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1245

Discussion  
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# On the Path to Trade Liberalization

## Political Regimes in International Trade Negotiations

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#### IMPRESSUM

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# On the Path to Trade Liberalization: Political Regimes in International Trade Negotiations

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## **Abstract**

The number of free trade agreements has increased substantially since 1980 despite efforts to promote multilateral trade liberalization. While there is evidence on the determinants of FTA formation, still little is known on the processing of trade agreements, particularly regarding the pre-implementation duration. This paper fills the research gap by using event data on the proposal, the negotiation, the signing, and the implementation of trade agreements. Duration analysis is employed to examine the connection between regime types and the lengths of the negotiation and the ratification stages. The results support the claim that higher levels of democratization and political constraints are associated with delays in the implementation of an agreement. This is primarily observable in the ratification stage. Moreover, I detect significantly prolonged negotiation talks and ratifications if the European Union participates.

**JEL classification:** F13

**Keywords:** Free trade agreements, International cooperation, Duration analysis

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## 1. Introduction

Despite the World Trade Organization's (WTO) effort to promote multilateral trade liberalization, there has been a surge in bilateral and multilateral free trade agreements (FTAs) instead. Consequently, the proliferation of these agreements encouraged the WTO to frame FTAs in terms of *coherence* instead of *co-existence* (WTO, 2011). While we have an idea of what sort of countries eventually enter into trade agreements,<sup>2</sup> there is little known about what determines the duration prior to actual implementation. This is particularly important if the expectations of forward-looking firms (exporters) rely on credible information on the date of tariff removal to initiate investment and exporting operations. Just as in the case of FTA formation, I expect political factors, along with economic factors, to be important for pre-implementation decisions (Mansfield and Milner, 2012). In 2010, when the Nobel Prize was awarded to Liu Xiaobo, China postponed trade talks on the bilateral China-Norway FTA.<sup>3</sup> This is an indication of the sensitivity of trade negotiations to differences in political regimes which forms a central part of this paper.

Durations from the start of the negotiations through implementation differ considerably: ranging from just under one year in the case of the *Pan-Arab Free Trade Area* to over ten years for the bilateral trade initiative between Panama and Chile. Fearon (1998) highlights the importance of strategic interactions between states when they decide whether to cooperate on an agreement. The findings suggest that lower costs of non-cooperation and more diverging expectations in the agreements' design lead to delays in implementation. When it comes to the evaluation of trade initiatives, most research focuses on *ex-post* analyses of the trade creating effects. In this respect, the gravity model has emerged as one of the most valuable tools as it allows for the inclusion of the most relevant explanatory variables and, at the same time, is bolstered by sound theoretical underpinnings.

The literature has so far missed out on the dynamics that go hand in hand with trade policy; specifically, the anticipation of trade liberalization offers an abundance of research questions. Burstein and Melitz (2011) analyze transition dynamics at the firm level in the

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<sup>2</sup> See Baier and Bergstrand (2004); Mansfield et al. (2002); and Martin et al. (2010).

<sup>3</sup> *The Guardian*, 2 December 2010. Available from <http://www.guardian.co.uk/world/2010/dec/02/china-norway-talks-nobel-peace-prize>.

course of trade liberalization by focusing on innovation activities that determine the decision to export and the trade volume prior trade liberalization. In a similar vein, Bergin and Lin (2012) empirically show that trade increments are triggered well ahead of the implementation of the European Monetary Union (EMU). In both papers, the authors refer to firm behavior as the leading driver to a trade increase, mainly triggered by a shift in expectations with respect to future profits in the foreign market. In this context, policy uncertainty is an issue in international economics that deserves more attention as it adds a new perspective to the interaction between the private sector and the policy level. Handley and Limão (2012) contribute to this debate by assessing Portugal's accession to the European Union (EU). Even though trade barriers were lifted well ahead of the formal accession to the EU, trade creating effects only emerged after Portugal officially joined the bloc.<sup>4</sup>

The contribution of this paper lies in the documentation of determinants of the duration of trade negotiations, as well as the ratification stage, with a special focus on driving factors from the political spectrum. The results allow a better evaluation of the announcements of trade initiatives and thereby may help to reduce uncertainty involved in the interaction between firms and policymakers. Using a dataset with time-varying covariates, the determinants of the duration of FTA negotiations are found to be multi-dimensional, and not limited to economic factors. Political aspects, especially the levels of democratization and political constraints, are equally important. Existing literature does not address this dimension.

My findings suggest that bilateral trade agreements reflect significant faster negotiation processes as compared to agreements with more than two countries involved, even though this effect diminishes in the ratification stage – between signature of the agreement and enforcement of the liberalization measures. The same effect on the negotiation process is observed for countries that are more reliant on international trade. Further, countries that are members of the EU mirror significant delays that, as I will argue, may be based on additional provisions during negotiations (e.g. WTO-X) and coordination issues. I find support

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<sup>4</sup> Handley and Limão (2012) interpret this as a sign of revealed uncertainty in the private sector as firms had to take into account a potential policy reversal.

for the claim that political regime types play a major role in determining the implementation process: delays between signature and implementation are more likely if countries have more democratic political systems, even though this effect points in the opposite direction during the negotiation stage. A prolonging influence is observed during ratification for a higher level of political constraints for the executive power within a country, which is consistent with the (scarce) literature on this topic. The implications for policy from this research are manifold: First, if the fast finalization of trade negotiations with a single trading partner is a priority, countries should seek a bilateral agreement instead of a multilateral one. Second, democracy and the respective level of political constraints come at a cost: they are associated with longer ratification periods. Third: negotiation partners should be more patient between any stages of the implementation process if the EU takes part in the prospective FTA, as its participation indicates a lower probability of quickly closing trade deal. This may be due to attached WTO-X provisions in the negotiation stage as well as to the EU coordination process.

The paper is structured as follows: The following section reviews the respective literature on international trade and cooperation, while section three describes potential determinants for longer/shorter negotiation and implementation periods. The data and the econometric specifications are described in sections four and five respectively. Section six presents the results on the duration of the negotiation and ratification processes. Section seven concludes.

## **2. Existing literature**

The objective of this section is to motivate the analysis of the negotiation and ratification durations with the recent work on transition dynamics of FTAs. The results of the majority of papers on the trade creating effects of FTAs lead to the conclusion that trade is triggered by the implementation of an agreement.<sup>5</sup> While the literature on the *ex-post* trade effects of FTAs is exhaustive, there is substantial room for contributions that aim at investigating the accompanying effects of trade agreements. In this section I first give an overview on the discussion about anticipatory trade effects of FTAs. Since firms may only be induced to export prior to the actual lifting of trade barriers, given that the announcement of a common

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<sup>5</sup> Examples include Frankel (1997) and Glick and Rose (2002).

FTA is credible, we want to know what factors can lead firms to expect a slow or fast transition period between announcement and implementation. I then summarize the relevant body of literature that deals with duration analysis in the context of international treaties.

Since Freund and McLaren (1999) pointed out anticipatory effects of trade agreements, the notion of pre-implementation effects has been included in successive analyses. According to their results, trade adjustment led to anticipatory trade effects four years before countries officially joined the EU. Other contributions to the literature seem to affirm the presence of anticipatory trade effects of trade agreements. Results by Magee (2008) show that there is substantial anticipation prior to an agreement's implementation, if controlled for leads in a gravity model analysis. In a similar vein, Mölders and Volz (2011) analyze pre-implementation effects from a different angle by focusing on the consecutive stages of implementation that an FTA runs through. Their results point toward the existence of anticipatory trade effects in the context of East Asian bilateral FTAs during the negotiation stage of an FTA.

Burstein and Melitz (2011) shed light into the transition dynamics of firms during trade liberalization. In their model, exporting decisions are driven by productivity dynamics.<sup>6</sup> Since sunk costs, associated with the exporting decision, generate an option value of waiting, some firms may find it profitable to begin exporting after the announcement of future trade liberalization.<sup>7</sup> Bergin and Lin (2012) make use of a dynamic stochastic general equilibrium model (DSGE) in order to identify pre-implementation trade effects for countries joining the EMU. Similar to Burstein and Melitz (2011), their results are based on the forward-looking behavior of firms reacting to news about future trade liberalization. The fact that the mere announcement of trade liberalization may not suffice to generate anticipatory trade effects can be pinned down to the credibility of such an announcement. Firms will only invest in the new trade opportunity if they expect the sunk costs to flow back in future revenues. Handley

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<sup>6</sup> Burstein and Melitz (2012) point out that innovation activities increase after the announcement of future trade liberalization but prior to *de facto* liberalization. They argue that, as the costs of innovation are a convex function, firms will smooth their innovation activities across multiple periods.

<sup>7</sup> Other first-mover advantages are mentioned in Robinson et al. (1994) (on shaping of consumer tastes) and Bar-Illan and Strange (1996) (on time-to build investments).

and Limão (2012) examines Portugal's accession to the EU. Prior to its formal inclusion into the trade bloc, trade preferences were already at the free-trade level for industrial goods. However, there was a substantial increase in trade flows after the accession was formally concluded. This stresses the importance of formal trade agreements for increasing credibility and exploiting the full scope of the trade potential.

With respect to the impact of regime types on cooperation at the country level, Mansfield et al. (2002) find that states which are classified as being more democratic have a good chance of successfully concluding FTAs. In a similar vein, Mansfield and Milner (2012) re-emphasize this claim with an additional focus on the role of veto players in the pre-implementation period of a trade agreement. When policy makers have to decide on whether to form an FTA, they compare the potential benefits (e.g. better economic performance via free trade) against the costs arising during the negotiation and ratification stages. More democratic countries are more likely to form an agreement, although the associated political constraints increase the costs (decrease the likelihood) of the respective ratification. Mansfield and Milner also analyze empirically the role of the number of veto players on delays during the ratification stage. In accordance to their model and the findings presented here, a greater number of veto players will make it more likely for ratification to be delayed.

The findings by Moser and Rose (2012) mirror the paper presented here in many respects, as the authors investigate the driving factors of the duration between the announcement of negotiations and the signing of the agreement. The authors focus on the economic determinants, thereby excluding potential driving forces from the political dimension. When it comes to the comparability of the results, I also find evidence for shorter durations due to fewer negotiation partners. In particular, bilateral FTAs are implemented significantly faster than multilateral counterparts. The paper by Baccini (forthcoming) focuses on the propensity of country-pairs to cooperate in a trade agreement as well as the length of the respective negotiation period for the case of North-South preferential trade agreements. The role of the level of countries' institutions is at the center of Baccini and these are analyzed with the *World Bank Worldwide Governance Indicators*. His findings suggest that a higher level of institutional quality is associated with shorter negotiation durations, aside from a higher probability of the formation of trade agreements.

Simonelli (2011) investigates the determinants of the duration of the negotiation process of international multilateral agreements; limited to agreements on rules of war, arms control, terrorism, commodities and environment issues. She thereby excludes the sort of agreement that is the focus of my paper.<sup>8</sup> The results show that as the number of countries increases, so does the length of the bargaining process, even though the number of participant countries should be quite large in order to reveal this impact. In contrast, Wong and Yu (2007) focus on the accession duration of potential member countries to the GATT/WTO. In particular, the authors emphasize the role of a country's level of democratization. In accordance with the predictions of Mansfield et al. (2002) with respect to the higher probability of FTA formation, if countries are more democratic, Wong and Yu find a statistically significant effect (shorter accession duration) of the democracy variable. In a similar vein, Davis and Wilf (2011) examine the duration from a country's independence until the application date for the WTO, as well as the respective negotiation time from application until formal membership. The authors confirm a shorter time until application to the WTO if countries are more similar in their levels of democracy.

Similar to the approach taken in section six of the present paper, but with regard to bilateral investment treaties (BITs), Haftel and Thompson (forthcoming) estimate the effect of the level of democracy and the political constraints on the duration of the ratification period between signature of an international agreement and the domestic process until the agreement is implemented. The authors control for various political and legal constraints that may influence the duration and find empirical support for a duration-increasing effect of political constraints of the executive. A greater number of veto players in the ratification process will make the process take longer. Likewise, more democratic governments need more time to implement a signed agreement.

In the following section, I motivate potential determinants that, according to the literature on international cooperation or FTA formation, may affect the length of trade negotiations.

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<sup>8</sup> The data on agreements that Simonelli (2011) includes in her analysis range from 1864 through 2004. Only agreements that were actually signed are included in her analysis.

### 3. Theoretical considerations

The main objective of this paper is to uncover the potential driving factors behind the duration of an FTA's *road to implementation*, with special emphasis on the levels of democracy and political constraints. The bargaining model by Fearon (1998) presents a good intuition for what determines the duration of the bargaining process in multilateral agreements. Assuming complete information for all players, his model suggests that countries have the choice between two alternate agreements  $(x, y)$ , which have a non-zero difference in present value:  $|(x - y)/r| > 0$ .<sup>9</sup> Country one favors implementation of  $x$  whereas country two favors  $y$ . The larger the difference in present value, the longer the duration before an agreement over either  $x$  or  $y$  is reached. Intuitively, this results from the opposing views concerning cooperation in a common agreement. In the case presented here, this could be translated into a scenario where one country favors liberalization in agricultural products, while the other lobbies for an exemption clause in this sector. In addition to potentially opposing starting points, both countries have opportunity costs (costs of non-cooperation) that are denoted by  $c_1$  and  $c_2$ . These costs represent any non-generated income due to failed negotiations. Following Fearon, the lower the costs of non-cooperation for either country, the less likely any respective country is to abide by a non-favorable cooperation agreement. In a nutshell, the time until implementation increases for a higher *distance between the countries' tastes* for the alternate agreements of the participant countries and for lower cost of non-cooperation. For both types of variables, I find respective covariates, of political and economic nature.

Given that the present paper focuses on both the negotiation and ratification stages, it should be noted that I cannot expect the same determinants to exhibit the same influence on the respective durations. In the negotiation process, the policy interaction and opposing interest groups at the (between-) country level are central, whereas in the ratification stage, political constraints within each country gain influence. Even though between-country differences in the expected design of a future FTA are shaped by interests within each country, the decision-making process is expected to shift from the between- toward the within- country case if I move from negotiation to ratification (Mansfield and Milner, 2012: 57).

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<sup>9</sup>  $r$  denotes the discount rate.

In the following I give an overview on what factors may determine the duration of the negotiations and the time until successful implementation of trade agreements, given empirical and anecdotal evidence in the literature. The respective data sources for the following determinants can be found in the subsequent section.

### **Political determinants**

In the literature, there is an abundance of papers on the effect of trade liberalization (e.g. via FTAs) on the bilateral trade volume. However it is only newer research that focuses on the stages prior to the implementation of such agreements. For example, Mansfield and Milner (2012) provide a thorough overview on the effect of political constraints and regimes on FTA formation. Even though they also focus on potential delays in the ratification stage due to an increase in the number of veto players, there is not yet an empirical analysis on both pre-implementation periods: negotiation and ratification. The democratization level and the associated political constraints also potentially influence the duration process; I cannot expect that only economic factors are responsible for determining the amount of time that each stage takes. In the following, I introduce the two variables that are central for analyzing the role of political regimes in international trade cooperation.

*Level of democracy:* The more democratic a country, the more probable it is that it will form an FTA. Mansfield et al. (2002) provide evidence for this claim: democracies are *per se* more likely to form trade agreements.<sup>10</sup> In contrast, autocracies are less likely to cooperate with countries of the opposing regime type. As an example that links the type of government with the process of cooperation, let us consider the trade agreements that involve the EU or the United States vis-à-vis developing countries. The EU, for example, demands considerable policy reforms in terms of human rights before negotiations can proceed to implementation.<sup>11</sup> The United States, which has concluded a number of trade agreements,

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<sup>10</sup> Lipson (2003) links democracies to the level of transparency and concludes that democracies generally provide more information and keep the policy process more open than other regime types. This comes at the cost of slower policy making. Hollyer et al. (2011) find supportive evidence for the claim that democracies are more transparent.

<sup>11</sup> As an example, consider the *Cotonou Agreement* (the successor of the *Lomé Convention*) that demands respect for human rights from its member states (UNCTAD, 2003). Trade agreements between the EU and developing countries further carry expectations regarding development policy and its impact (Makhan, 2010).

also includes these kinds of provisions.<sup>12</sup> The inclusion of governance clearly adds a new dimension to the negotiation process that has the potential to increase the complexity and, hence, the time until implementation. In accordance with both Haftel and Thompson (forthcoming) and Wong and Yu (2007), I control for the country-pair's level of democratization, as well as the difference thereof.<sup>13</sup>

*Level of political constraints:* Following the argumentation by Haftel and Thompson (forthcoming) and Mansfield and Milner (2012), I include the level of political constraints in the empirical analysis. Both works state that the more veto players that are involved, the longer ratification decisions take in the respective country and the less the executive can affect the implementation date. While Haftel and Thompsons' paper focuses on BITs, the intuition for controlling for this effect should also be self-evident in the context of FTAs. Mansfield and Milner (2012) find evidence for a delaying effect of the number of veto players in the ratification stage of FTAs. In principal, trade negotiators could adjust their positions during the negotiation stage such that they are more likely to gain support at home in order to ratify the trade agreement more easily. But, as Mansfield and Milner (2012) argue, such an approach is more likely to result in even more entrenched positions during the trade talks.

Based on this argumentation in favor of controlling for political variables in the empirical analysis, I derive the following hypotheses:

**Hypothesis 1:** *The greater the difference in the level of democratization of the countries involved, the longer it takes to reach an agreement. At the same time, more democratic economies should reflect shorter negotiation periods.*

**Hypothesis 2:** *The greater the political constraints, the longer the ratification period will last due to the higher number of veto players involved.*

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<sup>12</sup> See Hafner-Burton (2009).

<sup>13</sup> Another channel through which democracy may influence the implementation process of trade agreements is driven by electoral motives. Conconi et al. (2012) show that as elections come closer, legislators in the US tend to vote more protectionist.

Besides these hypotheses, which reflect the main research question of this paper, other determinants have the potential to drive both negotiation and ratification processes. In the following, I derive additional variables from the literature that are included in the empirical part of this paper.

*FTA activity:* Given that countries do not negotiate all of their trade agreements at the same point in time, the level of *experience* in FTA negotiations or the capacity for negotiating on trade issues with other countries, can be best approximated with the number of agreements in force for any given period. It may be expected that countries with more implemented FTAs have better capacities for trade negotiations and the respective ratifications, thus reflecting fewer delays.

*Bilateral vs. multilateral agreements:* Simonelli (2011) focuses on the number of negotiation partners at the bargaining table. Accordingly, as the number of states increases, so does the complexity involved in the process, e.g. due to the increasing number of items to negotiate over.<sup>14</sup> A distinction between bilateral and multilateral trade agreements is a variable that stratifies the sample. We may expect that bilateral trade agreements are concluded more quickly.

*WTO membership:* Becoming a member of the WTO signals to investors and foreign policy makers that the regulatory framework (and government intervention) is, in parts, bound by the WTO guidelines and it offers the opportunity to lock-in reforms aimed at liberalization. Think of the most-favored-nation (MFN) clause that requires member countries to harmonize external tariffs. Membership further gives positive signals in terms of an open trade policy regime to investors in terms of credibility of policy reforms.<sup>15</sup> With respect to the duration of FTA negotiations, membership in the WTO may have an ambiguous effect. On the one hand, it may lower the duration as it demonstrates experience in multilateral trade negotiations. On the other hand, the costs of non-cooperation supposedly decrease if membership in the WTO is the alternative to a failure in FTA negotiation/ratification.<sup>16</sup> This would point toward longer durations. Furthermore, being a member of the WTO already

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<sup>14</sup> See also Sebenius (1983).

<sup>15</sup> See Hoekman and Roy (2000) and Francois (1997).

<sup>16</sup> See Mansfield and Milner (2012: 4; 89).

demands significant steps toward trade liberalization. An additional reduction of trade barriers is, consequentially then more difficult to negotiate over.

*EU membership:* In addition to the factors outlined so far, I include a dummy variable in the regression analysis for membership of the EU in the negotiation and ratification processes. This is due to its special role in the multilateral trading system, which includes the coordination of additional trade initiatives at the multilateral level with all EU member countries, as well as WTO-X provisions to be discussed in the negotiation stage, which may prolong the process.<sup>17</sup>

### **Economic determinants**

The decision of countries to form an FTA may also reveal information on the pace of implementation. This assumption is guided by the studies of Baier and Bergstrand (2004) as well as Magee (2003) on the determinants of the formation of trade agreements. Although limited to economic determinants, the model by Baier and Bergstrand is proven to predict the majority of existing trade initiatives via country-pair characteristics (83.04 percent were correctly predicted by their model). When it comes to the employed method in their analysis, it is noteworthy that the authors rely on a dyadic dataset in order to derive their predictions. They treat the decision to enter an FTA as bilateral rather than multilateral by arguing that any country in a multilateral agreement has the power to veto, based on bilateral characteristics, which is analogous to the method I present in sections five and six.

*Level of average trade barriers:* The actual level of trade barriers (measured as the average tariff level), that country A imposes on imports from country B, is a proxy for the level of trade restrictions between both economies. FTAs aim at removing tariff and other barriers, and we may expect that negotiations for such liberalization measures last longer if the initial tariff level is high. Conversely, if the implementation date is also taken into account, a

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<sup>17</sup> See Horn et al. (2009: vi) who, with respect to trade negotiations, state that “[...] European PTAs are marred by considerable legal inflation. They ambitiously cover a wide range of topics, going much beyond the multilateral commitments entered into by the partners within the framework of the World Trade Organisation, but they are mostly unenforceable – if not entirely devoid of substance. The Union, in other words, seems to be using trade agreements to promote its views on how countries of the world should be run, and it is able to enlist its trade partners to do this, albeit in a noncommittal or semi-committal way.”

duration-decreasing relationship with respect to higher tariff barriers may be interpreted as effective, but long-lasting negotiations, that lead to lower tariffs by the agreements' implementation date. In the 2007 World Trade Report (WTO, 2007: xxvi), it is stated that "[...] lengthy negotiations may be a sign of the system at work – not at fault."

*Level of trade openness:* The level of trade openness (measured as the ratio of exports in a country's GDP) of a country reveals its dependence on the international exchange of goods. With reference to the costs of non-cooperation, as mentioned in Fearon (1998), any period foregone without trade liberalization refers to potential losses in firm revenue or any other benefit generated via an FTA. Countries with a higher exports-to-GDP ratio are, consequently, more likely to proceed more quickly through the implementation process. Therefore, the expected effect in the duration analysis is negative.<sup>18</sup> On the other hand, FTAs are a long-term commitment. Therefore, investment and potential delay in the negotiation process should be taken into account as the costs of hasty compliance increase the longer the tariff concessions will remain in force.

*Level of economic development:* Trade theory based on the Heckscher-Ohlin (H-O) model tells us that countries specialize in goods, depending on the respective factor endowment (commonly capital and labor). Baier and Bergstrand (2004) employ the capital-labor ratio to estimate its effect on the probability of FTA formation. Their findings suggest that the higher the difference in the relative factor endowment, the more likely the formation of common trade agreement. The difference in per capita income levels is used as an indicator of the respective levels of economic development which approximates relative factor endowment.<sup>19</sup> Negotiation durations may differ for country-pairs at different levels of economic development as they negotiate over a different set of trade restrictions customized to their respective trade basket. Additionally, the product of the country-pairs'

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<sup>18</sup> Mansfield and Milner (2012) find that the level of trade openness is positively related to the probability of FTA formation.

<sup>19</sup> The relationship between the per-capita income level and the capital-labor ratio can be derived from the per-capita production function  $y = Ak^\alpha$ .

level of economic development will be controlled for, in order to capture available capacities for trade negotiations.<sup>20</sup>

### **Cultural and Geographic determinants**

Other variables that potentially interact with the countries' ability to smoothly cooperate and negotiate can be found in the cultural and geographic dimension. Common cultural peculiarities or customs may point toward a common history that, in most cases, involves routine in negotiation between both states.

*Common language:* This argumentation is akin to the motivation of the *language* variable in gravity estimations. Frankel (1997) argues that speaking a common language reduces the costs of doing business with the foreign country. Higher costs of doing business, due to a language barrier, imply higher costs for trade negotiations. We can expect the respective variable to have a negative effect on the duration (decrease the time until implementation).

*Common border:* In order to further control for standard gravity variables, I include a dummy that indicates contiguity. In gravity estimates, this variable has a positive effect on the bilateral trade volume due to lower transport costs. In the context presented here, I expect the contiguity variable to have a negative (shortening) effect as the frequency of political and economic interactions increases with countries that share a common border. Nevertheless, in some instances contiguity may indicate a higher probability of conflict, which would correlate with troubled interactions at the policy level and hence lengthen the duration until successful implementation.<sup>21</sup>

*Bilateral distance:* Similar to the dummy variable on contiguity, bilateral distances are included to refer to the geographical proximity among a country-pair. The predictions with respect to the effect on the negotiation and ratification are therefore ambiguous as well.

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<sup>20</sup> Anecdotal evidence for the relevance of capacity in trade negotiations for the successful conclusion of FTAs is provided by the example of the Canada-CARICOM negotiations. Canada provided 2.5 Million CAN dollars to the Caribbean Regional Negotiating Machinery in order "[...] to strengthen its work in researching, consulting, preparing and negotiating the Caribbean's external trade agreements." *BBC Worldwide Monitoring*, 8 April 2008.

<sup>21</sup> See Vasquez (1995).

## 4. Data

### Dependent variable

The information on announcements for the respective FTAs was obtained from a variety of sources, including the online representations of the WTO, and the European Commission or the *Asian Regional Integration Center* (ADB, 2012). In other cases (e.g. the United States – Singapore agreement), official documents, such as the text of the agreement’s treaty, are reliable sources. Further, the *LexisNexis* database is a major source for newspaper articles and press releases. The events that are of most interest include the *first mentioning* (by an official of any participating state in the FTA) *of a forthcoming trade initiative* (first official proposal), the *start of the negotiations*, the *end of negotiation talks*, the *signing of the agreement* and the *implementation of the FTA*. As a matter of fact, most data is available for either the signing or the implementation of the agreement because the treaty (signing) and the actual lift of tariff barriers are well documented. In some cases, information on the exact date of an announcement or event could only be obtained by assessing contradictory sources. In these cases I opted for the earliest announcement in order to account for the fact that the first news article was potentially correct and that the other press releases were following up on it.<sup>22</sup> Given the lack of information on some of the FTAs, as well as missing data for some of the explanatory variables, I can work with a maximum of 132 durations in the regression analysis, based on the days passed from the beginning of the trade negotiations until the agreements’ implementation.<sup>23</sup> In addition to the enforced trade agreements, data on “early announcements” of FTAs have been used to complement the dataset. These agreements are either in the negotiation or the ratification stage and still await signature or implementation.<sup>24</sup>

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<sup>22</sup> Consider the example of the *Global System of Trade Preferences among Developing Countries* (GSTP), a multilateral initiative among nine developing countries. On August 28, 1977, a news article published a statement on the decision to establish a trade agreement in the future. On July 31<sup>st</sup> 1982, a proposal was made to begin negotiation talks among the potential member countries. As the first mentioning of a future agreement was made in 1977, I set this date to represent the proposal of the GSTP.

<sup>23</sup> Note that this also includes FTAs that have not yet been implemented or signed but are still under negotiation or ratification phases. See Table A2 in the Appendix for a list of all FTAs for which dates are available.

<sup>24</sup> In total, I collected dates for 225 trade agreements, of which 35 are “early announcements” that await either finalization of negotiations, signature or implementation.

## Explanatory variables

GDP data (in current US-Dollars) were extracted from the World Bank *World Development Indicators* (World Bank, 2012), as well as data on respective population levels. Trade data (e.g. for the trade openness measure) were obtained from the *World Integrated Trade Solution Database* (WITS, 2012). The data on bilateral import tariffs between any two economies was found in the UNCTAD TRAINS database (UNCTAD, 2012). This variable is defined as the average level of import tariffs on total imports.<sup>25</sup> In order to incorporate the nature of the democracy level in the analysis, I included data from the *Polity IV* project (Marshall and Jaggers, 2012). The project's *polity2* variable reflects information on a country's democracy level (or autocracy level respectively). It ranges from -10 (autocracy) to +10 (democracy). Any number in between reflects democratic deficiencies.<sup>26</sup> For the level of political constraints within a country, I make use of the *POLCONIII* index by Henisz (2010). Data on the membership in the WTO was obtained from the WTO website.<sup>27</sup> The level of experience in implementing FTAs is measured as the number of implemented trade agreements in any given period. To control for geographic and historic characteristics, information on distance, contiguity and common languages are included. These variables take into account geographic and cultural proximity and were sourced from CEPII (2012).<sup>28</sup>

Note that there is reason for careful treatment of the level of democratization and the political constraints in the empirical analysis, as both measures are correlated. The *polity2* index is partially constructed using the level of constraints at the executive level. In order to take this interaction into account in the empirical section, I estimate the respective models for each of the two variables separately and jointly.

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<sup>25</sup> Calculated as:  $((\text{tariffs on imports from B to A}) + (\text{tariffs on imports from A to B})) / 2$ . Tariffs refer to the simple average of effectively applied import tariffs on total imports.

<sup>26</sup> A variable that denotes the level of checks and balances is included in ancillary regressions as robustness check (see Beck et al., 2001). As this did not contribute to the findings, the respective results are not included here, but are available from the author upon request.

<sup>27</sup> [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/org6\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm)

<sup>28</sup> According to CEPII, bilateral distance is calculated following the great circle formula, based on the most populous agglomerations of the respective countries.

## Stylized facts

The 123 enacted trade agreements studied here took between 316 and 4,144 days from the start of negotiation through implementation, averaging 3.58 years (1,310 days).<sup>29</sup> The majority of FTAs are bilateral (66 out of 123), meaning that the initiative is limited to two countries. Any agreement that involves more than two countries is considered to be multilateral (57 FTAs). If the durations are differentiated according to the nature of the FTA, in terms of being bilateral or multilateral, we observe a considerable difference: negotiations of bilateral trade agreements took on average 1,188 days until successful implementation compared to 1,452 days for multilateral initiatives. This comparison does not yet allow for any conclusions but hints at what might drive the differences in durations. However, the significance of the respective mean differences also indicates that multilateral agreements reveal a more delays.

[Table 1 about here]

Alternative durations are also taken into account in the regression analysis. Table 1 depicts average amount of time between alternative events. Based on information about 108 FTAs, the time of the negotiation process amounts to an average of 748 days, which is considerably shorter than the aforementioned 1,310 days, in which the time until the implementation is additionally considered.

Interestingly, once the agreement is signed by the trading partners, it takes an additional 517 days to finally implement the provisions- which I refer to as the ratification stage. The least data is available for the event "Proposed", which denotes the first mentioning of a forthcoming trade agreement by an official of any participating country. From the 107 available events, we observe an average of 1,936 days (which translated into more than five years) for the time from the initial proposal until the agreement comes into force. Wherever possible, information about the number of negotiation rounds is included. These rounds reflect meetings by officials in order to discuss provisions for the FTA. On average it took just over seven rounds to finalize the negotiation processes, even though this number is subject

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<sup>29</sup> The minimum and maximum refer to the multilateral *Pan-Arab Free Trade Area* and the bilateral *Panama-Chile FTA*, respectively.

to considerable variation: the ASEAN-Australia-New Zealand FTA e.g. took 16 rounds (and 1,276 days) compared to the negotiations between the EFTA and Serbia (two rounds and 45 days).<sup>30</sup>

The proliferation of trade agreements began to gain momentum around 2000, when multilateral trade negotiations were at a stalemate.<sup>31</sup> Figure 1 describes the frequency of negotiations for FTAs that started in any given year, compared to the respective frequency of FTA implementations. Before the breakdown of WTO trade negotiations in 1999 in Seattle, we observe a noticeable number of negotiations that started during the 1990s. Between 1991 and 2010, 117 out of the 123 FTAs, which are included in my dataset, started their negotiation processes. The bars that indicate implementation follow at a mean distance of 1,079 days.

[Figure 1 about here]

Another interesting observation is derived from the comparison of the time period in which the negotiations of the FTAs started. In order to do so, the 123 agreements (time between start of the negotiations until implementation) are split into roughly two equally-sized groups according to the starting year of the negotiations. From 1991 through 2003, there were 61 events that reported such announcements, while between 2003 and 2010 there were 62 for agreements announced. The differences in the respective durations are sizeable: before 2003, negotiation durations averaged 1,508 days, whereas after it took 1,116 days, more than a year faster, for the potential free-trade partners to reach an agreement.

## 5. Empirics

This section motivates the econometric specification for the duration analysis. Central to this analysis is the *survivor function*,  $S(t)$ , which describes the probability of “survival” beyond period  $t$ . “Survival” in the context presented here refers to either not concluding the

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<sup>30</sup> These two extremes potentially overstate the relation between the number of rounds and duration of the negotiation stage, as the pairwise correlation only amounts to 0.38.

<sup>31</sup> Several other motives may have contributed to the understanding of the growth in bilateral and multilateral FTAs. Baldwin’s (1993) domino theory, for example, shows how the costs of non-participation in an FTA increase the more that trading partners form common agreements.

negotiation or not ratifying the FTA. The mirror image of the *survivor function*,  $F(t)$ , describes the cumulative probability that negotiations or ratifications have been concluded prior to period  $t$ . It follows that:

$$S(t) = 1 - F(t) = P(T > t)$$

Figure 2 depicts the *survival graph* for the trade initiatives with the example of duration between the start of negotiations and implementation. It describes the probability ( $y$ -axis) of an FTA's process duration to be longer than  $t$  days (on the  $x$ -axis). In this figure, the data used are not censored because the start date always refers to the announcement of the start of negotiations and end with the implementation of the respective FTA.

[Figure 2 about here]

A number of econometric specifications are available for the analysis of duration data. The popular semi-parametric Cox proportional hazards (PH) model does not specify any distribution for the conditional hazard rate (conditional probability of *exit*), in contrast to the parametric specifications that I focus on later.<sup>32</sup> The model being unconstrained from any distributional form is its biggest advantage because it is sometimes cumbersome to determine whether the hazard is constant (in which case an exponential distribution is implied) or monotonically increasing or decreasing, which would demand the Weibull distribution. The Cox model implies the PH assumption:

$$\frac{h(t|x(t)_i)}{h(t|x(t)_j)} = \frac{\exp(x(t)_i\beta_x)}{\exp(x(t)_j\beta_x)}$$

In general, this formula states that the ratio of the hazards of individuals  $i$  and  $j$  (and respective time-varying characteristics  $x(t)_i$  and  $x(t)_j$ ) is constant and therefore independent of  $t$ . In the context presented here, this assumption implies that, given a treatment (e.g. bilateral compared to multilateral FTA), the ratio of the conditional

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<sup>32</sup> The Cox proportional hazards model is considered semi-parametric because the covariates enter the regression in a linear fashion, but no assumption is made for the baseline hazard.

probability of implementation in any period is constant. Graphically, this translates into parallel hazard rates.

In contrast to the Cox model, parametric models, such as the exponential, Weibull or log-logistic model, assume a distribution for the baseline hazard. The correct model can be obtained by estimating the gamma model that puts the fewest assumptions on the underlying distribution and then perform tests on the respective parameter estimates that come out of the regression.<sup>33</sup>

A method that does not rely on the PH assumption is the accelerated failure time (AFT) model. It focuses on the survival function and therefore allows a direct interpretation for the effect of the coefficients on the survival time. The AFT model carries the name “accelerated” because we are no longer bound to the PH assumption. Instead changes in the covariates may now increase or decrease the probability of failure along the durations (Orbe et al., 2002). Key to understanding the difference between the AFT and the PH models is that the coefficients of the AFT model measure elasticities (given that the covariates are also measured in logs). The survival graphs of two distinct characteristics may then be shifted non-proportionally and reveal increasing or decreasing distances (differences in probabilities) between them. In our context, this may imply that the effect of having a bilateral instead of a multilateral FTA increases or decreases according to the value on the x-axis ( $T$ ). Figure 3 depicts this example: The survival function is plotted according to the type (bilateral/multilateral) of any given trade agreement. Two noticeable observations need further attention. First, the probability of observing no successful implementation beyond  $t$  is higher for trade agreements with more than two trading partners. Let us consider the probability for not observing implementation prior to day 1,000: if the FTA is bilateral, this probability is just above 50%, whereas for multilateral initiatives the respective figure is set around 75%. This lends support to the hypothesis that as more countries are involved in the

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<sup>33</sup> The gamma distribution nests the Weibull as well as the exponential model depending on the parameter values of the baseline hazard. The exponential model e.g. demands a conditional probability of implementation that is constant over time; an assumption that is violated by my data. The difference between the log-logistic and the Weibull model is that the former allows for a non-monotonically increasing or decreasing hazard, compared to the latter model which assumes monotonic hazards. See Cleves et al. (2008: 270) for the respective approach.

negotiation of an agreement, the longer it will take to close the negotiations. Second, the two curves in the survival graph do not tend to support the PH assumption, as they cross for very short and long durations.<sup>34</sup>

[Figure 3 about here]

The results of the log-logistic model, similar to the empirical analysis of the duration of the ratification phase in Mansfield and Milner (2012), are discussed in the following section. From the diagnostic tests performed, I can assume that either the Weibull or the log-logistic model in AFT form best matches the demand of the data, due to duration-dependent survival probabilities. Estimation of the parametric gamma model provides information that the Weibull model may be a candidate for the parametric approach.<sup>35</sup> However, due to convergence issues in the computation of the regressions in section 6, I opt for the estimation using the log-logistic distribution instead of the Weibull. The log-logistic distribution is easily modified to cope with time-varying covariates.<sup>36,37</sup> This is particularly important as the dataset is constructed to allow for changes in the income or democracy levels for example. Note that a misspecification of the estimated model in terms of the distributional assumptions may severely bias the results, since the assumption of a monotonic hazard in the presence of a non-monotonic hazard may lead to the confirmation of unobserved heterogeneity. The decreasing hazard for higher time-observations will then be based on frailty of the individuals (in our context: country-pairs).

For the estimation, I make use of country-pair data that allows for taking into account a much wider range of information than alternative methods. Any country in the prospective FTA has the potential to prolong the implementation based on any other participant

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<sup>34</sup> Numerically, a violation of the PH assumption was checked globally and confirmed (using Stata's *estat phtest* command). See Figure A1 in the Appendix for a test of the PH assumption based on *Schoenfeld* residuals.

<sup>35</sup> More precisely, the *kappa* value in the regressions based on the gamma distribution is estimated to be significantly different from zero while *ln\_sigma* is significantly different from 1.

<sup>36</sup> See Wooldridge (2002) and Bergstrand et al. (2010) for the duration analysis of the formation of FTAs using the log-logistic distribution.

<sup>37</sup> The Weibull model does not allow frailty or shared frailty estimations to be computed without reflecting problems in convergence, even if gamma frailty is replaced by inverse Gaussian.

country. An alternative would be to make use of FTA specific information gathered from individual country data. This proves to be cumbersome in the regression analysis as measures of dispersion (average difference in per-capita GDPs, variation in trade openness etc.) do not sufficiently capture the available information.<sup>38</sup> Therefore, I opt for the dyadic approach, following Baier and Bergstrand (2004) and Bergstrand et al. (2010). The latter also uses country-pair data for the FTA specific dependent variable in the analysis on the duration until the implementation of a trade agreement. Baier and Bergstrand (2004) make use of a dyadic dataset as any country may be able to veto the implementation and thereby exercise the power to halt the initiative.

A dataset with time-varying covariates is employed to fully incorporate the time-varying information involved in the majority of explanatory variables. This allows for a better evaluation of the effects of economic and political determinants because the duration from negotiation to implementation easily exceeds three years. An analysis based on time-constant covariates (e.g. fixed at the date of the start of negotiations) would neglect a significant amount of information.

I try to control for unobserved heterogeneity via the shared *frailty model*. In addition to a given set of included covariates, the frailty model includes a multiplicative term in the hazard function. It is thereby similar to a random effects model which also controls for unobserved heterogeneity, given that the unobserved factor is uncorrelated with the included regressors.<sup>39</sup> If we assume that all country-pairs are homogeneous conditional on all the regressors included in the model, the hazard function may be correctly specified using some distribution. If, however, some individuals are frailer than others, the hazard function may underestimate the degree of positive duration dependence. I assume that the unobserved heterogeneity is common at the FTA level, meaning that unobserved effects on the negotiation and ratification duration are common for all potential FTA members. The distribution of the error term in AFT models is adjusted to fit the nature of the duration data. Note that some of the variables in the following regression analysis are transformed into

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<sup>38</sup> It is problematic to decide on how to include and aggregate variables like *common language*.

<sup>39</sup> Alternatively, one could implement a fixed-effects model that controls for the shared frailty factor in the regression.

logs, such that the interpretation of the coefficients differs, compared to non-transformed covariates.

One additional potential source of bias is sample selection. This would be problematic if observations based on the dependent variable are chosen, which cannot be ruled out as only FTAs that have been implemented are considered in addition to those which are still in their negotiation or ratification stages (“early announcements”). We consequently do not observe failed implementations. Furthermore, it could be the case that treatment is based on unobservables that could also influence the outcome variable. In order to control for unobserved heterogeneity, the shared frailty parameter (at the FTA level) is included in the regression analysis, among other variables that have shown to influence the decision to form an FTA.<sup>40</sup>

## 6. Results

This section makes use of four different durations (dependent variables), each analyzed with three different specifications, taking into account the interplay between the level of democratization and the political constraints: the first regressions (Table 2) summarize the results of estimations based on the parametric log-logistic frailty model in AFT form for the time between the start of the negotiation until its end. Table 3 plots the results on the ratification period, from the signature of the agreement until its implementation. In Table 4, both periods are subsumed to represent the duration from the negotiation start until the enforcement of provisions. In Table A1 in the Appendix, you can find additional estimates for which the starting point of the duration is the first official proposal to form an agreement.<sup>41,42</sup>

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<sup>40</sup> Nevertheless, be advised that the major share of information for the negotiation and proposed events is sourced from newspaper articles and news releases available either in English or German. The resulting (potential) source of endogeneity is ignored, even though negotiation and ratification durations of FTAs, for which news was available in English or German may be different from those in other languages.

<sup>41</sup> As data on the proposal of an agreement is the least reliable, the respective results should be considered accordingly. Note that the absolute number of observations is the highest for the estimates based on the proposal as the starting point, as I make use of a dataset with time-varying variables. The total time span from proposal to the implementation is the longest (in years) for the duration.

[Table 2 about here]

According to Table 2, countries that are negotiating a bilateral trade agreement are significantly faster than their counterparts negotiating multilateral agreements. Depending on the specification (inclusion of democracy, political constraints or both), bilaterals need about 38% to 50% less time to finish negotiations. The variable denoting the influence of the political regime type points into the direction of shorter trade talks for more democratic countries, whereas an increase in the number of veto players indicates delays. Also consistent with the argumentation outlined in section three, negotiations need more time if the EU is taking part in them. This may be either due to difficulties in coordination of trade policy across all member states or the attached non-trade related provisions that are part of EU trade agreements.

[Table 3 about here]

If we switch to the ratification stage (Table 3), the results change as this stage differs considerably from the trade negotiations. Being in a bilateral agreement no longer seems to affect the duration. From the variables that denote experience in FTA activity, namely the number of FTAs concluded, as well as WTO membership, there is evidence for an accelerating effect on the ratification period. This effect is only small in magnitude for the each individual existing concluded FTA but it reflects an increase in the ratification speed by almost four percent for every additional enforced agreement. If both countries are members of the WTO, I find a decrease in the duration by around 28%, if controlled for both political regime type and constraints. The influence of the EU again indicates a longer time period, comparable to the negotiation stage, even though the effect seems to be reversed if not controlled for political constraints in the data. Due to the considerable decrease in observations if both political determinants are taken into account (data on political constraints is only available until 2007), conclusions from this observation have to be drawn

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<sup>42</sup>Note that the (negative) Ln\_gamma coefficient at the end of the Tables refers to the underlying log-logistic distribution and suggests a non-monotonic hazard. The value *Theta* represents the variance of the parameter which takes the unobserved heterogeneity into account. A highly significant estimate is evidence for the presence of heterogeneity.

with caution. Different signs and significance levels may well arise through a different set of country-pairs and FTAs. Nevertheless, the respective coefficients for the political constraints and democracy variables suggest that an increase by one unit in the sum of the index denoting the democracy level is associated with a delay of 14%. Similarly, doubling the value of the political constraints index reflects a slower implementation by around 39%.<sup>43</sup> Differences along the political spectrum (country-pairs which are more dissimilar in terms of their democratization level) may also lead to delays in the ratification period. While the result based on the political constraints variable is in accordance to the findings by Haftel and Thompson (forthcoming) – more veto players lead to longer ratification durations – the respective effect of democracy is not. However, this observation is consistent with the claim made in section three: democracies may reflect slower policy making processes. Moreover, if countries are more open to trade, we can expect that FTAs are ratified faster, even though the corresponding coefficients are only partly significant. With respect to the level of trade restrictions among the country-pairs, another finding supports the assertion from section three that once I take the implementation date into account, lower import tariffs may be the result of more thorough, yet longer, negotiation and ratification periods triggering the decrease in import barriers. As I argue below, when it comes to the period between the start of the negotiations and the agreements' implementation, less ambitious approaches during negotiation (associated with shorter durations) may well lead to missing out on *free* trade

[Table 4 about here]

By combining the negotiation and ratification periods (Table 4), increased trade openness again indicates a shorter time period from the start of the negotiation process until the final implementation of the trade agreement. Similarly, WTO member states show a significantly shorter time until the agreements are implemented, even if both measures from the political spectrum are controlled for. Interestingly, and in line with the theoretical predictions, the coefficient for the level of economic development now becomes significantly negative, pointing toward a faster process for higher income country-pairs. This effect seems to be driven by the ratification stage (Table 3), whose results also pointed in this direction. Other determinants that only change marginally in their magnitude (*vis-à-vis* the ratification stage)

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<sup>43</sup> Note that the index for *political constraints* is measured in logs whereas the *polity2* index is not.

and with respect to the sign are the EU member and political variables, even though the coefficient for the sum of the *polity2* index decreases considerably and even becomes insignificant, mirroring the fact that the effect on the ratification duration is diluted by the negotiation period. Unaltered is the message conveyed by the level of trade barriers: Higher import tariffs for goods traded among country-pairs are associated with shorter negotiation and ratification periods. Note that this effect may be due to reversed causality. As I make use of time-varying covariates (including import tariffs), a longer negotiation period may well be associated with higher initial import tariffs that, by the end of the implementation, are lowered considerably due to the negotiations. This implies that, once I take the implementation period into account, higher trade barriers can be a consequence of hasty trade negotiations. That claim is also supported by Table A1, which takes the first official proposal of an FTA as the starting point of the duration into account.

## **7. Conclusion**

Trade agreements are characterized by their heterogeneity in a number of dimensions: from the coverage of goods, their effect on the bilateral trade volume, to the duration of the negotiation and ratification processes. Against the background of transition processes of firms in anticipation of a trade agreement, this paper focuses on the duration from initial announcement to implementation of FTAs. I make use of a dataset with time-varying covariates that covers officially notified FTAs for which the dates on the proposal, the start/end of negotiations, the signing and the implementation are available.

From the information on the available agreements, there is supportive evidence that both economic and political determinants matter for the duration of the negotiation process. After controlling for unobserved heterogeneity in the regression analysis, I find that bilateral agreements reflect shorter negotiation processes. This finding is consistent with Moser and Rose (2012) as well as Simonelli (2011). The complexity of the agreements' design seems to increase with the number of potential trading partners at the bargaining table. When it comes to anticipatory trade effects via FTAs, this result also relates to the findings of Mölders and Volz (2011), who claim that the negotiation stage of bilateral trade agreements already reflects positive trade-creating effects. This may be due to the (anticipated) faster negotiation process of bilateral FTAs.

The effect of the country-pairs' democratization and political constraints levels on the ratification duration points toward a prolonging effect, which partly supports the finding of Haftel and Thompson (forthcoming), who claim that a higher level of checks and balances (prevalent in more democratic countries) significantly prolongs the respective durations for bilateral investment treaties. In a similar vein, Mansfield and Milner (2012) show that more veto players are associated with a delay in ratification in the case of FTAs. This result is confirmed by my data. The findings further suggest that more democratic states are more likely to finish trade negotiations faster, which is in line with the claim that these types of countries cooperate more easily. Therefore, regime types seem to matter for the processing of trade agreements.

The results associated with the effect of higher import tariffs are surprising at first sight, but point toward a need for lengthy implementation periods for high tariff cuts. This is in line with the assertion that negotiation partners are working longer in order to arrive at lower trade barriers.<sup>44</sup> I further observe that trade openness is associated with shorter ratification periods. Similarly, the effect for WTO members and more active FTA countries also indicates significantly shorter processes for the same duration. It could be the case that better capacities and more experience in implementing FTAs can be the driving factor behind this result.

Consistent with the prediction outlined in section three, once the EU is involved, negotiations as well as ratifications reveal a significantly longer negotiation period, compared to FTAs with less demanding partners. Alongside the higher cooperation costs – due to the high number of stakeholders at the negotiation table – WTO-X provisions such as human rights may divert from traditional trade policy measures and have the potential to prolong talks.

The results presented here support the hypothesis that costs of non-cooperation as well as coordination costs matter for the duration until the implementation of an FTA. It should be noted that the results do not imply causality of the respective variables of interest, as there

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<sup>44</sup> See WTO (2007: xxvi).

might be other determinants driving both the duration and the covariates. However, based on the literature on FTA determinants and international cooperation and through the application of the frailty model, I try to control for as many influences as possible.

The connection to determinants that drive anticipatory trade effects that emerge prior to the actual implementation of an agreement deserves further attention in future research as it matters for the evaluation of the effects of policy uncertainty on the private sector. A starting point would be to investigate whether the determinants, which are responsible for shortening the negotiation/implementation process of trade agreements, also influence firm exporting decisions via trade anticipation. On a different note, and related to Conconi et al. (2012), trade negotiations are potentially influenced by electoral cycles and the respective legislators' time in office. As this is especially important for democracies, an analysis of the negotiation and ratification processes against the electoral background of the policy maker is of interest.

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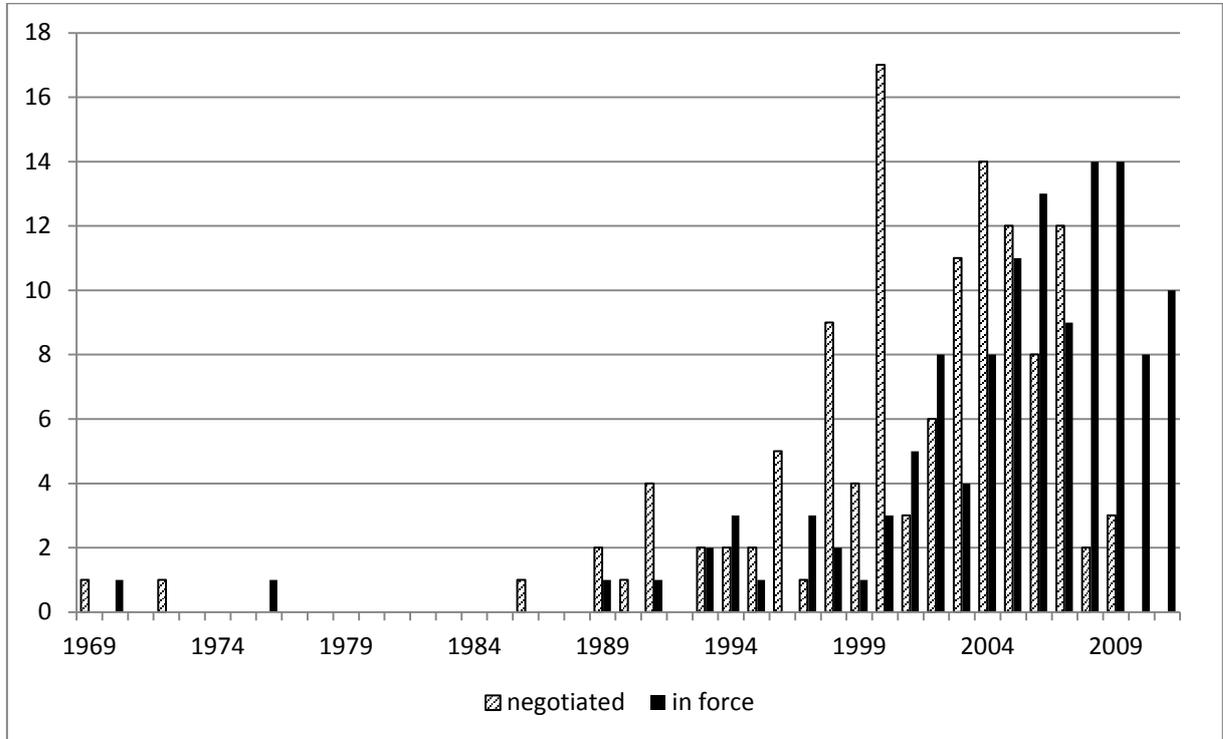
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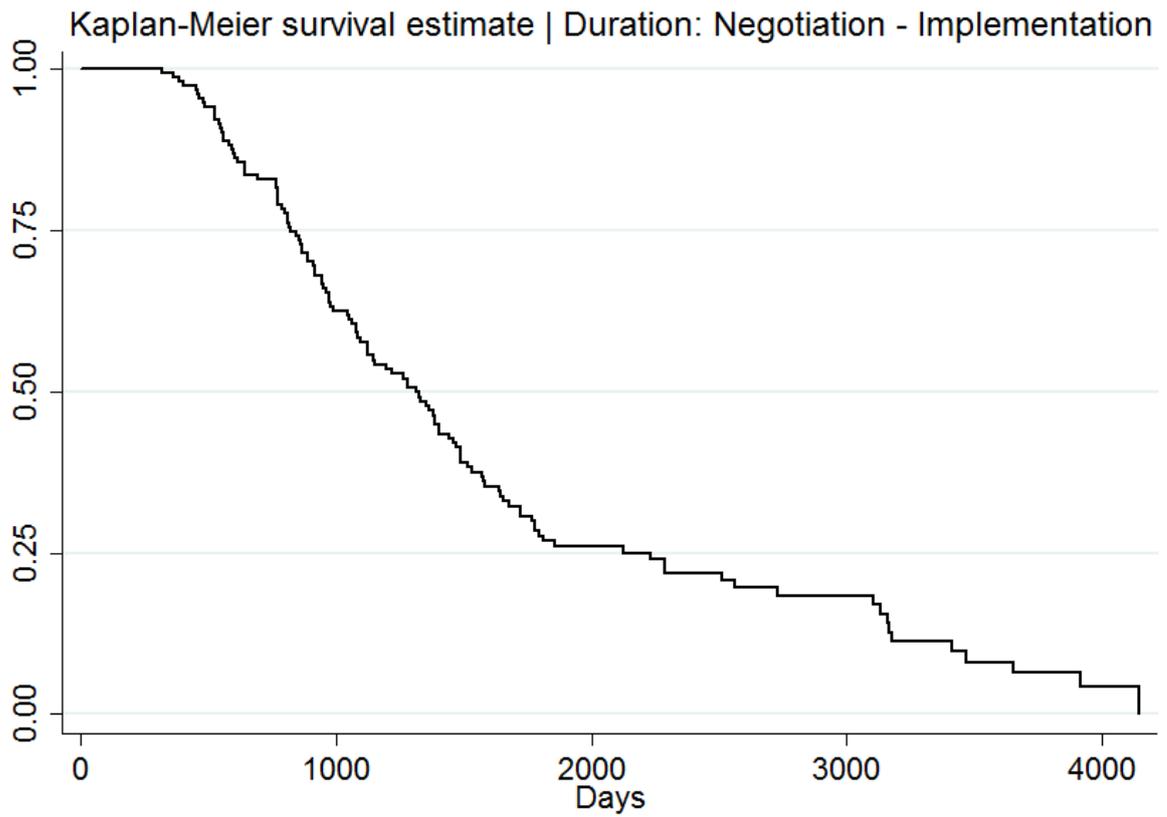
## Figures

**Figure 1:** Frequencies of events, Negotiations start (white) and trade agreements are implemented (black)



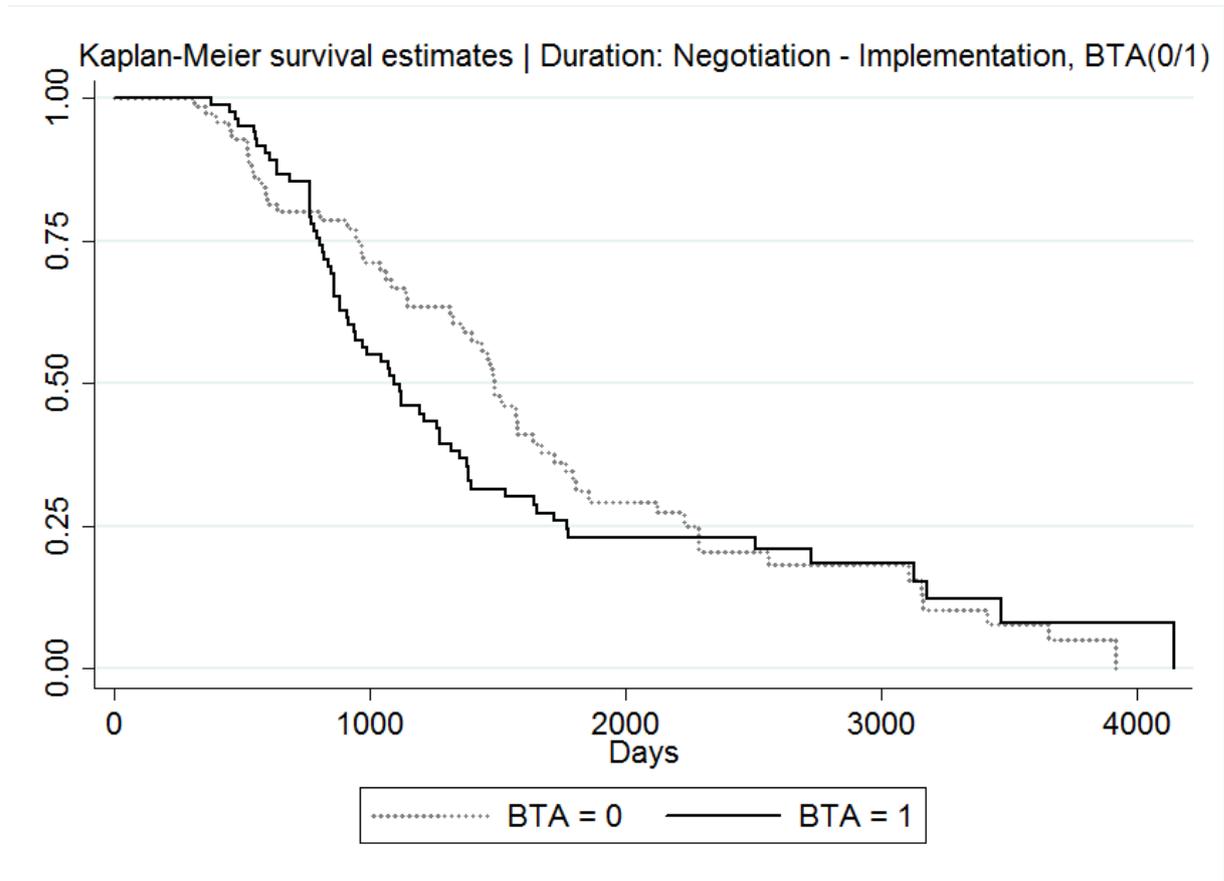
Notes: Only FTAs for which a date of the start of the negotiations and the implementation date were available are included in this Figure.

**Figure 2:** Survival estimate: Duration from launch of negotiations until implementation



Notes: Figure includes only FTAs for which both date of the start of negotiations and enforcement are available; x-axis denotes duration time in days from start of negotiations; y-axis denotes the probability of implementation after day t.

**Figure 3:** Survival estimate: Duration from launch of negotiations until implementation, by type of FTA (bilateral/multilateral)



Notes: x-axis denotes duration time in days; y-axis denotes the probability of implementation after day t; stratified by FTA type: BTA=1 if bilateral agreement, BTA=0 otherwise.

**Tables**

**Table 1:** Average number of days between events

Time between...	Negotiation: start-end	Negotiation-Signing	Negotiation-Implementation	Signing-Implementation	Proposal-Implementation
Number of days	748	852	1,310	517	1,936
Information based on # of FTAs	108	129	123	188	107

**Memo:**

Average # of negotiation rounds 7.17

Notes: "Negotiation: start-end" refers to the duration from the start of negotiations until the end; "Negotiation-Signing" refers to the duration from the start of negotiations until the FTA is signed; "Negotiation-Implementation" refers to the duration from the start of negotiations until the FTA is implemented; "Signing-Implementation" refers to the duration from the signing of the FTA until the FTA is implemented; "Proposal-Implementation" refers to the duration from the first official proposal to form an FTA until the agreement is implemented; own calculations.

**Table 2:** Duration between: **start – end of negotiations**; Log-logistic (frailty) models in AFT form

	(1)	(2)	(3)
FTA activity	-0.00 [0.003]	0.00 [0.002]	0.00 [0.006]
Trade openness	-0.01 [0.024]	-0.02 [0.010]	-0.06* [0.035]
BTA	-0.69*** [0.132]	-0.68*** [0.132]	-0.48*** [0.180]
WTO members	0.20** [0.091]	-0.02 [0.046]	0.13 [0.109]
Distance	0.31*** [0.037]	0.30*** [0.031]	0.25*** [0.043]
Border	0.35*** [0.115]	0.24*** [0.085]	0.27** [0.128]
Language	0.03 [0.067]	0.01 [0.037]	-0.01 [0.088]
GDP-per cap.	0.01 [0.026]	-0.01 [0.018]	0.02 [0.036]
GDP-per cap. (diff.)	0.00 [0.021]	-0.00 [0.013]	-0.01 [0.028]
Democracy (sum)	-0.02** [0.008]	---	-0.04*** [0.014]
Democracy (difference)	0.01 [0.008]	---	-0.01 [0.014]
PolConstr. (sum)	---	0.02 [0.045]	0.23** [0.110]
PolConstr. (diff.)	---	-0.01 [0.011]	-0.03 [0.027]
Avg. Tariff Level	0.01 [0.007]	0.01* [0.003]	0.01 [0.009]
EU	0.77*** [0.078]	0.67*** [0.053]	0.78*** [0.108]
Constant	3.80*** [0.452]	4.06*** [0.320]	5.00*** [0.588]
Ln_gamma	-1.39*** [0.043]	-1.61*** [0.039]	-1.33*** [0.056]
Theta	10.85*** [2.280]	64.36*** [22.061]	9.46*** [2.343]
FTAs	128	92	90
Observations	1861	1989	1104

Notes: “FTA activity” denotes the sum of a country-pairs’ enforced agreements in any respective period; “Trade openness” is defined as the product of a country-pairs’ exports/GDP; “BTA” denotes bilateral trade agreements; “WTO members” refers to a country-pair as being mutual members of the WTO; “Distance” denotes the bilateral great-circle distance between countries; “Border” refers to contiguity; “Language” denotes a common official language; “GDP-per cap.” is calculated as the product of the per-capita income levels (in Logs); “GDP-per cap. (diff.)” is calculated as the difference in per-capita income levels (in Logs); “Democracy (sum)” and “Democracy (difference)” refer to the respective sum and difference in the *polity2* index; “PolConstr. (sum)” and “PolConstr. (difference)” refer to the respective sum and difference in the Political Constraints index. “Avg. Tariff Level” denotes the average effectively applied import tariff between any country-pair in the FTA; “EU” signals that at a member country of the European Union is involved in the process. “FTAs” denotes the number FTAs in the regression for which data on the respective events were available. Note that the number of observations (country-pairs) and FTAs does not necessarily have to be proportional, as the data for the explanatory variables may be available for fewer FTAs (e.g. the political constraints index is only available until 2007) but at the same time for those which have the most observations, either via the number of country-pairs or the number of years for the duration.

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors in parentheses

**Table 3:** Duration between: **signature – implementation**; Log-logistic (frailty) models in AFT form

	(1)	(2)	(3)
FTA activity	-0.01*** [0.005]	-0.05*** [0.015]	-0.04*** [0.015]
Trade openness	-0.14*** [0.039]	0.07 [0.064]	-0.11* [0.063]
BTA	0.14 [0.168]	0.04 [0.239]	-0.22 [0.215]
WTO members	-0.65*** [0.142]	-0.19 [0.165]	-0.33** [0.151]
Distance	-0.49*** [0.055]	0.05 [0.077]	-0.04 [0.073]
Border	-0.19 [0.160]	0.38** [0.189]	0.26 [0.169]
Language	-0.17* [0.092]	-0.57*** [0.138]	-0.20 [0.142]
GDP-per cap.	-0.03 [0.033]	-0.13*** [0.047]	-0.14*** [0.050]
GDP-per cap. (diff.)	0.07** [0.032]	0.01 [0.057]	0.00 [0.053]
Democracy (sum)	0.14*** [0.009]	--- ---	0.13*** [0.014]
Democracy (difference)	0.20*** [0.012]	--- ---	0.18*** [0.017]
PolConstr. (sum)	--- ---	0.91*** [0.171]	0.39*** [0.143]
PolConstr. (diff.)	--- ---	0.06 [0.046]	-0.02 [0.044]
Avg. Tariff Level	-0.04*** [0.007]	-0.09*** [0.012]	-0.04*** [0.009]
EU	-0.44*** [0.139]	1.04*** [0.182]	0.59*** [0.169]
Constant	7.83*** [0.579]	6.22*** [0.887]	4.68*** [0.792]
Ln_gamma	-0.92*** [0.046]	-0.74*** [0.052]	-0.90*** [0.058]
Theta	3.20*** [0.608]	3.50*** [0.779]	2.29*** [0.537]
FTAs	133	99	99
Observations	1265	961	859

Notes: “FTA activity” denotes the sum of a country-pairs’ enforced agreements in any respective period; “Trade openness” is defined as the product of a country-pairs’ exports/GDP; “BTA” denotes bilateral trade agreements; “WTO members” refers to a country-pair as being mutual members of the WTO; “Distance” denotes the bilateral great-circle distance between countries; “Border” refers to contiguity; “Language” denotes a common official language; “GDP-per cap.” is calculated as the product of the per-capita income levels (in Logs); “GDP-per cap. (diff.)” is calculated as the difference in per-capita income levels (in Logs); “Democracy (sum)” and “Democracy (difference)” refer to the respective sum and difference in the *polity2* index; “PolConstr. (sum)” and “PolConstr. (difference)” refer to the respective sum and difference in the Political Constraints index. “Avg. Tariff Level” denotes the average effectively applied import tariff between any country-pair in the FTA; “EU” signals that at a member country of the European Union is involved in the process. “FTAs” denotes the number FTAs in the regression for which data on the respective events were available. Note that the number of observations (country-pairs) and FTAs does not necessarily have to be proportional, as the data for the explanatory variables may be available for fewer FTAs (e.g. the political constraints index is only available until 2007) but at the same time for those which have the most observations, either via the number of country-pairs or the number of years for the duration.

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors in parentheses

**Table 4:** Duration between: **negotiation start – implementation**; Log-logistic (frailty) models in AFT form

	(1)	(2)	(3)
FTA activity	0.00 [0.002]	-0.01 [0.007]	0.01 [0.007]
Trade openness	0.00 [0.013]	-0.07*** [0.025]	-0.13*** [0.024]
BTA	-0.43*** [0.082]	-0.01 [0.108]	-0.04 [0.110]
WTO members	0.08 [0.061]	-0.29*** [0.084]	-0.41*** [0.077]
Distance	0.09*** [0.025]	0.02 [0.031]	0.02 [0.031]
Border	0.11* [0.066]	-0.04 [0.071]	0.01 [0.079]
Language	0.01 [0.036]	-0.00 [0.058]	0.06 [0.062]
GDP-per cap.	-0.05*** [0.014]	-0.06*** [0.022]	-0.08*** [0.024]
GDP-per cap. (diff.)	0.00 [0.012]	0.01 [0.024]	0.02 [0.027]
Democracy (sum)	0.02*** [0.003]	--- ---	-0.01 [0.005]
Democracy (difference)	0.04*** [0.005]	--- ---	0.05*** [0.008]
PolConstr. (sum)	--- ---	0.45*** [0.057]	0.63*** [0.066]
PolConstr. (diff.)	--- ---	-0.01 [0.017]	-0.04** [0.018]
Avg. Tariff Level	-0.02*** [0.002]	-0.04*** [0.004]	-0.04*** [0.004]
EU	0.47*** [0.056]	0.42*** [0.071]	0.38*** [0.080]
Constant	5.85*** [0.260]	7.32*** [0.345]	7.18*** [0.342]
Ln_gamma	-1.85*** [0.044]	-1.81*** [0.065]	-1.98*** [0.078]
Theta	4.89*** [1.028]	6.94*** [1.499]	4.81*** [0.979]
FTAs	132	95	95
Observations	3073	2824	1816

Notes: “FTA activity” denotes the sum of a country-pairs’ enforced agreements in any respective period; “Trade openness” is defined as the product of a country-pairs’ exports/GDP; “BTA” denotes bilateral trade agreements; “WTO members” refers to a country-pair as being mutual members of the WTO; “Distance” denotes the bilateral great-circle distance between countries; “Border” refers to contiguity; “Language” denotes a common official language; “GDP-per cap.” is calculated as the product of the per-capita income levels (in Logs); “GDP-per cap. (diff.)” is calculated as the difference in per-capita income levels (in Logs); “Democracy (sum)” and “Democracy (difference)” refer to the respective sum and difference in the *polity2* index; “PolConstr. (sum)” and “PolConstr. (difference)” refer to the respective sum and difference in the Political Constraints index. “Avg. Tariff Level” denotes the average effectively applied import tariff between any country-pair in the FTA; “EU” signals that at a member country of the European Union is involved in the process. “FTAs” denotes the number FTAs in the regression for which data on the respective events were available. Note that the number of observations (country-pairs) and FTAs does not necessarily have to be proportional, as the data for the explanatory variables may be available for fewer FTAs (e.g. the political constraints index is only available until 2007) but at the same time for those which have the most observations, either via the number of country-pairs or the number of years for the duration.

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors in parentheses

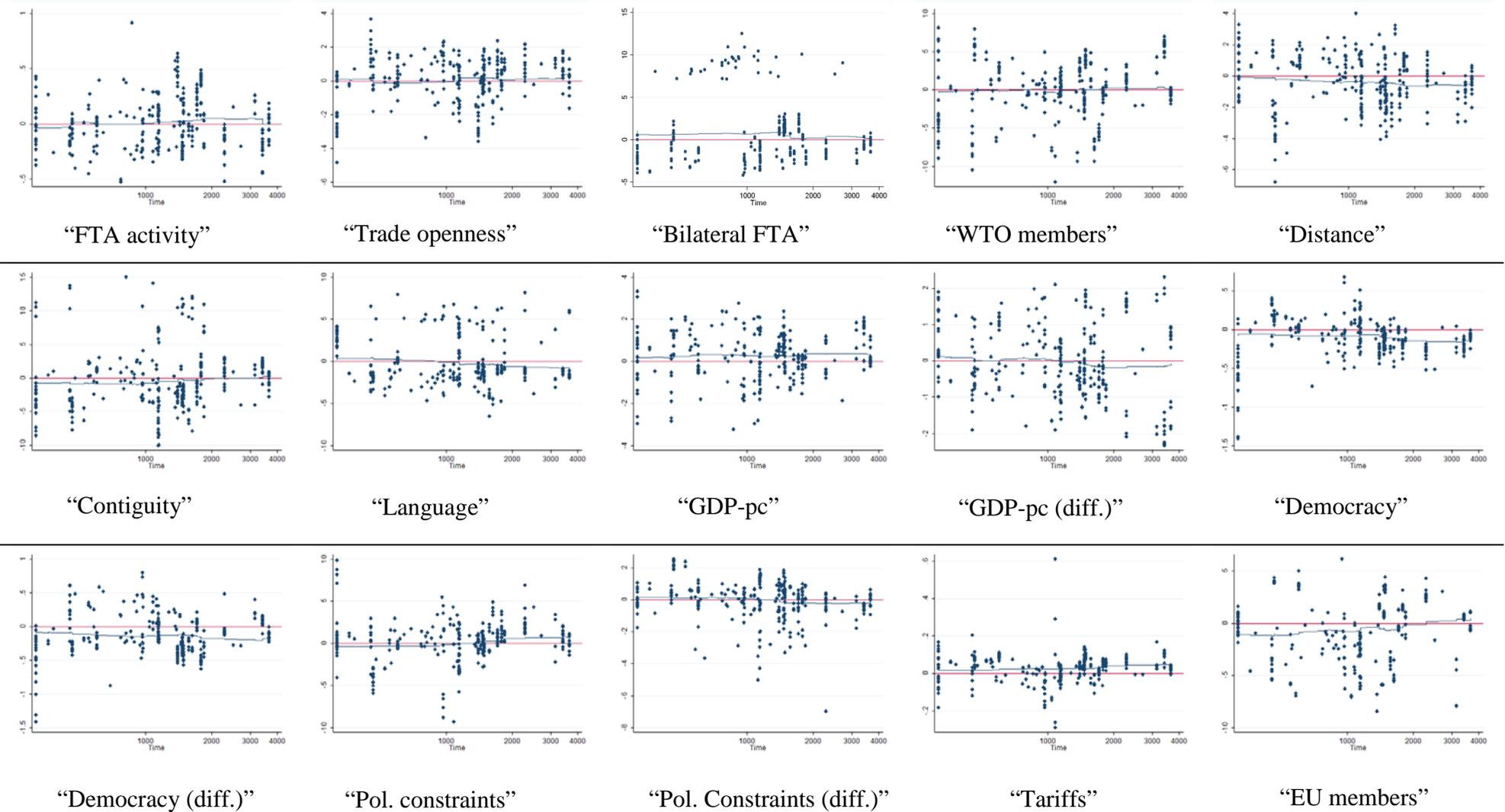
## Appendix

**Table A1:** Duration between: **proposal – implementation**; Log-logistic (frailty) models in AFT form

	(1)	(2)	(3)
FTA activity	-0.00 [0.003]	-0.02*** [0.006]	-0.01* [0.006]
Trade openness	-0.03** [0.016]	-0.09*** [0.020]	-0.11*** [0.024]
BTA	-0.33*** [0.074]	0.00 [0.098]	-0.09 [0.099]
WTO members	0.22*** [0.072]	0.09 [0.093]	0.03 [0.126]
Distance	0.12*** [0.022]	0.12*** [0.032]	0.12*** [0.031]
Border	0.08 [0.058]	0.00 [0.069]	-0.03 [0.089]
Language	0.05 [0.036]	0.03 [0.049]	0.11* [0.064]
GDP-per cap.	-0.07*** [0.014]	-0.05** [0.020]	-0.05** [0.021]
GDP-per cap. (diff.)	0.02 [0.012]	0.01 [0.019]	0.02 [0.018]
Democracy (sum)	0.02*** [0.003]	--- ---	0.00 [0.005]
Democracy (difference)	0.03*** [0.004]	--- ---	0.03*** [0.006]
PolConstr. (sum)	--- ---	0.33*** [0.043]	0.40*** [0.058]
PolConstr. (diff.)	--- ---	-0.01 [0.016]	-0.05** [0.019]
Avg. Tariff Level	-0.02*** [0.002]	-0.03*** [0.003]	-0.03*** [0.004]
EU	0.46*** [0.057]	0.77*** [0.079]	0.72*** [0.082]
Constant	5.75*** [0.255]	6.53*** [0.347]	6.36*** [0.345]
Ln_gamma	-2.04*** [0.054]	-2.05*** [0.070]	-2.17*** [0.083]
Theta	3.86*** [0.791]	6.10*** [1.351]	4.74*** [1.009]
FTAs	114	98	97
Observations	3282	2491	2157

Notes: “FTA activity” denotes the sum of a country-pairs’ enforced agreements in any respective period; “Trade openness” is defined as the product of a country-pairs’ exports/GDP; “BTA” denotes bilateral trade agreements; “WTO members” refers to a country-pair as being mutual members of the WTO; “Distance” denotes the bilateral great-circle distance between countries; “Border” refers to contiguity; “Language” denotes a common official language; “GDP-per cap.” is calculated as the product of the per-capita income levels (in Logs); “GDP-per cap. (diff.)” is calculated as the difference in per-capita income levels (in Logs); “Democracy (sum)” and “Democracy (difference)” refer to the respective sum and difference in the *polity2* index; “PolConstr. (sum)” and “PolConstr. (difference)” refer to the respective sum and difference in the Political Constraints index. “Avg. Tariff Level” denotes the average effectively applied import tariff between any country-pair in the FTA; “EU” signals that at a member country of the European Union is involved in the process. “FTAs” denotes the number FTAs in the regression for which data on the respective events were available. Note that the number of observations (country-pairs) and FTAs does not necessarily have to be proportional, as the data for the explanatory variables may be available for fewer FTAs (e.g. the political constraints index is only available until 2007) but at the same time for those which have the most observations, either via the number of country-pairs or the number of years for the duration. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , standard errors in parentheses

**Figure A1:** Tests for proportional hazards assumption, based on Schoenfeld residuals



Notes: Test based on scaled Schoenfeld residuals for all variables in the regression for the time between the start of negotiations and enforcement of the FTA. The non-parallel blue line across all dates (with respect to the red line) is an indication of non-proportionality.

**Table A2: FTAs included in the dataset**

FTA	Date – FTA proposed	Date –Start Negotiations	Date – End Negotiations	# of rounds	Date – FTA signed	Date – FTA implemented
ASEAN - Australia - New Zealand	Nov 01, 2004	Mar 01, 2005	Aug 28, 2008	16	Feb 27, 2009	Jan 01, 2010
ASEAN - China	Nov 23, 2000	Nov 04, 2002	Oct 26, 2004	---	Nov 29, 2004	Jul 01, 2005
ASEAN - India	---	Mar 07, 2004	---	---	Aug 13, 2009	Jan 01, 2010
ASEAN - Japan	Jan 01, 2002	Apr 14, 2005	Nov 12, 2007	11	Apr 15, 2008	Dec 01, 2008
ASEAN - Korea, Republic of	Oct 08, 2003	Nov 30, 2004	---	25	Aug 24, 2006	Jun 01, 2007
ASEAN Free Trade Area (AFTA)	Jun 24, 1991	Oct 08, 1991	---	---	Jan 28, 1992	Jan 01, 1993
Armenia - Kazakhstan	---	---	---	---	Sep 02, 1999	Dec 25, 2001
Armenia - Moldova	---	---	---	---	Dec 24, 1993	Dec 21, 1995
Armenia - Russian Federation	---	---	---	---	Sep 30, 1992	Mar 25, 1993
Armenia - Turkmenistan	---	---	---	---	Oct 03, 1995	Jul 07, 1996
Armenia - Ukraine	---	---	---	---	Oct 07, 1994	Dec 18, 1996
Asia Pacific Trade Agreement (APTA)	---	Feb 01, 1972	Jul 01, 1975	3	May 28, 1976	May 29, 1976
Australia - Chile	Nov 10, 2006	Jul 18, 2007	May 27, 2008	4	Jul 30, 2008	Mar 05, 2009
Australia - China	---	May 23, 2005	--	---	---	---
Australia - Gulf Cooperation Council (GCC)	Jun 01, 2006	Jul 30, 2007	---	---	---	---
Australia - Malaysia	---	May 19, 2005	---	---	May 22, 2012	---
Australia - New Zealand (ANZCERTA)	Mar 01, 1980	---	---	---	Dec 14, 1982	Jan 01, 1983
Australia - Papua New Guinea (PATCRA)	---	---	---	---	Nov 06, 1976	Feb 01, 1977
Bay of Bengal Initiative on Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)	---	Sep 07, 2004	---	---	---	---
Brunei Darussalam - Japan	Jan 14, 2003	Jun 27, 2006	---	---	Jun 18, 2007	Jul 31, 2008
Canada - CARICOM	Jul 19, 2007	Nov 09, 2009	---	---	---	---
Canada - Chile	Dec 29, 1995	Jan 01, 1996	Nov 14, 1996	9	Nov 18, 1996	Jul 05, 1997
Canada - Colombia	Aug 01, 2002	Jun 07, 2007	Jun 07, 2008	5	Nov 21, 2008	Aug 15, 2011
Canada - Costa Rica	Jan 31, 2000	Jun 30, 2000	Apr 01, 2001	7	Apr 23, 2001	Nov 01, 2002
Canada - Dominican Republic	---	Jun 07, 2007	---	---	---	---
Canada - El Salvador - Guatemala - Honduras - Nicaragua (Honduras out)	---	Nov 21, 2001	Aug 12, 2011	---	---	---
Canada - Honduras	---	Dec 06, 2010	---	---	---	---
Canada - Israel	Mar 30, 1992	Nov 23, 1994	---	---	Jul 31, 1996	Jan 01, 1997
Canada - Jordan	---	Feb 20, 2008	Aug 25, 2008	---	Jun 28, 2009	---
Canada - Peru	Aug 07, 2002	Jun 07, 2007	Jan 26, 2008	3	May 29, 2008	Aug 01, 2009
Canada - Singapore	---	Oct 21, 2001	---	---	---	---
Canada - Ukraine	Oct 31, 2009	May 17, 2010	---	---	---	---
Caribbean Community and Common Market (CARICOM)	---	---	---	---	Apr 13, 1973	Aug 01, 1973
Central European Free Trade Agreement (CEFTA) 2006 enlargement	Sep 16, 2002	Apr 06, 2003	---	---	Dec 19, 2006	Jul 26, 2007
Chile - China	Jun 01, 2002	Jan 25, 2005	Nov 07, 2005	5	Nov 18, 2005	Oct 01, 2006
Chile - Colombia	Jul 27, 2006	Oct 09, 2006	Oct 30, 2006	2	Nov 27, 2006	May 08, 2009

Chile - Costa Rica (Chile - Central America)	---	Aug 17, 1998	Sep 01, 1999	5	Nov 18, 1999	Feb 15, 2002
Chile - El Salvador (Chile - Central America)	---	Aug 17, 1998	Sep 01, 1999	5	Nov 20, 2000	Jun 03, 2002
Chile - India	Jun 30, 2004	Apr 04, 2005	Nov 23, 2005	4	Mar 08, 2006	Aug 17, 2007
Chile - Japan	Nov 17, 2004	Feb 23, 2006	Sep 04, 2006	4	Mar 27, 2007	Sep 03, 2007
Chile - Mexico	---	---	---	---	Apr 17, 1998	Aug 01, 1999
China - Hong Kong, China	Dec 13, 2001	---	Jun 13, 2003	---	Jun 29, 2003	Jan 01, 2004
China - New Zealand	Apr 14, 2004	Dec 01, 2004	Dec 01, 2007	15	Apr 07, 2008	Oct 01, 2008
China - Norway	---	Sep 18, 2008	---	---	---	---
China - Singapore	Oct 29, 2003	Aug 25, 2006	Sep 03, 2008	8	Oct 23, 2008	Jan 01, 2009
Colombia - Mexico (G-3)	Apr 09, 1990	---	---	---	Jun 13, 1994	Jan 01, 1995
Common Economic Zone (CEZ)	Feb 25, 2003	---	---	---	Sep 19, 2003	May 20, 2004
Common Market for Eastern and Southern Africa (COMESA)	---	---	Jan 20, 1993	---	Nov 05, 1993	Dec 08, 1994
Costa Rica - Mexico	Jan 01, 1991	Apr 01, 1993	---	---	Apr 05, 1994	Jan 01, 1995
Costa Rica - Peru	---	Nov 08, 2010	May 06, 2011	---	May 26, 2011	---
Costa Rica - Singapore	Dec 04, 2008	Apr 20, 2009	Jan 29, 2010	---	Apr 06, 2010	---
Dominican Republic - Central America - United States Free Trade Agreement (CAFTA-DR) W/O DomRep	Jan 16, 2002	Jan 08, 2003	Jan 25, 2004	9	Aug 05, 2004	Mar 01, 2006
Dominican Republic - Central America - United States Free Trade Agreement (CAFTA-DR) w/ DomRep	Jan 16, 2002	Jan 12, 2004	Mar 15, 2004	10	Aug 06, 2004	Mar 01, 2007
EC - Albania	May 26, 1999	Jan 31, 2003	Feb 28, 2006	---	Jun 12, 2006	Dec 01, 2006
EC - Algeria	---	Dec 14, 2000	Dec 19, 2001	---	Apr 12, 2002	Sep 01, 2005
EC - Andorra	---	Apr 13, 1989	---	---	Mar 15, 1990	Jul 01, 1991
EC - Bosnia and Herzegovina	May 26, 1999	Nov 25, 2005	Dec 01, 2006	---	Jun 16, 2008	Jul 01, 2008
EC - CARIFORUM States EPA	---	Apr 01, 2004	Dec 17, 2007	14	Oct 15, 2008	Nov 01, 2008
EC - Cameroon	---	Sep 27, 2002	---	---	Jan 15, 2009	Oct 01, 2009
EC - Chile	Jul 22, 1998	Apr 01, 2000	Apr 26, 2002	10	Nov 18, 2002	Mar 01, 2005
EC - Croatia	May 26, 1999	Nov 24, 2000	May 14, 2001	---	Oct 29, 2001	Mar 01, 2002
EC - Côte d'Ivoire	Jun 12, 2002	Sep 27, 2002	Dec 07, 2007	---	Nov 26, 2008	Jan 01, 2009
EC - Egypt	Nov 04, 1994	Jan 26, 1995	Jan 26, 2001	---	Jun 25, 2001	Jun 01, 2004
EC - Faroe Islands	---	---	---	---	Dec 06, 1996	Jan 01, 1997
EC - Former Yugoslav Republic of Macedonia	May 26, 1999	Mar 07, 2000	Nov 24, 2000	---	Apr 09, 2001	Apr 01, 2004
EC - Israel	Dec 06, 1992	---	Jul 19, 1995	---	Nov 20, 1995	Jun 01, 2000
EC - Jordan	Jun 23, 1995	---	Apr 16, 1997	---	Nov 24, 1997	May 01, 2002
EC - Lebanon	Nov 28, 1995	Mar 29, 1996	Jan 10, 2002	---	Jun 17, 2002	Apr 01, 2006
EC - Mexico	Oct 24, 1995	Nov 09, 1998	Nov 24, 1999	2	Mar 23, 2000	Jul 01, 2000
EC - Montenegro	May 23, 2006	Sep 26, 2006	Dec 01, 2006	---	Oct 16, 2007	May 01, 2010
EC - Morocco	---	Nov 24, 1993	Nov 16, 1995	---	Feb 26, 1996	Mar 01, 2000
EC - Palestinian Authority	Jul 18, 1996	---	Dec 11, 1996	---	Feb 24, 1997	Jul 01, 1997

EC - South Africa Trade, Development and Cooperation Agreement (TDCA)	Oct 10, 1994	Jun 30, 1995	Mar 25, 1999	---	Oct 11, 1999	Jan 01, 2004
EC - Syria	---	---	---	---	Jan 18, 1977	Jan 01, 1977
EC - Tunisia	Nov 24, 1993	---	Apr 21, 1995	---	Jul 17, 1995	Mar 01, 1998
EFTA - Albania	---	May 12, 2009	Jun 26, 2009	2	Dec 17, 2009	Nov 01, 2010
EFTA - Bosnia and Herzegovina	---	Mar 28, 2011	---	---	---	---
EFTA - Canada	Dec 05, 1997	Oct 09, 1998	Jun 07, 2007	10	Jan 26, 2008	Jul 01, 2009
EFTA - Chile	Nov 21, 2000	Dec 04, 2000	Mar 25, 2003	6	Jun 26, 2003	Dec 01, 2004
EFTA - Colombia	Oct 05, 2006	Jun 08, 2007	Jun 12, 2008	5	Nov 25, 2008	Jul 01, 2011
EFTA - Croatia	Jun 19, 2000	Oct 26, 2000	Feb 23, 2001	2	Jun 21, 2001	Apr 01, 2002
EFTA - Egypt	Dec 08, 1995	Dec 02, 1998	Oct 31, 2006	10	Jan 27, 2007	Aug 01, 2007
EFTA - Former Yugoslav Republic of Macedonia	---	Jun 22, 1999	May 12, 2000	5	Jun 19, 2000	May 01, 2002
EFTA - GCC	May 23, 2000	Jun 20, 2006	Apr 24, 2008	---	Jun 22, 2009	---
EFTA - Hong Kong, China	---	Jan 18, 2010	---	---	Jun 21, 2011	---
EFTA - India	Dec 01, 2006	Oct 06, 2008	---	---	---	---
EFTA - Indonesia	Nov 29, 2005	Jan 31, 2011	---	---	---	---
EFTA - Israel	---	Jun 01, 1991	Jul 16, 1992	---	Sep 17, 1992	Jan 01, 1993
EFTA - Jordan	---	Sep 22, 1998	May 19, 2000	3	Jun 21, 2001	Sep 01, 2002
EFTA - Korea, Republic of	Dec 10, 2004	Jan 17, 2005	Jul 08, 2005	4	Dec 15, 2005	Sep 01, 2006
EFTA - Lebanon	Dec 12, 2002	Apr 08, 2003	Mar 12, 2004	3	Jun 24, 2004	Jan 01, 2007
EFTA - Mexico	Jun 05, 1999	Jul 06, 2000	Nov 03, 2000	4	Nov 27, 2000	Jul 01, 2001
EFTA - Montenegro	---	Apr 01, 2011	Jul 01, 2011	---	Nov 14, 2011	---
EFTA - Morocco	Dec 08, 1995	---	---	---	Jun 19, 1997	Dec 01, 1999
EFTA - Palestinian Authority	---	Jan 22, 1998	Oct 23, 1998	3	Nov 30, 1998	Jul 01, 1999
EFTA - Peru	---	Jun 04, 2007	Oct 31, 2008	5	Jun 24, 2010	Jul 01, 2011
EFTA - Russian Federation / Belarus / Kazakhstan	---	Jan 11, 2011	---	---	---	---
EFTA - SACU	Nov 06, 2000	May 19, 2003	Aug 26, 2005	7	Jun 26, 2006	May 01, 2008
EFTA - Serbia	---	Apr 28, 2009	Jun 12, 2009	2	Dec 17, 2009	Oct 01, 2010
EFTA - Singapore	Jan 10, 2001	Jul 02, 2001	Nov 07, 2001	3	Jun 26, 2002	Jan 01, 2003
EFTA - Tunisia	Dec 08, 1995	Oct 07, 1996	Apr 07, 2004	6	Dec 17, 2004	Jun 01, 2005
EFTA - Turkey	---	---	Oct 17, 1991	---	Dec 10, 1991	Apr 01, 1992
EFTA accession of Iceland	---	Jan 24, 1969	---	---	---	Mar 01, 1970
EU - Canada	Jan 26, 2007	May 06, 2009	---	---	---	---
EU - India	Sep 07, 2005	Jun 28, 2007	---	---	---	---
EU - Korea, Republic of	Dec 09, 2005	May 07, 2007	Oct 15, 2009	8	Oct 06, 2010	Jul 01, 2011
EU - Serbia	---	Oct 10, 2005	Sep 10, 2007	5	Apr 29, 2008	Feb 01, 2010
EU - Ukraine	Jan 18, 2005	Feb 18, 2008	---	---	---	---
East African Community (EAC)	Apr 29, 1997	---	---	---	Nov 30, 1999	Jul 07, 2000
Economic Cooperation Organization (ECO)	---	---	---	---	Jun 19, 1990	Feb 17, 1992
Egypt - Turkey	Oct 20, 1998	---	Mar 31, 2005	6	Dec 27, 2005	May 01, 2007
European Economic Area (EEA)	---	Dec 23, 1989	Oct 22, 1991	---	May 02, 1992	Jan 01, 1994

European Free Trade Association (EFTA)	---	---	---	---	Jan 04, 1960	May 03, 1960
European Union - Papua New Guinea / Fiji	Jun 17, 2002	---	Dec 03, 2007	---	Jul 30, 2009	Dec 20, 2009
Free Trade Agreement between members of the Commonwealth of Independent States (CIS)	Jul 19, 2010	---	---	---	Oct 18, 2011	---
Georgia - Armenia	---	---	---	---	Aug 14, 1995	Nov 11, 1998
Georgia - Azerbaijan	---	---	---	---	Mar 08, 1996	Jul 10, 1996
Georgia - Kazakhstan	---	---	---	---	Nov 11, 1997	Jul 16, 1999
Georgia - Russian Federation	---	---	---	---	Feb 03, 1994	May 10, 1994
Georgia - Turkmenistan	---	---	---	---	Mar 20, 1996	Jan 01, 2000
Georgia - Ukraine	---	---	---	---	Jan 09, 1995	Jun 04, 1996
Global System of Trade Preferences among Developing Countries (GSTP)	Aug 28, 1977	May 01, 1986	Apr 01, 1988	1	Apr 13, 1988	Apr 19, 1989
Guatemala - the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu	---	Mar 01, 2005	Jul 31, 2005	4	Sep 22, 2005	Jul 01, 2006
Gulf Cooperation Council (GCC)	Feb 23, 1994	---	---	---	Dec 31, 2001	Jan 01, 2003
Honduras - El Salvador and the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu	May 27, 1997	May 29, 2006	Nov 24, 2006	---	May 07, 2007	Mar 01, 2008
Hong Kong, China - New Zealand	Nov 09, 2000	Jul 01, 2001	Nov 01, 2009	5	Mar 29, 2010	Jan 01, 2011
Iceland - Faroe Islands	---	---	---	---	Sep 05, 2005	Nov 01, 2006
India - Afghanistan	---	---	---	---	Mar 06, 2003	May 13, 2003
India - Bhutan	---	---	---	---	Jul 28, 2006	Jul 29, 2006
India - Japan	Nov 29, 2004	Jan 30, 2007	Sep 09, 2010	14	Feb 15, 2011	Aug 01, 2011
India - Malaysia	Dec 20, 2004	Jan 01, 2008	Oct 27, 2010	7	Feb 18, 2011	Jul 01, 2011
India - Nepal	---	---	---	---	Dec 06, 1991	Mar 06, 2002
India - SACU	---	Oct 05, 2007	---	---	---	---
India - Singapore	Feb 04, 2003	May 27, 2003	Mar 10, 2005	12	Jun 29, 2005	Aug 01, 2005
India - Sri Lanka	---	Nov 16, 1998	---	---	Dec 28, 1998	Dec 15, 2001
Israel - Mexico	Feb 18, 1997	Apr 01, 1998	Feb 15, 2000	10	Mar 06, 2000	Jul 01, 2000
Japan - Australia	Apr 26, 2002	Apr 24, 2007	---	---	---	---
Japan - Gulf Cooperation Council (GCC)	Apr 06, 2006	Sep 21, 2006	---	---	---	---
Japan - Indonesia	Apr 12, 2005	Jul 01, 2005	Nov 28, 2006	7	Aug 20, 2007	Jul 01, 2008
Japan - Korea, Republic of	Jun 07, 2003	Dec 01, 2003	---	---	---	---
Japan - Malaysia	Dec 11, 2002	Jan 13, 2004	May 22, 2005	---	Dec 13, 2005	Jul 13, 2006
Japan - Mexico	Jun 05, 2001	Oct 27, 2002	Mar 05, 2004	14	Sep 17, 2004	Apr 01, 2005
Japan - Philippines	Dec 11, 2003	Feb 01, 2004	Nov 29, 2004	8	Sep 09, 2006	Dec 11, 2008
Japan - Singapore	---	Oct 22, 2000	Oct 20, 2001	12	Jan 13, 2002	Nov 30, 2002
Japan - Switzerland	Nov 01, 2005	May 14, 2007	Sep 24, 2008	8	Feb 19, 2009	Sep 01, 2009
Japan - Thailand	Nov 20, 2001	Feb 16, 2004	Feb 01, 2006	9	Apr 03, 2007	Nov 01, 2007
Japan - Viet Nam	Dec 12, 2005	Jan 16, 2007	Sep 29, 2008	9	Dec 25, 2008	Oct 01, 2009
Jordan - Singapore	Jun 23, 2003	Oct 01, 2003	Apr 29, 2004	5	May 16, 2004	Aug 22, 2005

Korea, Republic of - Canada	Nov 19, 2004	Jul 15, 2005	---	---	---	---
Korea, Republic of - Chile	Jun 01, 1998	Sep 20, 1999	Oct 24, 2002	6	Feb 15, 2003	Apr 01, 2004
Korea, Republic of - India	Oct 04, 2004	Mar 23, 2006	Sep 01, 2008	12	Aug 07, 2009	Jan 01, 2010
Korea, Republic of - Mexico	Apr 01, 2004	Feb 02, 2006	---	---	---	---
Korea, Republic of - Singapore	Nov 14, 2002	Jan 27, 2004	Nov 29, 2004	7	Aug 04, 2005	Mar 02, 2006
Kyrgyz Republic - Armenia	---	---	---	---	Jul 04, 1994	Oct 27, 1995
Kyrgyz Republic - Kazakhstan	---	---	---	---	Jun 22, 1995	Nov 11, 1995
Kyrgyz Republic - Moldova	---	---	---	---	May 26, 1995	Nov 21, 2006
Kyrgyz Republic - Russian Federation	---	---	---	---	Oct 08, 1992	Apr 24, 1993
Kyrgyz Republic - Ukraine	---	---	---	---	May 26, 1995	Jan 19, 1998
Kyrgyz Republic - Uzbekistan	---	---	---	---	Dec 24, 1996	Mar 20, 1998
Latin American Integration Association (LAIA)	---	---	---	---	Aug 12, 1980	Mar 18, 1981
MERCOSUR - India	Nov 01, 1999	Apr 24, 2003	---	4	Jan 25, 2004	Jun 01, 2009
Mexico - Guatemala (Mexico - Northern Triangle)	Jan 22, 1991	Feb 16, 1996	May 11, 2000	---	Jun 29, 2000	Mar 15, 2001
Mexico - Nicaragua	---	Jan 11, 1991	---	---	Dec 18, 1997	Jul 01, 1998
New Zealand - Singapore	---	Sep 11, 1999	Aug 18, 2000	6	Nov 14, 2000	Jan 01, 2001
Nicaragua and the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu	---	Sep 20, 2004	---	---	Jun 16, 2006	Jan 01, 2008
North American Free Trade Agreement (NAFTA)	Nov 13, 1979	Feb 05, 1991	Aug 12, 1992	---	Dec 17, 1992	Jan 01, 1994
Pacific Island Countries Trade Agreement (PICTA)	Jun 01, 1999	Aug 28, 2000	---	---	Aug 18, 2001	Apr 13, 2003
Pakistan - China	Feb 20, 2004	Apr 06, 2005	Nov 13, 2006	---	Nov 24, 2006	Jul 01, 2007
Pakistan - Malaysia	---	Feb 17, 2005	Oct 01, 2005	10	Nov 08, 2007	Jan 01, 2008
Pakistan - Sri Lanka	May 02, 1999	Jul 31, 2000	---	---	Aug 01, 2002	Jun 12, 2005
Pan-Arab Free Trade Area (PAFTA)	Sep 16, 1996	Feb 19, 1997	---	---	Dec 31, 1997	Jan 01, 1998
Panama - Chile	---	Nov 01, 1996	Feb 02, 2006	15	Jun 27, 2006	Mar 07, 2008
Panama - Costa Rica (Panama - Central America)	Jul 12, 1997	Apr 27, 2000	Jun 22, 2007	7	Aug 07, 2007	Nov 23, 2008
Panama - El Salvador (Panama - Central America)	Jul 12, 1997	Apr 27, 2000	Jan 13, 2002	---	Mar 06, 2002	Apr 11, 2003
Panama - Honduras (Panama - Central America)	Jul 12, 1997	Apr 27, 2000	Jun 15, 2007	---	---	Jan 09, 2009
Panama - Singapore	Feb 17, 2004	May 17, 2004	Apr 08, 2005	3	Mar 01, 2006	Jun 24, 2006
Panama and the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu	Aug 09, 2002	Oct 03, 2002	Aug 09, 2003	5	Aug 21, 2003	Jan 01, 2004
Peru - China	Jun 30, 2004	Jan 20, 2008	Nov 19, 2008	6	Apr 28, 2009	Mar 01, 2010
Peru - Korea, Republic of	Dec 01, 2002	Mar 20, 2009	Aug 30, 2010	5	Mar 21, 2011	Aug 01, 2011
Peru - Singapore	Nov 22, 2004	Feb 14, 2006	Aug 29, 2007	4	May 28, 2008	Aug 01, 2009
Singapore - Australia	Nov 15, 2000	Feb 22, 2001	Nov 03, 2002	10	Feb 17, 2003	Jul 28, 2003

South Asian Free Trade Agreement (SAFTA)	Oct 19, 1993	---	---	---	Jan 06, 2004	Jan 01, 2006
South Asian Preferential Trade Arrangement (SAPTA)	---	---	---	4	Apr 12, 1993	Dec 07, 1995
South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA)	---	---	---	---	Jul 14, 1980	Jan 01, 1981
Southern African Customs Union (SACU)	---	---	---	---	Oct 21, 2002	Jul 15, 2004
Southern African Development Community (SADC)	---	---	---	---	Jul 17, 1992	Sep 01, 2000
Southern Common Market (MERCOSUR)	---	Jul 07, 1990	---	---	Mar 26, 1991	Dec 31, 1994
Switzerland - China	Apr 08, 2007	Nov 07, 2011	---	---	---	---
Thailand - Australia	Apr 06, 2001	May 31, 2002	Oct 19, 2003	---	Jul 05, 2004	Jan 01, 2005
Thailand - New Zealand	Oct 20, 2003	Jun 15, 2004	Dec 01, 2004	---	Apr 19, 2005	Jul 01, 2005
The Cross-Straits Economic Cooperation Framework Agreement (ECFA)	---	Jan 26, 2010	---	---	Jun 29, 2010	---
Trans-Pacific Strategic Economic Partnership	Oct 28, 2002	Sep 24, 2003	Jun 03, 2005	---	Jul 18, 2005	May 28, 2006
Turkey - Albania	---	---	---	---	Dec 22, 2006	May 01, 2008
Turkey - Bosnia and Herzegovina	Aug 29, 2000	---	---	---	Jul 03, 2002	Jul 01, 2003
Turkey - Chile	---	Nov 01, 2007	Mar 20, 2009	4	Jul 14, 2009	Mar 01, 2011
Turkey - Croatia	---	---	Nov 30, 2001	---	Mar 13, 2002	Jul 01, 2003
Turkey - Former Yugoslav Republic of Macedonia	---	---	---	---	Sep 07, 1999	Sep 01, 2000
Turkey - Georgia	---	Feb 01, 2007	---	---	Nov 21, 2007	Nov 01, 2008
Turkey - Israel	---	Sep 01, 1994	---	---	Mar 14, 1996	May 01, 1997
Turkey - Jordan	Mar 19, 2001	Jul 17, 2007	---	---	Dec 01, 2009	Mar 01, 2011
Turkey - Montenegro	---	---	---	---	Nov 26, 2008	Mar 01, 2010
Turkey - Morocco	---	Feb 15, 1999	Oct 03, 2003	---	Apr 07, 2004	Jan 01, 2006
Turkey - Palestinian Authority	---	---	---	---	Jul 20, 2004	Jun 01, 2005
Turkey - Serbia	---	---	---	---	Jun 01, 2009	Sep 01, 2010
Turkey - Syria	---	---	---	---	Dec 22, 2004	Jan 01, 2007
Turkey - Tunisia	May 19, 2003	---	Sep 28, 2004	---	Nov 25, 2004	Jul 01, 2005
US - Australia	Mar 25, 2001	Mar 17, 2003	Feb 08, 2004	5	May 18, 2004	Jun 01, 2005
US - Bahrain	May 22, 2003	Jan 26, 2004	May 27, 2004	---	Sep 14, 2004	Aug 01, 2006
US - Chile	Aug 09, 1999	Dec 06, 2000	Dec 11, 2002	14	Jun 06, 2003	Jan 01, 2004
US - Israel	---	---	---	---	Apr 22, 1985	Aug 19, 1985
US - Jordan	Jul 24, 1998	Jun 06, 2000	---	---	Oct 24, 2000	Dec 17, 2001
US - Morocco	Jan 23, 2002	Jan 21, 2003	Mar 02, 2004	8	Jun 15, 2004	Jan 01, 2006
US - Oman	Jul 05, 2004	Mar 15, 2005	Oct 03, 2005	---	Jan 19, 2006	Jan 01, 2009
US - Panama	Nov 18, 2003	Apr 26, 2004	Dec 16, 2006	---	Jun 28, 2007	---
US - Peru	Nov 18, 2003	May 18, 2004	Dec 07, 2005	13	Apr 12, 2006	Feb 01, 2009
US - Singapore	Nov 16, 2000	Dec 04, 2000	Nov 19, 2002	11	May 06, 2003	Jan 01, 2004
Ukraine - Azerbaijan	---	---	---	---	Jul 28, 1995	Sep 02, 2006
Ukraine - Belarus	---	---	---	---	Oct 19, 2005	Nov 11, 2006

Ukraine - Kazakhstan	---	---	---	---	Sep 17, 1994	Oct 19, 1998
Ukraine - Moldova	---	---	---	---	Nov 13, 2003	May 19, 2005
Ukraine - Russian Federation	---	---	Jun 19, 1993	---	Jun 24, 1993	Feb 21, 1994
Ukraine - Singapore	---	May 08, 2007	---	---	---	---
Ukraine - Tajikistan	---	---	---	---	Jul 06, 2001	Jul 11, 2002
Ukraine - Uzbekistan	---	---	Oct 22, 1993	---	Dec 29, 1994	Jan 01, 1996
Ukraine -Turkmenistan	---	---	---	---	Nov 05, 1994	Nov 04, 1995

Sources: various newspaper articles and press releases, sourced from LexisNexis;