices, total consumption, and household attributes; such outcomes are typically concerned with the response of income distribution to changes in fiscal policy.

The welfare effect of production taxes is worth noting; economic analysis shows that such taxes are mostly harmful given the distortions they create throughout the production chain. Specifically, production taxes affect exporters' decisions in terms of choice of production modes and often compel them to continue exporting primary products on which production taxes are not paid. In this case, prices, productivity, and competitiveness are negatively affected, worsening the existing poverty situation in developing countries (Wimer et al. 2016)

Importantly, two perspectives have emerged in the literature worth exploring. First, the argument that any effects of taxes on the poor tend to be insignificant, given that the poor pay little in taxes directly (Pechman 2019). A reflection of the progressive tax system is frequently applied to personal income tax, in which the tax rate increases as the taxable amount increases. However, the poor may pay some taxes indirectly (Higgins and Lustig 2016), especially those that affect the prices of goods that the poor consume. There are renewed worries about whether making taxes more progressive would reduce poverty. A perspective which is linked to tax distortions to the inherent characteristics of a progressive tax system is sufficient to stifle efficiency and suppress the potential revenues for poverty-reducing social expenditures.

The second argument relates to the perception that public social expenditures offer a stable approach to reducing poverty (Sasmal and Sasmal 2016), with taxes taken generally as a revenue-raising instrument. This underlines the rationale for Jouini et al. (2018) to examine the poverty effect of taxation and government

expenditure simultaneously. The authors reported an increase in the headcount ratio in Tunisia, implying a more than proportionate poor people pay taxes than they receive in subsidies and cash transfers. This has resulted from a somewhat high burden of personal income taxes and social security contributions for low-income households. Higgins and Lustig (2016) estimate the redistributive effect of fiscal policy on poverty in Brazil using household survey data consisting of labour and non-labour income sources. The authors concluded that indirect taxes paid by the poor often surpass the direct transfer and indirect subsidy benefits they receive, resulting in low poverty reduction relative to Brazil's spending.

2.3.4.2 Government Expenditure and Household Welfare

The interaction between government spending and poverty is rather complex and mediated by several factors, widely linked to different types of spending (Sasmal and Sasmal 2016). Government spending on subsidies and transfers, for example, may directly reduce poverty via its effect on "post-fiscal" disposable income (Beneke et al. 2017). Or rather indirectly, via positive effects on health and education for poor households, such as an increase in the likelihood of higher "pre-fiscal" market income (Weziak-Bialowolska 2016). In other words, government spending on education, health and other public goods and services (water, housing, roads and sanitation) ultimately increased the productivity and earnings potential of poor households. And at least in theory, highly likely to reduce poverty. Although in developing countries, a sizeable portion of spending on transfers and subsidies fails to reach poor households, the effect of impaired targeting (Coady et al. 2015). A typical occurrence in Indonesia where the top half of the income distribution receives over 80% gains of gasoline subsidy (Rhee et al 2014). Equally, the gains from public health and education spending largely go to the middle class, especially in urban areas (Swaleheen et al. 2019).

So substantially, the actual effect of transfers and diverse other "pro-poor" spending would depend on specificity towards the poor households. However, such spending may also have secondary effects on labour supply or reduce the potential of private transfers, which may equalise their effect on poverty. The poverty effect of government spending also hinges on how such spending is financed (Dissou et al. 2016). Considering, for instance, that direct income taxes are reported as less impactful on poverty, perhaps because households living below the poverty line benefit from personal allowance, pay little due to the progressive tax system or are altogether outside the direct tax system (Higgins and Lustig 2016). In any case, a substantial portion of tax revenue proceeds from indirect taxes – 60% in Latin America and 40% in OECD countries. Such taxes widen poverty levels by driving up the prices of goods consumed by the poor. This study would

also argue that the monetary financing of government expenditure potentially fuels inflationary pressures, resulting in worsened poverty levels.

A synthesis of evidence regarding public spending patterns in developing nations (Chu et al., 2003) across education, health, and transfer payments reveals that while overall public spending tends to be progressive in these areas, its targeting is often inadequate, especially in sub-Saharan Africa. Health spending generally exhibits progressivity, but effective targeting is observed in just over half of the cases studied. Transition countries and sub-Saharan Africa have the poorest targeting, consistent with earlier findings (Castro-Leal 1999).

In education, the level being considered significantly influences its progressivity and targeting. Primary education shows widespread progressivity and effective targeting in many instances, although targeting performance is weaker in Africa, even at the primary level. This discrepancy becomes more pronounced when considering that poorer groups often have more school-aged children, a factor often overlooked in benefit incidence studies. Secondary education spending, particularly in Africa, shows poorer targeting towards the poor. Conversely, in Asia and Latin America, secondary education spending exhibits better targeting, primarily due to higher overall secondary enrolment rates in these regions. Higher education spending largely benefits the wealthiest segments across most countries, reflecting enrolment patterns. Transfers, unless specifically designed for targeted delivery (e.g., food stamps in Jamaica), often lack effective targeting despite being progressive.

Limited evidence exists regarding the distributive effects of taxation in low-income countries, often constrained by a narrow tax base and administrative challenges. Efforts to establish independent revenue authorities in some countries aim to bolster administrative procedures and might have positively influenced distributional outcomes in specific cases. Studies evaluating the comprehensive incidence of fiscal policies, encompassing both spending and taxation, remain rare. However, an exception, such as the study on the Philippines by Devarajan and Hossain (1995), suggests an overall progressive pattern in incidence. Their findings, while based on several assumptions, indicate a progressive public spending pattern and a broadly neutral tax system, though the robustness of these conclusions to changes in assumptions is acknowledged. This study, therefore, test the following hypotheses:

Hypothesis 9 GSP-Poverty relationships are mediated by changes in Government Fiscal Balance.

The foregoing discussion guides the construction of poverty channels. This is shown in the analytical framework in Figure 2.3 below; three broad channels of influence are considered – the enterprise/firm channel; the distribution channel through the market; and the government channel. This study, however, do not consider the Marxian/radical theory which requires radical changes in the socio-economic environment to lift people out of poverty. The emphasis on the concept of social class makes it difficult to be included in a mainstream economic framework; this is largely due to poverty being less precisely defined and more difficult to measure. This study also does not consider the social exclusion and social capital theories which focus on diverse routes through which deprivation arises and persists.

Figure 2.3 GSP Trade and Poverty – Channels of Influence

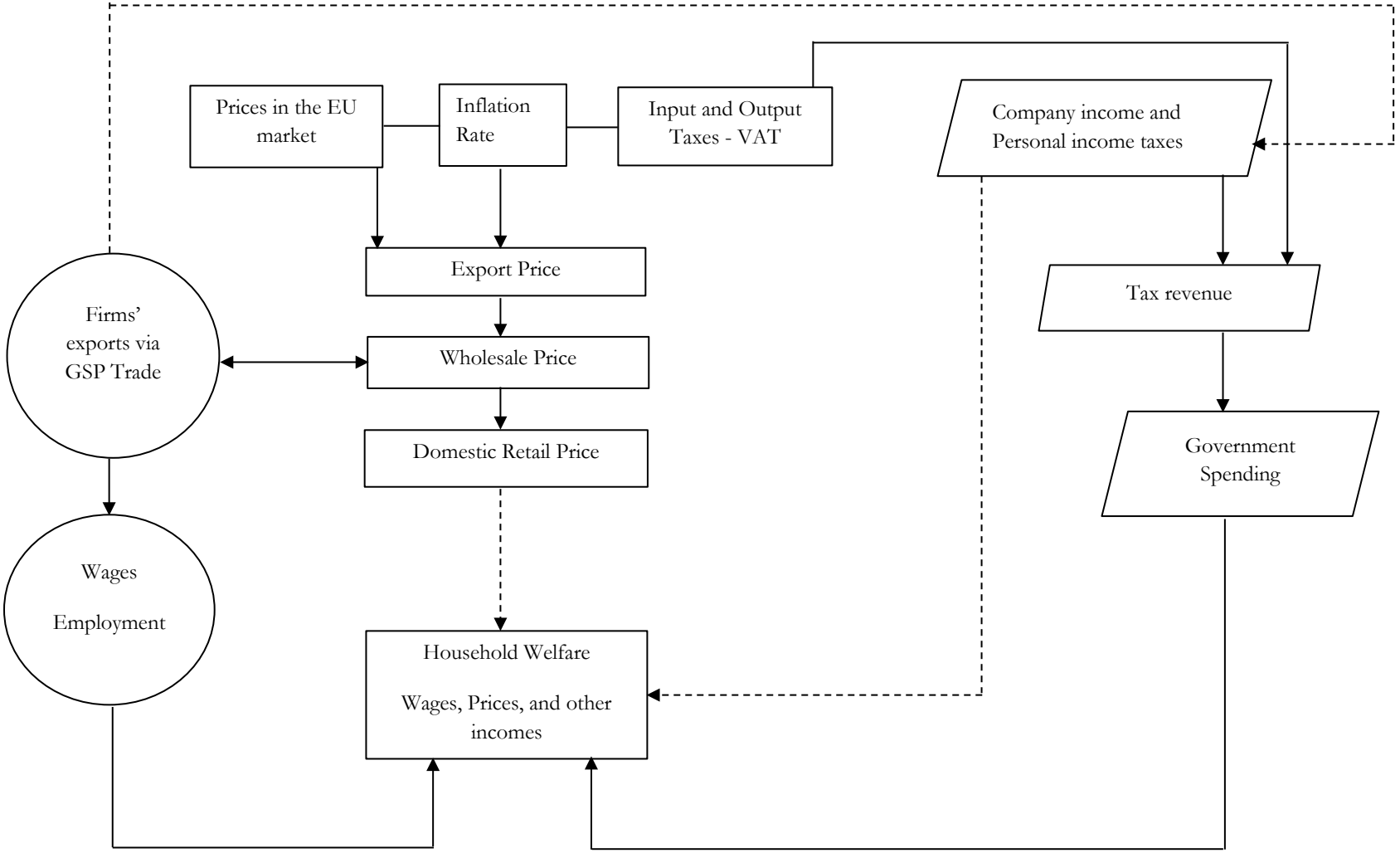


Figure 2.3 above shows how price changes can be induced by GSP trade and the trickle-down effect on household welfare. Wages and employment are also identified as variables determining household this welfare, largely resulting from firms' ability to export via GSP arrangement. The distribution channel lies in the middle of the figure, where transmission of price shocks emanates from the EU market through to final consumers in the beneficiary country. The factors of influence are illustrated, which determine the extent to which those shocks are passed from one stage to another.

Essentially, prices in the EU market, inflation rate and Value Added Taxes combine to determine the price of export goods. Grossman and Sykes (2005) illustrate that export prices embody the prevailing prices in the GSP donor market below which exporting firms are unwilling to sell in the domestic market. Other domestic taxes, regulations and distribution from and to warehouses may also increase existing prices. The resulting price is described as the wholesale price. The goods are further distributed to retailers who are faced with more levies and regulations, thereby adding to the existing prices – retail price. Finally, goods are distributed to households from the retail points. In any case, the extent to which the transmission of price shocks affects economic welfare depends on the compensating effect of wages, employment, and government spending. In determining the effects of GSP trade on household this welfare, it is therefore important to have a snapshot of these transmission channels and how they operate simultaneously.

2.4 Examining GSP Effectiveness through GVC Integration

The reality of international trade is reflected in fragmented production where the commercial value of final export is not limited to the last country of production (Los et al. 2012; Blyde et al. 2015; Marcato et al. 2019). This has created international supply chains where substantial GSP exports are "made in the region" rather than "made in a Specific Country". In effect, the GSP Regime-wide provisions[31] help to uncover the commercial importance of each country in the value chains[32] (Mizuo 2019).

[31] The "GSP regime-wide provisions" refer to the set of rules and regulations that apply to the Generalised System of Preferences (GSP) scheme. These provisions encompass various rules of origin (RoO) and trade facilitation measures that are implemented uniformly across beneficiary countries under the GSP framework. Examples of such regime-wide provisions include cumulation rules, de minimis thresholds, self-certification procedures, and other regulations aimed at promoting trade and economic development within the GSP scheme. The cumulation system sits within the Regime-wide RoO and allows materials that meet the rules of origin requirements in one country to be considered as originating in another when determining the originating status of final goods.

[32] This has been couched in form of value-added trade as reflected in international trade statistics on a value-added, which disaggregate the value that is added at each stage of the production chain and measure the contribution made by each trading partner.

On one hand, the GSP Cumulation allowances (a subset of the regime-wide provisions) have increased the exports of processed goods from some countries into the EU market (Estevadeordal et al. 2013: Felbermayr et al. 2019). On the other hand, it has promoted the idea of cross-border trade[33] within each GSP region[34]. However, cumulation allowances do not apply to all GSP beneficiary countries, thereby reducing the inclination to generally engage in cross-border production sharing (Inama 2011; Hakobyan 2015; Abreu 2016). Aside from cumulation, the product-specific Rules[35] also allow international sourcing of intermediate inputs, on the condition that GSP exporters comply with the percentage threshold for local value content that must be incorporated into the exported product (Sytsma 2021). Despite the reality of value-adding trade between GSP partners, the role of RoO in intensifying cross-border integration remains unexplored, leaving a critical gap in the understanding of how GSP operations can affect Global Value Chains (GVCs) participation.

Related studies on Trade-GVCs nexus are centred on the depth[36] of trade arrangement, with the commitment rationale focusing on behind-the-border provisions which are only covered in deep regional trade agreements – RTAs (Ruta 2017; Boffa et al. 2019; Laget et al. 2020; Zhang et al. 2021). It means that the important factors asserted to arbitrate the smooth operations of GVCs have been presented mainly through those deep disciplines[37] which are not sufficiently addressed within the GSP framework (Baldwin 2013; Razeqa 2022; Sanguinet et al 2022). The concept of shallow and deep trade arrangements introduced by Lawrence (1996) has been pivotal in recent studies (e.g., Ruta 2017; Laget et al. 2020; Kim 2015; Boffa et al. 2019; Zeng et al. 2021). These studies leverage Lawrence's framework to scrutinise the relevance of GSP characteristics[38] within the context of GVCs. However, the proliferation of GVC activities has been reported to pre-date the application of those deep provisions[39], especially in Southeast Asia (Thant 2012;

[33] Intra-regional trade within the GSP cumulation groups has primarily focused on value added trade or "trade in parts and components". It reveals backward and forward regional linkages.
[34] Under the GSP rules of origin, four regional groups are able to apply the provisions on regional cumulation: Group I – 9 countries in South-East Asia, Group II – 11 countries in Andean Community, Group III – 7 countries in South Asia, Group IV – 4 countries in MERCOSUR – This term "GSP regions" is used throughout this chapter to indicate the regions within the GSP regional cumulation arrangement - South-East Asia, South Asia, Andean Community, and Mercosur.
[35] Product specific rules of origin are the criteria that determine whether a product can be considered as eligible for GSP treatment. To qualify for preferential treatment, the product must meet the specified minimum value content threshold. If the product's value content exceeds the threshold, it may be eligible for reduced or zero tariffs when imported into the EU under the GSP scheme. If the value content does not meet the specified threshold, the product may not qualify for preferential treatment and may be subject to regular import duties. Product specific rules of origin may be based on one or more of Change in Tariff Classification (CTC), The value or ad valorem criterion, The specific process criterion and working or processing.
[36] Depth is measured by the number of policy areas covered by the agreements.
[37] These are policy measures that are likely to be most conducive to value chain integration, those that promote deep integration, including trade facilitation, services liberalization, competition policy, investment, intellectual property protection and dispute settlement.
[38] Those characteristics considered as shallow because they mainly focus on tariffs and other border measures that directly affect market access.
[39] These are the provisions mostly embodied in deep trade agreements covering cross border investments and capital flows, competition policy, and intellectual property right.

Amador and Cabral 2016; Cipollina et al. 2021; Zeng et al. 2021). Proximate countries in a "shallow arrangement" like the GSP system share the benefits of exclusive regional cumulation to foster cross-border value-added trade. This is enabled by the regime-wide rules and also the product-specific rule which expands firms' choices to source intermediate inputs across borders, thus bringing into focus the "Neighbour networks" tendencies in Burt (2010)[40] and the existence of forward and backward linkages within the GSP regions.

2.4.1 Global Value Chain Paths in GSP Framework

The determination of product origin is fundamental in cross-border production sharing (Inomata 2017). It begins with the question of whether the product is wholly obtained (produced in one country) or whether two or more countries are involved in the production. If a product is wholly obtained or produced in one country, the origin is relatively easy to establish (Yi 2015; Felbermayr et al. 2019; Sytsma 2021). Origin determination becomes more complex for a product in the manufacture of which two or more countries have been involved. In this context, the rules of origin define the approaches by which foreign value can be worked or processed for final products to obtain originating status. One simple way of reshaping origin in this context is the "change of tariff classification" (CTC)[41] in which foreign materials are required to undergo a change in tariff heading (Abreu 2016; Mavroidis 2018; Tanaka 2021). This applies widely to imported materials used in production which, because of processing, results in the final export being classified under a different Harmonised System (HS)[42] heading. The specific processing expectation links the CTC to the Value Content criterion which specifies the percentage of value addition that must take place in an exporting country or within a specified region. This can be expressed either as the minimum share of value addition that must occur or originate in an exporting country or region – minimum Local content; or as the maximum share of foreign value addition or imported inputs vis-a-vis the final product value – "maximum foreign content".

In addition to the product-specific rules of origin, the regime-wide rules of origin (RoO) are also relevant in cross-border value-added trade. These criteria include the cumulation provisions[43], de minimis/

[40] Burt (2010) illustrates "neighbour networks" as the economic relationships that exist between neighbouring countries or regions.

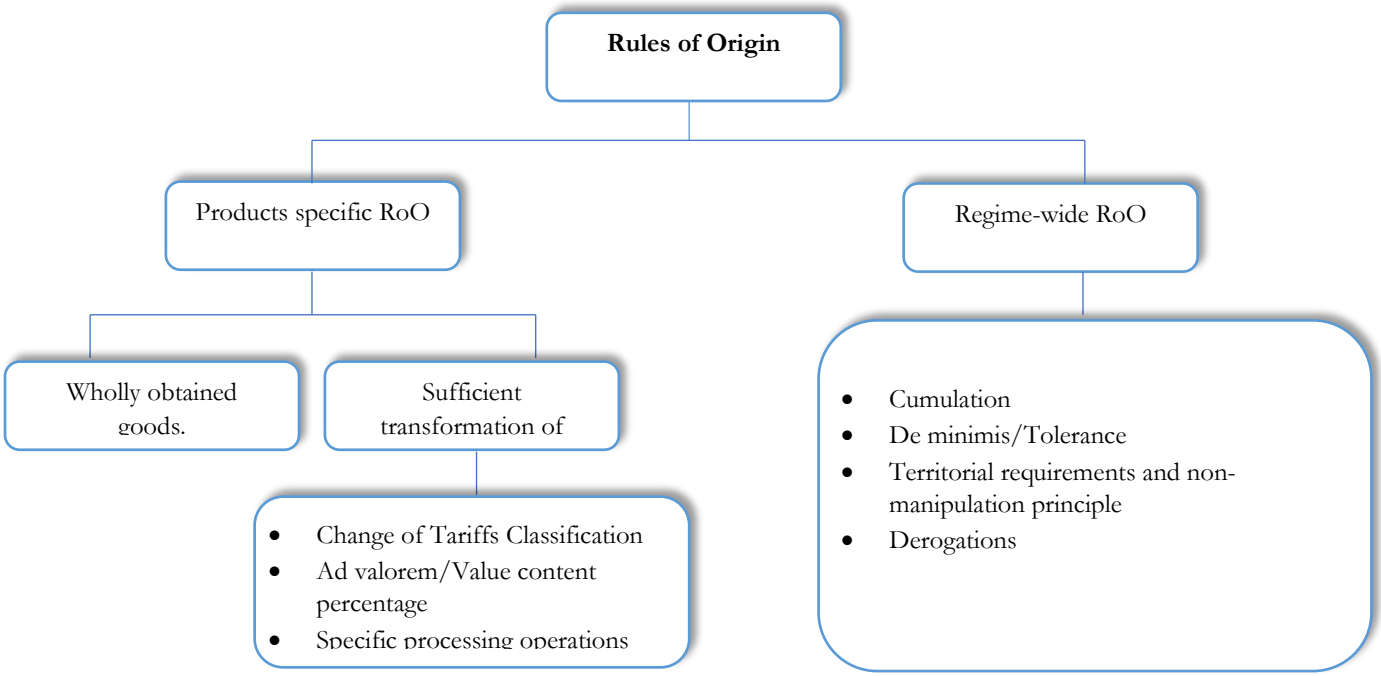
[41] CTC rules adopt the product classifications of the Harmonised System nomenclatures to ascertain that the imported intermediate inputs in the production of a product do not result in the final product losing preferential access.

[42] The Harmonised System, HS, nomenclature allows precise identification of product and check what tariff lines and rules apply. It is a logical structure to classify goods, used uniformly by customs authorities around the world.

[43] Regional cumulation allows beneficiary countries within a specific region to use materials originating from other beneficiary countries within the same region when determining the origin of their products for GSP purposes. Under the regional cumulation provision, if a beneficiary country within a specific region sources materials from another beneficiary country within

Tolerance[44], and self-certification. **Figure 2.4** below shows the different aspects of the EU Rules of Origin which are applicable within the GSP framework.

Figure 2.4 The EU Rules of Origin Structure



Source Author's Construction

The main justification for rules of origin is to prevent trade deflection, where products from non-participating countries may be redirected through a GSP beneficiary to avoid tariff or other non-tariff measures (Geraets et al. 2015; Hoekman and Inama 2018; Tanaka and Fukunishi 2022). However, the consensus across existing literature is that RoO constitute cost-raising factors or structural impediments constraining GSP uptake (Hoekman and Inama 2017; Conconi et al. 2018; Hayakawa 2023). In certain instances, exporters' production costs widen when costly local inputs are utilised in the production of the final product rather than less costly foreign inputs. Switching supply sources to avoid costly intermediates would then result in final products being non-originating, products losing preferential eligibility and exporters facing tariff escalation. This is especially the case when foreign inputs are not sufficiently worked or processed, the foreign content threshold is exceeded, or the value of non-originating materials used

the same region, those materials can be considered as originating from the importing country. This means that the value added during the production process in any of the beneficiary countries within the region can contribute to the cumulated regional content of the final product.

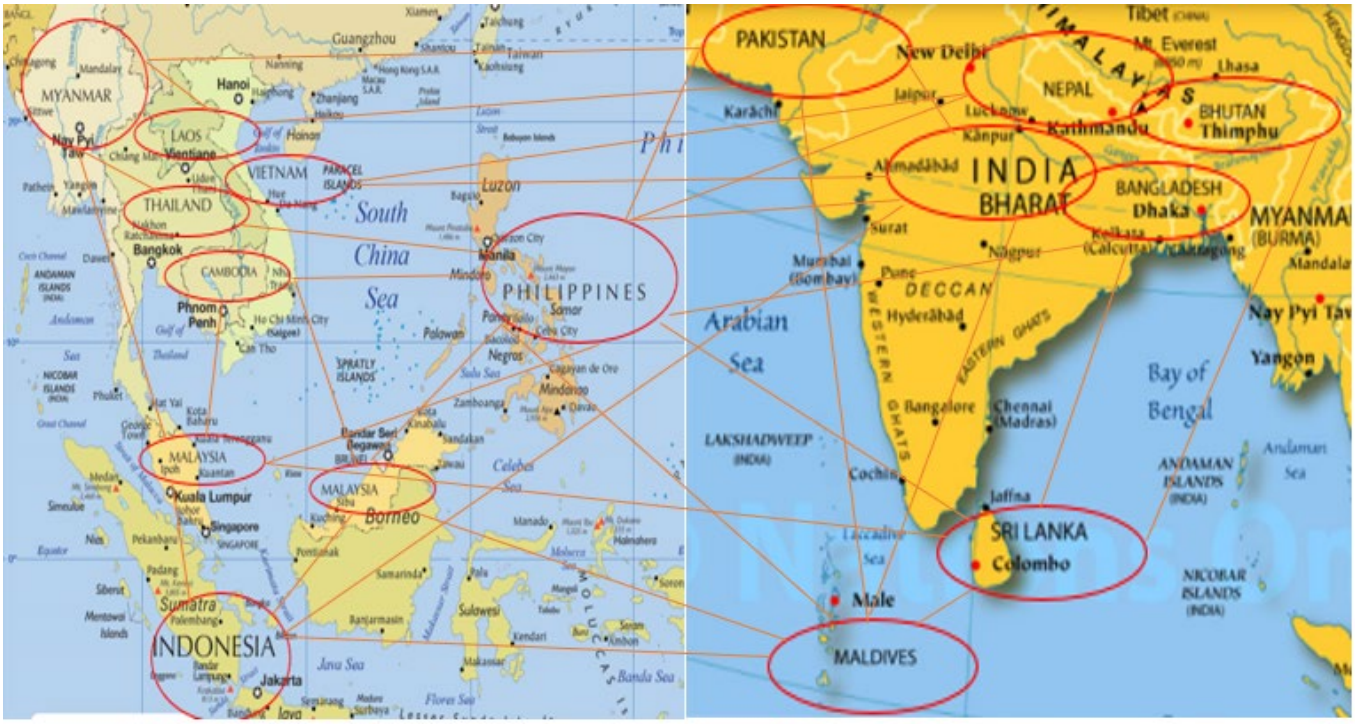
[44] de minimis rule allows a specified maximum percentage of non-originating materials to be used without affecting the origin status of the product. This rule introduces flexibility in meeting the criteria for change in tariff classification (CTC) or substantial transformation by making it easier for products with non-originating inputs to obtain originating status.

exceeds a given percentage of the ex-works price of the final product. The prospect of trade suppression and/or trade diversion is why RoO have been considered restrictive and welfare-reducing. Nonetheless, the provisions of regional cumulation permit beneficiary countries in a regional group to use materials originating from other countries, in the same regional group, as if they were materials originating in the country of export. This induces a wider range of supply sources and reduces the likelihood of using costly intermediates in production. In effect, the RoO incentivises value addition in the exporting country and intensifies intra-regional trade through the provisions of cumulation[45] (Estevadeordal et al. 2013; Andersson 2016). These provisions are the heart of the EU's integration project and appear to boost the potential GVC trade (Ratna 2016; De Lombaerde et al. 2018).

Specific changes to the EU GSP RoO are particularly suggestive, where, in 2011, Mercosur (Argentina, Brazil, Paraguay and Uruguay) was added to the existing three regional groups of the rules of origin[46] (UNCTAD 2022). An exporter in Paraguay may then use materials imported from Brazil in the manufacture of final products as long as there is compliance with the rules of origin and the administrative cooperation necessary to ensure appropriate implementation. One, perhaps extensive, possibility is that production sharing is strengthened by interregional cumulation which allows the countries in Southeast Asia region and South Asia region to jointly make a cumulation request to the European Commission (Devadason and Mubarik 2020). Such a liberal shift in the cumulation system furthers production sharing among 17 Southeast Asia and South Asia countries by promoting "open regionalism" and deepening cross-regional integration (see **Figure 2.5** below).

[45] Cumulation is the provision that allows materials that meet the rules of origin requirements in one country to be considered as originating in another when determining the originating status of final goods.
[46] Under the previous rules of origin, three regional groups – Group I, the Association of South-East Asian Nations (ASEAN), Group II (Andean Community, Central American Common Market and Panama) and Group III, the South Asian Association for Regional Cooperation (SAARC) – were able to apply the provisions of regional cumulation.

Figure 2.5 Inter-regional cumulation between Southeast and South Asian Regions



Source Author's Construction

However, there are instances where origin rules can be restrictive even with regional cumulation[47]. Hoekman et al. (2016) report the extent to which the existing rules restrict the usage of intermediates from outside the cumulation zone except specific conditions are satisfied[48]. There is also the effect of RoO on the cost of production (Yi 2015; Mavroidis 2018; Mizuo 2019); this effective restrictiveness results from the compliance and the administrative cost of utilising the GSP scheme. In instances where the global least-cost suppliers of relevant inputs are positioned in the cumulation zone, RoO may not embody effective restrictiveness. Conversely, a relaxed rule will result in heightened restrictiveness if no suppliers of relevant inputs exist within the cumulation zone. Nonetheless, benefiting from the regional cumulation provisions requires countries to carry out operations beyond those set out in Article 78[49] or the Product

[47] Regional cumulation between countries in the same regional group shall apply only under the condition that the working or processing carried out in the beneficiary country where the materials are further processed or incorporated goes beyond the minimal operations considered as insufficient working or processing and, in the case of textile products, also beyond the operations set out in Annex 22-05 DA. Where the condition above is not fulfilled, the products shall have as country of origin the country of the regional group which accounts for the highest share of the customs value of the materials used originating in the countries of the regional group.

[48] The non-originating materials must undergo a substantial transformation or processing within the beneficiary country. This transformation should result in the creation of a new product with a different tariff classification or significant added value. If the non-originating materials satisfy the criteria for substantial transformation, the final product may still be considered originating and eligible for preferential treatment under the GSP scheme.

[49] The list of what is considered as insufficient working or processing, and these operations can never confer origin no matter how much they are carried out.

List (Article 86 paragraph 4[50]). If this is not the case, the product concerned will have as its country of origin the country of the regional group which accounts for the highest share of the customs value of the materials used originating in other countries of the regional group (see Table 2.1). To qualify for regional cumulation under the previous RoO, countries must add value that exceeds the customs value of the products originating from any other country in the group. This requirement has been abolished in the current rules of origin, making regional cumulation easier than before.

The estimation in **Table 2.1** illustrates the originating inputs under the GSP regional cumulation. The Product List requires that mobile telephones classified under the HS heading 8517 must not incorporate more than 50 per cent of imported inputs within the GSP framework. A mobile phone manufactured in Vietnam, for example, may contain the following inputs:

Table 2.1 Calculation of Originating Inputs in Regional Cumulation – **A Vietnam Example**

Inputs (mobile telephone manufacturing)	**Value (United States dollars)**	**Imported percentage**
Inputs originating in Indonesia	150	n/a
Inputs originating in Cambodia	100	n/a
Inputs originating in Philippine	250	n/a
Inputs originating in South Korea	400	40 Per cent
Value added in Vietnam (local content, labour costs, profits)	100	n/a
Total (ex-works price)	1000	-

Source Author's Construction

According to the cumulation provision, the materials imported from Indonesia, Cambodia and the Philippines are originating and not considered in calculating the percentage of imported inputs. Thus, only the components imported from South Korea (which is not an ASEAN member country) are considered as imported inputs. Since the inputs from South Korea are $400 and equal to 40 per cent of the export price. The mobile phone is considered as originating in Vietnam and will enjoy preferential treatment under the EU GSP arrangements. Nonetheless, for Vietnam's mobile phone to obtain originating status, the processing in Vietnam must go beyond those in Article 78[51] or the Product List. Otherwise, the mobile

[50] The Product List which indicates what are considered sufficient working and processing for a specific product.

[51] Origin-determining Criteria Page 7 section 3

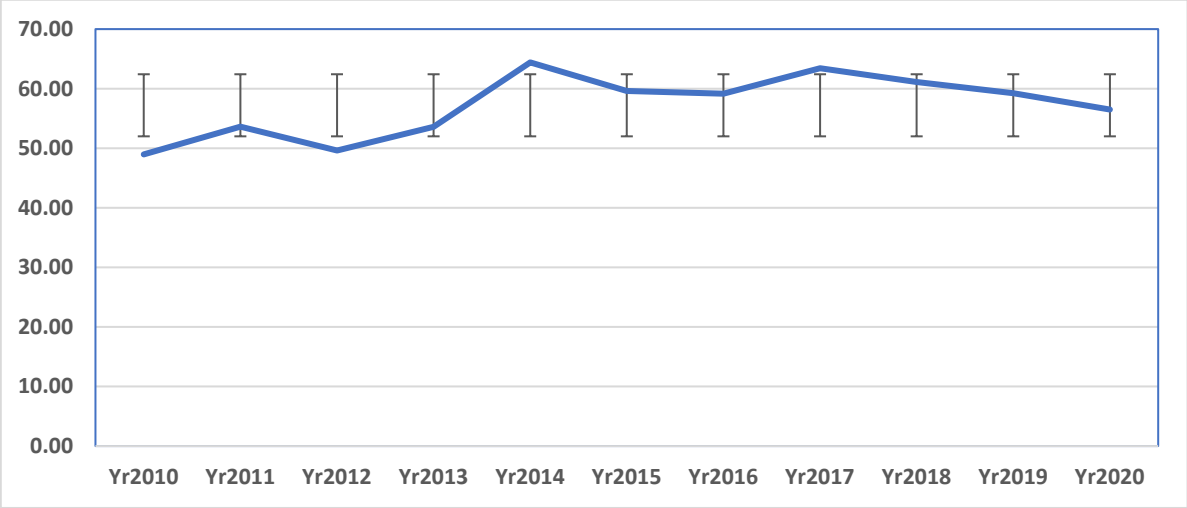
phone obtains Philippine origin as the country shares the highest customs value of the materials used among the four ASEAN countries.

Extended Cumulation is another system through which origin rules could usefully be linked to cross-border production sharing (Beretta 2013). In this context, beneficiary countries are allowed to cumulate with countries with which the European Union has concluded free trade agreements (FTAs) on the condition that they comply with the EU GSP RoO and notify the European Commission. Intermediate inputs from EU FTA partners are considered to originate from a GSP country upon sufficient working or processing under the existing cumulation system. Specifically, the rules in the relevant FTA would determine the origin of the materials used, but the EU GSP RoO will be applied to the products destined for the EU market (Woolcock 2016).

The changes to the value-addition provisions have expanded the potential for value-added trade. For instance, the changes, made by the European Commission, from origin being determined by a minimum local content rule of 60% to it being determined by a maximum foreign content of 70% (UNCTAD 2022). The effect was mostly immediate in the 2011 average GSP utilisation[52] (see **Figure 2.6** below). More striking still is the leap in value-added trade, with both foreign and domestic value-added trade increasing by 22 per cent and 16 per cent respectively[53] (Casella et al. 2019; Yanikkaya et al. 2021; Carpa and Martinez-Zarzoso 2022).

[52] Average GSP utilisation rate increased to 54% in 2011, a 5%-point change on its 2010 figure.
[53] This is due to the increase in the utilisation rate. Keck and Lendle (2012) found a linear causality between GSP utilisation and export flows from beneficiary countries.

Figure 2.6 Average Utilisation Rate across Effective Beneficiaries.



Source Author's Construction based on Eurostat Data

Importantly, the tolerance rule[54] offers a significant boost to value-added trade, especially with the changes in tolerance level beyond 10 per cent of the ex-works price of the product. For agricultural products, other than HS Chapters 1 and 3 and processed fishery products of Chapter 16, tolerance thresholds have been increased to 15 per cent of the product (UNCTAD 2022). This constitutes a significant compensation for the restrictiveness in the value-addition rule, allowing the use of non-originating material in the manufacture of a product even if the sufficient processing rule is not fulfilled. This rule also applies to the change of tariff heading and specific manufacturing rules but does not relegate the value-added rules in any way. In effect, the tolerance rule makes it easier for products with non-originating inputs to gain originating status under the change of tariff heading and specific manufacturing process rules. Such effective relaxation of RoO encourages cross-border value-added trade given that 15 per cent thresholds also apply to manufactured products except Chapters 50 and 63 - textiles and clothing (UNCTAD 2022). The diverse components of the product-specific rules[55] augment cross-border production sharing within the EU GSP system. This in turn means that the relaxation of those rules creates a liberal environment for backward and forward linkages among GSP beneficiaries (Inama 2011).

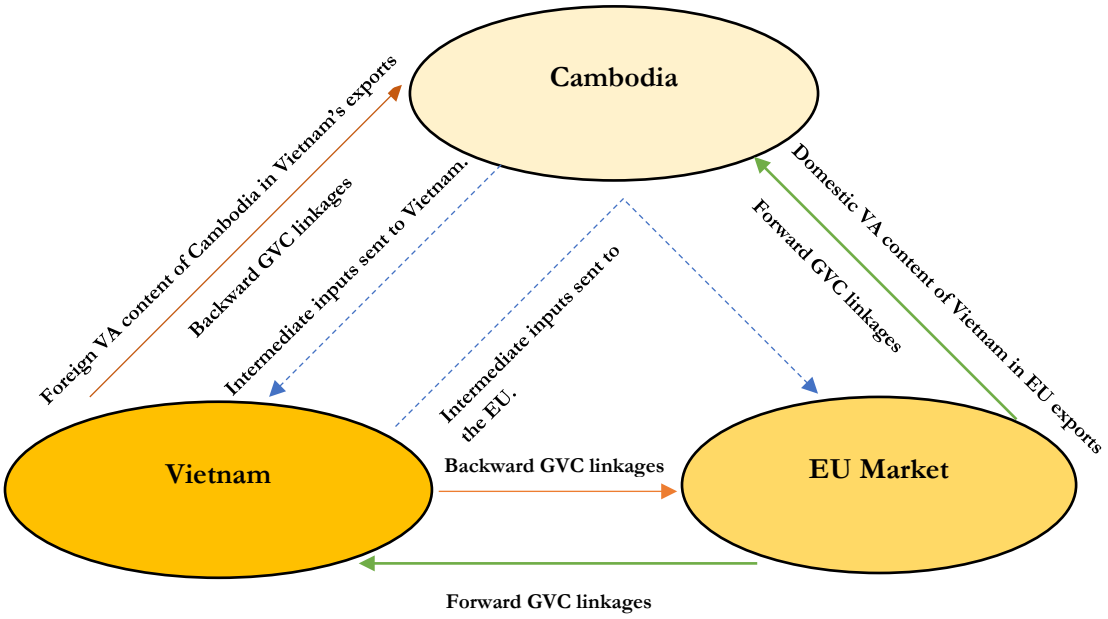
Figure 2.7 illustrates how the product-specific rule affects GVC integration in a Trilateral context (Vietnam, Cambodia, and EU), looking at both backward and forward participation from the view of Vietnam. This provides a useful understanding of the effect of GSP product-specific rule on GVCs

[54] The term tolerance level indicates the allowance for the use of non-originating materials without the need to comply with the basic conditions of sufficient processing.

[55] Examples include Tolerance rule, change of tariff classification, Value content rule, territorial requirements, non-manipulation principle, and what constitute sufficient working or processing.

participation. Koopman et al. (2011) define GVC participation as complex networks of value-added activities dispersed geographically across countries or regions. Backward linkages would then be the value added of Cambodia, contained in Vietnam's exports to the EU. On the other hand, forward linkages indicate the value added of Vietnam, which is embodied as intermediate goods that support the production of exports from Vietnam to the EU.

Figure 2.7 The value-added components of Gross Exports and GVCs Trade flows



Source Author's Construction

The product-specific rule influences the trade between Vietnam and Cambodia into the EU market. The alignment of GSP regions within an existing RTA (ASEAN) suggests that the bilateral tariff decreases towards zero between Vietnam and Cambodia. However, products in trade are required to obtain originating status[56], and the administrative burden or the compliance cost of RoO may reduce the inclination to trade. It is one reason some beneficiary countries export intermediate inputs directly to the EU market with no consideration for value addition.

The RoO therefore embody some transaction costs that affect GVCs trade. If this study indicates GSP utilisation as the share of Vietnam's eligible exports that enter the EU market, then GSP utilisation

[56] The List of criteria for working or processing operations which confer originating status includes "The change of heading criterion; the value or ad valorem criterion; the specific process criterion; and working or processing".

corresponds to the percentage for which "origin" status has been created. When the transaction costs of obtaining origin exceed the costs of paying the Most Favour Nation (MFN)[57] tariff, the utilisation rates become lower. A decline in GSP utilisation suggests that less value-added trade occurs between Vietnam and Cambodia, and this reduces the potential for GVC trade. In this context, restrictive RoO weaken GVC participation. On the other hand, RoO cause GSP-based firms to source input domestically for origin-status purposes. This would mean that restrictive RoO result in Vietnamese firms importing less from Cambodia, thereby negating the opportunity for backward participation. However, this may induce a higher proportion of Vietnam's local value content in exports to the and hence creates a second-order effect on forward participation.

The foregoing illustration can be augmented by the regime-wide RoO such as the cumulation provisions, in which case eligible intermediates from Cambodia can be used in Vietnam and the final products are considered as originating without necessarily carrying out sufficient working or processing. Kim et al. (2013) show that regime-wide RoO ease the restrictive outlook of the product-specific rules, which then reduces the trade diversion effects. Specifically, applying the cumulation provisions reduces the protectionist content of RoO by expanding the choices of international supply networks (Baldwin 2013). Augier et al. (2005) find that the introduction of cumulation relaxes RoO and improves trade volume in the case of the European market. The findings in Bombarda and Gamberoni (2013) suggest that cumulation can ease the effects of restrictive RoO, inclining exporters to increasingly utilise intermediate inputs from other countries. Essentially, as cumulation expands the choices of input sourcing, firms find it easier to meet the stringent requirements. It would mean that the larger domestic value contained in the intermediate inputs is sent to the trading partners, which in turn raises the possibility of being used for further export production. In this sense, cumulation magnifies the optimistic effect of restrictive RoO on forward linkage.

2.4.2 The determinants of GVC Participation under GSP framework – Empirical discussion

This section is based on three strands of literature that capture the different aspects of trade-GVC nexus. First, this study reviews the protectionist approach of Rules of Origin given that eligibility for preferential treatment hinges on compliance with the RoO requirements. As this constitutes additional barriers to GSP trade, it is natural to ask whether such barriers affect a country's participation in GVC. Related studies have used the restrictiveness index to measure the compliance difficulty to RoO requirements, but

[57] This means that the MFN tariff is the standard tariff rate applied to imports from all trading partners who do not benefit from preferential treatment.

not the effect on GVC participation. Krishna and Krueger (1995) find that RoO induces a switch in firms' sourcing behaviour from low-cost to high-cost intermediates to benefit from existing preferential treatment. Falvey and Reed (1998) examine the impact of RoO on production and sourcing strategy under various frameworks. They find that resource allocation is distorted by RoO when producers adjust their intermediate mix, in compliance with RoO requirements, to enjoy the preferential tariffs. Other studies find that complex technical requirements under RoO could lead to additional production costs for exported products (Estevadeordal and Suominen 2003; Ju and Krishna 2005; Duttagupta and Panagariya 2007). For instance, goods may require a substantial transformation and ultimately not meet the change in tariff classification requirements. Also, administration costs arise from the bookkeeping procedures needed to obtain the RoO certification.

The empirical literature on the trade effect of RoO is scanty due to the difficulties in transforming the complex technical requirements into a representative variable. Existing studies have largely used a simple dummy variable for RoO (Ghosh and Yamarik 2004), simply focusing on the effect of the cumulation rule (Augier et al. 2005); or used a dummy variable to examine cumulation, de minimis and self-certification (Kim et al. 2013). The downside of these approaches is that a dummy variable for RoO is not representative of the complex requirements of each rule. This has prompted some scholars to develop an index measure that establishes the level of "restrictiveness" and compliance difficulty of the RoO (Estevadeordal 2000; Augier et al. 2005).

Estevadeordal (2000) constructs an index using a latent restrictiveness level and assigns value to RoO based on the CTC. Suominen (2004) adapts Estevadeordal (2000) observation rule to address the case where RoO have no CTC, while Harris advances Estevadeordal's approach through addition and subtraction of points based on the various components that define RoO (Estevadeordal et al. 2013). Interestingly, the restrictiveness index has been incorporated into a gravity model by Estevadeordal and Suominen (2003), Augier et al. (2005) and Doan and Xing (2018), but mostly to examine the trade diversion effects of RoO. In the evaluation of the European Union GSP and the Economic Partnership Agreement (EPA), Cadot et al. (2007) find that the utilisation rate lowers as the local content value increases. This finding aligns with Carrere and de Melos (2011) which focus on the North American Free Trade Agreement (NAFTA) preference. According to Keck and Lendle (2012), the RoO have resulted in a preference utilisation rate falling below 100%. Conversely, Hakobyan (2015) demonstrates that the share of value added in output can mitigate the negative impact of restrictive Rules of Origin (RoO) on the utilisation rate. The foregoing discussion incites our first corollary.

With the substantial growth in production fragmentation across nations, the dominance of value-added trade becomes more apparent. Falvey and Reed (1998) find that RoO leads to trade diversion in intermediate goods. This is corroborated by Bagwell and Sykes (2005) where, in India, the local content requirements brought advantages to local input suppliers while negatively impacting their imports. Baldwin et al. (2009) find that restrictive rules of origin (RoO), such as high local content, can impede the formation and growth of international supply networks by limiting firms' options for sourcing inputs. Blyde and Faggioni (2017) investigate participation in GVC by examining the role of diagonal cumulation on vertical integration. Bombarda and Gamberoni (2013) show that cumulation provisions have the potential to ease the protectionist content of rules of origin (RoO), while Conconi et al. (2018) employ the input-output tables to evaluate the restrictive impact of rules of origin (RoO) on trade in intermediate goods.

The second strand of scholarly literature under consideration stems from the extant body of research on Global Value Chains (GVC). A fundamental concern within this body of literature pertains to the way a nation's involvement in the GVCs is appropriately measured and considered. Some authors have employed a mapping technique to analyse the value added by each source country – Dedrick et al. (2010) for iPhones and iPods and for Barbie dolls. Given its data-intensive nature, this case-by-case approach becomes impractical for measuring the aggregate participation index of countries in GVCs. Studies like Hummels et al. (2001), Koopman et al. (2011) and Johnson and Noguera (2012) have utilised the input-output tables to compute the value added of a nation's trade flows. This approach has been widely adopted to create a set of indicators that capture the level of a country's participation in the global production network. Hummels et al (2001) propose an indicator for measuring the level of "vertical specialisation" referring to the foreign intermediate inputs used in the production of final product exports. Koopman et al. (2011) bring some refinement into this indicator by attributing GVC participation to the value-added embodied in exports both Foreign Value Added (FVA - backward participation) and Domestic Value Added (DVA - forward participation) from the view of a reference country.

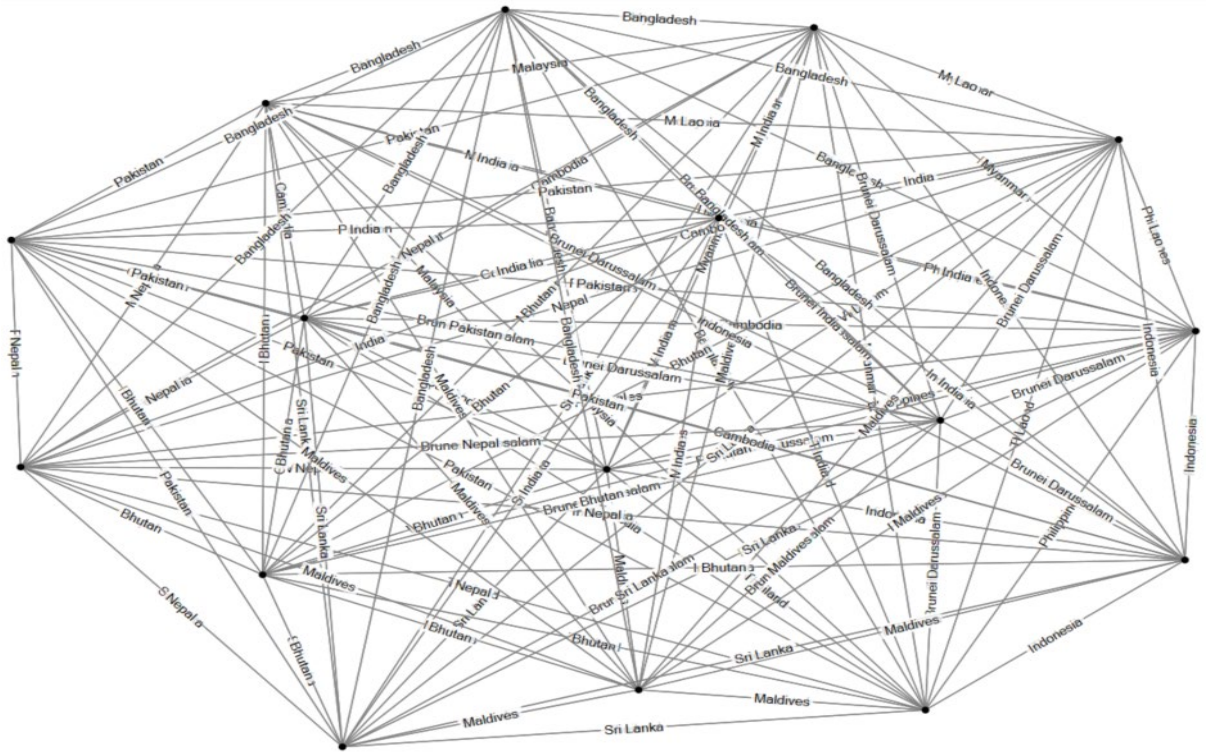
Within our second thematic strand, this study considers the literature on the driving factors of GVC participation, which has grown rapidly, though consensus remains farfetched. The estimation by Johnson and Noguera (2012) revealed lower domestic value-added and higher foreign value-added in the production of export products. The authors emphasise the importance of proximity in cross-border production networks. Additional evidence is revealed by Gamberoni et al. (2010), which point out that trade in intermediate goods is significantly influenced by geographical distance than trade in finished goods. The impact of transportation costs can undermine the cost savings associated with engaging in

fragmented production, leading to a potential decline in trade gains and acting as a barrier for countries to participate in cross-border trade networks. The effort to address the implication of transportation costs exposes the regional character of GVCs, where global value-added activities occur mostly in the region. Essentially, the operation of GVCs is "regional" in nature and focused on three manufacturing hubs; the Europe factory - Bavaria, a federal state in southern Germany; the North American factory - Guadalajara, located in the state of Jalisco, Mexico; East Asian factory - The Pearl River Delta region, located in southern China (Baldwin 2013). The regional hub structure has been influenced by various factors such as transportation costs, geographical distance, language, cultural affinity, and infrastructure quality.

In addition, regional trade agreements (RTAs), particularly those established with major trading partners, have played a crucial role in shaping value chains. Kowalski et al. (2015) indicate that the magnitude of GVC trade also depends on market size. This brings into focus the fundamental feature of the gravity model of trade where a positive association exist between trade volumes and economic size, coupled with a negative association with the distance between two trading partners (Anderson 1979; Anderson and Van Wincoop 2004). Although the gravity method may not reflect all the determinants of GVC trade, its bilateral feature is still valuable for estimating the effects of trade policy on GVC participation. This study therefore applies the gravity model in this study to investigate the impact of RoO.

This study belongs to the strands of literature that explore the interconnectedness among economic agents through network analysis tools. The interest in network analysis to examine economic phenomena emanates from the ability to uncover the entire pattern of interactions. Networks maintain the connection between different observations and analyse the overall structure of these connections, rather than focusing on separate characteristics of each part. The studies on network analysis propose several measures to assess the main attributes of a network. Also, the visualisation of the network pattern through a graph presents the structure of nodes that are linked by edges and offers a useful tool to interpret complex trade linkages. This is well illustrated in Figure 2.8 which shows the GSP trade networks through the cumulation provisions between Southeast Asia and South Asia countries.

Figure 2.8 Trade Networks via Inter-regional Cumulation – Southeast Asia and South Asia Regions



Source Author's Construction based on Eurostat Information

Jackson (2014) highlights how network structure can help model and understand economic behaviours, thus bridging the two disciplines. This follows several studies in "Econophysics"[58] which have focused on the empirical analysis of international trade interactions from the viewpoint of complex networks. Within the concept of the World Trade Web (WTW) or International Trade Network (ITN), each country is a node and trade flows between countries are termed edges (As shown in Figure 2.8 above). The different dimensions and underlying properties of the WTW, in its various forms[59], have been investigated by Serrano and Boguñá (2006), Garlaschelli and Loffredo (2004a, 2005), Serrano et al. (2007), Kali et al. (2007), Bhattacharya et al. (2007), Fagiolo et al. (2009, 2010), Reyes et al. (2008) and Fan et al. (2014). For instance, the binary World Trade Web[60] was found to exhibit a scale-free degree distribution, where some countries (often called hubs) have more connections than others. This network is also typified to display

[58] Econophysics is an interdisciplinary field that combines concepts and methods from physics and economics to study and model complex phenomena in economic systems.

[59] This includes Bilateral trade flows, Multilateral trade networks, Directed/Undirected trade networks, Binary/weighted trade networks, Temporal trade networks, Sectoral trade networks, regional trade networks, Virtual trade networks, Commodity trade networks, Value chain trade networks.

[60] Binary World Trade Web refers to a type of network representation of international trade relationships between countries where the trade relationships are represented as binary or dichotomous links, indicating whether a trade relationship exists or not between pairs of countries. In a binary World Trade Web, the trade flows between countries are represented as either present (1) or absent (0), without considering the magnitude or volume of trade flows.

substantial clustering[61] and a disassortative association[62], indicating a hierarchical structure with strong variations among countries.

The traditional trade literature has also applied network analysis measures to analyse the patterns of world trade. De Benedictis and Tajoli (2011) examine the evolution of the binary WTW and find an increasing trade integration at the global level but with a high variation among countries, and a strong influence of trade policy on the network structure. Similarly, De Benedictis Tajoni (2011) illustrate the configuration of the binary and weighted WTW using the estimation of network statistics. Other studies have adopted network analysis to investigate the evolution of sectoral trade flows over time. Akerman and Seim (2014) examine the global trade network between1950 and 2007 and conclude it has become more decentralised, clustered, and dense over the period.

Other recent studies examine Global Value Chains (GVC) from a complex network viewpoint. Zhu et al. (2015) study the total World Input-Output Network (WION) as a this weighted and directed network of country-sector pairs and estimate various global and local network measures over time. Their findings reflect a significant increase in cross-border connectivity as countries progressively participate in GVC. By using the "community detection techniques"[63], they find the European Community (led by Germany) as an important node in the network, and the increasing importance of China. Zhu et al (2015) use global value trees to create an in-depth structural view of industry-level GVC for a wide range of country-sector pairs and compute a metric of industry importance through them. Differently, Ferrarini (2013) employs trade in parts and components data to estimate vertical integration among countries. The author adopts network visualisation tools to map the associated global network of vertical integration, underlining the rise of China and the emergence of the electronics and automotive sectors in GVC.

2.4.3 International Trade Networks and Node Connectivity

Several studies have continued to emphasise the importance of network position in the World Trade Web, offering further insights into the determination of GVCs (Baldwin et al. 2009; Hur et al. 2010; Kowalczyk and Wonnacott 1992; Krugman, 1993b; Mukunoki and Tachi, 2006; Wonnacott, 1975). Park and Kim (2020) present the theoretical concept of node importance in trade networks, which closely clarifies trade

[61] High probability that two trade partners of a country are themselves connected.
[62] Where countries with many trade partners tend to be linked with countries with few partners.
[63]These are algorithms or methods used in network analysis to identify groups or clusters of nodes (also known as communities or modules) with high connectivity or similarity within the group and low connectivity or similarity between groups in a network.

relations in the GVCs context. The key insight is that a country's value chain trade is strongly reliant not only on the connections with other countries but also on the connections their partners make with others. The argument that influential nodes in a network can be recognised by the importance of its partners is well established in the network literature (Katz and Powell 1957; Bonacich 1987; Burt 2010). Burt (2010) depicts this as "neighbour networks" and implies that "well-connected neighbours can be a source of opportunity and resource" in trade relations. This phenomenon, this well-illustrated in the network literature (Katz and Powell 1957; Bonacich 1987; Burt 2010), provides an important refinement to value-added activities between a network of proximate countries. Park and Kim (2020) advance this discussion from the perspective of trade regionalism[64] but in the context of "Node Importance[65]" which assesses the integration of countries or regions as participants in global trade, based on their connectivity, influence, or prominence within the international trade network.

According to Wasserman and Faust (1994), identifying connectivity within a network is an important first step, but measuring the level of connectedness is equally important. Measuring the level of connectedness quantifies the strength, extent, and distribution of connections within the network. Conconi et al. (2018) opine that measuring connectivity helps to identify the pathways through which trade flows occur in a trade network. This provides an insight into how the trade network operates and how it might be optimised or disrupted. By measuring connectivity in different trade networks, this study can compare their structure, function, or evolution over time. This can help identify similarities or differences between them and understand the factors that shape their emergence or transformation. In the network literature, there are three distinct approaches to measuring connectedness between network actors: (a) ego-centric (local level), (b) distance-based (global level), and (c) neighbour-based (mesolevel) (Wasserman and Faust 1994, 169–221).

First, the ego-centric (or local-level) measure, assesses the prominence of each node by the number of direct connections with other nodes in the network (Degree centrality). Nodes with a higher degree of centrality are considered more important as they have more connections to other nodes and are potentially more influential within the network. In the context of GSP networks in South Asia, degree centrality can be illustrated by looking at the number of trade relationships that each country in the South Asian region has with other countries in the same region. For instance, if each of India, Pakistan, Bangladesh, Sri Lanka, Nepal and Bhutan is represented as a node, and trade relationships between them are represented as edges or links (such as imports or exports). The strength or weight of the edges can be based on the intensity

[64] This refers to the formation of regional trade agreements (RTAs) or regional economic communities (RECs) among countries in a specific geographic region, with the aim of promoting regional economic integration, cooperation, and trade liberalization.
[65] Node importance, also known as centrality, is a concept in network analysis that refers to the relative significance of a node (or vertex) within a network.

of trade between the countries and the level of connectivity in the network. In this case, India having relationships with all the countries in the region would result in a degree centrality of 5, which means it has direct trade relationships with five other countries in South Asia. It is therefore a pointer that a country that trades with more cumulation partners than the others is deemed more integrated. However, Wasserman and Faust (1994) describe this approach as "local", primarily focusing on a single country's perspective, and disregarding the relative importance of nodes within the broader group or at the global level.

There is, also, the distance-based (or global-level) measure which assesses the extent to which a node acts as a bridge or intermediary between other nodes in the global network. This specifically measures the "betweenness centrality"[66] and adequately captures node importance when edges are transferable[67]. In this network, countries with high betweenness centrality would act as intermediaries connecting several countries in Global trade relationships. However, RoO are mostly not global and may not apply beyond the region, thus connectedness between countries in different regions is highly improbable (Park and Kim 2020). This makes it problematic for "betweenness centrality" to exist between regions or at the global level. This is not the case for the GSP scheme, especially since cumulation induces edge transferability in distance-based measures. But then, interregional cumulation does not apply in all GSP regions and the distance-based measures appear inadequate as a result.

In contrast to the above two measures, Wasserman and Faust (1994) illustrate a mesolevel (or group-level) measure which considers both the number of connections a node has and the importance of the nodes it is connected to (Eigenvector centrality). In the context of GSP trade, countries with higher eigenvector centrality would be well-connected to other important cumulation partners, and act as a bridge between other countries in and beyond the region. So, unlike the ego-centric or the distance-based measure, a mesolevel measure of "node importance" embodies important features that reflect the specific character of regionally oriented value-added trade. For instance, the local-ranged edge transferability in regional networks is better captured than in the global-level measure. Countries in the same "GSP regions"

[66] Betweenness centrality – acting as intermediary between other nodes in the network; Closeness centrality - closeness of a node to all other nodes in the network; Eigenvector centrality - the influence of a node based on the influence of its neighbouring nodes; PageRank centrality - the importance of a node based on the probability of randomly traversing the network and arriving at that node.

[67] In network analysis, the term "edges are transferable" typically refers to the ability of edges, or links, to be transferred or extended from one network or domain to another. For example, if two countries have a strong trading relationship, and one of the countries decides to impose tariffs or trade restrictions on the other country's products, the affected country might seek to establish new trade relationships with other countries to compensate for the lost trade. If the new trade relationships are similar in terms of the type and volume of goods traded, and the overall trade network remains stable, then this study could say that the edges in the trade network are transferable.

therefore derive some gains from exclusive RoO (Bombarda and Gamberoni 2013; Estevadeordal et al. 2013; Yi 2015; Abreu 2016), by trading or connecting with countries within their regional network. Like the cumulation rule, other rules of regime-wide RoO, such as self-certification and de minimis may have positive effects on intra-regional connectivity[68].

2.4.3.1 Node Connectivity within GSP Networks

In GVCs, the estimation of final products' ex-price involves linking multiple inputs that overlap different countries. As tariffs are applied to gross imports, each stage of cross-border trade adds cost to the final products. Expectedly, the fragmentation of production stages offers some economic benefit to firms through regionally abundant resources, those gains can however be offset by the iterative nature of tariff aggregation in GVCs[69] (Gereffi et al. 2021). Hence, firms are more inclined to locate their production networks where such magnification effects can be curtailed. Since production networks involve more than two countries[70], GSP regions that include many countries have higher GVC potentials. Expectedly, as shown in Figure 2.9, the Southeast Asia region and the Andean community have a higher potential for GVC integration given the number of trade participants in the networks. However, the allowance for inter-regional cumulation has meant that South Asia networks are much larger than the Andean Community. Importantly, offshoring firms benefit from an expanded supplier base across a subset of countries interconnected by regional cumulation (Bombarda and Gamberoni 2013).

[68] De minimis enables firms to use a certain extent of non-originating inputs that do not satisfy Change in Tariff Classification or technical requirements, in order to produce goods without losing the origin status; self-certification allows firms to issue the certificate of origin by themselves.

[69] This is termed the "magnification effect" in Gereffi et al. (2005), referring to the idea that tariffs applied to intermediate inputs can have a larger impact on the final price of the finished product due to the cumulative effect of the tariff on each stage of production within a GVC.

[70] Wang et al. (2020) establish that two to seven countries are typically involved in a production network.

Figure 2.9a Southeast Asia Networks

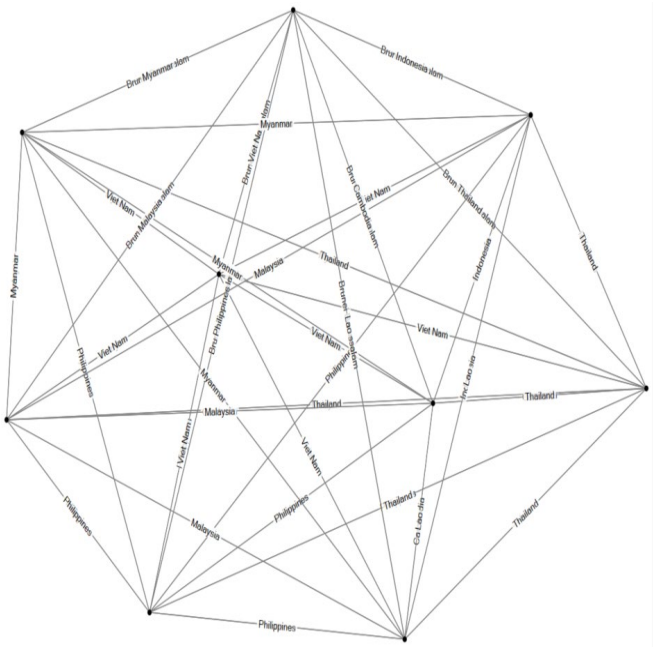


Figure 2.9b South Asia Networks

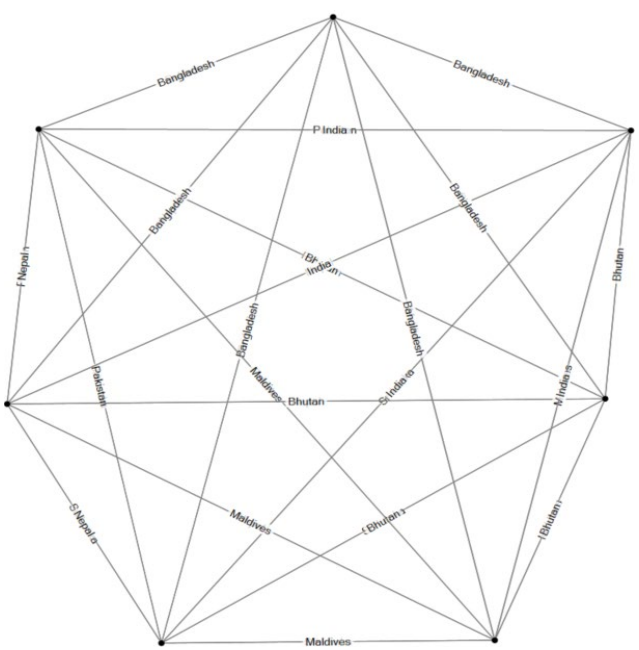
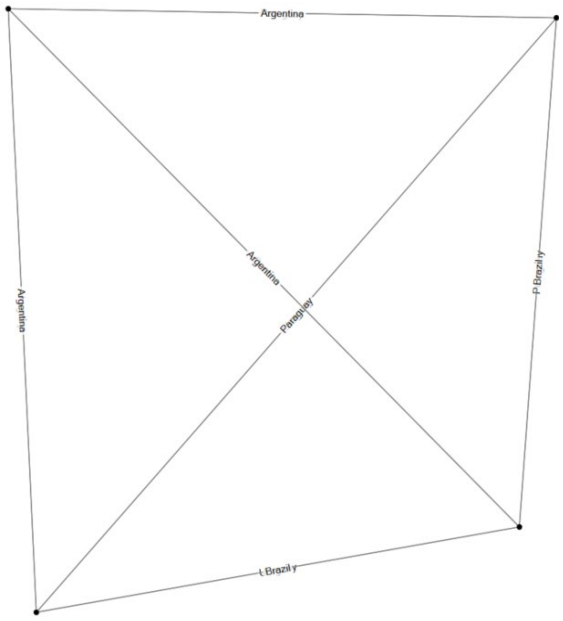
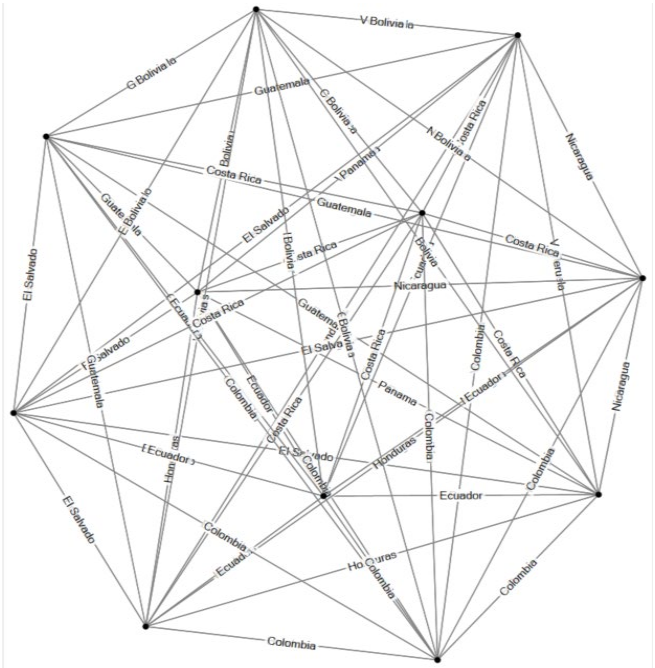


Figure 2.9c Andean Community Networks

Figure 2.9d Mercosur Networks





Source Author's Construction

The EU GSP appears to focus on tariff liberalisation, but this does not extend to value-added trade within the GSP regions. However, the alignment of the cumulation arrangements with existing Regional Trade Agreements[71] has allowed GSP regions to benefit from reduced tariffs. Duttagupta and Panagariya (2007) imply that the presence of "neighbour networks" may influence a country's trade policy towards tariff liberalization. In any case, tariff reduction within the GSP regions cannot be said to emanate from ROO provisions directly, but it continues to reveal the increasing importance of network position in the GSP system. From the perspective of network analysis, having well-connected neighbours alongside a GSP region increases the chances that RTA countries will include neighbouring GSP countries in their production networks.

The reduction/removal of tariffs on GSP-eligible products has fostered value-added trade between GSP beneficiary countries and the EU (forward linkages). In the 1990s, GSP arrangements involved mostly tariff reductions, but subsequent outlook has included other policy provisions relating to technical barriers to trade, sanitary and phytosanitary standards, and environmental protection and safety (Marinescu 2013; Meskhia and Seturidze 2013). While the EU GSP appears to have a minority focus, covering fewer than 10 policy areas[72], the alignment of the cumulation arrangements with existing Regional Trade Agreements[73] has allowed GSP countries to benefit from core provisions like competition policy, investment, movement of capital and Intellectual property rights protection (Horn et al. 2010; Hofmann et al. 2017; Laget et al. 2020). This has emanated from the increasing influence of the cumulation provisions.

The motive for aligning GSP provisions with the operations of RTAs has not been particularly discussed in GSP literature. This would not matter much if there were no GSP provisions that allow cross-border production sharing. Arguably, the mapping of cumulation allowance unto the operations of RTAs has plugged some depth into the GSP framework, to echo some potentials of a deep trade arrangement. In a traditional setting where production is entirely national, the reduction of tariffs would mainly motivate forward linkages from GSP beneficiaries to the EU. The existence of cumulation provisions has meant that GSP trade extends beyond cooperation on tariffs (Stevens 2005; Inama 2011; Abreu 2016), and the alignment with the depth of RTAs may present some deeper implications. In effect, the GSP cumulation dynamics bring into focus the harmonisation of trade regulations and other behind-the-border policies

[71] Existing RTAs include the Association of South-East Asian Network, the Andean Community, South Asian Association for Regional Cooperation and Southern Common Market - MERCOSUR

[72] These are the traditional trade policy issues included in the set of WTO+ provisions (like tariff liberalisation) and few other WTO-X provisions relating to labour and human rights, environmental and climate protection, and good governance.

[73] Existing RTAs include the Association of South-East Asian Network, the Andean Community, South Asian Association for Regional Cooperation and Southern Common Market - MERCOSUR

necessary for efficient GVC operations. This can be interpreted as the EU's keenness to foster trade in value-added within the GSP system as this is seen as central to a deeper form of trade integration.

Scholars of international political economy have noted that the depth of policy areas[74] plays a crucial role in firms' investment decisions (Antràs and Staiger, 2012; Baldwin, 2013; Kim et al. 2013; Orefice and Rocha, 2014; Osgood, 2018). The important nodes with developed export capacities would embrace offshoring, enabling them to exploit reduced factor prices and more favourable positional advantages in the network. These firms are faced with a critical "hold-up problem" (time-inconsistency problem)[75] where the commitment to foreign investment may change depending on economic, political, or social factors, and may lead to policies or actions that disrupt the stability and efficiency of the GVCs. The possibility of unilateral expropriation[76] by a host country calls for legal protections for foreign investors, such as intellectual property rights, bilateral investment treaties (BITs) and investment dispute settlement mechanisms (Antràs and Staiger 2012; Orefice and Rocha 2014). These "deep" provisions offer some "derived advantages" to GSP regions by addressing non-traditional trade issues beyond tariffs. According to Kim et al. (2013), mitigating the risk of expropriation is a crucial element in a trade arrangement from a firm's viewpoint. Studies have found that incorporating dispute settlement mechanisms and investment protection offers more reliability to host countries' commitments (Büthe and Milner 2008; Kim et al. 2013). Other "deep" disciplines such as harmonisation of production standards, and labour and environmental regulations help to minimise coordination costs and offer investment-seeking firms a favourable policy space to operate. These "deep" disciplines are relatively more stable than tariffs policy, inducing firms to make investments in a country where policy coordination is assured. The coexistence of "deep" disciplines alongside the GSP system suggests that a GSP region (or country) within deep-RTA neighbours[77] will likely engage in deeper trade integration than a GSP region (or a country) without deep-RTA neighbours.

However, literature has pointed out that "deep-RTA neighbours" partake in trade agreements mainly to demonstrate policy coherence to local and international audiences – "a signalling tool" (Whalley 1998; Büthe and Milner 2008; Mansfield and Milner 2012). Handley and Limão (2017) describes the participation in RTAs as merely an "escapist route" from trade wars, and ultimately to reduce policy uncertainty or/and to institutionalise the dispute settlement process – "a commitment tool". These arguments are at best

[74] The depth emanating from mapping GSP regional cumulation unto the operations of RTAs.
[75] the challenge of maintaining a stable and efficient production network over time, as firms and countries may have different incentives and interests at different points in time.
[76] Where the government or authority exercises its power to take control of assets or property for public or national interest, without negotiation or mutual agreement with the affected parties.
[77] Deep-RTA neighbours are countries in a regional network with a strong preference for deep agreements.

monadic predictions[78] and tend to overlook the network perspective of RTAs. Suppose that RTAs are bipartite systems[79], this study would expect the value of RTAs, whether as a commitment tool or a signalling tool, to depend on who the partner is. In any case, RTAs are more than bipartite and are mostly multilateral systems with significant externalities to neighbouring countries. This network perspective offers an important refinement to the existing theories of RTAs as a signalling or commitment tool.

Given the foregoing discussion, this study first investigates whether the restrictiveness of rules of origin (RoO) hinders the trade-creation effect of the GSP arrangement. However, this study examines whether the negative effect of RoO restrictiveness is mitigated by the regime-wide provisions, which in turn foster cross-border connectivity among GSP countries and consequently, facilitate their integration into Global Value Chains (GVCs).

Hypothesis 10 The regime-wide provisions of RoO incline GSP beneficiary countries to be integrated into the Global Value Chains (GVCs).

Essentially, GVC trade under the GSP scheme can be divided into two components: value-added trade within the GSP region and value-added trade between the GSP beneficiary countries and the European Union. Similar to the cumulation rule, other rules within the regime-wide Rules of Origin (RoO) framework, such as de minimis and self-certification, can have positive effects on the integration of Global Value Chains (GVCs). The de minimis rule allows firms to incorporate a certain proportion of non-originating inputs that do not meet the criteria of Change in Tariff Classification or technical requirements, enabling them to manufacture goods without losing their origin status. On the other hand, self-certification permits firms to issue their certificate of origin. While both cumulation and de minimis encourage firms to comply with strict RoO by relaxing supplier constraints, the utilisation of the de minimis rule may be more significant than that of cumulation due to its wider scope and higher prevalence. Additionally, self-certification reduces the substantial administrative costs associated with obtaining origin certification, thereby incentivising firms to pursue preferential treatment. Given this optimistic tendency, this study expects a positive change in the GVC's position within the GSP framework, such that leads to the reallocation of intermediate goods in favour of countries that utilise the regime-wide provisions.

[78] Monadic predictions" refer to predictions or analyses of the behaviour of a single actor, such as a nation-state, without considering the actions or behaviour of other actors in the international system. This approach assumes that a state's behaviour is largely driven by its own internal factors, such as domestic politics or economic interests, and does not take into account the broader geopolitical context.

[79] Referring to a relationship or interaction between two entities or countries.

This study also examines whether the "regional" character in the regime-wide RoO could foster "neighbour networks" between GSP countries and their RTA neighbours. Relevant policy measures such as competition policy, investment, intellectual property protection and dispute settlement are enshrined in deep RTAs and act to reduce the associated costs of trade integration (Abreu 2016; Baldwin and Okubo 2019; Mizuo 2019). As GSP regions are situated within the existing RTAs, tariff levels are largely liberalised[80], and countries benefit from free access to major markets. In Southeast Asia, for instance, countries have embraced the advantages of open trade regimes and have pursued liberal trade unilaterally or implemented multiple agreements leading to massive tariff cutting and substantial commitments in relevant policy areas (Ravenhill 2010; Jetschke and Murray 2020). Literature on the internationalization of the production process has continued to suggest that the decisions of firms to develop cross-border linkages extend beyond the border barriers among countries but also on their institutional frameworks (Lakhani et al. 2013; Jespersen et al. 2014; Eckardt and Poletti 2018). This is where harmonization of policies plays an important role in firms' decisions to affiliate with foreign suppliers. Developing foreign affiliates would depend on the investment conditions for foreign firms and the safeguarding of asset-intensive activities. These are important requisites for GSP firms to specialise or fragment their production process to fully exploit the different production conditions within the RTAs.

Hypothesis 11 GSP regions (or Countries) with this well-connected, deep-RTA neighbours (high eigenvector centrality) grow faster in GVCs.

The connection between deep RTAs and the growing relevance of GVCs is not entirely new. Such interactions have been largely discussed in studies like Lawrence (1996), Baldwin and Okubo (2019), Antras and Staiger (2012), Antras and Chor (2013) and Ornelas et al. (2021). Across these studies, PTA depth is measured by the count of legally enforceable regulations in some policy areas, these are areas that fall both under and outside the current mandate of the World Trade Organization (WTO). The reciprocal PTAs signed between developed and developing countries (North-South PTAs) include nearly as many provisions as North-North PTAs. However, legal enforceability especially of WTO-X provisions is generally weaker in North-South PTAs relative to North-North. This is even weaker in a non-reciprocal arrangement like the GSP scheme, which tends to be shallower than other PTAs with an average total depth of less than 10. This means that unilateral preferences mainly focus on more traditional trade policy

[80] This is due to the "infusion" of GSP regions within the existing Regional Trade Agreements (RTAs). Such RTAs embody significant tariff liberalisation as well as deep provisions relating to competition policy, investment, movement of capital and Intellectual property rights protection.

issues included in the set of WTO+ provisions and a few other WTO-X provisions relating to labour and human rights, environmental and climate protection, and good governance.

Given that GSP is a shallow preferential arrangement, the possibility of shaping the pattern of GVC integration has been questioned. However, the unbundling of stages of production across borders has been prompted by the regime-wide allowances and other forms of cross-border policy within the GSP arrangement (Zhou and Cuyvers 2012; Hakobyan 2015; Abreu 2016). This may allow to solve the perceived coordination and commitment problems, especially prompting those national policies that are needed for the smooth operation of GVCs (Del Prete et al. 2017; Laget et al. 2020; Kano et al. 2022).

2.5 Conclusion

The exploration of the existing literature on EU GSP effectiveness reveals that a unified assessment framework is lacking. Despite the desire to establish a comprehensive way to evaluate GSP effectiveness in empirical analysis, the actual landscape is diverse and complex. There exist multiple criteria or measures used in assessing the effectiveness of the GSP across different studies, indicating a lack of uniformity in a single evaluation framework. These criteria, albeit stemming from diverse perspectives, often converge on self-judgments that largely revolve around export flows, the utilisation rate, preference margins and eligibility criteria.

Specific factors that reflect the core GSP objectives have been overlooked or not sufficiently investigated. For instance, the integration of developing countries into the World Trading System, a fundamental aspect highlighted in the early discussions of GSP effectiveness remains underexplored. Similarly, the European Union's directive to alleviate poverty through the GSP scheme reveals a critical but unexamined facet. While scholarly contributions from various perspectives by Manchin (2006); Dowlah (2008); Wagner (2010); Keck and Lendle (2012); Zhou and Cuyvers (2012); Thelle et al. (2015); Cirera et al. (2016) offer valuable insights, the synthesis of these diverse viewpoints into a cohesive framework remains uncharted.

Beyond export growth or utilisation rates, pivotal conditions embedded within GSP regimes, including Rules of Origin, preference margin erosion due to RTA expansions, product exclusions post-reforms, graduation clauses, and eligibility criteria, are crucial determinants of GSP effectiveness. Nevertheless, their simultaneous examination, especially in contemporary GSP empirics, remains fragmented. This critical gap within the literature forms the crux of this literature review chapter. It aims to bridge the chasm between scattered effectiveness criteria, weaving them into a cohesive, multidimensional evaluation framework. By charting these unexplored territories, this review endeavours to contribute a novel

perspective to GSP effectiveness. It seeks to guide future research trajectories, inform policy formulation, and drive informed decision-making in the domain of trade and development, offering a robust foundation for strategic interventions.

In traversing the landscape of EU GSP effectiveness, this literature review chapter serves as a navigational guide, unravelling multifaceted dimensions and unveiling critical insights into effectiveness dynamics. Through an examination of descriptive efficiency indicators, this chapter acknowledges the prevailing focus on the utilisation rates within existing literature while shedding light on the limitations of such a singular approach. By advocating the integration of the utility rate, a composite parameter derived from the interplay of utilisation and coverage rates, a more holistic evaluation framework emerges, situating GSP efficiency within the intricate "input-output" matrix of the scheme. Furthermore, this chapter explores the relationship between trade and poverty to identify the often-overlooked impact of GSP trade on household welfare. This area has been elaborately discussed in theoretical literature with scanty empirical evaluations. This chapter dissects the mechanisms—distribution, enterprise, and government channels—through which GSP trade influences income, employment, taxes, and government expenditure, contributing to the broader socioeconomic landscape.

Lastly, the elucidation of the EU GSP operations' role, particularly RoO, in integrating GSP countries into the Global Value Chains (GVC) stands as a pivotal insight. By probing into the mechanisms and effects of RoO on GVC involvement, this discussion unveils crucial dynamics shaping the participation and integration of GSP countries within this global economic network. As this literature review chapter draws to a close, it becomes evident that GSP effectiveness transcends conventional measures, calling for a multidimensional evaluation framework that encompasses economic, social, and trade-specific parameters. The culmination of these discussions unveils not only the complexity but also the potential for a more comprehensive understanding of GSP effectiveness, thereby paving the way for informed policy decisions and robust empirical evaluations in the study of trade and development.

Chapter 3
Constructing GSP Effectiveness Framework

3.1 Introduction

This Chapter serves as a critical foundation in the examination of the Generalised System of Preferences (GSP) effectiveness, establishing a comprehensive framework and rationale for assessment. This chapter lays the groundwork by categorising and synthesising diverse approaches to effectiveness, found in existing literature, into four distinct classifications: procedural, substantive, transactive, and normative. Drawing insight from established models widely utilised in management studies – such as the goal attainment model, the system-resource model, the internal process model, and the strategic-constituencies model – this chapter extends their applicability to the realm of trade policy evaluation. This adaptation capitalises on their extensive application and shared objective of understanding 'effectiveness,' providing a robust framework to evaluate GSP policies.

Notably, this chapter pioneers a unique endeavour, merging various effectiveness classifications into a unified approach, tailored to the specific stages of the GSP cycle. By mapping the criteria of each classification to the stages of the GSP cycle through a junction table, this work presents an innovative and comprehensive objective-based framework. Not only does this chapter mark a significant effort in synthesizing diverse effectiveness approaches, but it also stands as the inaugural attempt to construct a holistic and all-encompassing assessment framework for GSP effectiveness, thereby setting a precedent for empirical evaluation in trade policy analysis.

While the comprehensive framework presented in this chapter provides a valuable tool for evaluating GSP effectiveness, it is important to acknowledge that it comprises distinct approaches, each addressing specific aspects of GSP. Therefore, it is necessary to explicitly recognize the ongoing relevance of studies focusing on individual aspects of GSP, utilising techniques appropriate to the specific issues and datasets. This general framework serves to contextualize and situate specific studies within the broader landscape of GSP effectiveness evaluation, offering insights into their contributions to the larger picture.

3.2 Illustrative Interpretation of GSP Effectiveness (Literature-Based)

Amidst the complexities surrounding GSP effectiveness evaluation, the pursuit of a unified assessment framework remains a focal point in empirical research. This thesis posits that while effectiveness is empirically definable, existing literature has examined effectiveness very differently. Commonly adopted criteria include export flows (Cipollina and Salvatici, 2010), which are mostly driven by GSP preference utilisation (Cirera et al., 2016). Importantly, an effective GSP has been reported to increase export flows and preference utilisation in instances where trade barriers are lowered - Gravity-effect (Cuyvers and

Soeng, 2013). Additionally, effectiveness is markedly linked to trade conditions relating to Rules of Origin, Preference Margin, eligibility criteria and Coverage rate.

A range of perspectives offer insights into GSP effectiveness, yet a universally applicable assessment framework remains elusive within the fragmented literature. Differences in conceptual approaches result in diverse measurements, complicating a cohesive global interpretation. While individually valuable, each approach offers a narrow viewpoint on effectiveness when examined in isolation. The empirical nature of GSP effectiveness calls for grounding observations based on the existing economic model. In this case, prevailing trade models offer relevant insights for a reliable assessment, prompting two interdependent pathways. First, it is crucial to align existing approaches with specific models, and second, to identify a comprehensive model that interlinks the effectiveness classifications in the GSP system. This thesis relies on an economic framework, primarily Special and Differential Treatment (SDT), while also considering management effectiveness models. The integration of these disciplines becomes crucial as existing trade models inadequately capture the dynamics of GSP operations.

Assessing the effectiveness of the European Union's Generalized System of Preferences (GSP) scheme reveals a landscape marked by a diversity of objectives and stakeholders' perspectives. The multifaceted nature of GSP effectiveness evaluation underscores the complexity inherent in such assessments, highlighting the need to move beyond singular criteria or simplistic measures. Indeed, it is imperative to acknowledge the existence of multiple objectives and the potential divergence in stakeholders' perceptions regarding GSP effectiveness.

Different parties involved in the GSP scheme may prioritise various outcomes, including but not limited to economic growth, poverty reduction, environmental sustainability, or human rights promotion, based on their distinct interests and priorities. This diversity of objectives presents a methodological challenge, as there is no straightforward means to reconcile or combine them into a unified assessment framework. Moreover, the integration of these diverse objectives further complicates the interpretation of GSP effectiveness, as effectiveness outcomes may not converge across existing studies.

However, this thesis seeks to address the complexities and methodological challenges associated with interpreting GSP effectiveness, particularly in cases where disparate effectiveness outcomes are observed across existing studies. By integrating various dimensions of effectiveness and accounting for the diverse objectives and interests of stakeholders, the unified framework provides a comprehensive assessment of GSP performance.

While acknowledging the multiplicity of objectives and challenges in combining them, it is also essential to underscore the significance of the unified framework developed in this thesis. By adopting a holistic approach to GSP effectiveness evaluation, the framework offers a valuable tool for policymakers, practitioners, and scholars to gain insights into the scheme's impact. Furthermore, the framework's robust understanding of GSP effectiveness contributes to informed decision-making processes within the EU and beyond, ultimately enhancing the scheme's effectiveness and relevance in achieving its intended objectives.

This thesis constructs Table 3.1 to illustrate the concept of effectiveness based on GSP studies. It also subsumes effectiveness perspectives within four distinct models. The models are adapted, in the GSP context, to define the operations of the GSP scheme in relation to existing conditions – Internal Process Model (IPM); the ability to exploit GSP conditions optimally – System Resource Model (SRM); success in meeting identified objectives and goals – Goal Attainment Model (GAM); the interests/expectations of beneficiary countries – Strategic-Constituency Model (SCM).

Table 3.1 Literature-based Approaches to GSP Effectiveness

Approach	Illustrative Interpretation
Goal Attainment Model	Explains the extent to which GSP goals are achieved consecutively or simultaneously (Grossman and Sykes 2005). A multi-dimensional approach that captures every element of GSP objectives.
Internal Process Model	How much the GSP scheme can offer provisions coherent with GSP objectives (Keck and Lendle 2012; Hakobyan 2015; Kishore 2017; Mizuo 2019)
System Resource Model	How well the beneficiaries, either in absolute or relative terms, can easily exploit the GSP policy structures to improve trade outlook (Awan et al. 2015; Bandara and Naranpanawa 2015; Persson and Wilhelmsson 2016; Majeed et al. 2019)
Strategic Constituencies Model	The extent to which the beneficiary's interests are met (Herz and Wagner 2011; Siles-Brugge 2014; Langan 2014; Ornelas and Ritel 2018)

Source: Author's Construction based on literature

Four different approaches to effectiveness are presented in **Table 3.1**. The goal attainment model offers a quantitative approach to measuring policy impact. Within interest group studies, several scholars have used this model to explain the policy impact of nonstate actors at, for example, the European level (Bunea 2013; Dür 2008; Klüver 2011; Mahoney 2007). It is assumed that actors have an ideal point on a policy issue and that they prefer outcomes that are close to their ideal point (Betsill and Corell 2001; Keck and

Sikkink 1998). Advocates 'win' if a decision brings policy closer to their ideal point, but they 'lose' if a decision moves policy further away from their ideal point. In the GSP context, the Goal Attainment Model describes the GSP's effectiveness in terms of its ability to realise stated goals or incline economic measures closer to the goals. It evaluates program accomplishments on a continuum, from one GSP goal to another.

The model constructs some form of value judgments, necessary to derive the conditions for maximum preferential benefits. The implicit temporality of GSP priorities has been driven by different periodic reforms since the inception of the arrangement (Wijayasiri 2007). It would mean that the Goal Attainment Model also applies to post-reform evaluation as much as the assessments of GSP effectiveness over its entire existence. The implications of studying GSP policy effectiveness are substantial. Having access to the EU market is sometimes confused with the attainment of GSP goals. Siles-Brugge (2014), for example, argued that GSP reforms have had a marginal impact on the poverty outcomes in the beneficiary countries 'partly because product sections which are the mainstay of the economy have been subject to graduation. In effect, this thesis aims to show that having access does not equate to attaining GSP goals. It does contribute to debates on biased representation (Holland and Doidge 2012; Heron 2013; Siles-Brugge 2012; De Bie`vre and Poletti 2013).

While the other effectiveness models have been prevalently mirrored in the existing literature, the concept of GAM remains absent, especially in the context of all GSP goals being simultaneously attained. As noted in **Table 3.1**, each model has taken an entirely different route and if adopted independently could create policy narrowness that may destroy rather than enhance GSP effectiveness.

The Internal Process Model, for example, views GSP as effective only if offered within harmonious and relaxed provisions (Khanal 2011; Beretta 2013; Portela and Orbie 2016; Borchert and Ubaldo. 2020). Here, the focus is on the internal coherence within GSP provisions that facilitate participation with minimum impediments. This approach follows a set of normative standards portraying how the GSP scheme should be offered, to provide maximum potential for development. Effectiveness, within this context, occurs when GSP provisions closely create an enabling environment for the attainment of GSP goals. Grossman and Sykes (2005) claimed that the effectiveness of the internal process of the EU GSP depends on the interconnectedness between the associated conditionality and the targeted economic gains for beneficiary countries. Therefore, it is crucial to ensure that the tariff modulation arrangement, special incentive arrangement, withdrawal and safeguard provisions and Rules of origin are developed in a way that drives export flows and sustains competitiveness effectively. Orbie et al. (2022) report that reform of

GSP regulations might bring positive changes to GSP gains. Effective internal process change requires a commitment to ensure certainty and stability and relaxation of origin rules to ensure smooth utilisation. The recommendation in Hoekman et al. (2016) centres on changes in the terms of EBA arrangements, notably to bring it into line with the LDC members' proposals in the WTO for more relaxed RoO (WTO 2014). This would entail a maximum foreign content of 75 per cent, a minimum domestic content of 15-25 per cent (to encourage value chain formation) and more room to choose the criterion on which to demonstrate origin. One, perhaps remote, possibility is that to encourage FDI to GSP beneficiary countries, the internal process coherence requires abolishing RoO in GSP trade by having a category of global cumulation. Borchert and Ubaldo (2020) highlight that the 2014 reform eliminated the possibility of preference withdrawal from GSP+ countries, a subset of the EU GSP members, in case their competitiveness grows beyond the limits established by the mechanism of graduation from the scheme. More in detail, the threat of preference removal in specific sectors (i.e. country-section graduation) due to a country's share of EU imports in that sector growing beyond a certain threshold, does not apply any longer to GSP+ countries since the reform.

These are recommended efforts to foster internal coherence between GSP provisions and GSP objectives, such changes that would contribute to the overall effectiveness of the GSP scheme. However, according to Siles-Brugge (2014), there are significant reasons for doubting the effectiveness potential of the EU reform. Firstly, not only is the Commission trying to sign EPAs with LDCs already in receipt of EBA (albeit unsurprisingly without much success) but, similarly, out of 14 GSP+ recipients it has signed FTAs with 8 – Peru, Columbia, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama – and has previously also sought an agreement with two others (Bolivia and Ecuador) before talks broke down. Thus, the claim that GSP reforms aim to improve the internal coherence for those countries 'most in need' and 'vulnerable economies' is not entirely consistent with the gravitation towards contractually enshrined free trade. A second challenge to the coherence argument can be found in the Overseas Development Institute report on the GSP changes. This argues that product and income graduation [as found in the new regulation] is not an effective way of helping poor, uncompetitive states' (ODI 2011). The report finds that even for products where poorer countries account for at least 5% of EU imports, products in which such states could potentially establish a foothold in the EU market, and which could thus contribute to poverty reduction, FTA countries currently account for almost two-thirds of EU imports (ODI 2011). Similar findings are echoed in the study undertaken by the Centre for the Analysis of Regional Integration at Sussex (CARIS) (Gasiorek et al. 2010). Although this does not rule out any beneficial effects for lower-income countries and is based on static analysis that neglects the potential dynamic effects of changing export patterns, it does suggest that large-scale benefits of the GSP proposals

for this group of countries are far from certain, in contrast to more predictable gains from trade diversion for FTAs higher-income countries. In this vein, the CARIS study of the GSP scheme found that 'there is little evidence that the EU's preference regimes have led to a diversification of exports into new products' (Gasiorek et al. 2010). Indeed, there is a need to situate GSP operations within the Internal Process Model for a robust assessment of the potential correlation between GSP provisions and GSP goals. It follows that if the GSP scheme focuses on provisions unconnected to the targeted goals, it may be assessed as ineffective.

The System Resource Model indicates effectiveness as the easiness or complexity of deciphering and exploiting GSP conditions to improve competitiveness and exports (Grossman and Sykes 2005; Fatima 2018; English 2018). It emphasises the importance of recognising and exploiting conditions relating to certainty, the rules of origin, financial risks to importers, product coverage, country graduation and tariff peaks. Persson and Wilhelmsson (2016) constructed a detailed database of changes in EU trade preferences, including a list of qualifying countries and products. Other literature has documented the changes to EU provisions and conditionality, the latest being the new GSP regulation that was adopted in October 2012, and which came into force in January 2014 (Beretta 2013; Siles-Brugge 2014; Borchert and Ubaldo 2020; Orbi et al. 2022). The conditions brought forward in the new regulation largely reflect the Commission's original proposal from May 2011 (Commission 2011a), introducing three key changes to the previous scheme, aiming to make the GSP more effective.

Firstly, the EC successfully changed the eligibility criteria for GSP so that all high-income and upper-middle-income countries[81] are no longer entitled to preferences (termed as 'income graduation' in a study from the Overseas Development Institute, ODI 2011). Secondly, it removed those countries and territories with a trade agreement with the EU 'which provides the same tariff preferences as the GSP scheme, from the list of beneficiaries of the scheme (Regulation [EU] No 978/2012, Article 4). Essentially, these changes reduce the pool of eligible countries and territories from 177 WTO rules to 90 (Commission 2013). The final key innovation is a series of changes to the graduation principle for GSP imports. Under the old regulation, products were grouped into 21 product sections. If any country's exports under GSP for a particular product section exceeded the so-called 'graduation threshold' – 15% of the total EU GSP imports for a particular section (12.5% for textiles) – they were no longer eligible for GSP (on the basis that such products were competitive enough to establish a foothold in the EU market).

[81] in other words, those which meet the appropriate World Bank definitional criteria for the most recent three consecutive years.

In this respect, the new GSP regulation makes it easier for products to be graduated ('product graduation', the term from ODI 2011) for two reasons. Firstly, even though the relevant threshold values will be increased to 17.5% and 14.5% for textiles, the number of product categories will expand to 32 (meaning smaller categories). Secondly, the value of total imports used to calculate market share (known as 'denominator') has decreased, given the significant reduction in the number of GSP beneficiaries. As a result of the increased ease with which imports could, therefore, surpass thresholds, 5.3-billion-euro worth of trade (as of 2009) – spread among six countries (China, India, Indonesia, Nigeria, Thailand and Ukraine) – ceased to no longer be eligible for GSP treatment (Commission 2011a, p. 115). The tariff lines on which these estimates were based quite closely corresponded to the first list of products graduated under the new regulation (for the years 2014–2016) (Commission Implementing Regulation [EU] No. 1213/2012). Moreover, an ODI study from 2011 found that there was significant potential for an additional two countries (Iraq and Vietnam) to lose preferences from product graduation (ODI 2011).

While these changes are oriented to make GSP more effective, Hoekman et al. (2016) consider the current scope and conditionality extremely complex and hard for exporters to navigate. Siles-Brugge (2014) comments about the conditions relating to product and country graduation, preference margins and the co-existence of reciprocal free trade agreements. Jones and Copeland (2017) report the difficulty that developing countries face with Tariff Peaks. Specifically, developing countries attempting to increase their processing capacity currently face tariff escalation in higher-value products. However, the impact of such tariff peaks on actual trade flows is debatable. The easiness or complexity of the current GSP scope and conditionality can help in assessing effectiveness, and this is captured in the System Resource Model

Furthermore, acknowledging the beneficiaries' perception of effectiveness is crucial. So, the Strategic Constituencies Model situates effectiveness within several effectiveness parameters, mirroring the different expectations of GSP beneficiaries (Matthews 2015; Gradeva and Martinez-Zarzoso 2016; Tobin and Busch 2019). This specifically follows the neoclassical assumption where different economic agents pursue different self-interests and anticipate the utmost maximisation (Calvo 2018a; Calvo 2018b; Schreck et al. 2019). Arguably, trade preferences have developed from the rational expectations to create a "Common good" but may become ineffective if any of its provisions come at the expense of beneficiaries' expectations. In effect, the SCM captures the rare instances where preference beneficiaries are given the privilege to determine the shape of GSP provisions or where GSP provisions are highly responsive to beneficiaries' expectations (Fishburn 2015; Bernheim 2016; Albert and Hahnel 2017). It is, however, idealistic to presume that preference donors would design GSP policies in a way that reconciles GSP goals

with beneficiaries' expectations. Assessing the effectiveness of the GSP based on this model presents a considerable conceptual challenge.

From the review of different effectiveness models, no single approach offers a complete picture of GSP effectiveness, nor is there a consensus regarding the Operationalisation of this concept. The criteria in each of the models differ, but each offers a reasonable appeal to being a useful guide to assess the GSP outcomes. The next section parameterises the GSP effectiveness based on the earlier stated models (*see* **Table 3.1**) from which the concept has been measured.

3.3 Parameterising GSP Effectiveness

3.3.1 Classification of Effectiveness Based on Existing Models

Deriving effectiveness classifications is critical to constructing an effectiveness framework and this section draws on existing models (*see* **Table 3.2**) based on the illustrative interpretation in GSP literature. Particularly, this adapts the effectiveness categories of Sadler (1996) – Transactive, Substantive and Procedural, and that of Baker and McLelland (2003) – Normative effectiveness, which are largely the disguised derivatives of the earlier stated models. **Table 3.2** presents these classifications with illustrative interpretations from relevant literature.

Table 3.2 Classifications of Effectiveness and Literature-based Illustrative Descriptions

Effectiveness Classifications	Literature-based Illustrative Interpretation
Procedural Effectiveness	Do procedures of the GSP scheme determine intended effectiveness outcomes? (Persson 2015). The investigation involves uncovering the complexity of GSP requirements, the recipient's capacity to handle the administrative requirements, stringent Rules of Origin (RoO) compliance, submission of documentation attesting to product origin and regulatory compliance (Herz and Wagner 2011; Hakobyan 2013; Gil-Pareja et al. 2014). The process relates to "Constructing effectiveness to depict the administrative burden, time investment, and financial costs for exporters" (Carrere and De Melo 2011; Mizuo 2019). As an input to policy measures, effective GSP must provide beneficiaries with friendly procedures and conducive policy to utilise the GSP scheme (Snyder 2011; Persson and Wilhelmsson 2016).
Substantive Effectiveness	Does GSP utilisation result in attaining the objectives set - Higher exports, Market Integration, and Increase Export Earnings (Siles-Brugge 2014). Investigation of effectiveness involves examining what objectives are achieved given preference utilisation (Marx 2018). The output relates to the strategic dimensions of the GSP scheme (Scope, Coherence, Synergy and Responsiveness) such that facilitates the attainment of the laid down objectives (Snyder 2011). Does GSP increase exports, facilitate poverty reduction or foster integration into the World Trading System market integration? Which objectives are achieved? (Zhou and Cuyvers 2012).
Transactive Effectiveness	Does the GSP scheme deliver maximum objectives at the lowest cost and within the least time possible? (Agostino et al. 2010) Investigation of effectiveness involves maximisation of preferential gains with minimum impediments (Cuyvers and Soeng 2013) Does it answer whether poverty reduction occurs or GVC integration is achieved within minimum timeframes and at reduced costs? (Keck and Lendle 2012)
Normative Effectiveness	Investigation involves uncovering alignment with established norms, legal frameworks, and ethical standards governing trade policies and developmental initiatives (Herz and Wagner 2011). Normative effectiveness aligns with established international norms concerning the promotion of equitable trade, especially among countries at varying levels of development (Awan et al. 2015). The output relates to upholding principles of fairness, inclusivity, and sustainability (Snyder 2011; Siles-Brugge 2014; Velluti 2015; Hout 2016)

Source: Author's Construction based on existing literature

Procedural effectiveness relates to GSP procedures, the provisions guiding the utilisation of the GSP scheme. The internal coherence model guides the essentials of the procedural effectiveness classification, underpinning the coherence of GSP provisions (Beke and Hachez 2015; Abreu 2016; Jones 2017). The procedural pathways governing the utilisation of preferential trade schemes like the EU GSP hold substantial significance in determining their overall effectiveness. Exporters navigating the EU GSP scheme encounter a labyrinth of procedural complexities entwined within its framework. While the scheme's overarching intent remains the facilitation of trade and development for beneficiary countries, the complexity inherent in adhering to its procedures poses a significant challenge, potentially impeding the seamless utilisation of its benefits.

The EU GSP delineates a set of procedures and criteria that exporters from beneficiary nations must navigate to derive preferential benefits. These procedures encompass an array of prerequisites, including stringent Rules of Origin (RoO) compliance, submission of documentation attesting to product origin, and adherence to specific administrative requirements. The intricacies involved in fulfilling these prerequisites often entail substantial administrative burdens, time investment, and financial costs for exporters, which may hinder their ability to effectively utilise the GSP benefits. The imposition of Rules of Origin, while aimed at ensuring that only goods meeting the stipulated criteria receive preferential treatment, introduces complexities in proving product origin. Exporters encounter hurdles in acquiring and furnishing the requisite documentary evidence, navigating the web of regulatory compliance, and meeting the stringent criteria demanded by the EU GSP. These complexities can become arduous impediments, particularly for small and medium-sized enterprises (SMEs) in beneficiary countries, limiting their capacity to access and leverage the preferential benefits offered by the scheme.

Moreover, the administrative processes embedded within the EU GSP framework demand meticulous attention to detail and adherence to stringent timelines. The procedural intricacies involved in applications for preferential treatment, periodic reporting, and compliance verification necessitate exporters' robust administrative capacity. The absence of requisite administrative capabilities or resources among exporters in beneficiary nations often results in challenges in fulfilling these procedural requirements, further hindering effective utilisation.

The Goal Attainment Model underpins Substantive effectiveness, relating to the attainment of the GSP objectives by preference beneficiaries (Awan et al. 2015; McMahon 2015; Pitigala et al. 2016). This is mostly demonstrated when GSP beneficiaries achieve objectives such as poverty reduction and integration into the world trading system. While GSP literature has substantially analysed effectiveness based on

export flows (Agostino et al. 2010; Cardamone 2009; Cipollina and Salvatici 2010; Nilsson 2011; Oguledo and MacPhee 1994; Persson 2011; Persson and Wilhelmsson 2016), there is a dearth of literature considering the core objectives of poverty reduction and WTS integration. These studies do not converge towards a common result about the effectiveness of the scheme. However, Oguledo and MacPhee (1994), Nilsson (2007), Verdeja, (2006) and Agostino et al. (2011) show that the GSP scheme has a positive effect, albeit smaller than that of other preferential schemes.

Indeed, attaining increased export flows is fundamental, but the substantive goals are oriented towards developmental imperatives. General trade literature has drawn causality between export flows and poverty reduction/GVCs integration. However, results are mixed, and it is, thus, not automatic that increased exports would lead to the attainment of GSP objectives. In any case, the literature agrees that the EU GSP scheme appeared rather generous, when compared to similar schemes run by other developed countries (Japan, USA), albeit only for a limited number of products and countries. At the same time, the literature reveals that there are doubts about the actual effectiveness of GSP preferences in enhancing developing countries' exports to EU markets. Siles-Brugge (2014) reports that the exports of many of the EU's partners are significantly and negatively affected by the new GSP regulation. The author argues that the most significant 'income graduated' trade partners excluded from the scheme lost preferences on a significant proportion of their total exports. The ODI study's estimates (based on average trade data from 2008–2010) suggest that it could be as much as 7.31% of total exports in the case of Argentina; 8.96% in the case of Brazil and 12.2% in the case of Malaysia. It is similar to 'product graduation' for those which remain within GSP. India, for example, lost preferences on 2.37% of its total exports and Vietnam on 4.13%. It means that the new GSP regulation has affected exports that would have benefitted substantially from GSP. If the objective to increase export flows is far from certain, it is an empirical question whether the core objectives of poverty reduction are achievable within the GSP framework.

In exploring the procedural effectiveness of the EU GSP, the notion of transactive effectiveness emerges as a pivotal criterion. This concept, rooted in efficiency paradigms, assesses the attainment of GSP objectives while minimising costs and expediting the process. Researchers such as Persson (2011), Meskhia and Seturidze (2013), and Yabs (2018) underscore the significance of this transactive effectiveness in evaluating the utilisation of preferential trade schemes. Transactive effectiveness portrays the ability of exporters to navigate the scheme's procedures with minimal resource outlay and within expedited time frames while effectively achieving the intended objectives. These objectives primarily centred around fostering development and reducing poverty in beneficiary nations, are contingent upon the efficient utilisation of GSP benefits by eligible exporters. This is the point Keck and Lendle (2012)

emphasise, to determine the economic usefulness of preferences to beneficiary countries, preferences have to be utilised in the first place. Literature (Limão 2006; Özden and Reinhardt 2005; Page and Kleen 2005) concur that preference utilisation is suboptimal owing to a combination of insufficient preferential margins and excessive costs attached to their utilisation in certain sectors.

The complex Rules of Origin (RoO) criteria, stringent documentation requirements, and administrative obligations constitute formidable hurdles that demand substantial time, financial investment, and administrative prowess from exporters seeking GSP benefits. The correlation between procedural complexities and transactive effectiveness manifests prominently in the challenges faced by small and medium-sized enterprises (SMEs) in beneficiary countries. These enterprises, constituting a substantial portion of export entities, grapple with limited resources, administrative capabilities, and expertise necessary to navigate the intricate procedures embedded within the GSP framework. Consequently, the attainment of GSP objectives—particularly poverty reduction and trade integration—within minimum timeframes and at reduced costs faces significant challenges due to procedural difficulties.

The evaluation of the EU GSP's effectiveness encompasses not only its procedural and transactive effectiveness but also its adherence to normative standards and ethical principles within the sphere of international trade and development policies. Normative effectiveness within the EU GSP describes its alignment with established norms, legal frameworks, and ethical standards governing trade policies and developmental initiatives. The EU, in its formulation of the GSP, has sought to underscore its commitment to fostering development, reducing poverty, and promoting equitable trade relations among participating nations while upholding principles of fairness, inclusivity, and sustainability (Snyder 2011; Siles-Brugge 2014; Velluti 2015; Hout 2016). This effectiveness approach aligns with established international norms concerning the promotion of equitable trade, especially among countries at varying levels of development.

From the outset of the GSP discussion within UNCTAD, however, it was clear that the 'non-discriminatory system of preferences' envisioned by Resolution 21(ii) would embody considerable elements of 'discrimination'. Indeed, Resolution 21(ii) on its face contemplates discrimination in favour of the least developed countries. Further, the theory behind GSP was that it would reduce the reliance of developing countries on exports of primary products and promote industrialization. Accordingly, it was understood that manufactured goods would be the main beneficiaries of preferences and that agricultural products would be treated less favourably. This 'discrimination' across sectors inevitably produces a kind of de facto discrimination across beneficiaries, where some beneficiaries have a far greater capacity to

produce the manufactured goods that are designated for preferential treatment than others. Beyond these features built into the conception of the system, political factors intruded heavily on the willingness of nations to grant preferences across the board. Some developing countries were seen as ideologically unacceptable recipients of preferences, many produced manufactured goods in politically sensitive import sectors such as textiles and footwear, and the possibility of import surges was a matter of significant concern. EC affirm that if the GSP scheme were to be politically viable, it would have to contain substantial additional limitations as to product coverage and beneficiaries and be accompanied by safeguards to address politically unacceptable increases in imports. As discussed in Siles-Brugge (2014), the EU has continued to condition GSP benefits on the willingness of beneficiary nations to cooperate on various policy margins, either by rewarding cooperation with greater preferences or punishing its absence by withdrawing them. The outlook of the EU GSP as a 'non-reciprocal' program has therefore come under considerable scrutiny.

The normative effectiveness within the GSP framework becomes more questionable given that significant variability exists among GSP beneficiary countries in terms of their access to the cumulation provisions. This suggests that the effectiveness of the GSP scheme varies widely across countries. This inclination to widen the disparities and inequities inherent in the international trading system appears to violate the inclusivity and non-discrimination attributes of normative standards.

The four effectiveness classifications are fundamentally rooted in the comprehensive effectiveness models illustrated in Table 3.1. Each effectiveness classification finds its underpinning within specific models, creating a cohesive and structured approach to evaluating the European Union Generalised System of Preferences (EU GSP). Procedural effectiveness, for instance, is substantiated by the fusion of the Internal Process Model and the System Resource Model. This classification assesses the procedural intricacies within the EU GSP by focusing on the internal operational processes that could foster GSP utilisation. Substantive effectiveness, on the other hand, draws its foundation from the Goal Attainment Model, emphasizing the achievement of overarching objectives and developmental goals inherent within the GSP framework. Transactive effectiveness finds its basis in the System Resource Model, which focuses on the efficient achievement of GSP objectives with minimal costs and expedited timelines. Lastly, normative effectiveness is rooted in the Strategic Constituencies Model, examining the alignment of the EU GSP with established normative standards, ethical principles, and legal frameworks governing international trade policies and developmental initiatives. This structured alignment of effectiveness classifications with their respective underlying models provides a comprehensive framework for the in-depth analysis of the EU GSP's effectiveness and impact across diverse facets of its operational paradigms.

Given the effectiveness classifications in **Table 3.2**, this thesis illustrates the effectiveness of the GSP scheme as; the extent to which GSP procedures foster optimal Utilisation; minimal impediments and costs during Utilisation: the coherence of GSP provisions towards achieving GSP objectives; and upholding principles of fairness, inclusivity, and sustainability. This description recognises the different perspectives of effectiveness across GSP literature.

3.3.2 Operationalisation of GSP Effectiveness

There are diverse perspectives on GSP effectiveness, but studies have continued to focus on procedural and transactive effectiveness (Islam et al. 2010; Yeung and Perdikis 2012; Carbone and Orbie 2014; Manger and Shadlen 2014; Awan et al. 2015; Ederington and Ruta 2016) and a dearth of literature examining substantive effectiveness. Meanwhile, substantive effectiveness has been explored in the context of the GSP – Exports nexus, with literature drawing linear causality between the utilisation rate and export flows. However, there is no evidence of empirical linkages between the core objectives of poverty reduction and integration into the WTS in GSP empirics.

Grossman and Sykes (2005), Faber and Orbie (2009), Holland and Doidge (2012) and Siles-Brugge (2014) are a few authors who have included normative requisites in their discussion, albeit no clear-cut empirical evaluation. Essentially, no GSP study has combined the four effectiveness classifications into an inclusive, objective-based evaluation framework nor does there exist a standardised empirical approach across GSP literature. From the review of effectiveness classifications, a framework for assessing GSP effectiveness can be developed. In Table 3.3 below, the criteria for procedural effectiveness are denoted by $P_a - P_e$; criteria for substantive effectiveness $S_a - S_e$; criteria for transactive effectiveness $T_a - T_d$; and the criteria for normative effectiveness $N_a - N_d$.

Table 3.3. The Evaluation Checklist for the Effectiveness of the GSP Scheme[82]

Criteria for Procedural Effectiveness	Criteria for Substantive Effectiveness
$\boldsymbol{P_a}$. Appropriate policy framework and procedures for GSP operations – Product coverage, tariff classification and product description, Rules of Origin requirements, Sector/Country graduation, and Eligibility criteria	S_a. The regulatory framework that regulates export behaviours and enforces procedural rules
$\boldsymbol{P_b}$. Structural framework – Compliance monitoring framework, Control of Origin, and the role of government	S_b. Integration of evaluation recommendations – some or all recommendations (based on GSP evaluation) for specific actions towards improving the program are considered in GSP reforms.
$\boldsymbol{P_c}$. Integrating "Strategic Dimensions" in GSP revisions - which addresses Scope, Policy Coherence, Responsiveness and Synergy	S_c. Inter-country trade collaboration – the outlook of "cumulation rules" that facilitate supply chain linkages
$\boldsymbol{P_d}$. A clear, sound, and concise exposition of procedural rules that facilitates coherent utilisation decisions and precision of predictions	S_d. Institutional competitive advantage and other benefits – there is strong evidence that participation offers greater value, either through lower trade costs, the extensive margin of trade or other benefits that justify the existing trade costs.
$\boldsymbol{P_e}$. Policy attitude and the outlook of external economic diplomacy in GSP operations.	S_e. Predictability in trading conditions - to take full advantage of the benefits of non-reciprocal preference schemes
Criteria for Transactive Effectiveness	**Criteria for Normative Effectiveness**
$\boldsymbol{T_a}$. Time – GSP objectives are attained within a reasonable time frame	N_a. Modification of applicable policy framework to reflect normative standards. is performed in terms of improved policy attitude
$\boldsymbol{T_b}$. Trade costs – GSP utilisation does not entail huge barriers	N_b. Learning effect following utilisation – such that improves policy attitude towards equitable trade and inclusivity.
$\boldsymbol{T_c}$. Proficiency – required while exploiting GSP provisions to attain stated objectives does not widen trade barriers	N_c. Regulations that capture development imperatives and are not oriented towards commercial trade agenda.
$\boldsymbol{T_d}$. The specificity of existing provisions – rules and guidelines are clearly defined, ensuring timely and effective compliance	N_d. Improvement in the economic welfare across the board

[82] **Note**: $\boldsymbol{P_a - P_e}$ are constructed based on Eeckhout (2011), Herz and Wagner (2011); Holland and Doidge (2012) Beretta (2013), Portela and Orbie (2014); Siles-Brugge (2014). $\boldsymbol{S_a}$ is constructed based on Evora (2015). $\boldsymbol{S_b - S_e}$ and $\boldsymbol{T_a - T_d}$ are constructed based on Paliwal (2011) and Laszlo et al. (2017). $\boldsymbol{N_a - N_d}$ are based on Quick and Schmulling (2011); Beretta (2013); Ahmed (2014); Siles-Brugge (2014); Hout (2016) and Persson and Wilhelmsson (2016).

3.4 Constructing Effectiveness Framework Using the Logic Model

A standard logic model provides a structured representation of how inputs, processes, outputs, and outcomes interact within a program. This model serves as a valuable tool to scrutinise expectations, activities, and intended effects, offering a clear framework to understand the relationships between different components of a program or initiative (Knowlton and Phillips, 2012). The logic model also serves as a suitable evaluation method by illustrating how a program's effectiveness is linked to its procedures and outcomes (Jaegers et al., 2014). It provides a clear depiction of how the processes within a program directly influence the achieved outcomes, aiding in the assessment of its overall effectiveness. The operations of GSP tend to involve a cyclic system (comprising inputs, process, outputs and outcomes stages) of interrelated activities with an "effector pathway" which adjusts the interaction between the various trading stages. In essence, GSP effectiveness emerges within a cycle whereby the achieved objective(s) of; Application (procedural), performance (substantive), efficiency (transactive), and normative goal (normative); increase through the process, creating an improvement in the activities of subsequent round(s).

Essentially, applying the "Logic Model" in the construction of the effectiveness framework would require criteria (*of each effectiveness classification*) mapping across the four stages of the GSP cycle. This would aid the identification of possible connections between the criteria of the four effectiveness classifications (*see* **Table 3.3**). It could also pinpoint progression in effectiveness level at different stages of the GSP cycle, exemplifying the inherent dynamism in GSP operations. Flowing from this, the decomposition of each stage into smaller constituents is achievable, such that the elements of; "inputs" include the existing conditions, depth of tariff cut, objectives of GSP, policy attitude, and the inceptive expectations of preference beneficiaries. "Process" includes regulatory framework/RoO/provisions/regulations that enhance or modulate the gains derived by GSP beneficiaries, the degree of preference utilisation, and perception of trade flows through interactions between GSP actors; "Outputs" include the results of utilisation, the attainment of objectives, assessment of GSP operations, and the extent of trade flows into the donors' market; "Outcomes" depict optimisation of each effectiveness classification, the consequences of criteria interactions, revealing the parameters on which effectiveness framework is constructed. Table 3.4 shows the criteria mapping, involving typical "many-to-many" relationships, which through a "junction table" presents a variety of criteria-stages combinations.

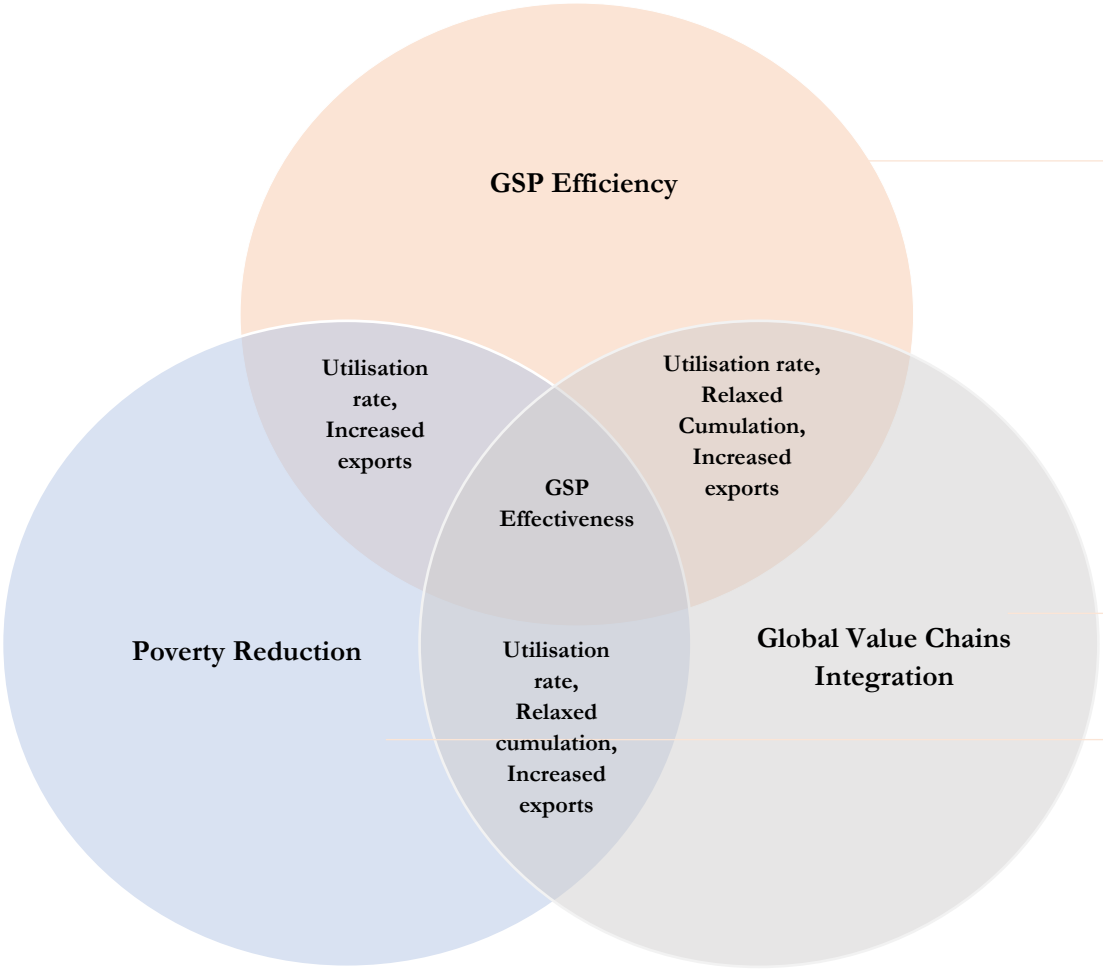
Table 3.4. The Effectiveness Criteria Mapping in "Logic Model" Assessment

Classification	Query	Input	Process	Output	Outcome Parameter
Procedural effectiveness	Application – is compliance with GSP procedures easily achievable?	P_a, P_b [Existing conditions and procedures]	P_c, P_d [Implement provisions, regulations, and guidelines that motivate participation	P_e [Results of application]	Improved Utilisation Rate
Substantive effectiveness	Performance – What objectives are attained?	S_a [Establishing objectives]	S_b [Fostering economic welfare, encourage higher value exports]	S_c, S_d, S_e [Achieving objectives]	Poverty reduction, Integration into the World Trading System
Transactive effectiveness	Efficiency – How costly are the existing provisions?	T_a, T_b, T_c, T_d [Efficiency in the Utilisation of GSP]	T_a , T_b, T_c, T_d [Lowering cost of utilisation and decreasing trade Barriers]	T_a, T_b, T_c, T_d [Export diversification]	Improved GSP Efficiency
Normative effectiveness	End goal – What normative standards are embraced?	N_a [Equitable trade, inclusivity, upholding developmental imperatives]	N_b, N_c [Periodic reforms to address unfair practices, change regulations that encourage selectivism]	N_d [Achieving inclusivity]	Generous cumulation, Non-discriminatory GSP operations

Source: Author's Construction based on existing GSP literature

Table 3.4 reveals the linkages between the effectiveness classifications when mapped to the stages of the GSP cycle. For each classification and given relevant criteria, effectiveness, expectedly, advances from one stage of the GSP cycle to another. More so, each stage contains a range of criteria, suggesting possible interactions and progression within the effectiveness framework, which if interpreted correctly, tend to establish a more detailed understanding of GSP effectiveness, and better policy options to strengthen it. Applying the effectiveness framework in an empirical context would mean taking the "Outcome Parameters" in **Table 3.4** (Improved utilisation rate, Poverty reduction and Integration into the World Trading System, Generous cumulation, Non-discriminatory GSP operations), as applicable measures to assess the effectiveness of the GSP scheme - as in Figure 3.1 below.

Figure 3.1 The GSP Effectiveness Framework



GSP efficiency is indicated by the utility rate, the Cartesian product of two sets.

- **Set A** (Utilisation rate)
- **Set B** (Coverage Rate)

GSP factors that foster GVCs integration.

- The GSP cumulation provisions
- The alignment of GSP regions with operations of RTAs

Three channels of poverty

- The distribution channel which affects households' income through the market (via price transmission).
- The enterprise channel which affects wages and employment (through export firms).
- The government channel (via income distribution) which affects taxes and government expenditure.

Source: Author's Construction based on existing GSP literature

From **Figure 3.1**, the GSP effectiveness framework describes a set of metrics, or effectiveness measures, which can be applied in empirical analysis to assess the effectiveness of GSP operations. Each parameter measures whether the uptake of GSP translates into the attainment of the subsumed objectives. The multi-criteria framework allows the examination of various GSP objectives. Also, the unified framework captures the priorities in the donor country's trade policy. While unification does not preclude analysing each parameter independently, it is worth noting that such independence is not absolute. Essentially, the aim is not only to develop a single reductionist assessment of the GSP effectiveness but also to pinpoint slippages in the attainment of any of the parameters during the GSP cycle. For instance, an effectiveness assessment based on only one parameter (*say* GSP efficiency) would fail to uncover the source of a deviation in the overall effectiveness level. So, having a complete picture of all the parameters allows faster and better-targeted policy actions.

3.5 Conclusion

This chapter has situated the effectiveness of GSP within a unified framework such that captures the different perspectives through which effectiveness has been perceived and presented. This is the first study that classifies the various effectiveness approaches in literature within four specific categories – procedural, substantive, transactive and normative. The objective-based framework is also the first attempt to bring together all the effectiveness categories with a view to establishing a more inclusive approach for assessing GSP effectiveness. The application of the "logic model" signifies linkages between the effectiveness criteria (across the four classifications) and that progression is achievable. It means that increased awareness of the criteria interactions and the underlying determinants of effectiveness progression could facilitate policy actions towards improving the GSP outlook. Applying this framework in an empirical setting, therefore, would provide better identification of the interactions and the progression opportunities.

Importantly, this study acknowledges that there is still a role for studies on specific aspects of GSP, each of which would use techniques appropriate to the issue and data. The general framework is useful to show where any specific study, focussing on an aspect of GSP, fits in the big picture. The constructed framework is not offered as the "ultimate recourse" for assessing the effectiveness of the GSP scheme. Instead, it provides an "entry point" into a wider perspective, a robust methodology for empirical assessment and a trigger for further discussion on GSP effectiveness. Expectedly, the inherent character of one or two identified effectiveness categories (*for example* normative), might spur a debate regarding the validity of the framework. This study hold

that the presented criteria are derived sufficiently from the literature-based determinants of each effectiveness category. Indeed, a thorough beginning for subsequent GSP effectiveness discourse.

Chapter 4 Evaluating GSP Effectiveness through Efficiency Indicators - Data, Methodology and Results

4.1 Introduction

This chapter presents the estimation of GSP effectiveness through the descriptive efficiency indicators widely adopted in the literature. However, the sole adoption of the utilisation rate in existing studies can be questioned, mainly because, other relevant indicators are largely overlooked in efficiency estimates. This study increases the scope of the existing study by adapting the analysis to this specific context, aiming to derive a more robust conclusion about the efficiency estimates vis-à-vis the core features of the GSP scheme. This draws on HS-6 level[83] data obtained from Eurostat for the period 2010 to 2019 aggregated at the exporter-product level and tariff regimes, to estimate the utility rate; such indicators prevalently overlooked in the literature to examine GSP efficiency (Nilsson 2011; Davies and Nilsson 2013; Cirera 2014).

Importantly, this study acknowledges the distinct yet interrelated priorities of the utilisation rate and the coverage rate. The utilisation rate, reflecting the exporter's adoption of the preferential tariffs, and the coverage rate, indicating the extent to which importers' restrictions align with these preferences, each offer unique insights into the functioning of the EU GSP scheme. The decomposition of these two metrics provides a clear comparison of their individual outcomes, allowing for a clear understanding of their separate contributions to the efficiency of the GSP. The utilisation rate measures the efficiency from the exporters' perspective, highlighting how well beneficiary countries can take advantage of the available preferences. Conversely, the coverage rate reflects the importers' willingness and regulatory environment to include various products under the preferential regime, thereby illustrating the accessibility and inclusivity of the GSP from the importers' standpoint.

However, a comprehensive assessment of GSP efficiency requires an integrated approach that considers both perspectives simultaneously. While the utilisation and coverage rates represent distinct imperatives, their interaction provides a more robust perspective on the overall efficiency of the GSP scheme. Efficiency in this context is not solely dependent on the exporters' ability to utilise preferences or the importers' breadth of coverage but rather on how these two elements synergise to facilitate trade and promote development. The mechanical relationship, where the utilisation rate is influenced by the coverage rate, underscores the interconnectedness of these metrics. Importers' restrictions can significantly impact exporters' decisions and

[83] HS-6 refers to the Harmonised System (HS) code at a six-digit level. The Harmonised System is an internationally standardised system used to classify and categorise goods traded across borders. Each product is assigned a unique HS code that consists of a series of numbers and can go up to a six, eight, or even ten-digit level for specific categorisation.

capabilities to utilise the preferences, just as high utilisation can influence importers to maintain or expand coverage.

By combining these two rates, this study can capture the dynamic interplay between the importers' policies and the exporters' responses, providing a holistic view of the GSP's efficiency. This combined metric reflects not only the separate efficiencies but also the potential inefficiencies arising from their interaction. Recognising the distinct priorities of each metric, this integrated approach allows for a more comprehensive assessment of the GSP scheme's efficiency. It acknowledges that the inherent driving factors in each rate - such as regulatory barriers on the importers' side and administrative capabilities on the exporters' side - collectively influence the overall efficiency of the GSP. Therefore, while it is essential to first examine the utilisation and coverage rates separately to understand their individual contributions, combining them offers a more robust and insightful perspective, ultimately leading to better policy formulation and implementation that addresses both importer and exporter priorities.

This holistic approach aligns with the broader goals of the GSP scheme, which aims to foster sustainable development by enhancing trade opportunities for developing countries while ensuring fair and inclusive market access. Through this lens, the integrated analysis of utilisation and coverage rates becomes central in evaluating and improving the efficiency of the GSP, thereby maximizing its developmental impact.

Meanwhile, Keck and Lendle (2012) assess the efficiency of EU preferences (via the utilisation rate) based on the entire preferential regimes that exporters are eligible for, thereby accounting for prevalent overlap in the existing trade preferences. However, this typifies an empirical attempt to re-balance the estimation of preference efficiency, as the author claimed that an isolated assessment of a specific regime would create some understatement of efficiency. However, this approach can be challenged on the ground that it generalises the efficiency estimates across diverse preferential arrangements. The likelihood of putting both reciprocal and non-reciprocal preferences in one basket is unrealistic, especially with inherent heterogeneity in their procedural elements. Hence, this thesis follows the GSP-specific approach in Zhou and Cuyvers (2012),

though dated and only relates to ASEAN beneficiaries. In this case, the adopted datasets cover the existing beneficiaries from 2010 to 2019, a period associated with RoO revision[84] and general GSP reform[2].

4.2 The Descriptive Efficiency Indicators of GSP

Efficiency, as a notion, is generally the assessment of the output category against a certain input category (Sandu et al. 2015). In this context, "GSP inputs" would involve appropriate policy framework and procedures for GSP operations, typified by GSP-eligible imports – $Elig_m$, which typically determine actual trade flows, preferential or otherwise (total imports – T_m or GSP actual imports – GSP_m) – output (Cirera et al. 2016). Given that input-output relations can be interpreted in several ways, a single formula or its result appears insufficient to determine the efficiency of a preferential system. Using combinatorial analysis, for instance, the derivation of GSP efficiency would follow a pairwise combination of input-output *Set* containing 3 elements (Eligible Import, GSP import, Total Import) such that generates a binomial coefficient $\binom{3}{2}$, and producing three basic indicators – Utilisation rate – $\frac{GSP_m}{Elig_m}$, Potential Coverage rate – $\frac{Elig_m}{T_m}$, and the Utility rate - $\frac{GSP_m}{T_m}$.

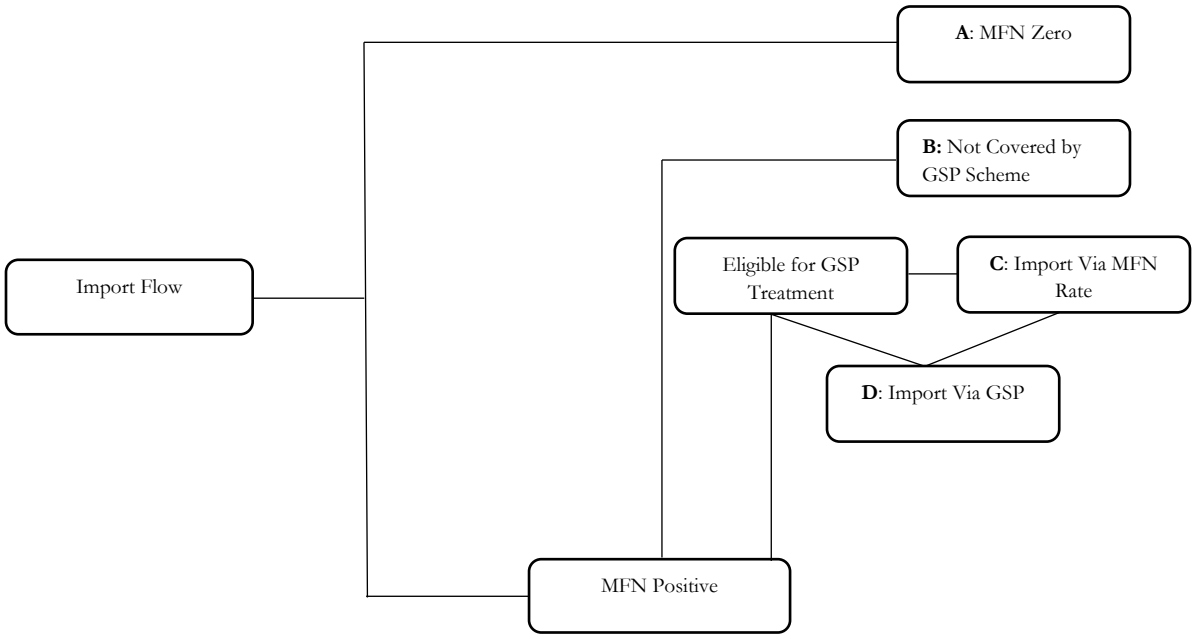
Generally, these indicators are not entirely new, and the literature has treated each in detail but rather separately. In some instances, the utilisation rate has been considered in isolation, with potential coverage rate and the utility rate commonly overlooked (Gasiorek et al. 2010; Agostino et al. 2010; Nilsson 2011) This study, however, re-situate existing discussion and argue that the "utility rate" is a powerset consisting of subsets $\{\{\text{Potential Coverage rate}\}, \{\text{Utilisation Rate}\}\}$. In doing so, this study establishes that while the utilisation rate is core, other indicators are essential drivers and cannot be analysed in isolation. Better understanding can therefore be obtained by triangulating one set of indicators with another, thereby enhancing the validity of efficiency estimates.

[2] Under the 2014 GSP reform, all high- and upper-middle-income countries lost eligibility for preferences, while a host of competitive product sections (mostly from emerging economies) was graduated - no longer eligible for GSP treatment (Siles-Brugge 2014).

4.2.1 Estimating the Utilisation Rate

This study define GSP utilisation as the degree to which existing preferences are used. Relative to the MFN duty, EU GSP preferences typify reduced tariffs for products originating from 75 beneficiary developing countries (*see Appendix 5.5*). Taken broadly, this study would expect dutiable imports ($MFN > 0$) only from countries not receiving preferences, but then, not all products from beneficiary countries are eligible for GSP treatment. Also, MFN rates for some products are at zero ($MFN = 0$), and no preferences would be granted in that instance. Moreover, exporters may also choose to export eligible products under MFN rates, especially to avoid the associated time cost of complying with GSP regulations. Given these scenarios, this study classifies import flows as one of the mutually exclusive categories I – IV in **Figure 4.1** below.

Figure 4.1 Classification of Import Flows



Source: Akinmade et al. (2020)

The utilisation rate μ of GSP is, therefore, the ratio of "imports via GSP arrangement" and "imports eligible for GSP treatment" - $\left\{\frac{D}{C+D}\right\}$, while import flows A and B are overlooked. Product imports are deemed eligible for preferential treatment if they come from beneficiary countries and are covered by the GSP regime based on tariff schedule. This is a typical arrangement where the MFN tariff τ is non-zero, thereby disregarding all products with zero MFN tariffs. In this case, the GSP tariff ϑ, which mostly tends to be zero, must be smaller than τ, otherwise, the GSP arrangement would confer no tariff advantage. Also, the influence of country/product–specific exemptions on GSP utilisation is not negligible, equally as important as transaction-specific requirements (in particular, fulfilment of origin rules).

Notably, GSP operations extend from particular to general, and a discursive focus on preference utilisation is either at the individual product level or aggregate exporter-product level. In both cases, policy objectives are concerned with enhancing beneficiaries' exports. This exporter-oriented focal point fits neatly with most empirical discussions – understood as the intent to justify why efficiency is best analysed from the exporter's perspective. This is a point this study returns to in our estimation where the utilisation rate takes the form of

the aggregated value of preferential imports divided by the aggregated value of eligible imports. By aggregating across the exporter-product level (*exporter x* and *product z),* the GSP utilisation rate is illustrated thus.

$$\mu_{\bar{z}\bar{x}} = \frac{\sum_{x \in \bar{x}} M_i^U}{\sum_{i \in P} M_i} \quad 4.1$$

$\mathbf{M_i^U}$ is the value of imports that utilised GSP preferences in the tariff line *i*

$\mathbf{M_i}$ indicates the value of imports from GSP beneficiaries in the tariff line ***i.***

P indicates the set of dutiable tariff lines eligible for GSP treatment.

4.2.2 Estimating the Potential Coverage Rate.

The coverage rate is the proportion of dutiable imports from GSP beneficiaries that are eligible for preferential treatment (Ritzel and Kohler 2017). Here, this study defines dutiable imports as those on which the MFN tariffs are greater than zero - MFN >0 (Akinmade et al. 2020). Also, the estimation of coverage rate ignores imports with zero MFN duty (MFN =0) as preferences make no difference to them. Two things are particularly important in the computation. First, the entire tariff lines for which imports are dutiable. Secondly, the entire dutiable tariff lines are eligible for GSP treatment. Suppose the set of tariff lines with dutiable imports is denoted by $\boldsymbol{D}$ and all dutiable tariff lines eligible for GSP treatment are denoted by $\boldsymbol{P}$, with $\boldsymbol{P}$ being a subset of $\boldsymbol{D}$.

The coverage rate of GSP is given as

$$\boldsymbol{Cov_R} = \frac{\sum_{i \in P} M_i}{\sum_{i \in D} M_i} \quad 4.2$$

Equation (4.2) is the ratio of the sum of imports of all dutiable tariff lines eligible for GSP treatment and the sum of imports of all dutiable tariff lines. Where,

i indicates a tariff line.

$\mathbf{M_i}$ indicates the value of imports from GSP beneficiaries in the tariff line ***i.***

P indicates the set of dutiable tariff lines eligible for GSP treatment.

D indicates the entire set of tariff lines with dutiable imports.

Importantly, the estimation of the coverage rate requires identification of import values from beneficiary countries for all dutiable tariff lines, and those dutiable tariff lines eligible for GSP treatment. This study, however, find that the EU GSP tariff schedule contains tariff lines eligible for preferential treatment despite having zero MFN tariff. This becomes inevitable when preferences cover a wide range of import categories

involving both dutiable and non-dutiable tariff lines. Nonetheless, this study exclude non-dutiable tariff lines from our estimation as beneficiaries are more inclined to export under zero MFN rather than comply with GSP procedural requirements.

4.2.1 Estimating the Utility Rate.

Utility rate evaluates the effective scope of the GSP scheme, defined as the share of dutiable import that utilised GSP preference. Specifically, Utility rate (**C**) is the Cartesian product of two sets **A** (Utilisation rate) and **B** (Coverage Rate), denoted **A * B**, containing the set of all ordered pairs **(a, b)** where **a** and **b** are elements of Sets **A** and **B** respectively. In set-builder notation, the Utility rate is expressed as follows:

$$\mathbf{C} = \mathbf{A} * \mathbf{B} = \frac{\sum_{x \in \bar{x}} M_i^U}{\sum_{i \in P} M_i} * \frac{\sum_{i \in P} M_i}{\sum_{i \in D} M_i} \quad 4.3$$

$$\mathbf{C} = \frac{\sum_{x \in \bar{x}} M_i^U}{\sum_{i \in D} M_i} \quad 4.4$$

Where,

i is a tariff line.

M_i is the value of imports in the tariff line i from GSP beneficiaries.

M_i^U is the value of imports from beneficiaries that utilised the GSP preferential rate in the tariff line *i*.

$\boldsymbol{D}$ is the set of all tariff lines with dutiable imports from GSP beneficiaries.

$\boldsymbol{P}$ is the set of all dutiable tariff lines that are eligible for preferences under the GSP.

4.3 Estimation Technique and Data Collection

Having provided an overview of GSP efficiency indicators and shown how they capture distinct imperatives within the GSP operations, this section details the estimation techniques and data collection procedure. Our analysis covers 2010 – 2019 across 75 beneficiary countries (For the standard GSP, GSP+ and EBA), a period associated with a major revision of the RoO for imports under GSP rules. The 2011 revision involves origin being decided by a maximum foreign content of 70% as against a minimum local content rule of 60% (in use since the 1970s). The discussion in Hoekman et al. (2016) captures this consideration, based on the estimation of GSP utilisation in WTO (2014). In any case, the prominence of other efficiency indicators has meant that the costs or benefits of RoO revision are not reflected in the overall efficiency estimates. The same holds for the 2014 GSP revision in which the effect of changes in regulations has been scarcely captured, lest for the

2020 European Commission DG Trade statistics which computed GSP utilisation rates by product sections and beneficiary countries; and the analysis in Akinmade et al. (2020) which only covers GSP imports into the United Kingdom (UK). This study, therefore, cover the most current EU-wide policy considerations across the three efficiency indicators at the exporter-product level.

Data collection specifically follows Article 35 of the GSP regulation which indicates the basis for GSP statistical data. The figures used in our estimations are based on detailed extra-EU data from the COMEXT database and Eurostat. This study aggregate import flows at the exporter-product level to portray GSP efficiency from the exporter's perspective. In doing so, this study aligns with some authors who have sought to discuss GSP as being, merely, a gift to beneficiary countries, where efficiency estimates are couched as the realisation of "GSP promises". Our estimation, therefore, considers only the tariff regimes for which $MFN > 0, GSP > 0 \; and \; GSP = 0$, thereby disregarding other import regimes ($MFN = 0, Pref = 0, Pref > 0 \; and \; "unknown"$) to avoid overstatement of import flows.

It is worth mentioning that extra-EU trade may involve the transfer of goods from a Member State to a non-EU country or vice versa, under customs control and then back to the country of departure. This is why EU legislation obliges the classification of these movements under specific statistical procedures based on customs procedures and formalities. Such classification allows differentiation of imported products, the proportion of imports transformed and re-exported, and the proportion imported. This study only considers those imports under the customs procedure "release for free circulation/end-use exports". This statistical regime (**Normal Trade – Code 1**) consists mainly of products exported or released into free circulation via a customs warehouse or directly. This study, therefore, disregard other statistical regimes in which exports are for "Inward Processing – Code 2", "Outward Processing – Code 3", "Inward Processing (Suspension) – Code 5", "Inward Processing (Drawback) – Code 6", "Economic Processing Arrangements for Textiles – Code 7", and "Not Recorded from Customs Declarations – Code 9". By doing this, this study avoids duplication of import data because, in the more general economic sense, some of the products traded for processing are included in "normal trade".

Given that different tariff regimes are applied to extra-EU imports, a distinction must be made between MFN imports and GSP ones. To provide information on the percentage of MFN, duty-free and/or GSP imports into the EU, this study considers the eligibility regime. The cross-tabulation of the Eligibility and Tariff regime provides an understanding of which eligibility regime the products could be imported under (only MFN or

only GSP) against the tariff regime granted (zero, non-zero). To filter out relevant import value, our analysis accounts for the eligibility codes $E_1 = Only\ MFN\ and\ E_2 = Only\ GSP$ while disregarding $E_3 = Only\ Preferences, E_5 = GSP\ and\ Preferences\ and\ E_Z = Unknown$ (imports not classified under any eligibility status.

Table 4.1 Description of Variables

Variables	Level of data	Description	Source
Dutiable imports	Country Level	Aggregate value of exports into the EU for which MFN tariffs are greater than zero	Eurostat
GSP Eligible exports	Country Level	Aggregated value of beneficiary countries' products eligible for preferential treatment, described by the eligibility criteria "Only GSP".	Eurostat
GSP exports	Country Level	Exports from beneficiary countries via GSP eligibility, for tariff regimes GSP ≥ 0 when MFN > 0.	Eurostat
Utilisation Rate	Country Level	The proportion of GSP eligible product exported into the EU market via tariff regime GSP ≥ 0	Computation based on data from Eurostat
Coverage Rate	Country Level	The proportion of dutiable tariff lines eligible for GSP treatment	Computation based on data from Eurostat
Utility Rate	Country Level	The proportion of dutiable tariff lines that that utilise GSP treatment in export	Computation based on data from Eurostat

Source Author's Construction

4.3.1 Efficiency Estimates – Country-Level Analysis

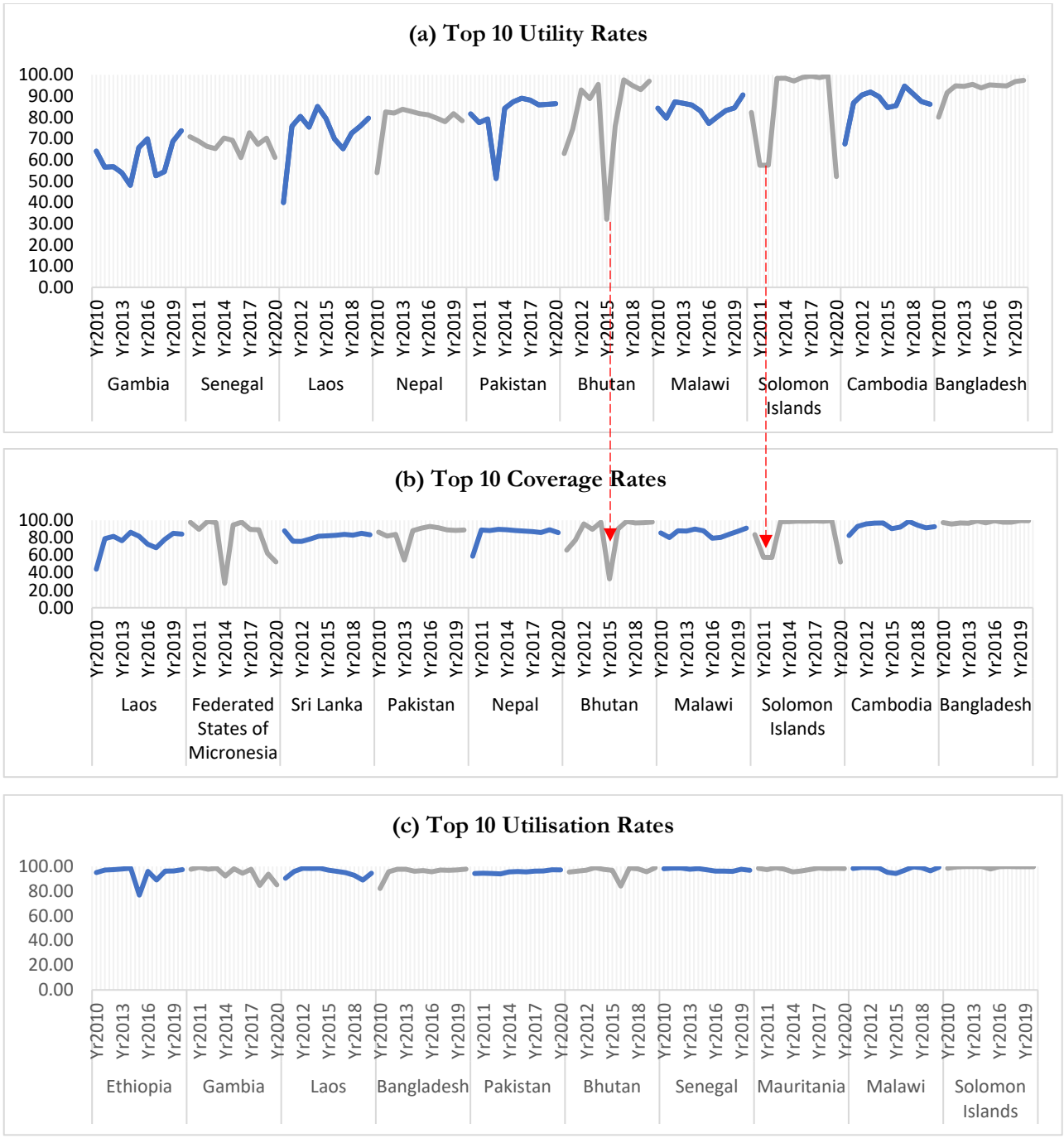
Country analysis has become imperative especially since GSP eligibility is country-specific, more so that GSP efficiency is best captured from the exporter's perspective. Appendix 4.3 shows the efficiency estimates for the EU GSP scheme across 75 beneficiaries. Aside from Bangladesh (93.61%), Bhutan (82.28%), Cambodia (86.9%), Laos (72.63%), Malawi (83.81%), Nepal (78.69%), Pakistan (81.47%) and Solomon Islands (85.41%), efficiency rates are generally low when averaged over 10 years. Essentially, countries in the Southern African region and Central African region show the lowest efficiency rates, with Sao Tome and Principe being highest

at only 6.26%, and Chad lowest at 0.01%. However, total exports improved significantly in 2020 relative to 2010 figures, with Sao Tome and Principe showing a 50.89% increase and Chad's 143.12%.
While some beneficiaries increasingly export into the EU market, such exports are mostly via the MFN rates. With a total average utility rate of 23.73% across all countries, it reminds of the impacts of GSP procedural elements (non-tariff barriers), which impose significant additional costs on exporters and reduce the efficiency of the preferential scheme (Heron 2013). As mentioned in Keck and Lendle (2012), restrictive rules of origin are one major factor that affects an exporter's decision to use preferences or not, and if compliance costs exceed the margin of preference, exporters may choose to forgo duty preferences altogether – that is, exporters sourcing inputs based on cost considerations and exporting at MFN rates. In this case, the utility rate would remain low as it is in our finding where roughly most of the countries have utility rates below 50%.

For most countries, it is not a problem of utilisation, especially with an average of 57.21% across all beneficiaries. Exactly 68% of GSP beneficiaries utilised more than 50% of available preferences, and 33% of countries utilising more than 80% - Laos 95.08%, Bangladesh 95.53%, Pakistan 95.58%, Bhutan 96.15%, Senegal 97.46%, Mauritania 97.82%, Malawi 97.86%, and the Solomon Islands 99.52% (as shown in Figure 4a). However, this study finds coverage rates generally low, averaging 31.46% across all beneficiaries, and only about 25% of the countries have a coverage rate of 50% or more. Given that the utility rate is a cartesian product of the utilisation and coverage rates, our analysis reveals that utility rates are hugely driven by GSP coverage. Our finding, therefore, echoes the sentiment in Siles-Brugge (2014) and Langan (2014) where exclusions and graduation are seen as constituting barriers to GSP efficiency.

Figure 4.2 shows the top 10 countries with the highest utility, coverage and utilisation rates for the period 2010 – 2020. The similarity in trends between Figure 4.2a and 4.2b indicates that the variations within coverage rates per beneficiary essentially define the changes in utility rates for the same country.

Figure 4.2. Comparing efficiency trends for top 10 countries vis-à-vis GSP coverage/utilisation



In any case, this study find that the top 10 utility rates are EBA countries, except for Pakistan which benefits from the GSP+ arrangement - such countries enjoy further tariff cuts and better coverage. For cases of other EBA countries with near-zero utility rates (Chad 0.01%, Lesotho 0.16%, and Guinea 0.28%), questions might

emerge as to why outcomes are not consistent. This study situates such outcomes within preference erosion[85] arising from the coexistence of EPAs and GSP. By doing so, this study aligns with Kopp et al (2016) whose empirical analysis revealed preference erosion due to the participation of EBA countries in EPAs trade.

At the product level, it is essential to highlight the significance of product composition in trade for countries benefiting from the Generalized System of Preferences (GSP). Specifically, this involves discussing the implications of GSP provisions on the utilisation rate at the product level. For example, fish products constitute a major export for several developing countries. Besides generating crucial foreign exchange, labour-intensive fish processing offers a vital source of private sector employment. Moreover, fish processing stands out as one of the few success stories of industrial upgrading under the historical EU-ACP trade preferences with GSP beneficiary countries. These countries include Ghana, the Seychelles and Mauritius, which export to the EU under the Economic Partnership Agreements. The inclination to embrace the EPA instead of the GSP scheme is due to the insufficient supply of fish compliant with GSP rules of origin (RoO), which has constrained the utilisation of GSP by ACP countries. This issue arises because EU RoO are based on 'wholly obtained' criteria, which are determined not by the fishing location (such as within a recipient country's exclusive economic zone), but by the fisher's flag and, crucially, ownership. For investors in the ACP, the challenges include the high cost of industrial fishing boats (a single tuna purse seiner costs over US$20 million, with at least four boats needed to supply a small processing plant) and the heavy subsidies received by competitors (EU and East Asian fleets). For processors in Small Vulnerable Economies (SVEs) with limited private sectors and financially constrained states, this has resulted in a reliance on fish supplied by EU boats.

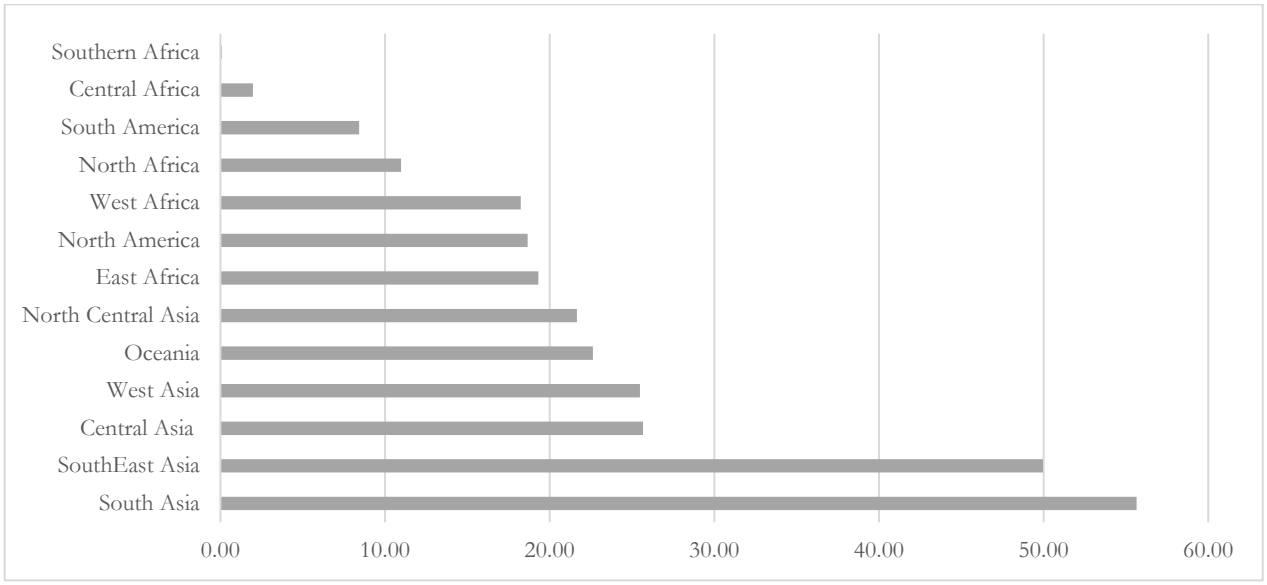
It is in this context that EU preferential RoO for fish products is argued to serve dual purposes: preventing the recipient country from being used to trans-ship third-country products and providing a captive market for the European fishing industry to sell their fish. This developmental anomaly in EU trade policy has been recognised to impair GSP efficiency. In the assessment of the fisheries preference system during the early years of the Lomé Convention, studies conclude that it seems to bias choices of industrial development and technology transfer in favour of the European Economic Community. Decades later, this appears to be applied in a deliberately obstructive manner and taken to ludicrous extremes.

[85] When a country benefits from both an EPA and GSP, the preferences granted might overlap. This redundancy could diminish the additional advantages expected from either agreement, reducing the overall impact of preferential treatment.

4.3.2 Efficiency Estimates – Regional Analysis

To reflect the implication of regime-wide provisions on GSP efficiency, this analysis segments GSP beneficiaries into 13 geographical regions and estimates the average of aggregated utility rates across countries in each region. Figure 4.3 shows that utility rates are generally low across the regions reviewed, with South Asia being highest at 55.64%. Aside from Southeast Asia with roughly 50% (at 49.96%), all other regions record utility rates below 30%. While regional analysis points out regions for which GSP is deemed averagely efficient, figures largely mask the reality of GSP efficiency at the country level. In any case, regional analysis brings into focus the tolerance level of cumulation rules, a significant procedural element within the GSP Rules of Origin through which regional efficiency can be attained.

Figure 4.3 GSP Utility Rate – Regional Analysis



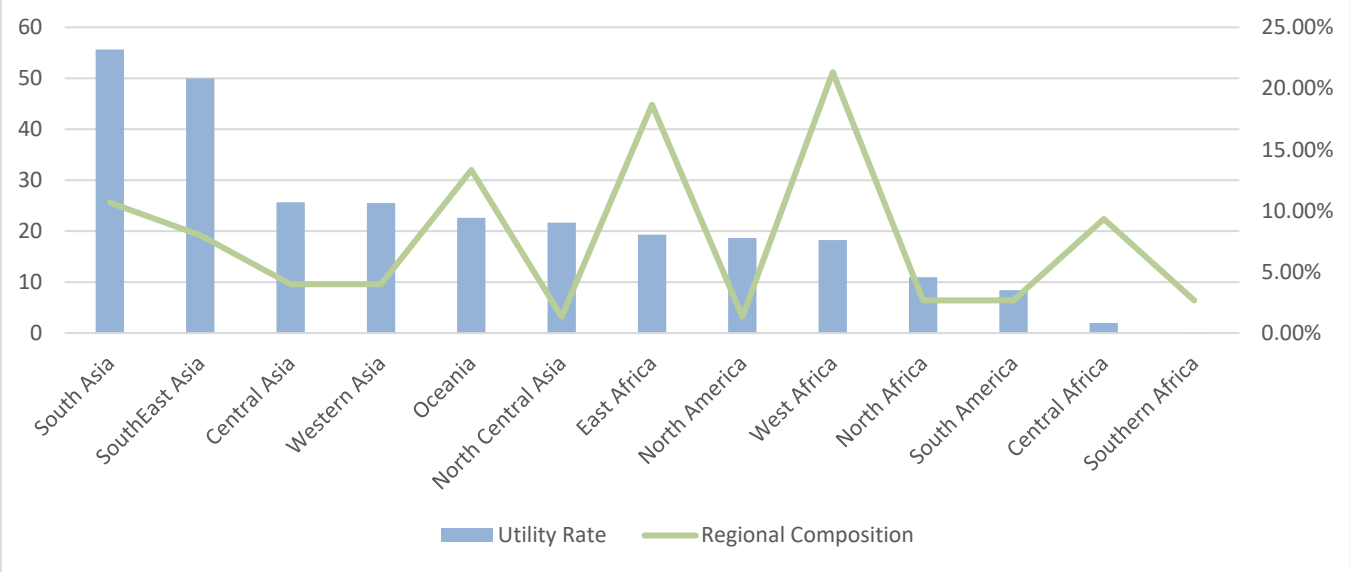
Source: COMEXT database and Eurostat

The efficiency outcomes in Figure 4.3 largely result from beneficiary countries being allowed to consider inputs from other GSP beneficiaries within the same regional group. This is the case of three regional groups allowed to apply the provisions of regional cumulation under the rules of origin - the Association of South-East Asian Nations (ASEAN) – Group I, the Andean Community, Central American Common Market and Panama – Group II, and the South Asian Association for Regional Cooperation (SAARC) – Group III. The Mercosur – group IV (Argentina, Brazil, Paraguay and Uruguay) has also been included in the current regional

cumulation. One would expect similar efficiency outcomes within the GSP cumulation system, however huge variation persists especially that countries in Group I can cumulate with countries in Group III without facing tariff escalation. The existence of intergroup cumulation typically explains why South Asia and Southeast Asia are further ahead in efficiency levels.

The main concern about regional estimates is the possibility of a "compositional effect" where heterogeneity in efficiency estimates is linked to variations in the number of countries within each group. Figure 4.4 offers some insight into the linkage between GSP efficiency and regional composition. However, the case of the West African Region (consisting of 16 countries) and South Asia Region (consisting of 8 countries) has meant that GSP efficiency is not always "responsive" to regional composition. In any case, the significance of regional composition rests on the specific character of Origin rules which may allow countries in the same regional grouping to "cumulate" and produce higher-value products without losing eligibility or facing tariff escalation. It is within this context that regional composition may correlate positively with GSP efficiency.

Figure 4.4 GSP Efficiency and Regional Composition



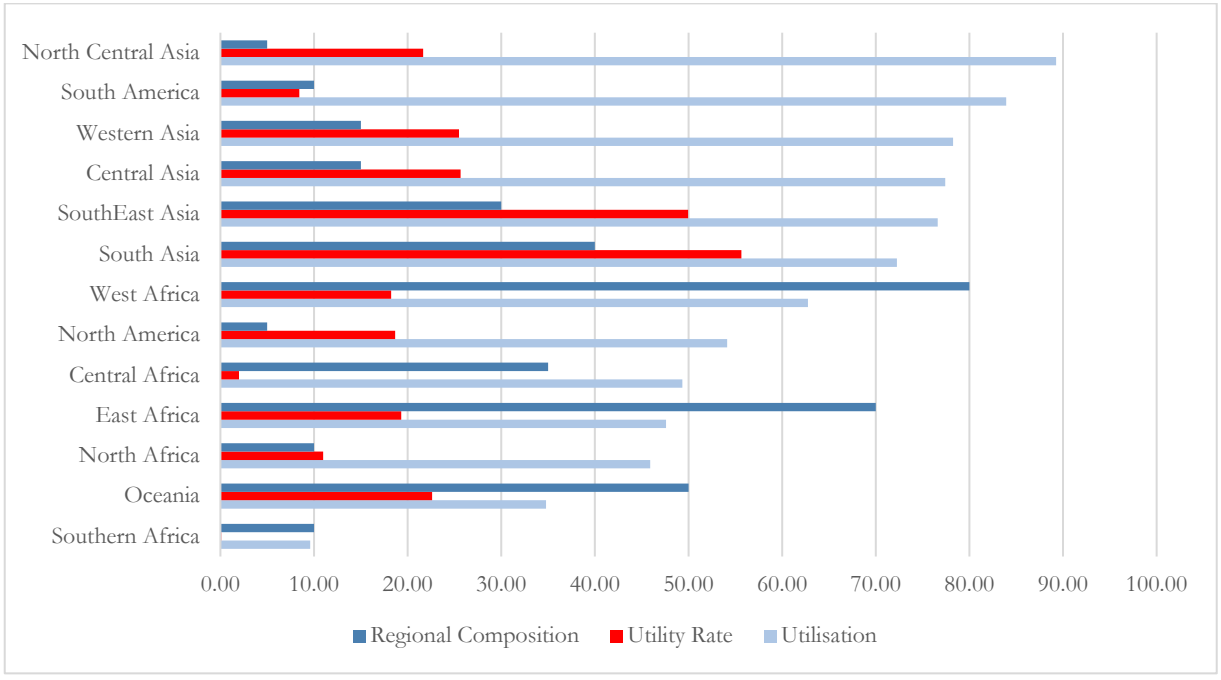
Source: COMEXT database and Eurostat

The non-linearity behaviour of regional composition indicates that, in some instances, it could also correlate negatively with GSP efficiency. This study find that origin rules enhanced efficiency in South Asia (55.64%) and Southeast Asia regions (49.96%), but the coexistence of reciprocal trade arrangements (in form of EPA

and GSP) has reportedly eroded preferential efficiency in Africa regions (East Africa – 19.31%; West Africa – 18.24%; North Africa – 10.98%; Central Africa – 1.98% and Southern Africa – 0.08%) as well as in the South (8.43%) and North America (18.66%). The complexity of origin rules; the frequency of RoO changes at the product level; and the variability of RoO compliance (at the country level) are important mediators through which regional composition drives the efficiency rate Essentially, a wide variety of "components" within the regional composition may have triggered such high nonlinearity, particularly driven by RoO imperatives.

There is additional evidence to suggest that the influence of GSP Utilisation and Coverage is not negligible in efficiency estimates. Both variables, positively correlated with the utility rate and have a positive impact on efficiency level. This particularly echoes the remark of Young and Peterson (2013) in which coverage cutback (via product graduation/country exclusion) is seen as eroding the value of GSP preference. This study finds that some regions, despite having high utilisation rates and/or high regional composition, still witnessed sub-optimal efficiency levels. This can be attributed to the significance of those GSP provisions that drive GSP coverage. This is shown in Figure 4.5 below.

Figure 4.5 Regional Composition, Utility Rate and Utilisation Rate – Regional Analysis



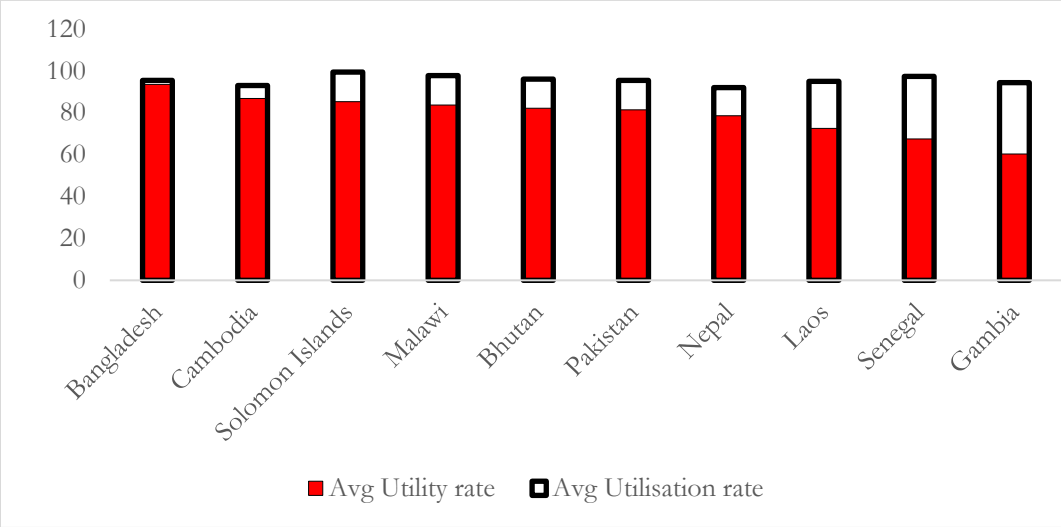
Source Authors Construction

It becomes clear from this that GSP efficiency is rather, more influenced by the coverage rate, typifying the impact of the 2014 GSP regulation in which a significant proportion of product sections were excluded. The efficiency outcomes for African, Caribbean, and Pacific (ACP) regions are particularly low (the highest being Oceania at 22.62%). Langan (2014) identifies a possible preference erosion due to the co-existence of a non-reciprocal scheme and a reciprocal arrangement, largely surrounding the Economic Partnership Agreements, where the EU is seen as restricting the policy space available to ACP countries.

4.3.3 Efficiency Estimates – GSP Utility Vs GSP Utilisation

A much more important question in the GSP policy context is how the utility rate compares to the Utilisation approach, especially as GSP's continued relevance depends largely on the efficiency level. The empirical and policy arguments that situate preference efficiency within the utilisation rate appear insufficient, given its failure to account for coverage imperatives. This study argues that the difference between the utility rate and the utilisation rate is not only a conceptual one but also in the empirical outcomes. In Figure 4.6 below, this study shows the comparability of efficiency estimates by an example, looking at the top 10 countries based on utility rates as compared with the utilisation rates. This has become necessary to compare efficiency estimates based on the utilisation rates and the utility rates.

Figure 4.6 Comparing efficiency estimates – Utility rate vs. utilisation rate.



Source Authors Construction

Relative to the utility rate, this study find that the utilisation approach overstates GSP efficiency, as evident in 9 of 10 countries examined - Laos (72.63% Vs 95.08%), Senegal (67.56% Vs 97.46%) and Gambia (60.38% Vs 94.50%). The only exception is Bangladesh where the utility rate (93.6%) is slightly lower than the utilisation rate (95.53%). With the utilisation rate being above 60% and the utility rate far below 50% for most countries, the EU's generalisation of GSP inefficiency, and the gravitation towards reciprocal arrangement could only have been derived based on the utility rate approach. If it holds that the utilisation rate is a robust efficiency indicator (as prevalently claimed), then choosing to abandon the GSP model with above 60% utilisation appears inconsistent. In any case, aligning with several authors who have embraced the utilisation rate approach would mean that a significant efficiency component (such as the coverage rate) is outright disregarded. This is a point this study returns to when embracing the utility rate approach, after having considered the relevant components of efficiency, both in theory and practice.

4.4 Conclusion

The increasing availability of comparable trade data across GSP beneficiaries has prompted an expansion in studies that estimate GSP efficiency, evaluating whether changes in GSP regulations benefit beneficiary countries. This chapter examined the efficiency of the EU GSP scheme through descriptive efficiency indicators commonly used in the literature. However, it challenges the prevailing notion of GSP efficiency solely hinging on the utilisation rate. Instead, it emphasises that procedural elements, such as GSP coverage, exclusion and graduation criteria, and Rules of Origin, play equally significant roles. This chapter synthesised the existing indicators by considering the utility rate as a composite parameter derived from the utilisation rate and the coverage rate, offering a comprehensive view of GSP efficiency.

Contrary to existing studies that predominantly focus GSP efficiency on preference utilisation, this study diverges by challenging the idea. It suggests that absolute "efficiency responsibilities" cannot be placed solely on GSP beneficiaries via utilisation. Examining GSP coverage reveals intricate patterns where countries with varying coverage rates exhibit divergent utilisation rates, exploring the direct correlation between coverage and utilisation. Despite utilisation rates averaging between 50% - 65% annually across beneficiaries, the EU GSP scheme has proven inefficient between 2010 and 2020, with yearly average utility rates fluctuating between19% - 27% (see Table 4.2). These findings challenge existing narratives portraying the EU GSP scheme as efficient primarily due to high utilisation rates, highlighting the deficiencies of such a perspective.

Table 4.2 Comparing Efficiency Perspectives

Efficiency Indicator	Yr2010	Yr2011	Yr2012	Yr2013	Yr2014	Yr2015	Yr2016	Yr2017	Yr2018	Yr2019	Yr2020
Utilisation rate	**48.97**	**53.63**	**49.62**	**53.59**	**64.41**	**59.61**	**59.17**	**63.44**	**61.12**	**59.24**	**56.51**
Coverage rate	**29.24**	**28.08**	**28.95**	**30.44**	**30.74**	**32.96**	**35.11**	**33.63**	**33.80**	**32.44**	**30.64**
Utility Rate	**19.86**	**21.70**	**21.31**	**23.71**	**23.16**	**24.18**	**24.83**	**26.25**	**27.03**	**25.12**	**23.88**

The evolution of the GSP scheme demonstrates a trend of narrowing coverage and stipulating stringent graduation criteria with successive reforms. Such changes significantly affected exports that could have otherwise benefitted from the GSP treatment and must be captured in efficiency estimates across beneficiary countries' economies. This thesis takes a comprehensive approach to measuring efficiency, considering crucial factors embedded in the EU GSP. These factors, including graduation criteria, eligibility criteria, and Rules of Origin, hold substantial influence over GSP coverage. Remarkably, such indicators have often been overlooked in existing literature (Nilsson 2011; Davies and Nilsson 2013; Cirera 2014). By addressing these critical but ignored elements, this study contributes significantly to the literature, enhancing the assessment of GSP efficiency.

Moreover, this study brings into focus the impact of GSP policy on trade negotiations, suggesting that GSP modifications are geared toward advancing the EU's trade agenda rather than serving as an effective development instrument. The deliberate inclusion and exclusion of certain countries within the GSP framework point toward the EU's strategic manoeuvres in reciprocal trade negotiations, possibly at the expense of GSP efficiency. In essence, this research stresses the need for a consistent development policy underlying the GSP scheme to achieve the intended promises, emphasizing the importance of aligning GSP objectives with development goals rather than commercial interests.

Chapter 5 Evaluating GSP Effectiveness through Poverty Reduction - Data, Methodology and Results

5.1 Introduction

This chapter analyses the effectiveness of the EU GSP scheme through its contribution to poverty reduction in beneficiary countries. The indicator most used to measure the performance of the GSP, the rate of utilisation (GSP imports/GSP-eligible imports), does not provide sufficient information to determine its overall performance, let alone how it affects poverty, the goal of all EU development policy instruments, including trade policy.

Related literature, which went beyond the utilisation rate, has either focused on sector-level analysis or considered a single-country perspective. For instance, Sarvananthan and Sanjeewanie (2008) examine whether the application of GSP+ has contributed to poverty reduction in Sri Lanka between2002 to 2007. The study is sector-specific, involving objective analysis based on primary and secondary data and subjective value judgments of middle and lower-strata employees working in the apparel factories. The policy paper of Freres and Mold (2004) illustrates two case studies of Bolivia and Costa Rica, an analysis that can be described as comparing trade figures with poverty figures without an attempt on causal analysis. Gnangnon (2023) examines the utilisation of non-reciprocal (or unilateral) trade preferences (NRTPs) provided by QUAD countries (United States, Japan and Australia) on poverty in recipient countries. It uses a panel dataset of 77 beneficiaries of NRTPs for 2002–2019 and considers two main blocks of NRTPs, namely 'Generalised System of Preferences' (GSP) programs and 'other trade preferences programs. Hout (2016) highlights various issues in the light of their relationship to poverty and focuses on proposals to enhance the effectiveness of European Commission development assistance in terms of poverty reduction.

In addition to the consideration that poverty reduction is a component of GSP effectiveness, this study filled the gap by capturing all EU GSP beneficiary countries at a country-product level. Also, the broader trade-poverty literature has been narrowed to showcase only the direct effect without considering the possibility that the gains of trade can be mediated by other factors. This thesis filled this gap, leading us to develop a conceptual framework to examine the indirect relationship between GSP and poverty.

It is worth noting that GSP trade is measured at the country level, based on firm-level activities. In contrast, poverty occurs primarily at the household level. Understanding this difference led to hypothesising that the gains/losses of GSP trade might indirectly affect households through various channels that contribute to welfare. This informed the empirical approach, where mediating variables are identified to bridge the gap between GSP trade and poverty reduction. The first step involves a model without mediation, using the Fixed

Effect model, but the estimation shows a non-significant coefficient for GSP trade. This outcome supports the hypothesis that the effect of GSP exports on poverty might be mediated through other factors. This provides insights into the underlying mechanisms or processes through which GSP trade influences poverty.

5.2 Empirical Strategy

This study is related to the non-linear regression analysis in Le Goff and Singh (2014) which examined the impacts of trade openness on poverty in Africa. Le Goff and Singh's study adopted a broader approach than McCaig (2011) and Brambilla et al. (2012), using trade and poverty data at the country level for 30 African countries between 1981 – 2010. The authors aimed to analyse the effect of countries' trade regimes on the intensity of poverty, and the extent to which this is influenced by domestic complementary policies such as the financial system, governance quality and the functioning of the education system.

Le Goff and Singh (2014) find that, while trade openness increases poverty levels in some countries, the impacts are reversed in countries with quality education, an efficient financial system, and better institutional frameworks. As noted, the complementary policies are not only poverty-reducing but also help to transmit the gains of trade to the poor. Education, for instance, brings about the skills required in the expanding sectors; an efficient financial system simplifies access to credit and aids business expansion to a level where exporters can explore existing opportunities in the foreign market. These findings particularly emphasise the poverty-reducing impact of trade, especially within the right policy environment.

Given the focus to examine the effects of unilateral market access to the EU, and not on reciprocal trade policies, this study varies slightly from Le Goff and Singh (2014). In this case, this study examines how poverty levels, in GSP beneficiary countries, vary in response to changes in GSP export performance. Also, this study utilises a large dataset comprising 75 GSP beneficiary countries over the period 2010 – 2020. Our estimation improves on that of Le Goff and Singh (2014) in which data are averaged over five-year periods, reducing the initial 431 observations to only 64 observations.

5.2.1 Measurement of Poverty Rates

To measure the depth and extent of poverty, this study adopts the poverty gap. Jaiyeola and Bayat (2020) define the poverty gap as the ratio by which the mean income falls below the poverty line, with the poverty

line being half the median household income of the overall population. This indicator refines the poverty rate by looking at household per capita income and consumption (and the non-poor having a zero-poverty gap).

The household surveys, which are an important source of poverty measures, are undertaken for only a few years in the identified GSP beneficiary countries. As a result, this study obtain data from the World Bank's PovcalNet tool through which country-specific estimates are obtained from 2010 to 2020. This ensures that this study use frequently available poverty measures. However, it is important to point out that for country and/or year combinations where household surveys are not available, poverty measures are interpolated by the World Bank.

5.2.2 Analytical Method

To isolate the poverty effect of GSP exports from other influences that may relate precisely to poverty outcomes and to GSP exports, this study adopts some control variables, including the openness of GSP beneficiaries to foreign products, which can particularly affect the international competitiveness of GSP exports via the prices of imported intermediates. The increasing trends of globalisation in production processes have meant that country-specific trade policies are substantially crucial and may therefore affect the export performance of domestic businesses. While export outcomes are much enhanced within open trade policies, competition becomes heightened in the domestic market because of imported products, thereby displacing domestic production in some sectors. If affected products are produced mostly by the poor, import competition could widen poverty rates, at least in the short run. This study control for this eventuality by including total imports (as % of GDP) in our model for each GSP beneficiary and year.

Similar to Le Goff and Singh (2014), this study controls the legal environment, macroeconomic stability, and access to financial credit. The influence of legal structure, for instance, is measured using the Rule of Law index, from the World Bank Worldwide Governance indicators. This is described as; the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. The estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution - ranging from approximately -2.5 to 2.5 with a higher estimate seeing as indicating better perceptions. Data is available for the period considered in this study between 2010 – 2020. Furthermore, this study adopts the Consumer Price Index to control for macroeconomic stability; access to financial credit is indicated by

domestic credit to the private sector (% of GDP). Finally, this study includes GDP in our model to control for variations in the economic size of GSP beneficiary countries.

Despite controlling for several influences which may affect poverty directly and impact the potential export participation, our analysis may still be predisposed to biasedness by unobserved country-specific factors, which are either difficult to measure or cannot be captured in our model. This study corrects for this by estimating the model using fixed effects estimation which control for time-invariant factors at the country level. It is important to acknowledge the data source and its inherent limitations. In addition, The PovcalNet data utilised in this analysis is derived from national surveys, which are periodically conducted to measure poverty levels. However, these surveys do not cover every year for each country, necessitating the use of interpolations to estimate poverty measures in years where direct data is unavailable. This interpolation process, while necessary, introduces a mechanical structure to the dataset that can potentially lead to unreliable estimates due to the assumptions and methods used in the interpolation process.

Given these limitations, the choice of an appropriate estimation method is crucial to ensure the validity and reliability of the results. Fixed Effects (FE) estimation is particularly suitable for this study for several reasons. For instance, the FE estimator effectively controls for time-invariant characteristics of the countries in the panel, such as geographic factors, historical institutions, and cultural aspects, which could otherwise bias the results. By differencing out these unobserved, constant factors, FE helps to isolate the impact of time-varying variables, providing more accurate estimates of the relationships of interest. Furthermore, the FE model is robust in the face of omitted variable bias arising from unobserved heterogeneity. In this context, where the data may have mechanical interpolation-induced biases, the FE approach mitigates the impact of these biases by focusing on within-country variations over time rather than cross-sectional differences, which might be more prone to such biases.

The Fixed Effects (FE) estimation method employed in this study is a robust strategy to mitigate potential endogeneity issues that could arise in assessing the impact of the GSP participation on poverty reduction across beneficiary countries. Endogeneity concerns commonly stem from omitted variables that are correlated with both the explanatory variables and the error term, thereby biasing estimators and undermining the reliability of findings (Wooldridge 2015).

In this thesis, the FE model is particularly adopted due to its ability to control for unobserved heterogeneity at the country level. By differencing out country-specific time-invariant factors (α_i), the FE estimator effectively removes biases arising from omitted variables that do not vary over time but may influence both GSP expenditure and poverty levels. This approach ensures that the estimated effects of GSP on poverty reduction are not confounded by such unobserved factors, enhancing the internal validity of the analysis (Greene 2008). The inclusion of time-varying covariates, such as GDP (lngdp), inflation rate (lncpi), imports (lnimp), rule of law (rol), and access to finance (lnfin), further improves the FE model by capturing dynamic influences on poverty levels. These variables are essential in controlling for contemporaneous economic and institutional factors that may simultaneously affect both GSP export decisions and poverty outcomes in beneficiary countries. By incorporating these covariates, the analysis not only addresses potential sources of endogeneity but also provides a robust understanding of the contextual factors shaping the impact of trade preferences on poverty reduction.

Moreover, the robustness of the FE model is substantiated by statistical tests conducted within the regression framework. The Hausman test, for instance, confirms the appropriateness of FE over Random Effects (RE) estimation, validating the assumption that country-specific effects are correlated with the regressors but uncorrelated with the error term. This pivotal test underscores the methodological rigor applied in controlling for endogeneity concerns through the FE approach, affirming the reliability of the estimated coefficients and their interpretation (Angrist and Pischke 2008).

The introduction of interaction terms in the extended FE model enhances the analytical framework by exploring potential moderating effects of institutional quality and economic development on the relationship between GSP exports and poverty reduction. These analytical approaches not only enrich the understanding of causal mechanisms but also contributes to policy recommendations aimed at optimizing the impact of international trade on developmental outcomes. More importantly, the inclusion of year fixed effects in the extended model further accounts for time-specific shocks or trends that may affect all countries uniformly, thereby isolating within-country variations in poverty levels over time. This temporal dimension adds another layer of control for potential endogeneity arising from global economic fluctuations or policy changes that could confound the estimated effects of GSP on poverty reduction.

This estimation method provides a robust framework for addressing endogeneity concerns and producing reliable estimates of the impact of the EU GSP scheme on poverty reduction in beneficiary countries. By

controlling for unobserved heterogeneity, incorporating relevant time-varying covariates, conducting rigorous statistical tests, and exploring interaction effects, this study contributes methodologically rigorous findings to the literature on trade preferences and development outcomes.

This study, therefore, use the following baseline model:

$$Pov_{xt} = \boldsymbol{\alpha_1^*} GSPexp_{x,t} + \beta_2^* Imp_{x,t} + \gamma_x + \vartheta_t + \varepsilon_p^* \quad 5.1$$

Where the poverty level in country x at time t is regressed on GSP export flows, import flows into the beneficiary countries and a vector of control variables like GDP, inflation, the rule of law and access to credit. Aside Rule of law and GSP export, all other variables are stated in logarithm form to allow coefficients to be interpreted as elasticities.

Our primary hypothesis is to see the effect of GSP trade on Poverty, and whether the effect can be mediated by changes in the mediating variables. In full mediation, the effect is mediated by the mediators. That is, the existence of the mediators would mean that the pathway connecting GSP trade to poverty is completely broken such that GSP trade has no direct effect on poverty. However, partial mediation has been found to occur in some cases where the mediators only mediate part of the effects of the explanatory variable on the outcome. If this holds in our case, GSP trade may have some residual direct effect even after introducing the mediators into our model.

If this study accepts the null hypothesis ($H_0: \alpha_1^* = 0$) for equation 5.1, then GSP trade and poverty are not directly related. The suggestion of Baron and Kenny (1986) is that mediation is unnecessary if there is no significant relationship between the dependent and the independent variables. One this weakness of this approach is that there is a consensus among methodologists that Baron and Kenny's proposed first step—to verify that there is a statistically significant relation between X and Y—may be ill-advised (MacKinnon and Fairchild, 2009; MacKinnon et al, 2002; Shrout and Bolger, 2002). In some instances, such as when power is relatively low or there is statistical suppression, the data would fail this first test, yet would correctly support the hypothesis of mediation using other approaches. This is why Shrout and Bolger (2002) argue that a good theoretical background regarding the relationship is a sufficient basis to proceed to the next step of the mediation analysis. this study, therefore, continue to evaluate our mediation model using the Structural Equation Model. Full mediation (that is, GSP trade has no direct effect on poverty) specifically mirrors the

null hypothesis $H_0: \alpha_1^* = 0$. In the case the null hypothesis is rejected, it becomes of interest to examine for partial mediation via the direct effect, indirect and total effects.

5.2.2.1 Mediation Model of GSP-Poverty Nexus

The baseline model provides the estimates of the GSP export-poverty nexus, with relevant extensions to account for existing complementary policies. However, the mechanism underlying the observed effect of GSP trade on poverty requires the inclusion of mediator variables. Rather than a direct causal relationship presented in the existing static analysis, this study draws on a mediating model that reveals the influences of GSP exports on mediator variables, which in turn could influence poverty outcomes.

The seminal work of Bollen (1987) proposed the multiple mediator models and established them by using SEM. Existing research has therefore focused on the clarification of the total effect and indirect effect in the estimation of the mediating effect. Brown (1997) has attempted to classify the effects in the multiple mediator models into the total effect, direct effect, total indirect effect, and individual indirect effect.

Baron and Kenny (1986) address the mediation process using a set of regression equations. However, there is an assumption of causality and transient ordering of the mediator, explanatory, and dependent variables. Given that variables can be both causes and effects in a causal relationship, the standard regression model involves a priori assignment of each variable as either cause or effect. Meanwhile, SEM equations model both the causal relationships between endogenous and exogenous variables, and the causal relationships among endogenous variables. This offers a more appropriate framework as it tests complex mediation models in a single analysis, especially extending a mediation process to multiple mediators. This is one shortcoming of the standard regression model which relies on combining the results of two or more equations for the derivation of asymptotic variance. The "regression" method is particularly problematic when there are missing observations in the regression equations. The ease at which the SEM extends to panel data based on a single framework makes it suitable for our GSP – Poverty nexus, allowing for clear hypothesis articulation.

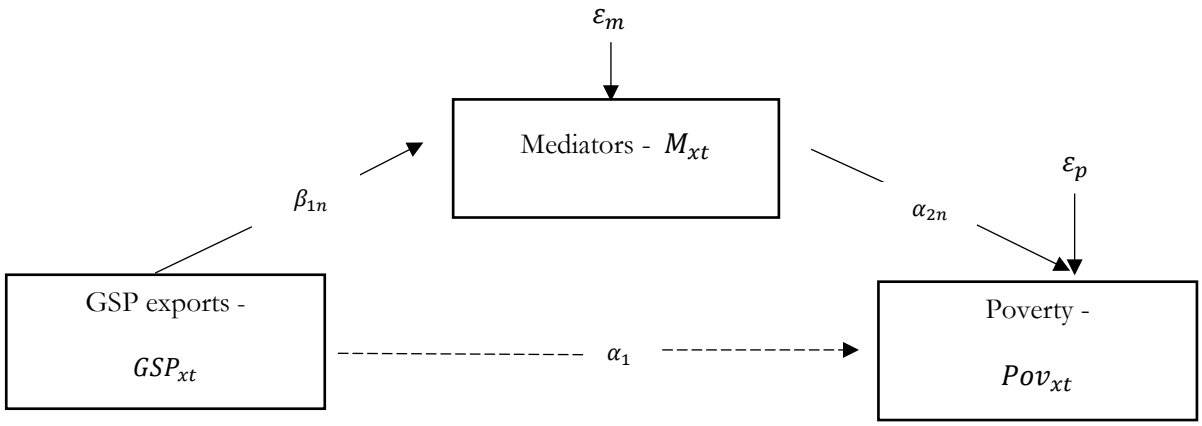
Bollen and Pearl (2013) report different results in mediation analysis involving a regression approach and SEM even when the same equation is used. This is because they are based on completely different assumptions; while the standard regression analysis infers a statistical association based on a conditional expectation, the SEM suggests a functional relationship via a conceptual framework, mathematical equations,

and path diagram. Thus, the causality in a mediation process, the simultaneous occurrence of the direct and indirect effects, and the double role (of the mediator) as being a cause for the outcome and an effect of the intervention are more suitably presented using Structural Equations than using regression analysis.

5.2.2.1.1 SEM for Mediation Analysis

Figure 5.1 shows a path diagram for the causal relationship between GSP trade, Poverty, and the mediator variables. This study defines our endogenous variables as those affected by other variables - each of the mediators and poverty, while our exogenous variable(s) are those that only convey an effect on other variables without being affected by other variables – GSP trade. This study has used rectangles to represent the variables as they are all observed.

Figure 5.1 Pathway of a Mediation Process for GSP-Poverty nexus



Source: Author's construction

The SEM for our mediation model for country x at time t is given below.

$$M_{xt} = \beta_0 + \beta_{1n} GSPexp_{xt} + \beta_2 Imp_{xt} + \beta_3 CPI_{xt} + \gamma_x + \vartheta_t + \varepsilon_m \quad 5.2$$

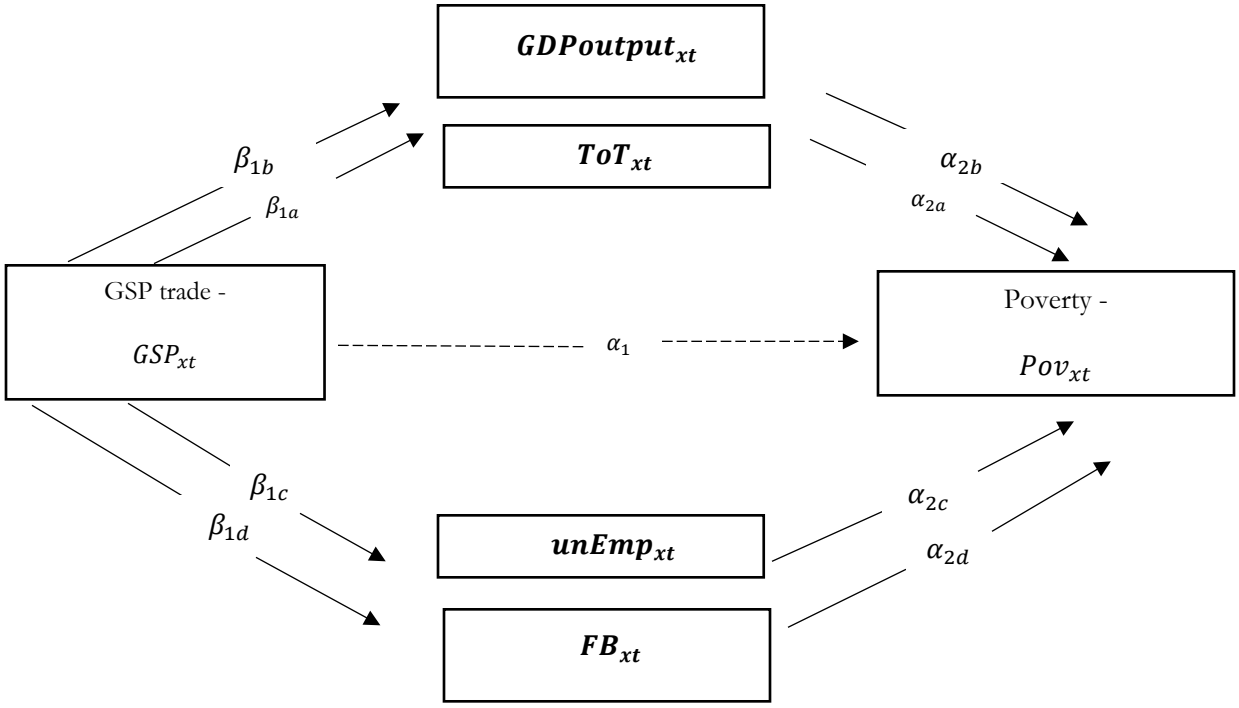
$$Pov_{x,t} = \alpha_0 Pov_{x,t-1} + \boldsymbol{\alpha_1} GSPexp_{xt} + \boldsymbol{\alpha_{2n}} M_{xt} + \varepsilon_p \quad 5.3$$

The mediator variables M_{xt} (Terms of Trade, Output GDP, Employment and Fiscal Balance) are the mediators in our analysis. Terms of trade index is calculated as the percentage ratio of the export unit value indexes to the import unit value indexes, measured relative to the base year 2015. Terms of trade specifically

measure the ratio of export prices to import prices. In the scenario of generous GSP provisions, where beneficiary countries enjoy preferential trade treatment (often leading to increased demand for their products), the terms of trade directly reflect changes in the prices of exported goods. As demand rises due to GSP benefits, export prices also experience changes, impacting the terms of trade. Using terms of trade as an indicator allows for a comprehensive assessment of the impact of GSP provisions on a beneficiary country's export prices. Also, an effective GSP scheme, by increasing demand in the donor market for beneficiary country products, could spur domestic industries to enhance production. Output GDP, calculated using the production approach, involves summing the value added at each stage of production. This method involves adding up the value of all final goods and services produced in various sectors of the economy, excluding intermediate goods to prevent double counting. Output GDP provides a comprehensive measure of an economy's productive activity, indicating increased productivity resulting from meeting the heightened demand created by GSP benefits. Theoretically, an effective GSP leads to increased domestic production, causing industries experiencing growth to require more labour or increased wages. As businesses expand to meet heightened demand in the donor market, they are inclined to hire more workers, potentially reducing the unemployment rate. This study adopts Unemployment, total (% of the total labour force), being the share of the labour force that is without work but available for and seeking employment. Fiscal balance measures the difference between a government's total revenue and total expenditure during a specific period. GSP schemes that stimulate exports and economic growth can lead to higher tax revenues from increased business activity, trade, and possibly higher employment levels. This could potentially result in a more favourable fiscal balance by boosting revenue streams for the government.

The preceding variables mediate the relationship between GSP trade and poverty outcomes. The effects of multiple mediator variables can be tested individually and simultaneously in equation 5.3. However, simultaneous testing offers the potential to establish whether the mediators exhibit some form of collinearity. It is therefore important to ascertain non-collinearity between the mediators, otherwise, the mediators are tested individually. The simultaneous testing of our mediation model would mean that equation 5.3 is extended to reflect all the mediating variables as shown in Figure 5.2 below.

Figure 5.2 Extended Pathway of a Mediation Process – GSP-Poverty Nexus



Source Author's Construction

Equation 5.3 is therefore extended to reflect the simultaneous occurrence of the channel variables.

$$Pov_{x,t} = \alpha_0 Pov_{x,t-1} + \boldsymbol{\alpha_1} GSPexp_{xt} + \boldsymbol{\alpha_{2a}} TOT_{xt} + \alpha_{2b} GDPoutput_{xt} + \alpha_{2c} unEmp_{xt} + \alpha_{2d} FB_{xt} + \varepsilon_p \quad 5.4$$

In any case, this study test equation 5.2 simultaneously, within our Structural Model, with each mediator acting as a regressor on GSP trade. Our extended model is stated below:

$$TOT_{xt} = \beta_{0a} + \beta_{1a} GSPexp_{xt} + \varepsilon_{m1} \quad 5.5$$

$$GDPoutput_{xt} = \beta_{0b} + \beta_{1b} GSPexp_{xt} + \varepsilon_{m2} \quad 5.6$$

$$unEmp_{xt} = \beta_{0c} + \beta_{1c} GSPexp_{xt} + \varepsilon_{m3} \quad 5.7$$

$$FB_{xt} = \beta_{0d} + \beta_{1d} GSPexp_{xt} + \varepsilon_{m4} \quad 5.8$$

Importantly, in equation 5.4, the mediators M_{xt} has been replaced by each mediator variable (Terms of trade, Output GDP, Employment and Fiscal Balance). This way, the mediator coefficient α_{2n} is split into $\alpha_{2a} - \alpha_{2d}$. This approach for examining the effects of multiple mediators, proposed by Bollen (1987), directly extends the single mediator model.

This study assumes that the error terms ($\varepsilon_p, \varepsilon_m$) are uncorrelated. This is crucial for causal inference while estimating the mediation model (Imai et al. 2010; Bollen and Pearl 2013). As a necessary condition for the direct, indirect, and total effects of GSP on poverty, this study assume multivariate normality for the error terms. More importantly, our structural equations (5.4 and 5.5 – 5.8) are linked, enabling us to make simultaneous inferences, unlike a case where standard regression equations are independent.

5.2.2.1.2 Mediation Analysis Steps

In equation 5.1, this study examines whether the coefficient $\boldsymbol{\alpha_1^*}$ of GSP export is greater than zero given this study are interested in GSP exports affecting poverty. The next step involves examining the outlook of GSP export coefficients $(\boldsymbol{\beta_{1a} - \beta_{1d}})$ in the mediation equations 5.5 – 5.8. In this case, this study is interested in GSP exports causing each of the mediators. If GSP exports and each of the mediators have no significant relationship, the mediator M_{xt} is taken as just a third variable that may or may not be associated with poverty. A mediation becomes necessary if GSP exports affect any of the mediators. The last step of the mediation analysis asks if the coefficient $\boldsymbol{\alpha_1}$ of GSP exports have become non-significant or smaller than in the preceding equations. In equation 4.4, this study is interested in each of the mediator variables significantly affecting poverty outcomes, but GSP exports no longer affect poverty significantly (or GSP exports still affect poverty but in a smaller magnitude).

If a mediation effect exists, then the effect of GSP on poverty will disappear in equation 5.3 (or at least weaken) when the mediators are included in the regression. In this case, the effect of GSP exports on poverty goes through the mediators. In effect, if the GSP effect on poverty completely disappears, then M_{xt} fully mediate between GSP exports and poverty (full mediation). If the effect of GSP on poverty still exists but in a smaller magnitude, then M_{xt} partially mediates between GSP and poverty (partial mediation).

The direct effect is the pathway from the exogenous variable to the outcome variable while controlling for the mediator. Thus, the direct effect of GSP trade on poverty is estimated by the coefficient α_1 in equation 5.3. The computation of our indirect effect is however not straightforward, given that such effect is split into four paths. This indicates the pathway from the exogenous variable to the outcome through the mediator. For instance, the indirect effect through "Terms of Trade" is estimated by the product of the coefficient for "GSP to ToT" (β_{1a}) and "ToT to Pov" (α_{2a}), indicated as $\beta_{1a}\alpha_{2a}$. Likewise, the indirect effect through productivity (GDP output) is estimated by the product of the coefficient for "GSP to GDP output" (β_{1b}) and the

coefficient for "GDP output to Pov"(α_{2b}), indicated as $\beta_{1b}\alpha_{2b}$. The same approach (product of path coefficients) applies to the remaining mediating variables. In this case, the overall indirect effect is specified as the sum of the indirect effect for each mediator:

$$\text{Indirect effect} = \beta_{1a}\alpha_{2a} + \beta_{1b}\alpha_{2b} + \beta_{1c}\alpha_{2c} + \beta_{1d}\alpha_{2d} \quad 5.9$$

The total effect is defined as the sum of the direct effect and the indirect effect.

$$\text{Total effect} = \alpha_1 + (\beta_{1a}\alpha_{2a} + \beta_{1b}\alpha_{2b} + \beta_{1c}\alpha_{2c} + \beta_{1d}\alpha_{2d}) \quad 5.10$$

Finally, this study uses the bootstrap approach when estimating the indirect effects because it offers more accuracy for the standard error and confidence intervals. Specifically, use the percentile or bias-corrected intervals given that they reflect the asymmetry in the indirect effect sampling distribution.

5.3 Data Description and Parameter Estimates

Our sample covers 62 GSP beneficiaries (GSP, GSP+ and EBA) over the period 2010 – 2020, with annual data available for the majority of the countries included (appendix 5.5 Table shows the list of GSP beneficiaries). This study does not cover the entire 75 GSP countries because, for certain countries, data are scanty and not available for some years. Such countries, numbering 13, are dropped from our sample. This study also drop other variables (like education) for which data are prevalently unavailable across the years considered. Thus, our data analysis reports some form of attrition due to missing values across countries and variable(s). Table 5.1 below Clarifies the sample and variables, providing a list of all variables, a clear definition, unit of measurement and the source.

Table 5.1 Description of Variables

Indicator	Variable	Level of data	Description	Source
Intensity of Poverty	Poverty Gap	Country Level	The mean shortfall in income or consumption from the poverty line of $1.90 a day expressed as a percentage of the poverty line. This measure reflects the depth of poverty as well as its incidence.	World Bank, Poverty and Inequality Platform. Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments
Exports	GSP exports	Country Level	Exports from beneficiary countries via GSP eligibility, and tariff regimes MFN $\neq 0$; GSP ≥ 0.	Eurostat, the statistical office of the European Union
Aggregate Import	Imports of goods and services (% of GDP)	Country Level	Represents the value of all goods and other market services received from the rest of the world	World Bank national accounts data, and OECD National Accounts data files.
Economic Size	Gross Domestic Products	Country Level	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in constant 2015 prices, expressed in U.S. dollars. Dollar figures for GDP are converted from domestic currencies using 2015 official exchange rates.	World Bank national accounts data, and OECD National Accounts
Macroeconomic Stability	Consumer Price Index	Country Level	Consumer price index reflects changes in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly.	International Monetary Fund, International Financial Statistics and data files.
Legal Structure	Rule of Law index	Country Level	This is described as; the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.	World Bank Worldwide Governance indicators
Access to finance	Domestic credit to the private sector (% of GDP)	Country Level	Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment.	International Monetary Fund, International Financial Statistics and data files, and World Bank and OECD GDP estimates

Government pathway to poverty reduction	Fiscal balance, percent of GDP	Country Level	The fiscal (budget) balance is the difference between government revenue and government expenditure. This study expresses the value as percent of GDP to relate it to the size of the economy.	The Global Economy
Price dynamics/ market adjustment pathway to poverty reduction	Terms of trade adjustment (constant LCU)	Country Level	The terms of trade effect equal capacity to import less exports of goods and services in constant prices. Data are in constant local currency.	World Bank national accounts data, and OECD National Accounts data files.
Labour market pathway to poverty reduction	Unemployment, total (% of total labour force) (modelled ILO estimate)	Country Level	Unemployment refers to the share of the labour force that is without work but available for and seeking employment.	International Labour Organization, ILOSTAT database

Source: Author's construction

The summary statistics for our sample are presented in Table 5.2. Essentially, the average poverty gap index, i.e. the mean shortfall in income or consumption from the poverty line of $1.90 a day, is 10%. This, however, varies widely across individual countries and times. In 2010 for instance, the average poverty rate was 12%, higher than the 9.5% figure in 2019. The variation in average poverty rate is also noticeable across individual countries; a case in point is Congo DR reporting 33.6% of the population living below the poverty line in 2019, as against 49.5% in 2010. For a country like Mongolia, however, only 3% of the population lived below the poverty line in 2019. The intensity of changes in GSP participation varies significantly, with the average change being 50% across effective beneficiaries, this ranges from a 300% change in Samoa in 2010 to -27% in Bangladesh in 2020.

The mean poverty gap index of 10.317 suggests a significant depth of poverty, highlighting the substantial disparity between the poverty line and the resources available to those below it. With a GSP export mean of around 0.489, it appears that nearly half of the exports benefit from preferential trade treatment, potentially influencing economic growth. The consumer price index's higher mean of 143.193 indicates elevated living costs, impacting households' purchasing power. Access to finance, reflected in a mean of 28.01, signals relatively accessible financial resources, likely facilitating economic activities. The staggering GDP output

mean of 9.062e + 10 underlines a substantial economic production scale, while a high import as a percentage of mean GDP (42.747) underscores considerable reliance on imported goods and services. The mean rule of law of -0.674 suggests potential challenges in legal frameworks or governance structures. These statistics collectively signify a landscape marked by deep-seated poverty, a significant economic scale, reliance on imports, elevated living costs, and potential governance challenges. Further exploration and analysis of their interrelationships are crucial to understanding their implications for poverty alleviation.

Table 5.2 – Summary Statistics GSP-Poverty Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Pov	596	10.317	10.868	.028	49.473
GSPexp	682	.489	3.38	-1	55.118
CPI	639	143.193	145.939	100	3364.82
Fin	634	28.01	22.846	3.724	147.673
GDP output	677	9.062e+10	2.963e+11	3.025e+08	2.696e+12
Imp	668	42.747	22.77	.349	191.458
RoL	682	-.674	.542	-1.817	1.079

Source: Author's construction based on World Bank data

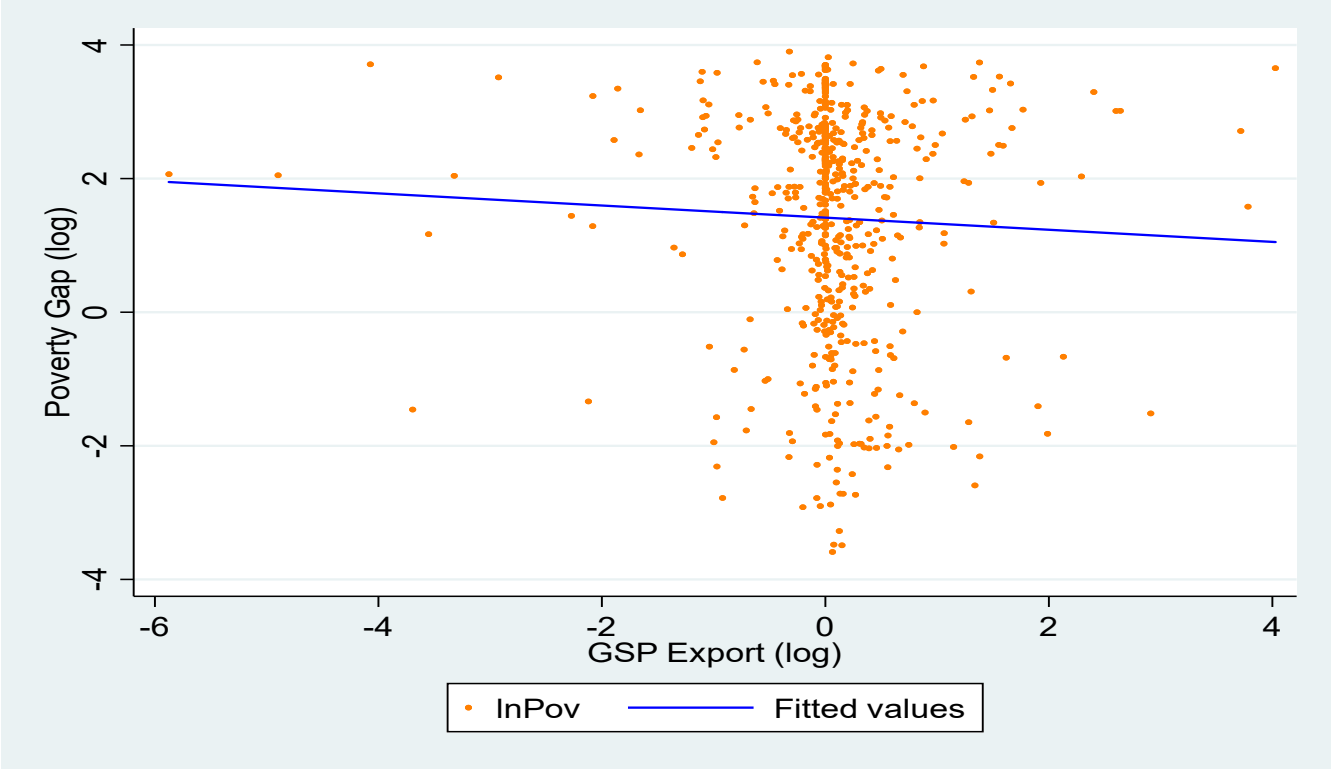
Table 5.3 displays the correlation between the main variables. The columns of interest are mostly the first and third. The first column shows the unconditional association between the explanatory variables and poverty, while the third one contains the correlation of GSP trade with the other explanatory variables. Specifically, simple correlations suggest that all of the explanatory variables associate negatively with poverty, say for the lagged poverty variable. The largest correlations appear to be in the "Access to Finance" variable. In any case, these correlations show that GSP trade is positively related to access to finance, output GDP, Imports as % of GDP, and Rule of Law. In turn, an increase in each of these would result in poverty reduction. Our measure of macroeconomic stability – the Consumer Price Index (CPI) is, however, negatively associated with both GSP trade and poverty (see Thelle et al. 2015).

Table 5.3 Correlation Matrix GSP-Poverty Variables.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) lnPov	1.000							
(2) lagPov	0.793	1.000						
(3) GSPexp	-0.042	-0.013	1.000					
(4) lnCPI	-0.046	-0.053	-0.036	1.000				
(5) lnFin	-0.597	-0.481	0.016	-0.103	1.000			
(6) lnGDPoutput	-0.040	-0.117	0.016	0.267	0.082	1.000		
(7) lnImp	-0.142	-0.038	0.018	-0.518	0.271	-0.447	1.000	
(8) lnRoL	-0.424	-0.472	0.039	-0.045	0.589	-0.056	0.167	1.000

This study presents a preliminary indication of the export-poverty nexus in Figure 5.3 below. This linear prediction shows the export-poverty nexus across the whole sample. The clustered appearance of scatter plots in a vertical way, coupled with a downward-sloping line of fit, suggests a relationship that is slightly negative or inversely related between poverty and GSP exports, albeit with a weak correlation. The phenomenon of clustered data points in a vertical manner implies that, as GSP exports increase, the distribution of poverty rates remains relatively consistent, with fluctuations across different levels of GSP exports. The downward slope of the line of fit indicates that, on average, there is a slight decrease in poverty rates with an increase in GSP exports. However, the closeness of the line to being horizontal suggests that the relationship is not strongly negative. Other factors beyond GSP exports likely contribute significantly to poverty rates, leading to the clustering of data points rather than a clear linear trend. Among other factors, this pattern can be attributed to poverty and is often influenced by a multitude of factors such as access to finance, Rule of law, and governance structure, which might not be fully captured solely by changes in GSP exports. This study, therefore, examines this interaction further by accounting for other factors and in light of a possible reverse causality.

Figure 5.3 Scatter Plots - Poverty and GSP Exports



5.3.1 Parameter Estimates – Fixed Effect Estimation

This section presents the results of the Fixed Effect estimation technique based on the baseline Equation 5.1 is the baseline model for this study and a pre-condition for estimating the mediation model. This study account for different country-specific factors using the FE estimation.

In addition to the correlation matrix in Table 5.3, this study measures the possibility of multicollinearity in the model using the Variance Inflation Factor (VIF). The mean VIF of 1.5 and maximum of 1.84 across all variables suggest the non-existence of multicollinearity in our model. This study check for first and second-order autocorrelation using the Arellano-Bond test, and the P-value of both AR (1) and AR (2) models suggest no autocorrelation in the model.

Table 5.4 Fixed Effect Estimation – GSP-Poverty Nexus

Dependent variable: Poverty Gap	(1)	(2)
GSP Exports	0.001	0.007***
	(0.001)	(0.003)
Inflation (CPI)	0.037	0.055
	(0.032)	(0.044)
Imports/GDP	-0.023	-0.015
	(0.021)	(0.021)
Rule of Law	0.024	-0.016
	(0.043)	(0.052)
Access to Finance	-0.048	-0.014
	(0.034)	(0.048)
Economic Size (GDP)	-1.908***	-1.984***
	(0.266)	(0.305)
GSP Exports*Access to Finance		-0.0317
		(0.0298)
GSP Exports*Rule of Law		0.0532*
		(0.0299)
GSP Exports*Economic Size		0.08111
		(0.1458)
Constants	2.088***	1.964***
	(0.3)	(0.358)
N	479	479
Prob > F	0.0000	0.0000

Notes: *p < .10, ** p < 0.05; *** p < 0.01; robust standard errors in parentheses.

Table 5.4 presents the Fixed Effects (FE) estimation results examining the impact of the EU GSP on the poverty gap in beneficiary countries. Two models are estimated - the first model (1) includes the main variables of interest, while the second model extends the analysis by incorporating interaction terms between GSP exports and other key variables.

5.3.1.1 Model 1 - Baseline Analysis

The estimation results reveal that variables with negative coefficients contribute to a reduction in poverty levels in the beneficiary countries, indicating their effectiveness in alleviating poverty. Conversely, variables with positive coefficients are associated with an increase in poverty levels, suggesting they exacerbate the poverty situation in the countries under study. This distinction is crucial for understanding the direction and magnitude of each variable's impact on poverty.

In the first model, the coefficient of GSP exports is positive (0.001) but not statistically significant, suggesting that GSP exports alone do not have a discernible impact on the poverty gap. This indicates that the mere presence of GSP preferences may not be sufficient to affect poverty levels significantly, highlighting the potential need for complementary factors or mechanisms to translate trade preferences into poverty reduction. The coefficient for inflation, measured by the Consumer Price Index (CPI), is positive (0.037) but also not statistically significant. This suggests that inflation does not have a strong direct effect on the poverty level in the beneficiary countries. Similarly, the imports-to-GDP ratio shows a negative but insignificant coefficient (-0.023), implying that the level of imports relative to GDP does not significantly influence the poverty gap. The Rule of Law variable also exhibits a positive but statistically insignificant coefficient (0.024), indicating that improvements in the legal and institutional framework alone may not directly reduce the poverty gap. Access to finance shows a negative coefficient (-0.048), though it is not statistically significant, suggesting that increased financial access does not have a significant direct impact on poverty levels in this sample.

Conversely, the coefficient for economic size, measured by the logarithm of GDP, is highly significant and negative (-1.908***), indicating that larger economies tend to witness lower poverty level. This highlights the importance of overall economic development in addressing poverty, consistent with the broader economic literature.

5.3.1.2 Model 2 - Interaction Effects

The second model (2) introduces interaction terms to explore the moderating effects of institutional and economic factors on the relationship between GSP exports and the poverty gap. The coefficient for GSP exports in this model increases to 0.007 and becomes statistically significant at the 1% level (0.007***), suggesting that when considered alongside interaction effects, GSP participation increases poverty level.

The interaction between GSP exports and access to finance is negative (-0.0317) but not statistically significant. This indicates that the effect of GSP exports on the poverty gap does not significantly vary with changes in access to finance within this model. The interaction term between GSP exports and Rule of Law is positive and marginally significant (0.0532*). These finding points that the participation in the EU GSP scheme has not translated into poverty reduction even in countries with stronger regulatory frameworks. The interaction between GSP exports and economic size (GDP) is positive (0.08111) but not statistically significant, implying that the impact of GSP exports on the poverty gap does not significantly differ with the size of the economy. This could suggest that the benefits of GSP exports in reducing poverty are relatively consistent across countries of different economic sizes.

The coefficients for the control variables in the second model remain largely consistent with the first model. Inflation (CPI) and imports-to-GDP ratio continue to show insignificant effects, while the Rule of Law coefficient turns negative (-0.016) but remains insignificant. Access to finance maintains a negative but statistically insignificant coefficient (-0.014). The negative and highly significant coefficient for economic size (-1.984***) persists, reinforcing the critical role of economic development in poverty reduction.

Overall, the FE estimation results underscore the importance of considering both direct and interaction effects when evaluating the impact of trade preferences on poverty reduction. The EU GSP exports show limited direct impact on the poverty gap, this is significantly increased in contexts with robust legal frameworks. This suggests that policy interventions aimed at strengthening institutions and legal frameworks did not translate into poverty reduction. Furthermore, the consistently significant and negative effect of economic size on the poverty gap highlights the broader role of economic growth in addressing poverty, suggesting that trade preferences should be part of a comprehensive development strategy that includes fostering economic growth and institutional improvements.

These findings shed light on how trade preferences like the GSP can be leveraged to achieve developmental goals, emphasizing the need for a multifaceted approach that integrates trade policy with institutional and economic development strategies. The coefficient of GSPexp remains positive, weak in magnitude and insignificant in Model (1) but becomes positive and significant after this study examined the interactions between nGSP export and access to finance and the Rule of Law. The result suggests that GSP trade did not reduce poverty even when combined with the Rule of Law.

The general presumption of the GSP scheme driving poverty reduction cannot be particularly substantiated. The non-significance and weak magnitude of the GSPexp coefficient may validate the supposition that GSP trade is not an effective tool for poverty reduction. This study, however, avoid this conclusion and explore the likelihood of such a relationship being mediated by other factors. The "economic spirit" within which the GSP operates may be such that GSP gains are evident on certain Macro parameters from which households derive substantial welfare gains. This is why this study examine whether the GSP scheme has been implemented to maximise its benefits for poverty alleviation through other channels.

5.3.2 Parameter Estimates – Mediation Model

The basic framework for the panel analysis consists of a structural equation model aimed at characterizing the various effects of GSP policy on poverty. The model consists of a poverty equation and a series of channel equations describing the effect of GSP trade on poverty-determining variables. This set of equations constitutes our structural model, derived based on relevant empirical literature and economic theory. Six variables are used in our structural model with the channel variables taken as endogenous and GSP trade as exogenous. All six variables are observed, and no latent variables were used in our analysis. Our model specification is such that no relevant variables are omitted from any of the equations in the model.

This study acknowledge that SEM is a large sample technique as Maximum Likelihood estimation relies on asymptotic distribution, and large sample sizes are needed to obtain reliable parameter estimates. Different suggestions regarding appropriate sample sizes have been given in the literature, prevalently situated within the ad hoc rule of thumb requiring the choosing of 10 observations per indicator in setting a lower bound for the adequacy of sample sizes (Kahai and Cooper 2003). Such a rule of couching the sample size in terms of the ratio of observations to free parameters is similar to the suggestion of the 5:1 ratio in Bentler and Mooijaart (1989). A common suggestion across diverse literature is to have a sample size of more than 200

(Geweke and Singleton 1980; Marsh and Bailey 1991; Gerbing and Anderson 1993; Ding et al. 1995), although Boomsma (2000) simulations suggested at least 100 for adequate analysis. The debate on sample size has evolved significantly with different suggestions across SEM literature (Goodhue et al. 2006; Westland and See-To 2007).

After reviewing a variety of recommendations in the literature, one would conclude that there is no empirical justification for rules suggesting a minimum sample size for SEM. For instance, in the case of 200 observations in a complicated model (with a lot of variables), specifying the sample size in isolation from available parameters is insufficient. It is why Westland (2010) argued that sample size should be dependent on the number of estimated parameters; a view mirrored in other discussions of minimum sample sizes (Browne and Cudeck 1993; Geweke and Singleton 1980, Gerbing and Anderson 1993). This study, therefore, consider our sample size relative to the number of parameters being estimated (Marsh and Bailey 1991; Ding et al. 1995). In this context, the ratio of observations to free parameters in our model is sufficient to undertake a structural equation.

In a regular SEM, it is important to establish multivariate normality, particularly of the endogenous variables. The likelihood that is maximised when fitting SEM using Maximum Likelihood is derived based on the assumption that the observed variables follow a multivariate normal distribution. Our univariate tests of normality suggest that all the endogenous variables are normally distributed and converge when presented as the growth rate. The expression of these variables as growth rate coincides with the study hypothesis where changes in poverty rate are conjectured to result from changes in GSP trade but through changes in specific mediating variables.

All variables in the structural model are observed. There are however missing data for some variables, this has necessitated the adoption of Maximum Likelihood with Missing Values (MLMV), aimed at retrieving as much information as possible from observations containing missing values. The assumption of joint normality is satisfied, being a pre-condition for the MLMV estimation method. Ultimately, the structural model is fit using all the 682 observations in the dataset. This study established that the model exhibits no misspecification using the Root Mean Square Error of Approximation (RMSEA); which is a metric for assessing the average distance between the model-predicted values and the values in the dataset. In cases where the RMSEA is small, the approximation error is adjudged to be optimal. Browne and Cudeck (1993) argue that an approximately 0.05 or a smaller value of RMSEA indicates a more appropriate and closer model

fit vis-à-vis the degrees of freedom. However, between0.05 and 0.08 is preferable as this indicates a more optimal fit result. Our model demonstrates an adequate fit with the RMSE of 0.07 (Browne and Cudeck 1993). This is also supported by the lower bound figure 0.043 of the 90% confidence interval.

5.3.2.1 Structural Equation Model Analysis

The hypothesised structural model is created by extending the baseline equation 5.3 to include all the mediating variables. Both the endogenous and the exogenous variables are observed, and the coefficients between the variables indicate the strength of the effect from one to another. An acceptable fit for our hypothesised structural model was established through the RMSA; the square root of the estimated discrepancy due to approximation per degree of freedom (Mehmetoglu and Venturini 2021).

In the FE estimation, the weak magnitude and lack of significance of the GSP coefficient propelled the exploration of a mediating effect; in which case, this study check for mediation through the Government Fiscal Balance (FB), Terms of Trade (ToT), Unemployment (Unemp) and Gross Domestic Product (GDP output). This empirical approach directly extends from the conceptual framework developed earlier in the chapter.

Table 5.5 Structural Equation Model for Mediation

```
Structural equation model                       Number of obs     =        682
Estimation method  = mlmv
Log likelihood     = -89.248179

------------------------------------------------------------------------------
                 |                 OIM
                 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----------------+------------------------------------------------------------
Structural       |
    Pov          |
             ToT |    .071229   .1174298     0.61   0.544    -.1589292    .3013871
              FB |  -.0479699   .0563508    -0.85   0.395    -.1584155    .0624756
       GDPoutput |  -2.272566   .2304744    -9.86   0.000    -2.724288   -1.820844
           Unemp |   .0138445   .0328859     0.42   0.674    -.0506107    .0782997
          GSPexp |   .0013561    .003094     0.44   0.661    -.0047081    .0074202
           _cons |   .0457963   .0160804     2.85   0.004     .0142793    .0773134
-----------------+------------------------------------------------------------
ToT              |
          GSPexp |  -.0001209   .0009918    -0.12   0.903    -.0020648     .001823
           _cons |   .0033944    .003503     0.97   0.333    -.0034714    .0102602
-----------------+------------------------------------------------------------
FB               |
```

```
          GSPexp |   .0020349    .002104     0.97   0.333    -.0020889    .0061586
           _cons |  -.1281452   .0074904   -17.11   0.000    -.1428261   -.1134644
  ----------------+------------------------------------------------------------------
    GDPoutput     |
          GSPexp |  -.0015592   .0006322    -2.47   0.014    -.0027982   -.0003202
           _cons |    .037351   .0019368    19.28   0.000     .0335549    .0411472
  ----------------+------------------------------------------------------------------
    Unemp         |
          GSPexp |   -.000841   .0039959    -0.21   0.833    -.0086728    .0069908
           _cons |   .0404854   .0123692     3.27   0.001     .0162423    .0647285
------------------+------------------------------------------------------------------
      var(e.g_Pov)|   .0523752   .0031999                      .0464644    .0590378
       var(e.rToT)|   .0075371   .0004257                      .0067473    .0084193
        var(e.rFB)|   .0326026   .0018948                      .0290926    .0365361
var(e.g_GDPoutput)|   .0022687   .0001292                       .002029    .0025367
    var(e.g_Unemp)|   .0915671   .0052431                      .0818465    .1024422
------------------------------------------------------------------------------------
```

The result of our structural equation substantiates the initial suspicion of the GSP-Poverty relationship being mediated by specific macro variables. Table 5.5 shows the output of our structural model in which this study can observe the path coefficients of the adopted variables. The coefficient of the GSP variable remains weak even after introducing the mediator variables in the regression, suggesting the possibility of a mediating effect (Pearl 2012). In hypothesis 2, this study predicted that GSP trade impairs Terms of Trade in beneficiary countries, and in hypothesis 3 that GSP-Poverty relationships are mediated by changes in Terms of Trade. Our result does support the hypothesis: this study finds a negative effect of GSP trade on Terms of Trade, weak in magnitude and not significant ($\beta = -0.00012, p = 0.9 > 0.05$). This outcome is consistently followed by the effect of Terms of Trade on poverty ($\alpha = 0.071, p = 0.5 > 0.05$). Essentially, this study finds no mediating role of Terms of Trade in the GSP-Poverty relationship as shown in Table 5.5a below.

Table 5.5a Significance testing of indirect effect (unstandardised) – Terms of Trade

```
+-------------------------------------------------------------------------+
  Estimates          |     Delta       |     Sobel       |  Monte Carlo
|-------------------------------------------------------------------------|
  Indirect effect    |    -0.000       |    -0.000       |    -0.000

  Std. Err.          |     0.000       |     0.000       |     0.000

  z-value            |    -0.120       |    -0.119       |    -0.053

  p-value            |     0.905       |     0.905       |     0.958

  Conf. Interval     | -0.000 , 0.000  | -0.000 , 0.000  | -0.000 , 0.000
|-------------------------------------------------------------------------|

  Baron and Kenny's approach to testing mediation
  STEP 1 - rToT:GSPexp (X -> M) with B=-0.000 and p=0.903
  STEP 2 - g_Pov:rToT (M -> Y) with B=0.071 and p=0.544
```

```
          As either STEP 1 or STEP 2 (or both) are not significant,
          there is no mediation!

  RIT  =  (Indirect effect / Total effect)
          (0.000 / 0.001) = 0.006
          Meaning that about  1 % of the effect of GSPexp
          on g_Pov is mediated by rToT!

  RID  =  (Indirect effect / Direct effect)
          (0.000 / 0.001) = 0.006
          That is, the mediated effect is about 0.0 times as
          large as the direct effect of GSPexp on g_Pov!
+----------------------------------------------------------------------------+
```

This study undertakes a post-estimation, through the BK approach, to examine the mediational hypotheses stated earlier in the chapter. The two mediation pathways (GSP → ToT, ToT→Pov) are not significant, indicating no mediation through Terms of Trade. This study gauges the effect size through the ratio of the indirect effect to the total effect (RIT), and through the ratio of the indirect effect to the direct effect (RID); only 1% of the effect of GSP on Poverty is mediated by Terms of Trade. However, our non-linear combinations of estimators reveal that this outcome is not significant, as shown in Table 5.5b below.

Table 5.5b Non-linear Combinations of Estimators – Terms of Trade

```
------------------------------------------------------------------------------
             |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       _nl_1 |  -8.61e-06   .0000721    -0.12   0.905    -.0001498    .0001326
------------------------------------------------------------------------------
```

The non-linear combinations of estimators through the ToT demonstrate no mediation as the multiplication of all paths resulted in a weak negative product and was not significant ($\alpha\beta = -8.61\text{e}-06, \text{p} = 0.905 > 0.05$).

In hypothesis 4, this study predicted that GSP trade impairs productivity (Market creation) in beneficiary countries, and in hypothesis 5, that GSP-Poverty relationships are mediated by changes in Productivity (indicated by GDP output). The results support hypothesis 4; GSP trade is not found to improve productivity in the beneficiary countries given the negative coefficient of GSP→GDP output ($\beta = -0.0016, p = 0.014 < 0.05$). However, increased productivity is found to significantly reduce poverty in the beneficiary countries ($\alpha = -2.273, p = 0.000 < 0.05$). The result of post-estimation, in Table 5.6a, shows that GSP→Poverty interactions are fully mediated by productivity. Specifically, about 72% of the effect of GSP trade on Poverty is mediated by productivity. That is, the mediated effect is about 2.6 times as large as the direct effect of GSP on poverty.

Table 5.6a Significance testing of indirect effect (unstandardised) - Productivity

Estimates	Delta	Sobel	Monte Carlo
Indirect effect	0.004	0.004	0.004
Std. Err.	0.001	0.001	0.001
z-value	2.393	2.393	2.455
p-value	0.017	0.017	0.014
Conf. Interval	0.001 , 0.006	0.001 , 0.006	0.001 , 0.006

Baron and Kenny's approach to testing mediation
STEP 1 - g_GDPoutput:GSPexp (X -> M) with B=-0.002 and p=0.014
STEP 2 - g_Pov:g_GDPoutput (M -> Y) with B=-2.273 and p=0.000
STEP 3 - g_Pov:GSPexp (X -> Y) with B=0.001 and p=0.661
As STEP 1, STEP 2 and Sobel's test above are significant
and STEP 3 is not significant the mediation is complete!

RIT = (Indirect effect / Total effect)
(0.004 / 0.005) = 0.723
This means that about 72 % of the effect of GSPexp
on g_Pov is mediated by g_GDPoutput!

RID = (Indirect effect / Direct effect)
(0.004 / 0.001) = 2.613
That is, the mediated effect is about 2.6 times as
large as the direct effect of GSPexp on g_Pov!

In Table 5.6b, the complete mediation of productivity (in GSP→Poverty interactions) is further supported by the non-linear combination of estimators where the indirect effect (through productivity) is positive, small and significant ($\alpha\beta = 0.0035, p = 0.017 < 0.05$).

Table 5.6b Non-linear Combinations of Estimators - Productivity

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_nl_1	.0035435	.0014806	2.39	0.017	.0006415	.0064454

In hypothesis 6, this study predicted that GSP trade directly improves employment in beneficiary countries and in hypothesis 7 that GSP-Poverty relationships are mediated by changes in employment. The results do not support hypothesis 6. While GSP trade is found to reduce unemployment in the beneficiary countries, this outcome is however not significant ($\beta = -0.00084, p = 0.833$). In the structural model,

unemployment→poverty interaction is positive and theory consistent, however not significant ($\alpha = 0.014, p = 0.674$). The significance testing of indirect effect reveals no mediation through unemployment, as shown in Table 5.7a below.

Table 5.7a Significance testing of indirect effect (unstandardised) - Unemployment

```
+-------------------------------------------------------------------------+
  Estimates          |     Delta       |     Sobel       |  Monte Carlo
|-------------------------------------------------------------------------|
  Indirect effect    |    -0.000       |    -0.000       |    -0.000

  Std. Err.          |     0.000       |     0.000       |     0.000

  z-value            |    -0.188       |    -0.188       |    -0.067

  p-value            |     0.851       |     0.851       |     0.947

  Conf. Interval     | -0.000 , 0.000  | -0.000 , 0.000  | -0.000 , 0.000
|-------------------------------------------------------------------------|

  Baron and Kenny's approach to testing mediation
  STEP 1 - g_Unemp:GSPexp (X -> M) with B=-0.001 and p=0.833
  STEP 2 - g_Pov:g_Unemp (M -> Y) with B=0.014 and p=0.674
           As either STEP 1 or STEP 2 (or both) are not significant,
           there is no mediation!

  RIT  =   (Indirect effect / Total effect)
           (0.000 / 0.001) = 0.009
           Meaning that about  1 % of the effect of GSPexp
           on g_Pov is mediated by g_Unemp!

  RID  =   (Indirect effect / Direct effect)
           (0.000 / 0.001) = 0.009
           That is, the mediated effect is about 0.0 times as
           large as the direct effect of GSPexp on g_Pov!
+-------------------------------------------------------------------------+
```

This study finds only 1% of the effect of GSP on poverty is mediated by Unemployment. This effect is weak and not significant. The non-linear combinations of estimators, in Table 5.7b, show no mediating role of unemployment in GSP→Poverty interactions.

Table 5.7b Non-linear Combinations of Estimators - Unemployment

```
-------------------------------------------------------------------------------
             |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+-----------------------------------------------------------------
       _nl_1 |  -.0000116   .0000618    -0.19   0.851    -.0001329    .0001096
-------------------------------------------------------------------------------
```

The non-significant indirect effect of GSP trade and poverty through unemployment (hypotheses 6 and 7) indicates that employment did not contribute to this mediation.

Hypothesis 8 and 9 predicted that, as a whole, GSP and poverty relationships are mediated by the government fiscal balance given the prediction that GSP trade would improve fiscal balance. The results do not support hypothesis 8; while GSP trade is found to improve the government fiscal balance, the result is not significant ($\beta = 0.0020, p = 0.33$). Similarly, an increased fiscal balance is found to reduce poverty in GSP beneficiary countries, this outcome is however not significant ($\alpha = -0.0479, p = 0.395$). In Table 5.8a, the results of significance testing through the Baron and Kenny approach show no mediating role of fiscal balance.

Table 5.8a Significance testing of indirect effect (unstandardised) – Fiscal Balance

Estimates	Delta	Sobel	Monte Carlo
Indirect effect	-0.000	-0.000	-0.000
Std. Err.	0.000	0.000	0.000
z-value	-0.639	-0.639	-0.478
p-value	0.523	0.523	0.633
Conf. Interval	-0.000 , 0.000	-0.000 , 0.000	-0.000 , 0.000

```
Baron and Kenny's approach to testing mediation
STEP 1 - rFB:GSPexp (X -> M) with B=0.002 and p=0.333
STEP 2 - g_Pov:rFB (M -> Y) with B=-0.048 and p=0.395
         As either STEP 1 or STEP 2 (or both) are not significant,
         there is no mediation!

RIT  =   (Indirect effect / Total effect)
         (0.000 / 0.001) = 0.078
         Meaning that about  8 % of the effect of GSPexp
         on g_Pov is mediated by rFB!

RID  =   (Indirect effect / Direct effect)
         (0.000 / 0.001) = 0.072
         That is, the mediated effect is about 0.1 times as
         large as the direct effect of GSPexp on g_Pov!
```

This study finds about 8% of the effect of GSP on poverty is mediated by the government fiscal balance, and the mediated effect is about 0.1 times as large as the direct effect. The non-linear combinations of estimators, in Table 5.8b show that the pathways from GSP trade to poverty through the government fiscal balance are negative but not significant ($b = -0.000098, p = 0.523$).

Table 5.8b Non-linear Combinations of Estimators – Fiscal Balance

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_nl_1	-.0000976	.0001527	-0.64	0.523	-.0003969	.0002016

The non-significance of these pathways indicates that the fiscal balance did not contribute to this mediation. Given the non-significance of GSP's total effect on poverty in our FE estimation (in equation 5.1), it is recommended to infer the total effect by summing up the direct and indirect effects from equations 5.2 and 5.3, rather than directly from equation 5.1. This study uses the non-linear combinations of estimators to statistically test the total effect of GSP trade on poverty, as shown in Table 5.9 below.

Table 5.9 Non-linear Combinations of Estimators – Total Effect

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_nl_1	.0034256	.0014929	2.29	0.022	.0004996	.0063516

Overall, our estimation of the total effect suggests a significant positive effect of GSP trade on poverty.

5.4 Conclusion

This chapter examines the effectiveness of the EU GSP scheme through poverty reduction within beneficiary countries. This empirical investigation evaluates the GSP-poverty nexus beyond the prevalent direct estimation in similar studies. By examining the GSP-poverty nexus through a dynamic lens and considering mediating factors, this study offers an insight into how GSP trade influences poverty levels through productivity, fiscal balance, unemployment, and terms of trade. The findings present a multifaceted picture. Productivity emerges as a significant factor in poverty reduction, highlighting its fundamental role in shaping welfare outcomes. However, the relationship between GSP trade and productivity yields concerning results, indicating a negative effect on productivity growth. This aligns with previous reports of preference erosion and limited diversification in exports among beneficiary countries under the GSP scheme.

The structural equation modelling revealed a lack of direct impact of fiscal balance on poverty, questioning the redistributive strategies in these nations. Despite indications of GSP-induced improvements in fiscal balance, this factor did not mediate the effect of GSP trade on poverty levels. Unemployment displayed a

theoretical consistency in widening the poverty gap, yet the direct and indirect effects of GSP trade on unemployment were weak and insignificant in mediating poverty levels.

Notably, the overall effect of the EU GSP scheme on poverty is found to be positive and significant. Similar evidence in Sarvananthan and Sanjeewanie (2008) revealed that the apparel industry in Sri Lanka has hardly contributed to poverty reduction despite the duty-free access to European markets under the GSP+. Therefore, it is doubtful whether two of the triple objectives of the GSP+ have been attained in the case of Sri Lanka, which is one of fourteen beneficiary countries in the first phase (2006-2008) of the GSP+. Sarvananthan and Sanjeewanie (2008) align with other authors like Lister (1998) who opines that "the value of trade preferences as a tool of development is uncertain" and Cline (2004) who echoed "few would disagree that the GSP has fallen far short of the original hope". Other authors include Freres and Mold (2004) who analyse and propose ideas about how the European Union could have a greater impact on reducing poverty in Latin America through its trade policy, in conjunction with other policy instruments. The authors analyse the experience of the EU's GSP, a scheme aimed to help poor countries adapt to the international trading system. Overall, they found that the regime has not proven effective for this purpose nor is there any evidence that it has had a significantly positive impact on reducing poverty in developing countries in general or in Latin America. The foregoing studies present similar results as this thesis, albeit these are either theoretical studies or studies conducted based on descriptive analysis.

Other studies within the broader trade empirics find similar results. Looking at developing countries only, Beck et al. (2007) and Kpodar and Singh (2011) find no effect on the poor. Similarly, Dollar and Kraay (2004) find a lack of any evidence of the impact of openness on the income of the poorest quintile in a sample of advanced and developing economies. By contrast, looking at a sample of developing countries, Jeanneney and Kpodar (2011) find a negative relationship between trade openness and the income of the poorest quintile. Similarly, Singh and Huang (2015) focusing on a sample of sub-Saharan African countries suggest that greater trade openness increases headcount poverty, widens the poverty gap, and reduces the income of the poorest quintile.

Nevertheless, the evidence in this thesis shows that it is better not to expect too much from the GSP arrangement. In theory, if a country has critical internal political, social and economic problems, there is little the GSP, or any similar trade instrument can do to foster poverty reduction. In other words, the GSP may only work if the conditions are right, but determining what these are is not straightforward. At the same time,

is it right to take away GSP benefits from specific country-level parameters like Terms of Trade, Productivity, employment and fiscal balance? This is the novelty that this thesis adds to the body of scholarship where potential GSP benefits are investigated directly on top-level parameters, and indirectly on poverty. It is valid to assert that, the rigid application of GSP's current criteria leads to results which are inconsistent with the poverty objective of EU development policy. How can the GSP regime be designed and/or implemented so it can take account of these concerns?

This outcome raises concerns about the scheme's primary objectives being potentially overshadowed by commercial imperatives (Siles-Brugge 2014). The EU's emphasis on reciprocity and pursuing free trade agreements (FTAs) with emerging economies might have shifted the scheme's focus away from poverty reduction. The alignment of the GSP scheme with broader trade policy objectives may have compromised its intended goal of poverty alleviation, as evidenced by our total effect estimation.

These results underscore the need for a re-evaluation of the EU GSP scheme's objectives and execution. Addressing the trade-offs between commercial interests and poverty reduction becomes imperative for any policy modifications or future iterations of the GSP scheme. Realigning the scheme's priorities to emphasise poverty alleviation without neglecting trade goals is crucial to ensure that preferential trade measures genuinely contribute to uplifting the welfare of vulnerable populations in beneficiary countries.

Chapter 6 Evaluating GSP Effectiveness through Global Value Chain Integration - Data, Methodology and Results

6.1 Introduction

This chapter analyses the role that the EU GSP operations play in integrating the GSP countries into the Global Value Chains (GVCs). GVCs represent intricate networks of interconnected production processes that span across multiple countries and firms (Gereffi and Korzeniewicz 1994; Gereffi et al. 2005). These chains involve the international dispersion of tasks and activities, encompassing various stages of the production cycle, from conception and design to manufacturing, assembly, and distribution of goods (Sturgeon 2008; Kaplinsky and Morris 2009).

The main contribution is to capture these different aspects of GSP-GVCs interaction which have not been incorporated in formal models. Efforts are made to not ignore the viewpoint of Baldwin (2013); Antras and Staiger (2012) and Ederington and Ruta (2016), such studies that place GVCs as, mainly, a consequence of deep disciplines[86]. This study considers the introduction of an interaction term to explore how GSP regions align with the operations of Regional Trade Agreements (RTAs) and how these alignments might influence the cumulation system. The aim is to investigate whether GSP countries, through their connection with RTAs, benefit from the deeper provisions within these agreements that are not explicitly embedded in the GSP framework. This examination intends to shed light on how the interconnectedness between GSP regions and RTAs might impart certain advantages to GSP beneficiary countries derived from the more comprehensive provisions within RTAs. This study aligns with scholars who have sought the importance of network position in GVCs trade (Wonnacott, 1975; Kowalczyk and Wonnacott 1992; Krugman 1993; Mukunoki and Tachi 2006; Hur et al. 2010; Baldwin 2013; Gereffi et al. 2005; Amador and Cabral 2016; Landesmann and Stollinger 2019; Park and Kim 2020), and also embrace Burt (2010) notion of "neighbour networks" where this well-connected neighbours, as reported in Wang et al. (2020), improve trade performance in GVCs. In response to the perspective of Schiff and Winters (2003) where GSP countries are presumed to struggle with the notion of ideal partners in GVCs[87], this study characterises the regional pattern of trade intensity which suggests that countries in the cumulation zones are "natural" trade partners. Following Zhang et al. (2021), the regionalised complementarities in production or consumption, within the GSP cumulation system, tend to foster neighbour networks and integration into GVCs.

[86] Certain behind-the-border policies that need to be disciplined in trade agreements for GVCs to operate efficiently, such as investment, competition policy, and harmonization of product regulations.
[87] Schiff and Winters (2003) argue that countries in shallow trade arrangements may struggle with the notion of ideal partners because of cross-border differences in policy preferences – increased cost of coordinating and harmonising policies.

This thesis brings into focus the "Node Importance" in Wasserman and Faust (1994), a universal concept popularised in network analysis to unveil the relative significance of a node within a network. This offers conceptual guidance in assessing the significance of countries as participants in value-adding trade, based on their connectivity, influence, or prominence within the GSP regions.

6.2 Data Collection and Variable Description

This section provides an overview of the datasets used in the empirical analysis. This study construct panel data of the GVC linkages for GSP countries using the UNCTAD-Eora GVC database and DESTA[88] datasets, augmented by data drawn from the CEPII database and country-level data from World Development Indicators published by the World Bank. Specifically, the UNCTAD-Eora Global Value Chain (GVC) database offers global coverage (189 countries and a "Rest of World" region) and a time-series from 1990 to 2018 of the key GVC indicators: foreign value added (FVA), domestic value added (DVA) and indirect value added (DVX). This study extract from the UNCTAD-Eora dataset the GVC linkages of 62 GSP countries (standard GSP, GSP+ and EBA) between 2010 and 2018 to arrive at our estimation sample[89]. The database is widely used (see Amendolagine et al., 2019; Aslam et al., 2017; Wang et al., 2020) and the reliability and accuracy of the database are detailed in Lenzen et al. (2013) where it compares well with similar databases such as the GTAP database, OECD–WTO data and the WIOD database. Appendix I provides a list of the countries considered in the analysis.

The key dependent variable is the GVC participation index which captures a set of global value chain measures: $\mathsf{C} = \{Backward, Forward\}$ that is the share of foreign value and domestic value added contained in both final exports and intermediate exports of GSP countries. Koopman et al. (2011) introduced the GVC participation index, particularizing that it is necessary to differentiate between the position in the GVC and the degrees of participation in GVCs. The former relates to countries or firms in the GVC having various positions, such as being suppliers of raw materials, manufacturers of intermediate goods, or providers of services at different stages of production and distribution. The latter measures how much a country contributes to or is integrated into the global production processes. It can encompass factors like the value of exports, the complexity of products produced, or the depth of a country's integration into regional or

[88] The Design of Trade Agreements (DESTA) database systematically collects data on various types of preferential trade agreements (PTAs) and have so far coded design features for more than 710 agreements.
[89] Datasets are not available for beyond 2018 as at time of the analysis.

global supply chains. Differentiating the two concepts has become important as two countries can have similar values of the GVC position index while having different degrees of participation in GVCs. Johnson and Noguera (2012), and Stehrer et al. (2012) continued Koopman's research and suggested that the position index can be used in conjunction with the GVCs participation index.

With the RoO, GSP countries participate in GVCs as buyers (also known as backward participation) and/or sellers (also known as forward participation). A measure of a country's overall involvement in GVC is, therefore, best captured by a metric that simultaneously accounts for backward and forward participation. Consequently, this study follows existing literature (see Amendolagine et al., 2019; Banh et al. 2020; Carril-Caccia and Pavlova 2020; Foster-McGregor et al. 2015; Kummritz et al. 2017; Wang et al., 2020) to define the degree of GVC participation of country *x* at period *t* as

$$GVC\ Participation_{ct} = \frac{FVA_{xt} + DVX_{xt}}{GE_{xt}} \qquad 6.1$$

Where FVA_{xt} is the share of foreign value-added in a country's export at time *t*, DVX_{xt} is the share of domestic value-added that enters as inputs in the exports of other countries, and GE_{xt} is country *x* gross export. Higher values of the index show more intensive participation in the GVCs. This study consider equation 6.1 a standard measure of GVC participation, this is also adopted in the nascent GVC literature as it acknowledges that countries participate in GVC either as buyers or sellers or both (Foster-McGregor et al. 2015)[90].

Several studies have either focused on backward participation (Pahl and Timmer 2019) or forward participation (Engel et al. 2016) as a proxy measure for GVC participation. However, these studies often cite a dearth of data and the objective of the study as the rationale for adopting these proxy measures. For example, Pahl and Timmer (2019) used only backward linkages as a proxy measure of GVC. In their paper, the authors acknowledge the limitation of using this approach as it ignores completely the country's forward participation in GVC. Hence, it gives a less-than-complete picture of a country's overall GVC participation. The analysis

[90] It is important to note that some studies either focus on backward participation (Pahl & Timmer, 2019) or forward participation (Baldwin & Gonzalez-Lopez, 2015) as a proxy measure for GVC participation. However, these studies often cite a dearth of data and the objective of the study as the rationale for adopting these proxy measures. For example, Pahl and Timmer (2019) used only backward linkages as a proxy measure of GVC. In their paper, the authors acknowledge the limitation of using this approach as it ignores completely the country's forward participation in GVC. Hence, it gives a less than complete picture of a country's overall GVC participation.

of backward and forward GVC linkages, as well as an estimation of countries' participation in GVCs were conducted in other studies by Kowalski et al. (2015), Engel et al. (2016), and Sidorova (2018).

This study explores a set regime-wide $RoOs: \omega \epsilon \{Cumulation\}$, which are dummy variables taking the value of 1 if GSP countries benefit from cumulation. This study considers only the cumulation RoO to avoid the multicollinearity problem which may arise when all the regime-wide-RoO variables are included in our model. The de minimis provisions offer some insight into possible RoO liberality, however, their relevance in a country-specific analysis is relatively lower compared to cumulation. De minimis provisions mainly address the tolerance for non-originating materials in a final product and provide some leeway in meeting strict origin requirements. Their impact is more relevant at the industry or product level rather than in the broader context of a country's trade integration or participation in GVCs.

The preferential access provided by GSP schemes helps beneficiary countries reduce the costs associated with entering advanced markets, thus facilitating their integration into Global Value Chains (GVCs). By lowering tariffs, GSP schemes make it easier for developing countries to export intermediate and final goods, thus becoming part of international production networks. This integration is particularly beneficial for developing countries seeking to move up the value chain by participating in more sophisticated stages of production and leveraging technology and knowledge transfers from developed countries.

Regional Trade Agreements (RTAs) enhance the ability of countries to participate in GVCs by creating larger, more integrated markets and reducing trade barriers. They foster regional economic integration, which is essential for the development of regional value chains that feed into global networks. By standardizing regulations and improving infrastructure and logistics within the region, RTAs facilitate the smooth flow of goods and services, thus enhancing the efficiency and competitiveness of firms operating within GVCs.

The combined effect of GSP schemes and RTAs can significantly boost the participation of developing countries in GVCs. While GSP schemes provide preferential access to developed markets, RTAs enhance regional cooperation and integration. Together, they create a conducive environment for developing countries to integrate into global production networks. For instance, a country benefiting from GSP access to the EU market can simultaneously leverage regional agreements to optimize production processes and reduce costs, thereby enhancing its role in GVCs. This dual approach helps countries to not only access international markets but also strengthen regional economic ties and improve domestic economic structures.

Given our hypothesis that RTA participation increases GVCS integration for countries in the GSP region. This study not only sheds light on an underexplored area within GSP scholarship but also contributes to a deeper understanding of the intricate dynamics between RTAs, GVC integration, and the unique context of GSP regional cumulation. The findings underscore the pivotal role of RTA participation in augmenting GVC integration, presenting a crucial addition to contemporary trade scholarship. This study includes individual RTA in our model, a dummy variable that equals 1 if a country belongs to an RTA (such as ASEAN, SAARC, Andean Community and MERCOSUR), and 0 if otherwise. Specifically, this measure captures the alignment of GSP regions with the operations of existing RTAs such that rubs off some deep provisions on the cumulation system.

In the same vein, this study indicates the restrictiveness of GSP RoO using the rate of utilisation. According to Sytsma (2021), the utilisation rate is higher after the 2011 relaxation of the value content requirements. Sytsma's analysis followed the discrete choice model with linear random utility, where exporters decide which trade regime to use after considering the associated conditions. When the RoO become highly restrictive within the GSP system, exporters are more inclined to rely on the Most Favoured Nation (MFN) tariff rather than utilising preferential tariff rates. Presumably, the larger the difference between the MFN rate and the preferential rate (referred to as the preference margin), the greater the incentive for exporting firms to satisfy the rules of origin. Essentially, the relaxation of rules of origin increases the utilisation rate for products with higher preference margins. In any case, the utilisation of GSP is driven by the ease of compliance with the rules of origin (RoO) because restrictive rules can frustrate the use of trade preferences, even for products with a higher preference margin. When the utilisation rate of the GSP is high, exporters find it relatively easier to comply with the RoO and take advantage of the preferential tariff rates[91].

As a higher GSP utilisation rate is associated with less restrictive Rules of Origin (RoO), the interpretation of our regression results might be complex[92]. Thus, this study inversed the utilisation rate to indicate "RoO restrictiveness" where a higher GSP utilisation rate suggests lower restrictiveness. This is a clear and straightforward variable name that effectively communicates the concept of rules of origin possessing the quality of being either flexible or restrictive.

[91] When RoO are less restrictive, exporters are able to navigate the requirements and meet the origin criteria without significant difficulties. Conversely, a low utilisation rate indicates that RoO are more restrictive or complex, making it challenging for exporters to qualify for and utilise the preferential tariff treatment.
[92] This is because Restrictiveness is indicated by a variable that goes in opposite direction.

This study control for a set of country-level variables that affect GVC participation. For instance, larger economies, proxied by Gross Domestic Product (GDP), are more likely to have higher levels of trade, including GVC trade, with each other; geographical distance (*distance*) may impair trade flows by increasing the costs of transportation. This study further considers the possibility that relative differences in countries' endowment of natural resources may create an important influence on international competitiveness and thus trade patterns (Leamer and Levinsohn 1995; Trefler, 1995). This study uses *Total natural resources rents (% of GDP),* total natural resources rents derived from oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents. Data for *distance* is obtained from the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) database, while other control variables are obtained from the World Development Indicator.

In addition, studies (such as Nigh 1985 and Li 2008) have demonstrated that political instability may dampen trade activities. This may also lead to a more frequent switch of policies, causing volatility and negatively affecting commercial relationships. It thus means that political stability should have the opposite effect of promoting trade activities (Mansfield and Bronson 1997; Mansfield et al 2007). This study includes the political stability and absence of violence/Terrorism estimate to measure perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, in units of standard normal distribution, ranging from approximately -2.5 to 2.5. The datasets are obtained from the World Bank World Development Indicators

This study further takes into consideration the potentially confounding effect of FDI. This is to address the likelihood that instead of being complementary, FDI could substitute trade (Kojima 1975; Caves 1996). Given the alignment of GSP regions with the operations of RTAs, the associated investment provisions may improve FDI (see Büthe and Milner 2008; Hicks and Kim 2012). In this case, the creation of an investment-friendly environment may repress cross-border trade, thus lowering GVC participation. Controlling for FDI would therefore allow us to examine whether GSP cumulation may influence GVC participation independent of its impact on FDI. In our analysis, this study adopt data on *FDI net inflows* available on The World Bank World Development Indicators as a proxy of FDI flows. Table 6.1 provides a detailed description of the variables used in this study, their respective indicators, and the databases from which they were sourced.

Table 6.1 Description of Variables

Indicator	Variable	Level of data	Description	Source
Global Value Chain participation	GVC Participation Index	Country Level	The Global Value Chain (GVC) Participation Index is a measure that captures the extent to which a country is involved in global value chains. GVCs are production processes where different stages of production are located across different countries. The GVC Participation Index quantifies how much a country contributes to the various stages of these international production processes.	UNCTAD-Eora GVC database
Backward GVC participation	Foreign Value Added	Country Level	Foreign Value Added which is embodied in this country's exports. This corresponds to the Backward GVC participation component of the GVC participation index.	UNCTAD-Eora GVC database
Forward GVC participation	Domestic Value Added	Country Level	Domestic Value Added of this country which is embodied in the exports of other countries. This corresponds to the Forward GVC participation component of the participation index.	UNCTAD-Eora GVC database
Economic Size	Gross Domestic Products	Country Level	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in constant 2015 prices, expressed in U.S. dollars. Dollar figures for GDP are converted from domestic currencies using 2015 official exchange rates.	World Bank national accounts data, and OECD National Accounts.
Rules of Origin Restrictiveness	Inverse of the utilisation rate	Country Level	This study inversed the utilisation rate to indicate "RoO restrictiveness" where a higher GSP utilisation rate suggests lower restrictiveness	Eurostat, the statistical office of the European Union
Cumulation	Regime-wide RoO, a dummy variable taking the value of 1 if GSP countries benefit from cumulation	Country Level	Cumulation allows beneficiary countries to source inputs or processing from other eligible countries within a specified geographic region, promoting regional economic integration and value addition in production	A dummy variable created based on GSP information on Eurostat, the statistical office of the European Union

Foreign Direct Investment	FDI net inflows	Country Level	Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP.	World Bank national accounts data, and OECD National Accounts data files.
Political Stability	Political Stability and Absence of Violence/ Terrorism	Country Level	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e., ranging from approximately -2.5 to 2.5.	World Bank World Development Indicators
Resource Endowments	Total natural resources rents (% of GDP)	Country Level	Total natural resources rents derived from oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents	World Bank national accounts data, and OECD National Accounts data files.
Economic Distance	GeoDist	Country Level	GeoDist provides bilateral distance – geographical coordinates of the capital cities of GSP beneficiary countries to Brussels (considered the de facto capital of the European Union)	Centre d'Etudes Prospectives et d'Informations Internationales (CEPII)

Source Author's Construction

This study exclude countries from the analysis wherein key variables are predominantly zero. Other important variables like Gross Domestic Product (GDP) and Foreign Direct Investment (FDI), were also found to exhibit a pronounced degree of collinearity, thus warranting separate examination before considering their simultaneous inclusion in the model.

6.3 Empirical Strategy and Estimation Models

The empirical strategy adopted in this thesis is derived from the literature, especially those that focus on understanding the role of value-added trade, which is a feasible representative measure in the GVC context. As mentioned in the previous section, the GVC participation index is adopted in an augmented gravity model structure. Estimating the model with value-added exports makes it possible to assess the impacts of trading costs, as pointed out by (Johnson and Noguera 2012; Aichele and Heiland 2018; Njike 2021). In this regard,

the benchmark considers an augmented structure of gravity models to estimate the effect of GSP (via the cumulation) on GVC participation. Augmented gravity models have been applied in other studies like Amendolagine et al. (2019); Anderson and van Wincoop (2004); Chaney (2018).

Given this, the baseline gravity estimation models take the following form:

$$GVC_{xt} = \beta_0 + \beta_1 RoO_{xt} + \beta_2 Z_{xt} + \gamma_x + \vartheta_t + \varepsilon_{xt} \quad 6.2$$

$$GVC_{xt} = \beta_0 + \beta_3 Cumulation_{xt} + \beta_4 RoO_{xt} + \beta_5 Z_{xt} + \gamma_x + \vartheta_t + \varepsilon_{xt} \quad 6.3$$

$$GVC_{xt} = \beta_0 + \beta_6 (Cumulation * RTA)_{xt} + \beta_7 RoO_{xt} + \beta_8 Z_{xt} + \gamma_x + \vartheta_t + \varepsilon_{xt} \quad 6.4$$

In the above equations, *x* and *t* represent GSP country and year respectively. GVC_{xt} is the dependent variable, denoting the GVC participation index of a given country *x* in year *t*. RoO_{xt} and $Cumulation_{xt}$ are the key independent variables, representing the restrictiveness of the GSP scheme and the regime-wide provisions that foster value chain trade. Z_{xt} is the set of country-level explanatory variables included in the analysis. β_n is the estimation coefficient; γ_x and ϑ_t represent fixed effects for country and year respectively; and ε_{xt} is the error term. By including both time-varying and fixed effects, this study control for multilateral resistance (Anderson and Van Wincoop 2004).

Equation 6.2 estimates GSP utilisation as a possible driver of GVC participation across all beneficiary countries. Specifically, this study adopts the utilisation rate to indicate whether GSP is restrictive or not, and thus expect a higher rate (implying lower restrictiveness) to foster GVC trade. As all the beneficiary countries are considered in the estimation of equation 6.2, the indicator of cumulation provisions, which do not apply to all GSP countries, are excluded. Equations 6.3 – 6.4 estimate GVC participation at the regional level, accounting for regional-specific policies such as cumulation and membership of existing RTAs. In equation 6.4, this study examines the mitigating effect of cumulation on GSP restrictiveness and GVC nexus. This study hypothesised that the alignment of the cumulation provisions with operations of existing RTAs reduces the protectionist tendencies of GSP RoO – this is estimated in equation 6.4.

In addressing potential endogeneity concerns between the GVC participation index and adopted GSP-trade variables, various techniques have been considered, among which the incorporation of lagged independent variables plays a pivotal role (Wooldridge 2015). While acknowledging the inherent complexities in econometric modelling, lagging independent variables stand as one strategy to mitigate potential endogeneity issues (Stock and Watson 2015). This approach addresses any time-delayed effects or temporal dynamics between the measure of GVC and GSP-trade variables, especially since the relationship might exhibit lagged responses. Instrumental variable (IV) techniques are employed to address endogeneity. Instruments are variables that are correlated with the endogenous regressors but uncorrelated with the error term. For instance, lagged values of GDP, FDI, and Political Stability can serve as valid instruments as they influence current levels of these variables but are not directly related to the current error terms in the GVC integration equation. Using IV mitigates the bias caused by endogeneity, providing more reliable estimates of the effects of GSP schemes and other variables on GVC integration. Crucially, this study tests the relevance and exogeneity of the instruments to ensure the validity of the IV approach using the first-stage regression F-statistic and using over-identification tests such as the Hansen J test.

By introducing lagged values, the analysis aims to diminish the influence of potential reverse causality or simultaneity issues. It is imperative to note, however, that while lagging variables offer a valuable method to address endogeneity, it might not comprehensively eliminate all forms of bias (Greene 2008). Therefore, this strategy is complemented by other methodologies, such as controlling for time-varying, country-fixed effects and time-fixed effects (Angrist and Pischke 2008).

In the empirical analysis, the estimation technique adopted is the Generalised Least Squares (GLS) method, as recommended by Silva and Tenreyro (2006). This method was selected due to its effectiveness in addressing critical complexities within the dataset. GLS stands out for its ability to handle issues of heteroscedasticity (unequal variance) and accommodate overdispersion, both prevalent challenges in empirical studies. Heteroscedasticity, characterised by varying levels of error variance across observations, can distort conventional regression models. GLS, following Santos Silva and Tenreyro's recommendation, addresses this issue by providing more reliable estimates. By employing weighted least squares estimation, GLS ensures that observations with larger variances exert less influence on the estimated coefficients, leading to more accurate parameter estimates. The variance of the residuals (or errors) is not constant across variables such as GVC, DVXs, FVAs, FDIs and GDPs. The Breusch–Pagan/Cook–Weisberg test produces a Chi-square statistic with 8 degrees of freedom when a null hypothesis of no heteroscedasticity is satisfied. The test produced a p-

value = 0.0000, suggesting a rejection of the null hypothesis of homoscedasticity. This would mean that the spread of the residuals changes widely as the values of the independent variables change. Given this, the underlying assumptions of a statistical model may be violated, leading to biased parameter estimates, incorrect standard errors and unreliable inferences. These, therefore, necessitate the adoption of the Generalised Least Squares (GLS) estimation which accounts for heteroscedasticity and serial correlation in the error terms. The Hausman test suggests incorporating fixed effect into the model to account for distinct country characteristics that could influence GVCs integration.

The summary statistics table 6.2 below provides an overview of pivotal independent variables critical in understanding the determinants of Global Value Chain (GVC) integration among the observed countries. This dataset encompasses a diverse array of factors ranging from economic indicators to geopolitical elements, each potentially influencing GVC integration. GVC, positioned as the dependent variable with a mean value of 7.299, represents the outcome of various factors at play within global production networks. The mean distance of 0.672 suggests relatively closer geographical proximity between trading partners, potentially impacting GVC integration dynamics. Foreign Direct Investment (FDI) registers an average of 18.755, indicative of a significant foreign capital presence that could influence GVC interactions. A GDP mean of 90.434 points to a robust economic size, possibly correlating with higher levels of GVC involvement. Rules of Origin (RoO) restrictiveness, with a mean of 1.034, denotes complex trade preference regulations potentially affecting GVC participation. Cumulation, averaging 0.23, indicates a certain extent of aggregated regional content impacting GVC preferences. Additionally, the mean landlocked status at 0.393 portrays a significant presence of landlocked countries, potentially influencing GVC dynamics. Moreover, a mean political instability of -0.746 implies a relatively higher degree of political stability, which might positively impact GVC participation. Finally, the mean resource endowment of 8.766 hints at a relatively richer resource base among the observed countries, potentially impacting GVC activities. These mean values serve as initial indicators, providing insights into the average levels of various factors pivotal in understanding GVC integration and its determinants among the observed countries.

Table 6.2 Summary Statistics – GSP-GVCs Nexus

Variable	Obs	Mean	Std. Dev.	Min	Max
GVC	549	7.299	25.308	0	151
Dists	549	.672	.257	.323	1.609
DVXs	549	4.922	17.47	0	110
FVAs	549	2.38	8.423	0	51.3
FDIs	549	18.755	54.491	-73.973	444.586
GDPs	536	90.434	285.612	.253	2588.97
RoO restrictiveness	457	1.034	12.562	.1	264.094
Cummul	549	.23	.421	0	1
Pol	540	-.746	.932	-3.131	1.275
ResEndow	539	8.766	8.435	.065	51.844

Source: Author's Stata output

As presented in Table 6.2, the dataset in this thesis displays signs of overdispersion, where the variance of the GVC participation index exceeds the model's expectations. GLS is adept at handling overdispersion by adjusting for varying degrees of data dispersion, ultimately improving the accuracy of parameter estimates and enhancing model fit. The recommendation in Silva and Tenreyro (2006) is that GLS aligns with the complexities present in the dataset, and its application bolsters the reliability of estimations. By employing GLS, this analysis yields more precise and efficient parameter estimates while effectively addressing statistical challenges, thereby fortifying the credibility and robustness of the empirical findings.

6.4 Empirical Results

In this section, this study shows our main empirical results regarding the effects of GSP regime-wide provisions and the connectedness with deep-RTA neighbours on GVC integration. This study first considers the protectionist effect of restrictive RoO on GVC integration and subsequently examine whether the implementation of regime-wide rules mitigates this effect. Finally, this study examines whether RTA membership minimises the potentially adverse effect of restrictive RoO on the GVCs integration. Although our focus is on the overall GVC integration (proxied by the GVC participation index), this study also examines the pattern of forward and backward GVC linkages[93] in response to GSP RoO.

[93] Proxied by Foreign Value Added (FVA) and Domestic Value Added (DVX) respectively.

6.4.1 RoO Restrictiveness and GVC Integration

To analyse the effect of GSP regime-wide provisions on GVC participation, this study first estimates our baseline model (model 6.2 above) to assess the protectionist effect of Ros using the GLS method (see results in Table 6.3). Column 1 in Table 6.3 includes only the GSP utilisation rate as our key indicator of RoO restrictiveness[94], leaving out all control variables. A higher RoO restrictiveness increases the barriers and complexities of cross-border trade and is associated with lower GVC participation. As beneficiary countries adhere more closely to less restrictive RoO (higher GSP utilisation rates), this study find more participation in GVCs. This finding corroborates the established theories in international trade, particularly the gravity model, demonstrating the inverse relationship between rules of origin (RoO) restrictiveness and Global Value Chain (GVC) participation. The utilisation rate, adopted is an innovative proxy for RoO restrictiveness, reflecting a higher level of restrictiveness when the utilisation rate is lower. This aligns with the prevailing understanding that stringent RoO imposes trade barriers, increasing the complexities and hindrances in cross-border transactions. Moreover, the study unveils a compelling association between the adherence of beneficiary countries to less restrictive RoO, indicated by higher utilisation rates, and increased GVC participation. This resonates with the broader literature, emphasizing the role of reduced trade barriers in facilitating smoother cross-border activities and fostering deeper integration into global production networks. Consequently, the findings advocate for policy considerations aimed at revising or relaxing stringent RoO to promote greater GVC integration among beneficiary nations, aligning with existing recommendations in trade literature and advocating for more user-friendly RoO to reduce trade costs and enhance global value chain participation.

This study adds other control variables in columns 2 - 5. Regression results show that after considering other potentially confounding factors and fixed effects, more restrictive RoO continue to exert a negative effect on GVC integration, an effect that is statistically significant in models 1, 3, and 5. This result lends support to hypothesis 10 about the negative effect of restrictive RoO in GVC integration.

Results for the control variables are mostly as expected except for the distance variable which shows positive coefficients. As mentioned in the literature, the heterogeneity in Rules of Origin (RoO) within the GSP scheme led to variations in the favourable conditions that different regions or countries experience. For

[94] Restrictive RoO leads to higher administrative and compliance costs for exporters. As the costs of meeting RoO exceed the benefits gained from GSP, exporters would opt for standard tariff rates, leading to lower GSP utilisation.

instance, the intensity of trade flows is substantial for Indonesia, the Philipines, Bangladesh and Vietnam. These are countries in the "cumulation zones", with substantial exports of higher value products into the EU market (Martens and Orbie 2018). The GSP RoO tend to be more relaxed for these distant countries[95] in South and Southeast Asia. The favourable conditions for countries farther away compared to proximate countries contributed to positive coefficients for the distance variable. It thus suggests that geographical distance did not impair the participation of GSP countries in GVCs. The introduction of a time-varying distance measure, adjusted by per capita GDP, into our regression models clarifies its impact on Global Value Chain (GVC) integration. The coefficients derived from the analysis - 0.40985, 0.85964, 0.4458, and 0.41552 - are all positive and statistically significant, indicating a positive association between our time-varying distance measure and GVC integration. By multiplying geographic distance by the average per capita GDP of the countries involved, this interaction term captures not only the physical separation but also the economic capacity of the nations, providing a more robust metric of economic distance. This offers an interesting perspective to economic disparities and geographical distances, jointly influencing GVC integration. The significant coefficients highlight the crucial role of both spatial and economic dimensions in shaping the extent to which countries are integrated into global value chains. Thus, the use of this adjusted distance measure in our regression models enhances the explanatory power and precision of our analysis, offering deeper insights into the factors driving GVC integration. The findings advocate for a multifaceted approach in examining global economic interdependencies, emphasising the importance of considering both economic capacity and geographical proximity in understanding the dynamics of GVC integration.

[95] Bilateral distance between each beneficiary country to the EU market measured by the geographical coordinates of the capital cities and Brussel.

Table 6.3 RoO Restrictiveness and GVC Integration

Dependent variable: GVC Integration	(1)	(2)	(3)	(4)	(5)
RoO Restrictiveness	-0.67929***	-0.03834	-0.12091***	-0.019074	-0.03431***
	(0.12139)	(0.03209)	(0.054901)	(0.03196)	(0.03233)
GDP		0.62793****		0.6214***	0.63426***
		(0.02437)		(0.02494)	(0.02557)
FDI			0.031524***	-0.000719	-0.0005104
			(0.00089)	(0.000543)	(0.000545)
Distance*GDP per capita		0.40985***	0.85964***	0.4458***	0.41552***
		(0.02466)	(0.031039)	(0.023353)	(0.02536)
Resource endowment		0.12259***	0.094808	0.13238***	0.124421***
		(0.020503)	(0.03507)	(0.0205)	(0.02057)
Political stability		-0.10143***	0.013149		-0.09821***
		(0.02987)	(0.05072)		(0.030027)
Constants	-1.29838***	-12.8613***	-28.26241***	-13.9269***	-13.0183***
	(0.24413)	(0.81425)	(0.967385)	(0.77384)	(0.83025)
N	331	329	329	337	329
Wald chi2	31.32	5769.7	1767.41	5793.95	5785.97
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000

Notes: *p < .10, ** p < 0.05; *** p < 0.01; robust standard errors in parentheses; models 2, 3 and 5 include country fixed effects

Somewhat counterintuitively, there is some evidence that political stability in the GSP countries negatively affects the development of GVC linkages. While this may not be theory consistent, in instances where excessive political stability led to complacency, resistance to policy reforms and prevention of trade policy adjustments, beneficiary countries might downplay the opportunities to enhance competitiveness and necessary adjustment to global trade dynamics. This mirrors the case of Myanmar, Sudan, Eritrea, and Equatorial Guinea where long rule of political leaders resulted in isolationist policies, lack of economic reforms, and human rights abuses that hindered integration into the global economy. This study used GDP to indicate the economic size of GSP countries in terms of production capacity and markets. Larger countries with higher production capacity take advantage of economies of scale and therefore increase their exports. The large domestic markets also enable them to absorb more intermediate imports. Hence, the GDP is

expected to have a positive effect on the multiple stages of value addition across different countries. This argument applies to GVC trade, and our estimation corroborates this prediction.

FDI net inflows and resource endowment positively affect GVC participation as expected (as shown in model 3). Foreign companies create linkages with domestic suppliers, creating opportunities for exporters to become part of global supply chains. This enhances the host country's participation in GVCs by providing local firms access to international markets. Comparing columns 2 and 3, this study finds that the coefficient of "resource endowment" is higher when used with GDP (12.3%) than when used with FDI (9%). As pointed out by Hausmann and Klinger (2006), countries with significant resource endowments might experience more diversification when their economies are larger and more developed. A diverse economy could lead to a more significant presence in GVCs, as countries with diverse industries might have more opportunities for integration. In addition, the coefficients of the landlocked dummy are all significantly negative. These results provide evidence that the geographical characteristics of the destination country have an important influence on GVC participation.

6.4.2 GSP Regime-wide Provisions and GVC Integration

The above analysis shows that RoO restrictiveness impairs GVC integration. However, this study finds that the introduction of cumulation into our baseline model minimised the negative effect of RoO restrictiveness on GVC linkages. In this section, this study reports the results of regression analyses based on model 6.3 above which takes into consideration the cumulation provisions. Table 6.4 shows that cumulation exhibits a positive and statistically significant effect on GVC participation, and the negative effect of RoO restrictiveness diminishes substantially in model 3, compared to model 1 of Table 6.3. The cumulation provisions eased the protectionist tendencies of RoO and thus validated hypothesis 10 stated above. This aligns with the position of Thang et al. (2021) where cumulation is argued to widen firms' options for international supply networks.

Table 6.4 Cumulation Provisions and GVC Integration

Dependent variable:	Forward Integration (1)	Backwards Integration (2)	GVC Integration (3)
RoO Restrictiveness	-0.13697*	-0.12654***	-0.12010***
	(0.07046)	(0.056317)	(0.055126)
Cumulation	0.03846*	0.698284***	0.23874***
	(0.02252)	(0.14374)	(0.14767)
FDI	0.00577***	0.002148***	0.003154***
	(0.001146)	(0.00092)	(0.000897)
Distance*GDP per Capital	0.702195***	0.938761***	0.85595***
	(0.04929)	(0.039395)	(0.03856)
Resource endowment	-0.04785	0.139035***	0.09701***
	(0.04808)	(0.03843)	(0.037617)
Political stability	0.17639***	-0.07605	0.011597
	(0.06598)	(0.052734)	(0.051619)
Constants	-24.0925***	-31.3968***	-28.1529***
	(1.50959)	(1.20659)	(1.18107)
N	329	329	329
Wald chi2	855.7	1900.10	1767.58
Prob > chi2	0.0000	0.0000	0.0000

The positive effect of cumulation on GVC integration is attributable to the simplification of regulatory hurdles between GSP members. Our result validates that cumulation broadened the pool of suppliers and allowed companies to source inputs from the most cost-effective and efficient sources. This allowed to solve the existing coordination and commitment problems[96] pointed out by Del Prete et al. (2017); Laget et al. (2020); and Kano et al. (2022), especially prompting those national policies that are needed for the smooth operation of GVCs. It means that, within the GSP framework, the provisions of cumulation triggered a conducive environment for GVC participation, allowing the usage of foreign and domestic inputs within GSP regions. In Table 6.4, the effect of cumulation resulted in 3.8% increase in forward linkages underscores enhanced connections between downstream and upstream industries, while the significant 69.8% surge in backward linkages signifies strengthened ties between suppliers and buyers across the production chain. These

[96] The absence of reciprocity and transparency, and deficient compliance with multilateral commitments, undermine trust and fuel incentives to redress grievances unilaterally. This may create some commitments and coordination problems in GSP operations.

heightened linkages denote increased value creation, improved supply chain resilience, and heightened efficiency within GVCs.

While cumulation enhances trade facilitation, its implementation may pose challenges. Variations in the interpretation or application of cumulation rules across countries might create inconsistencies, leading to potential discrepancies in origin declarations (Miroudot and Cadestin 2017). These inconsistencies could affect the intended seamless integration of inputs within Global Value Chains (GVCs), necessitating standardised guidelines or improved cooperation among member states to streamline implementation processes (World Trade Organization, 2011). Achieving harmonisation in the interpretation and application of cumulation rules requires greater coordination among participating nations, calling for collaborative efforts to ensure uniformity and minimise disruptions in GVC operations (Miroudot and Cadestin 2017).

6.4.3 RTA-Cumulation Alignment and GVC Integration

In addition to analysing how cumulation provisions minimise the pessimistic tendencies of RoO restrictiveness, this study also takes into consideration the potential influence of RTA in the GSP regions (ASEAN, SAARC, ACP, Andean, and MERCOSUR). The alignment of the cumulation arrangements with existing Regional Trade Agreements[97] has allowed GSP countries to benefit from the core provisions like competition policy, investment, movement of capital and Intellectual property rights protection (Horn et al. 2010; Hofmann et al. 2017; Laget et al. 2020). This study hypothesised that the mapping of cumulation allowance unto the operations of RTAs plugged some depth into the GSP framework, such that it fosters GVCs integration. In Table 6.5 below, this study explores a higher-order interaction of RTA dummy and RoO restrictiveness, and RoO restrictiveness and cumulation. This typically involves assessing the interaction effects of the RoO restrictiveness with cumulation and RTA separately, thus shedding light on the context-dependent nature of the relationships under investigation.

[97] Existing RTAs include the Association of South-East Asian Network, the Andean Community, South Asian Association for Regional Cooperation and Southern Common Market - MERCOSUR

Table 6.5 RTA-Cumulation Alignment and GVC Integration

Dependent variable: GVC Integration	(1)	(ASEAN RTA)	(SAARC RTA)	(ACP)	(5)
RoO Restrictiveness	-0.160528***	-0.61269***	-0.57868***	-0.31849***	-0.24345***
	(0.054205)	(0.107625)	(0.117633)	(0.107493)	(0.096953)
Cumulation	4.518252***				1.00518*
	(0.998647)				(0.54144)
RTA*Cumulation		3.07789***	2.8883***		
		(0.246619)	(0.307098)		
Cumulation*RoO Restrictiveness	2.057019***				
	(0.452342)				
FDI	0.0031146***				
	(0.000869)				
GDP*Distance	0.80765***				
	(0.03889)				
Resource endowment	0.123091***	0.201064***	0.243945***	0.217195***	0.327241***
	(0.036936)	(0.06993)	(0.072539)	(0.073848)	(0.0727)
Political stability	-0.0392649	-0.679055***	-0.375818***	-0.348453***	-0.35885***
	(0.051303)	(0.09853)	(0.110707)	(0.094929)	(0.089829)
ASEAN Dummy		2.53478***			2.30208***
		(0.272976)			(0.289089)
SAARC Dummy			2.01899***		2.31369***
			(0.363088)		(0.316829)
ACP Dummy				-2.32184***	-1.09672***
				(0.202589)	(0.232381)
Andean Dummy					1.198207***
					(0.543026)
MERCOSUR					1.00518***
					(0.54144)
Constants	-26.7796***	-1.77349***	-1.71882***	-2.13884***	-1.25761***
	(1.184745)	(0.24332)	(0.262138)	(0.218331)	(0.282413)
N	329	331	331	331	331
Wald chi2	1899.36	163.33	691.12	216.79	360.27
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000

Notes: *p < .10, ** p < 0.05; *** p < 0.01; robust standard errors in parentheses; models 2, 3 and 5 include country fixed effect

This analysis lends substantial support to hypothesis 11 about the importance of deep-RTA neighbours (vis-a-vis the cumulation provisions) in the integration of GSP countries into GVCs. In Table 6.5, the coefficients of RoO restrictiveness remain negative, suggesting that stricter RoO were associated with lower GVC integration. These effects are significant and of higher magnitude than the results obtained in Tables 6.3 and 6.4. However, when the interaction term between RoO restrictiveness and the cumulation variable is introduced, the interaction term becomes positive and of high magnitude. This indicates that the negative impact of RoO restrictiveness on GVC integration is mitigated, and even reversed when cumulation provisions are in place. Similarly, the interaction between RoO restrictiveness and RTA membership is positively associated with GVC integration. Thus, being a member of an RTA appears to mitigate or counteract the negative impact of RoO restrictiveness, leading to a positive effect on GVC integration.

The interaction term between Regional Trade Agreements (RTA) and cumulation is significantly positive (3.07789 for ASEAN RTA), indicating that RTAs with cumulation provisions substantially enhance Global Value Chain (GVC) integration. This finding supports the notion that regional cooperation can amplify the benefits of trade facilitation measures, as cumulation provisions allow materials from different countries to be treated as originating, thereby simplifying compliance with Rules of Origin (RoO) and fostering deeper integration into GVCs. Furthermore, the positive coefficient for the interaction between cumulation and RoO restrictiveness (e.g., 2.057019) suggests that cumulation provisions can mitigate the negative impact of RoO restrictiveness. This indicates that even when RoO are stringent, the presence of cumulation provisions can alleviate some of the trade barriers they create, further promoting GVC integration. These results underscore the importance of strategic trade policies and regional cooperation in enhancing economic integration and participation in global value chains.

The inclusion of dummy variables for specific Regional Trade Agreements (RTAs) such as ASEAN, SAARC, ACP, Andean, and MERCOSUR reveal significant impacts on Global Value Chain (GVC) integration. The positive coefficients for ASEAN (2.53478) and SAARC (2.01899) suggest that these RTAs effectively facilitate GVC integration, likely due to the alignment with the cumulation arrangement and strong regional cooperation frameworks. These findings align with the theoretical perspectives on economic integration, which posit that RTAs reduce trade barriers, harmonize standards, and create conducive environments for cross-border production networks.

In contrast, the negative coefficient for the ACP dummy (-2.32184) indicates a potential hindrance to GVC integration, specifically revealing the exclusion of these countries from the GSP cumulation arrangement. This exclusion reduces their inclination to integrate into GVCs, as it limits their ability to cumulate origins and benefit from simplified trade rules. Although ACP countries are allowed to cumulate under the Economic Partnership Agreement (EPA), this arrangement is reciprocal and has been criticised by many included countries for choking their policy space and not being particularly development focused. This outcome stresses the relevance of RTAs-Cumulation alignment in fostering economic integration, highlighting that merely being part of an RTA does not guarantee enhanced GVC participation. Instead, the specific design and implementation of trade policies, as well as the extent of regional cooperation, play critical roles.

6.5 Conclusion

This chapter offers an in-depth analysis of the effectiveness of the EU GSP scheme in facilitating the integration of beneficiary countries into Global Value Chains (GVCs). The empirical investigation draws from three primary strands of literature, contributing to the development of hypotheses and the analytical strategy. The analysis starts by investigating the protectionist implications of Rules of Origin (RoO) on GVC trade, recognizing their significance in determining eligibility for GSP participation. Additionally, it explores the determinants of GVC participation, an area with limited attention in GSP-related studies, through which integration into the world trading system can be established. The analysis also considered how the GSP-regime provisions, particularly cumulation, mitigate the restrictive effects of RoO on GVC integration. Furthermore, insights from the network literature provided a perspective on the interconnectivity of GSP countries through existing Regional Trade Agreements (RTAs).

The findings in this chapter resonate with existing literature (see Fernandez et al. 2022; Bouet et al. 2022; Khiati and Dinar 2022), emphasising that the restrictiveness of RoO significantly hampers cross-border trade and GVC integration. The increase in RoO restrictiveness negatively affected GVC integration by 67.9%, corroborating prior expectations regarding the inhibitory impact of stringent RoO. This aligns with earlier studies underlining how compliance costs and administrative burdens discourage firms from engaging in cross-border production, thereby reducing GVC integration.

However, the inclusion of cumulation provisions in the model mitigated the adverse impact of RoO restrictiveness on GVC integration, reducing it to 12%. This aligns with hypothesis 10, indicating that

cumulation helps alleviate some trade-distorting impacts of RoO by allowing firms to consider inputs from multiple countries within the GSP region, thereby promoting GVC participation. This finding is insightful and sheds light on the implication of considering a select few of 15 countries to use the cumulation provisions. It thus suggests that, in those countries, the restrictiveness of RoO is mitigated and their integration into the GVC is more assured (Manchin 2006; Dowlah 2008; Wagner 2010; Keck and Lendle, 2012; Zhou and Cuyvers 2012; Thelle et al. 2015; Cirera et al, 2016). The implication of the cumulation allowance is pointed out in Liargovas (2013) but only as a driver of the utilisation rate or/and export flows. This study filled the gap in the GVC context.

When examining the interactions between RoO and regime-wide rules, intriguing findings emerged. The interaction between RoO restrictiveness and cumulation showcased a positive effect on GVC integration, implying that cumulation provisions, when combined with RoO, effectively counteract protectionist tendencies, facilitating GVC integration. This underscores the importance of complementary trade provisions such as cumulation in mitigating the restrictiveness of RoO, emphasizing their role in facilitating smoother trade relations and encouraging deeper integration into GVC. This observation contributes to the literature by highlighting an understudied aspect of preferential trade policies. While broader trade empirics have explored the impact of trade measures on GVC (Ruta 2017; Zhang et al. 2021), this research unveils the synergistic effect arising from the interaction between RoO and cumulation, offering a fresh perspective to their combined influence on GVC integration.

This study contributes to explaining the regional nature of global value chains, emphasizing that GVCs tend to concentrate within regions with lower trade barriers. The existence of cumulation provisions within GSP regions plays a pivotal role in promoting GVC integration, with significant positive effects on both forward and backward linkages. However, the analysis also highlights significant variability among GSP beneficiary countries regarding access to cumulation and, consequently, their potential for GVC integration. The selective inclusion of only 15 countries in cumulation provisions, accounting for over 95% of GSP imports into the EU market, raises concerns about the equitable distribution of benefits. This selective approach challenges the GSP's inclusivity, potentially limiting the ability of many beneficiary nations to fully leverage the scheme for meaningful GVC integration. This novel insight calls attention to the need for a more inclusive approach within the EU GSP policies. By highlighting the limitations of the current selective approach, this research contributes to the discourse on trade policy formulation. It prompts discussions on how a more inclusive distribution of cumulation provisions could better support GVC integration for a broader spectrum of

beneficiary nations. The potential ramifications of this selectivity have not been thoroughly examined in prior research, hindering the normative effectiveness of the GSP scheme (discussed in Chapter 3).

From a policy standpoint, these findings underscore the need for a comprehensive assessment of the GSP scheme's impact on GVC integration across all beneficiary countries. The selective extension of cumulation privileges necessitates a re-evaluation of the scheme's inclusivity and its alignment with the broader goals of economic development and integration among beneficiary nations. The prioritisation of a select few countries within the GSP framework raises valid concerns about the scheme's overall effectiveness in promoting economic development and equitable integration. It highlights the necessity for potential adjustments to ensure a more inclusive approach, fostering meaningful GVC integration for all GSP countries and contributing to broader international economic cooperation goals.

Chapter 7 Conclusion

7.1 Introduction

The European Union's Generalised System of Preferences (EU GSP), which has been in place since 1974, was initially designed to address specific developmental challenges (Snyder 2011). Its primary goal was to facilitate market access for developing countries by reducing tariffs, to help these nations climb the developmental ladder and ultimately engage in reciprocal trade (Francois et al. 2005; Hoekman and Özden 2006; Nilsson 2007; Young 2014). The central theme is development assistance, through trade-enhancing provisions like tariff reduction/removal and cumulation allowances. However, the realisation of these benefits hinges on strict adherence to specific procedural rules, such as the Rules of Origin (RoO) requirements and compliance with eligibility criteria, graduation conditions, and exclusion regulations. Siles-Brugge (2014) argue that these conditions have constituted significant impediments to GSP participation and by implication trade flows. This sentiment is echoed in other conceptual studies like Holland and Doidge (2012); Young and Peterson (2013); and De Bie`vre and Poletti (2013) where the EU GSP is deemed ineffective in improving the development imperatives of the participating countries.

In response to the perceived ineffectiveness of the EU GSP, a series of reforms emerged, based on gradualism, which maintained that a gradual sequencing of reforms would create a more beneficial economic paradigm, ultimately making the GSP program a more effective tool of development (Winters 2001; English 2016; Carbone 2017). However, any definitive judgement on the effectiveness or otherwise of the GSP programme is potentially impeded by the lack of a consistent conceptual framework for evaluating GSP effectiveness across the literature. Various studies have offered disparate interpretations, with some focusing on utilisation rates, others on an increase in preference margin, expanded export flows, relaxed Rules of Origin (RoO), and flexible exclusion and graduation criteria, among other dimensions (Manchin 2006; Dowlah 2008; Wagner 2010; Keck and Lendle 2012; Zhou and Cuyvers 2012; Thelle et al. 2015; Cirera et al. 2016). While this study acknowledges the distinct approaches that addressed important aspects of GSP operations, the divergence in interpreting effectiveness has engendered confusion in policy circles, aggravated by the substantial variation in effectiveness outcomes across different studies. In any case, this thesis recognises the ongoing relevance of studies focusing on individual aspects of GSP, those that utilised techniques appropriate to the specific issues and datasets.

This thesis, therefore, filled the gap by constructing a framework that unifies these various perspectives into a holistic effectiveness pathway. The framework not only captures the diverse objectives of the EU GSP but also accounts for the varied perspectives found in existing literature. It is further applied in empirical analyses, with the empirical chapters focused on GSP efficiency, and other GSP objectives like poverty reduction and integration into the world trading system.

By unifying the diverse viewpoints and empirical insights, this thesis provides a more lucid and comprehensive exposition of the concept of effectiveness. This leads to a stronger and this study-rounded assessment of the extent to which the EU GSP has achieved its intended objectives.

7.2 Key contribution to the literature

A vast body of literature has extensively explored the impact of the Generalised System of Preferences (GSP) since its initial implementation in the early 1970s, with particular emphasis on the EU (before it the European Economic Community - EEC, and the European Community - EC) as demonstrated in Sapir (1981) and the United States (Sapir and Lundberg, 1984). Research on the EU's GSP scheme has been an ongoing endeavour, ranging from Gasiorek et al. (2010) to Thelle et al. (2015) and Cirera et al. (2016). A common theme in these studies has been the investigation of whether GSP beneficiaries experience notable export growth following trade preferences. This investigation has been pursued using econometric methods, with increasing granularity in estimates at both the country and product levels, within a gravity modelling framework. Generally, as the data becomes more disaggregated, the direct evidence of significantly higher trade volumes for specific country-product combinations becomes less conspicuous (see Cirera et al. 2016).

Both Gasiorek et al. (2010) and Cirera (2014) have drawn upon comprehensive data provided by the European Commission, detailing confidential trade information at the 10-digit product classification level for each GSP beneficiary country. This data reveals the extent to which their exports entered the EU under various tariff regimes, including the variants of GSP, MFN, or other preferential arrangements like EPAs. Notably, Gasiorek et al. (2010) aimed to assist the EU Commission in preparing for the reform of the EU GSP, which was executed in January 2014. Two distinctive features set Gasiorek et al. (2010) apart from the broader body of literature on GSP effects. The first, and perhaps the most pivotal distinction, is their unique access to an EU trade dataset that provides intricate trade flow information at the 10-digit product code level. This dataset specifically breaks down trade flows from GSP, GSP+, and Everything But Arms (EBA)

beneficiaries and categorises the goods based on the trade regime through which they entered the EU. This unprecedented level of detail offered profound insights into the functioning of the EU GSP system. The second notable aspect of their work is the comprehensive approach to analysis, which spans a wide range of methodologies. This approach encompasses descriptive statistics, econometric analysis, computable general equilibrium (CGE) modelling, and qualitative analysis, drawing on case studies. This multifaceted analytical approach was primarily driven by the requirements and demands of the European Commission. However, the thrust of Gasiorek et al. (2010) is to assess the effectiveness of the EU GSP system, with a specific emphasis on preference margin, preference utilisation, and export growth. While Gasiorek's work represents a significant step towards examining GSP effectiveness, it lacks a structured framework for evaluating effectiveness and a detailed exploration of the various factors that either enhance or hinder the attainment of each GSP objective. This thesis bridges this gap by introducing a structured and comprehensive effectiveness framework, offering a more in-depth examination of the factors that impact GSP effectiveness.

The key contributions to the literature are as follows:

i. This study positions the assessment of GSP effectiveness within a cohesive framework that encompasses the diverse viewpoints and interpretations of effectiveness. It is a novel approach that categorises the various effectiveness approaches in the literature into four specific categories: procedural, substantive, transactive, and normative. Furthermore, this objective-based framework is a novel attempt to unify all these effectiveness categories, to establish more comprehensive parameters for evaluating GSP effectiveness.
ii. The simultaneous examination of the effectiveness parameters allows for a more interconnected understanding of how the GSP program is performing across multiple dimensions. This approach reveals synergies between different aspects of effectiveness, identifying areas where adjustments are needed to enhance the overall performance of the EU GSP.
iii. This thesis adopts cutting-edge empirical techniques to provide a comprehensive and insightful analysis of GSP efficiency, poverty reduction potential, and GVCs integration. The estimation of GSP efficiency is not limited to traditional measures. Instead, it takes a broader view by situating GSP efficiency within the utility rate. The utility rate is a combination of two crucial elements: utilisation rate and coverage rate. This approach adds a novel and significant perspective that has been often overlooked in previous studies. By considering both utilisation and coverage rates, this study gain a more comprehensive understanding of GSP efficiency.

The investigation of poverty reduction potential in Chapter 5 explores the intricate channels through which the benefits of trade affect the household level, where poverty often persists. It goes beyond the surface-level examination of trade gains to explore the specific mechanisms through which these gains reach households. This detailed analysis provides a unique insight into the potential for poverty reduction stemming from trade policies.

The study of GVC integration in Chapter 6 is not limited to mere observation. It employs a systematic approach through a series of equations to assess the protectionist implications of Rules of Origin (RoO). The analysis does not stop at identifying these implications but progressively evaluates their impact. Additionally, the thesis explores how the provisions of the GSP regime can mitigate the protectionist effects of RoO on GVC integration. This robust examination is vital for understanding the interplay between trade policies, GVCs, and their potential impacts on the beneficiary economies.

The GSP efficiency estimates in Chapter 3 reveal an interesting trend, particularly in South and Southeast Asian countries. For instance, countries such as Bangladesh, Nepal, Laos, Pakistan, Bhutan, Cambodia, and Myanmar show more favourable GSP efficiency. One key factor contributing to this is the presence of cumulation allowances, including the opportunity for inter-regional cumulation. These provisions play a significant role in the trade dynamics of these countries, fostering the accumulation of value-added across different countries or regions, enabling these nations to optimise their participation in the GSP scheme. In the context of South and Southeast Asia, the availability of cumulation allowances has a positive impact on GSP efficiency and other effectiveness parameters. While GSP utilisation has been examined substantially (see Manchin 2006; Dowlah 2008; Wagner 2010; Keck and Lendle, 2012; Zhou and Cuyvers 2012; Thelle et al. 2015; Cirera et al 2016), little attention has been paid to the effect of cumulation on GSP efficiency.

The EU seemingly prioritises a specific group of 15 countries, granting them privileged access in terms of the cumulation provisions. Remarkably, these 15 countries record high utilisation and collectively contribute to more than 95% of GSP imports into the highly lucrative EU market. This observation raises a pressing concern. A significant number of GSP beneficiary countries, numbering this well over 60, face substantial challenges in harnessing the scheme for meaningful economic gains. It becomes increasingly evident that the selective extension of cumulation provisions to specific countries may reflect the EU's strategic intent to establish reciprocal trade arrangements with these nations. This strategic bias raises fundamental questions about the inclusivity and equitable distribution of the GSP schemes' benefits. While the 15 countries

privileged with cumulation provisions are this well-positioned to maximise their participation in GSP trade and utilise the scheme as a catalyst for economic growth, many other beneficiary nations find themselves in a less favourable position. Their limited access to cumulation provisions significantly curtails their ability to fully unlock the GSP's potential for poverty reduction and integration into the global trade landscape.

This finding challenges the idea of a uniquely "global development actor Europe" and the supposed intent of addressing multifaceted developmental challenges through the GSP scheme. Indeed, and echoing the sentiments of conceptual studies like De Bie`vre and Poletti (2013) and Siles-Brugge (2014), there is not much difference between the EU "developmental" and "commercial" trade policy-making, where the favourable allowances of the formal appear to be driven by the potentials of the latter. This thesis, therefore, aligns with several authors who have sought to move beyond the institutional determinants of EU external policy-making to situate preferential trade provisions within the wider discipline of political economy (see De Bie`vre and Poletti 2013). What can be concluded, following this discussion, is how commercial imperative is an important determinant of GSP trade policy outcomes, with selected exporters seen as key drivers of the EU's offensive trade agenda (Heron and Siles-Brugge 2012).

The inclination towards reciprocity is also revealed in the statement by Karel De Gucht, who took over as EU trade commissioner in February 2010. Specifically, they pledged to stick to the ambitious liberalisation agenda set back in 2006 with significant emphasis on reciprocity. The argument within the EU Trade, growth and world affairs strategy has been that "for an open trade policy in Europe to succeed politically, others – including both our developed and developing partners - must match our efforts, in a spirit of reciprocity and mutual benefit' (Commission 2010d). The emphasis on reciprocity brought in a few limitations to the GSP framework. This ushered in a period of absolute selectivity where changes in GSP provisions appear to provide the EU with more leverage in reciprocal negotiations. This naturally raises broader implications for the study of the 'trade-development' nexus, suggesting that GSP reforms are driven by commercial interests to which developmental considerations have been subordinated.

One might be inclined to rationalise the noticeable selectivity within the GSP framework by suggesting that less favoured countries already have Economic Partnership Agreements (EPAs) with the EU, which enable them to engage in production cumulation. Nevertheless, as indicated by Hoekman et al. (2016), there remains an ambiguity concerning whether these EPAs were primarily oriented toward trade or development goals. Milner and Kubota (2005) conclude that the welfare impact (excluding revenue-related effects) of entering

into a reciprocal agreement with the EU would likely be minimal, whether positive or negative. However, ACP countries are expected to face immediate adjustment costs, particularly in terms of revenue losses. Furthermore, an assessment of the Caribbean EPA by Peridy and Roux (2012) reveals that the implementation of this agreement has not effectively addressed significant tariff barriers, complicated by various alterations in trading conditions. Fontagne et al. (2008) also introduce the notion of potential trade diversion. The slight and slow liberalisation of developing partners' imports found in these agreements, coupled with weak implementation of what was agreed, speak to the general reluctance of developing countries to liberalise their trade. If the EU's primary concern in trade policy is to establish liberal markets in which its firms can compete, to what extent can it contribute to the economic development of developing countries, for which it is the most important global provider of market access? It is thus a stark reminder of the problems associated with the entwinement of commercial and developmental trade policy already brought to the fore by the controversy surrounding the EPA negotiations, where critics accused the EU of restricting the policy space available to ACP countries (Hurt 2003, Langan 2014).

The evaluation of GSP effectiveness across three distinct parameters reveals that the EU GSP is not as effective as depicted in the literature (Manchin 2006; Nilson 2011; Keck and Lendle 2012; Cirera and Cooke 2015), such studies that have primarily taken a one-sided view of GSP effectiveness. However, the effectiveness of the EU GSP appears notably prominent within the favoured 15 countries. As the analysis in this thesis broadens to include a more diverse sample of less favoured countries, a potential diminishing of GSP effectiveness becomes evident. This raises a fundamental question about the overall effectiveness of the GSP as a trade policy tool, casting significant doubt on its ability to deliver its intended benefits across the broader spectrum of beneficiary countries. It prompts serious considerations regarding the potential consequences of selectivity within the EU GSP scheme, both in terms of trade dynamics and the broader objectives of international economic cooperation.

7.2.1 The Effectiveness of GSP through Efficiency Estimates.

Chapter 4 examines the efficiency of the EU GSP scheme based on the descriptive efficiency indicators adopted in the literature (Utilisation rate, Coverage rate and Utility rate). However, this thesis challenges the common narrative that GSP efficiency is exclusively driven by the utilisation rate. Rather, it is shown that procedural elements relating to GSP coverage, exclusion and graduation, and Rules of Origin play an important role as well, adding to the literature which seeks to situate trade efficiency within the wider "input-

output" interaction of trade policy. This study synthesises the existing efficiency indicators by classifying the utility rate as a cartesian product of the utilisation rate and the coverage rate, thereby situating GSP efficiency within a composite parameter. Although, the utilisation rate reflects choices made by exporters selecting between alternative access schemes, whereas coverage is a policy choice made by the EU. It is important to evaluate GSP efficiency from a more inclusive exporter-importer perspective. This approach provides a global view of efficiency using a single indicator, such that captures different procedural elements driving GSP uptake, including the determinants of GSP coverage. The findings challenge the narrative that the EU GSP scheme has been efficient for beneficiary countries, with the average total utility rate being 23.73% across effective beneficiaries.

Specifically, this brings into context the significance of GSP coverage in "efficiency estimates" and disagrees with the view that GSP utilisation is exclusively coverage-dependent. In countries like Bolivia, Armenia, and Mauritania where coverage rates averaged 13.91%, 38.34% and 39.29% between 2010 and 2020, the respective utilisation rates remained high, averaging 93.12%, 93.47% and 97.82% respectively. Also, despite the coverage being above average for Kiribati (63.19%), Samoa (54.70%), and Sri Lanka (81.92%), the utilisation rates are not consistently driven, standing at 32.90%, 27.19% and 61.85% respectively.

Despite the utilisation rate averaging 50% - 65% per year across all beneficiaries, the EU GSP scheme is found inefficient between2010 and 2020, with total yearly average efficiency levels oscillating between 19% - 27%. The findings in this thesis deviate from existing studies (like Davies and Nilsson 2013) where efficiency is hinged solely on preference utilisation, and in which GSP is prevalently adjudged efficient due to a high utilisation rate. This challenges the idea of placing absolute "efficiency responsibilities" on GSP beneficiaries (via utilisation); such an approach appears to deliberately ignore the inherent characters of GSP provisions which are designed to attain preferential "promises".

Echoing the opinion of Siles-Brugge (2014), the relative composition of GSP coverage becomes more restricted in each successive EU GSP reform. Also, the Overseas Development Institute's report (ODI 2011) maintained that income and product graduation (as found in the 2014 regulations) is not an efficient way to help developing uncompetitive countries. In the analysis in Chapter 4, for instance, the yearly coverage rate across all GSP beneficiaries averaged 28% - 35% between 2010 and 2020. It only means that the diverse changes to GSP regimes affected exports that would have benefitted substantially from GSP (Siles-Brugge 2014). This is why Young and Peterson (2013) question the framing justification of refocusing the GSP regime

on countries "most in need", especially since the alleged efficiency for these economies is far from certain. This aligns with other authors who are concerned that the EU has not only signed EPAs with existing LDCs in receipt of Everything But Arms (EBA) but also negotiated Free Trade Agreements (FTAs) with existing GSP beneficiaries. The crux of the argument was that such countries would have the option of maintaining their access to the EU market in case of income or product graduation. Restricting GSP coverage, therefore, raises suspicion and exposes the EU's intention to put trade on a reciprocal footing with GSP countries (De Gucht 2011). In any case, this thesis finds the coexistence of "reciprocity", in the form of EPAs and GSP, not particularly favourable to ACP countries.

Furthermore, the Rules of Origin are presented rather differently in this chapter, just not as treated in isolation as existing studies where its implications are only limited to the product level (Manchin 2006; Dowlah 2008; Wagner 2010; Keck and Lendle, 2012; Zhou and Cuyvers 2012; Thelle et al. 2015; Cirera et al, 2016). The analysis uncovers the implication of cumulation on regional efficiency, particularly in regions where inter-regional cumulation is allowed. This applies to South Asian and Southeast Asian regions, where originating products in one region are processed or added to products originating in the other region without necessarily losing eligibility or facing tariff escalation. Such relaxed rules of origin appeared to widen the coverage rate and positively influenced GSP efficiency. In any case, GSP coverage is highest in South Asian and Southeast Asian countries, (Bangladesh 97.97%, Cambodia 93.22%, Bhutan 85.53%, Nepal 85.42%, and Pakistan 85.19%), and by implication, enhanced efficiency levels (Bangladesh 93.61%, Cambodia 86.90%; Bhutan 82.28%, Nepal 78.69%, and Pakistan 81.48%). Essentially, only a few countries in other regions witnessed efficiency levels beyond average (Solomon Islands 85.41%, Malawi 83.81%, Senegal 67.56%, Gambia 60.38%, and Micronesia 52.44%).

The reality of GSP efficiency cannot be discussed without specific reference to GSP policy being driven by commercial trade agenda. Neglecting this factor has created a biased conclusion in existing literature where the GSP scheme is adjudged as an unworkable development instrument. This thesis argues that the inherent selectivism[98] within the GSP framework appears intentional, providing the EU with more leverage in reciprocal trade negotiations. In line with this, the Directorate General (DG) Trade chose to favour "reciprocity", even if this threatens GSP efficiency. It is rather odd that the EU has claimed to develop a "generalised model of development" but chose to exclude some countries (mostly the ACP countries) from

[98] Selectivism typically refers to a policy of positioning interventions towards a select few groups (Lee 2021)

the regional groups for possible cumulation. This has to be seen as part of the move towards advancing leverage in ongoing trade negotiations, a means to deliver on the Global Europe objectives of accessing ASEAN's emerging markets. If the EU is to remain a convincing advocate of development issues, the GSP scheme must be built on a consistent development policy capable of achieving "GSP promises", rather than compromising with specific countries based on commercial considerations.

7.2.2 The Effectiveness of GSP through Poverty Reduction

Chapter 5 aimed to empirically investigate how the GSP scheme may have reduced poverty levels in the beneficiary countries. This chapter specifically reflects on the poverty-reducing objective of the EU GSP scheme and situates its effectiveness within the ability to achieve this specific objective. This adds to the literature by ascertaining the effectiveness of the EU GSP scheme from the perspective of both the GSP donor and the beneficiaries. A contribution that filled a gap in GSP literature where effectiveness has been prevalently presented through the utilisation rate. GSP export is adopted to account for the variation in GSP policies, being an outcome measure that reflects tariff and non-tariff barriers, actual exposures to trade interactions and effective level of integration.

The narrowness of existing perspectives has meant that this thesis develops a conceptual framework to examine the GSP-poverty nexus dynamically, based on GSP outcome measure (GSP exports) and through activities in the beneficiary countries. This study argues that GSP exports are primarily measured at the firm level and aggregated at the country level, while poverty occurs at the household level. Given that one occurs at a level higher than the other, it is hypothesised that the effect of GSP export would "trickle down" through other channels from which households derive welfare benefits. This consideration informed the empirical approach in which relevant mediating variables were identified. The analysis had initially considered a FE model without mediation, and the non-significance of the GSP coefficient substantiated the progression to examine a mediation hypothesis.

The results of the Structural Equation show that increased Productivity in the beneficiary country has a poverty-reducing effect (Direct effect). Similar results are presented in Khan and Shah (2012); Ivanic and Martin (2018) and Mellor and Malik (2017). Specifically, it is found that every 1 unit increase in productivity reduced the poverty rate by 220% percentage point. This aligns with Devkota and Upadhyay (2013) in the case of Nepal; de Janvry and Sadoulet (2010) in Vietnam and Abro et al (2014) in the case of Ethiopia. It

would mean that GSP beneficiary countries accelerating productivity growth is fundamental to poverty reduction. The positive prospect for productivity at the firm level would require concerted and determined policy actions, especially if productivity growth must be sustainable. However, the results show a significant negative effect of GSP trade on productivity, where every unit change in GSP policy reduced productivity by 0.15% point. Such outcomes can be linked to the ODI report on GSP changes where product and income graduation (as found in the new GSP regulation) are argued to be an ineffective way of helping poor, uncompetitive states (ODI 2011, p iii). Specifically, the reports find that many of the goods in which such GSP beneficiaries could potentially establish a foothold in the EU market, and which could contribute to poverty reduction, are currently accounted for by countries with whom the EU have agreed to a reciprocal arrangement in terms of EPAs. This typifies a strong case of preference erosion identified in Siles-Brugge (2014) and echoes the opinion of Gasiorek et al. (2010) that there is little evidence that the EU scheme has led to a diversification of exports or enhanced export performance. It does suggest that productivity benefits for GSP beneficiary countries are far from certain.

In any case, this thesis finds the effect of GSP on poverty to be completely mediated by productivity. The analysis used the causal steps (Baron and Kenny 1986) associated with Sobel and Monte Carlo tests as well as the product of coefficients (Mackinnon and Dwyer 1993) in testing the indirect effects. This study finds convergence across the two approaches and establishes the case of complete mediation through productivity. This finding is particularly important and establishes the validity of our mediation hypothesis. Indeed, poverty reduction occurs through the productivity channel, however, the EU GSP scheme has not improved productivity in the beneficiary countries. This scrutiny prompts a re-evaluation of prevailing presumptions in related trade empirical studies (Dollar and Kraay 2004; Beck et al. 2007; Kpodar and Singh 2011; Singh and Huang 2015), which often conclude that the effectiveness of GSP in poverty reduction hinges upon conducive conditions within the beneficiary nations. This presumption tends to shift blame onto beneficiary countries if poverty reduction goals are not met, without adequately assessing whether the GSP scheme effectively bolsters specific channels critical for poverty alleviation.

Negative outcomes are found in the direct effect of fiscal balance on poverty. It was found that an increase in fiscal balance reduced poverty, illustrating the importance of a country honouring its obligation without incurring additional debt. According to Easterly et al. (1993), robust public investment largely emanates from an increased fiscal position, offering a necessary ingredient in a pro-poor macro strategy. The results show that every 1 unit increase in fiscal balance reduced poverty by 4.8% percentage point. This outcome reflects

the findings of Wanna et al. (2020) that fiscal surplus fuels expenditure-switching policies in favour of pro-poor public goods. While this could create demand management, capacity creation, and redistribution, Jouini et al. (2018) contend that budget reallocations are not sufficient to create considerable influences on poverty, especially when the distribution of productive assets is largely unequal. When this is the case, inequality would result from the redistributive strategy and provides no analytical premise for poverty reduction. In the estimation, the direct effect of fiscal balance on poverty is weak and not significant, providing the basis to question the redistributive strategy in GSP beneficiary countries. Nonetheless, it may be the case that redistributions in those countries reduced the degree of poverty for those below the poverty line, and in that context, not identified as poverty reduction.

Despite the non-significance of GSP-fiscal balance interactions, this thesis finds that the GSP scheme improved fiscal balance by 0.2% point. Such outcomes may have indirectly resulted from higher firm-level taxes; especially where duty-saving benefits under the GSP scheme motivate higher profit for export firms. Even so, the estimation of indirect effects shows that fiscal balance did not mediate the effect of GSP trade on poverty. As expected, this study finds a positive effect of unemployment on poverty. Marxian economists and other radical theorists highlight the adequacy of income as a key factor in poverty reduction. Renahy et al. (2018) argue that negative short- and long-term changes in unemployment alter real wages and push people to live below poverty thresholds. The direct effect in the structural model reveals that every 1 unit in unemployment widened the poverty gap by 1.3% point. Despite being theory-consistent, this result is not significant. On the other hand, GSP trade is found to reduce unemployment in beneficiary countries, though weak in magnitude and not significant. Importantly, this thesis finds no mediating role for unemployment in GSP-poverty interactions; only about 1% of the effect of GSP on poverty is mediated by unemployment. This outcome is however not significant. Both the direct and the indirect outcomes for terms of trade are similarly weak in magnitude and non-significant. Specifically, GSP trade tends to result in declining Terms of Trade, which in turn widens poverty levels. Important to mention that this study found no mediating role for Terms of Trade in GSP-poverty interactions.

Overall, the non-linear combinations of estimators established that the EU GSP scheme is not an effective instrument for poverty reduction in the beneficiary countries. In effect, the total effect of the GSP scheme on poverty is positive and significant.

Given this outcome, one is more inclined to bring into focus the concerns raised by Holland and Doidge (2012); Siles-Brugge (2014); and De Bie'vre and Poletti (2013) which suggest that the effectiveness of the EU GSP may have been subordinated to commercial imperatives. The different reforms and changes to the GSP scheme are indicative of increasing concerns to show that preferential trade "works". In contrast, the EU trade policy discourse reflects the prevalent emphasis on "reciprocity" where "Global Europe" argued for the need to lead FTA talks with existing GSP beneficiaries. The notion of "reciprocity" betrays the desire to enhance the effectiveness of the GSP scheme. The scheme appears to be used to increase leverage with emerging economies with which the EU has planned to negotiate free trade agreements (FTAs). Specifically, Global Europe has continued to target the emerging economies of South and Southeast Asia and already initiated FTA talks with these countries. It is not surprising that countries in these regions benefit from a more robust "region-to-region cumulation without losing eligibility or facing tariff escalation. The overriding commercial agenda driving the scheme may have derailed the objective of poverty reduction which is revealed in the total effect estimation.

7.2.3 The Effectiveness of GSP through GVC Integration

Chapter 6 examined the effectiveness of the EU GSP scheme in integrating the beneficiary countries into the Global Value Chains (GVCs). The empirical analysis is derived from three strands of literature which also provide the basis for hypothesis development. First, this thesis assesses the protectionist implications of Rules of Origin on GVC trade, emphasising their role in determining eligibility for GSP participation. Second, the determinants of GVC participation are examined, an area that has seen rapid growth but has received limited attention in the GSP-related literature. The second literature strand examines how GSP-regime provisions mitigate the protectionist effect of RoO on GVC integration. This thesis examined the interplay between GVC integration and regional cumulation to support the hypothesis that cumulation provisions enhance GVC trade. Finally, insights are drawn from the network literature to investigate the interconnectivity of GSP countries via existing RTAs.

Prior theoretical research highlights the potential trade diversion effects of RoO in intermediate goods (Grossman 1981; Falvey and Reed 1998). Yet, empirical evidence has been scarce due to the complexity of these rules. As Cadot et al. (2007) noted, while theoretical analysis of RoO has advanced, empirical analysis remains limited. In any case, the baseline model in this chapter corroborates the findings in existing literature that the restrictiveness of RoO impairs cross-border trade, and by implication GVC integration. This study

finds that GVC integration worsened by 67.9% for every 1% increase in RoO restrictiveness, thus corroborating the *a priori* expectation[99] that RoO restrictiveness negates the potential for GVC integration. This finding aligns with existing literature (e.g., Cadot et al. 2007; Baldwin and Lopez-Gonzalez, 2015), which underscores the inhibitory impact of stringent RoO on trade flows. The compliance costs and administrative burdens associated with RoO have been shown to discourage firms from engaging in cross-border production, thereby reducing GVC integration.

However, the inclusion of cumulation provisions in the model diminishes the adverse impact of RoO restrictiveness on GVC integration, reducing it to 12%. This result resonates with theoretical expectations in the gravity context and prior research (Keck and Lendle 2012), which highlights the role of cumulation in easing some of the trade-distorting impacts of RoO. Cumulation provisions allow firms to consider inputs from multiple countries within the GSP region, reducing the burden of strict origin requirements, and promoting GVC participation.

To see the co-effects of both RoO and regime-wide rules, this thesis re-estimates a second model to include an interaction term of RoO and regime-wide rules. The results are reported in Table 6.5. The interaction terms are introduced into the model and a reversal of the effect of RoO restrictiveness on GVC integration is observed. In particular, the interaction between RoO restrictiveness and cumulation variables results in a positive effect on GVC integration. It suggests that cumulation provisions, when combined with RoO, effectively mitigate the protectionist tendencies of origin requirements, and promote GVC integration. This finding underscores the importance of designing preferential trade with flexible cumulation provisions to enhance GVC linkages. Similarly, the interaction between RoO restrictiveness and RTA membership also yields a positive effect on GVC integration, particularly for countries in the cumulation zone. The effect is negative in ACP countries mainly as they are not allowed to benefit from the GSP cumulation. For countries in ASEAN, SAARC, Andean community and MERCOSUR, RTAs appear to act as a buffer against the negative impacts of strict RoO by facilitating regional cooperation and harmonizing trade rules. This aligns with the theoretical framework of trade blocs as mechanisms to counterbalance trade restrictions (Bagwell and Staiger 2001).

[99] this study identified a precursor—a subtle suspicion or conjecture—preceding the formulation of our first hypothesis.

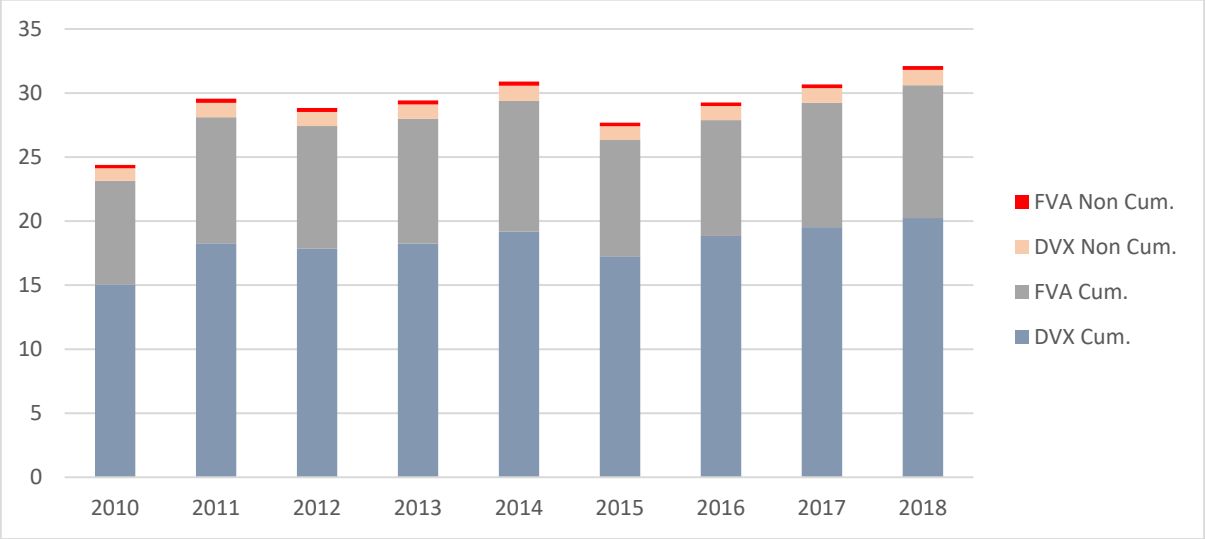
The findings in this chapter help to explain why global value chains are regional in nature, with trade in intermediate goods mostly concentrated within regions where trade barriers are lowest (Baldwin 2013; Johnson and Noguera, 2012). The "regionality" of GSP cumulation appears to solve the supply chain disruption emanating from distanced Trade. Moreover, gravity imperatives such as similar language, cultural and religious affinity, and governance index are enshrined in regionality, such factors have been reported to foster cross-border trade generally (Duenas and Fagiolo 2013; Novy 2013; Chaney 2018; Maciejewski and Wach 2019). Within each regional cumulation zone, tariff levels are largely liberalised[100], and many countries benefit from free access to major markets. In Southeast Asia, for instance, countries have embraced the advantages of open trade regimes and have pursued liberal trade unilaterally or implementing multiple agreements, leading to massive tariff cutting[101] and substantial commitments in relevant policy areas (Ravenhill 2010; Weatherbee 2014; Jetschke and Murray 2020).

The existence of cumulation provisions has meant that GSP trade extends beyond cooperation on tariffs (Stevens 2005; Inama 2011; Abreu 2016), and the alignment with RTAs presented some deeper implications for GVCs trade. In effect, this dynamic brings into focus the harmonisation of trade regulations and other behind-the-border policies necessary for efficient GVC operations. This can be interpreted as the EU's keenness to foster value-added trade within the GSP system as this is central to a deeper form of trade integration. Implicitly if not explicitly, therefore, the lack of cumulation restricts GVC trade for the non-cumulating countries. This is graphically illustrated in Figure 7.1 below.

[100] This is due to the existence of Regional Trade agreements in the Cumulation zones.

[101] With respect to regional trade agreements (RTAs), the average number of partners is almost 8 per RTA. However, the only RTA in the Asian and Pacific region connects countries that belongs to different Asian subregions is the Asia-Pacific Trade Agreement (APTA) while only one comprises countries on different continents (Transpacific Strategic Economic Partnership). Ten RTAs overlap with the geographical subregions in Asia and the Pacific, for example, the South Asian Free Trade Agreement (SAFTA) for South Asia; the ASEAN Free Trade Area (AFTA) for South-East Asia; and the Pacific Island Country Trade Agreement (PICTA) for the Pacific Island States

Figure 7.1 Value-Added Trade by Cumulation Category



This finding shows that GVC integration is more dominant in the cumulation zone, and this substantiates the result in Tables 6.4 and 6.5. The positive and significant coefficient of the cumulation variable underlines the important role that GSP cumulation plays in GVC integration. This chapter finds a positive and significant effect on forward linkages by 3.85%, backward linkages by 69.83% and overall GVCs integration by 23.8%.

As observed in the previous chapters, significant variability exists among GSP beneficiary countries in terms of their access to cumulation and, by extension, their potential for GVC integration. This suggests that the effectiveness of the GSP scheme in promoting GVC integration varies widely across countries. The non-inclusion of over 60 countries from GSP cumulation led to a situation where a substantial portion of exports into the EU markets are intermediate products, limiting opportunities for high-value exports. For these countries, there are constrained prospects for engaging in GVC trade, in terms of both backward and forward linkages. While it would not be accurate to conclude that the GSP scheme is entirely ineffective in GVC integration. The analysis in Chapter 6 identified specific important factors and mechanisms, such as cumulation provisions and RTA memberships, that can mitigate the negative impact of RoO restrictiveness and contribute to GVC integration among GSP beneficiary countries. In any case, it is found that RTA membership did not integrate GSP countries better than the cumulation provisions.

Questions arise regarding the effectiveness of the GSP arrangement in genuinely integrating beneficiary countries into Global Value Chains (GVC). This scepticism stems from the observation that the GSP appears

to prioritise a select group of 15 countries granted access to cumulation provisions. In essence, the prioritization of a select few within the GSP framework raises valid concerns about the scheme's effectiveness in achieving its overarching goals of promoting economic development and integration among beneficiary nations. It suggests a need for re-evaluation and potential adjustments to ensure a more equitable distribution of benefits, fostering a truly inclusive approach to GVC integration for all GSP countries.

7.3 Policy Recommendations

The effectiveness of the GSP scheme in the 21st century has been scrutinised and placed in a challenging position, given its varied performance across recipient countries. This scrutiny is particularly pronounced in the context of intensified multilateral liberalization and the increasing reciprocity in North-South trade relations. However, economic theory and analyses based on the gravity model persist in highlighting that non-reciprocal preferences remain a crucial element in trade and investment strategies for integrating developing countries into the world trading system. As this thesis has identified the slippages in GSP effectiveness, there are prospects for enhancing the EU scheme to encourage more efficient utilisation by developing countries, thereby contributing to the advancement of industrialization and development processes. The GSP scheme should be integrated with additional policy measures to enhance productivity, product quality, and both horizontal and vertical diversification in exports. Also, it is crucial to recognise that non-reciprocal preferences, which initially emerged as part of the broader concept of special and differential treatment for developing countries, should be underpinned, and improved in the evolving trading landscape based on this concept, rather than being perceived as a unilateral concession.

This thesis finds the GSP utility rate (the measure of efficiency) to be 23.73% average across all beneficiaries. This would continue to decline in the liberalizing world economy of the 2020s. The erosion in the utility of EU GSP would be further accentuated by the emerging practice of increasingly seeking to confine non-reciprocal preferences to LDCs, and the gravitation towards reciprocity for other developing countries, mainly in the context of Economic Partnership Agreements. So, the current GSP framework which is set to expire on 31 December 2023 could either be renewed only for LDCs or be replaced by new trade agreements based on reciprocity for developing countries, or even become superseded by wider regional free trade agreements. Nonetheless, until their commercial value is eroded, the GSP scheme remains a valid option for promoting trade expansion and industrial transformation in developing countries. The EU GSP can play a major role in those export sectors of current and potential interest to developing countries where they have been applied

on a limited scale due to existing eligibility criteria, graduation threshold and RoO requirements. These include certain agricultural products, processed food, textiles and clothing.

The EU's emphasis on "countries most in need" (Commission 2011a, p. 2) is particularly indicative that the GSP would be preserved and improved mostly for LDCs. In recommendation, the same would be necessary for developing countries which by deliberate choice or other reasons have resisted participation in the reciprocal EPAs with the EU. Preferences (among other measures) would provide the non-participants with the tools to overcome the tougher market access conditions (higher tariff levels, non-tariff barriers) they would be subjected to in penetrating the EU markets and counter-act potential trade and investment diversion effects. The continuation of GSP thus appears inevitable. Linked to this is the consideration that many developing countries cannot yet participate effectively in reciprocal trade agreements. They are yet to achieve a high level of international competitiveness and maturity in their production and administrative structures that is necessary to enhance their capacity and readiness to participate effectively in reciprocal trade agreements with industrialised countries. These conditions do not yet exist in many developing countries and are difficult to develop in the short run. In this light, the notion of reciprocity appears premature at present. The developing countries need firstly to facilitate, strengthen, and consolidate the process of structural adjustment at the national level as well as within their respective subregional/regional integration groupings to set the basis for developing competitiveness and developing supply capacity for entry into global markets and reciprocal trade relations with developed countries.

The current structure of the EU's GSP framework unveils a significant challenge concerning the progression and sustainability of beneficiary countries' competitiveness. A key concern emerges from the possibility of nations achieving a transient level of competitiveness, consequently leading to their exclusion from the scheme. However, this exclusion often precedes a regression in their competitive standing, ultimately resulting in the loss of previously attained advantages. This cyclic pattern has perpetuated the extended classification of participants within the GSP as Least Developed Countries (LDCs) or developing nations for prolonged periods. The GSP framework might not be optimally designed to facilitate sustainable development for beneficiary countries, specifically in terms of maintaining a sustained level of competitiveness over a reasonable period. Consequently, the perpetuation of short-term gains, without mechanisms for their endurance, limits the developmental trajectory of these nations. This systemic issue questions the effectiveness of the GSP in fostering lasting and meaningful growth, beyond the initial spurts of competitiveness.

Therefore, to address this critical flaw, policy reforms within the GSP framework should focus on enhancing its orientation towards fostering sustainable development among beneficiary countries. There is a compelling need to restructure the framework, placing greater emphasis on strategies that not only promote short-term competitiveness but also ensure its continuity. This shift necessitates an approach that enables beneficiary nations to maintain their competitive edge even after potential graduation from the GSP scheme. Strategies to achieve this objective could involve the incorporation of mechanisms that extend beyond immediate gains, emphasizing the endurance of competitiveness. Such measures might include phased graduation processes, allowing for continuous support and guidance to graduating countries to sustain their competitive capacities. Additionally, a framework supporting ongoing developmental assistance post-graduation could facilitate the transition towards enduring competitiveness and sustained growth. There is therefore a need to recalibrate the EU GSP framework to focus on sustaining competitiveness beyond short-term gains. By implementing measures that support a more prolonged and consistent developmental trajectory, the GSP can genuinely contribute to the lasting progress and advancement of beneficiary countries, aligning with the broader goal of sustainable global development.

In the interim period to full reciprocity, the EU could aim to establish a superior standard in global trade policy and amend specific procedural elements in the GSP Rules of Origin. Such adjustments could be aligned with proposals from LDC members in the WTO, seeking more lenient RoO for LDCs (WTO, 2014). This would involve allowing a maximum foreign content of 75%, a minimum domestic content of 15-25% (encouraging value chain development), and greater flexibility in selecting the origin-demonstrating criteria. One, perhaps remote, possibility to encourage FDI into the GSP beneficiary countries, is for the EU to effectively permit countries to eliminate RoO in GSP trade, establishing a form of global cumulation. Consequently, this would relax the origin criteria to a maximum of 100% foreign content (similar, albeit broader, to the relaxation of origin rules under the Africa Growth Opportunity Act for imported cloth).

Generally, the effective continuation of GSP is recommended, but further improvement in the schemes should be implemented to ensure that market access conditions for developing economies and the most vulnerable of them are not adversely affected. Conditionalities attached to the GSP scheme need to be openly discussed to ascertain if the provisions are proportionate to the developmental objectives that the EU is pursuing through the application of these measures. Country and product graduation under GSP schemes could be revised to accommodate the interference of multilateral trade liberalization, as is being done for the erosion of preferences. Furthermore, the co-existence of reciprocal and non-reciprocal trade arrangements

begs the question of whether it would be possible to develop common basic guidelines between them regarding such aspects as preferences accorded, product coverage, and rules of origin. Equally important, the improvement of the GSP scheme must be accompanied by effective Utilisation by the beneficiary countries.

In the long term, developing nations need to embrace a shifting trade landscape. The dominance of unilaterally determined non-reciprocal preferences, which has significantly influenced their exporters' competitiveness, is gradually giving way to an environment of heightened global competition. These countries must adapt, focusing on competition based on economic merits rather than relying on preferential treatment, now more than ever before.

7.4 Limitations and Gaps

While examining the effectiveness of the EU's Generalised Scheme of Preferences (GSP), this thesis encountered a limitation in its approach by not differentiating between the distinct GSP arrangements standard GSP, GSP+, and Everything But Arms (EBA). Each of these arrangements offers varying trade preferences to beneficiary countries based on criteria such as income levels, compliance with international conventions, and vulnerability. Although separating these arrangements could potentially yield more insights into their impacts, the decision to consider the GSP collectively was made to simplify the study's scope. The choice aimed to avoid overwhelming complexities that could arise from a more detailed breakdown, and the potential challenges in interpretation. By adopting this approach, the study prioritised providing a comprehensive overview of the GSP's overall impact on beneficiary countries' trade expansion and economic development, acknowledging that this comprehensive analysis might mask specific effects attributable to each GSP arrangement.

One other limitation of this thesis stems from the reliance on data that is not up to date for key variables at the time analysis was being undertaken, restricting the research's scope to extend only up to 2019. As a consequence, the profound impact of the COVID-19 pandemic on trade dynamics, as well as the subsequent alterations in EU trade policies and the exclusion of specific countries or products from the GSP after 2019, remains unexplored within the empirical investigation. The inability to capture post-2019 developments could impede a comprehensive understanding of recent changes in trade dynamics and policy shifts within the EU. Furthermore, the exclusion of certain countries due to insufficient data availability for essential variables

creates a limitation in the study's inclusivity and may lead to a partial representation of the GSP's effects on a broader spectrum of beneficiary nations.

An inherent limitation of employing panel data analysis, as conducted in this study across three empirical chapters, pertains to the effectiveness of the GSP scheme across individual countries. While this research delves into the aggregate efficiency of the GSP, its impact on poverty reduction, and its integration within Global Value Chains (GVCs), the panel data approach might obscure the granularity required to discern the scheme's varying degrees of success within specific countries. This methodological limitation arises due to the nature of multi-country analyses, potentially masking the distinct effectiveness of the EU GSP in achieving its objectives within individual country contexts. Consequently, while this study provides comprehensive insights into overarching trends and associations, the depth of analysis regarding the scheme's differential impact on individual countries might be constrained by the panel estimation approach employed across multiple nations.

7.5 Future Research

The effectiveness of the GSP scheme stands as the cornerstone of a successful EU development agenda, serving as a pivotal factor in shaping policies aimed at fostering growth and advancement within beneficiary countries. Establishing a robust framework to assess this effectiveness is paramount; it forms the basis for refining and enhancing the GSP's design and implementation. By scrutinising and understanding the scheme's impact, strengths, and limitations, policymakers can identify areas requiring improvement. This examination is instrumental in tailoring the GSP to better align with its intended objectives, ensuring that it maximises its potential to catalyse development, trade, and poverty reduction within recipient nations. Essentially, creating an effective evaluation framework is pivotal in fine-tuning the GSP to optimise its role in driving sustainable development and economic growth across beneficiary countries.

This research has therefore examined the EU GSP effectiveness based on the objective-based framework constructed in Chapter 3 of this thesis. The country-level investigation is undertaken to establish whether evidence exists to suggest that EU GSP is efficient, enhances poverty reduction and facilitates integration into the world trading system. The overarching conclusion drawn raises substantial doubts regarding the scheme's overall effectiveness. While improvements in specific procedural aspects might foreseeably enhance the GSP effectiveness level, the evidence uncovered indicates that the expected improvements did not materialise

through successive GSP reforms. This lack of improvement, compounded by the gradual erosion of GSP benefits, suggests a concerning trend where developmental policy objectives appear to be subordinated by the priority of bolstering trade negotiation leverage in the context of reciprocal trade negotiation. Given these findings, questions meriting further research include:

To what extent has each GSP reform impaired the attainment of GSP efficiency, increased poverty and adversely affected integration into the world trading system?

Has the apparent failure to achieve GSP objectives resulted in countries' lack of participation in the EU GSP scheme?

Does the availability of EPAs compensate countries for exclusion from the cumulation provision? Did this amount to unfair selectivism, leading to unequal opportunities among beneficiary countries?

Evidence of FTA negotiation with existing GSP beneficiaries (such as India and some ASEAN Member States) by the EU provides evidence of GSP gradually becoming a "commercial tool". How has this affected the trade-development nexus?

Future research could enhance the evaluation of the EU's GSP scheme by developing a comprehensive effectiveness index. While this study meticulously assessed the scheme's efficiency, its impact on poverty reduction, and its ability for GVCs integration across distinct empirical chapters, a unified index amalgamating these dimensions could offer a more robust evaluation index. Constructing an effectiveness index that encapsulates these three critical facets of GSP performance would provide a holistic measure, facilitating the identification of varying levels of effectiveness. Such an index could delineate the gradations along an effectiveness continuum, revealing any potential fluctuations in GSP effectiveness over time. By integrating these multiple dimensions into a cohesive index, future research endeavours could better capture the complexities of the GSP's effectiveness, shedding light on the nuanced interplay between efficiency, poverty reduction, and integration into the world trading system.

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Appendices

Appendix 4.1 Utilisation Rate by Country

Abbrv.	GSP Beneficiary	Continent	Yr2010	Yr2011	Yr2012	Yr2013	Yr2014	Yr2015	Yr2016	Yr2017	Yr2018	Yr2019	Yr2020
AF	Afghanistan	South Asia	11.85	36.69	38.39	41.30	41.11	59.88	53.90	53.05	57.22	76.13	49.71
AO	Angola	Central Africa	75.38	68.68	66.84	37.14	41.78	45.32	44.40	50.69	68.30	76.58	83.63
AM	Armenia	Western Asia	96.11	96.57	95.54	87.42	89.63	89.91	92.60	95.97	90.33	97.88	96.16
BD	Bangladesh	South Asia	82.14	95.69	97.75	97.78	96.16	96.67	95.71	97.07	96.86	97.20	97.85
BJ	Benin	West Africa	94.57	85.77	96.96	79.78	91.65	71.64	94.19	90.35	83.63	72.23	77.75
BT	Bhutan	South Asia	95.51	96.27	96.94	99.03	97.58	96.84	84.15	98.74	98.03	95.67	98.90
BO	Bolivia	South America	90.25	92.19	95.52	97.40	95.76	95.76	93.78	94.38	90.62	94.25	84.40
BF	Burkina Faso	West Africa	88.27	86.89	89.40	85.26	84.21	85.46	90.32	94.25	93.63	95.48	93.43
BI	Burundi	East Africa	0.00	0.00	0.00	0.00	88.60	89.02	89.29	46.75	61.35	53.03	84.47
KH	Cambodia	Southeast Asia	81.65	93.26	94.33	95.00	92.59	93.51	92.70	95.83	96.38	95.67	93.00
CV	Cape Verde	West Africa	96.03	94.74	94.55	94.83	96.72	95.23	96.79	82.62	93.16	80.17	89.01
CF	Central African Republic	Central Africa	33.40	10.13	45.10	81.14	86.94	4.60	0.87	95.13	0.00	0.00	0.01
TD	Chad	Central Africa	2.00	0.00	0.00	23.45	0.00	0.00	0.00	0.00	0.04	0.00	0.00
KM	Comoros	East Africa	0.00	0.00	0.00	0.00	98.59	97.88	95.51	93.46	66.24	88.78	0.00
CG	Congo	Central Africa	65.04	79.66	79.75	71.31	81.24	75.98	42.12	68.26	79.88	59.87	51.28
CK	Cook Islands	Oceania	17.83	18.57	22.99	0.00	62.76	5.24	12.55	6.25	0.00	0.25	1.07
CD	Democratic Republic of the Congo	Central Africa	15.43	89.79	33.29	90.75	60.66	46.86	60.65	80.95	96.08	20.90	0.51
DJ	Djibouti	East Africa	9.33	48.94	0.27	0.39	1.64	0.00	3.92	2.80	3.66	12.71	4.35
GQ	Equatorial Guinea	Central Africa	59.77	48.51	88.03	89.98	92.56	73.12	85.42	87.18	37.10	42.67	0.00
ER	Eritrea	East Africa	92.41	92.86	73.71	97.41	94.92	91.85	92.18	96.96	92.81	96.07	99.43
ET	Ethiopia	East Africa	95.01	97.13	97.46	97.98	98.62	76.79	96.03	89.07	96.28	96.29	97.42
FM	Federated States of Micronesia	Oceania	75.23	89.53	86.73	90.86	74.30	42.33	25.43	59.61	54.64	74.07	28.43
GM	Gambia	West Africa	97.73	99.30	97.71	98.61	92.29	98.17	94.49	97.71	84.64	93.81	85.09
GH	Ghana	West Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GN	Guinea	West Africa	39.55	68.29	16.68	11.73	39.91	47.26	30.55	47.23	56.73	38.27	82.46
GW	Guinea-Bissau	West Africa	39.17	60.80	11.08	6.81	0.00	0.00	0.00	0.00	46.86	79.76	57.64
HT	Haiti	North America	0.00	0.00	0.00	0.00	90.37	85.00	85.84	87.38	85.06	88.43	73.29
IN	India	South Asia	83.86	84.46	82.99	84.47	88.74	88.38	88.30	87.32	87.63	88.85	88.45

ID	Indonesia	Southeast Asia	75.53	75.14	76.27	75.17	72.60	70.25	71.31	80.03	81.99	82.32	80.77
CI	Ivory Coast	West Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KE	Kenya	East Africa	0.00	0.00	0.00	0.00	72.50	0.00	0.00	0.00	0.00	0.00	0.00
KI	Kiribati	Oceania	0.00	2.96	5.90	13.96	76.82	0.00	0.00	66.42	88.59	17.78	89.43
KG	Kyrgyzstan	Central Asia	68.42	51.93	21.33	27.50	68.71	65.23	53.33	60.15	60.63	59.80	65.84
LA	Laos	Southeast Asia	90.41	95.93	98.49	98.37	98.55	96.99	95.96	94.97	92.80	88.94	94.51
LS	Lesotho	Southern Africa	0.00	0.00	0.00	0.00	64.54	70.81	75.61	0.00	0.00	0.00	0.00
LR	Liberia	West Africa	45.63	3.62	27.98	28.09	12.44	0.00	8.88	4.00	0.89	64.24	90.52
MG	Madagascar	East Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW	Malawi	East Africa	98.36	99.20	99.16	98.79	95.29	94.26	96.90	99.67	98.93	96.50	99.39
ML	Mali	West Africa	64.81	61.98	51.02	57.38	82.46	75.80	74.36	82.56	30.36	61.82	72.07
MR	Mauritania	West Africa	98.50	97.36	99.02	97.88	95.62	96.37	97.49	98.73	98.28	98.55	98.22
MN	Mongolia	North-central Asia	94.91	96.58	91.40	89.87	84.12	86.92	84.87	86.62	91.93	83.57	91.07
MZ	Mozambique	East Africa	0.00	0.00	0.00	0.00	96.37	97.20	96.95	99.14	0.00	0.00	0.00
MM	Myanmar	Southeast Asia	0.00	0.00	0.00	50.86	95.01	93.83	94.31	94.12	95.35	95.38	97.83
NR	Nauru	Oceania	23.66	84.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NP	Nepal	South Asia	91.62	92.78	92.86	93.35	92.70	92.46	92.49	91.31	90.59	91.62	91.20
NE	Niger	West Africa	61.70	60.78	87.66	81.15	65.30	82.45	82.96	90.50	79.38	64.93	81.25
NG	Nigeria	West Africa	87.47	80.92	86.63	86.24	65.16	73.39	67.06	69.43	82.33	81.63	82.30
NU	Niue	Oceania	0.00	0.00	0.00	0.00	0.79	0.96	0.00	0.00	0.00	0.00	0.00
PK	Pakistan	South Asia	94.34	94.54	94.35	93.94	95.58	95.91	95.60	96.24	96.38	97.26	97.19
PY	Paraguay	South America	94.16	83.54	93.24	95.12	96.30	90.60	85.17	89.06	94.82	0.00	0.00
PH	Philippines	Southeast Asia	62.22	64.43	66.76	69.71	68.27	68.97	71.88	74.79	73.46	73.17	75.16
RW	Rwanda	East Africa	0.00	0.00	0.00	0.00	18.24	70.30	47.48	86.98	94.32	91.83	97.26
WS	Samoa	Oceania	18.99	18.23	49.82	65.68	35.75	12.68	18.12	2.96	76.90	0.00	0.00
ST	São Tomé and Príncipe	Central Africa	48.65	59.77	39.14	58.79	64.03	68.96	52.84	61.43	71.54	84.31	93.75
SN	Senegal	West Africa	98.12	98.72	98.71	97.78	98.28	97.35	96.21	96.21	96.00	97.77	96.86
SL	Sierra Leone	West Africa	29.69	52.62	80.00	74.87	16.61	83.28	30.80	73.58	17.22	53.22	14.13
SB	Solomon Islands	Oceania	98.48	99.58	99.83	99.86	99.84	97.99	99.83	99.96	99.74	99.81	99.77
SO	Somalia	East Africa	0.00	2.33	0.00	0.64	4.76	0.00	0.00	0.00	81.13	45.34	0.00
SS	South Sudan	North Africa	0.00	0.00	0.00	0.00	0.00	0.00	60.53	6.73	0.00	0.00	0.00
LK	Sri Lanka	South Asia	75.58	68.51	62.52	60.99	59.84	55.16	55.51	55.59	59.48	62.80	64.33
SD	Sudan	North Africa	40.91	61.04	96.68	95.76	93.98	98.08	85.32	96.84	90.89	87.62	95.56
SZ	Swaziland	Southern Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SY	Syria	Western Asia	45.87	65.40	73.54	71.62	66.47	65.67	81.65	78.08	77.16	31.74	11.66
TJ	Tajikistan	Central Asia	98.82	90.91	96.10	79.39	70.96	93.22	90.24	89.17	91.50	88.61	97.57
TZ	Tanzania	East Africa	0.00	0.00	0.00	0.00	94.85	97.66	97.83	97.26	97.03	96.77	98.17
TL	Timor-Leste	South Asia	0.00	32.49	0.00	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TG	Togo	West Africa	78.64	92.37	25.15	89.07	94.56	91.94	72.22	91.68	94.34	92.49	88.29

TO	Tonga	Oceania	56.25	5.61	11.09	45.56	75.87	70.33	28.05	52.50	9.46	79.84	4.20
TV	Tuvalu	Oceania	0.00	85.01	0.00	34.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UG	Uganda	East Africa	0.00	0.00	0.00	0.00	97.06	97.80	93.65	98.36	98.10	97.87	99.03
UZ	Uzbekistan	Central Asia	89.69	91.52	92.40	84.93	79.52	82.81	87.76	91.10	88.46	87.36	89.99
VU	Vanuatu	Oceania	84.36	96.50	46.90	85.55	82.84	9.17	25.11	54.29	19.59	26.54	22.26
VN	Vietnam	Southeast Asia	54.86	56.20	56.31	56.99	58.45	59.33	58.20	65.50	64.45	64.84	64.42
YE	Yemen	Western Asia	64.38	64.32	99.52	99.11	78.19	42.61	76.36	92.47	91.47	89.48	87.85
ZM	Zambia	East Africa	0.00	0.00	0.00	0.00	62.04	71.32	92.84	90.79	91.18	92.43	88.30

Appendix 4.2 Coverage Rate by Country

Abbrv.	GSP Beneficiary	Continent	Yr2010	Yr2011	Yr2012	Yr2013	Yr2014	Yr2015	Yr2016	Yr2017	Yr2018	Yr2019	Yr2020
AF	Afghanistan	South Asia	48.21	14.21	22.35	14.64	36.94	21.12	25.67	32.25	45.15	38.90	58.89
AO	Angola	Central Africa	1.35	2.03	1.74	0.78	0.54	0.56	1.67	2.44	1.31	1.14	1.51
AM	Armenia	Western Asia	42.51	36.87	32.04	27.31	24.46	42.69	37.48	37.14	32.82	59.98	48.46
BD	Bangladesh	South Asia	97.49	95.73	96.98	96.69	99.33	97.07	99.53	97.91	97.83	99.62	99.53
BJ	Benin	West Africa	19.69	18.98	40.27	8.74	27.15	12.07	12.76	16.67	23.75	13.44	17.30
BT	Bhutan	South Asia	65.94	77.24	95.85	89.67	97.86	33.01	90.16	98.85	96.95	97.25	98.08
BO	Bolivia	South America	18.47	13.91	15.97	14.75	20.26	14.01	10.87	11.43	6.90	15.00	11.45
BF	Burkina Faso	West Africa	4.83	10.63	10.14	17.32	10.37	19.15	11.07	9.79	10.38	8.54	23.85
BI	Burundi	East Africa	0.00	0.00	0.00	0.00	0.45	0.93	0.90	0.74	0.92	0.83	1.09
KH	Cambodia	Southeast Asia	82.62	93.08	95.95	96.77	96.90	90.49	92.24	98.83	94.54	91.34	92.65
CV	Cape Verde	West Africa	60.35	50.28	53.53	66.00	45.87	65.44	71.75	40.33	52.18	28.43	48.86
CF	Central African Republic	Central Africa	0.30	0.12	0.30	1.37	2.85	0.48	4.40	3.10	2.66	0.91	2.96
TD	Chad	Central Africa	0.34	0.18	1.93	0.47	2.22	0.57	0.85	0.11	0.23	1.43	0.09
KM	Comoros	East Africa	0.00	0.00	0.00	0.00	14.32	50.73	48.31	49.26	33.76	20.22	0.00
CG	Congo	Central Africa	3.63	4.81	3.52	4.95	5.42	2.32	3.23	2.00	4.84	0.89	1.87
CK	Cook Islands	Oceania	84.21	48.27	0.65	9.50	6.48	3.06	2.87	0.70	0.24	17.03	7.91
CD	Democratic Republic of the Congo	Central Africa	8.68	1.05	3.58	1.29	0.77	1.54	0.76	1.10	5.01	1.04	0.83
DJ	Djibouti	East Africa	5.71	12.89	18.57	28.80	38.68	18.29	17.18	38.62	38.55	10.43	11.50
GQ	Equatorial Guinea	Central Africa	0.84	5.76	5.91	9.31	6.24	2.35	1.80	1.28	0.55	1.88	1.15
ER	Eritrea	East Africa	59.92	50.63	65.91	72.56	30.12	5.97	16.66	10.28	90.70	83.52	82.93
ET	Ethiopia	East Africa	32.46	30.29	36.38	44.47	45.67	49.17	44.86	39.40	37.97	35.38	50.90
FM	Federated States of Micronesia	Oceania	97.67	89.70	98.84	97.49	27.89	94.66	97.89	89.61	89.17	62.18	52.36
GM	Gambia	West Africa	65.57	56.94	58.09	54.69	51.99	67.01	73.99	53.69	64.27	73.19	86.62

GH	Ghana	West Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GN	Guinea	West Africa	0.71	1.19	0.82	0.52	0.36	0.24	0.51	0.69	0.35	0.63	0.68
GW	Guinea-Bissau	West Africa	2.79	1.73	2.21	8.23	0.36	51.67	25.75	0.58	11.64	0.80	5.20
HT	Haiti	North America	0.00	0.00	0.00	0.00	8.61	29.97	41.64	47.95	34.47	45.52	33.91
IN	India	South Asia	57.59	54.90	58.32	61.47	47.37	49.30	49.92	44.46	42.13	41.29	40.76
ID	Indonesia	Southeast Asia	42.88	41.83	50.25	47.07	44.56	48.45	51.32	50.71	51.73	53.46	47.81
CI	Ivory Coast	West Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KE	Kenya	East Africa	0.00	0.00	0.00	0.00	16.63	0.00	0.00	0.00	0.00	0.00	0.00
KI	Kiribati	Oceania	59.83	73.97	58.12	77.41	61.49	40.77	63.55	70.31	59.50	97.43	32.71
KG	Kyrgyzstan	Central Asia	14.40	16.74	10.64	9.21	17.13	20.42	8.38	4.82	1.59	0.93	5.22
LA	Laos	Southeast Asia	44.10	79.00	81.69	76.62	86.34	81.88	72.78	68.63	78.16	85.15	84.24
LS	Lesotho	Southern Africa	0.00	0.00	0.00	0.00	0.20	0.78	1.43	0.00	0.00	0.00	0.00
LR	Liberia	West Africa	1.14	1.06	0.89	0.85	1.25	0.37	1.69	0.23	0.15	0.95	1.78
MG	Madagascar	East Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW	Malawi	East Africa	85.67	80.22	87.99	87.65	90.03	88.06	79.57	80.49	84.07	87.45	91.10
ML	Mali	West Africa	5.62	7.45	6.23	8.56	11.01	13.90	14.89	14.05	10.84	18.13	19.61
MR	Mauritania	West Africa	14.48	12.53	21.24	23.31	31.53	46.29	52.23	63.48	68.53	49.78	48.77
MN	Mongolia	North-central Asia	15.70	22.59	21.48	23.42	24.93	23.09	26.31	28.24	24.33	27.10	30.70
MZ	Mozambique	East Africa	0.00	0.00	0.00	0.00	19.40	81.24	74.76	50.76	0.00	0.00	0.00
MM	Myanmar	Southeast Asia	0.00	0.00	0.00	81.63	87.73	86.89	89.91	91.78	91.23	95.02	97.22
NR	Nauru	Oceania	21.07	96.91	36.22	63.99	37.48	27.97	47.16	63.45	6.82	13.58	96.33
NP	Nepal	South Asia	58.89	88.96	88.28	89.75	89.29	88.39	87.78	87.18	86.02	89.19	85.95
NE	Niger	West Africa	67.17	50.51	9.95	43.41	2.49	2.82	3.19	4.60	52.17	59.68	24.83
NG	Nigeria	West Africa	4.28	2.49	1.87	1.63	0.75	0.70	1.40	1.19	0.73	0.88	1.05
NU	Niue	Oceania	100.00	32.26	93.22	0.07	85.59	4.21	67.71	7.82	6.46	24.90	7.50
PK	Pakistan	South Asia	86.49	81.94	83.96	54.47	88.15	90.98	93.04	91.51	89.07	88.54	88.88
PY	Paraguay	South America	2.31	3.04	2.78	3.99	6.51	4.31	3.33	4.62	14.94	0.00	0.00
PH	Philippines	Southeast Asia	26.49	25.20	34.48	32.73	33.99	34.35	38.82	35.08	34.56	35.17	34.39
RW	Rwanda	East Africa	0.00	0.00	0.00	0.00	0.00	1.46	3.79	11.29	16.44	22.44	23.89
WS	Samoa	Oceania	64.71	52.75	64.57	87.47	80.19	78.12	79.52	71.71	22.67	0.00	0.00
ST	São Tomé and Príncipe	Central Africa	8.84	8.65	7.22	4.39	2.19	1.66	1.81	1.93	13.85	11.43	31.79
SN	Senegal	West Africa	72.26	69.74	67.20	66.78	71.48	71.09	63.42	75.61	70.09	71.78	63.09
SL	Sierra Leone	West Africa	5.51	1.48	1.72	1.72	0.22	1.64	0.72	1.31	1.78	1.30	0.46
SB	Solomon Islands	Oceania	83.59	57.66	57.55	98.46	98.52	99.09	98.95	99.43	98.96	99.74	52.20
SO	Somalia	East Africa	6.16	2.16	2.20	1.50	4.60	1.36	4.81	0.72	3.13	2.74	0.64
SS	South Sudan	North Africa	0.00	0.00	0.00	10.83	21.54	21.08	27.74	20.00	19.67	76.33	0.30
LK	Sri Lanka	South Asia	88.03	76.06	75.91	78.61	81.80	82.30	82.81	83.98	83.01	85.12	83.47
SD	Sudan	North Africa	18.84	7.96	33.27	38.91	52.41	39.10	14.24	24.68	7.72	2.97	8.45
SZ	Swaziland	Southern Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

SY	Syria	Western Asia	0.34	0.32	4.15	9.58	5.55	7.86	21.15	24.55	26.00	26.43	26.40
TJ	Tajikistan	Central Asia	39.32	24.40	17.09	30.19	28.31	26.09	15.59	40.53	32.70	32.39	30.49
TZ	Tanzania	East Africa	0.00	0.00	0.00	0.00	11.57	50.77	52.75	53.03	53.19	54.60	33.44
TL	Timor-Leste	South Asia	0.25	0.64	0.85	2.00	0.36	0.78	72.64	50.96	59.67	26.06	6.46
TG	Togo	West Africa	2.32	3.56	23.23	14.83	24.14	30.77	37.80	26.13	29.87	8.83	13.33
TO	Tonga	Oceania	32.97	74.04	98.04	20.69	7.78	34.99	14.10	25.70	72.10	75.44	81.89
TV	Tuvalu	Oceania	86.33	66.61	36.53	78.90	92.88	88.67	42.05	26.82	11.59	43.97	11.88
UG	Uganda	East Africa	0.00	0.00	0.00	0.00	7.01	31.30	33.50	27.94	28.38	32.97	27.54
UZ	Uzbekistan	Central Asia	43.00	49.21	55.47	71.32	51.63	58.77	72.59	74.21	72.09	4.72	19.29
VU	Vanuatu	Oceania	73.08	78.93	6.87	21.05	18.43	37.96	41.44	29.10	10.62	9.18	35.01
VN	Vietnam	Southeast Asia	44.05	36.14	27.25	24.36	40.88	37.92	37.73	37.03	36.83	39.21	21.85
YE	Yemen	Western Asia	11.26	7.20	82.63	68.06	12.51	37.74	32.42	52.62	72.24	10.19	24.27
ZM	Zambia	East Africa	0.00	0.00	0.00	0.00	5.68	21.95	17.93	14.47	12.55	17.21	22.80

Appendix 4.3 Utility Rate by Country

Abbrv.	GSP Beneficiary	Continent	Yr2010	Yr2011	Yr2012	Yr2013	Yr2014	Yr2015	Yr2016	Yr2017	Yr2018	Yr2019	Yr2020
AF	Afghanistan	Central Africa	5.71	5.21	8.58	6.04	15.19	12.64	13.84	17.11	25.84	29.61	29.28
AO	Angola	West Africa	1.02	1.39	1.16	0.29	0.22	0.25	0.74	1.24	0.90	0.88	1.27
AM	Armenia	West Africa	40.86	35.61	30.61	23.87	21.92	38.38	34.71	35.65	29.65	58.71	46.60
BD	Bangladesh	East Africa	80.08	91.60	94.80	94.55	95.51	93.83	95.26	95.04	94.76	96.83	97.39
BJ	Benin	Central Africa	18.62	16.28	39.05	6.97	24.88	8.65	12.02	15.06	19.87	9.71	13.45
BT	Bhutan	Central Africa	62.97	74.36	92.92	88.80	95.49	31.97	75.87	97.61	95.04	93.04	97.01
BO	Bolivia	East Africa	16.67	12.82	15.26	14.37	19.40	13.42	10.20	10.79	6.25	14.13	9.66
BF	Burkina Faso	Central Africa	4.26	9.23	9.06	14.76	8.73	16.37	10.00	9.23	9.72	8.15	22.28
BI	Burundi	East Africa	0.00	0.00	0.00	0.00	0.40	0.83	0.81	0.35	0.57	0.44	0.92
KH	Cambodia	Central Africa	67.45	86.81	90.51	91.93	89.72	84.61	85.50	94.71	91.12	87.38	86.17
CV	Cape Verde	East Africa	57.95	47.63	50.61	62.59	44.36	62.31	69.45	33.32	48.61	22.79	43.49
CF	Central African Republic	East Africa	0.10	0.01	0.13	1.11	2.48	0.02	0.04	2.95	0.00	0.00	0.00
TD	Chad	West Africa	0.01	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KM	Comoros	West Africa	0.00	0.00	0.00	0.00	14.12	49.66	46.14	46.04	22.37	17.95	0.00
CG	Congo	West Africa	2.36	3.83	2.81	3.53	4.41	1.76	1.36	1.37	3.86	0.53	0.96
CK	Cook Islands	Southern Africa	15.01	8.96	0.15	0.00	4.06	0.16	0.36	0.04	0.00	0.04	0.08

CD	Democratic Republic of the Congo	West Africa	1.34	0.94	1.19	1.17	0.47	0.72	0.46	0.89	4.82	0.22	0.00
DJ	Djibouti	East Africa	0.53	6.31	0.05	0.11	0.63	0.00	0.67	1.08	1.41	1.33	0.50
GQ	Equatorial Guinea	East Africa	0.50	2.80	5.20	8.38	5.78	1.71	1.54	1.12	0.20	0.80	0.00
ER	Eritrea	West Africa	55.37	47.01	48.58	70.68	28.59	5.48	15.36	9.97	84.18	80.24	82.45
ET	Ethiopia	West Africa	30.84	29.42	35.45	43.57	45.04	37.76	43.08	35.09	36.56	34.07	49.59
FM	Federated States of Micronesia	East Africa	73.48	80.31	85.73	88.58	20.72	40.07	24.89	53.41	48.72	46.06	14.89
GM	Gambia	West Africa	64.09	56.53	56.76	53.93	47.98	65.78	69.91	52.47	54.40	68.66	73.71
GH	Ghana	East Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GN	Guinea	Central Africa	0.28	0.81	0.14	0.06	0.14	0.11	0.16	0.33	0.20	0.24	0.56
GW	Guinea-Bissau	West Africa	1.09	1.05	0.24	0.56	0.00	0.00	0.00	0.00	5.45	0.64	3.00
HT	Haiti	West Africa	0.00	0.00	0.00	0.00	7.78	25.47	35.74	41.89	29.32	40.26	24.85
IN	India	East Africa	48.30	46.37	48.40	51.93	42.04	43.57	44.08	38.82	36.92	36.68	36.06
ID	Indonesia	North Africa	32.39	31.43	38.32	35.39	32.35	34.04	36.60	40.59	42.42	44.01	38.62
CI	Ivory Coast	North Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KE	Kenya	East Africa	0.00	0.00	0.00	0.00	12.06	0.00	0.00	0.00	0.00	0.00	0.00
KI	Kiribati	East Africa	0.00	2.19	3.43	10.80	47.24	0.00	0.00	46.70	52.72	17.32	29.25
KG	Kyrgyzstan	East Africa	9.85	8.69	2.27	2.53	11.77	13.32	4.47	2.90	0.96	0.56	3.44
LA	Laos	Central Africa	39.87	75.79	80.45	75.37	85.09	79.42	69.84	65.18	72.53	75.74	79.61
LS	Lesotho	West Africa	0.00	0.00	0.00	0.00	0.13	0.55	1.08	0.00	0.00	0.00	0.00
LR	Liberia	West Africa	0.52	0.04	0.25	0.24	0.16	0.00	0.15	0.01	0.00	0.61	1.61
MG	Madagascar	East Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW	Malawi	West Africa	84.27	79.58	87.25	86.59	85.79	83.01	77.10	80.22	83.17	84.39	90.54
ML	Mali	Southern Africa	3.64	4.62	3.18	4.91	9.08	10.54	11.07	11.60	3.29	11.21	14.13
MR	Mauritania	West Africa	14.26	12.20	21.03	22.81	30.15	44.61	50.92	62.67	67.36	49.06	47.90
MN	Mongolia	South Asia	14.90	21.82	19.63	21.05	20.97	20.07	22.33	24.46	22.36	22.65	27.96
MZ	Mozambique	South Asia	0.00	0.00	0.00	0.00	18.69	78.96	72.48	50.33	0.00	0.00	0.00
MM	Myanmar	South Asia	0.00	0.00	0.00	41.52	83.36	81.53	84.80	86.38	86.99	90.63	95.11
NR	Nauru	Southeast Asia	4.98	82.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NP	Nepal	Southeast Asia	53.95	82.53	81.98	83.78	82.78	81.73	81.18	79.60	77.92	81.71	78.38
NE	Niger	Southeast Asia	41.45	30.70	8.73	35.22	1.62	2.33	2.65	4.17	41.42	38.75	20.18
NG	Nigeria	South Asia	3.74	2.02	1.62	1.41	0.49	0.52	0.94	0.83	0.60	0.72	0.86

NU	Niue	South Asia	0.00	0.00	0.00	0.00	0.68	0.04	0.00	0.00	0.00	0.00	0.00
PK	Pakistan	West Africa	81.60	77.47	79.21	51.18	84.25	87.26	88.95	88.07	85.85	86.12	86.38
PY	Paraguay	Western Asia	2.18	2.54	2.59	3.79	6.27	3.90	2.84	4.11	14.17	0.00	0.00
PH	Philippines	South Asia	16.48	16.23	23.02	22.82	23.21	23.69	27.90	26.24	25.39	25.74	25.85
RW	Rwanda	Southeast Asia	0.00	0.00	0.00	0.00	0.00	1.03	1.80	9.82	15.51	20.61	23.23
WS	Samoa	Western Asia	12.29	9.62	32.17	57.45	28.67	9.91	14.41	2.12	17.43	0.00	0.00
ST	São Tomé and Príncipe	Central Asia	4.30	5.17	2.82	2.58	1.40	1.15	0.96	1.19	9.91	9.63	29.80
SN	Senegal	Central Asia	70.91	68.85	66.33	65.30	70.26	69.21	61.02	72.75	67.28	70.17	61.11
SL	Sierra Leone	Southeast Asia	1.64	0.78	1.38	1.29	0.04	1.36	0.22	0.97	0.31	0.69	0.06
SB	Solomon Islands	Western Asia	82.32	57.42	57.45	98.33	98.36	97.10	98.78	99.38	98.70	99.54	52.08
SO	Somalia	Central Asia	0.00	0.05	0.00	0.01	0.22	0.00	0.00	0.00	2.54	1.24	0.00
SS	South Sudan	North-central Asia	0.00	0.00	0.00	0.00	0.00	0.00	16.79	1.35	0.00	0.00	0.00
LK	Sri Lanka	South Asia	66.54	52.11	47.46	47.94	48.94	45.39	45.97	46.69	49.37	53.46	53.69
SD	Sudan	Southeast Asia	7.71	4.86	32.16	37.26	49.25	38.34	12.15	23.90	7.01	2.60	8.08
SZ	Swaziland	South Asia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SY	Syria	North America	0.16	0.21	3.05	6.86	3.69	5.16	17.27	19.17	20.06	8.39	3.08
TJ	Tajikistan	Oceania	38.86	22.18	16.42	23.97	20.09	24.32	14.07	36.14	29.93	28.70	29.75
TZ	Tanzania	Oceania	0.00	0.00	0.00	0.00	10.97	49.58	51.61	51.57	51.61	52.83	32.82
TL	Timor-Leste	Oceania	0.00	0.21	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TG	Togo	Oceania	1.82	3.29	5.84	13.21	22.83	28.29	27.30	23.95	28.18	8.16	11.77
TO	Tonga	Oceania	18.55	4.16	10.88	9.43	5.90	24.61	3.96	13.49	6.82	60.23	3.44
TV	Tuvalu	Oceania	0.00	56.62	0.00	27.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UG	Uganda	Oceania	0.00	0.00	0.00	0.00	6.81	30.61	31.37	27.48	27.84	32.27	27.27
UZ	Uzbekistan	Oceania	38.57	45.04	51.25	60.57	41.06	48.67	63.71	67.60	63.77	4.12	17.36
VU	Vanuatu	Oceania	61.65	76.17	3.22	18.01	15.27	3.48	10.41	15.80	2.08	2.44	7.79
VN	Vietnam	Oceania	24.16	20.31	15.34	13.89	23.90	22.50	21.96	24.26	23.74	25.43	14.07
YE	Yemen	South America	7.25	4.63	82.22	67.46	9.78	16.08	24.76	48.65	66.08	9.12	21.32
ZM	Zambia	South America	0.00	0.00	0.00	0.00	3.53	15.65	16.64	13.13	11.44	15.91	20.13

Appendix 4.4 Descriptive Efficiency Indicators - Regional Estimates

Region	Utilisation	Coverage	Utility Rate
South Asia	72.26	67.31	55.64
SouthEast Asia	76.61	58.55	49.96
Central Asia	77.42	30.27	25.66
Western Asia	78.27	29.86	25.49
Oceania	34.78	52.23	22.62
North Central Asia	89.26	24.35	21.66
East Africa	47.59	21.97	19.31
North America	54.12	22.01	18.66
West Africa	62.76	20.79	18.24
North Africa	45.91	20.27	10.98
South America	83.92	9.04	8.43
Central Africa	49.34	3.08	1.98
Southern Africa	9.59	0.11	0.08

Appendix 4.5 Descriptive Efficiency Indicators per year

Efficiency Indicat	Yr2010	Yr2011	Yr2012	Yr2013	Yr2014	Yr2015	Yr2016	Yr2017	Yr2018	Yr2019	Yr2020
Utilisation rate	48.97	53.63	49.62	53.59	64.41	59.61	59.17	63.44	61.12	59.24	56.51
Coverage rate	29.24	28.08	28.95	30.44	30.74	32.96	35.11	33.63	33.80	32.44	30.64
Utility Rate	19.86	21.70	21.31	23.71	23.16	24.18	24.83	26.25	27.03	25.12	23.88

Appendix 5.1 Autocorrelation and Endogeneity Test

```
Arellano-Bond test for AR(1) in first differences: z =  -0.77  Pr > z =  0.444
Arellano-Bond test for AR(2) in first differences: z =  -0.52  Pr > z =  0.605

Sargan test of overid. restrictions: chi2(30)    = 172.78  Prob > chi2 =  0.000
  (Not robust, but not this studyakened by many instruments.)
Hansen test of overid. restrictions: chi2(30)    =  35.06  Prob > chi2 =  0.241
  (Robust but this studyakened by many instruments.)

Difference-in-Hansen tests of exogeneity of instrument subsets:
    Hansen test excluding group:     chi2(22)    =  26.71  Prob > chi2 =  0.222
    Difference (null H = exogenous): chi2(8)     =   8.35  Prob > chi2 =  0.400
  iv(lnFin lnGSPexp lnRoL)
    Hansen test excluding group:     chi2(27)    =  30.78  Prob > chi2 =  0.280
    Difference (null H = exogenous): chi2(3)     =   4.28  Prob > chi2 =  0.233
```

Appendix 5.2 Test for univariate normality

```
                                                        ------- joint ------
     Variable   Pr(Skewness)   Pr(Kurtosis)  adj chi2(2)    Prob>chi2

           FB      0.0283         0.0000          57.35       0.0000
    GDPoutput      0.0000         0.0000              .       0.0000
          ToT      0.0000         0.0000              .       0.0000
        Unemp      0.0000         0.0000              .       0.0000
```

Appendix 5.3 Test for multivariate normality

```
Mardia mSkewness =  79.94333    chi2(20) = 7424.163   Prob>chi2 =  0.0000
 Mardia mKurtosis =   135.338     chi2(1) =35703.526   Prob>chi2 =  0.0000
 Henze-Zirkler    =  67.98314     chi2(1) = 2145.199   Prob>chi2 =  0.0000
 Doornik-Hansen                   chi2(8) =11049.883   Prob>chi2 =  0.0000
```

Appendix 5.4 Goodness of fit

```
estat gof, stats(rmsea)

------------------------------------------------------------------------------
Fit statistic        |      Value   Description
---------------------+--------------------------------------------------------
Population error     |
               RMSEA |      0.070   Root mean squared error of approximation
 90% CI, lowerbound  |      0.043
         upper bound |      0.098
              pclose |      0.104   Probability RMSEA <= 0.05
------------------------------------------------------------------------------
```

Appendix 5.5 EU GSP Beneficiary countries

Abbrv.	GSP Beneficiary	Continent
AF	Afghanistan	South Asia
AO	Angola	Central Africa
AM	Armenia	Western Asia
BD	Bangladesh	South Asia
BJ	Benin	West Africa
BT	Bhutan	South Asia
BO	Bolivia	South America
BF	Burkina Faso	West Africa

BI	Burundi	East Africa
KH	Cambodia	Southeast Asia
CV	Cape Verde	West Africa
CF	Central African Republic	Central Africa
TD	Chad	Central Africa
KM	Comoros	East Africa
CG	Congo	Central Africa
CK	Cook Islands	Oceania
CD	Democratic Republic of the Cong	Central Africa
DJ	Djibouti	East Africa
GQ	Equatorial Guinea	Central Africa
ER	Eritrea	East Africa
ET	Ethiopia	East Africa
FM	Federated States of Micronesia	Oceania
GM	Gambia	West Africa
GH	Ghana	West Africa
GN	Guinea	West Africa
GW	Guinea-Bissau	West Africa
HT	Haiti	North America
IN	India	South Asia
ID	Indonesia	Southeast Asia
CI	Ivory Coast	West Africa
KE	Kenya	East Africa
KI	Kiribati	Oceania
KG	Kyrgyzstan	Central Asia
LA	Laos	Southeast Asia
LS	Lesotho	Southern Africa
LR	Liberia	West Africa
MG	Madagascar	East Africa
MW	Malawi	East Africa
ML	Mali	West Africa

MR	Mauritania	West Africa
MN	Mongolia	North-central As
MZ	Mozambique	East Africa
MM	Myanmar	Southeast Asia
NR	Nauru	Oceania
NP	Nepal	South Asia
NE	Niger	West Africa
NG	Nigeria	West Africa
NU	Niue	Oceania
PK	Pakistan	South Asia
PY	Paraguay	South America
PH	Philippines	Southeast Asia
RW	Rwanda	East Africa
WS	Samoa	Oceania
ST	São Tomé and Príncipe	Central Africa
SN	Senegal	West Africa
SL	Sierra Leone	West Africa
SB	Solomon Islands	Oceania
SO	Somalia	East Africa
SS	South Sudan	North Africa
LK	Sri Lanka	South Asia
SD	Sudan	North Africa
SZ	Swaziland	Southern Africa
SY	Syria	Western Asia
TJ	Tajikistan	Central Asia
TZ	Tanzania	East Africa
TL	Timor-Leste	South Asia
TG	Togo	West Africa
TO	Tonga	Oceania
TV	Tuvalu	Oceania
UG	Uganda	East Africa

UZ	Uzbekistan	Central Asia
VU	Vanuatu	Oceania
VN	Vietnam	Southeast Asia
YE	Yemen	Western Asia
ZM	Zambia	East Africa