WORLD TRADE ORGANIZATION

Trade for Peace

PATHWAYS TO SUSTAINABLE TRADE AND PEACE

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10. Does the Generalized System of Preferences Promote Peace in Fragile Economies?

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ABSTRACT

The Generalized System of Preferences (GSP) was established to promote the exports of developing economies to industrialized economies through non-reciprocal trade preferences. This chapter investigates the effect of the GSP on making trade work for peace in fragile economies. We find that increasing exports to GSP-granting countries reduces the risk of intra-state conflict onset in fragile economies. A higher utilization rate of the GSP could further contribute to this peace-promoting effect. This effect also differs across products. More exports of agricultural products could amplify the pro-peace effect of exports under the GSP, while we do not find statistically significant effects for manufacturing or resource-based products.

1. Introduction

Development of foreign trade is crucial for the economic growth of developing economies. Since the establishment of the multilateral trading system, many developing economies have seized the opportunities of economic globalization and lifted their people out of poverty through continuous domestic economic reforms and trade liberalization (Dollar and Kraay, 2004; World Bank Group and WTO, 2015). But this export-led growth model might not be easily applied to economies in fragile and conflict-affected situations (FCS). A fragile economy[2] is likely to be trapped in cycles of low administrative capacity, political instability, conflict, and weak economic performance (Akanbi et al., 2021).

As depicted in Calì (2015), fragile countries rely more heavily on exports as a source of foreign exchange than on other sources such as official development assistance and foreign direct investment. They may be more vulnerable to changes in trade flows than many other developing economies due to low levels of export diversification and high dependence on primary commodity exports, which are subject to considerable price volatility. Their dependence on trade, as well as the volatility and vulnerability of their trade flows, imply the vital role that trade could play on intra-state conflict and the importance of making trade work for peace in these fragile economies.

In this chapter, we study the role of the Generalized System of Preferences (GSP) in making trade work for peace in fragile and conflict-affected economies. The GSPs are programmes in the form of non-reciprocal trade preferences (NRTPs), in which developed countries unilaterally grant preferential tariffs to imports from developing economies in order to promote their economic development through export-driven industrial growth. There are also other trade preference programmes that are part of this non-reciprocal approach, including preferential tariffs for developing economies from a specific region and duty-free treatment granted by more economies, including some developing ones, for least developed countries (LDCs).

Since developing economies do not have the obligation to provide NRTPs to other developing economies, we focus only on GSPs and GSP-granting economies as recorded by UN Trade and Development (UNCTAD) and the World Trade Organization (WTO) for the purpose of this chapter (UNCTAD, 2024a; WTO, 2024).

However, the effects of GSPs on trade or growth have been found to be controversial. Besides the complex rules of origin that can hinder utilization, the coverage of products, the graduation criteria, as well as the review of the eligibility of GSPs, are all subject to the developed countries' own interests. The continuity of the improved market access is thus uncertain. These factors can greatly limit the effectiveness of GSPs in promoting trade and growth in fragile economies. Besides, GSPs can lead to changes in the structure of exports, creating relative winners and losers. As later explored in this chapter, exports of some products tend to be more pro-conflict while others more pro-peace, which means that GSPs can have ambiguous effects on the risk of intra-state conflict.

This chapter seeks to answer whether the GSP can promote peace in the fragile economies, by estimating the effect of exports of fragile economies to GSP-granting markets on the probability of onset and ending of intra-state conflicts. The empirical result suggests that more exports to the preference-providing countries decreases the risk of conflict onset. We did not find a significant effect for the coverage rate of GSP schemes. A possible explanation is that the effects of exports of a fragile economy to GSP-granting countries vary across types of products.

We test whether higher shares of certain types of products dampen or amplify the effects of exports to GSP-granting countries. We find that higher shares of ore and mineral exports to GSP-granting countries amplify the negative effect on the probability of an ending to the conflict in question. And the peace-promoting effect of exports to GSP countries is larger when the share of agricultural exports or textiles in exports is higher.

The chapter is organized as follows. Section 2 defines FCS, and provides an overview of the exports and GSP received by these economies. Section 3 lays out the theoretical framework that elaborates the effect of the GSP on trade and on intra-state conflict based on existing literature. Section 4 describes the empirical strategy and data, and presents the results of empirical analysis. Section 5 offers the conclusion and a discussion on policy implications.

2. Fragile economies and trade preferences

2.1. List of economies in fragile and conflict-affected situations

Both the Organisation for Economic Co-operation and Development (OECD) and the World Bank have been evaluating the fragility of economies in the world annually (OECD, 2024; World Bank Group, 2024a). The OECD defines fragility as "the combination of

exposure to risk and insufficient coping capacities of the state, system and/or communities to manage, absorb or mitigate those risks" (OECD, 2022). The World Bank's classification lists governments that either: i) manifest high levels of institutional and social fragility, identified by indicators that measure the quality of policy and institutions, and manifestations of fragility; or ii) are affected by violent conflict, identified by a threshold number of conflict-related deaths relative to the population.

Although the methodology and the lists are different and have evolved over time, both definitions are predicated to some degree on the existence, relative weakness, or lack of governance and institutional capacity (Calì, 2015). To reconcile the differences, we combine the lists compiled by both the OECD and the World Bank from 2006 to 2024. Table A.1 shows the combined list of FCSs.

In our regression analysis, we include economies that have been on the list at least once between 2006 and 2018, given that some variables in the regression equation do not have available data after 2018, which limits the years covered by our sample to 1996-2018. According to Table A.1, most fragile economies belong to the low-income group (26) or lower-middle-income group (39), while fewer fragile economies (16) belong to the upper-middle-income group. Most fragile governments are Sub-Saharan African countries (39), and there are 13 economies in East Asia and Pacific. The rest are in Europe and Central Asia (10), Middle East and North Africa (9), Latin America and Caribbean (5), and South Asia (5).

It is worth noting that if the criteria that categorize FCS are correlated with the factors that both contribute to low levels of GSP-eligible exports and high risk of conflict onset, our empirical analysis would be subject to sample selection bias. In other words, if we only select conflict-affected economies with low levels of GSP-eligible trade, we can derive a negative correlation between GSP exports and conflict by construction. A low level of state capacity, which often implies low efficiency in the administration and issuance of certificates, can hinder the utilization of GSP by exporting firms, while, as shown by the existing literature, it would also increase the probability of intra-state conflicts.

However, we argue that this would be less of a concern in our analysis, as we use GSP-eligible exports rather than utilization rates of GSP in the baseline regression, which is relatively exogenous to the individual countries' conditions. Moreover, we control for possible common factors that could drive sample selection bias such as GDP per capita in the regression. All the variables are lagged one year to mitigate the risk of endogeneity. We also use an instrumental variable approach to address further endogeneity concerns. More details are provided in the section on the empirical strategy.

2.2. Exports of fragile economies

Exports of fragile economies are often highly concentrated in a small number of destinations. The first two destinations of exports can account for more than half of the economy's total exports. As shown in Table A.2 in the Appendix, GSP providers, especially the United States, the European Union, Switzerland, and Japan, as well as countries that provide LDC-specific preferential trade agreements (PTAs), including China, India, the Republic of Korea, and Thailand, are among the top destinations of these economies' exports.

We calculate the percentage of exports to the countries that grant GSP tariff preferences for each of the fragile economies. The second column in Table A.5 shows the numbers in percentage points. It provides information on how important the preference-giving economies are to the fragile economies' exports as export destinations. By estimating the effect of exports to GSP providers on the probability of conflict onsets, we can gain an understanding of whether trade policies that seek to stimulate exports for the fragile economies to the GSP providers can contribute to a reduction of the risk of conflicts.

Table A.6 lists the HS sections of the products exported by the fragile economies that accounts for the largest share of the economy's exports. The FCS economies are heterogenous in the products they export. Several fragile economies mainly export agricultural products. Some export labour-intensive textiles. A larger share of fragile economies are exporters of minerals or pearls. A few export base metals or vehicles. As different types of products have different implications on peace and conflict within the state, granting different trade preferences on different types of products under GSPs will also exert heterogeneous influences on the risk of intra-state conflict.

2.3. Generalized System of Preferences granted to fragile economies

According to the WTO's PTA database (WTO, 2024), there are 15 economies that grant GSP preferences, namely Armenia, Australia, Canada, the European Union (EU), Iceland, Japan, Kazakhstan, the Kyrgyz Republic, New Zealand, Norway, the Russian Federation, Switzerland, Türkiye, the United Kingdom and the United States (US) (see Table A.5). Each country grants

reduced tariffs or free duty on most manufactured goods and certain agricultural products from a list of beneficiaries determined by each preference-granting country. The lists vary widely across the GSP schemes by different countries, but all the fragile economies in the list had received trade preferences from at least one of the 15 countries.

The EU and the US have been and continue to be among the most important markets for developing economies over recent decades. The US grants GSPs to 119 designated beneficiary countries and territories, providing duty-free entry into the US for over 3,500 products (HS-8), and duty-free status to an additional 1,500 products from 44 LDCs (as of 2020). Other US trade preference programs, which are built on the GSP, are regionally focused, including the African Growth and Opportunity Act (AGOA) and the Caribbean Basin Initiative (CBI, includes preference programs for Haiti). The US GSP expired on 31 December 2020 and is still pending US Congressional renewal, while duty-free treatment of imports qualifying for coverage under the AGOA and the CBI is not affected by the expiration of the GSP program's authorization.

The EU has three GSP arrangements. The "Standard" GSP framework grants duty reductions for about 66 per cent of the tariff lines (CN-8) applied by the EU to low-income or middle-income countries that do not benefit from any other preferential trade access to the EU market.

The Sustainable Development and Good Governance (GSP+) grants duty-free access to the same 66 per cent of EU tariff lines as the Standard GSP to beneficiaries that are found to be especially vulnerable in terms of economic diversification and import volumes. In return, these countries must ratify and effectively implement 27 core international conventions, human and labour rights, environmental protection, and good governance.

The Everything but Arms (EBA) arrangement grants full duty-free, quota-free access for all products except arms and ammunition for all United Nations classified LDCs. Table A.3 shows whether a fragile economy is a beneficiary of the EU or US schemes as of 2023.

3. GSPs, trade, and intra-state conflict

The role of GSPs in the peace-promoting or conflict-facilitating effect of trade is a complex issue. There are two strands of abundant research, both theoretical and empirical, that help us understand how GSPs promote or hinder peace in fragile economies. The first one is on the effect of GSPs on the exports of fragile economies. The second one addresses how exports affect intra-state conflict.

3.1. The effect of GSPs on trade

To understand how GSPs can contribute to peace, we first need to understand how they affect the exports and economy of fragile economies. There are many studies investigating the economic impact of GSPs and NRTPs, especially the effect on export growth for recipient governments, yet the effectiveness of GSPs or NRTPs is still debatable (Herz and Wagner, 2011).

Given the wide differences among the various GSP schemes in terms of beneficiaries, product coverage, depth of tariff cuts, safeguards and rules of origin, the effects of different GSP schemes could be quite heterogeneous. Some early papers, like Rose (2004) and Chang and Lee (2011), have shown a positive impact on recipients' exports to the GSP-granting countries, while others have reported heterogeneous results across recipient countries, sectors, and products. For example, Gil-Pareja et al. (2014) differentiate non-reciprocal arrangements and find that AGOA, EBA, the Cotonou Agreement (ACP-EC Partnership Agreement), and GSPs from other advanced economies had a significant positive impact on the exports of beneficiary countries, while there is no evidence for positive effects of the Andean Trade Preference Act and CBI.

Ornelas and Ritel (2020) also allow for heterogeneous effects across beneficiaries and find that the average export effects of the GSP are mute, which is due to a nuanced relationship between preferential and multilateral liberalization that depends on the country's level of development. Specifically, the significant export growth effect is limited to the LDCs which are WTO members and the non-LDCs which are not members of the WTO. For non-LDC WTO non-members, GSPs benefit them as they do not have secure access to developed countries' markets through most-favoured-nation (MFN) tariffs; once they do, the extra market access through (revocable and therefore insecure) GSPs becomes less important. As for the LDC WTO non-members, they might be incapable of effectively taking advantage of the GSPs due to lacking institutional infrastructures and distorted incentives.

These papers thus question the effectiveness of GSPs on promoting exports of the beneficiaries, given that the preferences are provided and taken at the discretion of the granting economies.

Some literature attributes the ineffectiveness of the GSP to the fact that the non-reciprocal nature of the

GSP weakens the incentives of trade liberalization in beneficiary economies. As Özden and Reinhardt (2005) suggest, since the GSP does not require liberalization in beneficiary economies, their export sectors covered by it may be reluctant to incur lobbying costs, given that they already have free access to the granting countries. In addition, these sectors of the beneficiary economy expect the GSP to be withdrawn if its foreign sales increase too much.

Therefore, due to the non-reciprocal nature of the GSP, Conconi and Perroni (2012, 2015) argue that the export sectors of developing economies will not be able to expand and may ultimately not be able to benefit from non-reciprocity. In this regard, Gil-Pareja et al. (2019) and Zappile (2011) point out that reciprocal trade agreements are often more effective than GSPs in promoting exports of recipient countries (such as African countries). Thus, a lot of studies, for example, Gil-Pareja et al. (2019), Özden and Reinhardt (2005), and Zappile (2011) argue that the GSP should be replaced by a reciprocal agreement.

The uncertainty of the GSP also contributes to its ineffectiveness. Developed countries have discretion over GSPs to set graduation criteria (e.g. reaching competitive need limitation (CNL) in US GSPs), and occasional overhauls of non-reciprocal preference regimes (as recently happened in European GSPs), meaning that the benefits of GSPs to beneficiary economies can be only short-term and accompanied by indeterminate gains, as they do not lead to export expansion beyond a certain level, otherwise the benefits would be withdrawn. This is demonstrated by Hakobyan (2020), who finds that the expiry of the US GSP in 2011 had an adverse effect on developing economy exports to the US market, which had been persistent over time.

While most papers report positive effects or ineffectiveness of GSPs, one paper by Herz and Wagner (2011) considers the changing effect of GSPs over time and finds that exports of GSP-granting countries are negatively affected in the long-run due to the distortion of the economic structure of GSP recipients.

Besides, some studies attribute the non-evidence of positive impact of the GSP on exports mainly to strict or complicated rules of origin, and the erosion of preferential margins. By comparing the GSP programs offered by the EU and the US for apparel exports to a range of African countries, de Melo and Portugal-Pérez (2008) found that, due to the more relaxed preferential rules of origin under the US AGOA regime, the export volume of the top seven beneficiaries of the AGOA increased by 300 per cent.

Gradeva and Martínez-Zarzoso (2016) showed that the EU's EBA initiative led to an increase in ACP's exports of agricultural products and natural resources, while the preferences have had no significant effects on manufacturing exports, which is explained by the MFN trade liberalization leading to an erosion of the preferential margin received by ACP LDCs. The erosion of preferential margins can also come from other reciprocal agreements, as shown by Fernandes et al. (2023), which find little evidence that non-reciprocal preferences durably promote exports and show that AGOA has boosted apparel exports of African countries on average, but the impact flattened after the Multi-Fiber Arrangement induced more competition from Asian countries.

3.2. The effect of exports and the GSP on conflict and peace in fragile economies

There is a vast body of literature on the causes of civil conflict or intra-state conflict. A recent review paper by Cederman and Vogt (2017) identifies three explanatory logics that have dominated much of the literature and that view civil wars as a consequence of greed, grievances, and opportunities, respectively. Grievance-based accounts view internal conflict as a reaction to socioeconomic and/or political injustice. In contrast, explanations centring on greed makes sense of civil war in terms of individuals' desire to maximize their profits, primarily in a narrowly materialistic sense. Arguing that motives are less important, a third logic seeks the causes of civil war in the opportunities that enable actors to engage in violent mobilization.

In light of these three logics, international trade can work through changes in the grievances, greed and opportunities, which thereby has both pacifying and facilitating effects on the risk of domestic armed conflicts. Enlarged exports, especially those of agricultural or labour-intensive manufactured products, increase domestic employment and income. It will increase the opportunity cost of engaging in armed conflicts. In contrast, the effect of the exports of natural resources could be the opposite. It is expected to increase the wartime gains stemming from looting of natural resources which can lead to personal enrichment and financing of rebels' combat activities.

In addition, gains from trade can increase foreign exchange and the taxes collected by the government, improve productivity and promote industrial innovation. This will strengthen state capacity and decrease conflict. Taking into account the changes in state capacity adds more nuances to the role of exports of natural resources. For example, while oil extraction can lead to bad governance and state weakness due to

rent seeking, petroleum revenues may reduce conflict by helping governments suppress the opposition (Paine 2016). Those revenues could also be used to build infrastructure or have sovereign wealth funds for future generations, which help strengthen the capacity of the state.

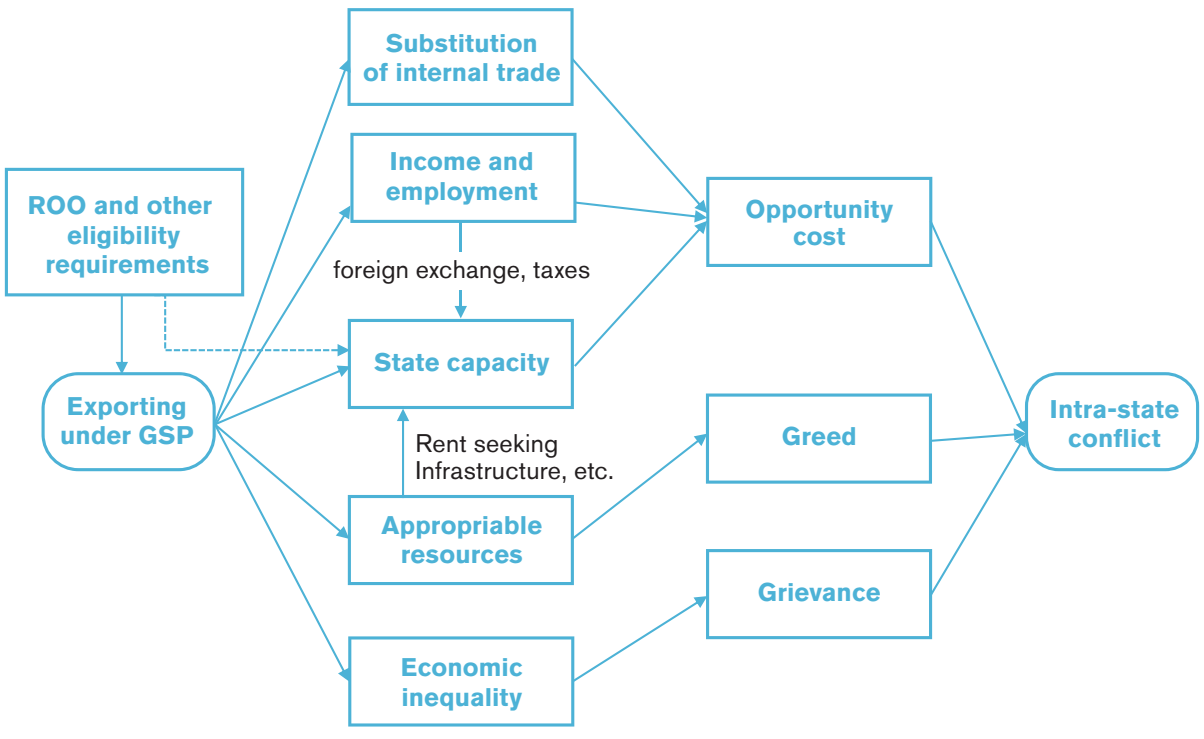
Martin, Mayer and Thoenig (2008) provide a third hypothesis related to the opportunity cost channel. They argue that increased international trade flows can serve as both deterrent and insurance, which have opposite effects on the risk of intra-state conflicts. On the one hand, it increases the opportunity costs of intra-state conflict as conflicts can put the economic gains generated by trade at risk for all groups involved. On the other hand, it offers alternate sources of income, as trade with foreign countries can become a substitute to domestic trade, which can weaken economic ties and dependence between groups and regions inside a country. This reduced dependence decreases the opportunity cost of conflicts.

With regard to the channel of grievances, trade by its nature creates winners and losers across different industries, areas, and groups of people. For example, areas or groups of people with easier access to exports will become wealthier faster, which can increase economic inequality within a fragile economy.

When considering the effect of exports under GSPs on intra-state conflict, the three logics work through the four discussed channels (see Figure 10.1). GSPs provide freer access and more opportunities for the exports of fragile economies. However, to qualify for the GSP program, the beneficiary developing economies need to comply with administrative cooperation requirements, namely establishing and maintaining the necessary administrative structures and procedures to ensure the proper implementation and management of the GSP rules of origin and related customs procedures.

If an economy's export relies more on the GSP-providing countries, it would have more incentives to implement and meet these requirements of improving domestic institutions, which might have an indirect positive effect on state capacity that could be peace-enhancing. From a company's perspective, for its exports to be eligible for the GSP program, it needs to obtain a certificate of origin before it can successfully utilize the GSP. This process will be reliant on the

Figure 10.1 An illustration of the effect of exports under GSPs or NRTPs on intra-state conflict



Source: Authors.

Note: ROO = Return on Operations.

bureaucratical capacity of the government of the fragile economy. The utilization of the GSP will also depend on the complexity of rules of origin and other eligibility requirements enacted by the granting countries.

Exports under the GSP will induce changes in state capacity, changes in employment and real incomes (the opportunity cost effect), changes in the value of natural resources (the rapacity or greed effect), and changes in economic inequality (the grievances effect). All these changes can vary for different types of products exported.

4. Empirical analysis

4.1. Model specification

The econometric model of conflict typically takes the following form:

$$(1) \quad C_{it} = \alpha + X_i \beta + Z_{it} \theta + \varepsilon_{it}$$

C_{it} is an indicator variable that equals one if there is new or ongoing conflict in country i during year t. X_i is a vector of country characteristics that do not change over time. Z_{it} is a vector of country-specific time-varying covariates, and ε_{it} is an idiosyncratic error term. However, since conflict is highly persistent, which implies that current conflict can be affected by conflicts and shocks in the past, this specification could result in an estimation bias.

To capture this persistency, researchers often rely on a dynamic modelling approach that includes lagged dependent variables on the right-hand side of the equation. Here we follow Bazzi and Blattman (2014) to address this issue, which models onset and ending separately, on split samples. This approach is also utilized by Berman and Couttenier (2015) and Calì and Mulabdic (2017) to study the effect of trade on inter-state conflict. It can provide results consistent with duration analysis, and moreover, allow for different effects on new conflict and on ongoing conflict. The model specification is as follows.

$$(2) \quad Onset_{it} = \alpha_O + \tau_{Ot} + \alpha_{Oi} \times t + \beta_{O1} S_{it} + \beta_{O2} W_{it} + Z_{it} \theta_O + \varepsilon_{Oit}$$

$$(3) \quad Ending_{it} = \alpha_E + \tau_{Et} + \alpha_{Ei} \times t + \beta_{E1} S_{it} + \beta_{E2} W_{it} + Z_{it} \theta_E + \varepsilon_{Eit}$$

Conflict onset is defined as the occurrence of a conflict in country i in year t, conditional on $Conflict_{i,t-1}=0$. The variable is coded as missing in the following years of conflict. Conflict ending is defined as $Conflict_{it}=0$ conditional on $Conflict_{i,t-1}=1$. The variable is coded as missing in the peaceful years.

S_{it} is log of exports to countries that grant trade preferences to country i. W_{it} is country i's log of exports to the rest of the world. α_i and τ_t are country and year fixed effects, $\alpha_i \times t$ are country-specific time trends. We use a fixed effect linear probability model (LPM) as proposed by Bazzi and Blattman (2014) to estimate the two regression equations.

As a robustness check, we also estimate this specification through a conditional fixed-effects logit estimator as in Berman and Couttenier (2015). But it is worth noting that the conditional fixed-effects logit estimation drops all the countries in which conflicts always or never occur and it makes the size of the coefficients difficult to interpret. We therefore use a random-effects probit estimator as a supplement. Since the logit or probit estimator can fail to reach convergence when including country-specific time trends, we include year fixed effects rather than country-specific time trends in the logit and probit estimations.

The country fixed effects control for geographical characteristics which are frequently mentioned in the literature on intra-state conflicts, such as mountainous areas, non-contiguous states, the initial endowment of natural resources, etc. They also control for other unobserved country characteristics that lead a country to be more conflict prone. Besides, we add various time-varying control variables as suggested by the literature, including population, per capita GDP, droughts, state fragility index, and rents of natural resources. We do not include variables such as ethnic fractionalization or religious fractionalization due to insufficiency and low quality of available data for fragile economies.

Considering that there might be a certain fraction of products that are not eligible under the GSP schemes, in the extended analysis, we utilize UNCTAD's new database on utilization of trade preferences (UNCTAD, 2024b), and calculate the share of exports of country i in year t that are dutiable and covered by the NRTPs of the preference-providing countries. We interact this share of GSP-covered exports with our key explanatory variable S_{it} and investigate the role of the coverage of GSP schemes.

To mitigate the issue of endogeneity, all the variables are lagged by one year. We also implement an instrumental variable approach to address further endogeneity concerns. Exports to preference-giving countries is instrumented by the import demand from these countries (measured by their imports from the world) weighted by the geographical distance between the providing countries and the preference-receiving

country. Since fragile economies are much smaller in their size of production and exports, their effect on the import demand of the preference-giving countries is trivial. To the contrary, their exports to the preference-giving countries will be dependent on the demand of imports by those countries. Mathematically, the instrumental variable is constructed as follows:

$$(4) \quad IV_{it}=\sum_{k\in PC_i}(M_{kt}/dist_{ik})$$

PC_i is the set of countries that grant GSP to country i for at least one year during the sample period. M_{kt} represents the total imports of country k in year t. $dist_{ik}$ is the geographical distance from country i to country k.

4.2. Data

Data on intra-state conflicts are from the UCDP/PRIO databases on armed conflicts (Davis et al., 2024; Harbom et al., 2008). The onset of a conflict is identified when a given episode of conflict activity reached 25 battle-related deaths in a year. Bilateral trade data at the commodity level is from the CEPII BACI dataset (202301 version) (Gaulier and Zignago, 2010). Information on the trade preferences received by the fragile economies is from the UNCTAD TRAINS dataset (UNCTAD, 2024c). Data on the economic indicators in the control variables are extracted from the World Bank WDI database (World Bank Group, 2024b).

The geographical distance used in the construction of instrumental variables is from the CEPII gravity dataset (Conte et al., 2022). Social and political fragility comes from the State Fragility Index and Matrix 2018 (Marshall and Elzinga-Marshall, 2017; Center for Systemic Peace, 2024). The original state fragility index covers four dimensions, namely: security, political, economic, and social – and adds up both effectiveness scores and legitimacy scores of the four areas. As the security indicators include intra-state conflicts, and the economic dimension is captured by other control variables, we use the social and political dimension as the control variable.

The sample in the baseline regression covers 61 fragile economies during the period from 1996 to 2018. In the extended analysis, shares of GSP-covered exports are calculated from the UNCTAD database on utilization of trade preferences. The database provides data for the four major GSP providers, namely the United States, Canada, the European Union and Japan, available since 2002. We first calculate GSP-covered exports by dividing the value of trade that received GSP treatment by the GSP utilization rate. The share of GSP-covered exports is the ratio of GSP-covered exports over all dutiable exports to the preference providers.

4.3. Baseline results

Table B.1 in Appendix B presents the results of the estimation of equations (2) and (3). The first two columns use ordinary least squares (OLS) estimation. The results show that a 1 per cent increase in exports to GSP-providing countries decreases the probability of intra-state conflict onset by about 0.04 per cent (column 1 in Table B.1). The results of two-stage least squares (2SLS) estimation including control variables are presented in columns 3 and 4 in Table B.1. The magnitude of the effect becomes slightly larger. A 1 per cent change in exports to GSP-providing countries decreases the probability of intra-state conflict onset by about 0.17 per cent.

We do not find a statistically significant effect on the ending of the conflict. This could possibly be due to the limited number of observations. As for the exports to other countries in the world, the magnitudes of the effect are much smaller and not statistically significant. The difference between the effect of trade under the GSP and other trade can be attributed to the different composition of export destinations and main exporting products. Another source of difference could be the obligations of GSP beneficiary countries to be compliant with the "administrative cooperation requirements" as discussed in Section 3.2.

We run regressions for the subsample of countries that are (not) highly dependent on GSP providers and report the results in Table B.3 in Appendix B. The results show that the peace-enhancing effect of exports under the GSP is mainly driven by the subsample that relies more heavily on GSP-providing countries. This could be partly due to compliance with "administrative cooperation requirements" that might improve the domestic institution as discussed in Section 3.2.

4.4. Heterogeneous effects

The role of GSP coverage and utilization rates

As not all products are eligible under the GSP scheme, we seek to investigate whether the effect of exports to preference-giving countries depends on the coverage rate of the GSP schemes. The estimation results are shown in Table B.4. Since the database only includes data for four GSP providers, in columns 3 and 4, we change the key explanatory variable to the fragile economy's exports to these four markets and interact it with the coverage.

The coverage rate is the percentage of dutiable exports that are under the tariff lines covered by the preferential scheme. The coefficient of the interaction

term is negative but is not significantly different from zero. We do not find statistical evidence that higher shares of exports eligible for the preferential schemes might amplify the effect of trade on reducing the risk of conflict. The underlying reason could be that both positive and negative effects exist for different product groups of exports, cancelling each other out.

We examine whether higher utilization rates of GSP schemes can enhance the effect of GSP exports on conflict onset and termination in fragile economies by including the interaction term between the utilization rate and exports to GSP providers. The estimation results are reported in Table B.5. We find that higher rates of utilization of the GSP trade preferential schemes could enhance the effect of exports under the GSP on reducing the risk of conflict onset.

Different types of products

The baseline estimation has focused on the average effect of GSP exports on intra-state conflicts. As noted above, the average effect could mask the heterogeneity of product types exported to the GSP-granting countries. To investigate the possible heterogeneous effect, we interact the key variable, log of exports to GSP providers, with the percentage of exports of certain types of products that are exported to the GSP providers. As our instrumental-variable approach no longer applies in these regressions with interaction terms, we summarize and report the OLS and conditional fixed-effects logit estimation results in Table B.6.

The results suggest that more exports of agricultural products to the GSP-providing countries decreases the probability of conflict onset. The effects of more exports of manufacturing products, resource-based products, and ores and metals are not statistically different from zero, which might imply that increasing or decreasing the exports of these products under the GSP does not significantly change the probability of conflict onset or termination.

As we do not find significant effects for the interaction with the ratio of petroleum or fuels, the results are omitted in the table. This finding is consistent with both pro-peace and pro-conflict channels that trade under the GSP could have on intra-state conflict, as elaborated in Section 3, including the ambiguous effect induced by changes in state capacity and the opportunity cost of engaging in violence. Most of the results are consistent with the literature that traded resources like ores and metals tend to amplify the risk of conflict (in our research, cancelling out the peace-enhancing channels), while "diffuse" commodities (often agricultural commodities) tend to strengthen the pro-peace effect of trade.

5. Conclusion

This chapter has explored the role of GSPs in promoting or hindering peace in fragile economies, attempting to shed light on how GSPs granted by developed countries to beneficiary developing economies might work for sustainable peace in the FCS. We calculate the value of exports of each fragile economy to its preference-granting countries and estimate its effect on the probability of onset and cessation of intra-state conflicts. We use an instrumental variable approach to address possible endogeneity concerns and we find that more exports to the preference-providing countries decreases the risk of conflict onset.

Not all products are eligible under the GSP programs and not all exports of the beneficiary developing economy to the GSP provider can successfully utilize the GSP. By utilizing the UNCTAD Database on GSP utilization, we further investigate whether a higher coverage rate of GSP schemes and a higher rate of utilization can enhance the peace-promoting effect of exports under the GSP. We did not find significant effects for the coverage rate of GSP schemes provided by QUAD countries, while we did find that the utilization of the GSP can enhance the arresting effect of GSP exports on conflict onset.

We further explore the possibility that the effect of exports of a fragile economy to the GSP-granting countries varies across types of products. We test whether higher shares of certain types of products dampen or amplify the effect of exports to GSP-granting countries. We find that the peace-promoting effect of exports to GSP countries is larger when the share of agricultural exports or agricultural products in the exports is higher. We do not find a significant effect of the share of manufacturing exports, resource-based products, ores and metals, or petroleum and fuels to the GSP-granting countries. This could be the result of the pro-conflict channels that cancels out the positive channels, such as the increase in income inequality and the results from looting natural resources. Besides, only some manufacturing sectors are labour-intensive.

The relationship between trade, trade policies and intra-state conflict is without doubt complex. The empirical evidence provided in this chapter suggests that GSP-benefitting exports can work for peace when they provide easier access for FCS to greater foreign demand, and when the exports comprise more agricultural and more labour-intensive products.

In light of these empirical findings, we suggest that, to promote a peace-enhancing effect in fragile economies, the GSP-granting countries can expand the range of products eligible for duty-free access under the GSP by adding more agricultural and labour-intensive products in which these economies have a comparative advantage, thus providing greater export opportunities for fragile economies. To facilitate increased GSP utilization, the GSP-granting countries can simplify and harmonize the rules of origin requirements across GSP programs, offer technical assistance and capacity-building programs to help fragile economies meet administrative requirements of implementing and managing the GSP, and provide better information and guidance regarding the eligibility of products, and market opportunities.

In the current era, GSP access and the economic and social situation in fragile economies will face mounting challenges. To promote peace and stability in fragile economies, it is crucial to continue pursuing and maintaining an open and enabling trade environment that provides them with access to global markets. However, the GSP has inherent limitations as an NRTP, and it will likely face increasing scrutiny and backlash from developed economies grappling with domestic pressures against trade openness. Joining the multilateral platform of the WTO could be a more sustainable and beneficial approach for fragile economies, ensuring predictable and enforceable market access.

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Appendix A

Table A.1 List of economies in fragile and conflict-affected situations (FCS)

Economy	OECD list	World Bank list	Income Group
East Asia & Pacific			
Dem. Peoples' Rep. of Korea	2008-22		Low
Cambodia	2007-09,16-22	2006-09	Lower middle
Kiribati	2007-15	2008-21,22,24	Lower middle
Lao People's Democratic Republic	2007-09,16-22	2006-09,21	Lower middle
Micronesia, Fed. Sts.	2013-15	2012-24	Lower middle
Myanmar	2007-22	2006-24	Lower middle
Papua New Guinea	2007-11,16-22	2006-08,10,17-24	Lower middle
Solomon Islands	2007-22	2006-24	Lower middle
Timor-Leste	2007-18,22	2006-16,19-24	Lower middle
Vanuatu	2007-09	2006-08	Lower middle
Marshall Islands	2013-15	2012-24	Upper middle
Tonga	2007-10	2006-10	Upper middle
Tuvalu	2014-15	2013-24	Upper middle
Europe & Central Asia			
Kyrgyzstan	2013		Lower middle
Tajikistan	2007-11,16-22	2006,09-11	Lower middle
Uzbekistan	2007-09,11	2006-09	Lower middle
Armenia		2022	Upper middle
Azerbaijan		2022	Upper middle
Bosnia and Herzegovina	2013-15	2010-16	Upper middle
Georgia	2011,13	2010-12	Upper middle
Kosovo		2022-24	Upper middle
Turkmenistan	2022		Upper middle
Ukraine		2023-24	Upper middle
South Asia			
Afghanistan	2007-22	2006-24	Low
Bangladesh	2011-22		Lower middle
Nepal	2007-15	2010-14	Lower middle
Pakistan	2008-22		Lower middle
Sri Lanka	2011-15		Lower middle

Economy	OECD list	World Bank list	Income Group
Latin America & Caribbean			
Haiti	2007-22	2006-24	Lower middle
Honduras	2016-22		Lower middle
Nicaragua	2020,22		Lower middle
Guatemala	2016-22		Upper middle
Venezuela, Bolivarian Republic of	2016-22	2020-24	Upper middle
Middle East & North Africa			
Syrian Arab Republic	2014-22	2013-24	Low
Yemen	2007-22	2009-24	Low
Djibouti	2007-10,20,22	2006-10,17-19	Lower middle
Egypt	2014-18		Lower middle
Lebanese Republic	2011	2016-24	Lower middle
West Bank and Gaza	2022	2022-24	Lower middle
Iran	2013,20,22		Upper middle
Iraq	2008-22	2011-24	Upper middle
Libya	2014-22	2013-24	Upper middle
Sub-Saharan Africa			
Burkina Faso	2011,14,16-22	2020-24	Low
Burundi	2007-20,22	2006-24	Low
Central African Republic	2007-20,22	2006-24	Low
Chad	2007-20,22	2006-24	Low
Congo Dem. Rep.	2007-20,22	2006-24	Low
Eritrea	2007-20,22	2006-24	Low
Ethiopia	2008-20,22	2022-24	Low
Gambia, The	2007-11,16-22	2006-10,16-21	Low
Guinea-Bissau	2007-22	2006-24	Low
Liberia	2007-22	2006-21	Low
Madagascar	2014-22	2014-17	Low
Malawi	2011-18	2014	Low
Mali	2014-22	2014-24	Low
Mozambique	2016-22	2017-19,21-24	Low
Niger	2007-22	2020-24	Low
Rwanda	2008-10,13,15-18		Low
Sierra Leone	2007-22	2006-18	Low

Economy	OECD list	World Bank list	Income Group
Somalia	2007-22	2006-24	Low
South Sudan	2013-22	2013-24	Low
Sudan	2007-22	2006-24	Low
Togo	2007-15,20,22	2006-19	Low
Uganda	2008-22		Low
Angola	2007-14,16-22	2006-12	Lower middle
Benin	2022		Lower middle
Cameroon	2007-22	2009-10,20-24	Lower middle
Comoros	2007-22	2006-24	Lower middle
Congo	2007-12,14-22	2006-14,17-24	Lower middle
Côte d'Ivoire	2007-12,14-22	2006-19	Lower middle
Eswatini	2016-22		Lower middle
Guinea	2007-10,13-22	2006-13	Lower middle
Kenya	2008-22		Lower middle
Lesotho	2016-22		Lower middle
Mauritania	2007-09,14-22	2007	Lower middle
Nigeria	2007-22	2006-07,20-24	Lower middle
Sao Tome and Principe	2007-11	2006-11,24	Lower middle
Tanzania	2016-22		Lower middle
Zambia	2016-22		Lower middle
Zimbabwe	2007-22	2006-24	Lower middle
Equatorial Guinea	2008-10,20,22		Upper middle

Notes: The OECD did not publish reports for the years 2012, 2017 and 2019. The geographical regions and income groups are based on the World Bank's country classification for the current 2025 fiscal year (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519). The most recent lists of the OECD and the World Bank are for the years 2022 and 2024, respectively. Due to data availability, the observations in the regression panel are from 1996 to 2018 and as a result do not include Armenia, Azerbaijan, Benin, Kosovo, Turkmenistan, Ukraine, West Bank and Gaza which only appear in the lists after 2018.

Table A.2	List of preferential trade agreements
GSP	
Armenia	Generalized System of Preferences – Armenia
Australia	Generalized System of Preferences – Australia
Canada	Generalized System of Preferences – Canada
European Union	Generalized System of Preferences – European Union
Iceland	Generalized System of Preferences – Iceland
Japan	Generalized System of Preferences – Japan
Kazakhstan	Generalized System of Preferences – Kazakhstan
Kyrgyz Republic	Generalized System of Preferences – Kyrgyz Republic
New Zealand	Generalized System of Preferences – New Zealand
Norway	Generalized System of Preferences – Norway
Russian Federation	Generalized System of Preferences – Russian Federation
Switzerland	Generalized System of Preferences – Switzerland
Türkiye	Generalized System of Preferences – Türkiye
United Kingdom	Generalized System of Preferences – United Kingdom
United States	Generalized System of Preferences – United States
LDC-specific	
Chile	Duty-free treatment for LDCs – Chile
China	Duty-free treatment for LDCs – China
India	Duty-Free Tariff Preference Scheme for LDCs
Korea, Rep. of	Preferential Tariff for LDCs – Republic of Korea
Kyrgyz Republic	Duty-free treatment for LDCs – Kyrgyz Republic
Montenegro	Duty-free treatment for LDCs – Montenegro
Morocco	Duty-free treatment for African LDCs – Morocco
Chinese Taipei	Duty-free treatment for LDCs – Chinese Taipei
Tajikistan	Duty-free treatment for LDCs – Tajikistan
Thailand	Duty-free treatment for LDCs – Thailand
Other PTAs	
Australia	South Pacific Regional Trade and Economic Cooperation Agreement
Canada	Commonwealth Caribbean Countries Tariff
European Union	Trade preferences for the Republic of Moldova
European Union	Trade preferences for Pakistan
European Union	Trade preferences for countries of the Western Balkans
New Zealand	South Pacific Regional Trade and Economic Cooperation Agreement
United States	Caribbean Basin Economic Recovery Act
United States	Trade preferences for Nepal
United States	Andean Trade Preference Act
United States	African Growth and Opportunity Act
United States	Former Trust Territory of the Pacific Islands

Source: WTO PTA database.

Table A.3	Economies in fragile and conflict affected situations (FCS) in the EU and US GSP schemes	
Economy	**US**	**EU**
Afghanistan	GSP(LDC)	GSP, GSP+, EBA
Angola	GSP(LDC), AGOA	GSP, GSP+, EBA
Armenia	GSP	GSP
Azerbaijan	GSP	GSP
Bangladesh		GSP, GSP+, EBA
Benin	GSP(LDC), AGOA	GSP, GSP+, EBA
Bosnia and Herzegovina	GSP	GSP
Burkina Faso	GSP(LDC)	GSP, GSP+, EBA
Burundi	GSP(LDC)	GSP, GSP+, EBA
Cambodia	GSP(LDC)	GSP, GSP+, EBA
Cameroon	GSP	GSP
Central African Republic	GSP(LDC)	GSP, GSP+, EBA
Chad	GSP(LDC), AGOA	GSP, GSP+, EBA
Comoros	GSP(LDC), AGOA	GSP, GSP+, EBA
Congo Dem. Rep.	GSP(LDC), AGOA	GSP, GSP+, EBA
Congo	GSP, AGOA	GSP, GSP+
Côte d'Ivoire	GSP, AGOA	GSP
Dem. Peoples' Rep. of Korea		
Djibouti	GSP(LDC), AGOA	GSP, GSP+, EBA
Egypt	GSP	GSP
Equatorial Guinea		GSP
Eritrea	GSP	GSP, GSP+, EBA
Eswatini	GSP, AGOA	GSP
Ethiopia	GSP(LDC)	GSP, GSP+, EBA
Gambia, The	GSP(LDC), AGOA	GSP, GSP+, EBA
Georgia	GSP	GSP
Guatemala		GSP
Guinea	GSP(LDC)	GSP, GSP+, EBA
Guinea-Bissau	GSP(LDC), AGOA	GSP, GSP+, EBA
Haiti	GSP(LDC), CBI	GSP, GSP+, EBA
Honduras		GSP
Iran		GSP
Iraq	GSP	GSP
Kenya	GSP, AGOA	GSP, GSP+
Kiribati	GSP(LDC)	GSP, GSP+, EBA

Economy	US	EU
Kosovo	GSP	GSP
Kyrgyzstan	GSP	GSP, GSP+
Lao PDR		GSP, GSP+, EBA
Lebanese Republic	GSP	GSP
Lesotho	GSP(LDC), AGOA	GSP, GSP+, EBA
Liberia	GSP(LDC), AGOA	GSP, GSP+, EBA
Libya		GSP
Madagascar	GSP(LDC), AGOA	GSP, GSP+, EBA
Malawi	GSP(LDC), AGOA	GSP, GSP+, EBA
Mali	GSP(LDC)	GSP, GSP+, EBA
Marshall Islands		GSP
Mauritania	GSP(LDC), AGOA	GSP, GSP+, EBA
Micronesia, Fed. Sts.		GSP, GSP+
Mozambique	GSP(LDC), AGOA	GSP, GSP+, EBA
Myanmar	GSP(LDC)	GSP, GSP+, EBA
Nepal	GSP(LDC)	GSP, GSP+, EBA
Nicaragua		GSP
Niger	GSP(LDC)	GSP, GSP+, EBA
Nigeria	GSP, AGOA	GSP, GSP+
Pakistan	GSP	GSP, GSP+
Papua New Guinea	GSP	GSP
Rwanda	GSP(LDC), AGOA	GSP, GSP+, EBA
Sao Tome and Principe	GSP(LDC), AGOA	GSP, GSP+, EBA
Sierra Leone	GSP(LDC), AGOA	GSP, GSP+, EBA
Solomon Islands	GSP(LDC)	GSP, GSP+, EBA
Somalia	GSP(LDC)	GSP, GSP+, EBA
South Sudan	GSP(LDC)	GSP, GSP+, EBA
Sri Lanka	GSP	GSP, GSP+
Sudan		GSP, GSP+, EBA
Syrian Arab Republic		GSP, GSP+
Tajikistan		GSP, GSP+
Tanzania	GSP(LDC), AGOA	GSP, GSP+, EBA
Timor-Leste	GSP(LDC)	GSP, GSP+, EBA
Togo	GSP(LDC), AGOA	GSP, GSP+, EBA
Tonga	GSP	GSP
Turkmenistan		GSP

Economy	US	EU
Tuvalu	GSP(LDC)	GSP, GSP+, EBA
Uganda	GSP(LDC)	GSP, GSP+, EBA
Ukraine	GSP	GSP
Uzbekistan	GSP	GSP, GSP+
Vanuatu	GSP(LDC)	GSP, GSP+, EBA
Venezuela, Bolivarian Republic of		GSP
West Bank and Gaza	GSP	
Yemen	GSP(LDC)	GSP, GSP+, EBA
Zambia	GSP(LDC), AGOA	GSP, GSP+, EBA
Zimbabwe	GSP	GSP

Note: The US GSP expired on 31 December 2020 and its renewal is being considered by the Congress of the United States.

Table A.4 First two export destinations of fragile and conflict-affected states (FCS), 2021

Economy	Destination #1	Ratio %	Destination #2	Ratio %
Tuvalu	Thailand	90.69	Nigeria	4.65
Haiti	USA	82.89	Canada	4.23
Guinea-Bissau	India	80.97	Pakistan	11.38
Micronesia, Fed. Sts.	Thailand	80.81	China	8.97
West Bank and Gaza	Israel	80.52	Jordan	8.51
Mali	United Arab Emirates	78.13	Switzerland	14.46
Nepal	India	76.93	USA	8.35
Burkina Faso	Switzerland	76.65	India	10.77
Bosnia Herzegovina	European Union	71.82	Serbia	11.49
Niger	United Arab Emirates	70.85	China	8.77
Congo Dem. Rep.	China	67.83	European Union	7.91
Libya	European Union	66.71	China	9.24
Marshall Islands	European Union	66.69	Korea, Rep. of	19.77
Sao Tome and Principe	European Union	63.17	Singapore	13.42
Kiribati	Thailand	59.92	Indonesia	11.37
Solomon Islands	China	59.00	European Union	15.51
Angola	China	58.28	India	8.32
Eritrea	China	56.80	United Arab Emirates	27.19
Nicaragua	USA	56.19	Mexico	11.10
Uganda	United Arab Emirates	56.18	European Union	15.88
Eswatini	South Africa	56.05	India	11.37
Vanuatu	Thailand	53.83	Japan	17.84
Sudan	United Arab Emirates	53.31	China	14.33
South Sudan	China	53.10	European Union	15.81
Djibouti	Ethiopia	53.03	China	15.92
Honduras	USA	50.05	European Union	13.38
Liberia	European Union	49.85	Switzerland	21.63
Zimbabwe	United Arab Emirates	49.19	South Africa	25.12
Bangladesh	European Union	47.95	USA	16.84
Chad	European Union	45.85	United Arab Emirates	28.02
Comoros	European Union	43.23	India	18.61
Mauritania	China	42.46	European Union	19.96
Iran	China	42.45	Türkiye	19.44
Sierra Leone	European Union	39.89	China	39.11
Somalia	Oman	37.35	United Arab Emirates	28.66
Rwanda	Dem. Rep. of the Congo	36.98	United Arab Emirates	27.61
Cameroon	European Union	36.77	China	28.98
Guinea	India	35.89	United Arab Emirates	26.80

Economy	Destination #1	Ratio %	Destination #2	Ratio %
Nigeria	European Union	35.10	India	15.72
Zambia	Switzerland	35.07	China	16.73
Central African Rep.	United Arab Emirates	34.13	European Union	29.20
Myanmar	China	33.69	European Union	19.52
Timor-Leste	China	33.55	Singapore	30.92
Cambodia	USA	32.96	European Union	19.51
Côte d'Ivoire	European Union	32.35	USA	9.66
Lao People's Dem. Rep.	Thailand	32.33	China	26.87
Lesotho	USA	32.23	South Africa	30.44
Guatemala	USA	31.92	El Salvador	12.14
Burundi	United Arab Emirates	31.77	European Union	17.58
Equatorial Guinea	European Union	31.66	China	23.39
Afghanistan	Pakistan	31.54	India	28.81
Madagascar	European Union	31.49	USA	18.65
Dem. Peoples' Rep. of Korea	China	31.15	Senegal	20.42
Gambia	China	31.01	India	26.95
Syria	Saudi Arabia	30.91	Türkiye	18.11
Egypt	European Union	30.49	USA	8.32
Pakistan	European Union	29.09	USA	16.90
Iraq	India	28.94	China	28.73
Venezuela, Bolivarian Republic of	China	26.40	European Union	18.99
Tajikistan	Switzerland	25.57	Kazakhstan	17.13
Mozambique	European Union	25.31	India	16.59
Congo	United Arab Emirates	25.30	China	16.34
Yemen	Thailand	24.73	China	20.86
Papua New Guinea	Japan	24.70	China	24.70
Sri Lanka	European Union	24.44	USA	22.75
Malawi	European Union	24.30	United Arab Emirates	10.11
Ethiopia	United Arab Emirates	23.82	European Union	18.06
Tonga	USA	22.05	South Africa	17.84
United Rep. of Tanzania	India	21.87	United Arab Emirates	15.53
Georgia	European Union	21.21	China	12.54
Lebanese Republic	United Arab Emirates	21.01	European Union	15.18
Kyrgyzstan	United Kingdom	20.03	Kazakhstan	18.26
Togo	United Arab Emirates	17.94	Angola	16.64
Kenya	European Union	16.47	Uganda	11.64
Uzbekistan	Switzerland	16.38	China	13.20

Source: CEPII BACI dataset (202301 version).

Note: Economies are ranked by their ratio of exports to the "number one" destination.

Table A.5 Share of exports to NRTP providers, NRTP utilization rate, and number of conflicts

Economy	Exports to NRTP providers %	GSP utilization rate %	Other NRTP utilization rate %	Number of conflicts
Haiti	93.18	39.40	39.80	1
Burkina Faso	86.92	87.68	41.28	0
Sierra Leone	83.52	30.13	1.42	0
Liberia	82.99	49.32	2.95	1
Comoros	82.93	81.36	4.00	1
Mauritania	79.61	94.70	40.00	0
Madagascar	79.19	14.76	90.05	0
Chad	75.73	10.48	37.09	6
Sao Tome and Principe	74.31	65.85	0.00	0
Bangladesh	73.17	95.83	0.00	2
Angola	72.73	22.86	58.35	6
Guinea-Bissau	70.04	33.98	20.00	0
Cambodia	69.99	90.60	12.98	0
Tonga	68.37	53.01	0.00	0
South Sudan	67.32	1.19	20.00	0
Mozambique	66.19	94.51	4.39	4
Myanmar	65.93	93.92	7.30	11
Sri Lanka	63.89	61.59	0.58	2
Lesotho	60.59	46.41	97.52	0
Eritrea	60.23	90.61	0.00	3
Zambia	58.32	77.78	40.45	0
Congo	57.61	47.96	47.50	1
Vanuatu	57.52	0.88	0.00	0
Central African Republic	56.98	13.46	17.39	3
Malawi	54.94	88.86	78.07	0
Yemen	54.80	73.62	0.00	3
Ethiopia	54.19	83.11	91.86	5
Guinea	51.04	51.54	19.56	1
Nigeria	50.62	61.69	63.74	3
Equatorial Guinea	50.13	21.35	0.00	0
Pakistan	49.76	94.09	78.66	6
Papua New Guinea	48.29	30.04	96.77	0
Tajikistan	47.90	92.17	0.00	2
Timor-Leste	44.62			0
Tanzania	42.73	95.79	91.53	1
Kyrgyzstan	41.66	47.18	60.00	0
Afghanistan	40.96	49.73	60.34	0
Gambia, The	39.19	86.72	41.04	0

Economy	Exports to NRTP providers %	GSP utilization rate %	Other NRTP utilization rate %	Number of conflicts
Uzbekistan	36.36	83.75	20.00	2
Côte d'Ivoire	34.52	44.17	91.06	2
Sudan	33.56	91.55	20.00	2
Mali	32.19	52.34	6.37	5
Tuvalu	31.75	0.03	20.00	0
Nepal	30.77	80.41	47.20	1
Kenya	28.60	5.48	96.01	1
Lao PDR	26.49	86.67	25.40	0
Niger	25.68	60.65	4.96	2
Burundi	25.04	71.92	0.00	2
Kiribati	24.90	22.49	0.00	0
Togo	24.56	76.02	28.87	0
Djibouti	23.15	10.37	59.29	1
Uganda	21.15	95.88	34.58	0
Solomon Islands	20.13	90.36	7.44	0
Congo Dem. Rep.	19.37	44.45	19.57	4
Rwanda	18.51	81.12	38.09	1
Bosnia and Herzegovina	16.70	56.34	90.28	0
Cameroon	16.35	78.48	87.22	3
Libya	16.06	0.00	0.00	3
Egypt	15.36	62.24	93.29	3
Somalia	14.86	2.44	0.00	2
Iraq	14.07	71.28	20.00	1
Marshall Islands	13.89	0.00	0.00	0
Syrian Arab Republic	12.16	25.11	80.38	5
Georgia	9.08	79.79	77.17	1
Honduras	8.83	4.10	90.19	0
Micronesia, Fed. Sts.	8.55	48.75	0.00	0
Lebanese Republic	7.62	81.83	74.26	2
Iran	7.06	86.40	0.00	7
Guatemala	6.70	55.32	94.31	0
Nicaragua	5.30	16.11	91.11	0
Zimbabwe	5.09	88.54	90.90	0
Eswatini	3.11	32.75	78.23	0
Venezuela, Bolivarian Republic of	1.76	15.64	35.41	0
West Bank and Gaza	1.46	23.86	56.49	0
Dem. Peoples' Rep. of Korea	0.61			0

Notes: The first three columns are the 5-year average from 2017 to 2021. The number of conflicts is calculated based on the sample period from 1996 to 2021. "Other PTA" refers to preferences granted by the US under the AGOA and the CBI while in the case of the European Union it includes preferences under the EPAs entered into with selected Africa Sub-Saharan economies.

Table A.6 Major type of exporting products

Economy	Major section	Ratio %	Export value (million USD)
Micronesia, Fed. Sts.	Animals	98.37	176.28
Kiribati	Animals	82.20	77.69
Somalia	Animals	56.91	273.97
Vanuatu	Animals	47.50	128.37
Guinea-Bissau	Vegetable	82.79	139.71
Ethiopia	Vegetable	59.17	2,611.27
Afghanistan	Vegetable	51.98	980.33
Kenya	Vegetable	43.26	3,087.15
Tonga	Vegetable	42.21	6.23
Syrian Arab Republic	Vegetable	42.06	424.16
Burundi	Vegetable	39.36	76.43
Comoros	Vegetable	37.50	22.90
Gambia	Vegetable	30.70	46.96
Madagascar	Vegetable	28.53	917.79
Guatemala	Vegetable	26.24	3,747.47
Djibouti	Oils	52.33	172.14
Nepal	Oils	50.53	879.55
Malawi	Foods	56.33	534.89
Côte d'Ivoire	Foods	46.81	5,798.51
Sao Tome and Principe	Foods	44.98	17.60
Iraq	Mineral	96.58	78,404.66
South Sudan	Mineral	95.86	540.49
Libya	Mineral	95.95	29,573.53
Angola	Mineral	90.65	31,724.34
Timor-Leste	Mineral	90.51	268.47
Equatorial Guinea	Mineral	89.83	4,052.86
Nigeria	Mineral	89.43	51,492.15
Eritrea	Mineral	71.33	442.95
Chad	Mineral	66.22	1,798.75
Papua New Guinea	Mineral	56.98	6,243.36
Mauritania	Mineral	56.36	2,328.98
Cameroon	Mineral	54.08	2,665.64
Yemen	Mineral	53.65	1,058.55
Sierra Leone	Mineral	53.27	466.55
Togo	Mineral	48.16	1,642.94
Mozambique	Mineral	43.30	3,679.40
Dem. Peoples' Rep. of Korea	Mineral	30.62	55.28
Lao People's Democratic Republic	Mineral	30.52	2,826.58

Economy	Major section	Ratio %	Export value (million USD)
Egypt	Mineral	29.67	13,170.59
Georgia	Mineral	24.33	1,224.81
Rwanda	Mineral	23.56	374.14
Eswatini	Chemical	37.50	939.91
Iran	Plastics	27.83	3,891.42
Solomon Islands	Wood	70.14	336.06
Bangladesh	Textiles	89.20	46,177.11
Haiti	Textiles	84.77	1,152.18
Pakistan	Textiles	58.62	19,145.72
Lesotho	Textiles	54.71	583.98
Cambodia	Textiles	45.18	13,138.76
Sri Lanka	Textiles	43.61	6,155.02
Honduras	Textiles	36.44	3,295.98
Myanmar	Textiles	28.72	5,852.90
Nicaragua	Textiles	26.09	1,815.89
Mali	Pearls	96.30	9,030.71
Burkina Faso	Pearls	85.19	7,681.20
Niger	Pearls	71.57	2,668.90
Guinea	Pearls	61.18	5,815.60
Uganda	Pearls	56.07	1,993.61
Sudan	Pearls	52.39	2,850.86
Central African Republic	Pearls	52.28	63.91
Zimbabwe	Pearls	50.98	3,827.40
Tanzania	Pearls	40.27	3,447.53
Kyrgyzstan	Pearls	39.09	919.89
Tajikistan	Pearls	37.44	787.21
Uzbekistan	Pearls	32.45	4,764.12
Lebanese Republic	Pearls	23.38	1,119.77
Congo Dem. Rep.	Base metals	86.17	14,459.11
Zambia	Base metals	73.28	9,821.03
Congo	Base metals	47.41	3,263.73
Venezuela, Bolivarian Republic of	Base metals	36.17	1,159.20
West Bank and Gaza	Base metals	21.84	316.96
Bosnia and Herzegovina	Base metals	19.44	1,860.43
Marshall Islands	Vehicles	90.01	1,236.41
Tuvalu	Vehicles	84.17	108.44
Liberia	Vehicles	29.46	466.59

Source: CEPII BACI dataset (202301 version).

Note: Economies are sorted by their major section of exports (which accounts for the largest share of the economy's export value) and the share of the section's export.

Appendix B

Table B.1 Baseline results

Outcome: intra-state conflict	(1) onset	(2) ending	(3) onset	(4) ending
Exports to GSP providers	-0.0402***	-0.0235	-0.1718*	-0.0919
	(0.0134)	(0.0546)	(0.0939)	(0.0949)
Exports to other markets	0.0040	0.0089	0.0066	0.0031
	(0.0171)	(0.0521)	(0.0209)	(0.0539)
Droughts	0.0267*	-0.0637	0.0276*	-0.0594
	(0.0142)	(0.0790)	(0.0141)	(0.0843)
Population	0.6286	-2.3830	0.6185	-2.7920*
	(0.5517)	(1.5231)	(0.5704)	(1.5752)
GDP per capita	0.0210	0.0550	0.2653	0.2700
	(0.0838)	(0.3727)	(0.1754)	(0.4747)
Coal rents	0.0438**	-0.4425**	0.0349	-0.4455**
	(0.0201)	(0.1760)	(0.0213)	(0.1788)
Mineral rents	0.0035	-0.0093	0.0080	-0.0041
	(0.0025)	(0.0301)	(0.0052)	(0.0307)
Natural gas rents	-0.0003	0.0383	-0.0009	0.0554
	(0.0070)	(0.0576)	(0.0069)	(0.0631)
Oil rents	-0.0061*	-0.0086	-0.0027	-0.0060
	(0.0035)	(0.0063)	(0.0045)	(0.0069)
State fragility status	0.0085	-0.0452	0.0101	-0.0491*
	(0.0079)	(0.0280)	(0.0082)	(0.0281)
Constant	-9.7439	41.3364		
	(8.7215)	(26.0751)		
Observations	1,083	385	1,083	385
R-squared	0.490	0.425	--	--
Country FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Country Time Trend	Yes	Yes	Yes	Yes

Notes: Columns 1 and 2 are estimated by OLS. Columns 3 and 4 are estimated by 2SLS. In 2SLS estimations, the Kleibergen-Paap F statistics are higher than the critical value of 16.38, suggesting that our instrument is strong. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table B.2 Non-linear estimation results

Outcome: intra-state conflict	(1) onset	(2) ending	(3) onset	(4) ending
Exports to GSP providers	-0.1456	0.0449	-0.2518**	0.0736
	(0.2399)	(0.2176)	(0.1085)	(0.0800)
Exports to other markets	0.0495	-0.0064	-0.0242	0.0463
	(0.3005)	(0.3649)	(0.1186)	(0.1303)
Droughts	0.3905**	-0.1318	0.2584***	0.0535
	(0.1745)	(0.3400)	(0.0815)	(0.2104)
Population	1.9925	-0.8992	0.7789***	-0.3037**
	(2.6651)	(3.7150)	(0.1814)	(0.1437)
GDP per capita	-2.6359**	-0.8314	0.1534	-0.0844
	(1.3156)	(1.4379)	(0.2545)	(0.2525)
Coal rents	1.9621***	-0.4628**	0.3868*	-0.1434
	(0.6716)	(0.1919)	(0.2238)	(0.0994)
Mineral rents	-0.0451	-0.1849	-0.0869	-0.0060
	(0.1268)	(0.1614)	(0.0776)	(0.0535)
Natural gas rents	0.0163	0.0742	0.0021	0.2546*
	(0.0601)	(0.1991)	(0.0144)	(0.1337)
Oil rents	-0.0021	-0.0504*	0.0173	-0.0247**
	(0.0385)	(0.0286)	(0.0127)	(0.0108)
State fragility status	-0.0636	-0.1983	0.0428	-0.0917**
	(0.1505)	(0.1753)	(0.0462)	(0.0399)
Constant			-12.2713***	4.7711*
			(2.7402)	(2.5411)
Observations	521	316	1,085	388
Country FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Country Time Trend	No	No	No	No

Notes: Columns 1 and 2 are estimated by fixed-effects logit. Columns 3 and 4 are estimated by random-effects probit. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table B.3 Difference between subsamples that are (not) highly dependent from GSP providers

Subsample	GSP dependence>=mean		GSP dependence<mean	
Outcome: intra-state conflict	**(1) onset**	**(2) ending**	**(3) onset**	**(4) ending**
Exports to NRTP providers	-0.2593**	-0.1097	-0.0973	-0.0425
	(0.1173)	(0.1489)	(0.1592)	(0.1388)
Exports to other markets	0.0114	0.0196	0.0289	-0.0315
	(0.0285)	(0.0686)	(0.0468)	(0.1130)
Droughts	0.0072	0.1099	0.0410	-0.1400**
	(0.0142)	(0.1685)	(0.0281)	(0.0578)
Population	1.0730	-2.1738	-0.9375	-15.1109*
	(0.8419)	(1.7007)	(1.7559)	(8.3111)
GDP per capita	0.3377**	0.7008	0.1644	-0.1380
	(0.1715)	(0.6243)	(0.7152)	(0.9384)
Coal rents	0.0217	0.2688	0.1146**	-0.4957***
	(0.0287)	(0.4357)	(0.0562)	(0.1795)
Mineral rents	0.0101	-0.0000	0.0074	-0.0365
	(0.0069)	(0.0331)	(0.0134)	(0.0871)
Natural gas rents	-0.0011	0.2290	0.0005	0.0606
	(0.0037)	(0.1803)	(0.0133)	(0.0742)
Oil rents	0.0021	-0.0048	-0.0203**	-0.0476***
	(0.0052)	(0.0080)	(0.0086)	(0.0158)
State fragility status	0.0233**	-0.0450	0.0007	-0.0148
	(0.0111)	(0.0410)	(0.0155)	(0.0417)
Observations	674	225	409	160
Country FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Country Time Trend	Yes	Yes	Yes	Yes

Notes: The mean value of the dependence ratio (calculated as the country's exports to GSP-providing countries divided by the country's total exports) is 0.824. All four columns are estimated by 2SLS. The Kleibergen-Paap F statistics are higher than the critical value of 16.38, suggesting that the instruments are strong. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table B.4	The effect of Generalized System of Preferences (GSP) coverage ratio			
Outcome: intra-state conflict	**(1) onset**	**(2) ending**	**(3) onset**	**(4) ending**
Exports to GSP providers* GSP-covered ratio	-0.0004	-0.0000	-0.0004	-0.0004
	(0.0003)	(0.0004)	(0.0004)	(0.0004)
Exports to GSP providers	0.0050	-0.0298	0.0178	-0.0188
	(0.0394)	(0.0653)	(0.0445)	(0.0671)
GSP-covered ratio	0.0045	-0.0005	0.0044	0.0044
	(0.0040)	(0.0059)	(0.0043)	(0.0052)
Control variables	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Country FE × Time trend	Yes	Yes	Yes	Yes
Observations	817	284	810	280
R-squared	0.548	0.419	0.551	0.430

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table B.5	The effect of Generalized System of Preferences (GSP) utilization rate			
Outcome: intra-state conflict	**(1) onset**	**(2) ending**	**(3) onset**	**(4) ending**
Exports to GSP providers* GSP utilization rate	-0.0004*	0.0005	-0.0005**	0.0001
	(0.0002)	(0.0004)	(0.0002)	(0.0005)
Exports to GSP providers	-0.0054	-0.0685	0.0180	-0.0550
	(0.0252)	(0.0653)	(0.0288)	(0.0705)
GSP utilization rate	0.0036	-0.0067	0.0052*	-0.0001
	(0.0025)	(0.0057)	(0.0026)	(0.0063)
Control variables	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Country FE × Time trend	Yes	Yes	Yes	Yes
Observations	817	284	810	280
R-squared	0.550	0.423	0.553	0.429

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table B.6 Product heterogeneity

Outcome: intra-state conflict	(1) onset	(2) ending	(3) onset	(4) ending
Exports to GSP providers × Agricultural ratio	-0.0121*	-0.0065	-0.4086**	-0.1305
	(0.0067)	(0.0185)	(0.1684)	(0.1460)
Exports to GSP providers	-0.0219	-0.0022	-0.1243	-0.0059
	(0.0154)	(0.0486)	(0.2396)	(0.2573)
Agricultural ratio	0.2215***	-0.0740	5.9865***	-0.2034
	(0.0822)	(0.2205)	(1.9902)	(1.6481)
Exports to GSP providers × Manufacturing ratio	0.0053	-0.0114	0.0141	-0.1051
	(0.0063)	(0.0208)	(0.1349)	(0.1243)
Exports to GSP providers	-0.0323**	0.0066	-0.1470	0.0390
	(0.0155)	(0.0455)	(0.2369)	(0.2160)
Manufacturing ratio	0.0707	0.2208	1.8735	1.8867
	(0.0839)	(0.2853)	(2.3105)	(1.4230)
Exports to GSP providers × Resource-based ratio	0.0028	-0.0219	0.0685	-0.1483
	(0.0063)	(0.0153)	(0.0979)	(0.0909)
Exports to GSP providers	-0.0319**	0.0081	-0.1710	0.0331
	(0.0161)	(0.0452)	(0.2428)	(0.2063)
Resource-based ratio	0.0072	0.0374	0.2438	-0.0672
	(0.0769)	(0.1814)	(0.9796)	(0.9877)
Exports to GSP providers × Ores & Metals ratio	0.0103	0.0012	0.1517	0.0621
	(0.0086)	(0.0224)	(0.1917)	(0.1602)
Exports to GSP providers	-0.0301**	0.0054	-0.1532	0.0510
	(0.0149)	(0.0473)	(0.2409)	(0.2243)
Ores & Metals ratio	-0.1325	-0.0199	-3.4111	-0.0093
	(0.1071)	(0.2851)	(2.4912)	(1.4026)
Other controls	Yes	Yes	Yes	Yes
Observations	1,083	385	521	316
Time FE	Yes	Yes	Yes	Yes
Country FE × Time trend	Yes	Yes	No	No

Notes: The first two columns are estimated by OLS. The third and fourth columns are estimated using fixed-effects logit. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Endnotes

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2 See, in particular, the chapter by Bousquet on the IMF Strategy for Fragile and Conflict-affected States in this volume.

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Pathways to Sustainable Trade and Peace

Can the flow of goods, services, and ideas build bridges where conflict once prevailed? If so, under what circumstances? The World Trade Organization (WTO) stands for a predictable, rules-based system based on the principle of non-discrimination. When the predecessor to the WTO – the General Agreement on Tariffs and Trade – was established some 70 years ago, conflict among nations was at an historic low, following World War II. In the changed global political landscape of today, geopolitical tensions, disruptions to trade and increasing concerns about economic inequality have come to the fore, challenging the foundations of multilateral trade relationships, and trade cooperation more generally.

Pathways to Sustainable Trade and Peace is the first WTO publication dedicated to an in-depth exploration of the complex relationship between trade and peace. The publication examines a number of critical questions. How do trade and peace interact? Can trade be leveraged to foster economic development and stability? What can governments and other stakeholders do to foster positive interaction between trade and peace? The volume focuses specifically but not exclusively on fragile and conflict-affected economies, including case studies and analyses from various policy angles.

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