Determinants of bilateral tariff negotiation outcomes:

an empirical investigation of the use of templates, reciprocity and differences in producer preferences and political weight

Preliminary and incomplete

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Abstract

Free trade agreements (FTAs) typically consist of a long list of tariff lines, defining for each product if and how fast it will be liberalized (staging category). This paper opens the black box that FTAs have been for a long time, and studies the determinants that affect to which staging category a product will be assigned. Our sample consist of all tariff lines of four FTAs between the EU and Mexico, Chile, South Korea and Peru respectively. We confirm the "hunch" of law scholars that the EU uses templates for its FTA negotiations with empirical evidence. We also show that there are differences in bargaining strength between the EU and Mexico and Peru respectively, as shorter phase-out periods for EU imports are related to shorter phase-out periods for Mexico and Peru, but not vice versa. Surprisingly, for Chile and South Korea, we find a pattern of mutual influence or reciprocity. Finally, we find that domestic preferences for protection matter strongly for the probability of a product to be excluded from liberalization, but not for the probability of products to be liberalized immediately.

Keywords: free trade agreement; tariff lines; staging categories; phase-out period; reciprocity; EU FTA templates

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1 Introduction

Most empirical papers look at trade agreements as a binary choice: a pair of countries either has a trade agreement or not. This couldn't be further away from reality though. Most trade agreements do not foresee in complete free trade between the partners once the agreement comes into force. Rather, trade agreements typically consist of pages and pages of appendices[1], describing the liberalization path for each product or tariff line. This liberalization path consists of a tariff base rate (fixed or ad valorem or both) from which the liberalization will take place, and the staging category (in trade agreements with the European Union, there are typically between 10 and 25 different staging categories) determining the exact number of months and subsequent percentage tariff reduction.

Not all products however get liberalized completely, and hence these appendices typically also contain clauses on quotas, entry price systems, exceptions, etc. for certain goods. Policy makers thus have a lot of options to tailor a trade agreement to their exact needs and wishes. Multiple variables are determining the exact outcomes of these trade negotiations.

This paper tries to identify some of the determinants of tariff negotiation outcomes. We do this for 4 recent EU trade agreements: the FTA between the EU and Mexico, Chile, South Korea and Peru, respectively. This will allow us to compare our results across agreements and over time, and draw more general conclusions.

To the best of our knowledge, only four papers have explored tariff negotiation outcomes empirically. Kowalczyk and Davis (1998) and Estevadeordal (1999) were one of the first to open the big black box that are trade agreements and use variables derived from the text of the NAFTA agreement as their dependent variable. Gawande et al. (2005) and Damuri (2012) followed in their footsteps and look at the determinants of product exclusions in trade agreements.

We contribute to the literature in two main ways. First of all, we empirically test the "hunch" of scholars in law and political science that the EU uses its dominance in bilateral trade negotiations by presenting partner countries with FTA templates and giving them little negotiating leeway. Instead of using anecdotal evidence for a couple of products, we analyze the tariff and staging category patterns of all tariff lines of four important EU FTAs. We find that the EU indeed applies a template across partner countries. However, this template changes over time: new-generation FTAs such as the EU-Korea and EU-Peru FTA are indeed quite similar, but they are rather different from the older EU-Mexico and EU-Chile FTA.

Moreover, we present some evidence on reciprocity in trade negotiations. We find that there are differences in bargaining strength between the EU and Mexico and Peru respectively, as shorter phase-out periods for EU imports are related to shorter phase-out periods for Mexico and Peru, but not vice versa. Surprisingly, for Chile and South Korea, we find a pattern of mutual influence or reciprocity.

Finally, we also look at the influence of the national level on the outcomes of the international tariff negotiations. Guided by the Grossman & Helpman framework, we look at the influence of domestic producer preferences on staging categories. We find that domestic preferences for

[1]The tariff elimination schedule of the EU-South Korea FTA, for example, is a whopping 1050 pages long. This does not include additional appendices on extra procedures, rules or exceptions.

protection matter strongly for the probability of a product to be excluded from liberalization, but not for the probability of products to be liberalized immediately.

This paper is structured as follows. Section 2 discusses related literature, while 3 discusses our sampled FTAs in more detail. Section 4 and section 5 respectively discuss the method and data used. Results are presented in 6 and section 7 conclusion.

2 Tariff negotiation outcomes

Putnam (1988) describes international relations - including trade negotiations - as two-level games with strategic interactions between different players on each level and between the levels. For trade negotiations in particular, we can distinguish between the national level and the international level. In an initial stage, political competition between different stakeholders in each country will determine the policy preferences of each government. In a second and international stage, two or more government enter a bargaining game, in which they try to negotiate a free trade agreement that is as close to their domestic policy preferences as possible. Governments do not only negotiate whether or not there will be a trade agreement, rather, they negotiate the exact terms on which a trade agreement is possible.

In one of their seminal works, Grossman and Helpman (1995) developed a theoretical framework that identifies the conditions for which an FTA between two countries can be politically viable. Crucial in their analysis, is the stance of industries towards the FTA. Assume two countries A and B, with producers of an industry p in country B exporting to country A if the FTA will take place, and prices in country B being lower than country A.

Taking advantage of differences in import demand and export capacity, they identify three cases. 1) Producers of good p in country B will support the FTA because it stands to gain from the potential FTA, while producers in country A and consumers in both countries are indifferent as prices in their respective countries do not change (the so-called "enhanced protection" case, which goes hand in hand with trade diversion). 2) Producers and consumers in country B are indifferent to the FTA, while consumers welfare in country A increases as prices drop and producers in country A are opposed to the FTA as this would increase import competition (the so-called "reduced protection" case). In this case, there is both trade creation and trade diversion. 3) intermediate case: producers gain in country B but lose in country A. The effect on joint welfare of the two countries is ambiguous. The government of country A looses tariff revenue in all cases.

Industries that are expected to lose (gain) from the potential FTA, will try to lobby the government of their country to oppose (support) the FTA. The degree to which they are successful, depends a.o. on whether they are politically organized, their political weight, what the stance is of other lobbies and how much the government cares about lobbies.

For an FTA to be viable, the amount of industries in each country respectively that stands to gain from the agreement needs to be sufficiently "balanced", as this creates the best opportunity for exporting interests to overcome opposition to the FTA from import-competing producers. If not, industries that stand to lose a lot from the FTA will be able to successfully lobby their governments stance on the FTA.

Staging categories can be used to shift this balance. By allowing countries to exclude certain products, impose quotas or have (long) phase-out periods that give industries time to adjust, governments can capture the support of some potential losers, while at the same time winning the favor of exporters who would benefit from the agreement. Grossman and Helpman predict that industries that will create trade under the FTA are likely to be placed on the exclusion list, while products that lead to enhanced protection are expected to be on the complete liberalization list. Intermediate products may be included or excluded, depending on the international negotiation process and the valuation of each government towards general welfare as opposed to political contribution.

Gawande et al. (2005) show that this can be very important: without product exclusions, the Mercosur trade bloc would not have happened.

Once each country has decided domestically on its ideal list of exclusions, an international Nash bargaining game decides which products eventually end up in which staging category. The higher the bargaining strength of each government and its "threat point" (its welfare in the status quo), the higher the probability that the government will succeed in protecting the industries that it wants. Industries for which the weighted sum of political benefits of market access to the exporting country and the political cost of greater import competition in the importing country is most negative, will be (somewhat) protected from liberalization in the FTA.

The treat point of each government reflects differences in the underlying political economy structures of each countries, while bargaining strengths are due to factors outside of the Grossman & Helpman model.

To the best of our knowledge, only 4 papers look at the determinants of FTA negotiation outcomes empirically. Damuri (2012) and Gawande et al. (2005) both study determinants of product exclusion and inclusion, while Estevadeordal (1999) looks at the interdependence between tariff elimination schedules and rules of origin as policy instruments. Finally, Kowalczyk and Davis (1998) look at factors influencing the length of phase-out periods.

Gawande et al. (2005) present support for the Grossman & Helpman (1995) hypothesis using cross-sectional data from Argentina and Brazil, two leading Mercosur countries. They state that exclusion of politically sensitive industries was crucial for the viability of Mercosur, as otherwise, Brazil would have captured most benefits of the Mercosur agreement. This because Brazil's share of total potential production of the two countries under the FTA would be more than 50% in a majority of 4-digit ISIC sectors. Using the notion of "balancedness" from Grossman & Helpman (1995) and following their theoretical assumption that the larger of the two industries is the exporting industry and the smaller the import-competing, they argue that under fully free trade, Argentina would import 3/4 of all 4-digit ISIC industries and only export in 1/4 of them. They find that Argentina was indeed accorded the lion's share of product exclusions and non-tariff barriers and that most exclusions are for products for which Argentina has limited production capacity.

Furthermore, they derive an empirical test of the Grossman & Helpman hypothesis using data on tariff exclusions and non-tariff barriers. They only find weak support for for tariffs, though: politically organized Argentinian importers were successful in obtaining tariff exclu-

sions, but even though the result is statistically significant, it is economically weak. Argentinian exporters and Brazilian firms were not successful in obtaining tariff exclusions. For NTBs, however, support is stronger. Argentinian import-competing lobbies managed to increase the probability of maintaining NTBs on those goods whose inclusion into the FTA would have hurt them the most. This came at the expense of Brazilian export lobbies (who wanted inclusion of these goods). Argentinian export-lobbies were successful at including industries in the FTA, but this did not come at the expense of Brazilian import-competing producers, who were also successful at obtaining exclusions in industries they most desired to exclude.

They conclude that countries in which import-competing interests are greatly threatened by the FTA should win the exclusions game because exclusions would be designed to achieve symmetry in the goods that are freely traded in the FTA regime. Wald statistics for Argentinian versus Brazilian importer and exporter strength, indicate that Argentina dominated decision-making over which industries to include/exclude in most NTBs.

Damuri (2012) provides some more (weak) support for the Grossman & Helpman framework. In contrast to Gawande (2005), Damuri takes a more global view, studying a cross-section of 15 free trade agreements between the 4 leading trade partners in the world (EU, US, Canada and Japan) and partner countries. He finds that the probability of obtaining tariff concessions is different for agricultural products compared to other products, and that products with higher initial MFN tariff rates are more likely to be excluded. This because industries who successfully obtained protection through tariffs would probably like to see this protection extended under an FTA. Furthermore, he finds that a higher trade balance of a product increases the proportion of the product being included in the FTA and that lower import values (reporting country) increases likelihood of exclusion. However, export capacity (partner) is not related. This is weak support for the Grossman and Helpman hypothesis, which states that products that will potentially lead to trade creation are most likely to be excluded.

Unlike Grossman & Helpman (1995) and Gawande (2005), Damuri makes a first attempt at exploring some of the determinants of differences in bargaining strength between trade negotiation partners. He finds that country characteristics of the negotiating parties (such as GDP, GDP per capita, distance between both countries and the importance of the market of the partner countries) are relevant in the bargaining process. He also finds that this does not necessarily mean unequal bargaining power of developing countries vs developed countries, but rather of how important one country is to the other and the perceived gains from trade. Smaller countries are more likely to get more preferential treatment from the reporting country than bigger countries.

Furthermore, Damuri also evaluates the often heard "suspicion" of scholars and policy makers that larger economies use a template when negotiating trade agreements. Van den Hoven (2013) states for example that "rather than reinventing the wheel, EU negotiators basically use the same framework and often the very same legal text to negotiate trade agreements with different partners. Typically, larger economies like the EU and the US would impose their trade agreement model on smaller partners." However, using an analysis of variance, Damuri refutes this statement, as there does not seem to be much overlap in excluded products between the different FTA partners of one country. This suggests that the large trading countries in the world

do not work with strong templates and that partner countries hold flexibility in determining which products will be excluded.

Rather than defining binary variables for inclusion or exclusion of a product in an FTA, Kowalzcyk and Davis (1998) look at another aspect of tariff negotiation outcomes: phase-out periods. They are interested in identifying some of the factors that determine the length of the phase-out period for each product. More in particular, they investigate if there was reciprocity in the negotiations of NAFTA. I.e. do phase-out periods for product p in country i explain phase-outs periods for product p in country j? To do so, they take a sample of 5-digit products for Mexico and the US.

They find that more intra-industry trade for a product p between Mexico and the US, and the US and the rest of the world leads to shorter phase-outs periods for the US. This probably because groups that have been successful at obtaining protection would like to see it extended. Moreover, products with higher tariff duties have longer phase-outs for the US. However, they find no evidence of similar correlations for Mexico. Combining this with a correlation between US phase-out periods and Mexican ones, but not vice versa, they conclude that there is some evidence of reciprocity in tariff negotiations for Mexico. This breaks the expected positive link between the initial baserate and phase-out period for Mexico.

Let's summarize. We have identified different variables that will determine in which staging category a product will end up. These factors influence not only whether or not a product will get liberalized (completely) but also if and how long it will be phased-out and if non-tariff barriers will be imposed.

- Industry characteristics: net gains from trade diversion and trade creation are the driving forces behind the decision by a pair of countries to enter into an FTA. The main factors that lead to trade creation or enhanced protection for a particular product are export capacity of the partner country in supplying the product and the import demand of the product. Hence, the possibility of a product to be included in a trade agreement should be positively correlated with the import demand of that country and negatively with the partner country's export capacity.

- Political influence lobbies: industries with higher political weight will have a higher probability of seeing their preferred trade policy realized. Hence, we expect higher baserates to be positively correlated with longer phase-out periods, as groups that have been successful at obtaining protection would like to see it extended.

- Bargaining strength: countries with higher bargaining power in trade negotiations, will see more of their requests encorporated in the actual FTA. Bargaining power depends on country characteristics such as welfare in the status quo (or "threat point" as Grossman & Helpman 1995 call it) and the importance of better market access for the partner country. Grossman & Helpman (1995) also argue that countries with a lot of industries that stand to loose from an FTA, will obtain more protection, as this is a necessary condition for the FTA to be viable ("balancedness" requirement). Furthermore, law scholars argue that large trade partners such as the EU or the US use their bargaining power to impose FTA "templates" and reciprocity on partner countries. This will (somewhat) break the link

between the domestic political process of these partner countries and the tariff negotiation outcomes.

3 EU Free Trade Agreements

In this paper, we will analyze four trade agreements between the European Union and partner countries for the period 2000-2013. This includes two "older" agreements that were concluded under the Lamy-doctrine, and two so-called "new-generation" FTAs. We also sampled our agreements such that we would have a nice geographical spread of partner countries (Asia, North-America and South-America), while at the same time including some important trade partners of the EU. See tables 1 and 2 for some summary statistics on the respective tariff elimination schedules.

We will see a clear trend break between the earlier agreements (EU-Mexico and EU-Chile) and the later ones (EU-Korea and EU-Peru). This is a finding that will come back throughout our paper. The early agreements have long phase-outs and high initial baserates for EU agricultural products, while this is much less the case for the later agreements. Moreover, the number of staging categories for EU imports is comparable to the number of staging for the early partner countries, while this is not at all the case for the later agreements: the number of EU staging categories is very limited, while the number of staging categories for imports into partner countries expanded substantially.

3.1 The EU-Mexico Free Trade Agreement

The EU and Mexico concluded an Economic Partnership, Political Coordination and Cooperation Agreement in 1997, which led to the start of negotiations for an FTA in October 1998. The negotiations were successfully concluded a little bit more than a year later, in November 1999 and a comprehensive Free Trade Agreement entered into force in October 2000 for the part related to trade in goods. The agreement also includes specific chapters on access to public procurement markets, competition, intellectual property rights and investment. The part of the FTA related to trade in services entered into force one year later (European Commission 2015).

The EU's key imports from Mexico are mineral products, machinery and electric equipment, transport equipment and optic photo precision instruments. Key EU exports to Mexico include machinery and electric equipment, transport equipment, chemical products, and mineral products. Mexico currently also enjoys trade preferences with the EU under the Generalised Scheme of Preferences.

Looking at the tariff elimination schedules of both countries, we see that for a majority of products, imports into the EU were already duty-free (47% of all tariff lines, corresponding to 71% of imports from Mexico), while this number is much lower for Mexico (15% of all tariff lines and 20% of imports from the EU). EU tariff elimination schedule consists of 2 main staging categories for industrial products and 5 for agricultural products, while the Mexican schedule contains 4 main categories for industrial products and 4 for agricultural products. The EU schedule contains additional staging categories for the Entry Price System and Prohibitions, and the schedules for both countries contain 2 notes refining the assigned staging categories for

certain products and 3 staging categories with quotas.

A lion's share of tariff lines for the EU fall in staging category "1"/"A" (immediate liberalization) and "B" (1+3 equal annual stages), for Mexico, this is staging category "A"/"1" and "C" (6 unequal stages). The other staging categories are not so important, both in terms of number of tariff lines and trade. Except for products that are excluded from liberalization, all products are supposed to be completely duty-free on January 1st, 2009 (after 10 stages of tariff elimination).

For the EU, tariffs for agricultural products are higher than for industrial products and they also get liberalized slower over time. For Mexico, initial tariffs for agricultural products are higher, but a big share of agricultural products get liberalized immediately, after which their liberalization path is quite similar to industrial products.

3.2 The EU-Chile Free Trade Agreement

The EU and Chile concluded an Association Agreement in 2002, which included a comprehensive Free Trade Agreement that entered into force in February 2003. The EU-Chile Free Trade Agreement is broad and comprehensive and covers all the areas of EU-Chile trade relations, going well beyond WTO commitments. The agreement eliminates barriers to trade; establishes clear, stable and transparent rules for exporters, importers and investors; creates a free trade area in goods, services and government procurement; liberalises investment and capital flows and strengthens the protection of intellectual property rights. Chile has a very wide network of free trade agreements, and according to European Commission (2015), it is an important ally for the EU for further trade liberalisation.

Key EU imports from Chile include mining products such as ores and non-ferrous metals, mostly copper which has historically represented around 55% of total exports to the EU. The agricultural sector contributes up to a quarter of the total EU imports from Chile, notably as wines, fruit and vegetables, fish and wood products (cellulose and other). Important EU exports to Chile include machinery and electric equipment, transport equipment, chemical products, and fuel.

Looking at the tariff elimination schedules of both countries, we see that for a majority of products, imports into the EU were already duty-free (64% of all tariff lines, corresponding to 69% of all imports from Chile), while virtually no products enter Chile duty-free at the time of negotiation (only 17 HS6 products, or 0.3%, corresponding to 2% of imports from the EU). However, Chile is committed to fast liberalizations, with 92% of all products getting liberalized immediately (corresponding to 87% of EU imports), while this is only 18% for the EU (6% of trade). This indicates reciprocity in a more broad sense: as Chile could already export most of its products duty-free to the EU, the EU does not allow (long) phase-out periods for most Chilean imports. It also suggests that the EU had more bargaining power than Chile: the EU managed to obtain (some) protection for 13% of its products (9% in trade value), while this is only 2% for Chile.

For the EU, tariffs for agricultural products are clearly higher than for industrial products, except for textiles. This is not the case for Chile, which has 6% import duties on most products. There is, however, a difference in liberalization speed between sectors: agricultural products are

liberalized remarkably slower than other products, as well as articles of stone, cement, glass and ceramic (sector 13) and transport equipment (sector 17).

3.3 The EU-South Korea Free Trade Agreement

The EU-South Korea FTA entered into force in July 2011. It is the first of a series of so-called new-generation FTAs: it goes further than any previous agreements in lifting trade barriers and it is also the EU's first trade deal with an Asian country (European Commission 2015).

The agreement eliminates duties for industrial and agricultural goods in a progressive, step-by-step approach. The majority of import duties were removed already when the FTA entered into force on 1 July 2011. On 1 July 2016, import duties will be eliminated on all products except for a limited number of agricultural products. In addition to eliminating duties on nearly all trade in goods, the FTA addresses non-tariff barriers to trade with specific focus on the automotive, pharmaceuticals, medical devices and electronics sectors. The agreement also creates new opportunities for market access in services and investments, and includes provisions in areas such as competition policy, government procurement, intellectual property rights, transparency in regulation and sustainable development.

Looking at the tariff elimination schedules, we see a very similar pattern for both countries. 2/3 of all products get liberalized immediately for both countries (corresponding to 44% import value for South Korea and 48% for the EU). This could be an indication of narrow reciprocity. For the remaining products, 16% entered South Korea already duty-free while another 16% have phase-in periods (with some products being phased-in over up to 19 equal stages, making this FTA the FTA with the highest phase-in periods in our sample). Looking at table 2, we see that these very long phase-in periods are mainly for agricultural products and wood, cork and straw articles. These numbers are slightly different for the EU: 28% of products entered the EU already at zero customs duties and only 5% have phase-in periods (of 4 and 6 years).

3.4 The EU-Peru Free Trade Agreement

In June 2012 the EU signed an ambitious and comprehensive Trade Agreement with Colombia and Peru. The agreement is provisionally applied with Peru since 1 March 2013. Besides opening up markets on both sides through new disciplines on non-tariff barriers, competition, transparency and intellectual property rights, the FTA aims to increase the stability and predictability of the trading environment with a mediation mechanism for non-tariff barriers and a bilateral dispute settlement mechanism. The FTA also contains provisions for cooperation on competitiveness, innovation, production modernisation, trade facilitation and technology transfer; a comprehensive Trade and Sustainable Development title to promote and preserve a high level of labour and environmental protection, including a transparent arbitration system and an engagement of the civil society. It is predicted that the FTA will lead to a reduction in tariff revenues of half a billion euros by the end of the transition periods. (European Commission 2015).

The Andean countries export predominantly primary products (agricultural products, fuels and mining products) to the EU. EU exports consist mostly of manufactured goods, notably machinery and transport equipment, and chemical products.

Looking at the tariff elimination schedule of both countries, we see that imports from the EU into Peru were already duty-free for 48% of the products (corresponding to 74% value of trade), while this is only 28% of Peruvian imports into the EU (corresponding to 63% trade value). The EU is, however, committed to an immediate liberalization of most of its products (70%), while this is only 28% for Peru. Both countries excluded around 2% of its products from liberalization, and Peru obtained long phase-out periods for a part of its imports (1+5 and 1+10 equal annual stages for 8 and 13% of its imports respectively).

Table 1: Number of observations and total trade by staging category.

EU-Mexico FTA	**Mexico**					**EU**				
	HS8	**All CN6**		**Unchanged CN6**		**CN8**	**All CN6**		**Unchanged CN6**	
Staging category	**Codes**	**Codes**	**Trade**	**Codes**	**Trade**	**Codes**	**Codes**	**Trade**	**Codes**	**Trade**
1+3 equal annual stages, immediate start	560	230	1703.1	168	814.3	2626	1443	1171.7	1112	1016.8
4 equal annual stages, immediate start	125	81	21.4	41	14.8	437	117	82.5	62	22.7
9 equal annual stages, immediate start	132	81	71.2	54	63.3	141	37	24.1	30	23.2
10 equal stages, immediate start	36	24	14.4	16	12.6	103	29	0.1	8	0.0
8 equal annual stages, start in year 3	40	27	1.7	22	1.7	330	99	18.2	75	11.1
4 unequal stages (not annual)	81	10	81.7	7	57.8	-	-	-	-	-
7 unequal stages, immediate start	1016	436	633.0	343	272.6	-	-	-	-	-
6 unequal stages, immediate start	4079	1924	3955.7	1489	2831.7	-	-	-	-	-
Immediate in 2003	2	2	22.8	2	22.8	-	-	-	-	-
Immediate	3243	1401	3289.2	968	1374.0	1106	522	708.9	402	653.6
Already dutyfree	1662	648	2803.9	508	1692.0	4924	2651	5077.7	1962	3677.6
Other	393	255	1174.5	212	1157.1	921	215	63.9	173	54.3
Not mentioned			0.0		0.0			0.0		0.0
Total	11369	5119	13772.6	3830	8314.6	10588	5113	7147.0	3824	5459.3

EU-Chile FTA	**Chile**					**EU**				
	HS8	**All CN6**		**Unchanged CN6**		**CN8**	**All CN6**		**Unchanged CN6**	
Staging category	**Codes**	**Codes**	**Trade**	**Codes**	**Trade**	**Codes**	**Codes**	**Trade**	**Codes**	**Trade**
1+4 equal annual stages	-	-	-	-	-	395	122	427.5	73	197.3
1+5 equal annual stages	274	161	149.8	139	92.1	-	-	-	-	-
1+7 equal annual stages	171	69	79.4	62	54.1	200	77	270.1	68	264.0
1+10 equal annual stages	80	64	3.3	51	0.6	236	53	35.6	31	1.6
Immediate	7173	4818	2457.7	3851	2071.6	1501	905	314.3	721	278.2
Already dutyfree	34	17	62.2	17	62.2	6106	3289	3372.6	2682	3318.8
Other	171	95	62.4	87	61.5	1405	677	459.5	549	415.5
Not mentioned			0.0		0.0			24.7		18.0
Total	7903	5224	2814.8	4207	2342.0	9843	5123	4904.4	4124	4493.3

EU-South Korea FTA	**South Korea**					**EU**				
	HS10	**All CN6**		**Unchanged CN6**		**CN8**	**All CN6**		**Unchanged CN6**	
Staging category	**Codes**	**Codes**	**Trade**	**Codes**	**Trade**	**Codes**	**Codes**	**Trade**	**Codes**	**Trade**
3 equal annual stages, immediate start	3	3	0.1	3	0.1	-	-	-	-	-
4 equal annual stages, immediate start	644	261	3162.3	226	3102.5	275	128	3657.6	101	3637.4
6 equal annual stages, immediate start	762	327	2331.1	296	2263.0	260	92	1184.6	67	1182.2
7 equal annual stages, immediate start	6	4	43.5	4	43.5	-	-	-	-	-
8 equal annual stages, immediate start	128	55	210.9	52	210.7	-	-	-	-	-
5 or 7 equal annual stages, depending on characteristics product	8	2	0.3	2	0.3	-	-	-	-	-
11 annual equal stages, immediate start	391	137	127.1	96	111.0	-	-	-	-	-
12 unequal stages, immediate start	1	-	-	-	-	-	-	-	-	-
13 equal annual stages, immediate start	16	5	0.0	5	0.0	-	-	-	-	-
4 equal annual stages, start in year 10	1	1	3.7	-	-	-	-	-	-	-
14 equal annual stages, immediate start	27	10	63.9	8	51.2	-	-	-	-	-
16 equal annual stages, immediate start	92	41	47.7	36	47.6	-	-	-	-	-
17 unequal stages, immediate start	1	1	1.1	1	1.1	-	-	-	-	-
19 equal annual stages, immediate start	7	7	0.1	4	0.1	-	-	-	-	-
Immediate	7634	3350	13819.1	3193	12794.6	6745	3413	17411.8	3224	15002.4
Already dutyfree	1859	800	9340.0	781	8997.1	2385	1406	13771.0	1342	13735.6
Other	123	48	2160.6	40	2153.8	55	13	0.6	13	0.6
Not mentioned			8.4		8.4			2.4		2.4
Total	11703	5052	31320.0	4747	29785.1	9720	5052	36028.0	4747	33560.7

EU-Peru FTA	**Peru**					**EU**				
	HS10	**All CN6**		**Unchanged CN6**		**CN8**	**All CN6**		**Unchanged CN6**	
Staging category	**Codes**	**Codes**	**Trade**	**Codes**	**Trade**	**Codes**	**Codes**	**Trade**	**Codes**	**Trade**
1+3 equal annual stages, immediate start	44	33	7.8	33	7.8	19	6	0.0	6	0.0
1+5 equal annual stages, immediate start	580	403	227.2	374	194.5	17	3	0.8	3	0.8
1+6 equal annual stages, immediate start	2	1	1.7	1	1.7	-	-	-	-	-
1+7 equal annual stages, immediate start	33	25	15.2	25	15.2	18	3	0.0	2	0.0
1+10 equal annual stages, immediate start	889	651	327.7	627	317.2	18	8	0.0	8	0.0
1+12 equal annual stages, immediate start	1	1	0.0	1	0.0	-	-	-	-	-
1+15 equal annual stages, immediate start	4	3	4.0	2	4.0	-	-	-	-	-
Reduction after 11 years + immediately dutyfree imports on a certain volume	3	1	12.9	1	12.9	-	-	-	-	-
1+15 annual stages + immediately dutyfree imports on a certain volume	2	1	0.2	1	0.2	-	-	-	-	-
Immediate for ad valorem, 5 equal annual stages for fixed	-	-	-	-	-	2	-	-	-	-
Immediate	1848	1402	220.5	1242	200.8	6797	3513	1492.1	3285	1332.0
Already dutyfree	3543	2437	2490.8	2355	2406.6	2414	1414	3184.5	1345	3179.5
Other	136	94	20.4	85	20.4	435	105	173.9	98	210.4
Not mentioned			30.6		30.6			210.4		173.9
Total	7085	5052	3359.0	4747	3211.8	9720	5052	5061.7	4747	4896.6

Note: "Other" includes review clause, exceptions, quotas, unclear, depending on tariffs with 3d parties, entry price system, specific duties and partial liberalization only. Staging categories for CN6 codes are obtained using the CN8 level staging category with the highest mode. Total trade in million euros for the year of entry into force of the agreement.

Table 2: Average number of months before complete product liberalization by sector.

	EU-Mexico FTA		EU-Chile FTA		EU-Korea FTA		EU-Peru FTA	
Sector	**MEX**	**EU**	**CHL**	**EU**	**KOR**	**EU**	**PER**	**EU**
1	28.0	63.7	4.5	69.9	82.6	16.2	18.2	10.0
2	19.8	71.1	13.4	36.3	73.0	2.1	43.6	0.5
3	79.3	42.4	11.9	58.0	39.2	0	69.3	0.7
4	37.1	75.8	15.8	83.4	69.0	6.3	60.6	1.7
5	17.5	29.0	6.6	0.0	4.5	0.4	11.0	0
6	31.0	25.7	9.8	4.8	5.4	0.5	46.0	0
7	64.4	25.5	7.3	0.0	10.0	3.3	108.4	0
8	53.2	8.3	0	0	5.8	3.0	74.2	0
9	43.4	26.1	0	0	67.7	9.2	95.1	0
10	51.2	0	0	-	0.0	-	97.8	-
11	52.2	28.3	0.9	0	0.4	0.3	6.7	0
12	53.7	26.7	0.0	0	1.2	1.0	33.4	0
13	51.1	11.6	21.3	-	9.9	1.1	90.2	0
14	26.4	0	0	-	3.2	0.0	42.7	0
15	64.2	18.5	0.8	0	4.9	0.7	83.4	0.7
16	47.7	11.2	1.8	0	6.8	1.9	63.0	0
17	32.1	20.2	10.9	-	8.5	8.6	101.5	0
18	29.9	5.9	0.0	-	6.7	0.2	30.3	0
20	34.9	19.3	0.3	-	3.7	-	116.0	0
21	0	-	0	-	-	0.4	130.0	-

Note: This table only includes products that will be liberalized completely. Exceptions, products that do not get liberalized completely and products that were already dutyfree are not included. This explains why certain sectors have missing values. Zeroes mean that the products get liberalized immediately.
Note2: See table 4 in appendix for a list of HS sections (sectors).

4 Methodology

4.1 Construction of dependent variables

From the appendices of the trade agreements, we can easily construct a couple of variables capturing the level of protection a product will get: (1) an indicator variable indicating if a product is excluded from complete liberalization (2) an indicator variable indicating if a product was already completely duty-free (3) an indicator variable indicating if a product is liberalized immediately (4) an indicator variable indicating if a product is phased-in (5) a continuous variable indicating the speed of preferential liberalization, measured by the number of months to achieve zero tariffs

As trade agreement data only shares the same classification until the 6-digit level, we need to aggregate them up. This will allow us to compare both sides of the agreement with each other and across agreements (see later), and match the trade agreement data with data on trade flows. To do so, we convert variables (1)-(4) from indicator variables to the proportion of tariff lines within an HS6-code having certain characteristics[2] (i.e. instead of an indicator variable

[2]Another option would have been to calculate for each variable the mode by HS6-code and assign that value to the HS6-code. The number of tariff lines, however, does not indicate how important a tariff line is in value of trade, hence introducing bias to the data.

indicating whether or not a product is excluded from liberalization, we now obtain a variable indicating the proportion of excluded tariff lines for each HS6-code). For variable (5) , we can take simple averages. This of course leads to numbers of months that do no longer correspond exactly to any staging category.

4.2 Operationalization of independent variables

Protection preferences of producers. To capture the protection preference of producers, Gawande (2005) uses output-to-trade ratios scaled by trade elasticities. This should capture the protection preferences of producers, taking into account *potential* trade under the FTA. They estimate this for both partner countries of the FTA, and for imports as well as exports, capturing the fear of potential import competition of domestic producers (due to a weak domestic industry and/or strong industry in the partner country) and the wish for market access of strong exporters. However, data to calculate trade elasticities are not readily available for our sample of countries, and definitely not on the HS6-digit level.

In this paper, we will use the import share of the reporter country as well as the RCA of the partner country as an indication of the domestic producer preferences for protection. As the RCA of the partner country indicates its export capacity of a certain product and the import share of the reporting country its sensitivity to import competition, we expect a high RCA of the partner country and a high import share of the reporter country to lead to resistance to liberalization in the reporting country. At the same time, a high RCA of the partner country will also lead to pressures on the reporting country to liberalize. The net effect will depend on the bargaining strength of both countries. We also include the export share of the reporting country. This measures the exporter strength of the reporting country and the importance of the market of the partner country. We expect that domestic exporters of product p will want market access to the partner countries. As chances increase of this happening when the reporting market is not protected, this will also put pressure on liberalization of the domestic market.

All trade measures are a 3-year average from the period before the entry into force, as to avoid reverse causality bias.

Political influence. The literature suggests different measures of political influence of industries. Gawande & Hoekman (2004) use US PAC contributions of each industry while Olarreaga & Soloaga (1998) use a matrix of variables including industry concentration index, labour union proxy and tariffs to capture the level of protection received by an industry. However, these variables are either not available for the countries in our sample and/or not available on the HS6-digit level. However, (part of) the strength of this study lies in using very detailed data. This is why we follow Kowalczyk and Davis (1998) and Damuri (2009) and use the baserate as a proxy[3]. We expect baserates to be positively correlated with protection measures such as longer phase-out periods and higher probability of product exclusion, as groups that have been successful at obtaining protection would like to see it extended.

[3]Technically Damuri (2009) uses the MFN rate during the negotiation period (as to avoid endogeneity problems due to reverse causality). As the baserates for most agreements are based on MFN rates during the negotiation period, this is virtually the same.

Bargaining power. Finally, we estimate bargaining power by looking at reciprocity and templates. We measure reciprocity on the HS6-digit level as the percentage of excluded, phased-in or immediately liberalized tariff lines respectively per HS6 product for the partner country. We expect to see a positive correlation between the dependent variable of the reporting country and the mirror variable for the partner country if the partner country has a lot of bargaining power.

Furthermore, we look at the application of templates by the EU. If the EU has a lot of bargaining strength, we expect to see a correlation between the dependent variable and the mirror variable of other FTAs in our sample.

4.3 Econometric specification and estimation strategy

We start by estimating the following set of equations:

$$\begin{aligned} Excl_p^A &= \beta_1 + \beta_2 RCA_p^B + \beta_3 IS_p^{AB} + \beta_4 ES_p^{AB} + \beta_5 BR_p^A + \beta_6 Excl_p^B + \beta_7 T_p^C + \epsilon_p \\ Phased_p^A &= \beta_1 + \beta_2 RCA_p^B + \beta_3 IS_p^{AB} + \beta_4 ES_p^{AB} + \beta_5 BR_p^A + \beta_6 Phased_p^B + \beta_7 T_p^C + \epsilon_p \\ Imm_p^A &= \beta_1 + \beta_2 RCA_p^B + \beta_3 IS_p^{AB} + \beta_4 ES_p^{AB} + \beta_5 BR_p^A + \beta_6 Imm_p^B + \beta_7 T_p^C + \epsilon_p \end{aligned} \quad (1)$$

with $Excl_p^A$ the percentage of excluded tariff lines per HS6-product p for country A (reporting country), $Phased_p^A$ the percentage of phased-in tariff lines per HS6-product, Imm_p^A the percentage of immediately liberalized tariff lines per HS6-product, RCA_p^A (RCA_p^B) Balassa index of revealed comparative advantage for country A (B, or the partner country), IS_p^{AB} (ES_p^{AB}) import (export) share calculated as the share of imports of product p from country B into country A of total AB trade, BR_p^A the baserate, $Excl_p^B$ ($Excl_p^B$) ($Excl_p^B$) the percentage of excluded (phased-in) (immediately liberalized) tariff lines per HS6-product p for country B, T_p^C indicator for the use of templates, with C=Mexico if A is Chile, Chile if A is Mexico, Korea if A is Peru or Peru if C is Korea, ϵ_p error term. Note that we can only calculate T_p when the EU is the reporting partner, as it is crucial to have comparable data on the tariff line-level.

We exclude tariffs that were already duty-free. Therefore, our dependent variables sum to 1. As our dependent variables are proportions, and can only take values between 0 and 1, it is not appropriate to use OLS. We will therefore estimate 1 with Quasi Maximum Likelihood using a fractional multinomial logit model. This is a multivariate generalization of the fractional logit model proposed by Papke and Wooldridge (1996).

In a second stage, we look at relative changes in competitiveness over time instead of the static RCA and import and export shares. This because the relative change in the position of an industry could be more important than the absolute position of that industry. We substitute the import and export shares by growth rates of imports and exports, and RCA by the change in RCA over time.

We then estimate the following set of equations:

$$
\begin{aligned}
Excl_p^A &= \beta_1 + \beta_2 \Delta RCA_p^B + \beta_3 \Delta Imp_p^{AB} + \beta_4 \Delta Exp_p^{AB} + \beta_5 BR_p^A + \beta_6 Excl_p^B + \beta_7 T_p^C + \epsilon_p \\
Phased_p^A &= \beta_1 + \beta_2 \Delta RCA_p^B + \beta_3 \Delta Imp_p^{AB} + \beta_4 \Delta Exp_p^{AB} + \beta_5 BR_p^A + \beta_6 Phased_p^B + \beta_7 T_p^C + \epsilon_p \quad (2) \\
Imm_p^A &= \beta_1 + \beta_2 \Delta RCA_p^B + \beta_3 \Delta Imp_p^{AB} + \beta_4 \Delta Exp_p^{AB} + \beta_5 BR_p^A + \beta_6 Imm_p^B + \beta_7 T_p^C + \epsilon_p
\end{aligned}
$$

with Δ growth rate, Imp imports and Exp exports.

Finally, we take a closer look at products that get liberalized and look at the speed of liberalization. Using the number of months before complete liberalization as our dependent variable, we estimate the following equation:

$$Speed_p^A = \beta_1 + \beta_2 RCA_p^B + \beta_3 IS_p^{AB} + \beta_4 ES_p^{AB} + \beta_5 BR_p^A + \beta_6 Speed_p^B + \beta_7 T_p^C + \epsilon_p \quad (3)$$

As the dependent variable is continuous, we estimate this equation using OLS.

5 Data

This paper uses two main datasets. Our database contains very detailed information on four trade agreements, namely the FTAs between the European Union and Mexico, Chile, South Korea and Peru, respectively. The database is constructed at the HS6-level. This is the most detailed level for which we can compare both sides of each agreement, as the tariff lines for a more detailed level are constructed using each country's own custom codes (such as the 8-digit Common Nomenclature (CN) for the EU or the 10-digit Harmonised Tariff Schedule of Korea (HSK)). Moreover, on this level, it is possible to match all trade agreement data with matching international trade statistics.

Data on the negotiated tariff liberalization schedules come straight from the trade agreements themselves, and have been coded by Adriaensen and Kerremans (2013). Their paper describes the coding process and their dataset in more detail. While in principal the coding of these agreements is rather straightforward, in practice it is not. Some tariff lines have special clauses or missing values, while for other products there is positive trade between the two countries, but there is no corresponding tariff line.

We encountered 6 coding possibilities: (1) both baserate and staging category are given (2) both baserate and staging category are given, however the staging category includes a clause that prohibits the complete liberalization of the product such as entry price systems, tariff quota, etc. (3) the baserate is zero at the start of the agreement and hence no staging category is necessary (4) it is explicitly stated that the product is excluded from liberalization (5) either the baserate or staging category is missing or (6) the tariff line is not included in the appendix.

In this paper, we classify all products in category (2) as excluded (this in contrast to Damuri (2012) for example, who decide to only code tariff lines as excluded from liberalization if the quota for the good in question is less than 50% of its bilateral imports). Moreover, the coding of categories (1) and (3) is very straightforward. However, the coding of categories (5) and (6) is difficult as the meaning of and the motivation for the missing data is not clear.

Our dataset consists of 77 931 original tariff lines. When collapsing this data to the HS6-digit level, we keep 40 787 observations.

Data on trade flows comes from COMTRADE.

6 Results

6.1 Templates

Table 3 presents descriptive statistics on the use of templates by the EU. Using the original tariff lines, as they occur in the FTAs, we can count the number of tariff lines that belong to the same staging category in all agreements. We distinguish between products that are excluded from liberalization, phased-in gradually or liberalized immediately.

Looking at the last 4 columns of table 3, we see that the number of products that belong to the same staging category for all agreements is very low: of all products that get liberalized immediately, only 33 products are the same across all agreements. For exclusions, this is only 2, while none of the products that are phased-in are identical across all agreements.

When we compare between Mexico and Chile, and South Korea and Peru respectively, the picture changes dramatically. 71% of all products that get phased-in in the Mexico FTA, also get phased-in in the Chile FTA, while 84% of all excluded tariff lines, is excluded in both agreements. This is only 5% for immediately liberalized products, though there is some variation over the sectors, with 31% of base metal tariff lines being liberalized immediately over both agreements.

Comparing South Korea and Peru, we see a similar picture for exceptions: 91% of all tariff lines that are excluded from liberalization in the South Korea FTA, also gets excluded in the Peru FTA. However, this corresponds to 50 tariff lines only. For immediately liberalized products and products that get phased-in, we see the opposite: no product that is phased-in is the same for both agreements, while almost all tariff lines that are liberalized immediately (93%) are liberalized immediately in both agreements.

Table 3: Indication of use of "templates": number of tariff lines (CN8-level) that belong to the same category for EU imports from Mexico and Chile, from South-Korea, Colombia and Peru, and from Mexico, Chile, South Korea and Peru, respectively.

	MEX and CHL						**KOR and PER**						**ALL**			
Sector	**Immediate**		**Phased-In**		**Exception**		**Immediate**		**Phased-In**		**Exception**		**Imm.**	**Phased**	**Exc.**	**ADF**
1	6	17%	228	82%	143	80%	208	51%	0	0%	0	-	3	0	0	60
2	13	18%	86	61%	33	73%	286	95%	0	0%	49	91%	12	0	1	71
3	0	-	54	78%	2	100%	100	99%	0	-	0	-	0	0	0	15
4	1	17%	224	68%	200	89%	509	84%	0	0%	1	100%	1	0	1	44
5	0	-	0	-	0	-	85	100%	0	-	0	-	0	0	0	135
6	0	0%	220	80%	1	100%	899	99%	0	-	0	-	0	0	0	266
7	0	0%	58	73%	0	-	258	100%	0	-	0	-	0	0	0	60
8	0	0%	6	38%	0	-	98	100%	0	-	0	-	0	0	0	16
9	0	0%	17	89%	0	-	85	100%	0	-	0	-	0	0	0	45
10	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0	142
11	30	91%	33	100%	0	-	1139	100%	0	-	0	-	17	0	0	35
12	0	0%	0	0%	0	-	108	100%	0	-	0	-	0	0	0	2
13	0	-	58	95%	0	-	217	100%	0	-	0	-	0	0	0	34
14	0	-	0	-	0	-	15	100%	0	-	0	-	0	0	0	40
15	4	31%	129	76%	0	-	474	99%	0	0%	0	-	0	0	0	170
16	0	0%	59	87%	0	-	1127	100%	0	-	0	-	0	0	0	167
17	0	-	59	75%	0	-	205	100%	0	-	0	-	0	0	0	28
18	0	-	10	40%	0	-	248	100%	0	-	0	-	0	0	0	60
20	0	-	13	62%	0	-	161	100%	0	-	0	-	0	0	0	40
21	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0	7
All	54	5%	1254	71%	379	84%	6222	93%	0	0%	50	91%	33	0	2	1437

This is clear evidence that the EU imposes a "template" FTA on partner countries, that they can tweak only to a certain extent. There is however a trend break, with the EU-Mexico FTA being a precedent for the EU-Chile FTA, but not for later FTAs. The first new-generation South-Korea FTA serves as a template for the Peru FTA, but does not have much in common with earlier agreements.

6.2 Producer preferences

Results are presented in table 5 and 6 in Appendix.

First of all, note that the dummy for agriculture is significant in a majority of cases. This indicates that agricultural products behave differently than industrial products.

Moreover, the baserate is always positive and statistically significant. This is as we expected: industries who already managed to get protection will try to get it extended.

We now have a look at the EU-Peru FTA. Results are the most clear for the probability of exception of a product for the EU: we see a positive correlation between the probability of exclusion and the RCA as well as the import share, meaning that there is a higher probability for a product to be excluded if the partner country is a strong exporter and the domestic market fears import competition. This fits very well with the Grossman & Helpman story and confirms earlier findings of Gawande et al. (2005) and Damuri (2012).

Moreover, we find a negative correlation between the probability of exclusion and domestic export share. This suggests that industries that export a lot to the partner country, not only want better market access abroad, but also put pressure on the domestic market to liberalize, as this will increase chances of liberalization of the market of the partner country.

We find somewhat similar results for the probability of goods to be phased-in for the EU: we find again a strong negative correlation between the aforementioned dependent variable and export share. However, RCA and IS are not statistically significant.

Looking at the Peruvian side of the picture, we see that RCA, IS and ES are not statistically significant for the probability of exclusion of a product. This could indicate that the link between domestic producer preferences and tariff negotiation outcomes is not very strong for Peru.

Looking at the EU-Chile FTA, we now find a strong positive link between the RCA and the probability of exclusion for imports into Chile, but not into the EU. RCA is not significant for the rest of the cases, neither are import shares. The link between producer preferences and trade negotiation outcomes is in general not very strong for this older type of FTAs.

Results for equation 2 are not statistically significant in a majority of cases. Results strongly suggest that the relative position of the industry (better or worse than 5 years before) is not

what matters; what matters is the absolute strength/weakness of the industry.

6.3 Reciprocity

Results for this subsection are presented in table 9 in the appendix. Recall that the dependent variable is speed of liberalization (in number of months before complete liberalization).

We find that there is strong and mutual reciprocity for the EU-Chile and EU-Korea FTA. This is surprising, as scholars in law and political science often state that the EU uses its stronger bargaining position to get extra tariff concessions from partner countries (see for example van den Hoven 2013). Our empirical evidence, however, does not confirm this claim.

For the EU-Mexico and EU-Peru FTA, we do find the expected pattern: the coefficient for the partner phase-out period is positive and statistically significant for Mexico/Peru, while it is negligible for the EU.

We also find again a positive link between the baserate and protection: products with a higher initial baserate will also have a longer phase-out period.

6.4 Robustness checks

As a sensitivity analysis, we repeat the analysis performed in section 6.2, but exclude the observations with the 1% highest baserates. A minority of products has very high initial customs duties. This potentially biases our results. Comparing both analyses, we see that the results are very similar. Results are available upon request to the authors.

7 Conclusion

In this paper, we went beyond the view of trade agreements as a binary choice: a pair of countries either has a trade agreement or not. Policy makers have a lot of options to tailor a trade agreement to their exact needs and wishes.

In this paper, we have looked at multiple variables that influence the exact outcomes of these trade negotiations. We did this on the detailed HS6-digit level using a very rich dataset containing all tariff lines of 4 recent EU trade agreements - the FTA between the EU and Mexico, Chile, South Korea and Peru, respectively.

We contributed to the literature in two main ways. First of all, we empirically tested the "hunch" of scholars in law and political science that the EU uses its dominance in bilateral trade negotiations by presenting partner countries with FTA templates and giving them little negotiating leeway. Instead of using anecdotal evidence for a couple of products, we analyzed

the tariff and staging category patterns of all tariff lines of four important EU FTAs. We found that the EU indeed applies a template across partner countries. However, this template changes over time: new-generation FTAs such as the EU-Korea and EU-Peru FTA are indeed quite similar, but they are rather different from the older EU-Mexico and EU-Chile FTA.

Moreover, we presented evidence on reciprocity in trade negotiations. We found that there are differences in bargaining strength between the EU and Mexico and Peru respectively, as shorter phase-out periods for EU imports are related to shorter phase-out periods for Mexico and Peru, but not vice versa. Surprisingly, we found a pattern of mutual influence or reciprocity for Chile and South Korea.

Finally, we looked at the influence of the national level on the outcomes of the international tariff negotiations. Guided by the Grossman & Helpman framework, we looked at the influence of domestic producer preferences on staging categories. We found that domestic preferences for protection matter strongly for the probability of a product to be excluded from liberalization, but not for the probability of products to be liberalized immediately.

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9 Appendix

Table 4: HS6 sections.

Section	Content
1	Live animals and animal products
2	Vegetable products
3	Animal or vegetable fats, oils and waxes
4	Prepared food, drinks and tobacco
5	Mineral products
6	Chemical industries products
7	Plastic and rubber products
8	Skins, leather and bags
9	Wood, cork and straw articles
10	Wood and paper pulp
11	Textiles
12	Footwear and accessories
13	Articles of stone, cement, glass and ceramic
14	Coins, precious metals and stones
15	Base metals
16	Machinery and appliances
17	Transport equipment
18	Optical and medical appliances
19	Arms and ammunition
20	Miscellaneous manufactured items
21	Art and antiques

Table 5: Regression using a fractional multinomial response model based on equation 1.

	EU-Chile		**EU-Peru**	
	(1)	(2)	(3)	(3)
	CHL	EU	PER	EU
Immediate				
RCA	-0.05	0.04	-0.07	0.11
	(0.385)	(0.054)	(0.798)	(0.070)
IS	5.97	-5029.47	420.95**	25.20
	(8.312)	(3744.846)	(181.514)	(173.514)
ES			-376.56	-390.74***
			(249.060)	(133.696)
BR	17.87***	3.54***	1.51***	1.69***
	(0.522)	(0.604)	(0.067)	(0.178)
Agriculture	14.87***	-7.12*	-1.78**	0.20
	(1.239)	(4.033)	(0.706)	(0.615)
Constant	-91.81***	-5.85***	-9.35***	-1.83***
	(2.529)	(1.199)	(0.888)	(0.237)
Phased-in				
RCA	0.12	0.02	0.58	-0.24
	(0.554)	(0.064)	(0.688)	(0.730)
IS	2.23	-1442.15	-402.28*	-84182.09
	(16.430)	(1411.129)	(232.149)	(54621.822)
ES			-156.22	-2101.40**
			(227.588)	(839.380)
BR	26.44***	3.13***	1.15***	1.43***
	(1.488)	(0.445)	(0.055)	(0.206)
Agriculture	15.72***	-1.43**	-1.15**	1.53
	(1.147)	(0.683)	(0.519)	(1.354)
Constant	-146.21***	-4.28***	-5.87***	-5.05***
	(8.846)	(0.304)	(0.699)	(1.129)
Exception				
RCA	1.13**	-0.11	-1.36	0.41***
	(0.525)	(0.167)	(1.722)	(0.152)
IS	-65.62	-393.01	-10763.36	533.54*
	(140.733)	(1398.041)	(6691.285)	(284.608)
ES			101.07	-3987.59**
			(299.530)	(2007.595)
BR	20.63***	2.94***	0.90***	1.64***
	(1.941)	(0.455)	(0.112)	(0.198)
Agriculture	15.88	6.88**	2.69**	5.00***
	(.)	(3.190)	(1.372)	(1.235)
Constant	-116.78***	-12.25***	-6.68***	-8.49***
	(10.945)	(2.601)	(1.704)	(1.167)
Observations	1050	3400	634	634

Standard errors in parentheses. * p<0.1, ** p<0.05 and *** p<0.01.
We cannot estimate coefficients for the Mexico and South Korea FTA due to convergence issues.

Table 6: Regression using a fractional multinomial response model based on equation 2.

	EU-Peru	
	(1)	(2)
	PER	EU
Immediate		
dRCA	-0.40	1.62**
	(0.672)	(0.639)
dIMP	-0.00***	0.06
	(0.000)	(0.051)
BR	1.44***	0.00
	(0.142)	(0.000)
Agriculture	-0.77	2.24***
	(1.296)	(0.569)
Constant	-8.53***	-2.58***
	(1.093)	(0.402)
Phased-in		
dRCA	0.02	0.20**
	(0.354)	(0.088)
dIMP	-0.00	-0.00
	(0.000)	(0.000)
BR	1.16***	2.19***
	(0.084)	(0.580)
Agriculture	0.08	5.50***
	(1.306)	(1.257)
Constant	-5.32***	-9.28***
	(0.492)	(0.823)
Exception		
dRCA	0.23	0.07
	(1.121)	(0.173)
dIMP	0.00	0.00
	(0.000)	(0.000)
BR	1.11***	2.08***
	(0.227)	(0.554)
Agriculture	3.91***	6.35***
	(1.490)	(1.385)
Constant	-9.90***	-7.93***
	(2.644)	(1.073)
Observations	2797	2797

Clustered standard errors in parentheses. * p<0.1, ** p<0.05 and *** p<0.01.

Table 7: Reciprocity of phase-out periods. Dependent variable: Phase-out (in months) for imports from i to j.

	EU to MEX			MEX to EU		
Baserate	1.89***	1.61***	1.53***	2.75***	2.26***	2.20***
	(0.034)	(0.031)	(0.032)	(0.025)	(0.030)	(0.031)
Phaseoutji	-0.11***	0.07***	0.07***	-0.06***	-0.02***	-0.02***
	(0.007)	(0.009)	(0.010)	(0.003)	(0.003)	(0.003)
GrubelLoyd			6.07***			0.01
			(0.622)			(0.320)
	EU to CHL			CHL to EU		
Baserate	1.72***	1.69***	1.43***	3.70***	2.49***	2.19***
	(0.073)	(0.072)	(0.072)	(0.063)	(0.036)	(0.037)
Phaseoutji	0.11***	0.11***	0.11***	0.39***	0.11***	0.13***
	(0.004)	(0.007)	(0.007)	(0.017)	(0.009)	(0.010)
GrubelLoyd			-1.93***			-0.11
			(0.713)			(0.762)
	EU to KOR			KOR to EU		
Baserate	0.43***	0.34***	0.33***	0.74***	0.91***	0.89***
	(0.009)	(0.007)	(0.007)	(0.019)	(0.023)	(0.023)
Phaseoutji	0.76***	0.30***	0.31***	0.09***	0.04***	0.04***
	(0.022)	(0.020)	(0.019)	(0.003)	(0.003)	(0.003)
GrubelLoyd			1.19**			-0.81***
			(0.468)			(0.225)
	EU to PER			PER to EU		
Baserate	1.43***	1.43***	1.45***	0.11***	0.09***	0.13***
	(0.125)	(0.095)	(0.105)	(0.012)	(0.015)	(0.018)
Phaseoutji	0.71***	0.79***	0.56***	0.00***	-0.00	-0.00
	(0.113)	(0.085)	(0.187)	(0.001)	(0.001)	(0.002)
GrubelLoyd			2.08			0.02
			(2.964)			(0.273)
Sector FE	No	Yes	Yes	No	Yes	Yes
Obs MEX	34217	34217	31483	33540	33540	30990
Adj. R^2	0.087	0.257	0.269	0.267	0.475	0.461
Obs CHL	14675	14675	12491	14448	14448	12288
Adj. R^2	0.095	0.109	0.115	0.232	0.801	0.789
Obs KOR	13014	13014	12626	13927	13927	13459
Adj. R^2	0.228	0.485	0.482	0.214	0.361	0.351
Obs PER	3471	3471	2890	3942	3942	3355
adj. R^2	0.050	0.478	0.486	0.019	0.029	0.034