

ISS Research Series No.4

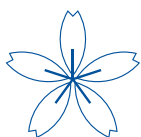
AGISSS

Gakushuin University

March 2023

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Duty-Free, Quota-Free Market Access Initiative: A Review

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ABSTRACT: This study reviewed the DFQF access initiatives for the LDCs agreed at the WTO meeting in 2005. After explaining the background of the DFQF initiatives, we summarised the DFQF initiatives of the major developed-country members along with the cases of South Korea and China. The developed member countries began preferential treatment of LDCs in the 1970s and 1980s before accelerating their initiatives in the early 2000s. Further enhancements were implemented in and after 2005. The initiatives of the European Union, Canada, Australia, and Japan are not selective for either countries or products while the zero-tariff scheme of the United States is somewhat selective. The initiatives of South Korea and China are selective with regard to products and/or countries. While the European Union, Canada, Australia, and Japan have achieved almost full zero-tariff coverage of all tariff lines, the coverage ratio of the United States has reached about 85%. Econometric analyses using the triple difference estimator method showed that the DFQF programmes of Australia and Canada were found to be positively associated with LDC exports to these countries whereas those of the United States, Japan, and the European Union show no positive association.

JEL F13, F14

Keywords: WTO, Duty Free Quota Free access (DFQF), Generalised System of Preference (GSP)

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INTRODUCTION

The WTO Doha Development Round of trade negotiations became mired in conflicts among member countries regarding major issues such as agriculture, services, and trade remedies, but there was a notable achievement related to development issues. At the 2005 Ministerial Conference in Hong Kong, an agreement was reached on an initiative to provide least-developed countries (LDCs) with duty-free, quota-free market access (hereinafter, the "DFQF initiative"). The Hong Kong Ministerial Declaration of 18 December 2005 states:

“... developed-country Members, and developing-country Members declaring themselves in a position to do so, agree to implement duty-free and quota-free market access for products originating from LDCs ...”

This study reviews the effects of the DFQF initiative in the seven years since the declaration. First, we present a general overview of the DFQF initiative. Second, we examine the implementation of the DFQF initiative in major developed countries, together with the cases of China and South Korea, which have recently begun to grant zero tariffs, although with certain conditions. Third, using data at the tariff-line level, we present time series data that illustrate the evolution of the tariff-free status granted by these countries to LDCs. Finally, we review the literature on the effects of preferential tariff initiatives on LDC exports and present an econometric analysis of the DFQF policies of each of the major countries. The analysis shows that the DFQF policies of Canada and Australia have had significant positive impacts while those of the United States, European Union, and Japan have not.

1. THE DUTY-FREE, QUOTA-FREE MARKET ACCESS INITIATIVE: OVERVIEW

As of 2 March 2013, 34 of 159 WTO member countries are designated as LDCs by the United Nations, making LDCs a substantial portion of the WTO member countries. This is why

development is a central focus of this trade negotiation round, as the name “Doha Development Round” suggests. The DFQF initiative is a form of special and differential treatment (SDT) in GATT provisions (GATT 1947, Article XVIII). SDT exempts developing countries from the binding rules that apply to developed countries. SDT provisions include 1) longer implementation periods for agreements and commitments; 2) measures to increase trading opportunities; 3) provisions requiring all WTO members to safeguard the trade interests of developing countries; 4) support to help developing countries build the infrastructure for WTO work, including dispute resolution and the implementation of technical standards; and 5) provisions related to LDC members. In 2001, the Doha Declaration mandated that the Committee on Trade and Development consider ways that developing countries, particularly LDCs, can be assisted in making the best use of SDT. During the Hong Kong Ministerial Conference of 2005, member countries declared that developed-country members, and developing-country members declaring themselves in a position to do so, agreed to implement duty-free, quota-free market access for products originating from LDCs by 2008 and that member countries facing difficulties in achieving 100% coverage shall achieve at least 97% coverage, defined at the tariff line level. The full text of the main part of this agreement is reprinted in the Appendix.

2. SUMMARY OF THE DFQF INITIATIVE OF MAJOR DEVELOPED COUNTRIES, SOUTH KOREA, AND CHINA

This section provides a summary of the DFQF initiatives of some major countries and shows how these countries granted duty-free, quota-free market access over the years.

2.1. Summary of preferential tariff initiatives for LDCs

Table 1 summarises major developed countries’ preferential tariff initiatives for LDCs. It also includes the cases of South Korea and China, as well as some examples of the developing country members’ initiatives. The United States, the European Union, Australia, Canada, and Japan all began to implement preferential tariff initiatives for LDCs in or before 1980. These developed-country

WTO members made substantial enhancements to their preferential tariff schemes in the 2000s. In 2000, the United States launched the African Growth and Opportunity Act (AGOA). The European Union broadened its preferential tariff scheme for LDCs in 2001 under the Everything But Arms (EBA) initiative. South Korea and China began their initiatives much later: South Korea started granting preferential tariffs for LDCs in 2000, while China starting in 2006. However, both countries target only certain products and/or beneficiary countries.

=== Table 1 ===

2.2. Evolution of zero-tariff policies

Figures 1 to 5 show time series data for the number of zero-tariff lines of some major developed countries. The tariff data are from World Integrated Trade Solutions (WITS).¹ In the case of the United States, tariff rates are set at the 10-digit product code. There are approximately 10,000 10-digit codes in the United States. Red plots in Figure 1 show the number of total tariff lines from 1989 to 2010. Until the beginning of the 1990s, the total number of tariff lines was approximately 8200. In the middle of that decade, it increased to around 10,000. We also count the number of zero-tariff lines for each year. Green plots show the number of zero-tariff lines for most favoured nations (MFNs). Until the beginning of the 1990s, the number of zero-tariff lines for MFNs was around 1600. It then steadily increased to 4000 in 2010, reflecting the trade liberalisation movement of the past few decades. Purple plots show tariffs for countries in the Generalised System of Preference (GSP). Under the GSP, developed-country members have been granting preferential tariff rates for developing-country members since the 1960s. As in the case of MFNs, the number of zero-tariff lines has steadily increased. Blue plots show preferential tariffs for LDCs and orange plots show preferential tariffs for AGOA countries. The number of zero-tariff lines for these categories reached 8000 out of about 10,000 tariff lines by the beginning of the 2000s. LDCs and AGOA-eligible countries are given a

¹ We used all the data available from WITS. Data points for some years are missing in Figures 1 to 5 because the data were not reported to WITS.

larger number of zero-tariff lines than members of the MFN or GSP categories. Since LDCs are generally competing with other developing countries, the preference over GSP tariff rates is important. In the case of the United States, the difference in the number of zero tariffs between GSP and LDCs has remained stable at about 2000 from 1996 to 2011, as illustrated by the arrows in Figure 1. Figures 2 through 5 show the same figures for the European Union, Japan, Australia, and Canada, respectively, which have achieved almost full zero-tariff coverage (i.e., adhering to the agreement of at least 97% coverage by 2008). In contrast, the coverage rate for the United States reached only about 85%. The European Union had already achieved a high number of zero tariffs for LDCs in the second half of the 1990s. Japan, Canada, and especially Australia have increased the difference in the number of zero tariffs between GSP and LDCs, as indicated by the arrows in the figures. The DFQF initiatives of China and South Korea are much smaller when compared with those of the developed countries.

=== Figure 1 to Figure 5 ===

3. EVALUATION OF DFQF INITIATIVES

This section evaluates the impact of DFQF initiatives on LDC exports to DFQF-granting countries. To the best of our knowledge, there is one study that evaluates the United States' AGOA initiative and one study that assesses the European Union's EBA initiative. Frazer and Van Biesebroeck (2010) show that AGOA has had a positive impact. Davies and Nilsson (2013) examined the case of the European Union and argue that EBA has had an even larger impact than AGOA.

3.1. Estimation model: Programme evaluation

This section contains a quantitative analysis of the DFQF initiatives described above. In the econometrics literature this is referred to as a programme evaluation. Programme evaluation is generally expressed using the following equation:

$$E(Y_1 - Y_0 | D = 1) = E(Y_1 | D = 1) - E(Y_0 | D = 1).$$

The left-hand side is the average treatment effect on the treated (ATT). The first term on the right-hand side is the mean value (here, import value) for the countries or products selected; the rightmost term contains the mean value for the country or product as if it had not been selected. That is, the rightmost term is the counterfactual. The first term on the right-hand side is observable but the second term is not. If $E(Y_0|D=1) = E(Y_0|D=0)$ holds, then ordinary least squares (OLS) estimation will give an unbiased estimate; otherwise, endogeneity as a consequence of selection becomes a problem. Many econometric techniques have been invented to solve this problem. However, a complete solution to the endogeneity issue is almost always difficult, due to the unavailability of good instrumental variables that satisfy the various requirements, such as high correlation with the variables to be instrumented or the exclusion restrictions.

Most programme evaluation studies examine programmes with endogenously given criteria, such as impact studies of preferential trade agreements.² LDC status, however, is decided exogenously. To be more precise, Japan did not choose which countries would be eligible for the DFQF programme. The developed-country members are required to grant DFQF treatment to all LDCs. Tariff lines to be liberalised are also not selected. The DFQF system therefore has the virtue of being almost free from the endogeneity issue. This makes OLS an appropriate estimation method for this study. Since our data have three dimensions (i.e., partner countries, years, and product code), we employ the difference-in-difference-in-difference (triple-difference) estimation model, following Frazer and Van Biesebroeck (2010). To accommodate the large number of dummies to control the multilateral resistance, we employ the recent development of the gravity model methodologies, discussed in Head and Mayer (2013) for example, and use the two-way fixed effects model. The DFQF programmes of the United States, the European Union, Japan, Australia, and Canada are evaluated.³

²The endogeneity issue for trade agreements and related econometric issues are nicely discussed in Baier and Bergstrand (2007) and Egger, Egger, and Greenaway (2008) for example.

³ Although an estimation which uses the entire data set is ideal, we were forced to perform the analysis for each DFQF granting country separately due to the extremely large numbers of

The estimation model is:

$$\text{Im portValue}_{ijt} = \beta_0 + \beta_1 \text{Ineffect}_t * \text{LDC}_i * \text{Treated Pr oduct}_j + \tilde{\beta}_2 \text{CountryYear}_{it} + \tilde{\beta}_3 \text{Pr oductYear}_{jt} + \tilde{\beta}_4 \text{Country Pr oduct}_{ij} + \varepsilon_{ijt}.$$

The variable of interest is the triple interaction term, $\text{Ineffect}_t * \text{LDC}_i * \text{Treated Pr oduct}_j$. Here, Ineffect_t is a dummy variable which switches from 0 to 1 for all partner (exporter) countries and products after 2001, i.e., 0 for the period of 1996-2000 and 1 for the period of 2001-2010; LDC_i is a dummy variable which takes value 1 if the partner (exporter) is an LDC country and 0 otherwise; $\text{Treated Pr oduct}_j$ is a dummy variable which takes value 1 for those products that are treated in the sense previously described and 0 otherwise. Three interactive fixed effects allow for (a) the base level of imports of any product from any country ($\text{Country Pr oduct}_{ij}$), (b) the overall imports from any country in any year (CountryYear_{it}), and (c) the overall imports of any product in any year (Pr oductYear_{jt}). There is no need to include uninteracted variables because those effects are absorbed into the three interactive fixed effects. If the DFQF has a positive impact on the imports from LDCs, a positive coefficient for β_1 is observed.

3.2. Data

The tariff data and trade value data used are from WITS (World Integrated Trade Solutions). To do the analyses at the same product code level for each country, the data are at the HS (Harmonised System) 6-digit level. Each country has its own tariff schedule for its own tariff lines. For example, the United States and the European Union use a 10-digit tariff schedule, while Japan has its own 9-digit one. Up to the 6-digit level, the codes are identical across countries (thus, the designation

observations, as can be seen in the estimation results (Table 2). The estimation using the entire data set far exceeds the storage capacity of the statistical software at hand (STATA MP 64 bit). Even for the country-level estimation, the computer must run for a full 60 days without pause. Statistical analyses for the cases of South Korea and China are not done partly because these countries' initiatives are recent endeavors, but especially because the scope of these countries' initiatives in terms of eligible countries and products is limited.

"Harmonised System"). The 6-digit level is therefore the most disaggregated code level that still allows for cross-country comparison. The tariff rates at tariff lines (e.g., 10-digit level in the United States) are averaged at the HS 6-digit level. The simple average is used for the analyses since the weighted average discards the tariff rate information for the products with no trade record (the weighted average uses trade value as weight). For the purpose of our study, it is imperative to include tariff rate information even with no trade record.

3.3. Estimation results

The estimation results are shown in Table 2. Column (1) shows the estimation result for the period 1998-2006 to be comparable with Frazer and Van Biesebroeck (2010). This result indicates that the United States' initiative has had a positive impact on the country's imports from LDCs. This result is in line with that of Frazer and Van Biesebroeck (2010). Column (2) shows the result for the United States for the period 1996-2011. Here we observe that the positive impact indicated in the column (1) is no longer present. The insignificant impact of the United States' initiative is not surprising given the stable difference in the number of zero-tariff lines between GSP and LDC, as seen in Figure 1. Column (3) shows the case for the European Union. Here the coefficient estimate is statistically insignificant and very close to zero. This result is at odds with the finding of Davies and Nilsson (2013). The difference in results might be a product of differing levels of disaggregation of the data or methodology. While Davies and Nilsson (2013) estimate the conventional gravity model using aggregate country level trade values, our estimation uses data at the HS 6 digit level with tariff information and the triple-difference estimator. However, we cannot definitively conclude that the European Union's initiative had little impact because, as shown in Figure 2, the European Union had already expanded zero tariffs by the middle of the 1990s. Further analysis is required. Column (4) shows the case of Japan. Here the coefficient estimate is statistically significant with a negative sign, but still very close to zero. This result is in line with that of Aoyagi and Ito (2019), a companion paper of this study, which analyses Japan's DFQF

initiative at the tariff line level (9 digits). One reason for this result could be a decrease in the relative attractiveness of the Japanese market when compared with those of other developed countries that have also completed the DFQF initiatives. It may also be the case that the negative distance effects on trade become stronger when tariffs are reduced in all major destination countries. Another reason could be Japan's regulations governing the import of several agricultural products including tubers of konnyaku and beef. The rules of origin, which may increase transaction costs, might be another reason. Given that the purpose of this paper is to perform a general evaluation of DFQF initiatives, further investigation of these phenomena is left to future research. The coefficient estimates for Canada and Australia are statistically significant with a positive sign. The stronger positive impact observed in Australia as compared with other countries can likely be attributed to the substantially increased difference in the number of zero tariffs between GSP and LDC countries as seen in Figure 4.

=== Table 2 ===

4. CONCLUSION

This study reviewed the DFQF access initiatives for the LDCs agreed at the WTO meeting in 2005. After explaining the background of the DFQF initiatives, we summarised the DFQF initiatives of the major developed-country members along with the cases of South Korea and China. The developed member countries began preferential treatment of LDCs in the 1970s and 1980s before accelerating their initiatives in the early 2000s. Further enhancements were implemented in and after 2005. The initiatives of the European Union, Canada, Australia, and Japan are not selective for either countries or products while the zero-tariff scheme of the United States is somewhat selective. The initiatives of South Korea and China are selective with regard to products and/or countries. We then showed the number of zero tariffs for LDCs given by each DFQF granting country. While the European Union, Canada, Australia, and Japan have achieved almost full zero-tariff coverage of all tariff lines, the coverage ratio of the United States has reached about 85%. Finally, by conducting

an econometric analysis using the triple difference estimator method, the DFQF programmes of Australia and Canada were found to be positively associated with LDC exports to these countries. A replication of Frazer and Van Biesebroeck (2010) for the case of the United States yielded the same positive result, but this significance did not hold when the time period was extended to 2011. The European Union's initiative is seen to have little impact, while Japan's initiative has a very small but significant negative impact. Further topics of investigation could include an examination of the case of the European Union during the years prior to 1996 and the trade structure of the United States after 2006.

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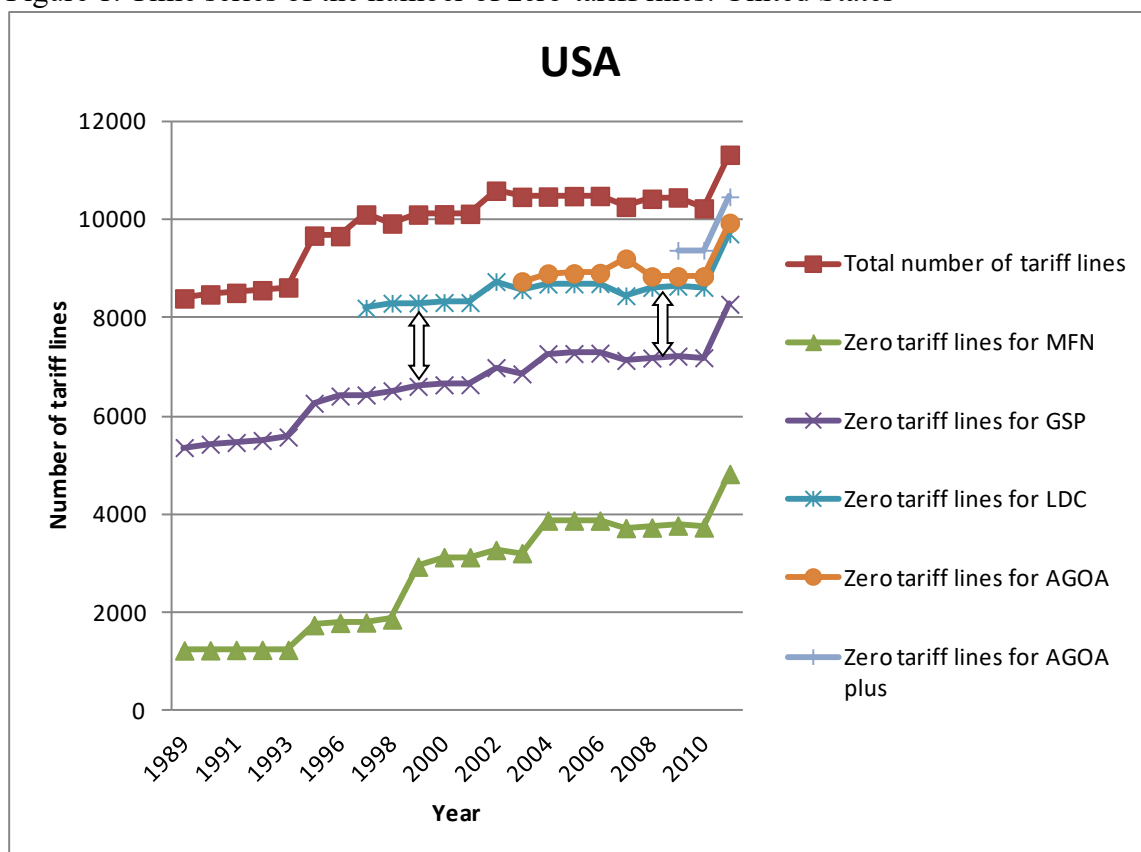
Table 1. Generalised System of Preference for LDCs of some major countries

Country (Group)	Effective date	Initiative name	Eligible countries	Eligible products	Recent topics / Remarks
United States	From 1970s and substantially enhanced in 2000 by AGOA	African Growth and Opportunity Act (AGOA) from 2000	34 African countries eligible at the time of initiation of the act. Currently 37 to 39 African countries eligible. Eligible countries change over relatively short period of time, such as 2-3 years.	Eligibility for apparel products varies across countries.	Since AGOA is only for African countries, LDCs in other parts of the world are not covered by this initiative.
European Union	From 1970s and substantially enhanced in 2001 by EBA	Everything But Arms Arrangement	All LDCs	All products except arms	GSP beneficiary countries will be changed in January 2014. Countries which have grown to a relatively high level of income will be excluded from the list so that LDCs can enjoy benefits.
Australia	From 1970s and substantially enhanced from 2003		All LDCs	All products	
Canada	Started in 1974, steadily increased its product coverage	General Preferential Tariff for LDCs	All LDCs	All products	Change in eligible countries in June 2014: 72 countries including BRICs and other middle-income countries will be excluded from GSP beneficiary countries.
Japan	Started in 1980, gradually	GSP for LDCs	All LDCs	All products (Especially after 2000, product coverage	

	increased product coverage			has been increased)	
South Korea	Started in 2000	Duty-free treatment for LDCs	All LDCs	At the time of the initiation in 2000, covers 80 product codes at HS 6-digit level. Following the Hong Kong declaration, it increased coverage to 75% of all tariff lines.	
China	Started in 2006, gradually increased country/product coverage.	Duty-free treatment for LDCs	At the time of the initiation in 2006, 26 LDC were eligible. In 2013, 37 LDCs are eligible.	Currently 4800 product codes out of about 8000 product codes at HS 8-digit level are eligible.	

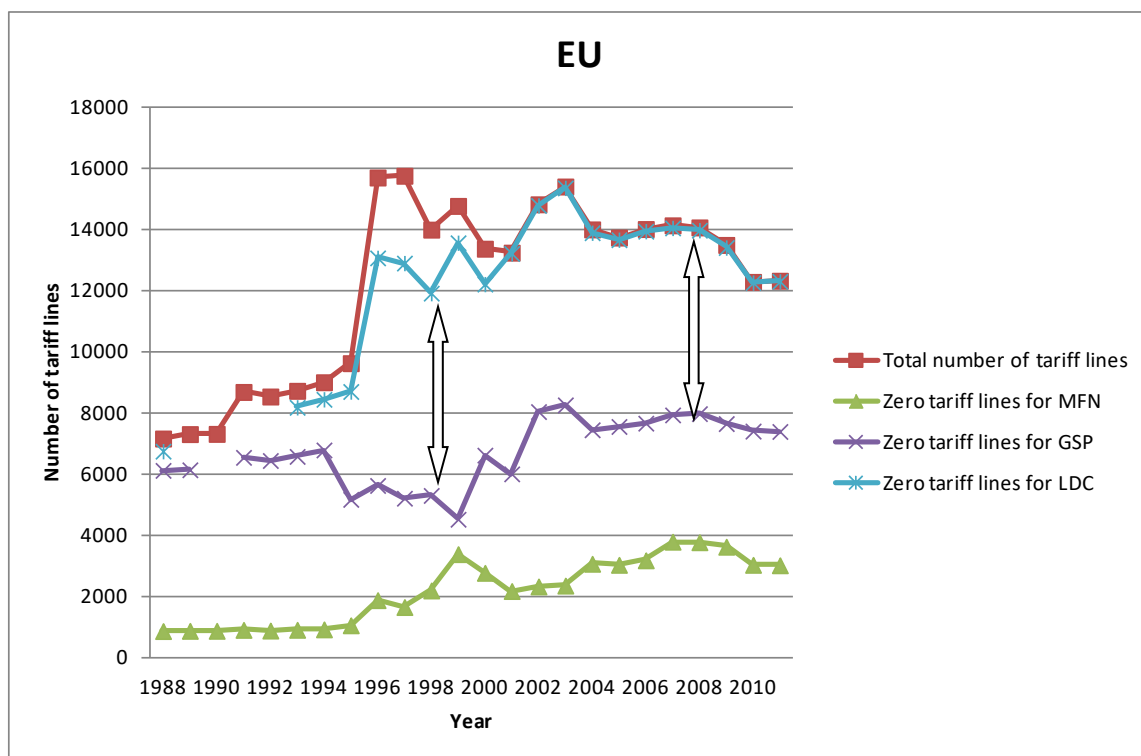
Source: Author's elaboration from WTO webpages and each government's websites

Figure 1. Time series of the number of zero-tariff lines: United States



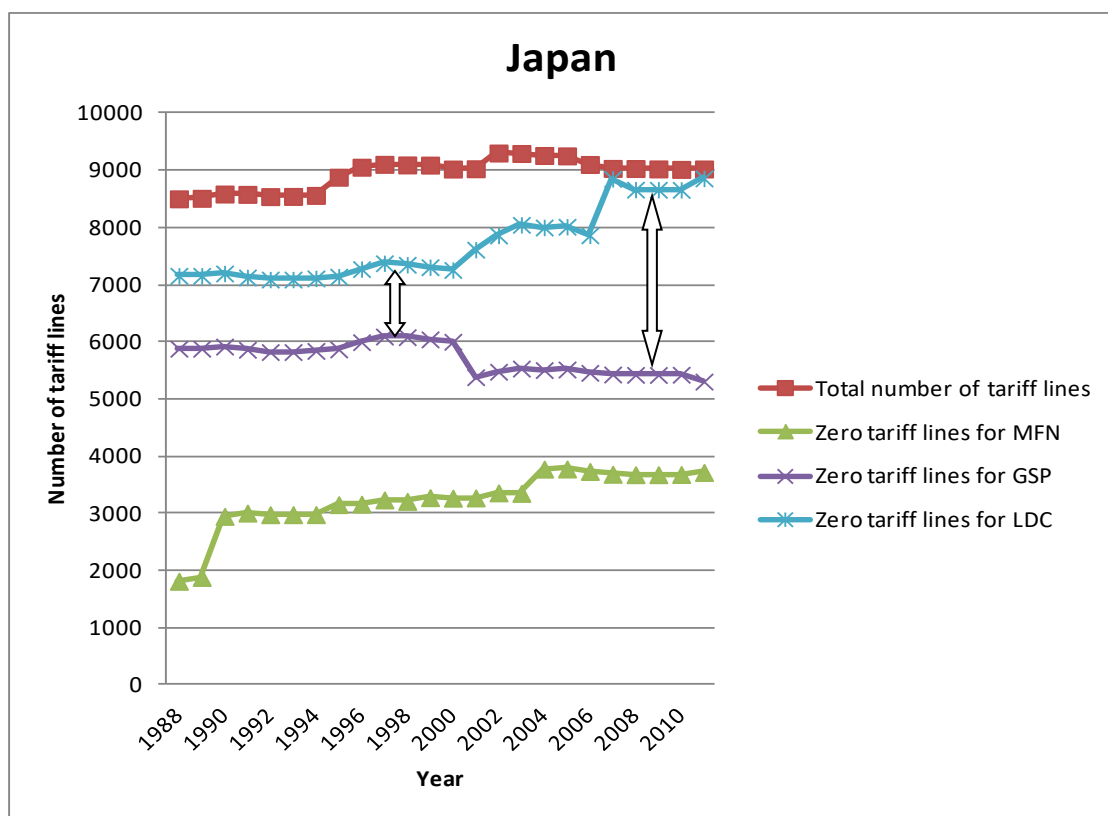
Source: Authors' computation from the tariff data at tariff lines of WITS

Figure 2. Time series of the number of zero-tariff lines: European Union



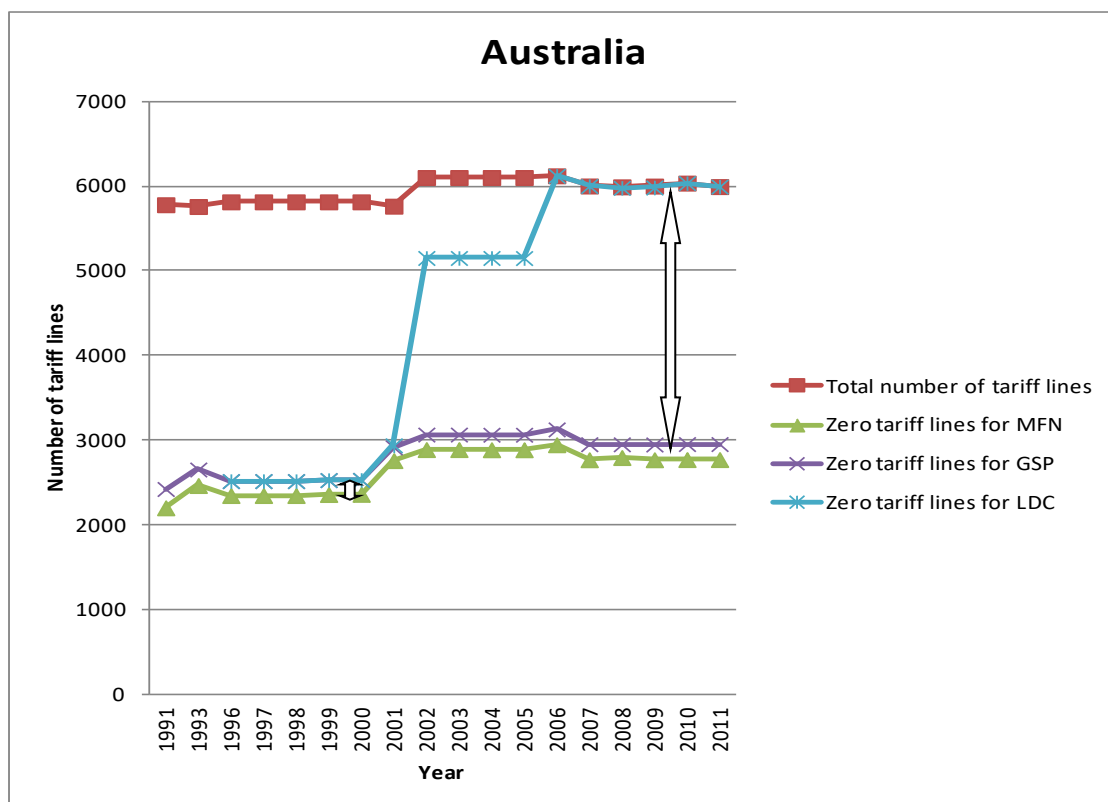
Source: Authors' computation from the tariff data at tariff lines of WITS

Figure 3. Time series of the number of zero-tariff lines: Japan



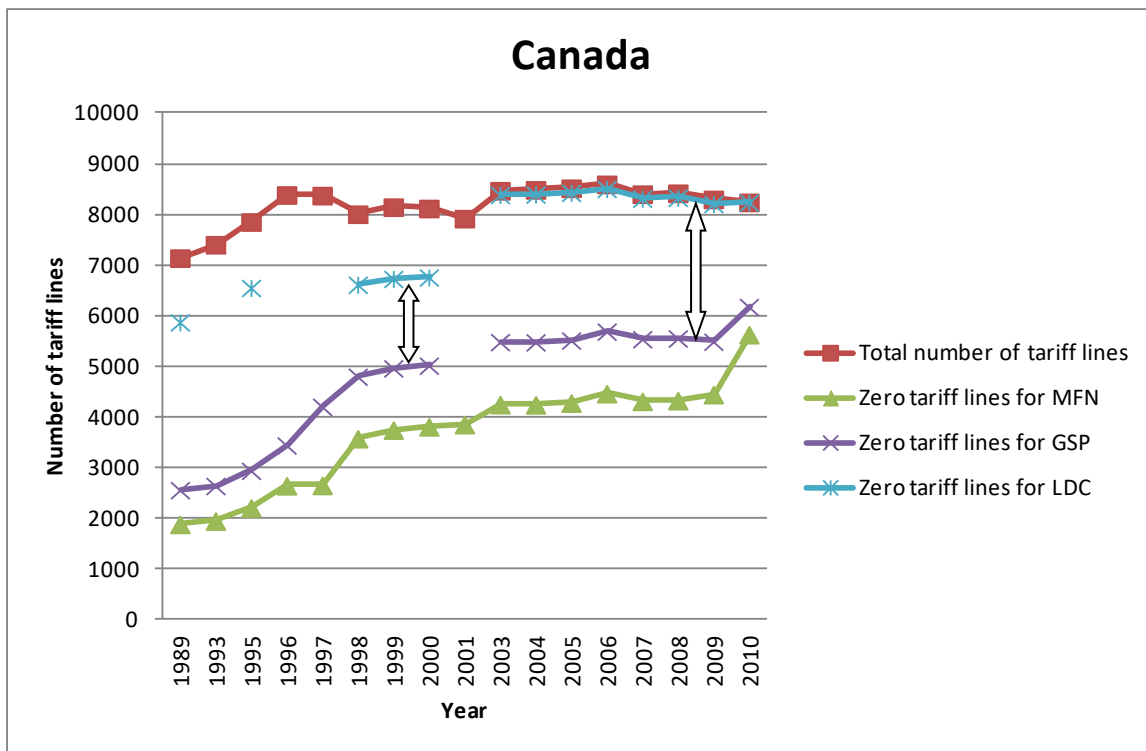
Source: Authors' computation from the tariff data at tariff lines of WITS

Figure 4. Time series of the number of zero-tariff lines: Australia



Source: Authors' computation from the tariff data at tariff lines of WITS

Figure 5. Time series of the number of zero-tariff lines: Canada



Source: Authors' computation from the tariff data at tariff lines of WITS

Table 2: Triple Difference Estimator

	(1) United States (Year 1998-2006 as in FVB)	(2) United States (Year 1996-2011)	(3) European Union (Year 1996-2011)	(4) Japan (Year 1996-2011)	(5) Canada (Year 1996-2011)	(6) Australia (Year 1996-2011)
Ineffect_LDC_Treated	0.0127** (4.71)	-0.00290 (-1.28)	-0.0000853 (-0.02)	-0.00316* (-2.23)	0.0220** (4.64)	0.100** (54.61)
R-squared	0.928	0.912	0.877	0.933	0.911	0.915
Number of observations	3974104	7189705	11964965	6390429	7856674	4533562

t statistics in parentheses

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Country-Year fixed effects, Product-Year fixed effects, and Country-Product fixed effects

Appendix

Hong Kong Ministerial Declaration texts on DFQF initiative

Annex F: Special and Differential Treatment

36) Decision on Measures in Favour of Least-Developed Countries

We agree that developed-country Members shall, and developing-country Members declaring themselves in a position to do so should:

(a)(i) Provide duty-free and quota-free market access on a lasting basis, for all products originating from all LDCs by 2008 or no later than the start of the implementation period in a manner that ensures stability, security and predictability.

(ii) Members facing difficulties at this time to provide market access as set out above shall provide duty-free and quota-free market access for at least 97 per cent of products originating from LDCs, defined at the tariff line level, by 2008 or no later than the start of the implementation period. In addition, these Members shall take steps to progressively achieve compliance with the obligations set out above, taking into account the impact on other developing countries at similar levels of development, and, as appropriate, by incrementally building on the initial list of covered products.

(iii) Developing-country Members shall be permitted to phase in their commitments and shall enjoy appropriate flexibility in coverage.

List of LDC countries

Angola	Mali
Bangladesh	Mauritania
Benin	Mozambique
Bhutan	Myanmar
Burkina Faso	Nepal
Burundi	Niger
Cambodia	Rwanda
Central African Republic	Samoa
Chad	Sao Tome and Principe
Union of Comoros	Senegal
Democratic Republic of Congo	Sierra Leone
Djibouti	Solomon Islands
Commonwealth of Dominica	Somalia
Equatorial Guinea	Sudan
Eritrea	Tanzania
Ethiopia	Timor Leste
Gambia	Togo
Guinea	Tuvalu
Guinea-Bissau	Uganda
Haiti	Vanuatu
Kiribati	Yemen
Laos	Zambia
Lesotho	
Liberia	
Madagascar	
Malawi	