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ABSTRACT

THE TIES THAT BIND: GEOPOLITICAL MOTIVATIONS FOR ECONOMIC INTEGRATION*

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Economic determinants of economic integration agreements (EIAs) have received ample attention in the economic literature. Political motivations for such agreements have been mostly studied as functions of domestic politics or in the context of conflict. In this paper I suggest a different narrative. Economic integration could be used as an instrument of foreign policy, where political considerations influence the choice of contracting partners. I sketch a simple model that exhibits the proposed mechanism in which a big country chooses between alternatives for integration in terms of economic and political welfare gains, while the small country is indifferent between possible partners for integration. In the empirical part I use a novel dataset on political events to test the predictions of the model and find evidence for the hypothesis that there is more to economic integration than "just trade". Geopolitical considerations play a determining role in the choice of the contracting partner country and the depth of economic integration.

Keywords: Trade agreements, geopolitics, gravity equation, event data
JEL classification: F13, F15, F51, F53

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1 Introduction

"This connection between economic power and global influence explains why the United States is placing economics at the heart of our own foreign policy. I call it economic statecraft."

— former Secretary of State Hillary Clinton, Nov. 2012

The geography of economic integration agreements (EIA) is rapidly evolving, especially since the end of the Cold War. Bilateral and multilateral EIAs[1] have seen a massive boost in numbers since the early 1990's, even before the current Doha round of multilateral WTO negotiations came to a seeming halt. While part of the reason for the stark increase in regional and supra-regional trade agreements seems to be grounded in obvious economic benefits, often there appears to be more than "just trade" as incentive: The connection between bilateral political relations and economic integration between partnering countries can be profound, as probably best exemplified by the arguably deepest and most advanced agreement, the European Union. For some country pairs, political motivations may even dominate trade gains altogether, defying the usual logic for how *deep* a trade agreement should be: Why e.g. has the US deeper agreements in the Middle East than with East Asian countries? Figure 1 underlines the intuition by showing the number of bilateral relations a country has with an underlying EIA. Aside from the highly integrated European continent, the Middle East in particular appears to be not only a politically volatile region, but also a hotbed of EIAs. Figures 2a and 2b display the changing nature of country pairs that form EIAs. Since the early 1960's the average distance and ratio of GDPs between countries in active EIAs is growing and accelerating since the 1990's.

This paper aims to address the question of how trade policy, in the form of signing a new or deepening of an existing EIA, is influenced by foreign policy considerations, and more specifically, why countries negotiate and sign agreements with little economic benefits. Aside from traditional trade gains, bilateral trade policy in the form of EIAs appears to follow a pattern in which larger countries form such agreements with smaller, but potentially geopolitically important countries.

This paper is related to an extensive literature on the determinants and effects of economic integration. Limão (2016) provides a comprehensive overview over the literature on economic and non-economic determinants of preferential trade agreements—as well as their impact on trade. In Limão (2007) he provides the benchmark model on non-traditional determinants of economic integration that incorporates a generic non-trade issue into bilateral trade negotiations and identifies the implications on multilateral trade liberalization. Baier and Bergstrand (2004) and Baier et al. (2014) provide analyses of economic

[1] Here defined as including any customs union, partial or full free trade agreement.

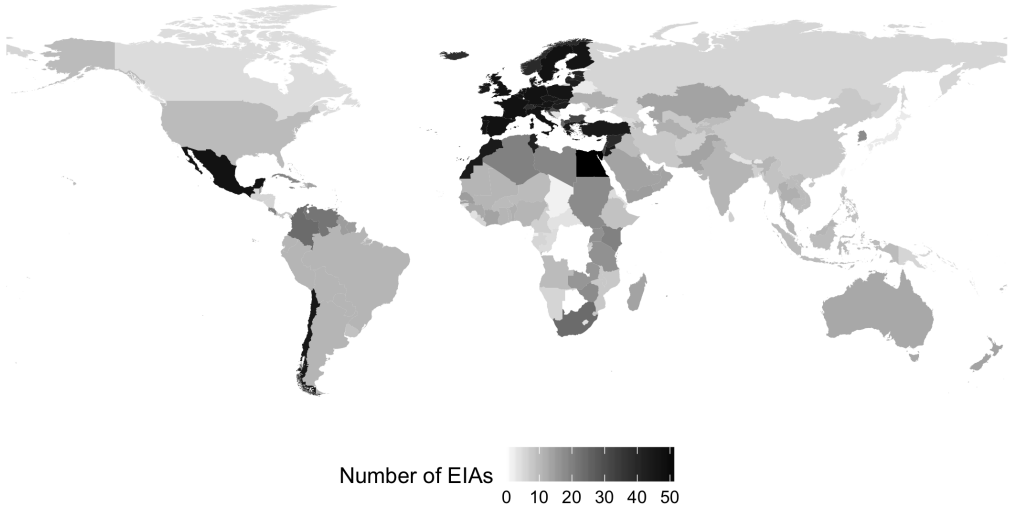
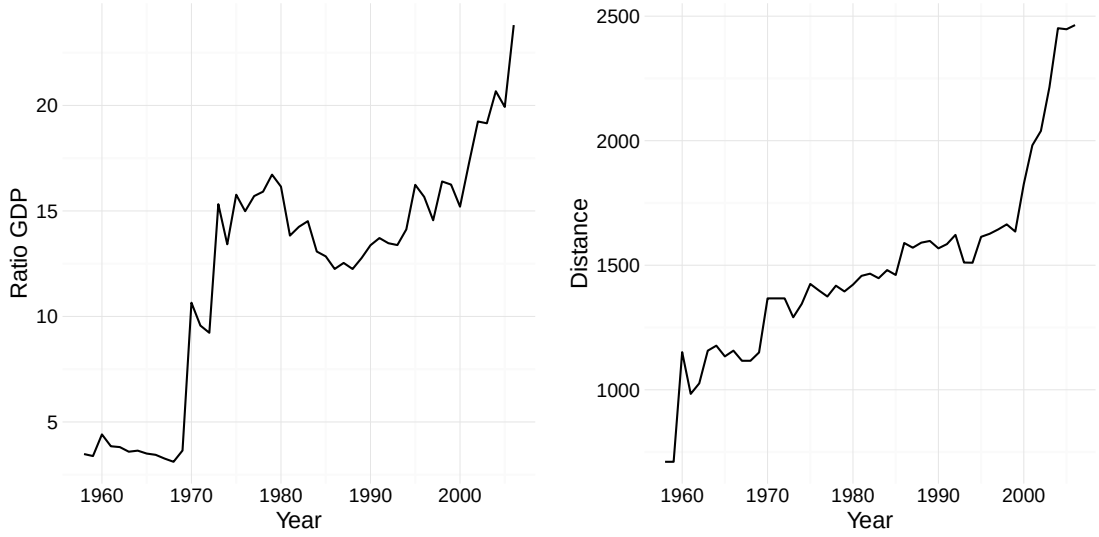


Figure 1: Total number of bilateral relations with active EIAs by country in 2006.

determinants of free trade agreements. In Baier and Bergstrand (2007) they quantify the effect of free trade agreements on trade flows, taking into account potential endogeneity issues of selection into EIAs. Vicard (2009) shows that countries tend to follow different paths of economic integration that he finds, somewhat surprisingly, to exhibit similar trade impacts. Aichele et al. (2014) contribute to the debate on the economic and political effects of the Transatlantic Trade and Investment Partnership (TTIP) between the European Union and the United States. They estimate the impact of economic integration across the North Atlantic on gross trade, trade in value-added and welfare in a structural gravity framework similar in spirit to Caliendo and Parro (2015). Maggi (2014) and Freund and Ornelas (2010) provide comprehensive overviews of the more recent developments since Baldwin and Venables (1995) and draw the frontiers in this field: According to Freund and Ornelas "participation in any [trade agreement] is a political decision," warranting future research.

Previous work has established links between EIAs and conflict, capturing one facet of political motivations. Martin et al. (2008), in their aptly named paper "Make Trade Not War", show that the onset of war greatly diminishes the value of traded goods, therefore implying that strong trading relations create higher opportunity costs for war, in turn minimizing the probability of conflict. In Martin et al. (2012) they then go on to show that this effect can be institutionalized by forming a trade agreement within a certain time window after a conflict. Vicard (2012) finds that deep economic integration between countries significantly reduces their probability of conflict, while shallow agreements do not. Other papers study the link between trade and politics in a broader sense. Glick and Taylor (2010) estimate the impact of the two world wars on trade and other economic



(a) **(b)**

Figure 2: The average ratio of the GDP (a) and the average distance (b) between two countries in an active EIA is increasing over time.

indicators, using a gravity model approach similar to mine. Umana Dajud (2013) studies the impact of political proximity on trade flows, finding that countries ruled by governments that are similar in terms of their position on the left/right spectrum and degree of authoritarianism/libertarianism, have a greater exchange of goods. Lederman and Ozden (2007) show how US geopolitical interests, as expressed through political alliances, are played out against preferential access to the US market. Berger et al. (2013) reveal another aspect of the mixing of political and commercial interests by showing how CIA interventions lead to an increase in US imports by the affected country.

Naturally, the interaction between trade policy and foreign policy has also been studied from the perspective of political science. Waltz (1999) and Nye (1988, 2011) portray the thinking in the two most prominent schools of thought in this respect: the school of realism and that of (neo)liberalism. Others have established the link between domestic politics and trade agreements: Mansfield et al. (2002) show that trade agreements generate information that help leaders "show their constituents their achievements" during their time in power. Liu and Ornelas (2014) find further evidence for this hypothesis, showing that trade agreements can serve as a commitment device for the purpose of stabilizing a democratic regime (Maggi, 2014). This resonates also with results from Mansfield et al. (2000), who demonstrate common characteristics of signatories of trade agreements: Democracies set trade barriers reciprocally at lower levels than autocracies.

This paper contributes to the literature by seeking to demonstrate the impact of political motivations for EIAs. Building on a modified version of the model introduced by Limão

(2007), I show how in a stylized framework a big country may weigh alternative motivations for integration—of economic or political nature—while a smaller country may be indifferent between possible partner countries at the same time. I test these predictions with proxies for economic and political motivations for integration. The economic motivation is proxied by *non-realized* trade gains computed using general equilibrium counterfactuals from a gravity framework. In the gravity setup I introduce an index of depth of integration that improves upon the customary estimation with a dummy variable, allowing for heterogeneity of effects. The political motivation is proxied by two new indices to describe the state of political relations between two countries—bilateral political *importance* and *mood*—harnessing the powers of the GDELT dataset on political events.

The paper is structured as follows. In section 2 I sketch a model that displays the mechanism through which countries choose their contracting partner for an EIA—allowing for economic and political motivations. In section 3 I introduce an index of depth of economic integration, estimate the elasticity of trade to this depth and subsequently calculate the trade gains of existing and hypothetical EIAs between countries. In section 4 I construct two new indices that quantify bilateral political relations: the bilateral mood and importance. Finally in section 5 I bring both empirical components together and estimate the effect of political motivations as a determinant of trade policy. Section 6 concludes.

2 Theoretical model

The stylized model broadly follows Limão (2007). Aside from the initial setup and notation, it is particularly similar in the way the non-trade motivation for economic integration is modeled: A *small* country produces a public good with a positive externality for a *big* country, which yields the latter to grant preferential access to its market to the former. The present model diverges from Limão (2007) in two important aspects, however. It is a one shot game that ignores enforcement constraints and its purpose is to demonstrate different outcomes contingent on initial parameters through comparative statics. The game takes place in a situation in which each country is potentially signing an economic integration with one other country, weighing the alternatives. Furthermore, in the present model there exists no multilateral trade policy and the basic setting consists of three countries j: Two big countries, defined by their larger endowment with non-public goods—one with an economically-focused population E and one with a politically-aware population P—as well as a small country S, all of which can potentially enter economic integration agreements with each other. Next to a public good G there exist different kinds of private goods in the global economy: a non-traded good n and three traded goods i denoted with lowercase e, p, and s.

For simplicity, each of the countries has a population of the size L and the two big countries are symmetric in economic size.[2] Each individual in the two big countries is endowed with one unit of *each* traded good $i \in \{e, p\}$, while in the small country each individual is endowed with only one traded good $i \in \{s\}$. The non-traded good is produced with labor and constant returns, with the marginal product normalized to 1.

2.1 The Consumer

Each consumer in $j \in \{E, P, S\}$ has preferences over the consumption of the non-traded good c_n^j, the traded goods c_i^j and a public good G. Each individual's utility is written as

$$U^j = c_n^j + \sum_i u_i^j(c_i^j) + \overline{\Psi}^j(G^j, G^{\setminus j})$$

whereas the subutility function for the public good is

$$\overline{\Psi}^j(G^j, G^{\setminus j}) = \lambda^j \Psi(G^j) + \alpha^j \lambda^j \Psi(G^{\setminus j}) \quad \text{with} \quad \lambda^j, \alpha^j \geq 0.$$

λ^j is the weight placed on the public good G and global spillovers occur if α^j is non-zero, both of which are country specific. A high α^j signals a high sensitivity towards the public good produced abroad. Ψ and u are assumed to meet the Inada conditions. G can be interpreted as public expenditures to address issues with global spillovers, such as the fight against terrorism, for security against piracy, but also, like in Limão (2007) for environmental or labor standards.

The individual's income y consists of a wage w, net taxes equal to a per capita lump-sum transfer of the government's tariff revenue r minus a tax used to finance public good g, and her value of endowments with goods $i \in \{e, p, s\}$, so that

$$y^j = w^j + (r^j - g^j) + \sum_i p_i^j$$

For given prices, taxes, income and level of G, the individual chooses the quantities of the private goods $i \in \{e, p, s\}$ she consumes to maximize her utility subject to the budget constraint

$$c_n^j + \sum_i p_i^j c_i^j \leq y^j$$

Given the assumptions on the utility, the budget constraint is satisfied with equality, thus

[2] This assumption is not necessary for the results below. As long as E is sufficiently larger than S (in the sense that it retains most bargaining power), while being sufficiently similar in size compared to P (in the sense of having similar bargaining power in negotiations) the derived predictions remain the same.

individual demand is

$$d_i^j(p_i^j) = [u_i^j(p_i^j)]^{-1}$$

for each of the traded goods. The individual's indirect utility is then

$$W^j/L = y^j + \overline{\Psi}^j(G^j, G^{\setminus j}) + \sum_i v_i^j(p_i^j)$$

where the last term represents consumer surplus.

As in Limão (2007), I am interested in the case in which there is an underprovision of the public good G in the small country from the point of view of the politically-aware country. I follow Limão's assumptions on consumers in the small country and take the extreme case where the population in S places no weight ($\lambda^S = 0$) on the provision of the public good and receives no utility from traded goods. As Limão (2007) shows, this "trick" circumvents any possible trade diversion effects and puts the focus on the non-economic motivation. Consumers in S only value the non-traded good. The indirect utility for individuals in the small country is therefore equal to income y. Furthermore, I assume that while consumers in E and P place the same weight on the provision of the domestic public good so that $\lambda^E = \lambda^P$, while consumers in E do not care about the provision of the public good in other countries, so that $\alpha^E = 0$.[3] Hence, the indirect utility for individuals in E is equal to the value of the traded and non-traded goods, and the provision of G by the domestic government. This is the distinctive difference between the two big countries, which are otherwise indistinguishable.

2.2 The Government

The government sets the trade policy and chooses G to maximize domestic aggregate welfare. The public good is produced using l_g^j units of labor in a linear production function

$$G^j = b^j l_g^j$$

The population L is assumed to be sufficiently large so that the non-traded good is always produced in equilibrium, fixing the wage at unity. Then the cost of producing a given level G^j is simply l_g^j. The tariff revenue is distributed to consumers as a lump-sum transfer and hence government revenue comes exclusively from taxes g^j, so that the government budget constraint is

$$G^j = b^j L g^j$$

[3] This is obviously an extreme case, but it nicely demonstrates the underlying mechanism. The results hold for any $\alpha^E < \alpha^P$.

The government therefore chooses g^j to fund the production of G^j. The government also decides on the tariffs on imported traded goods, τ_i^j.[4]

2.3 Trade Pattern and Objective Functions

As the two big countries E and P have the same endowments of each traded good, differences in the u_i^j and therefore in the respective demand determine the trade pattern of $i \in \{e, p\}$. The small country derives no utility from these goods and therefore exports its endowment of good $i \in \{s\}$ in its entirety, without importing any of the other two goods. This implies that the small country does not set *any* tariff, so that in case of economic integration it cannot offer any reduction of tariffs.[5] Hence, all the small country can offer to a big country is the provision of the public good. In return, lower tariffs from a big country increase the price that the small country receives for its exports of $i \in \{s\}$.

Prices p_i^j are therefore determined through net imports M_i^j summing to zero, so that

$$\begin{aligned} M_e^E(p_e^E) + M_e^P(p_e^E - \tau_e^E) = M_e^E(p_e^P - \tau_e^P) + M_e^P(p_e^P) = 0 \\ M_p^E(p_p^E) + M_p^P(p_p^E - \tau_p^E) = M_p^E(p_p^P - \tau_p^P) + M_p^P(p_p^P) = 0 \\ M_s^E(p_s^E - \tau_s^E) + M_s^P(p_s^P - \tau_s^P) + M_s^S = 0 \end{aligned}$$

Net imports are given by $M_i^j = (d_i^j(p_i^j) - 1)L$ for $j \in \{E, P\}$ and $M_s^S = -L$. The objective functions in terms of the policy variables for the three governments are then

$$W^S(g^S, \tau_s^E, \tau_s^P) = L\left(w - g^S + \gamma(p_s^E(\tau_s^E) - \tau_s^E) + (1-\gamma)(p_s^P(\tau_s^P) - \tau_s^P)\right) \tag{1}$$

for the small country, while for the economically-minded being

$$\begin{aligned} W^E(g^E, \tau_e^j, \tau_p^j, \tau_s^E) = \\ & L\left(w - g^E + \lambda^E \Psi(b^E L g^E)\right) \\ & - \left(M_s^E \tau_s^E + \max(M_e^E(\tau_e^E, \tau_e^P), 0)\tau_e^E + \max(M_p^E(\tau_p^E, \tau_p^P), 0)\tau_p^E\right) \\ & + L\eta_s^E + L\eta_e^E + L\eta_p^E \end{aligned} \tag{2}$$

[4] Under the above assumptions these are specific to the trade partner, as S is only endowed with $i \in \{s\}$, so that each country imports a respective good from only one partner country.

[5] As motivated by Limão (2007), small countries' tariffs usually are not a central component of EIA's with big countries. Following Ethier (1998), trade liberalization by smaller countries usually takes the form of unilateral trade liberalization.

and finally for the politically-aware country

$$
\begin{aligned}
W^P(g^P, g^E, g^S, \tau_e^j, \tau_p^j, \tau_s^P) = \\
& L\left(w - g^P + \lambda^P\Psi(b^P L g^P) + \alpha^P\lambda^P\Psi(b^E L g^E) + \alpha^P\lambda^P\Psi(b^S L g^S)\right) \\
& - \left(M_s^P\tau_s^P + \max(M_e^P(\tau_e^E, \tau_e^P), 0)\tau_e^P + \max(M_p^P(\tau_p^E, \tau_p^P), 0)\tau_p^P\right) \\
& + L\eta_s^P + L\eta_e^P + L\eta_p^P
\end{aligned} \tag{3}
$$

γ is the share of exports from S to E (and hence $1-\gamma$ the share to P) and $\eta_i^j = p_i^j(\tau_i^j) + v_i^j(p_i^j(\tau_i^j))$ the consumer surplus from good i in country j. Similar to Limão (2007), for the small country the objective function, equation (1), consists of aggregate wages Lw, the production cost for the provision of the public good Lg^S as well as the export revenue by destination E and P. For the economically-focused country the objective function, equation (2), consists of aggregate wages, productions costs for the public good, and the utility from the domestic public good $\lambda^E\Psi(b^E L g^E)$, as well as tariff revenue on positive net imports (second row) and the aggregate surplus from goods $i \in \{e, p, s\}$ (third row). The objective function in the politically-aware country, equation (3), is analogous to the one in the economically-focused one, with the addition of the terms $\alpha^P\lambda^P\Psi(b^j L g^j)\ \forall\ j \in \{E, S\}$, that represent the sensitivity to public goods produced abroad.

2.4 Comparative Statics: Integrating for Economic or Political Reasons

The situation is the following. Each country can enter an EIA with one of the other countries. Hence there are three possible scenarios of integration: P with E, P with S and E with S. Assume that the differences in demand are sufficiently large such that lower trade barriers are always Pareto improving. Given the asymmetries of the countries and following Limão (2007), the two big countries possess all the bargaining power in negotiations with the small country, while they have equal bargaining power in bilateral negotiations.

The non-cooperative Nash outcome is given by a solution $\{\tau_i^j, g^S\}$, i.e. all import tariffs by good and country and the level of provision of the public good in S.[6] The solution is found by maximizing equations (1), (2) and (3) taking the other countries' policies as given. Analogous to the maximization problem in Limão (2007) this yields

$$
\overline{\tau}_{i\in\{e,p\}}^j = \arg\max\{W^j\};\ \ \overline{\tau}_s^E = \overline{\tau}_s^P = p_s^E = p_s^P;\ \ g^S = 0. \tag{4}
$$

The respective $\overline{\tau}_i^j$ depend on the utility functions u_i^j and represent the upper bound tariff.

[6] As consumers in both big countries value the domestic production of the public good it is always provided in these countries.

The import tariffs on good s are both equal to the price of s in both countries: As S does not value the good, both big countries increase their tariff until it equals the price, thereby fully extracting and sharing the surplus. At the same time, S does not value the public good and hence provides none of it.

In this situation, multiple scenarios would yield welfare improvements for at least one of the countries. E would benefit from lower tariffs in P, i.e. for $\tau_i^{P\prime} < \overline{\tau}_i^P$; P would benefit from lower tariffs in E, i.e. for $\tau_i^{E\prime} < \overline{\tau}_i^E$; S would benefit from lower tariffs in P and E, i.e. for $\tau_s^{j\prime} < \overline{\tau}_s^j$ and P would benefit from higher production of the public good in S, i.e. $g^{S\prime} > g^S = 0$.

Setting enforcement issues aside, all three countries now consider which other country to integrate with. An agreement only comes to fruition when *both* parties agree. I first focus on the alternatives for the small country, which is considering potential benefits from an agreement with either P or E. As both big countries have all bargaining power, they both offer a "take it or leave it" contract to the small country. P provides an offer that is similar to the solution described by Limão (2007) in detail:

$$\{\tau_s^{P\prime}(\overline{\tau}_s^P), g^{S\prime}(\overline{\tau}_s^P)\} = \\ \underset{\tau_s^P, g^S}{\arg\max}\{W^P(\tau_e^j, \tau_s^P, .) : W^S(g^S, \tau_s^P, .) \geq W^S(g^S = 0, \tau_s^P = \overline{\tau}_s^P, .)\} \tag{5}$$

P benefits from an increase in g^S up until the constraint binds, which is at the point where S is indifferent to the previous situation of $\overline{\tau}_s^P$ and $g^S = 0$. By way of equation (1) the solution is therefore at $g^{S\prime}(\overline{\tau}_s^P) = (\overline{\tau}_s^P - \tau_s^P)/L$, where the per capita revenue of S's exports to P is equal to the tax required to fund the provision of g^S. On the other hand, E has no improvement in welfare by integrating with S and hence offers the exact same package as before, such that $\tau_s^{E\prime} = \overline{\tau}_s^E$. From the point of view of a consumer in S, however, the welfare implications of the two alternatives are exactly the same, as both offer no welfare improvement. Hence the government of S is indifferent between both potential partners.

Looking at the economically-focused country E, the alternatives are quite clear. As described above, an integration with S offers no welfare improvement to E, as S does not import anything from E and E only values the domestically produced public good g^E. On the other hand, integrating with P through reciprocally lower bilateral import tariffs yields improvements in welfare for E. Tariffs in this situation are defined by

$$\{\tau_e^{P\prime}(\overline{\tau}_e^P), \tau_s^{P\prime}(\overline{\tau}_s^P)\} = \\ \underset{\tau_i^P, \tau_i^E}{\arg\max}\{W^E(\tau_i^E, \tau_i^P, .) : W^P(\tau_i^E, \tau_i^P, .) \geq W^P(\tau_i^E = \overline{\tau}_i^E, \tau_o^P = \overline{\tau}_i^P, .)\} \tag{6}$$

Hence the government of E will only form an agreement with P, as it is the only option that is welfare improving under the assumptions given.

Finally coming to the alternatives for integration for the politically-aware country P. As described above, P can improve its welfare by either integrating with E and reaping further utility through the consumption of imported traded goods, i.e. an *economic* motivation. Alternatively, P can integrate with S and improve its aggregate welfare by deriving utility from the provision of g^S, produced by the smaller country although S itself does not gain any utility from it. Which of the two options prevails is determined by the respective terms in the objective function of P, equation (3):

$$\begin{aligned}\alpha^P \lambda^P \Psi(b^S L g^S) + \eta_s^P + M_s^P \tau_s^P \lesseqgtr \\ - \left(\max(M_e^P(\tau_e^E, \tau_e^P), 0)\tau_e^P + \max(M_p^P(\tau_p^E, \tau_p^P), 0)\tau_p^P\right)/L + \eta_e^P + \eta_p^P \end{aligned} \tag{7}$$

If the left-hand side, driven by a large parameter α^P, is greater than the right-hand side, the additional welfare of signing an agreement with S is greater than integrating with E, and vice versa. To put it in other words, a sufficiently large α^P, the sensitivity to the public good produced abroad, can lead to a larger change in welfare from economically integrating with the small country than the change in welfare from reciprocally lower trade barriers by integrating with E.

2.5 Reduced Form Predictions of the Model

The predictions of this stylized model are therefore twofold: First, a "big" country that values the provision of a public good in a partner country—what in this case I call a "geopolitical motivation"—weighs economic against non-economic benefits in the choice of the contracting partner country. Either motivation is a necessary, but neither is a sufficient condition for integration. Second, a "small" country, due to its limited bargaining power, is indifferent between integrating with a selection of comparably big countries. This does not mean the small country is passive in the negotiations, it is merely indifferent between alternatives. I test these predictions in section 5, using proxies for economic and political motivations that I describe in more detail in the following.

3 Depth and Trade Gains of Economic Integration

In order to analyze the effect of political motivations for economic integration, I first estimate the trade gains brought about by the agreement, which are unquestionably a primary determinant. More specifically, I compute *non-realized* trade gains as a proxy for the economic motivation to integrate with a partner country. I do this with the help of a structural gravity framework.

The existence of a trade agreement, whether in a form of a full-fledged FTA or a mere bilateral agreement on minor tariff reductions, has traditionally appeared as a dummy variable in most gravity equations. However, this might leave out important information about the depth of an agreement and therefore the effect on trade flows between two countries. I account for this heterogeneity by constructing an index of depth for 306 unique agreements.[7]

3.1 Depth of Economic Integration Agreements

The main characteristics of the design of an EIA are its depth, scope and flexibility (Baccini and Dür, 2011). Deep EIAs, as understood in the economic literature, exhibit far-reaching regulatory provisions that go beyond a mere decrease or abolition of tariffs. The inclusion of further provisions, e.g. on government procurement, services and intellectual property describe a wider scope. Flexibility describes the mechanisms and circumstances under which countries may break these provisions without voiding the entire agreement.

Breaking down these features of EIAs into one index is obviously a difficult task. The multidimensionality of the information on each agreement will be lost to a certain degree. Kohl et al. (2013) propose an aggregate "index of trade agreement heterogeneity" by counting the number of areas covered by the agreement and dividing by all areas that are available in the data. In order to account for the distinction between depth and scope, I refine this index by weighting by legal enforceability of the provisions. Horn et al. (2010) and Orefice and Rocha (2011), upon whose data the index is primarily built, code agreements by area with 2 for legally enforceable provision, 1 for non-enforceable provision and 0 for no provision at all.[8] I follow this notion and give legally enforceable provisions twice the weight as non-enforceable ones, implicitly forming the assumption that legal enforceability is increasing the depth of an EIA.[9] The index of depth of integration then reads

$$\mathbf{d}_{odt} = \frac{\sum_p I_{p,odt}}{2 \cdot \text{number of areas}}$$

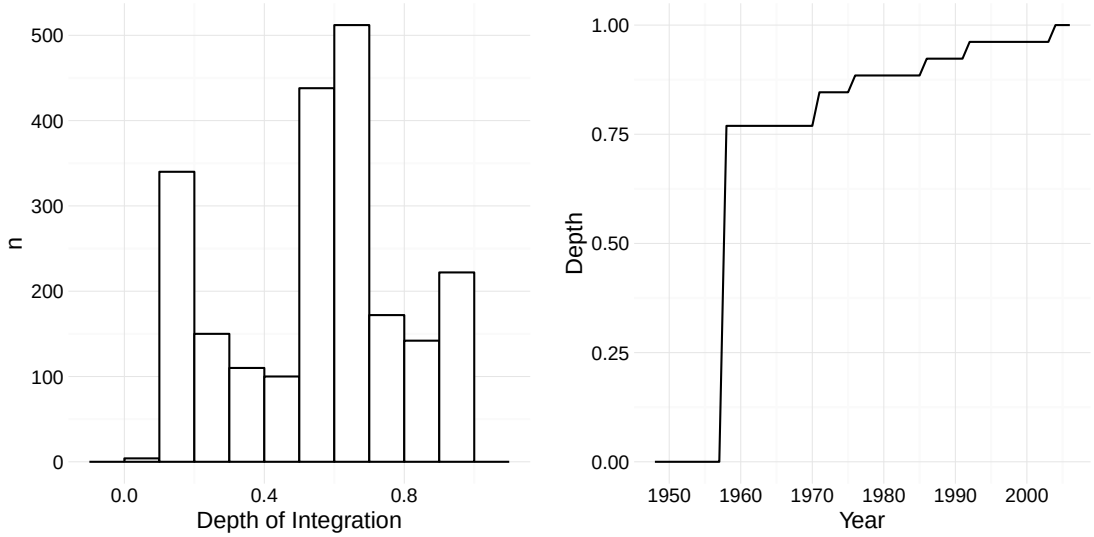
where $I_{p,odt}$ is an indicator for whether a provision p is in force between two countries o and d at time t.[10] The indicator variable is set to 1 if the agreement includes provisions in the respective area, to 2 if these provisions are also legally enforceable, and to 0 otherwise.

[7] With an additional 44 accessions to existing agreements.

[8] See appendix table 4 for a description of the areas of provision as defined in Horn et al. (2010).

[9] Although the choice of the weight for legal enforceability is of course somewhat arbitrary, the econometric results of the estimation of the gravity equation do not vary significantly with different weighting.

[10] Note that deviating from the model in section 2, in the following the origin country of a trade flow or bilateral agreement is denoted o, while the destination country is d.



(a) **(b)**

Figure 3: Histogram of depths of EIAs in 2006 (a) and variation of depth between Germany and France over time (b).

EIAs can be bilateral or multilateral and additionally often allow for accessions of further countries. I treat agreements between multiple countries as a "web of bilateral" treaties. Agreements between the EU and a third country are therefore treated exactly the same as individual agreements of all EU member states with this third country. Accessions are also treated as bilateral treaties, however only between existing countries and the newly acceding country. Additionally, new member states "inherit" old agreements between the trading bloc and non-member trade agreement partners.[11] As some country pairs have signed more than one agreement over time which all remain in effect while covering different issues, the overall depth of integration $\mathbf{d}$ between countries is therefore at least as big as any one depth of the separate agreements. The index is based on an updated and extended version of the accompanying database included in the Word Trade Report 2011[12] and the dataset provided alongside Kohl et al. (2013). I further extend the data to account for entries to and exits from agreements allowing the introduction of a proper time dimension.[13] The index is constructed for all years between 1950 and 2010.

According to the index, the three deepest agreements are the European Union (1), NAFTA

[11] An example illustrates the differences: The initial EU treaty, the treaty of Rome (1958), is considered as a multitude of agreements between Belgium, France, (West) Germany, Italy, Luxembourg, and the Netherlands. The enlargement of 1973 with the accession of the UK and Denmark is considered as bilateral treaties between each of the then EU-members and each of the new member states. A FTA between the EU and Switzerland also went in effect on 01/01/1973, and this treaty was immediately "inherited" by the UK and Denmark, and is considered as bilateral agreements between them, although they never took part in the negotiations beforehand.

[12] Originally Horn et al. (2010) and updated by Orefice and Rocha (2011).

[13] See the appendix for further information. The full dataset is available on `http://julianhinz.com/research/eia_dataset/`.

(0.77) and the EU-Turkey customs union and association agreement (0.76). Figure 3a shows the distribution of depths of EIAs in 2000, capturing a total of 5236 unique bilateral relations with EIA, out of approximately 40.000 bilateral country pair relations. The mean depth is 0.534. Figure 3b shows the evolution of depth between Germany and France from 1950 to 2006. After the initial step of economic integration through the European Coal and Steel Community, successive waves of integration are reflected in the increase of the index of depth of integration. This variation from the time dimension will be used below to estimate the elasticity of trade to the depth of integration between two countries.

3.2 Estimating Trade Gains with Gravity

In order to calculate the trade gains of an EIA, I estimate the elasticity of trade to the depth of integration between origin and destination country in a modified structural gravity equation framework, similar in spirit to the one by Crozet and Hinz (2016), which extends the previous works by Dekle et al. (2007, 2008) and Anderson et al. (2015). The framework allows for a straightforward estimation of trade flows in the presence (and absence) of trade barriers. The calculated index of depth of integration is used to estimate the elasticity of trade flows to this depth. Using the estimated elasticity then allows me to compute counterfactual general equilibrium trade flows between all countries and by extension the gains from trade with respect to any particular depth of any hypothetical agreement.

Exports from an origin country o to a destination country d at time t are assumed to follow a standard gravity equation à la Anderson (1979):

$$x_{odt} = \frac{Y_{ot}}{\Pi_{ot}^{1-\sigma}} \frac{E_{dt}}{P_{dt}^{1-\sigma}} \tau_{odt}^{1-\sigma} \tag{8}$$

The trade flow x_{odt} is determined by the exporter-specific production Y_{ot} and outward multilateral resistance term Π_{ot}, the importer-specific expenditure E_{dt} and inward multilateral resistance term P_{dt}, i.e. the CES price index of the demand system, and time-varying trade costs τ_{odt} between both countries. σ is the elasticity of substitution across varieties of the same good differentiated by place of origin. Trade costs are assumed to be dependent on the depth of an existing EIA and other determinants

$$\tau_{odt} = \exp\left(\rho \mathbf{d}_{odt}\right) \nu_{odt} \tag{9}$$

ρ is the elasticity of trade costs to the depth of integration between countries o and d. The elasticity is assumed to be constant across country pairs and over time, which allows me to exploit the depth's variation over time and country pairs to obtain an estimate for the

parameter.[14] $\mathbf{d}_{odt}$ is the depth of integration between countries o and d at time t, and ν_{odt} a vector of additional standard trade barriers, such as distance, common language, etc. The multilateral resistance terms are given by

$$P_{dt} = \Big[\sum_{o} \frac{Y_{ot}}{\Pi_{ot}^{1-\sigma}} \tau_{odt}^{1-\sigma} \Big]^{\frac{1}{1-\sigma}} \tag{10}$$

$$\Pi_{ot} = \Big[\sum_{d} \frac{E_{dt}}{P_{dt}^{1-\sigma}} \tau_{dot}^{1-\sigma} \Big]^{\frac{1}{1-\sigma}} \tag{11}$$

Furthermore, following Anderson et al. (2015), from the market clearing condition $Y_{ot} = \sum_d x_{odt}$ follows that

$$\begin{aligned} Y_{ot} = \sum_{d} x_{odt} &= \sum_{d} \frac{E_{dt}}{P_{dt}^{1-\sigma}} \left(\gamma_{ot} p_{ot} \tau_{odt}\right)^{1-\sigma} \\ &= \left(\gamma_{ot} p_{ot}\right)^{1-\sigma} \sum_{d} \frac{E_{dt}}{P_{dt}^{1-\sigma}} \tau_{odt}^{1-\sigma} \quad \forall \quad dt \\ \Leftrightarrow p_{ot} &= \frac{Y_{ot}^{\frac{1}{1-\sigma}}}{\gamma_{ot} \Pi_{ot}} \end{aligned} \tag{12}$$

where p_{ot} is country o's supply price and γ_{ot} a positive distribution parameter of the CES utility function (Anderson et al., 2015). The implications are relevant for production and expenditure figures in the face of changes to bilateral trade costs through the term in the denominator.

Combining equations (8), (9), (10), (11) and (12), exports from country o to country d can be expressed as a function of $\mathbf{d}_{odt}$:

$$x_{odt}\left(\mathbf{d}_{odt}\right) = \frac{Y_{ot}\left(\mathbf{d}_{odt}\right)}{\Pi_{ot}\left(\mathbf{d}_{odt}\right)^{1-\sigma}} \frac{E_{dt}\left(\mathbf{d}_{odt}\right)}{P_{dt}\left(\mathbf{d}_{odt}\right)^{1-\sigma}} \tau_{odt}\left(\mathbf{d}_{odt}\right)^{1-\sigma}.$$

A change in the depth of integration between o and d from $\mathbf{d}_{odt}$ to $\mathbf{d}'_{odt}$ affects *all* components of the gravity setup: The partial equilibrium effect is reflected in the changes occurring in the trade costs $\tau_{odt}\left(\mathbf{d}'_{odt}\right)^{1-\sigma}$. However, this disregards feedback effects from changes to inward and outward multilateral resistance terms as well as production and expenditure figures. Taking also into account the effect on multilateral resistance, i.e. $\Pi_{ot}\left(\mathbf{d}'_{odt}\right)^{1-\sigma}$ and $P_{dt}\left(\mathbf{d}'_{odt}\right)^{1-\sigma}$, constitutes what Head and Mayer (2014) coin the modular trade impact. However, production and expenditure terms are also impacted, as reflected by $Y_{ot}\left(\mathbf{d}'_{odt}\right)$ and $E_{dt}\left(\mathbf{d}'_{odt}\right)$. Adjusting for these changes as well then can be called the general equilibrium impact.

In the current context I call the *trade gains* of signing or deepening an existing agreement

[14] The elasticity of *trade* to the depth of integration is therefore $\rho(1-\sigma)$.

the percentage change in total exports of a country o:

$$\text{Trade gains}_{odt}\left(\mathbf{d}_{odt}, \mathbf{d'}_{odt}\right) = \frac{\sum_{k \neq j} x_{ikt}\left(\mathbf{d'}_{odt}\right) + x_{odt}\left(\mathbf{d'}_{odt}\right)}{\sum_{k \neq j} x_{ikt}\left(\mathbf{d}_{odt}\right) + x_{odt}\left(\mathbf{d}_{odt}\right)} - 1 \tag{13}$$

Note that this percentage change of total exports of a hypothetical change in depth from $\mathbf{d}_{odt}$ to $\mathbf{d'}_{odt}$ takes into account *all* bilateral trade flows in the trade matrix, so as to account for the general equilibrium effects described above.[15]

Equation (13) can be used to compute the *non-realized* trade gains for a country pair, i.e. the foregone increase in exports by not having signed a full-depth agreement yet. In line with the model in section 2 where increased exports through lower trade costs improve welfare through higher income, I will later use these non-realized trade gains to characterize the economic motivation for integration. Were only this economic motivation to matter, as represented by country E in the model, EIAs would be formed in the sense of "picking the low-hanging fruit". This would entail a world in which all α^j are set to zero: Integration would only follow trade objectives. A country would simply pick its partner by the highest possible trade gains.

Returning to the gravity framework, I now estimate $\rho(1-\sigma)$, the elasticity of trade flows to the depth $\mathbf{d}$, by regressing equation (8), making use of the variation over time of depth and trade flows in a panel. To account for zero trade flows in the data, I estimate the equation using an Eaton-Kortum-type Tobit approach in which the minimum reported importer value is chosen as threshold.[16] I include origin $\times$ year, destination $\times$ year, and country-pair fixed effects to capture unobserved factors following Baier and Bergstrand (2007), accounting for possible omitted variables and simultaneity biases.

Log-linearizing equation (8) yields

$$\log x_{odt} = \log\left(\frac{Y_{ot}}{\Pi_{ot}^{1-\sigma}}\right) + \log\left(\frac{E_{dt}}{P_{dt}^{1-\sigma}}\right) + \log \nu_{odt} + (1-\sigma)\,\rho \mathbf{d}_{odt}$$

which can then be estimated using fixed effects as

$$\log X_{odt} = \Xi_{ot} + \Theta_{dt} + \phi_{od} + \delta_0 \mathbf{u}_{odt} + \delta_1 \mathbf{d}_{odt} + \epsilon_{odt} \tag{14}$$

X_{odt} are the exports from country o to country d in year t. Ξ_{ot} is the origin $\times$ year fixed effect, Θ_{dt} is the destination $\times$ year fixed effect. $\mathbf{u}_{odt}$ are a number of time-varying standard gravity controls, in this case the incidence of conflict, a hegemony-colony relationship

[15] An alternative measure would be a change in welfare à la Arkolakis et al. (2012).

[16] See Head and Mayer (2014) for an overview over state-of-the-art gravity estimation techniques and Eaton and Kortum (2002) for the original Tobit approach.

Table 1: Gravity Regression

	Dependent variable:			
	log(Exports$_{ijt}$)		Exports$_{ijt}$	
	(1)	(2)	(3)	(4)
Depth index	0.488***		0.897***	
	(0.018)		(0.028)	
RTA Dummy		0.322***		0.473***
		(0.013)		(0.020)
Estimator	OLS	OLS	Tobit	Tobit
Observations	678,430	678,430	1,084,989	1,084,989
R^2	0.856	0.856		
Adjusted R^2	0.845	0.845		

Notes: All regression include exporter × date, importer × date and exporter × importer fixed effects. Coefficients for control variables are suppressed. Robust standard errors in parentheses are clustered by exporter × importer. Significance levels: *p<0.1; **p<0.05; ***p<0.01.

and common membership in a monetary union, all of which are sourced from the CEPII gravity dataset (Head et al., 2010). The included country-pair fixed effect ϕ_{od} absorbs all time-invariant gravity controls. $\mathbf{d}_{odt}$ is the index of depth of integration between the two countries o and d at time t, as calculated above. The aggregate trade data is taken from UN Comtrade for the years 1960–2006. Descriptive statistics for trade in the year 2000 with summary statistics on EIAs and depth by country are displayed in table 5 in appendix C.

Table 1 reports the estimated coefficients for an OLS estimator (without zero flows) in columns (1) and (2) and for the preferred estimation with the Eaton-Kortum-type Tobit estimation in columns (3) and (4). The regression yields a $\widehat{\delta_1} = 0.897$, implying an increase in bilateral trade between origin and destination country of about $\exp(0.897) - 1 = 145\%$ for a full-depth EIA. This number appears sensible, as usual estimations with a dummy variable for an existing EIA yield results between 40–70 %,[17] where the dummy amounts to "averaging" the depth of all EIAs. In fact, estimating the same regression with the dummy variable for an existing EIA from Martin et al. (2012) (columns 2 and 4) yields a $\widehat{\delta_1} = 0.473$, which translates into an increase in exports of about 60 %. The results stand in some way in contrast to Vicard (2009) who finds similar average partial trade effect for various depths of integration. The difference, however, is likely a result of alternative measures of depth, as Kohl and Trojanowska (2015) do indeed find a heterogeneous impact of depth of integration using dummy variables in a structural gravity setup for each of the above described areas of provisions.

[17] Compare e.g. Martin et al. (2012) ($\delta_1 = 0.311$) or Baier and Bergstrand (2007) ($\delta_1 = 0.68$).

Using the estimated fixed effects and coefficients from the estimation I construct general equilibrium counterfactuals in a similar procedure as Crozet and Hinz (2016). These counterfactual trade flows for any setting of $\mathbf{d}'_{odt}$ can be computed as

$$\hat{X}_{odt} = \frac{\hat{Y}_{ot}\left(\mathbf{d}'_{odt}\right)}{\hat{\Pi}_{ot}\left(\mathbf{d}'_{odt}\right)^{1-\sigma}} \frac{\hat{E}_{dt}\left(\mathbf{d}'_{odt}\right)}{\hat{P}_{dt}\left(\mathbf{d}'_{odt}\right)^{1-\sigma}} \hat{\tau}_{odt}\left(\mathbf{d}'_{odt}\right)^{1-\sigma} \tag{15}$$

where *all* terms reflect the hypothetical changes to the depth of integration between countries o and d.[18] Armed with counterfactual flows for all possible combinations of countries and respective changes to their depths of integration, the computation of equation (13) then delivers estimates for non-realized trade gains by setting $\mathbf{d}'_{odt} = 1$, such that

$$\text{Trade gains}^{NR}_{odt} = \text{Trade gains}_{odt}\left(\mathbf{d}_{odt}, 1\right) = \frac{\sum_{k \neq d} \hat{X}_{okt}\left(1\right) + \hat{X}_{odt}\left(1\right)}{\sum_{k} X_{okt}} - 1$$

These non-realized trade gains are used in section 5 to proxy economic motivations to form or deepen an EIA with a partner country.

Tables 2a, 2b and 2c display the top 10 of bilateral trade relations for the United States in 2006 in terms of currently realized trade gains, hypothetical trade gains for a full-depth integration and non-realized trade gains. The ranking and magnitude of realized, full-depth and non-realized trade gains is very sensible. At the same time, the rankings display the curious choices of US trade policy. Canada and Mexico rank high in both rankings of realized and full-depth trade gains (ranked 1st and 2nd in table 2a and ranked 3rd and 6th in table 2b) and can be considered *natural* partners for EIAs, absent of other motivations. Other top rankings of realized trade gains are more unusual: Singapore, Australia and Israel are comparatively small economies and far away. Neither of them shows up in the top 10 of full-depth trade gains (Singapore is ranked 18th, Australia 27th and Israel 32nd). In fact, in 2006 the United States had EIAs with only two countries ranked in the top 10 of full-depth trade gains (Mexico and Canada), while top-ranked economies like Japan, China and Germany did not enjoy trade at preferential terms.[19]

In the following I use the non-realized trade gains, the difference between realized and full-depth trade gains, as a proxy for economic motivations to form EIAs with the respective partner country. As described above, were only these economic motivations at play when policymakers decide to pursue economic integration, the ranking of non-realized trade gains would amount to a list of "low-hanging fruit". One after another, countries would

[18] See appendix B for details on the procedure.

[19] For some time, before the onset of the Presidency of Donald Trump, this appeared to have the potential to change: the United States *was* in negotiations to form the so-called "Trans-Pacific Partnership" and "Transatlantic Trade and Investment Partnership" that would have seen six further countries in the top 10 of full-depth trade gains with EIAs with the United States. These countries are Japan, Germany, United Kingdom, the Netherlands, France and Belgium.

(a) Realized trade gains in percent

	Destination	realized	full-depth	non-realized	depth index
1	Canada	5.279	5.761	0.482	0.923
2	Mexico	3.095	3.382	0.287	0.923
3	Singapore	0.772	1.161	0.389	0.731
4	Australia	0.541	0.638	0.097	0.885
5	Israel	0.265	0.473	0.208	0.615
6	Chile	0.186	0.218	0.032	0.885
7	Viet Nam	0.027	0.073	0.046	0.462
8	Morocco	0.026	0.032	0.007	0.846
9	Jordan	0.014	0.047	0.032	0.385
10	Bahrain	0.014	0.023	0.009	0.692

(b) Full-depth trade gains in percent

	Destination	realized	full-depth	non-realized	depth index
1	Japan	0.000	6.795	6.795	0.000
2	China	0.000	6.548	6.548	0.000
3	Canada	5.279	5.761	0.482	0.923
4	Germany	0.000	5.219	5.219	0.000
5	United Kingdom	0.000	4.816	4.816	0.000
6	Netherlands	0.000	3.497	3.497	0.000
7	South Korea	0.000	3.464	3.464	0.000
8	Mexico	3.095	3.382	0.287	0.923
9	France	0.000	2.884	2.884	0.000
10	Belgium	0.000	2.361	2.361	0.000

(c) Non-realized trade gains in percent

	Destination	realized	full-depth	non-realized	depth index
1	Japan	0.000	6.795	6.795	0.000
2	China	0.000	6.548	6.548	0.000
3	Germany	0.000	5.219	5.219	0.000
4	United Kingdom	0.000	4.816	4.816	0.000
5	Netherlands	0.000	3.497	3.497	0.000
6	South Korea	0.000	3.464	3.464	0.000
7	France	0.000	2.884	2.884	0.000
8	Belgium	0.000	2.361	2.361	0.000
9	Taiwan	0.000	2.197	2.197	0.000
10	Hong Kong	0.000	2.172	2.172	0.000

Table 2: Top 10 trade gains for USA in 2006 by type

sign new or deepen existing agreements based on the highest expected trade gains. As this appears not to be the case in the real world, I now explore ways to quantify political motivations.

4 Quantification of Political Motivation

Having obtained estimates for trade gains as the economic motivation behind forming an EIA, I now proceed to constructing the hypothesized second motivation for such agreement: a political motivation. Quantifying political motivations behind the formation of EIAs is a daunting task. Although often an acknowledged aspect in economic transactions of various kinds, finding a proper proxy is marred by the qualitative nature of political exchanges.

In the recent literature a popular way to describe bilateral political relations has been to equate it to an aligned foreign policy, proxied by the similarity of voting patterns in the UN General Assembly with data from Voeten and Merdzanovic (2009). The idea implicitly invokes the "my enemy's enemy is my friend" rationale. Rose (2007) equates political interest to the geopolitical importance of the bilateral partner for a domestic country and finds the number of embassy staff as an interesting proxy. Umana Dajud (2013) measures political proximity of countries along two axis, the political left/right and authoritarianism/libertarianism, using data from the Manifesto Project (Volkens et al., 2013) on the agenda of political parties in elections and from the Polity IV project (Marshall and Jaggers, 2002), respectively.

I proceed differently in this paper and follow Pollins (1989) and Desbordes and Vicard (2009) in constructing quantitative measures of bilateral political relations with event data. For this I rely on data from the "Global Database of Events, Language, and Tone" (Leetaru and Schrodt, 2013, GDELT). Almost all of the proxies for political relations described above are not *directional*,[20] i.e. the measures yield the same value for a country pair from o to d and d to o. This may not be an issue when interested in how *similar* certain policies or points of view from two countries are, it does matter however when interested in how *important* the countries are for one another. The GDELT dataset allows me to compute such a directional measure. The vast dataset of more than 300 million events since 1979 offers an unsurprisingly very noisy, but incredibly rich view on political events in virtually all countries. The data, which is open source and freely available, is collected via software-read and coded news reports from a variety of international news agencies. Its wealth of data has excited much of the empirical political science for enabling a true testing of political theories,[21] but to the best of my knowledge has not yet been used in the economic literature.

Next to the date and link to source articles from major news agencies, each event is geo-, actor-, and verb-coded following the CAMEO taxonomy (Gerner et al., 2002).[22] Verb- and actor-coding yields categorical descriptions of actions and participants by nationality and broad profession/affiliation. As an example, the event "Sudanese students and police fought in the Egyptian capital" is identified as "SUDEDU fought COP" and geo-tagged to Cairo, Egypt. This allows the extraction of information about people (of potentially different countries) involved. Additionally the geolocation can be exploited to verify the "directionality". Based on the respective verb, each event is classified by

[20] The exception is the embassy staff count used by Rose (2007).

[21] See Gleditsch et al. (2013) for a discussion.

[22] Note that each event is only listed once, irrespective the number of articles about the event. The number of publications reporting on the event, however, is an indicator about the veracity of the information.

the GDELT database into one of the four categories of "material cooperation", "verbal cooperation", "verbal conflict" or "material conflict". Using the information on the date, location, nationalities of actors involved and these four categories, I construct two indices describing the status of the political relationship between two countries: the "mood" and the "importance".

While the dataset offers daily (and daily updated) information, I aggregate by year, as to reflect to the rather long-term nature of political relationships. While an aggregation to monthly, weekly or even daily data would be possible, it were to exhibit a much higher variance and deteriorate in its purpose of portraying general trends.[23] I also restrict the data to international events, where the two actor variables reflect people or entities from two different countries.[24] Furthermore, I exclude events that fall below a certain threshold of the number of newspaper articles they are mentioned in.[25] In order to ensure the indicators to be representative to a certain degree, I further exclude all country-pair-year observations that fall below a threshold of 10 events. The final dataset comprises 7107095 events. See appendix section D for more detail on the aggregation technique and descriptive statistics.

The mood of the political relations between countries o and d (and vice versa) is defined as

$$\text{Mood}_{odt} = \text{Mood}_{dot} = \frac{\left(M_{odt}^{cp} + M_{dot}^{cp}\right) + \frac{1}{3}\left(V_{odt}^{cp} + V_{dot}^{cp}\right) - \frac{1}{3}\left(V_{odt}^{cf} + V_{dot}^{cf}\right) - \left(M_{odt}^{cf} + M_{dot}^{cf}\right)}{\left(M_{odt}^{cp} + M_{dot}^{cp}\right) + \left(V_{odt}^{cp} + V_{dot}^{cp}\right) + \left(V_{odt}^{cf} + V_{dot}^{cf}\right) + \left(M_{odt}^{cf} + M_{dot}^{cf}\right)}$$

where M_{odt}^{cp} is the count of events in a year t initiated in country o towards country d that fall into the category "material cooperation". V_{odt}^{cp}, V_{odt}^{cf} and M_{odt}^{cf} hence are those counts of "verbal cooperation", "verbal conflict" or "material conflict" respectively, with the analogous definition for events in d towards o.[26] The latter two terms are given negative weights, while the former two are given positive weights, and assuming verbal exchanges to be of less consequence with a weight of one third, the index then describes the mood of political relations on the $[-1, 1]$ interval.[27] The choice of using $\frac{1}{3}$ as the weight for "verbal" events is chosen for the equal length of intervals between categories.[28]

[23] Other uses of this data greatly benefit from this detail, such as e.g. Yonamine (2013), who forecasts violence in Afghani districts using GDELT.

[24] A similar index and aggregation could also be used to measure internal mood and importance of countries.

[25] Only those events that are mentioned at least as much as the median of any event that took place in the country in a respective month.

[26] An earlier version of the index was directional, in the sense that only events taking place in country o with respect to country d where counted for Mood_{odt} and only those in country d with respect to o in Mood_{dot}, so that $\text{Mood}_{odt} \neq \text{Mood}_{dot}$. I thank Vincent Vicard for the comment and discussion on this issue.

[27] Using ratios of the number of category occurrences avoids the "mean" and "sum" pitfalls of event data. See Yonamine (2011) and Lowe (2012) for a discussion.

[28] Different weighting, as long as the ranking is preserved, does not significantly alter the econometric

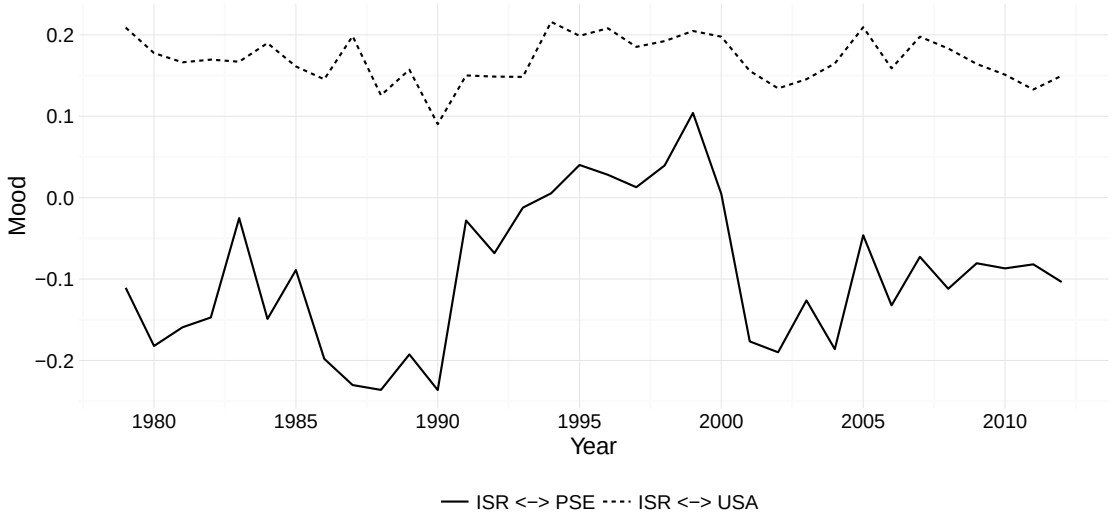


Figure 4: Evolution of the bilateral *Mood* between Israel, Palestine and USA

Figure 4 shows the evolution of the mood index for the country pair Israel and Palestine, with Israel and USA as a benchmark. The variation of the bilateral moods appears sensible. It vividly shows historical episodes of improving and deteriorating relations: the first Intifada (1987–1993), the Oslo Peace Process up to Camp David (1993–2000), and the second Intifada (2000–2005).

However, the mood of political relations is not all that counts: Relations between countries can be generally positive or negative, but practically irrelevant for one another anyway. I therefore construct a directional index of importance of country d to country o

$$\text{Importance}_{odt} = \frac{M^{cp}_{odt} + V^{cp}_{odt} + V^{cf}_{odt} + M^{cf}_{odt}}{\sum_k M^{cp}_{ikt} + V^{cp}_{ikt} + V^{cf}_{ikt} + M^{cf}_{ikt}}$$

The index reflects the share of events, regardless of the four categories, that took place in country o in year t that involved country d. Figure 5 reports the evolution of the importance index again for the country pairs Israel-Palestine and Israel-USA. As expected, the respective bilateral importance do not necessarily closely follow one another, yet again the data series exhibits a variation and different levels that reflect historical episodes of political relations: Israel appears to be more important to Palestine than vice versa, particularly since the end of the second Intifada, while the indices peak in unison in times of strained political relations.

The two indices offer greater detail into the nature of the bilateral relation between coun-

results.

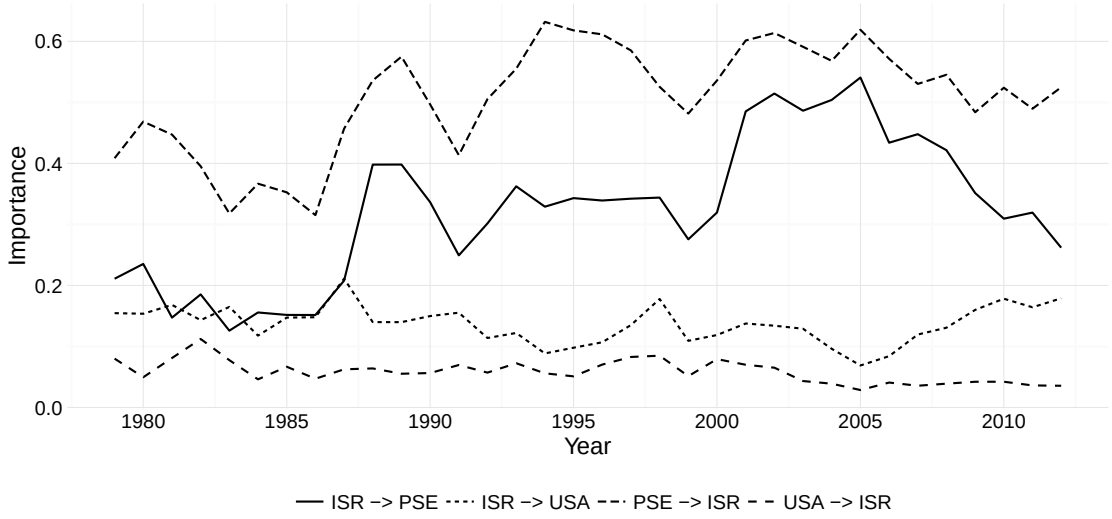


Figure 5: Evolution of the bilateral *Importance* between Israel, Palestine and USA

tries than previous measures. In fact, "mood" and "importance" explain about 94 % of the variation of aforementioned Voeten and Merdzanovic (2009)'s UNGA similarity index, while being (in part) directional and differentiating between two aspects of relations.[29]

In the context of this present study the two indices reveal interesting patterns with respect to the formation of EIAs. Figure 6a shows the evolution of the mean mood of a country pair that is about to sign an EIA with one another at time $t = 0$ (solid line) compared to other countries (dashed line). The mean mood is significantly better towards the partner country than towards other countries in the time prior to the agreement, but insignificantly different in the time afterwards. When differentiating between a bigger country and a smaller country—in terms of GDP—at the time the respective country forms an EIA, the importance figure however shows a particularly interesting pattern. Here the picture is heterogeneous for the evolution of the mean of the importance indices for the big towards the small country in figure 6b and the small towards the big country in figure 6c. Apart from the different levels of importance of a small country for a big country and vice versa, the evolution is different. It appears as though small countries with which a big country is about to form an EIA at a time $t = 0$ are much more important than other small countries. This is different for the inverse case: For small countries there is very little difference between different bigger countries in their respective importance, whether they will be a partner in a future EIA or not. Overall, the data suggests a story in which a larger country could be interested to form an agreement with those smaller countries that are politically more important, while for smaller countries this is not the case. This also gives further plausibility for the assumptions of the model in section 2, which gave a big country

[29] See table 7 in appendix D for the comparison.

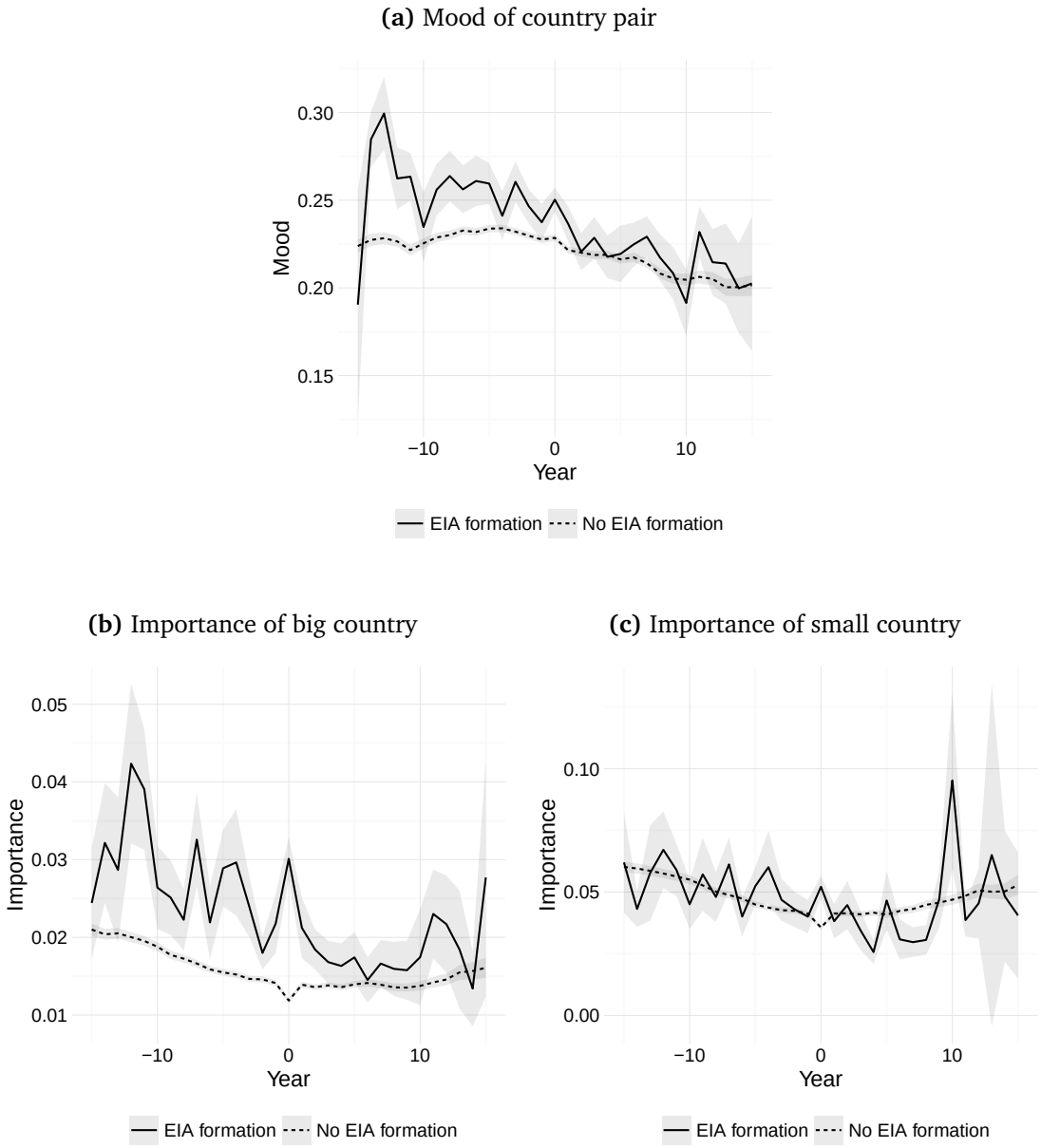


Figure 6: Evolution of the mean of *Mood* (a) and *Importance* (c and d) of bilateral relations of big and small countries in future agreement with an EIA partner country and non-partner countries around trade deal at $t = 0$. Gray-shaded area represent the 95% confidence interval.

political interests in small countries, yet not the vice versa.

5 Political and Economic Motivations for Economic Integration

With quantitative proxies for both economic and political motivations at hand, I can proceed to address the main question of this paper: How is trade policy influenced by

foreign policy objectives and why do countries form agreements with little trade gains? Who do countries sign economic integration agreements with? I first look at the decision to form an EIA with any country, whether big or small, to detect overall determinants. As suggested by the model in section 2 and hinted at by the political indicators in the section above, I then explore possible heterogeneity between smaller and bigger countries, as measured by their GDP at the time of the formation of an EIA.

5.1 Benchmark Regression

As developed above, were policymakers only motivated by economic incentives, trade gains should be able to explain the choice of the partner country when forming EIAs. Armed with proxies for economic motivations and hypothesized political motivations, I estimate the probability of forming an EIA with any given country at time $t+1$ by regressing the following equation:

$$\begin{aligned} Pr(\mathbf{d}_{od,t+1} > 0 | \mathbf{d}_{od,t} = 0) = \alpha &+ \beta_1 \text{Importance}_{odt} + \beta_2 \text{Mood}_{odt} \\ &+ \beta_3 \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \beta_4 \text{Importance}_{odt} \times \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \beta_5 \text{Mood}_{odt} \times \text{Trade gains}^{\text{NR}}_{odt} + \epsilon_{odt} \end{aligned} \tag{16}$$

The dependent variable is the probability that at a time $t+1$ when o does form an EIA, it does so with country d, i.e. that in time $t+1$ the depth of integration between o and d, $\mathbf{d}_{odt}$, is greater than 0, given that it was 0 before. The independent variables are the importance of d for country o at time t, the mood between o and d at time t and the non-realized trade gains o has by not having full-depth integration with d at time t. The interaction terms capture whether the two possible motivations are alternatives or complements. Next to equation (16), I also estimate a similar equation with the change in depths of integration, such that

$$\begin{aligned} \mathbf{d}_{od,t+1} - \mathbf{d}_{od,t} = \alpha &+ \beta_1 \text{Importance}_{odt} + \beta_2 \text{Mood}_{odt} + \beta_3 \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \beta_4 \text{Importance}_{odt} \times \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \beta_5 \text{Mood}_{odt} \times \text{Trade gains}^{\text{NR}}_{odt} + \epsilon_{odt} \end{aligned} \tag{17}$$

The equation is equivalent to the previous one with the exception that also changes in depth are taken into account, i.e. the deepening of existing integration agreements. In both regressions, β_1 and β_2 capture the effect of bilateral political importance and mood, which are expected to be positive. β_3 is also expected to be positive, while the signs of the coefficients on the interactions of political motivations and economic motivations, β_4 and β_5, could go either way. I estimate equation (16) in a linear probability model with an OLS estimator following Wooldridge (2012) and a Probit estimator. The advantage of

Table 3: Probability of EIA formation and change of depth

	Dependent variable:						
	$Pr(\mathbf{d}_{od,t+1} > 0 \mid \mathbf{d}_{od,t} = 0)$		$\mathbf{d}_{od,t+1} - \mathbf{d}_{od,t}$				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Importance$_{odt}$	0.257***	3.397***	0.139***	0.193***		0.027**	0.390***
	(0.047)	(0.242)	(0.028)	(0.030)		(0.012)	(0.069)
Importance$_{odt}$	−0.008**	−0.125***	−0.005*	−0.002		−0.007**	−0.022***
× Trade gains$^{NR}_{odt}$	(0.004)	(0.021)	(0.003)	(0.003)		(0.003)	(0.006)
Mood$_{odt}$	0.008	0.430***	0.006*	0.002		0.005**	0.010***
	(0.005)	(0.076)	(0.003)	(0.003)		(0.003)	(0.003)
Mood$_{odt}$	0.002	0.005	0.001	0.001		−0.004	−0.0003
× Trade gains$^{NR}_{odt}$	(0.002)	(0.015)	(0.001)	(0.001)		(0.003)	(0.002)
UNGA Voting similarity$_{odt}$					0.037***		
					(0.014)		
UNGA Voting similarity$_{odt}$					0.004***		
× Trade gains$^{NR}_{odt}$					(0.001)		
Trade gains$^{NR}_{odt}$	0.003***	0.023***	0.002***	0.001	−0.001	0.003**	0.004***
	(0.001)	(0.005)	(0.001)	(0.0004)	(0.0005)	(0.001)	(0.001)
Sample	all	all	all	w/o EU	all	deepening	all
Estimator	OLS	Probit	OLS	OLS	OLS	OLS	IV
Country × Year FE	yes	no	yes	yes	yes	yes	yes
Observations	39,840	39,840	39,801	33,936	38,009	10,539	39,801
R^2	0.445		0.451	0.399	0.459	0.878	0.447
Adjusted R^2	0.380		0.388	0.315	0.395	0.849	0.382
Log Likelihood		−6,624.963					
Akaike Inf. Crit.		13,261.930					

Notes: Robust standard errors in parentheses are clustered by country × year. Significance levels: *: p<0.1, **: p<0.05, ***: p<0.01.

the LPM estimate is the possibility to control for unobservable covariates with a large set of fixed effects. I therefore include country × year fixed effects in all OLS specifications. Standard errors are clustered at the country-year level.

Table 3 columns (1) and (2) report the coefficients for the estimation of equation (16). With both estimators, OLS and Probit, the importance variable and trade gains have the expected positive sign and are highly significant. The interaction of the two variables has a negative and significant coefficient, pointing to the two motivations as alternatives. The coefficient for the mood variable is positive in both specifications, but insignificant for the OLS specification, as are the coefficients on the interaction with trade gains. This points to little average impact of the bilateral political mood when picking a partner country for economic integration among possible countries. Table 3 column (3) report the coefficients for the estimation of equation (17) where the change in depth is the dependent variable. The overall picture is confirmed.

Of concern could be that the results are singularly driven by the European Union, whose

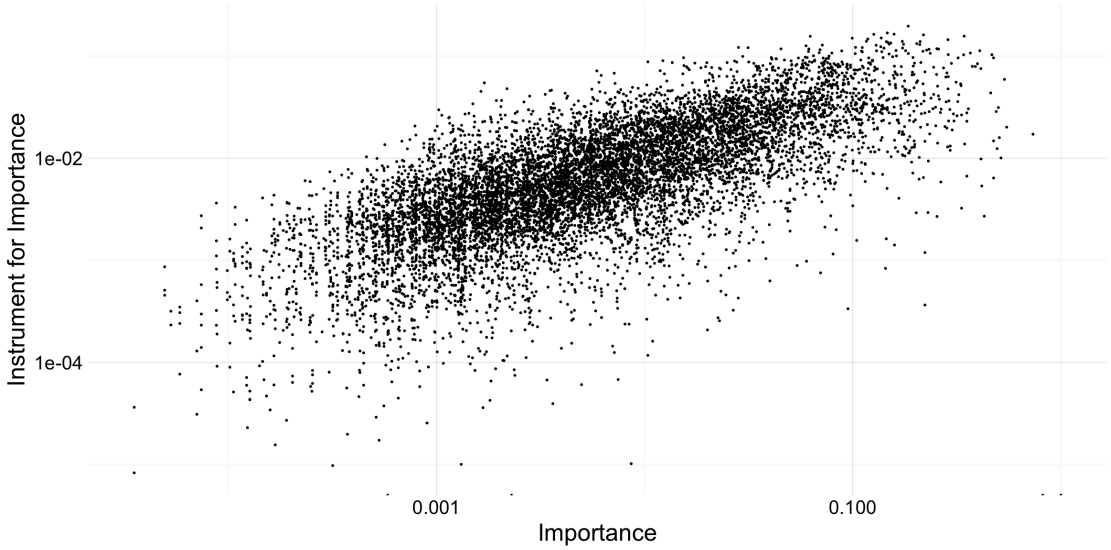


Figure 7: Importance measure vs. instrument for importance

declared political goal is an "ever closer union" (EU European Council, 1983). Column (4) reports the coefficients when removing all EU countries. The coefficient on the importance variable remains strongly significant, while, surprisingly, the coefficient on the trade gains variable and its interaction with the interaction variable lose statistical significance. The point estimates still point in the direction as before. As a robustness test to see whether the new indicator for political relations is driving the results, I perform the same regression with Voeten and Merdzanovic (2009)'s often-used indicator on the similarity of UN General Assembly votes by the two countries. I again find a positive and significant impact of political relations and a significant negative coefficient on its interaction with trade gains. A further concern could be that the results are driven by the initial formations of EIAs and less so or not at all by the deepening of existing ones. In column (6) I report the results for only these cases of deepened EIAs. While the coefficient for importance drops by an order of magnitude, it remains significant. All other estimated coefficients are similar to those in the other specifications and remain significant.

The previous specifications, however, do not address the potential endogeneity of political relations to (negotiations for) economic integration—the importance measure in particular comes to mind. I address this concern by following an instrumental variable strategy that is inspired by the literature on the identification of peer effects on individuals' economic outcomes. Bramoullé et al. (2009) show that certain network structures of social networks of individuals can be used for the identification. As countries' bilateral political relations can easily be thought of as a social network among countries, I adapt to the current setting one of these proposed network structures: Friends of friends, that are not friends themselves, i.e. a network with *intransitive triads* (Bramoullé et al., 2009). I therefore

instrument country d's importance to a country o by aggregating all other countries' $k \backslash \{o, d\}$ importances towards d, weighted by country o's importance towards $k \backslash \{o, d\}$, such that $\sum_{k \backslash \{o,d\}} (\text{Importance}_{okt} \cdot \text{Importance}_{kdt})$. Given a matrix of importances between all countries $\mathbf{A}$ and a zero diagonal, the instrument is easily computed as the matrix product $\mathbf{AA}$. Figure 7 shows a strong correlation between the importance measure and the instrument. At the same time, it is highly unlikely that negotiations between two countries systematically affect bilateral political relations of the two affected countries with all other countries. Column (7) of table 3 shows the coefficients for the IV estimation, confirming the previous results. The results for the first stage are displayed in table 8 in appendix E. The F-statistic on the instruments are well above the customary threshold of 10 for strong instruments.

5.2 Heterogeneity in Motivations

As discussed above, the model in section 2 predicts a heterogeneity in the motivations for economic integration, depending on whether a country is a "senior" or "junior" partner in the agreement. Figure 6 gave a first hint that these "average" results may shield important heterogeneity in the motivations. As suggested, *bigger* countries might sign EIAs with *smaller* countries for political purposes. To test this proposition, I dichotomize the sample by size of GDP at the time of the formation of the agreement, so as to have a big and small country as the two countries pursuing economic integration. I then re-estimate equations 16 and 17 and include proxies for political and economic motivations from both countries. The regression for the probability to form a new agreement then yields

$$\begin{aligned} Pr(\mathbf{d}_{od,t+1} > 0 | \mathbf{d}_{od,t} = 0) = \alpha &+ \gamma_1 \text{Importance}_{odt} + \gamma_2 \text{Importance}_{dot} \\ &+ \gamma_3 \text{Mood}_{odt} + \gamma_4 \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \gamma_5 \text{Trade gains}^{\text{NR}}_{dot} \\ &+ \gamma_6 \text{Importance}_{odt} \times \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \gamma_7 \text{Mood}_{odt} \times \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \gamma_8 \text{Importance}_{dot} \times \text{Trade gains}^{\text{NR}}_{dot} \\ &+ \gamma_9 \text{Mood}_{dot} \times \text{Trade gains}^{\text{NR}}_{dot} + \epsilon_{odt} \end{aligned} \tag{18}$$

where the variables and coefficients have the equivalent interpretations as above. The difference here is that o is a bigger country, d a smaller country, so that now all variables subscripted dot denote those for the smaller partner country. Again I also estimate a corresponding equation for a change in depths of integration, so that equation 17 here

becomes

$$\begin{aligned}\mathbf{d}_{ij,t+1} - \mathbf{d}_{ij,t} = \alpha &+ \gamma_1 \text{Importance}_{odt} + \gamma_2 \text{Importance}_{dot} \\ &+ \gamma_3 \text{Mood}_{odt} + \gamma_4 \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \gamma_5 \text{Trade gains}^{\text{NR}}_{dot} \\ &+ \gamma_6 \text{Importance}_{odt} \times \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \gamma_7 \text{Mood}_{odt} \times \text{Trade gains}^{\text{NR}}_{odt} \\ &+ \gamma_8 \text{Importance}_{dot} \times \text{Trade gains}^{\text{NR}}_{dot} \\ &+ \gamma_9 \text{Mood}_{dot} \times \text{Trade gains}^{\text{NR}}_{dot} + \epsilon_{odt} \end{aligned} \tag{19}$$

The interpretation of the variables and coefficients is equivalent to those of equation (18) above. In the current context, when dichotomizing the sample, the importance of the small country for the bigger country, i.e. Importance_{odt}, is assumed to have a positive effect, while that of the big country for the smaller country, i.e. Importance_{dot}, less so. All regressions include fixed effects for big and small country by year to account for unobservables. Standard errors are clustered at the same level.

Table 9 in appendix E shows the results for a number of different specifications of estimating equation (18), i.e. estimating the determinant of the probability to sign a new EIA. The coefficients for the benchmark estimation in column (1) show the expected signs: The more important a small country is for the big country and the greater the trade gains, the greater the probability to form an EIA in the following year. Trade gains for the small country are positive and significant as well, while the importance of and bilateral mood with the big country is not. In column (2) I interact the variables for political and economic motivations and introduce standard gravity covariates to control for potential unobserved variables. All variables of interest have the expected sign: the importance of the small country for the big country is positive and significant, as are expected trade gains. The interaction of the two is positive, however not significant. On the other side, mood and trade gains have a positive and significant impact, while the importance does not. The included gravity covariates are in line with previous results from Martin et al. (2012), who also find that a common colonial history and recent previous conflict decrease the probability for enter a new agreement. In column (3), when including next to country $\times$ year fixed effects also country-pair fixed effects that remove a lot of the variation, coefficient remain largely unchanged. The importance variable for the big country loses its significance, however the coefficient on trade gains and its interaction term with importance is highly significant. The interpretation is therefore the same, as for a given level of trade gains the political importance is less a determinant of the probability to form an EIA. In order to test whether anticipation effects of an impending agreement could drive the results, column (4) reports the coefficient when re-estimating equation (18) with 10-year lagged

variables.[30] In column (5) I report another robustness test and, as in table 3, perform the analysis with the similarity of UN General Assembly voting. In column (6) finally I report the estimation using the same IV strategy as in the previous section.[31] All results clearly support the narrative sketched in the theoretical part in section 2 of alternative motivations for economic integration, between trade gains and political importance, for big countries. Small countries, on the other hand, appear to be largely indifferent between choices of potential contracting partners.

Table 10 in appendix E shows the analogous results for the estimation of equation (19), i.e. the change in depth as the dependent variable. Overall, while in some cases different in magnitude, the point estimates are very similar to the ones of estimating the probability of forming a new agreement, so that the overall narrative is confirmed. The results point in the same direction: while overall the bilateral political importance appears to be an important determinant of economic integration next to expected trade gains, there exists substantial heterogeneity between countries. Bigger countries, as measured by GDP, appear to weigh the alternatives of political and economic motivations, while for smaller countries political importance of the bigger country is less determining. Reaffirming the results by Martin et al. (2012), foreign policy considerations are a major determinant of the geography of economic integration. Contrary to Martin et al., though, previous conflict is only one of several potential avenues for politics to shape economic integration. Geopolitical importance of smaller countries to bigger countries appear to be alternatives to potential trade gains, making trade policy a tool of foreign policy.

6 Conclusion

Economic determinants of economic integration agreements have received ample attention in the economic literature, while political motivations for such agreements have not received as much focus. However, looking at the rapid evolution of the geography of EIAs over the past two decades, it becomes apparent that there is more to trade policy than "just trade". While recent research establishes a connection between trade policy and a reduction of conflict, this paper suggests a different narrative: trade policy, in the form of EIAs, is used as an instrument of foreign policy. Smaller, but politically important countries are likelier to integrate economically with a bigger country than their economic attractiveness warrants.

Building on previous work by Limão (2007) on non-traditional determinants for preferential trade agreements, I sketch a model that exhibits the mechanism in which political

[30] No economic integration agreement comes to mind, whose negotiations stretched over a decade. Shorter lags produce very similar results.

[31] See the table 11 in appendix E for the first stage regression.

considerations are alternatives to economic benefits from economic integration. The model puts forward two testable propositions: Under the given assumptions, "big" countries may weigh economic gains against political motivations from integration, while smaller countries remain indifferent to the partner country's motivations.

I test these propositions on the choices of partners in EIAs by estimating trade gains of hypothetical EIAs as a function of their *depth* and introducing two new indicators for political relations between countries. I construct an index of depth of integration that allows for heterogeneity of different stages of economic integration and estimate the elasticity of trade to this depth of integration in a gravity framework. I then compute non-realized trade gains of hypothetical deeper integration between any given country pair as a proxy for the economic motivations to integrate further.

Aside from the theoretical and empirical results, the developed proxies for bilateral political relations, "importance" and "mood", are the main contributions of this paper. As the qualitative nature of political relations is notoriously difficult to quantify, I turn to the vast political event dataset provided by GDELT (Leetaru and Schrodt, 2013) that has so far not been used in the literature in empirical economics. From the dataset I extract political events with participants of different countries and derive directional indicators for the "importance" of and "mood" between countries. These two indices are then used to proxy political motivations for economic integration.

Finally I estimate the impact of the two hypothesized determinants on the probability of forming a new agreement and on changes to the depth of integration. As suggested by the model, political considerations are an important predictor for the choice of partnering countries for economic integration. This effect is not homogeneous though: The political importance of a smaller country—as measured in terms of GDP—for a bigger country is more decisive than vice versa. Furthermore, economic and political motivations for economic integration are shown to be alternatives rather than complements.

While this contribution provides a new and more precise quantification of political relations, it remains difficult to capture the qualitative nature of politics and its influence on trade policy. However, as "big data" becomes more abundant, new ways to quantify previously unattainable qualitative details emerge that allow to answer old and new questions related to the topic at hand: How does public opinion shape a country's trade policy? What is the role of multinational corporations in this respect? As the lines between political and economic agreements are likely to blur even further, these questions become ever more pressing. Further research will surely aim to study them.

References

Aichele, R., G. J. Felbermayr, and I. Heiland (2014). Going Deep: The Trade and Welfare Effects of TTIP. CESifo Working Paper Series 5150, CESifo Group Munich.

Anderson, J. (1979). A theoretical foundation for the gravity equation. *American Economic Review 69*(1), 106–16.

Anderson, J. E., M. Larch, and Y. V. Yotov (2015, 11). Estimating General Equilibrium Trade Policy Effects: GE PPML. CESifo Working Paper Series 5592, CESifo Group Munich.

Arkolakis, C., A. Costinot, and A. Rodriguez-Clare (2012, February). New trade models, same old gains? *American Economic Review 102*(1), 94–130.

Baccini, L. and A. Dür (2011). The politics of trade agreement design: Depth, scope and flexibility.

Baier, S. L. and J. H. Bergstrand (2004, October). Economic determinants of free trade agreements. *Journal of International Economics 64*(1), 29–63.

Baier, S. L. and J. H. Bergstrand (2007, March). Do free trade agreements actually increase members' international trade? *Journal of International Economics 71*(1), 72–95.

Baier, S. L., J. H. Bergstrand, and R. Mariutto (2014). Economic determinants of free trade agreements revisited: Distinguishing sources of interdependence. *Review of International Economics 22*(1), 31–58.

Baldwin, R. E. and A. J. Venables (1995). Regional economic integration. In G. M. Grossman and K. Rogoff (Eds.), *Handbook of International Economics*, Volume 3 of *Handbook of International Economics*, Chapter 31, pp. 1597–1644. Elsevier.

Berger, D., W. Easterly, N. Nunn, and S. Satyanath (2013, April). Commercial Imperialism? Political Influence and Trade during the Cold War. *American Economic Review 103*(2), 863–96.

Bramoullé, Y., H. Djebbari, and B. Fortin (2009, May). Identification of peer effects through social networks. *Journal of Econometrics 150*(1), 41–55.

Caliendo, L. and F. Parro (2015). Estimates of the trade and welfare effects of nafta. *Review of Economic Studies 82*(1), 1 – 44.

Crozet, M. and J. Hinz (2016). Collateral damage: The impact of the russia sanctions on sanctioning countries' exports. Working Papers 2016-16, CEPII.

Dekle, R., J. Eaton, and S. Kortum (2007, April). Unbalanced trade. Working Paper 13035, National Bureau of Economic Research.

Dekle, R., J. Eaton, and S. Kortum (2008, March). Global rebalancing with gravity: Measuring the burden of adjustment. Working Paper 13846, National Bureau of Economic Research.

Desbordes, R. and V. Vicard (2009, September). Foreign direct investment and bilateral investment treaties: An international political perspective. *Journal of Comparative Economics 37*(3), 372–386.

Eaton, J. and S. Kortum (2002). Technology, geography, and trade. *Econometrica 70*(5), 1741–1779.

Ethier, W. J. (1998, December). Regionalism in a Multilateral World. *Journal of Political Economy 106*(6), 1214–1245.

EU European Council (1983). Solemn declaration on european union. european council, stuttgart 19 june 1983. bulletin of the european communities, no. 6?1983. pp. 24-29.

Freund, C. and E. Ornelas (2010, 09). Regional trade agreements. *Annual Review of Economics 2*(1), 139–166.

Gerner, D. J. and P. A. Schrodt (1998). The effects of media coverage on crisis assessment and early warning in the middle east. *Early Warning and Early Response*.

Gerner, D. J., P. A. Schrodt, O. Yilmaz, and R. Abu-Jabr (2002). The creation of cameo (conflict and mediation event observations): An event data framework for a post cold war world. In *Annual Meetings of the American Political Science Association*, Volume 29.

Gleditsch, K. S., N. W. Metternich, and A. Ruggeri (2013). Data and progress in peace and conflict research. *Journal of Peace Research*, 0022343313496803.

Glick, R. and A. M. Taylor (2010, 2016/06/02). Collateral damage: Trade disruption and the economic impact of war. *Review of Economics and Statistics 92*(1), 102–127.

Head, K. and T. Mayer (2014). Gravity equations: Workhorse,toolkit, and cookbook. In K. R. Elhanan Helpman and G. Gopinath (Eds.), *Handbook of International Economics*, Volume 4 of *Handbook of International Economics*, Chapter 3, pp. 131 – 195. Elsevier.

Head, K., T. Mayer, and J. Ries (2010, May). The erosion of colonial trade linkages after independence. *Journal of International Economics 81*(1), 1–14.

Horn, H., P. Mavroidis, and A. Sapir (2010). Beyond the wto? an anatomy of eu and us preferential trade agreements. *The World Economy 33*(11), 1565–1588.

Kohl, T., S. Brakman, and H. Garretsen (2013). Do trade agreements stimulate international trade differently? evidence from 296 trade agreements. CESifo Working Paper Series 4243, CESifo Group Munich.

Kohl, T. and S. Trojanowska (2015). Heterogeneous trade agreements, wto membership and international trade: an analysis using matching econometrics. *Applied Economics 47*(33), 3499–3509.

Lederman, D. and C. Ozden (2007, 07). Geopolitical interests and preferential access to u.s. markets. *Economics and Politics 19*(2), 235–258.

Leetaru, K. and P. A. Schrodt (2013). Gdelt: Global data on events, location, and tone, 1979–2012. In *Paper presented at the ISA Annual Convention*, Volume 2, pp. 4.

Limão, N. (2007). Are preferential trade agreements with non-trade objectives a stumbling block for multilateral liberalization? *The Review of Economic Studies 74*(3), 821–855.

Limão, N. (2016, March). Preferential Trade Agreements. NBER Working Papers 22138, National Bureau of Economic Research, Inc.

Liu, X. and E. Ornelas (2014, April). Free trade agreements and the consolidation of democracy. *American Economic Journal: Macroeconomics 6*(2), 29–70.

Lowe, W. (2012). Measurement models for event data. *Available at SSRN 2208434*.

Maggi, G. (2014, January). *International Trade Agreements*, Volume 4 of *Handbook of International Economics*, Chapter 0, pp. 317–390. Elsevier.

Mansfield, E. D., H. Milner, and P. Rosendorff (2002). Why democracies cooperate more: Electoral control and international trade agreements. *International Organization 56*(3), 477–513.

Mansfield, E. D., H. V. Milner, and B. P. Rosendorff (2000). Free to trade: Democracies, autocracies, and international trade. *The American Political Science Review 94*(2), pp. 305–321.

Marshall, M. G. and K. Jaggers (2002). Polity iv project: Political regime characteristics and transitions, 1800-2002.

Martin, P., T. Mayer, and M. Thoenig (2008, 07). Make trade not war? *Review of Economic Studies 75*(3), 865–900.

Martin, P., T. Mayer, and M. Thoenig (2012, September). The geography of conflicts and regional trade agreements. *American Economic Journal: Macroeconomics 4*(4).

Masad, D. (2013, July). How computers can help us track violent conflicts — including right now in syria. http://themonkeycage.org/2013/07/09/how-computers-can-help-us-track-violent-conflicts-including-right-now-in-syria/.

Nye, J. (2011). *The Future of Power*. PublicAffairs.

Nye, Joseph S., J. (1988). Neorealism and neoliberalism. *World Politics 40*(2), pp. 235–251.

Orefice, G. and N. Rocha (2011, November). Deep integration and production networks: an empirical analysis. Departmental Working Papers 2011-24, Department of Economics, Management and Quantitative Methods at Università degli Studi di Milano.

Pollins, B. M. (1989). Conflict, cooperation, and commerce: The effect of international political interactions on bilateral trade flows. *American Journal of Political Science 33*(3), 737–761.

Rose, A. K. (2007). The foreign service and foreign trade: embassies as export promotion. *The World Economy 30*(1), 22–38.

Ulfelder, J. (2013, May). Challenges in measuring violent conflict, syria edition. `http://dartthrowingchimp.wordpress.com/2013/05/16/challenges-in-measuring-violent-conflict-syria-edition/`.

Umana Dajud, C. (2013). Political proximity and international trade. *Economics & Politics*.

Vicard, V. (2009). On trade creation and regional trade agreements: Does depth matter? *Review of World Economics / Weltwirtschaftliches Archiv 145*(2), 167–187.

Vicard, V. (2012). Trade, conflict, and political integration: Explaining the heterogeneity of regional trade agreements. *European Economic Review 56*(1), 54 – 71.

Voeten, E. and A. Merdzanovic (2009). United nations general assembly voting data. *Accessed online on 2*(25), 2010.

Volkens, A., P. Lehmann, N. Merz, S. Regel, and A. Werner (2013). *The Manifesto Data Collection. Manifesto Project (MRG/CMP/MARPOR). Version 2013a*. Berlin: Wissenschaftszentrum Berlin für Sozialforschung (WZB).

Waltz, K. N. (1999). Globalization and governance. *PS: Political Science and Politics 32*(4), 693–700.

Wooldridge, J. (2012). *Introductory econometrics: A modern approach*. Cengage Learning.

World Trade Organization (2011). *World trade report 2011*. Geneva: WTO. Available online.

Yonamine, J. (2011). Working with event data: A guide to aggregation choices. Technical report.

Yonamine, J. E. (2013). Predicting future levels of violence in afghanistan districs using gdelt. Technical report, UT Dallas.

A Data on Economic Integration Agreements

Table 4: Description of provisions as in World Trade Organization (2011)

FTA Industrial	Tariff liberalization on industrial goods; elimination of non tariff measures
FTA Agriculture	Tariff liberalization on agriculture goods; elimination of non-tariff measures
Customs	Provision of information; publication on the Internet of new laws and regulations; training
Export Taxes	Elimination of export taxes
SPS	Affirmation of rights and obligations under the WTO Agreement on SPS; harmonization of SPS measures
TBT	Affirmation of rights and obligations under WTO Agreement on TBT; provision of information; harmonization of regulations; mutual recognition agreements
STE	Establishment or maintenance of an independent competition authority; nondiscrimination regarding production and marketing condition; provision of information; affirmation of Art XVII GATT provision
AD	Retention of Antidumping rights and obligations under the WTO Agreement (Art. VI GATT).
CVM	Retention of Countervailing measures rights and obligations under the WTO Agreement (Art VI GATT)
State Aid	Assessment of anticompetitive behaviour; annual reporting on the value and distribution of state aid given; provision of information
Public Procurement	Progressive liberalisation; national treatment and/or non-discrimination principle; publication of laws and regulations on the Internet; specification of public procurement regime
TRIMs	Provisions concerning requirements for local content and export performance of FDI
GATS	Liberalisation of trade in services
TRIPs	Harmonisation of standards; enforcement; national treatment, most-favoured nation treatment

B General Equilibrium Counterfactuals

Counterfactual trade flows for any setting of $\mathbf{d}'_{odt}$ can be computed as

$$\hat{X}_{odt} = \frac{\hat{Y}_{ot}\left(\mathbf{d}'_{odt}\right)}{\hat{\Pi}_{ot}\left(\mathbf{d}'_{odt}\right)^{1-\sigma}} \frac{\hat{E}_{dt}\left(\mathbf{d}'_{odt}\right)}{\hat{P}_{dt}\left(\mathbf{d}'_{odt}\right)^{1-\sigma}} \hat{\tau}_{odt}\left(\mathbf{d}'_{odt}\right)^{1-\sigma}$$

The computation of the separate terms takes separate steps that are iteratively repeated until convergence, similar to the procedure described by Anderson et al. (2015). Following Crozet and Hinz (2016), current pseudo-production and expenditure figures can be retrieved from the estimated fixed effects as

$$\hat{Y}_{ot}^{\text{current}} = \sum_{l \in d} \exp\left(\hat{\Xi}_{ot} + \hat{\Theta}_{lt} + \hat{\tau}_{olt}\right) \quad \text{and analogously}$$
$$\hat{X}_{dt}^{\text{current}} = \sum_{l \in o} \exp\left(\hat{\Xi}_{lt} + \hat{\Theta}_{dt} + \hat{\tau}_{ldt}\right)$$

while current inward and outward multilateral resistance terms can be constructed as

$$\hat{\Pi}_{ot}^{\text{current}} = \sum_{l \in d} \exp\left(\hat{\Theta}_{lt} + \hat{\tau}_{olt}\right) \quad \text{and}$$
$$\hat{P}_{dt}^{\text{current}} = \sum_{l \in o} \exp\left(\hat{\Xi}_{lt} + \hat{\tau}_{ldt}\right)$$

The respective multilateral resistance terms under the new global trade cost matrix $\hat{\tau}_t(\mathbf{d}'_{odt})$ can be determined via a contraction mapping algorithm, i.e. iteratively solving the following system of matrix equations:

$$\hat{\Pi}_t^{1-\sigma} = \hat{\tau}_t(\mathbf{d}'_{odt})\left(\hat{X}_t \otimes \hat{P}_t^{-\sigma}\right)$$
$$\hat{P}_t^{1-\sigma} = \hat{\tau}_t(\mathbf{d}'_{odt})^{\mathrm{T}}\left(\hat{Y}_t \otimes \hat{\Pi}_t^{-\sigma}\right)$$

where $\hat{\Pi}_t^{1-\sigma}$ and $\hat{P}_t^{1-\sigma}$ are vectors of outward and inward multilateral resistances at time t. $\hat{\Pi}_t^{-\sigma}$ and $\hat{P}_t^{-\sigma}$ are vectors of elementwise inverses of $\hat{\Pi}_t^{1-\sigma}$ and $\hat{P}_t^{1-\sigma}$, and $\otimes$ denotes the elementwise product.[32] Changes in the production and expenditures of exporters and importers due to the new trade costs are computed using first-order price adjustments using equation (12)

$$\hat{Y}_{ot} = \hat{Y}_{ot}^{\text{current}} \cdot \left(\frac{\hat{\Omega}_{ot}}{\hat{\Omega}_{ot}^{\text{current}}}\right)^{\frac{1}{1-\sigma}} \quad \text{and} \quad \hat{X}_{dt} = \hat{X}_{dt}^{\text{current}} \cdot \left(\frac{\hat{\Omega}_{dt}}{\hat{\Omega}_{dt}^{\text{current}}}\right)^{\frac{1}{1-\sigma}}$$

where σ is the elasticity of substitution.

[32] Alternatively, Anderson et al. (2015) show that the PPML estimator yields correct multilateral resistance terms with observed trade flows and counterfactual trade costs.

C Descriptive Statistics for Economic Data

Table 5: Descriptive statistics for COMTRADE exports and EIA data

Country	Total trade (in Million USD)	Number EIAs	Mean depth EIA	Mean depth EIA (Depth ¿ 0)	Harmonic mean distance	Countries w/ shared border	Countries w/ common language	Countries w/ common currency
Afghanistan	156.39	8.00	0.03	0.58	4300.05	5	2	0
Albania	403.78	0.00	0.00		2207.12	3	0	0
Algeria	26171.45	14.00	0.06	0.69	3644.27	6	48	0
Andorra	0.06	0.00	0.00		10353.61	0	0	0
Angola	8046.29	19.00	0.07	0.54	4881.28	2	7	0
Antigua and Barbuda	134.76	14.00	0.06	0.50	2911.14	0	35	5
Argentina	29279.61	11.00	0.02	0.39	7803.75	5	22	0
Armenia	332.61	7.00	0.01	0.20	2447.61	4	0	0
Aruba	1991.89	0.00	0.00		3061.22	0	24	1
Australia	72313.58	10.00	0.01	0.17	10790.27	0	60	3
Austria	74761.90	41.00	0.16	0.73	2496.25	7	3	10
Azerbaijan	2309.07	11.00	0.04	0.52	3074.45	5	0	0
Bahamas	963.22	14.00	0.05	0.50	4990.64	0	47	4
Bahrain	3222.26	5.00	0.00	0.15	3318.15	0	21	0
Bangladesh	6532.35	4.00	0.01	0.27	5294.44	2	0	0
Barbados	353.95	14.00	0.04	0.50	3256.45	0	52	0
Belarus	8165.63	0.00	0.00		2898.65	5	0	0
Belgium	201647.29	41.00	0.15	0.73	2969.30	3	41	10
Belize	351.70	14.00	0.05	0.50	4467.28	2	65	0
Benin	318.56	15.00	0.02	0.15	3322.99	4	30	13
Bermuda	815.31	0.00	0.00		5704.57	0	44	4
Bhutan	29.93	0.00	0.00		5520.63	2	0	1
Bolivia	1720.96	11.00	0.03	0.36	6930.64	5	22	0
Bosnia and Herzegovina	736.54	0.00	0.00		1647.22	1	1	0
Botswana	779.68	0.00	0.00		5615.98	2	37	0
Brazil	64786.62	11.00	0.02	0.39	7424.14	9	7	0
Brunei Darussalam	3795.62	9.00	0.02	0.23	6392.07	1	1	0
Bulgaria	5518.57	19.00	0.08	0.77	2711.34	5	0	0
Burkina Faso	182.08	15.00	0.02	0.15	3473.58	6	30	13
Burundi	84.82	20.00	0.08	0.55	3727.02	3	29	0
Cabo Verde	20.76	14.00	0.02	0.15	4781.75	0	7	0
Cambodia	1506.51	9.00	0.01	0.23	5331.21	3	0	0

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Table 5: Descriptive statistics for COMTRADE exports and EIA data

Country	Total trade (in Million USD)	Number EIAs	Mean depth EIA	Mean depth EIA (Depth ¿ 0)	Harmonic mean distance	Countries w/ shared border	Countries w/ common language	Countries w/ common currency
Cameroon	2663.59	9.00	0.01	0.23	3907.45	6	74	13
Canada	318268.26	4.00	0.02	0.80	7490.79	1	87	0
Central African Republic	248.64	7.00	0.01	0.23	4160.18	5	30	13
Chad	94.37	6.00	0.01	0.23	3857.42	6	35	12
Chile	21524.17	14.00	0.04	0.50	8663.01	3	22	0
China	408498.47	1.00	0.00	0.15	6774.69	16	5	0
Colombia	15088.48	24.00	0.03	0.23	5405.97	5	23	0
Comoros	16.87	12.00	0.07	0.65	5081.25	0	31	0
Congo	3473.47	9.00	0.01	0.23	4204.01	4	29	13
Costa Rica	8101.66	7.00	0.02	0.54	4675.68	2	21	0
Cote d'Ivoire	4628.83	15.00	0.01	0.15	4091.15	5	34	13
Croatia	4459.57	2.00	0.01	0.79	2321.67	3	1	0
Cuba	1722.33	11.00	0.01	0.15	4884.04	0	21	0
Cyprus	1634.62	14.00	0.02	0.31	2922.96	0	2	0
Czech Republic	32396.40	23.00	0.10	0.84	2621.36	4	0	0
Denmark	56414.57	41.00	0.16	0.73	3189.35	1	2	2
Djibouti	166.72	14.00	0.08	0.65	3697.95	2	37	0
Dominica	100.24	14.00	0.05	0.50	2897.19	0	60	5
Dominican Republic	6430.28	0.00	0.00		3898.43	1	22	0
Ecuador	6517.72	11.00	0.02	0.22	6091.94	2	21	0
Egypt	6359.24	32.00	0.10	0.58	3364.09	3	22	0
El Salvador	3460.10	6.00	0.02	0.48	3955.58	2	21	0
Equatorial Guinea	1186.48	4.00	0.01	0.23	3677.61	2	36	10
Eritrea	12.15	6.00	0.06	0.65	3719.54	1	15	0
Estonia	5532.71	24.00	0.08	0.58	3214.93	2	0	0
Ethiopia	537.72	15.00	0.06	0.65	4156.55	4	41	0
Falkland Islands	92.91	0.00	0.00		10452.34	0	23	1
Faroe Islands	431.36	18.00	0.09	0.53	3759.97	0	2	2
Fiji	668.66	10.00	0.01	0.13	8677.68	0	48	0
Finland	51358.82	41.00	0.15	0.73	3664.50	3	1	10
France	350248.92	41.00	0.15	0.73	3364.93	5	35	10
French Polynesia	210.44	15.00	0.06	0.50	11147.16	0	24	1
Gabon	3926.72	8.00	0.01	0.23	3765.45	3	30	12
Gambia	50.77	15.00	0.02	0.15	3440.86	1	40	0
Georgia	647.71	5.00	0.01	0.27	2827.96	4	0	0

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Table 5: Descriptive statistics for COMTRADE exports and EIA data

Country	Total trade (in Million USD)	Number EIAs	Mean depth EIA	Mean depth EIA (Depth ¿ 0)	Harmonic mean distance	Countries w/ shared border	Countries w/ common language	Countries w/ common currency
Germany	599401.28	41.00	0.15	0.73	2965.41	8	3	10
Ghana	1502.78	15.00	0.01	0.15	3761.79	3	46	0
Gibraltar	120.86	0.00	0.00		3467.88	1	53	1
Greece	12443.24	41.00	0.16	0.73	3051.48	4	1	0
Greenland	359.09	0.00	0.00		6039.51	0	2	2
Grenada	90.41	14.00	0.06	0.50	2399.28	0	36	5
Guatemala	4996.62	6.00	0.02	0.47	4412.29	4	21	0
Guinea	1118.99	15.00	0.02	0.15	3612.54	6	30	0
Guinea-Bissau	122.99	14.00	0.02	0.15	3134.60	2	7	11
Guyana	652.87	14.00	0.04	0.50	4487.70	3	46	0
Haiti	356.38	0.00	0.00		3792.96	1	25	0
Honduras	4226.84	6.00	0.02	0.47	3985.36	3	21	0
Hong Kong	217407.10	0.00	0.00		4244.13	1	59	0
Hungary	33497.15	22.00	0.09	0.71	2356.21	7	0	0
Iceland	2538.66	28.00	0.13	0.83	5144.67	0	0	0
India	50659.97	6.00	0.01	0.25	5484.45	6	58	1
Indonesia	75524.51	9.00	0.01	0.23	7677.60	2	0	0
Iran	26170.76	10.00	0.03	0.53	3733.87	7	2	0
Iraq	16407.70	0.00	0.00		3360.26	6	21	0
Ireland	84867.37	41.00	0.16	0.73	3958.75	1	56	10
Israel	33658.31	26.00	0.12	0.76	3056.14	2	51	0
Italy	261425.00	41.00	0.15	0.73	3049.55	4	1	10
Jamaica	1791.02	14.00	0.04	0.50	4685.07	0	48	0
Japan	550162.87	0.00	0.00		7845.51	0	0	0
Jordan	1946.78	1.00	0.00	0.54	2611.53	4	22	0
Kazakhstan	11830.54	12.00	0.04	0.50	4624.49	5	2	0
Kenya	2218.84	19.00	0.07	0.65	4271.89	5	49	0
Kiribati	23.20	7.00	0.01	0.12	9320.60	0	27	1
Kuwait	20629.09	5.00	0.00	0.15	3472.45	2	21	0
Kyrgyzstan	624.50	13.00	0.06	0.48	3814.06	4	2	0
Laos	339.32	12.00	0.02	0.25	5179.90	5	0	0
Latvia	3321.87	23.00	0.09	0.66	2816.62	4	0	0
Lebanon	976.23	0.00	0.00		2923.49	1	48	0
Lesotho	179.73	11.00	0.06	0.63	5704.66	1	34	1
Liberia	643.88	15.00	0.02	0.15	3874.11	3	43	3

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Table 5: Descriptive statistics for COMTRADE exports and EIA data

Country	Total trade (in Million USD)	Number EIAs	Mean depth EIA	Mean depth EIA (Depth ¿ 0)	Harmonic mean distance	Countries w/ shared border	Countries w/ common language	Countries w/ common currency
Libya	13988.68	0.00	0.00		3400.13	6	20	0
Lithuania	4625.17	23.00	0.09	0.66	2853.97	4	0	0
Luxembourg	10.28	0.00	0.00		9609.76	0	0	0
Macao	3478.14	0.00	0.00		4085.88	1	11	0
Macedonia	1641.05	4.00	0.02	0.71	2311.71	4	0	0
Madagascar	1000.34	18.00	0.07	0.65	5934.00	0	34	0
Malawi	417.50	15.00	0.07	0.65	4866.94	3	44	0
Malaysia	124834.62	9.00	0.01	0.23	6502.71	4	6	1
Maldives	1003.63	0.00	0.00		5769.34	0	0	0
Mali	253.03	15.00	0.02	0.15	3695.86	7	28	12
Malta	2949.51	14.00	0.02	0.31	3264.38	0	49	0
Marshall Islands	0.04	0.00	0.00		5524.33	0	0	0
Mauritania	575.57	15.00	0.02	0.15	4115.48	3	20	0
Mauritius	1818.45	19.00	0.07	0.65	6606.50	0	79	0
Mexico	192230.85	32.00	0.10	0.53	7570.14	3	22	0
Moldova	856.00	2.00	0.00	0.17	2391.56	2	1	0
Mongolia	603.09	0.00	0.00		5845.27	2	0	0
Morocco	9111.25	17.00	0.06	0.68	3978.57	1	49	0
Mozambique	467.34	16.00	0.07	0.65	5214.31	6	7	0
Myanmar	1957.95	9.00	0.01	0.23	5439.99	5	0	0
Namibia	597.33	12.00	0.06	0.63	6320.61	2	36	1
Nauru	33.09	6.00	0.01	0.12	9503.28	0	31	1
Nepal	870.66	1.00	0.00	0.08	5093.32	2	0	0
Netherlands	252475.32	41.00	0.15	0.73	2983.18	2	4	10
Netherlands Antilles	2620.13	15.00	0.05	0.50	3716.05	0	24	1
New Caledonia	605.09	15.00	0.06	0.50	8247.51	0	22	1
New Zealand	15217.27	11.00	0.01	0.20	11291.74	0	58	0
Nicaragua	1063.18	6.00	0.02	0.51	4058.11	2	21	0
Niger	504.69	15.00	0.02	0.15	3851.15	7	46	13
Nigeria	31582.78	15.00	0.01	0.15	3828.19	4	46	0
North Korea	1073.75	0.00	0.00		6473.91	3	1	0
Norway	70206.55	29.00	0.13	0.79	3661.40	3	0	0
Oman	12162.30	5.00	0.00	0.15	3992.97	3	22	0
Pakistan	10239.72	9.00	0.03	0.58	4855.16	4	53	0
Palau	4.77	0.00	0.00		6032.65	0	10	0

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Table 5: Descriptive statistics for COMTRADE exports and EIA data

Country	Total trade (in Million USD)	Number EIAs	Mean depth EIA	Mean depth EIA (Depth ¿ 0)	Harmonic mean distance	Countries w/ shared border	Countries w/ common language	Countries w/ common currency
Panama	2658.44	5.00	0.01	0.46	4844.70	2	21	4
Papua New Guinea	2093.35	8.00	0.01	0.15	9372.25	1	42	0
Paraguay	1275.32	11.00	0.03	0.39	7348.81	3	22	0
Peru	7879.62	11.00	0.01	0.22	7343.59	5	23	0
Philippines	48992.16	9.00	0.01	0.23	7237.07	0	56	0
Poland	35091.51	22.00	0.08	0.70	2837.48	7	0	0
Portugal	27461.34	41.00	0.16	0.73	4180.37	1	7	10
Qatar	12744.36	5.00	0.01	0.15	3085.68	2	22	1
Russian Federation	130665.41	4.00	0.01	0.24	4557.13	14	2	0
Rwanda	71.78	19.00	0.08	0.54	3490.07	4	60	0
Saint Helena, Ascension and Tristan da Cunha	8.97	0.00	0.00		6623.14	0	25	1
Saint Kitts and Nevis	60.29	14.00	0.06	0.50	3972.09	0	31	5
Saint Lucia	92.87	14.00	0.06	0.50	2114.77	0	38	5
Saint Pierre and Miquelon	15.78	15.00	0.08	0.50	5512.47	0	17	10
Saint Vincent and the Grenadines	175.48	14.00	0.05	0.50	2195.23	0	40	5
Samoa	69.11	6.00	0.01	0.12	10064.85	0	34	0
San Marino	0.10	0.00	0.00		9528.64	0	0	0
Sao Tome and Principe	20.15	5.00	0.01	0.23	3705.99	0	7	0
Saudi Arabia	82230.75	5.00	0.00	0.15	3934.81	7	22	0
Senegal	773.40	15.00	0.01	0.15	3746.36	5	32	13
Seychelles	193.38	0.00	0.00		5491.91	0	65	0
Sierra Leone	136.18	13.00	0.01	0.15	3764.61	2	41	0
Singapore	152595.32	10.00	0.02	0.28	6535.41	1	54	1
Slovakia	13262.53	23.00	0.10	0.81	2450.20	5	0	0
Slovenia	9982.39	24.00	0.09	0.67	2372.77	4	0	0
Solomon Islands	100.39	7.00	0.01	0.13	8601.56	0	29	0
Somalia	129.19	0.00	0.00		4590.68	3	64	0
South Africa	34686.95	14.00	0.06	0.73	6703.77	2	52	0
South Korea	195182.94	4.00	0.01	0.27	6747.31	1	1	0
Spain	117218.98	41.00	0.15	0.73	3858.62	3	23	10
Sri Lanka	6329.34	4.00	0.01	0.32	6149.86	0	0	0
Sudan	1779.19	15.00	0.06	0.65	4150.52	8	21	0
Suriname	548.21	14.00	0.05	0.50	4702.43	2	5	0

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Table 5: Descriptive statistics for COMTRADE exports and EIA data

Country	Total trade (in Million USD)	Number EIAs	Mean depth EIA	Mean depth EIA (Depth ¿ 0)	Harmonic mean distance	Countries w/ shared border	Countries w/ common language	Countries w/ common currency
Swaziland	332.64	15.00	0.07	0.63	5511.38	2	41	1
Sweden	98344.93	41.00	0.15	0.73	3425.57	2	1	0
Switzerland	107694.35	29.00	0.09	0.58	3008.86	4	38	0
Syrian Arab Republic	5096.58	14.00	0.04	0.42	2778.37	5	19	0
Taiwan	110140.40	0.00	0.00		7112.06	0	3	0
Tajikistan	937.93	9.00	0.05	0.58	3368.10	4	0	0
Tanzania	1009.52	20.00	0.07	0.65	4585.69	8	55	0
Thailand	80319.86	9.00	0.01	0.24	5717.87	4	0	0
Togo	267.63	15.00	0.02	0.15	3319.73	3	30	13
Tonga	19.20	7.00	0.01	0.12	8854.93	0	32	0
Trinidad and Tobago	4430.63	14.00	0.04	0.50	3585.56	0	49	0
Tunisia	6823.74	14.00	0.05	0.62	3343.37	2	49	0
Turkey	30029.28	37.00	0.13	0.67	3202.07	8	1	0
Turkmenistan	3754.48	12.00	0.06	0.50	3293.29	4	0	0
Tuvalu	0.70	5.00	0.01	0.12	9179.50	0	0	1
Uganda	630.90	15.00	0.07	0.65	4060.47	5	44	0
Ukraine	17306.56	9.00	0.01	0.24	3258.76	7	0	0
United Arab Emirates	38868.85	5.00	0.00	0.15	3747.51	3	21	1
United Kingdom	317484.74	41.00	0.15	0.73	3572.52	1	60	3
United States	900549.20	3.00	0.01	0.82	7663.99	2	59	4
Uruguay	2880.38	11.00	0.03	0.39	7586.29	2	21	0
Uzbekistan	2399.03	9.00	0.05	0.53	3340.00	4	0	0
Vanuatu	98.07	7.00	0.01	0.13	7723.37	0	43	0
Venezuela	36975.66	24.00	0.04	0.30	4191.32	3	21	0
Viet Nam	16588.35	9.00	0.01	0.23	5722.70	3	0	0
Yemen	4786.66	0.00	0.00		3952.35	2	22	0
Yugoslavia	1321.71	0.00	0.00		1971.87	5	0	0
Zambia	1300.72	19.00	0.07	0.65	4716.18	8	48	0
Zimbabwe	2261.92	19.00	0.07	0.65	4871.40	4	52	0

D Descriptive Statistics for Political Data

As Ulfelder (2013) and Masad (2013) illustrate, machine-coded event data is very rich, but prone to noise, numerous biases, e.g. "media fatigue" (Gerner and Schrodt, 1998), and errors due to imperfect algorithms. Yonamine (2011) provides a good overview on how to overcome these issues and gives advice on aggregation methods. For the present paper, I use the so-called GDELT backfiles, as opposed to the much smaller and ready-made GDELT subset available. See Leetaru and Schrodt (2013) for a detailed description of the data. I exclude all intra-state events and use only those that are "root events". Further, I use the median number of articles per event for by month and country pair as a threshold and only include those events with higher or equal number of articles.

Table 6: Descriptive statistics for political data based on GDELT

Afghanistan	3776	65.10	142	0.02	PAK	CAN	0.17	GRC	SDN
Albania	2514	54.65	154	0.02	MKD	CHL	0.11	TUR	MNE
Algeria	2980	33.48	111	0.01	FRA	BFA	0.28	NLD	THA
American Samoa	2	2.00	199	1.00	IND	IND	-0.67	IND	IND
Andorra	10	5.00	198	0.36	CZE	FRA	0.41	FRA	CZE
Angola	3222	41.31	122	0.01	ZMB	CYP	0.24	LBR	PER
Anguilla	9	9.00	199	0.82	GBR	GBR	0.33	GBR	GBR
Antigua and Barbuda	12	4.00	197	0.12	USA	FRA	0.28	FRA	GBR
Argentina	1887	36.29	148	0.02	BRA	ARM	0.24	PAK	SLV
Armenia	2915	55.00	147	0.02	RUS	ARG	0.31	BGR	TUR
Aruba	8	2.67	197	0.22	CRI	PER	0.33	CRI	CRI
Australia	5060	48.65	96	0.01	IDN	BWA	0.23	DNK	MDV
Austria	4082	52.33	122	0.01	CZE	FSM	0.23	FSM	PSE
Azerbaijan	3471	73.85	153	0.02	RUS	CAN	0.27	NLD	AFG
Bahamas	82	10.25	192	0.10	USA	BRB	0.15	CHE	DEU
Bahrain	1062	28.70	163	0.03	QAT	BEL	0.31	JPN	ETH
Bangladesh	1402	23.76	141	0.02	USA	DZA	0.28	SWE	TLS
Barbados	61	5.55	189	0.08	GBR	BHS	0.34	BLZ	GBR
Belarus	3042	59.65	149	0.02	RUS	GEO	0.29	IND	FIN
Belgium	3859	36.07	93	0.01	AUT	ARE	0.25	LBN	KHM
Belize	333	18.50	182	0.05	GTM	BRB	0.39	BRB	RUS
Benin	390	9.51	159	0.02	NGA	CAF	0.30	RWA	IND
Bermuda	50	4.55	189	0.08	USA	PER	0.34	CAN	NZL
Bhutan	207	23.00	191	0.10	NPL	FSM	0.19	CHN	PAK
Bolivia	518	20.72	175	0.04	USA	BEL	0.16	ITA	IDN
Bosnia and Herzegovina	6	2.00	197	0.22	IND	IND	0.11	MUS	IND
Botswana	566	13.48	158	0.02	ZWE	AUS	0.24	JPN	GAB

Continued on next page

Table 6: Descriptive statistics for political data based on GDELT

Country	Number of events	Mean number of events by country	Number of countries w/o events	Mean importance	Max. importance country	Min. importance country	Mean. mood	Max. mood country	Min. mood country
Brazil	2248	33.06	132	0.01	USA	ARM	0.26	IRL	ESP
Brunei Darussalam	661	21.32	169	0.03	CHN	ISR	0.32	NZL	TLS
Bulgaria	3214	46.58	131	0.01	MKD	CHL	0.27	EST	NGA
Burkina Faso	446	13.94	168	0.03	CIV	CMR	0.27	GIN	FRA
Burundi	1290	36.86	165	0.03	TZA	CHN	0.23	AGO	ITA
Cabo Verde	107	8.23	187	0.07	AGO	BFA	0.33	MAC	GNB
Cambodia	1957	72.48	173	0.04	VNM	BEL	0.23	FIN	CHE
Cameroon	179	8.14	178	0.04	NGA	KEN	0.26	BFA	RWA
Canada	4625	37.60	77	0.01	USA	AZE	0.25	NER	ALB
Cayman Islands	8	4.00	198	0.15	GBR	USA	0.22	USA	GBR
Central African Republic	227	8.73	174	0.03	COD	ARE	0.34	USA	LBY
Chad	503	16.23	169	0.03	LBY	AZE	0.32	GBR	TUN
Chile	1702	30.39	144	0.02	GBR	ALB	0.25	CRI	HTI
China	19657	116.31	31	0.01	USA	BDI	0.30	SWZ	BFA
Colombia	3276	52.84	138	0.02	USA	AFG	0.19	DNK	SAU
Comoros	120	8.00	185	0.06	MDG	DZA	0.31	MUS	FRA
Congo	794	21.46	163	0.03	COD	ARE	0.30	GBR	UKR
Cook Islands	26	2.89	191	0.08	NZL	FSM	0.35	NZL	CHN
Costa Rica	517	17.83	171	0.03	NIC	JAM	0.29	BLZ	ITA
Cote d'Ivoire	900	26.47	166	0.03	FRA	DJI	0.23	BEL	IRN
Croatia	2843	47.38	140	0.02	USA	CUB	0.25	NGA	IRN
Cuba	5936	53.00	88	0.01	USA	BGD	0.29	UGA	CZE
Cyprus	2475	44.20	144	0.02	TUR	AGO	0.25	MEX	KWT
Czech Republic	4531	55.94	119	0.01	AUT	ARM	0.25	YEM	KEN
Democratic Rep. of the Congo	2643	45.57	142	0.02	UGA	AUS	0.21	PRK	LBR
Denmark	1611	22.38	128	0.01	USA	ARG	0.29	ERI	RWA
Djibouti	1101	29.76	163	0.03	SOM	BGR	0.32	GBR	SAU
Dominica	73	4.87	185	0.06	USA	BWA	0.28	CAN	TTO
Dominican Republic	405	12.27	167	0.03	HTI	ECU	0.26	ECU	FRA
Ecuador	631	25.24	175	0.04	COL	BHR	0.28	DOM	LBN

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Table 6: Descriptive statistics for political data based on GDELT

Country	Number of events	Mean number of events by country	Number of countries w/o events	Mean importance	Max. importance country	Min. importance country	Mean. mood	Max. mood country	Min. mood country
Egypt	13575	124.54	91	0.01	ISR	GIN	0.28	MDG	CYP
El Salvador	438	15.64	172	0.03	USA	FRA	0.19	BLZ	ITA
Equatorial Guinea	57	4.75	188	0.05	AGO	DZA	0.37	COD	NGA
Eritrea	3016	67.02	155	0.02	ETH	BEN	0.23	IRL	RUS
Estonia	1603	34.11	153	0.02	RUS	GEO	0.29	IRQ	SYR
Ethiopia	3898	54.90	129	0.01	ERI	COG	0.27	BEL	AUT
Fiji	821	22.19	163	0.03	AUS	IRL	0.23	SGP	IDN
Finland	1603	23.57	132	0.01	RUS	BRA	0.29	LBN	MDV
France	15728	97.69	39	0.01	RUS	ATG	0.22	GNB	MUS
Gabon	215	7.68	172	0.03	FRA	BEN	0.24	TUR	NGA
Gambia	464	13.26	165	0.03	SEN	BEL	0.24	TUN	FSM
Georgia	458	22.90	180	0.05	RUS	LTU	0.33	EST	CHE
Germany	12037	93.31	71	0.01	RUS	BHS	0.24	UZB	BHS
Ghana	716	13.77	148	0.02	NGA	AGO	0.26	DNK	THA
Greece	5315	77.03	131	0.01	TUR	ARG	0.18	LUX	JOR
Grenada	121	7.56	184	0.04	USA	COL	0.26	IDN	MWI
Guatemala	800	33.33	176	0.04	BLZ	PRT	0.19	VEN	ECU
Guinea	1046	30.76	166	0.03	LBR	AGO	0.23	BEL	PNG
Guinea-Bissau	404	16.83	176	0.04	SEN	BFA	0.29	FRA	CHN
Guyana	313	15.65	180	0.04	SUR	BLZ	0.17	JAM	HTI
Haiti	637	26.54	176	0.04	USA	BLZ	0.26	BLZ	COL
Honduras	584	29.20	180	0.05	NIC	IRN	0.26	VEN	IRN
Hungary	3030	45.91	134	0.02	SVK	IND	0.27	MEX	IND
Iceland	159	7.95	180	0.05	CHN	SWE	0.34	GBR	USA
India	2988	44.60	133	0.01	PAK	ARM	0.19	SLE	ASM
Indonesia	5219	59.31	112	0.01	TLS	BEL	0.15	JOR	ETH
Iran	15633	143.42	91	0.01	USA	CIV	0.27	MWI	HND
Iraq	10179	124.13	118	0.01	KWT	DNK	0.20	THA	UZB
Ireland	2569	35.68	128	0.01	GBR	BRA	0.23	ERI	NAM
Israel	34214	308.23	89	0.01	PSE	BEN	0.19	NPL	FJI

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Table 6: Descriptive statistics for political data based on GDELT

Country	Number of events	Mean number of events by country	Number of countries w/o events	Mean importance	Max. importance country	Min. importance country	Mean. mood	Max. mood country	Min. mood country
Italy	7804	63.97	78	0.01	RUS	BHR	0.20	BHR	BDI
Jamaica	170	7.39	177	0.04	CUB	BEN	0.24	BLZ	TTO
Japan	16282	124.29	69	0.01	USA	CIV	0.34	BWA	SLB
Jordan	8911	110.01	119	0.01	ISR	ARM	0.27	SWE	RWA
Kazakhstan	2508	52.25	152	0.02	RUS	KNA	0.28	SAU	LKA
Kenya	3412	42.12	119	0.01	USA	BEN	0.19	POL	TUR
Kiribati	52	5.78	191	0.09	FJI	CHN	0.23	JPN	NZL
Kuwait	3407	54.95	138	0.02	IRQ	CIV	0.27	CYP	PAK
Kyrgyzstan	1792	57.81	169	0.03	RUS	AUT	0.24	MNG	ISR
Laos	1070	41.15	174	0.04	VNM	BLR	0.22	SGP	DNK
Latvia	2391	49.81	152	0.02	RUS	BMU	0.29	JPN	ESP
Lebanon	8920	135.15	134	0.02	ISR	HRV	0.17	GRC	ECU
Lesotho	113	5.65	180	0.04	ZAF	DZA	0.25	MOZ	SYC
Liberia	1478	36.95	160	0.02	SLE	BEL	0.29	BEL	RWA
Libya	4539	47.28	104	0.01	EGY	AUS	0.29	KEN	NGA
Liechtenstein	64	8.00	192	0.11	DEU	MCO	0.23	CHE	FRA
Lithuania	1954	46.52	158	0.02	RUS	GEO	0.27	JPN	ESP
Luxembourg	347	12.39	172	0.03	BEL	KOR	0.20	VNM	AUT
Macao	169	21.12	192	0.12	CHN	CPV	0.34	PRT	USA
Macedonia	1790	43.66	159	0.02	ALB	BGD	0.28	FRA	SWE
Madagascar	135	6.14	178	0.04	FRA	AUS	0.27	EGY	TUR
Malawi	374	11.33	167	0.03	MOZ	CUB	0.26	COD	DEU
Malaysia	3844	48.05	120	0.01	PHL	COG	0.25	COG	NLD
Maldives	131	3.54	163	0.02	USA	AGO	0.09	AGO	DEU
Mali	698	15.86	156	0.02	SLE	BEL	0.28	IRQ	NLD
Malta	229	9.54	176	0.04	LBY	EST	0.23	LTU	DEU
Marshall Islands	40	5.71	193	0.11	USA	NRU	0.27	USA	COK
Mauritania	487	13.53	164	0.03	SEN	AUT	0.27	GIN	QAT
Mauritius	212	7.31	171	0.03	USA	BEN	0.27	COD	NAM
Mexico	2451	36.58	133	0.01	USA	BGR	0.22	URY	HUN

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Table 6: Descriptive statistics for political data based on GDELT

Country	Number of events	Mean number of events by country	Number of countries w/o events	Mean importance	Max. importance country	Min. importance country	Mean. mood	Max. mood country	Min. mood country
Micronesia	404	7.21	144	0.02	CHN	ARM	0.28	ITA	LKA
Moldova	1147	40.96	172	0.04	RUS	KGZ	0.27	ESP	GRC
Monaco	242	8.96	173	0.03	USA	CZE	0.20	ZAF	KEN
Mongolia	710	20.88	166	0.03	RUS	CAN	0.34	KGZ	THA
Montenegro	10	5.00	198	0.29	ALB	ALB	-0.13	HRV	ALB
Morocco	2177	27.56	121	0.01	ESP	KEN	0.27	KEN	PRT
Mozambique	1435	22.08	135	0.01	ZAF	ARE	0.31	AUT	MDG
Myanmar	1594	45.54	165	0.03	THA	COL	0.21	SGP	PRK
Namibia	2145	36.36	141	0.02	AGO	BEL	0.24	ESP	ITA
Nauru	26	2.60	190	0.05	FJI	COK	0.19	COK	FRA
Nepal	795	21.49	163	0.03	BTN	AGO	0.26	PHL	KOR
Netherlands	2360	23.60	100	0.01	HRV	IND	0.21	ROU	DZA
New Zealand	1524	26.74	143	0.02	FJI	ARG	0.29	LAO	ARG
Nicaragua	725	23.39	169	0.03	HND	DNK	0.28	BLZ	PER
Niger	369	12.30	170	0.03	NGA	COG	0.28	SDN	CMR
Nigeria	4645	43.01	92	0.01	USA	HRV	0.25	HRV	YEM
North Korea	11166	136.17	118	0.01	KOR	HUN	0.30	HUN	IRQ
Norway	2508	31.35	120	0.01	RUS	BHR	0.32	TZA	AUS
Oman	1000	23.26	157	0.02	ISR	AGO	0.30	KOR	MAR
Pakistan	6469	75.22	114	0.01	AFG	AUT	0.18	CZE	ESP
Palau	52	4.73	189	0.08	JPN	COK	0.29	KIR	PHL
Palestine	18513	240.43	123	0.01	ISR	CHL	0.25	MOZ	AFG
Panama	1047	33.77	169	0.03	USA	CHL	0.20	FRA	CHE
Papua New Guinea	279	12.68	178	0.04	AUS	FRA	0.22	GBR	GIN
Paraguay	410	24.12	183	0.05	BRA	ITA	0.22	MEX	ISR
Peru	1811	32.34	144	0.02	USA	BEL	0.19	ABW	TTO
Philippines	4073	64.65	137	0.02	USA	BEL	0.20	BGD	ETH
Poland	4471	53.23	116	0.01	RUS	AGO	0.29	COL	PER
Portugal	2467	29.37	116	0.01	AGO	BOL	0.26	LBN	PAK
Qatar	2213	43.39	149	0.02	ISR	AUS	0.28	SOM	NLD

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Table 6: Descriptive statistics for political data based on GDELT

Country	Number of events	Mean number of events by country	Number of countries w/o events	Mean importance	Max. importance country	Min. importance country	Mean. mood	Max. mood country	Min. mood country
Romania	149	8.76	183	0.05	CZE	BGR	0.31	ALB	CZE
Russian Federation	40414	308.50	69	0.01	USA	CIV	0.22	MOZ	MDV
Rwanda	2891	56.69	149	0.02	UGA	AUS	0.15	UKR	CHL
Saint Helena, Ascension and Tristan da Cunha	61	10.17	194	0.15	MMR	PER	0.29	THA	MMR
Saint Kitts and Nevis	147	8.65	183	0.05	GBR	IRQ	0.24	DEU	USA
Saint Lucia	33	3.30	190	0.08	CUB	DMA	0.37	CHN	CUB
Saint Vincent and the Grenadines	26	8.67	197	0.24	GRD	HTI	0.27	GRD	CAN
Samoa	38	7.60	195	0.15	USA	COK	0.03	CHN	NZL
San Marino	21	3.50	194	0.15	ITA	DNK	-0.04	CUB	DNK
Sao Tome and Principe	155	9.69	184	0.05	AGO	COD	0.42	ESP	NGA
Saudi Arabia	7844	88.13	111	0.01	ISR	EST	0.23	MOZ	NGA
Senegal	1068	18.41	142	0.02	GNB	COG	0.16	ZMB	TCD
Seychelles	148	6.43	177	0.04	AUS	COL	0.27	TZA	LSO
Sierra Leone	2130	36.72	142	0.02	GBR	AUS	0.23	UKR	ESP
Singapore	1802	30.03	140	0.02	IDN	ARM	0.24	BHR	IRQ
Slovakia	2728	47.86	143	0.02	CZE	LBY	0.30	MYS	LKA
Solomon Islands	394	30.31	187	0.07	AUS	NGA	0.14	VUT	JPN
Somalia	1612	41.33	161	0.03	DJI	BDI	0.10	AUS	TZA
South Africa	3597	39.53	109	0.01	ZWE	BEN	0.24	MDV	MCO
South Korea	9634	117.49	118	0.01	PRK	DMA	0.34	AGO	ISR
Spain	5331	52.78	99	0.01	GBR	ARE	0.19	NAM	GNQ
Sri Lanka	990	22.00	155	0.02	NOR	BRA	0.26	KOR	MYS
Sudan	4296	60.51	129	0.01	EGY	CZE	0.24	MYS	CZE
Suriname	120	13.33	191	0.10	GUY	PER	0.30	PRK	FRA
Swaziland	202	8.78	177	0.04	ZAF	BEN	0.25	MUS	GBR
Sweden	1876	25.35	126	0.01	RUS	CYP	0.26	TZA	JOR
Switzerland	8014	67.92	82	0.01	RUS	BHS	0.23	MOZ	RWA
Syrian Arab Republic	10406	185.82	144	0.02	ISR	AZE	0.26	KOR	EST
Tajikistan	2498	73.47	166	0.03	RUS	IRL	0.29	ARM	AFG

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Table 6: Descriptive statistics for political data based on GDELT

Country	Number of events	Mean number of events by country	Number of countries w/o events	Mean importance	Max. importance country	Min. importance country	Mean. mood	Max. mood country	Min. mood country
Tanzania	1985	35.45	144	0.02	BDI	BWA	0.25	SLE	AFG
Thailand	3722	51.69	128	0.01	MMR	BEL	0.10	BEL	LBN
Timor-Leste	1469	39.70	163	0.03	IDN	FIN	0.17	SLE	BGD
Togo	688	14.33	152	0.02	CIV	BWA	0.22	RUS	IRN
Tonga	31	6.20	195	0.15	CHN	GRC	0.17	AUS	NZL
Trinidad and Tobago	125	6.58	181	0.04	USA	DMA	0.27	GRD	PER
Tunisia	1539	27.48	144	0.02	PSE	AUT	0.27	GMB	DEU
Turkey	11875	118.75	100	0.01	GRC	CHL	0.22	GAB	MDV
Turkmenistan	1307	50.27	174	0.04	RUS	ARE	0.30	DEU	IRQ
Tuvalu	12	6.00	198	0.21	NZL	FJI	0.36	NZL	FJI
Uganda	5113	69.09	126	0.01	RWA	GAB	0.27	CUB	KWT
Ukraine	5266	73.14	128	0.01	RUS	AUS	0.31	LKA	AFG
United Arab Emirates	1496	24.52	139	0.02	IRQ	ARM	0.23	UGA	LKA
United Kingdom	18842	118.50	41	0.01	USA	DJI	0.20	COG	DOM
United States	56651	316.49	21	0.01	ISR	BIH	0.20	NRU	LSO
Uruguay	346	15.73	178	0.04	ARG	CAN	0.33	GBR	ESP
Uzbekistan	2147	63.15	166	0.03	TJK	IRQ	0.27	DEU	IRQ
Vanuatu	47	4.70	190	0.07	SLB	MAR	0.19	SLB	FRA
Vatican	1108	20.15	145	0.02	ITA	BEL	0.26	TUR	RWA
Venezuela	2078	35.22	141	0.02	COL	GRD	0.27	JAM	PRK
Viet Nam	4283	58.67	127	0.01	USA	AGO	0.30	ARG	FIN
Yemen	2535	46.09	145	0.02	SAU	AUT	0.22	CZE	NGA
Zambia	2269	39.81	143	0.02	AGO	BGD	0.27	DEU	SEN
Zimbabwe	2886	44.40	135	0.02	GBR	BRA	0.26	JPN	NOR

Table 7: Comparison of Mood and Importance with Voeten and Merdzanovic (2009)'s UNGA voting similarity index

	Dependent variable:	
	agree2un	agree3un
	(1)	(2)
Mean (Importance$_{odt}$, Importance$_{odt}$)	0.088***	0.276***
	(0.014)	(0.013)
Mood$_{odt}/2 + 0.5 \in [0, 1]$	1.361***	1.274***
	(0.001)	(0.001)
Observations	165,106	165,152
R^2	0.936	0.940
Note:	*p<0.1; **p<0.05; ***p<0.01	

E Additional Estimation Results

Table 8: First Stage Regressions for IV Estimations: Decision

	First stage regressions:	
	Importance_{odt}	$\text{Importance}^{\text{Instr}}_{odt} \times \text{Trade gains}^{NR}_{odt}$
$\text{Importance}^{\text{Instr}}_{odt}$	1.358^{***}	-3.259^{*}
	(0.058)	(1.602)
Mood_{odt}	-0.009^{***}	0.033
	(0.001)	(0.029)
$\text{Trade gains}^{NR}_{odt}$	0.003^{***}	0.109^{***}
	(0.001)	(0.017)
$\text{Importance}^{\text{Instr}}_{odt} \times \text{Trade gains}^{NR}_{odt}$	-0.012^{***}	0.723^{***}
	(0.002)	(0.109)
$\text{Mood}_{odt} \times \text{Trade gains}^{NR}_{odt}$	-0.003^{**}	-0.093^{*}
	(0.001)	(0.041)
Country × Year FE	yes	yes
Observations	39,840	39,840
R^2	0.516	0.751
Adjusted R^2	0.459	0.722
Partial R^2	0.12	0.04
F-Statistic on Instrument	32.15	15.33

Notes: Robust standard errors in parentheses are clustered by country × year. Significance levels: *: p<0.1, **: p<0.05, ***: p<0.01.

Table 9: Probability of forming EIA

	Dependent variable:					
	$Pr(\mathbf{d}_{od,t+1} > 0 \mid \mathbf{d}_{od,t} = 0)$					
	(1)	(2)	(3)	(4)	(5)	(6)
Importance$_{odt}$	0.010**	0.346**	0.146	0.345**		0.764**
	(0.005)	(0.154)	(0.155)	(0.174)		(0.344)
Importance$_{dot}$	0.069	0.007	−0.005	−0.054		0.147
	(0.049)	(0.052)	(0.074)	(0.050)		(0.145)
Mood$_{odt}$	0.007	0.010	−0.001	−0.005		0.007
	(0.131)	(0.007)	(0.008)	(0.013)		(0.007)
Trade gains$^{NR}_{odt}$	0.024***	0.032***	0.076***	0.007	0.024***	0.022***
	(0.005)	(0.010)	(0.011)	(0.005)	(0.005)	(0.008)
Trade gains$^{NR}_{dot}$	0.001***	0.001**	0.001**	−0.0002	0.001***	0.001**
	(0.0002)	(0.0003)	(0.0005)	(0.0004)	(0.0002)	(0.0003)
Importance$_{odt}$ × Trade gains$^{NR}_{odt}$		−0.118	−0.355***	−0.165**		−0.318***
		(0.099)	(0.094)	(0.079)		(0.084)
Importance$_{dot}$ × Trade gains$^{NR}_{dot}$		−0.0001	0.007	0.002		−0.004*
		(0.001)	(0.005)	(0.002)		(0.002)
Mood$_{odt}$ × Trade gains$^{NR}_{odt}$		0.051**	0.022	0.033**		0.043**
		(0.025)	(0.023)	(0.020)		(0.019)
Mood$_{dot}$ × Trade gains$^{NR}_{dot}$		0.001*	0.002	0.0001		0.00000
		(0.001)	(0.001)	(0.001)		(0.0005)
UNGA Voting similarity					0.064*	
					(0.034)	
Shared border		−0.008				
		(0.011)				
Shared language		0.011				
		(0.010)				
Colonial history		−0.024*				
		(0.014)				
Conflict		−0.029***				
		(0.008)				
log(Distance)		−0.017***				
		(0.005)				
Country × Year FE	yes	yes	yes	yes	yes	yes
Note	-	Controls	Country-pair FE	10yr lag	UNGA	IV
Observations	24,012	24,012	24,012	11,168	22,819	24,012
R^2	0.577	0.122	0.704	0.636	0.581	0.574
Adjusted R^2	0.498	0.110	0.527	0.527	0.502	0.495

Notes: Robust standard errors in parentheses are clustered by country × year. Significance levels: ∗: p<0.1, ∗∗: p<0.05, ∗ ∗ ∗: p<0.01.

Table 10: Change of Depth

	Dependent variable:					
	$\mathbf{d}_{od,t+1} - \mathbf{d}_{od,t}$					
	(1)	(2)	(3)	(4)	(5)	(6)
Importance$_{odt}$	0.007**	0.324***	0.072	0.484***		0.353**
	(0.003)	(0.081)	(0.098)	(0.095)		(0.179)
Importance$_{dot}$	0.028	−0.007	0.012	−0.007		0.004
	(0.023)	(0.027)	(0.052)	(0.026)		(0.087)
Mood$_{odt}$	−0.006	0.029***	0.007	0.028***		0.005
	(0.060)	(0.006)	(0.005)	(0.007)		(0.004)
Trade gains$^{NR}_{odt}$	0.015***	0.017***	0.062***	0.007*	0.015***	0.019***
	(0.004)	(0.006)	(0.009)	(0.004)	(0.003)	(0.006)
Trade gains$^{NR}_{dot}$	0.0003**	0.0002	0.001***	0.0005*	0.0004***	0.0004***
	(0.0001)	(0.0002)	(0.0003)	(0.0002)	(0.0001)	(0.0002)
Importance$_{odt}$ × Trade gains$^{NR}_{odt}$		−0.054	−0.271***	−0.071		−0.182***
		(0.062)	(0.070)	(0.053)		(0.057)
Importance$_{dot}$ × Trade gains$^{NR}_{dot}$		0.00001	0.005	−0.001		−0.001
		(0.001)	(0.004)	(0.001)		(0.002)
Mood$_{odt}$ × Trade gains$^{NR}_{odt}$		0.013	−0.009	0.019		0.011
		(0.016)	(0.016)	(0.014)		(0.012)
Mood$_{dot}$ × Trade gains$^{NR}_{dot}$		−0.001*	0.0002	−0.002***		0.0001
		(0.0004)	(0.0004)	(0.001)		(0.0003)
UNGA Voting similarity					0.039*	
					(0.023)	
Shared border		0.012**				
		(0.006)				
Shared language		0.0002				
		(0.003)				
Colonial history		0.004				
		(0.006)				
Conflict		−0.012***				
		(0.005)				
log(Distance)		0.0004				
		(0.0002)				
Country × Year FE	yes	yes	yes	yes	yes	yes
Note	-	Controls	Country-pair FE	10yr lag	UNGA	IV
Observations	23,996	23,996	23,996	11,164	22,803	23,996
R^2	0.585	0.019	0.686	0.013	0.599	0.584
Adjusted R^2	0.508	0.019	0.499	0.012	0.523	0.507

Notes: Robust standard errors in parentheses are clustered by country × year. Significance levels: ∗: p<0.1, ∗∗: p<0.05, ∗ ∗ ∗: p<0.01.

Table 11: First Stage Regressions for IV Estimations: Heterogeneity

	First stage regressions:			
	Importance_{odt}	Importance_{dot}	Importance_{odt} $\times$ Trade gains^{NR}_{odt}	Importance_{dot} $\times$ Trade gains^{NR}_{dot}
$\text{Importance}^{\text{Instr}}_{odt}$	1.3787^{***}	0.3491^{**}	-0.2977^{*}	-0.266
	(0.0848)	(0.111)	(0.1418)	(1.9591)
$\text{Importance}^{\text{Instr}}_{dot}$	0.0134	1.1795^{***}	-0.08^{**}	-1.2842
	(0.0199)	(0.1112)	(0.0281)	(2.6018)
Mood_{odt}	-0.0029^{***}	-0.0069^{**}	-0.0031^{*}	0.124
	(0.0008)	(0.002)	(0.0018)	(0.0818)
$\text{Trade gains}^{NR}_{odt}$	0.0071^{***}	0.0138^{***}	0.0201^{***}	0.0089
	(0.001)	(0.002)	(0.0040)	(0.0205)
$\text{Trade gains}^{NR}_{dot}$	0.0002^{***}	0.0015^{***}	-0.0001	0.0730^{***}
	(0.001)	(0.0003)	(0.0000)	(0.0192)
$\text{Importance}^{\text{Instr}}_{odt} \times \text{Trade gains}^{NR}_{odt}$	0.1084^{**}	-0.0694^{*}	2.1662^{***}	0.1373
	(0.0342)	(0.0405)	(0.2346)	(0.4663)
$\text{Importance}^{\text{Instr}}_{dot} \times \text{Trade gains}^{NR}_{dot}$	-0.0013^{***}	-0.0039^{*}	0.0005	0.8472^{***}
	(0.0003)	(0.0024)	(0.0004)	(0.1799)
$\text{Mood}_{odt} \times \text{Trade gains}^{NR}_{odt}$	-0.0102^{***}	-0.0175^{**}	$-$ 0.0081	0.0005
	(0.0028)	(0.006)	(0.0112)	(0.0565)
$\text{Mood}_{dot} \times \text{Trade gains}^{NR}_{dot}$	-0.0001	-0.0011^{*}	0.0000	-0.0699^{**}
	(0.0001)	(0.0007)	(0.0001)	(0.0352)
Country $\times$ Year FE	yes	yes	yes	yes
Observations	23,996	23,996	23,996	23,996
R^2	0.603	0.598	0.769	0.77
Adjusted R^2	0.5293	0.523	0.726	0.727
Partial R^2	0.13	0.087	0.146	0.06
F-Statistic on Instrument	14.93	10.23	14.24	13.31

Notes: Robust standard errors in parentheses are clustered by country $\times$ year. Significance levels: *: p<0.1, **: p<0.05, ***: p<0.01.