Trading Representation

Diplomacy's Influence on Preferential Trade Agreements

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Abstract

A multidisciplinary literature explores the implications of economic diplomacy, but has largely ignored international cooperation on economic agreements. We provide a first exploration of the implications of bilateral diplomatic missions for the formation of preferential trade agreements (PTAs). We argue that high-level diplomatic relations increase the likelihood of PTA ratification between two countries because diplomats have a number of political and economic incentives to see these agreements implemented. Evidence from a global panel of country dyads spanning 1960-2005 indicates that the presence of ambassadors is linked to an increased probability that a PTA will be concluded within a dyad, opening new avenues for further research.

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1.   Introduction

Over the past few decades, regional and international organizations have proliferated at a tremendous rate. In particular, the number of preferential trade agreements (PTAs) alone has increased fourfold to over 300 in number within the last two decades. This dense network consists mainly of bilateral PTAs. Today, very few countries are not party to any PTA, many having concluded over a dozen agreements. Over 50 percent of global trade is conducted on the basis of PTA rules, and this rapid increase of trade regionalism reflects important changes in the modern global economy (Manger et al. 2012), as well as the extent to which PTAs influence international transactions. An extensive literature is devoted to identifying political and economic determinants for the establishment of PTAs. However, an essential component of international politics that considerably influences the formation of PTAs has been overlooked in all existing research: diplomacy.

Economic diplomacy has become a central component of foreign ministries' portfolios, with these branches of government readily providing data and assistance to pursue trade and international investment growth. Australia's Department of Foreign Affairs and Trade goes so far as to list international trade as one of the foundations of its economic-diplomacy agenda. Its stated aim in trade promotion is to: 'pursue trade liberalisation through bilateral, regional and global trade agreements that open up new markets for Australian exporters and sustain a strong, rules based architecture for global trade' (Australian Department of Foreign Affairs and Trade 2015).

We extend existing theories of economic diplomacy to incorporate PTA formation. Where diplomats work to facilitate trade and investment by decreasing transaction costs (Rose 2007), they also can influence the coordinated scheduled reductions in these costs through bilateral trade agreements. The nature of diplomatic ties matters as well; high-level diplomats have greater access to resources and officials, while low-level diplomatic ties lack these advantages. Consequently, country pairs with high-level diplomatic relations should be more likely to enter into PTAs than those without these ties. Furthermore, diplomats have personal incentives to promote PTA formation, as successful negotiations signal polished professional skills and may contribute significantly to professional advancement. If diplomats make PTAs more likely between country pairs, this provides a clear mechanism between economic diplomacy and growth in bilateral trade.

We test our argument against a dataset consisting of 351 PTAs [1] and directed dyadic diplomatic links between all countries (from Bayer 2006) spanning the years 1960-2005, finding evidence that high-level diplomatic ties exert a strong influence on the formation of PTAs between members of a dyad. Low-level ties do not exhibit a consistent relationship with trade agreements.

2.   Literature Review

Economic Diplomacy in Foreign Services

With the growth of international organizations and institutions as forums for the traditional tasks of diplomatic corps, economic diplomacy has become a primary mission. This shift in emphasis

has somewhat coincided with the growth of international trade, and embassies and consulates alike (as well as lower-level forms of government representation) play a key role in assisting private actors in overcoming the remaining transaction costs and formal and informal barriers associated with foreign transactions (Kostecki and Naray 2007; Naray 2010). By doing so, these influential diplomatic officials enable the development and maintenance of export markets by paving the way free to trade (Lee and Hudson, 2004; Bergeijk, 2009; Yakop and van Bergeijk, 2011).

Empirical research on economic diplomacy is limited, but typically interdisciplinary in nature and straddles the fields of international political economy, international economics and international relations (Bergeijk et al.2011; Okano-Heijmans 2011). International-relations studies are the most common, and frequently assess commercial elements within the broader scope of diplomatic or foreign relations (Morrow et al. 1998; Coolsaet 2004; Lee 2004; Neumayer 2007; Rana 2007; Stringer 2007; Maliniak and Plouffe 2011; Poulsen 2015; Poulsen and Aisbett 2016). Despite the merits of this state-centred approach, the perspective has been criticised for a lack of examination of economic diplomacy's commercial implications (Lee and Hudson, 2004).

Related political-economy and international business research examines the effect of economic diplomacy on international trade flows. Rose (2007), the first to empirically investigate whether trade follows the flag, finds a sizeable link between foreign consulates and bilateral exports. More recent work has found analogous results for permanent diplomatic missions in transition countries and ad valorum tariff reductions (Afman and Maurel 2010) and state visits (Nitsch 2007). Yakop and Bergeijk (2009) identify variation in the trade effect attributable to trade partners' levels of economic development. Head and Ries (2010) interestingly find Canada's trade missions to have no impact on trade flows. However, this seems to be a unique result in the literature, as economic diplomacy generally is linked to growth in trade flows for all dyads where at least one trading partner is a developing country (van Veenstra et al. 2011; Creusen and Lejour 2012).

Other research unpacks the effects of different forms of diplomatic representation on bilateral trade. Van Bergeijk et al. (2011) conclude that embassies have on average a larger impact on trade compared to consulates, while honorary consulates do not add value at all. The meta-analysis of Moons and Bergeijk (2013) confirms that the impact of economic diplomacy is more pronounced when embassies are used as an explanatory variable compared to studies using trade missions, state visits or consulates. A general drawback of all these studies is restricted generalizability due to limited data availability. However, all studies report that diplomatic ties promote and facilitate trade.

While economic diplomacy can be systematically linked to increases in bilateral exports, the mechanisms at play in this relationship remain relatively undefined. It is generally expected that diplomats lobby host governments to secure national political and economic interests (Okano-Heijmans 2008). These may be limited to the dyad, but are also likely reflect significant multilateral and regional considerations (Bayner and Woolcock 2007; Maliniak and Plouffe 2011). However, beyond these activities and providing information to private-sector actors, our understanding of what entails economic diplomacy remains relatively limited when compared to its effects.

Determinants of Trade Agreements

The dramatic growth and range of scope of PTAs over the past two decades vividly demonstrates the importance of transnational economic flows in the modern global economy. PTAs are primarily identified as useful means to consolidate the results of intense lobbying for favourable trade rules as they provide exceptions to the application of the WTO's most favoured nation (MFN) arrangement. Countries involved in a PTA share preferential terms with a small selection of other countries and thereby conduct commerce on even better terms (Bagwell and Staiger 2001). This discriminatory element makes trade relatively costly for non-members and induces them to either seek to join the established PTA, or obtain similar policy concessions of their own through a new agreement (Baldwin 1996; Egger and Larch 2008; Baldwin and Jaimovich 2012).

Because PTAs are attractive institutions with tangible membership benefits to joining governments, the determinants of PTA membership are an important topic of research. Research on influential determinants of PTAs has focused on the effect of increasing economic similarity (Baier and Bergstand 2004; Baier et al. 2014), interest-group lobbying (Mattli 1999; Chase 2005; Dür 2007; Plouffe 2012), domestic institutions (Mansfield et al. 2000 and 2008; Baccini 2012), the influence of specific international organizations (Pevehouse 2005; Pevehouse and Russett 2006), endogeneity resulting from natural trading partners (Baier and Bergstrand 2007 and 2009; Egger et al. 2008) and political agents' interests (Elsig 2007; Elsig and Dupont 2011). Recent research has also begun to examine variations in the scope and implementation of PTAs and other economic agreements, ranging from domestic institutions and implementation of provisions (Büthe and Milner 2014; Gray 2014; Haftel 2013; Baccini and Kim 2012), to the relationship between depth and flexibility (Baccini et al. 2015; Johns 2014; Kucik and Reinhardt 2008; Pelc 2009; Rosendorff and Milner 2001). While many aspects of trade agreements have been studied, the role of diplomats has remained overlooked.

3.   Diplomats and PTAs

While the political and economic determinants of PTAs have been subject to extensive scrutiny, the importance of those representing countries and their incentives have been ignored as a non-economic factor in PTA creation. Two factors lie in the relationship between diplomats and PTA formation. First, diplomats have a personal incentive to negotiate and conclude treaties. Second, embassy-level missions have greater resources and capabilities than lower-priority diplomatic delegations, which should make PTA formation more likely among country pairs with ambassadorial ties.

High-level diplomatic representation between countries – such as embassies – have a positive influence on the likelihood of the ratification of a PTA between these countries, particularly when these links are reciprocated. Contrastingly, low-level ties, such as chargés d'affaires, should have a lesser effect on PTAs, as these offices are largely temporary or formalities and lack the resources and capabilities of higher priority diplomatic missions. High-level representation signifies important political and strategic considerations (Maliniak and Plouffe 2011), which both foster cooperation and have been linked to institutions such as PTAs (Gartzke 2007; Rose 2007) and BITs (Poulsen and Aisbett 2016).

The Importance of High-Level Ties

High-level representation between countries reflects the importance of a bilateral relationship. Direct diplomatic representation fosters numerous benefits, including increased international prestige, improved communication, information gathering, and the promotion of political, economic interests, as well as fostering cultural exchange (Keeley 2000; Kinne 2014).

However, these benefits do not come freely: diplomatic representation is a costly endeavour.[2] Compared to low-level missions, embassies are particularly costly to establish and maintain; consequently, they are relatively rare among dyads, as states behave strategically when determining hosts for potential embassies. Among the concerns that factor into this calculus are economic interdependence, power considerations, and shared geopolitical goals (Bayer 2006; Maliniak and Plouffe 2011). For the state, these goals contribute to the formation of bilateral and regional agreements; they additionally foster cooperation in international governance.

While ambassadorial ties are driven by costs and a desire for close bilateral relationships, the lack of a resident ambassador may point to similar considerations. For example, when a non-resident ambassador is tasked with multiple countries, a lower-ranking officer – a chargé d'affaires – acts as the highest-ranking resident representative. Where the cost of direct representation is not the chief concern, the use of a long-term chargé d'affaires may signify bilateral tensions or displeasure.[3] Finally, where broader political considerations are concerned, chargés d'affaires enable resident representation without the pomp and circumstance that surrounds the appointment of an ambassador, as chargés d'affaires are received by a foreign minister rather than a head of state. These political dynamics also feed into the incentives of the most senior state representative: while an ambassador may seek to actively and publicly promote his or her state's interests through means such as a PTA,[4] a chargé d'affaires may simply pursue the status quo while in a temporary appointment, or, where permanent, will seek quieter avenues when pursuing foreign-policy goals.

The influence of diplomatic links on PTA formation goes beyond merely representing the importance of a bilateral relationship. Embassies are often better staffed than lower-level missions and have greater access to resources, allowing for specialization in tasks and a broader scope of issues that can be actively addressed.[5] Additionally, diplomatic staff may come from a range of bureaucratic pathways, bringing with them a variety of experiences and specializations with which to support the embassy's goals.

Diplomatic Incentives

In addition to the state's strategic goals, diplomats have personal professional incentives to form PTAs, as completing a trade agreement with a trading partner can lead to significant professional benefits. Negotiating an agreement serves as a strong signal of the application of highly developed professional skills; successfully concluding a negotiation is a significant achievement that can form the basis for enhanced career prospects. While diplomatic staff can point to the text resulting from negotiations as a tangible accomplishment, this is evidence of other important intangible skills, such as demonstrating a range of expertise, developing valuable negotiating skills, and working successfully as part of a team.[6] Consequently, diplomats can use contributions

to agreements as leverage for the basis for promotions, improved salary, and favourable postings.[7]

These private incentives overlap with diplomats' unique position to form and execute foreign economic policy. Diplomats are ideally situated to negotiate: along with private knowledge of their government's political and economic goals and private actors' interests, they cultivate specialised bodies of knowledge relating to their host countries.[8] Consequently, diplomats have both the incentive and ability to reduce sources of uncertainty, risk, and transaction costs; they can identify and mobilise key stake-holders and lead negotiations to a successful resolution.

4. Data Description

We examine the effects of diplomatic representation on PTA formation using a dyadic panel covering the years 1960-2005, in five-year intervals.[9] The dependent variable is a binary indicator that captures the existence of a PTA between members of a dyad, sourced from the Global Preferential Trade Agreements Database (GPTAD), sourced through the World Integrated Trade Solution (WITS) (World Bank 2014).

The variables of interest measure the strength of diplomatic ties between dyad members, sourced on a five-year basis from Bayer's (2006) contribution to the Correlates of War (CoW) database (Singer and Small 1973). The different levels of diplomatic representation in decreasing order of importance are: ambassador or high commissioner, minister or envoy, chargé d'affaires or counsellor and, finally, no evidence of any diplomatic representation. Since the end of the Second World War, minister/envoy-led legations have become exceptionally rare, as countries have followed United Nations doctrine regarding the equality of sovereign states, causing countries relying on legations as their forms of bilateral representation to eventually upgrade the status of these ties (or remove them altogether).[10] Consequently, we focus our analysis on ambassadorial and chargé d'affaires/counsellor-level ties.

Table 1. Distribution of Bilateral Diplomatic Relations among Dyads, 1970-2005

	Ambassador	Chargé d'affaires	No Representation
Ambassador	14,169	1,307	6,924
Chargé d'affaires	1,307	152	920
No Representation	6,924	920	68,292

Note: Based on the 10-year lags, leaving 91,764 potential observations. Ministers are included with chargés d'affaires, as there are only 42 observations involving ministers. Table A2 in the Appendix depicts the correlation coefficients for lags of the diplomatic terms, illustrating the changing nature of representation over time; Table A3 lists each of the ministerial legations from 1975-2005.

Table 1 depicts the distribution of diplomatic relationships between countries. Mutual ambassador-level ties are the most common form of diplomatic engagement, where they exist, at over 15% of all observations. Dyads involving chargés d'affaires are much less common, with mutual chargés d'affaires making up a minute portion of all dyads. It is relatively common for the strength of diplomatic ties to be unbalanced, with nearly 9% of all observations involving a single ambassador and in reciprocation, either a chargé d'affaires or no representation. Despite strong evidence that the global diplomatic network is extremely dense, there is considerable variation in the nature of ties, even within dyads, indicating the presence of costs that prevent countries from extending representation on a bilateral basis across the globe (Maliniak and Plouffe 2011).[11]

It is important to note that a lack of diplomatic representation does not directly imply a bad relationship between countries, as countries can still recognize each other. However, it would be virtually impossible to capture data on these forms of representation as well. We create two dummy variables for each category of diplomatic representation to indicate mutual or unilateral diplomatic ties. To account for the potential endogeneity of diplomatic relations – where diplomatic representation may be increased as part of a push to conclude a trade agreement, each dummy variable is lagged by ten years (Lawrence 1998). This also aids in capturing the effect of time required for diplomats to ramp up the scope of their trade-promotion efforts.[12]

Developing the Model

We control for a number of economic and political factors, as indicated by existing research on both PTA formation and the relationship between economic diplomacy and trade. Our empirical model is based on two literatures, namely the determinants of trade agreements (Baier and Bergstrand 2004; 2009; 2014) and the impact of diplomacy on trade flows (Rose 2007; Yakop and van Bergeijk 2011).

Following the ubiquitous gravity model of trade, we control for dyad members' *proximity* as a way to indicate bilateral trade costs. As distance increases, so do costs associated with contracting, transportation and transactions. This decreases the likelihood of trade occurring, which in turn decreases the probability of a PTA (Frankel et al. 1995, 1996, 1998; Frankel 1997). A country pair's distance also captures political influences. Among other examples, the history of the European Union (EU) and the Monroe Doctrine suggest that political interests in forming close ties with foreign countries rise with geographical proximity. When dyad members are geographically closer to each other, the probability of a PTA increases. The logged distance between countries is based on capital cities and available from Mayer and Zignago (2006). For *proximity*, we have reversed the sign of this distance measure to facilitate interpretation: greater proximity between dyad members means that trade and PTA formation are more likely.

Following Baier and Bergstrand (2004), we include a measure of a dyad's *remoteness* from the rest of the world. *Remoteness* captures whether dyad members are located on a shared continent and their potential to trade with the rest of the world. We specify this formally in the appendix; the calculation is the same as in Baier and Bergstrand (2004), Egger and Larch (2008), and Baldwin and Jaimovich (2012). *Remoteness* is very closely related to work on the theoretical underpinnings of the gravity model (Anderson and van Wincoop 2004), so it is appropriate to include in our specifications. The more remote from the rest of the world dyad members are, the more likely they are to form a PTA.

To complete the gravity portion of the model, we include GDPs for both countries in the dyad (*GDPi* and *GDPj*). Research on the economic implications of PTAs has demonstrated the ex-post benefit of concluding an agreement with a large trading partner (Krishna 1998; Michaely 1998). We expect similar motivations to exist in the negotiation stage of a PTA's life. Replacing GDP with population-based measures produces similar results.

We also include an indication of the countries' economic complementarity (*similarity*). *Similarity* is calculated as the inverse of the difference between the per capita GDPs of both dyad members. Trade between country pairs with a large difference in per capita GDP is likely to reflect

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comparative advantage, while smaller differences are more likely to reflect vertical production networks and intra-industry trade (Manger 2009; Manger 2012). Consequently, the difference in domestic coalitions should have an impact on the likelihood of PTA ratification, with verticalisation (and *similarity*) being positively associated with PTA ratification.

Bilateral trade flows have long been linked to PTA formation, as these flows indicate strong domestic interests favouring economic integration (Wonnacott and Lutz 1989; Magee 2003). As the importance of bilateral trade grows, the coalitions that benefit from it have an incentive to lobby intensively for PTAs to prevent the breakdown of close regional cooperation (Nye 1998; Plouffe 2012). For these market actors, PTAs offer a credible signal of policy consistency, preventing opportunistic behaviour by signatory governments (Yarbourgh and Yarbourgh 1992; Barbieri and Keshk 2012). *Trade* captures the proportion of bilateral trade flows as a portion of the dyad's combined GDP. We use bilateral export volumes from CoW to account for trade flows (Barbieri and Keshk 2012).

We additionally control for a number of political factors. Democracies are more cooperative in comparison to nondemocratic regimes, due in part to the domestic political benefits that are the result of cooperative agreements (Mansfield et al. 2000; Mansfield and Pevehouse 2006; Jensen 2003). We use the ubiquitous Polity IV index to capture domestic regime (Marshall 2013) of each dyad member, including this in the model as the difference between each country's regime (*dpolity*). We also include indicators of former colonial ties within the dyad (*colony*) and shared linguistic heritage (*language*) as both of these socio-political factors foster international exchange (Rose 2007).

Finally, countries that largely share foreign-policy goals have a greater probability of establishing PTAs. Dyad members with similar foreign policies should be less wary of trade's security externalities than those with diverse foreign policies (Gowa and Mansfield 1993; Gowa 1994; Mansfield 1998). One way to capture this is through voting similarity in the United Nations General Assembly (*affinity*) (Voeten and Strezhnev 2013). Additionally, a dichotomous variable measuring whether a country pair has a military alliance (*alliance*) is used to capture alliance-based motivations, and is sourced from the CoW dataset (Gibler 2009). To capture security-based incentives behind PTA formation, we include the absolute value of the difference in dyad members' CINC scores from the CoW dataset (Singer and Small 1973) to provide an index of relative capabilities. These are complemented by *s_un*, an indicator of shared foreign-policy interests based on treaty-membership portfolios (Lupu 2014); this is comparable to measures of alliance portfolios, but like UNGA voting, attempts to capture a wider range of issues than security concerns.[13]

5.   Analyses and Results

Preliminary Analysis: Bivariate Effects

We begin by examining the bivariate relationship between diplomatic ties and PTAs. Table 2 presents the bivariate marginal effects from logit regressions depicting changes in the probability of a PTA as a result of different levels of diplomacy. Overall, we find a positive and significant link between diplomatic representation and the likelihood of PTA establishment.

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The uncontrolled effect of mutual ambassadors stands out, which corresponds with the expectation that high-level diplomatic representations have a greater effect on the probability of establishing a PTA than relatively low-level ties. The presence of dual ambassadors makes the existence of a PTA between the country pair 17.5% more likely to occur, while this drops to 5.2% with the presence of a single ambassador. Similarly, the mutual presence of chargés d'affaires increases the probability of a PTA for a country pair by 9.9%, compared to 7.8% with unilateral presence. Finally, uneven ties consisting of an ambassador and chargé d'affaires (presented in Model 3) are associated with a 10.2% increase in the likelihood of PTA formation. This first cut at the data reveals the potential for a very strong link between the high-level diplomatic ties that reflect important bilateral relationships and the formation of PTAs.

Table 2. Bivariate Marginal Effect of Diplomatic Representation on PTAs

	Model 1	Model 2	Model 3	Model 4	Model 5
Mutual Ambassadors	0.175***				
	(0.007)				
Unilateral Ambassador		0.052***			
		(0.006)			
Ambassador- Chargé d'Affaires			0.102***		
			(0.015)		
Mutual Chargés d'Affaires				0.099*	
				(0.044)	
Unilateral Chargé d'Affaires					0.078***
					(0.011)
Observations	91,764	91,764	91,764	91,764	91,764

Note: Models are bivariate logits with average marginal effects reported, and all diplomatic variables are lagged ten years. Standard errors in parentheses are heteroskedastically robust and clustered on the dyad. Dependent variable: PTA. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Multivariate Analyses

The multivariate tests presented in Table 3 are based on a combination of the Baier-Bergstrand and Rose models. We extend these to include the difference in dyad members' regime type (*dpolity*) as well as our measures of diplomatic ties. We run our initial tests over two samples: one includes the entire world (Models 6 and 7); the other excludes dyads where at least one country is a member of the European Union (EU) (Models 8 and 9). Since the signing of the Treaty of Rome, the EU is responsible for members' external trade policies, including the creation of PTAs. As such, PTAs with EU members run the risk of being counted numerous times, potentially inflating results.

Models 6 and 8 present the effects of aggregated diplomatic ties. *All AMB* captures both unilateral and bilateral ambassador-level representation, while *All CDA* does the same for chargés d'affaires. In both cases, the presence of at least one ambassador increases the likelihood of a PTA by at least 5%. *All CDA* has an insignificant effect, despite possessing a positive sign in Model 6, but gains significance in Model 8. In Models 7 and 9, we incorporate more detailed diplomatic-tie indicators. *Mutual AMB* and *Mutual CDA* capture bilateral ties of equal strength at the ambassadorial and chargé d'affaires level, respectively. *Unilateral AMB* and *Unilateral CDA* record dyads involving a single ambassador or chargé d'affaires, while *CDA-AMB* indicates ties of uneven strength involving one chargé d'affaires and one ambassador. The omitted baseline category consists of dyads lacking any form of diplomatic representation.

Ambassadorial ties remain significantly and positively linked to PTA formation in both Model 7 and Model 9. The presence of mutual ambassadors increases the likelihood of a PTA by 7.3% for the global model and 10.2% when the EU is excluded. The impact of a single ambassador is smaller, at 3.3% and 4.5% respectively. *Mutual CDA* and does not have a significant impact on PTA formation, although it retains a positive sign in both models, while *Unilateral CDA* exhibits a significant and positive effect on PTA formation. This increases from 4% to 7.3% when the EU is excluded. Finally, *CDA-AMB* is insignificant with a negative sign.

Table 3. Diplomacy and Basic Specifications

	All Countries		World Ex. EU	
	Model 6	Model 7	Model 8	Model 9
All AMB	0.054***		0.072***	
	(0.006)		(0.007)	
All CDA	0.016		0.040**	
	(0.010)		(0.013)	
Mutual AMB		0.073***		0.102***
		(0.008)		(0.010)
Unilateral AMB		0.033***		0.045***
		(0.008)		(0.010)
CDA-AMB		-0.010		-0.012
		(0.020)		(0.024)
Mutual CDA		0.039		0.093
		(0.038)		(0.024)
Unilateral CDA		0.040*		0.073**
		(0.018)		(0.019)
GDP i	0.011***	0.011***	0.011***	0.010***
	(0.002)	(0.002)	(0.002)	(0.002)
GDP j	0.015***	0.014***	0.012***	0.011***
	(0.002)	(0.002)	(0.002)	(0.002)
Similarity	0.032***	0.032***	0.035***	0.035***
	(0.002)	(0.002)	(0.002)	(0.002)
Trade	0.106	0.072	0.011	-0.034
	(0.057)	(0.057)	(0.067)	(0.068)
Remoteness	0.019***	0.019***	0.021***	0.021***
	(0.001)	(0.001)	(0.001)	(0.001)
Proximity	0.045***	0.044***	0.024***	0.022***
	(0.005)	(0.005)	(0.005)	(0.005)
DPolity	-0.003***	-0.003***	-0.002***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
Observations	45,386	45,386	34,951	34,951
Pseudo-R^2	0.23	0.23	0.18	0.17
AIC	32,995	32,959	27,739	27,964

Note: Logit regressions with average marginal effects reported. Standard errors in parentheses are heteroskedastically robust and clustered on the dyad. Table A8 replicates Models 8 and 9 for post-1990 and post-1995 data. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Our control terms largely have the expected effects on PTA formation, as established through the significant body of research on determinants of PTAs. Of the variables added to the basic model, *trade* is positive but insignificant, while *dpolity* reflects the fact that states are more likely to sign a PTA with another state of a similar regime type. This is unsurprising, given the established link between democracies and international cooperation (Mansfield et al. 2000). However, this seems to be driven by the relatively high correlation with *Mutual AMB* and *All AMB*, reflecting the robust results linking the two in the economic diplomacy literature.[14]

Table 4 presents the results of our fully specified models. In addition to the controls presented in Table 3, we have included measures of foreign-policy affinity (*affinity*), the difference between each country's material capabilities (*DCINC*), and indicators of an existing *alliance*, colonial history (*colony*), and common *language*. While the effects of diplomatic representation are reduced when compared to those in Table 3, the same general pattern emerges. As Models 10 and 12 demonstrate, the presence of at least one ambassador increases the likelihood of a PTA by 4.5%, and 5.6% when the EU is excluded. Chargés d'affaires only exhibit a positive and significant effect in Model 12. For our disaggregated diplomacy indicators, presented in Models 11 and 13, *Mutual AMB* is linked to a 6.1% increase in the probability of PTA formation (7.9% in Model 13), while *Unilateral AMB*'s impact is much smaller, at about 3% in both models. Our variables capturing chargés d'affaires are not significantly linked to PTA formation, with the exception of *Unilateral CDA* in Model 13.

Table 4 – Diplomacy and Foreign Policy

	All Countries		World Ex. EU	
	Model 10	Model 11	Model 12	Model 13
All AMB	0.045***		0.056***	
	(0.006)		(0.007)	
All CDA	0.014		0.031*	
	(0.011)		(0.014)	
Mutual AMB		0.061***		0.079***
		(0.008)		(0.010)
Unilateral AMB		0.030***		0.037***
		(0.008)		(0.009)
CDA-AMB		-0.011		-0.022
		(0.021)		(0.023)
Mutual CDA		0.051		0.088
		(0.056)		(0.081)
Unilateral CDA		0.033		0.063**
		(0.020)		(0.024)
GDP i	0.031***	0.030***	0.032***	0.031***
	(0.002)	(0.002)	(0.003)	(0.002)
GDP j	0.028***	0.027***	0.030***	0.029***
	(0.002)	(0.002)	(0.003)	(0.002)
Similarity	0.025***	0.025***	0.027***	0.027***
	(0.002)	(0.002)	(0.002)	(0.002)
Trade	0.056	0.032	-0.003	-0.033
	(0.062)	(0.063)	(0.074)	(0.075)
Remoteness	0.015***	0.015***	0.016***	0.017***
	(0.001)	(0.001)	(0.001)	(0.001)
Proximity	0.034***	0.033***	0.009***	0.007
	(0.005)	(0.005)	(0.006)	(0.006)
DPolity	4.76×10^{-5}	1.04×10^{-4}	1.57×10^{-4}	2.05×10^{-4}
	(0.001)	(0.001)	(4.71×10^{-4})	(4.71×10^{-4})
Affinity	0.278***	0.278***	0.406***	0.407***
	(0.023)	(0.023)	(0.040)	(0.040)
DCINC	-0.020***	-0.020***	-0.021***	-0.021***
	(0.002)	(0.002)	(0.002)	(0.002)
Alliance	-0.003	-0.004	0.006	0.004
	(0.008)	(0.008)	(0.009)	(0.009)
Colony	0.007	0.008	0.008	0.009
	(0.009)	(0.009)	(0.009)	(0.009)
Language	0.017*	0.016*	0.034***	0.033***
	(0.008)	(0.008)	(0.008)	(0.008)
Observations	33,655	33,657	26,745	26,745
Pseudo-R^2	0.24	0.24	0.21	0.21
AIC	22,388	22,372	18,923	18,901

The addition of our extended battery of political controls changes some of the results from our baseline model. *DPolity* loses significance and changes sign when compared to the results in Table 3. *Trade* remains insignificant, although our economic and geographic controls remain significant and retain their signs and comparable marginal effects to those in the previous table.

Affinity, our measure of foreign-policy similarity, is strongly linked to PTA formation, with an increase of one standard deviation increasing the probability of a PTA by over 27% in Models 10 and 11, and 40% in Models 12 and 13. The effect of relative capabilities (*DCINC*) points to PTAs being signed between countries of relatively equal material strength. Alliances and shared colonial history are not significantly linked to PTA formation, while common language increases the likelihood of a PTA by up to 2% across specifications.

Substantively, the effects of ambassadors on PTA formation are quite substantial when compared to other commonly cited factors. For example, the presence of a single ambassador has approximately twice the impact as a common language, while mutual ambassadors within the dyad increases the likelihood of a PTA by roughly four times the effect of a common language. When the EU is excluded, ambassadorial presence remains very important, while *language* increases in importance and significance.[15]

Cross-Sectional Analyses

Following influential examples in both PTAs and economic diplomacy literatures we draw from, we also present several cross-sectional models.[16] For these tests, we present more variation on the lags of our diplomatic indicators. We use 2000 as the year for our cross-sectional analyses for two reasons: most PTAs have been formed after the end of the Cold War, and *affinity* does not contain data for 2005. We also exclude all dyads involving EU members.

Table 5 presents results for these models with diplomatic links as they existed in 1975 (Models 14 and 15) and in 1985 (Models 16 and 17). The remaining independent variables are not lagged. The results indicate that, despite the significant geopolitical changes that happened between the observed diplomatic ties during the Cold War and 2000, a relationship remains between mutual ambassadors and PTA formation, although any consistent relationship between weaker ties and PTAs disappears. For the aggregate measure *All AMB*, lagged twenty-five years, the marginal effect is positive and comparable to *All AMB*'s fifteen-year lag. The disaggregated indicator for mutual ambassadorial ties from 1975 is associated with a 4.8% increase in the likelihood of PTA formation (although this is not significant with 95% confidence), with dyads containing only one ambassador increasing the probability of a PTA by 6.4%. The models with fifteen year lags, where diplomatic data reflect the world in 1985, exhibit a stronger relationship with PTAs, with *All AMB* increasing PTA formation by 5.7% and *Mutual AMB* increasing the probability of a PTA in 2000 by 5.9%. The presence of a single ambassador in a dyad in 1985 increases the likelihood of PTA formation by 2000 by 6.5%.

Table 5. Diplomacy and PTAs in 2000, World Excluding the EU

	25-year Diplomatic Lag		15-year Diplomatic Lag	
	Model 14	Model 15	Model 16	Model 17
All AMB	0.051***		0.057***	
	(0.014)		(0.016)	
All CDA	-0.014		0.023	
	(0.033)		(0.029)	
Mutual AMB		0.048*		0.059**
		(0.020)		(0.021)
Unilateral AMB		0.064***		0.065**
		(0.017)		(0.020)
CDA-AMB		-0.148**		-0.061
		(0.052)		(0.050)
Mutual CDA		-.003		0.024
		(0.145)		(0.089)
Unilateral CDA		0.114		0.056
		(0.074)		(0.041)
GDP i	0.041***	0.041***	0.040***	0.040***
	(0.005)	(0.005)	(0.005)	(0.005)
GDP j	0.042***	0.041***	0.042***	0.041***
	(0.005)	(0.005)	(0.004)	(0.004)
Similarity	0.052***	0.052***	0.051***	0.051***
	(0.003)	(0.003)	(0.003)	(0.003)
Trade	-0.497***	-0.483***	-0.529***	-0.527***
	(0.125)	(0.127)	(0.123)	(0.124)
Remoteness	0.030***	0.030***	0.030***	0.030***
	(0.001)	(0.001)	(0.001)	(0.001)
Proximity	0.021	0.020	0.022*	0.022*
	(0.011)	(0.011)	(0.011)	(0.011)
DPolity	-0.003**	-0.003**	-0.004**	-0.004**
	(0.001)	(0.001)	(0.001)	(0.001)
Affinity	0.395***	0.393***	0.380***	0.380***
	(0.061)	(0.061)	(0.059)	(0.059)
DCINC	-0.031***	-0.031***	-0.032***	-0.032***
	(0.004)	(0.004)	(0.003)	(0.003)
Alliance	0.091***	0.095***	0.078**	0.078**
	(0.025)	(0.025)	(0.024)	(0.024)
Colony	0.055**	0.054**	0.054**	0.054**
	(0.017)	(0.017)	(0.017)	(0.017)
Language	0.109***	0.108***	0.111***	0.111***
	(0.016)	(0.016)	(0.016)	(0.016)
Observations	4,985	4,985	5,096	5,096
Pseudo-R²	0.32	0.32	0.33	0.33
AIC	4,226	4,226	4,271	4,276

Note: Logit regressions with average marginal effects reported. Standard errors in parentheses are heteroskedastically robust and clustered on the dyad. *p < 0.05, **p < 0.01, *** p < 0.001.

Table 6 presents estimates for 10-year and 5-year diplomatic lags. The impact of these post-Cold War indicators reflects the change in the global political economy, with mutual ambassadorial ties more closely linked to PTA formation. The extent to which this relationship reflects structural changes in international politics or the evolving mission of diplomatic corps is beyond the scope of this paper, but the presence of mutual ambassadors in 1990 is linked to a 9.1% increase in the likelihood of PTA formation by 2000, while the same indicator from 1995 increases the probability of a PTA in 2000 by 13.1%. Unilateral ambassadorial ties are also strongly linked to PTAs, with marginal effects of 8.0% and 4.7%.

From a substantive standpoint, the importance of ambassadorial ties varies depending on the length of the lag between observation of the bilateral diplomatic relationship and 2000. For the

longest lags, with diplomatic ties from 1975 and 1985, ambassadors' effects are comparable to those of a shared colonial history. With the ten- and five-year lags, these effects are more similar to those of a common language.

Table 6. Diplomacy and PTAs in 2000, World Excluding the EU

	10-year Diplomatic Lag		5-year Diplomatic Lag	
	Model 18	Model 19	Model 20	Model 21
All AMB	0.081***		0.085***	
	(0.016)		(0.014)	
All CDA	0.913		0.023	
	(0.029)		(0.022)	
Mutual AMB		0.091***		0.131***
		(0.021)		(0.019)
Unilateral AMB		0.080***		0.047**
		(0.020)		(0.017)
CDA-AMB		-0.039		0.004
		(0.053)		(0.042)
Mutual CDA		0.285		0.052
		(0.350)		(0.089)
Unilateral CDA		0.036		0.051
		(0.046)		(0.034)
GDP i	0.036***	0.036***	0.024***	0.023***
	(0.005)	(0.005)	(0.004)	(0.004)
GDP j	0.038***	0.037***	0.027***	0.026***
	(0.004)	(0.004)	(0.004)	(0.004)
Similarity	0.048***	0.048***	0.041***	0.040***
	(0.003)	(0.003)	(0.003)	(0.004)
Trade	-0.525***	-0.541***	-0.222**	-0.288**
	(0.121)	(0.124)	(0.099)	(0.101)
Remoteness	0.030***	0.030***	0.024***	0.024***
	(0.001)	(0.001)	(0.001)	(0.001)
Proximity	0.015	0.014	-0.011	-0.011
	(0.010)	(0.010)	(0.008)	(0.008)
DPolity	-0.003**	-0.003**	-0.003***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
Affinity	0.364***	0.366***	0.364***	0.363***
	(0.057)	(0.057)	(0.043)	(0.043)
DCINC	-0.031***	-0.031***	-0.023***	-0.023***
	(0.003)	(0.003)	(0.003)	(0.003)
Alliance	0.083***	0.082**	0.095***	0.086***
	(0.023)	(0.019)	(0.020)	(0.019)
Colony	0.042**	0.042**	0.047**	0.049***
	(0.016)	(0.016)	(0.014)	(0.014)
Language	0.116***	0.115***	0.142***	0.137***
	(0.016)	(0.016)	(0.014)	(0.014)
Observations	5,254	5,254	7,206	7,206
Pseudo-R²	0.33	0.33	0.32	0.33
AIC	4,389	4,392	5,420	5,408

Note: Logit regressions with average marginal effects reported. Standard errors in parentheses are heteroskedastically robust and clustered on the dyad. *$p < 0.05$, **$p < 0.01$, *** $p < 0.001$.*

In both Tables 5 and 6, our control variables behave largely as expected. The notable exception here is *trade*, which has a negative and significant effect for the models involving 10- and 15-year diplomatic lags.[17] *Affinity* again emerges as particularly influential, with a standard-deviation increase in shared UNGA voting behaviours making a PTA at least 35%-40% more likely.

The results for post-Cold War diplomatic ties raise questions regarding the nature of the relationship between embassies and PTAs. On the one hand, the stronger link could reflect the

conscious shift on behalf of foreign ministries towards economic diplomacy, with PTAs viewed as a natural means of achieving goals of enhanced trade and investment relations. On the other hand, these embassies could be established as a way of expediting ongoing PTA negotiations. Launching a new embassy is a highly costly venture, so any potential PTA that would merit such an activity would need to be expected to result in very significant trade creation or diversion to offset the costs of embassy creation.[18]

Two-Stage Model

While we have demonstrated the effects of diplomatic representation on PTA formation through single-stage models, the likelihood remains that many of the factors contributing to PTA formation may also lead to the creation of high-level diplomatic missions. To separate these effects, we employ a two-stage logit. In this model, two first-stage logits are used to predict diplomatic ties at the ambassadorial and chargé d'affaires levels (*predallamb* and *predallcda*, respectively). These are then nested into the second stage, which predicts PTAs.

In the first stage models, we rely on the full available sample of countries. EU members have discretion over their diplomatic relations, unlike the formation of PTAs. Our specifications for predicting diplomatic ties differ, both from each other, and from our PTA-formation models, in order to obtain accurate predicted values. While diplomatic links within a dyad are prone to change over time, previously existing links are a valuable predictor for future links. It is also interesting to note that a number of indicators that contribute to the prediction of *predallamb* have no impact on *predallcda*. Table 7 presents our applied specifications for the first stage predictors. Previous diplomatic ties, *GDP*, *proximity*, *trade*, and *alliances* are the common predictors across both quantities of interest. The sign for *trade* flips between the two, illustrating the influence of economic considerations in diplomatic affairs. Both *s_unv* and *war* are strong predictors of ambassadorial ties; *affinity*, while strongly linked to PTA formation, is omitted from both of these models as it conceptually overlaps with *s_unv* and is closely linked econometrically to either *predallamb* or *predallcda*.

Table 7 also includes the second-stage results for 1990. *S_unv*'s inclusion in the first stage limits the temporal scope of the full model without the addition of lags (presented in Table 8). The results using predicted diplomatic ties are similar to those using actual ties in a single stage. *Predallamb* has an average marginal effect (AME) of 9.2% or 9.9%, depending on the specification. *Predallcda* is not significantly linked to PTA formation, despite possessing a positive sign. This may be partially a consequence of the difficulty of predicting diplomatic ties at this level.[19]

Table 8 presents second-stage results with ten and fifteen-year lags on the predicted diplomatic ties. Both sets of models use data from 1990 on, to avoid potentially inflating significance levels, given the relative lack of PTA formation during the Cold War. The marginal effects of our controls in Models 24 and 26, as well as in Models 25 and 27, are fairly stable and largely comparable to those from our single-stage models. The AMEs for *predallamb* are largely similar to those from the single-stage models as well: with 10-year lags, a predicted ambassador is linked to a 7% increase in the likelihood of PTA formation, while with 15-year lags, this rises to more than

10%. *Predallcda* is not significantly linked to PTA formation, mirroring results from previous tests.

Table 7. Two-Stage Models, First Stage and Second Stage without Lags

	First Stage		Second Stage	
	Predallamb	Predallcda	Excluding EU, 1990	
			Model 22	Model 23
Predicted All AMB			0.092***	0.099***
			(0.025)	(0.026)
Predicted All CDA			0.054	0.051
			(0.070)	(0.079)
All AMB	0.040***	0.027***		
	(0.007)	(0.002)		
All CDA	0.117***	0.279***		
	(0.014)	(0.013)		
GDP i	0.026***	0.005***	0.032***	0.050***
	(0.001)	(0.001)	(0.004)	(0.004)
GDP j	0.024***	0.006***	0.027***	0.042***
	(0.001)	(0.001)	(0.004)	(0.005)
Similarity			0.050***	0.034***
			(0.003)	(0.003)
Trade	0.749***	-0.159***	-0.323*	0.018
	(0.048)	(0.017)	(0.127)	(0.136)
Remoteness			0.008***	0.003*
			(0.002)	(0.002)
Proximity	0.048***	0.008***	0.012	0.008
	(0.003)	(0.001)	(0.009)	(0.010)
DPolity			-0.001	0.001
			(0.001)	(0.001)
Affinity				0.728***
				(0.084)
DCINC	0.014***			-0.020***
	(0.001)			(0.003)
Alliance	0.018*	0.009**		-0.033
	(0.007)	(0.003)		(0.018)
Colony				0.043***
				(0.018)
Language	0.062***			0.026***
	(0.005)			(0.016)
War	-0.214***			
	(0.061)			
S_UW	0.185***			
	(0.022)			
Observations	35,562	60,332	4,659	4,446
Pseudo-R^2	0.48	0.19	0.11	0.19
AIC	23,618	15,099	3,899	3,431

Note: Logit regressions with average marginal effects reported. Standard errors in parentheses are heteroskedastically robust and clustered on the dyad. *$p < 0.05$, **$p < 0.01$, *** $p < 0.001$.

Table 8. Two-Stage Models, Second Stage with Lags, Post-1990 (Excluding the EU)

	10-year Lagged Predictions		15-year Lagged Predictions	
	Model 24	Model 25	Model 26	Model 27
Predicted All AMB	0.075***	0.071**	0.108***	0.125***
	(0.020)	(0.022)	(0.021)	(0.025)
Predicted All CDA	-0.002	0.010	-0.001	-0.008
	(0.054)	(0.058)	(0.049)	(0.058)
GDP i	0.018***	0.044***	0.015***	0.040***
	(0.004)	(0.004)	(0.004)	(0.005)
GDP j	0.014***	0.041***	0.009*	0.036***
	(0.003)	(0.003)	(0.004)	(0.005)
Similarity	0.060***	0.055***	0.060***	0.054***
	(0.003)	(0.003)	(0.003)	(0.004)
Trade	-0.262*	-0.315**	-0.227*	-0.350**
	(0.114)	(0.119)	(0.111)	(0.126)
Remoteness	0.029***	0.027***	0.031***	0.027***
	(0.001)	(0.002)	(0.002)	(0.002)
Proximity	0.021*	0.008	0.023*	-0.002
	(0.009)	(0.010)	(0.010)	(0.012)
DPolity	-0.003**	-0.001	-0.003**	-4.33×10^{-4}
	(0.001)	(0.001)	(0.001)	(0.001)
Affinity		0.344***		0.351***
		(0.050)		(0.054)
DCINC		-0.030***		-0.031***
		(0.003)		(0.004)
Alliance		0.012		0.010
		(0.018)		(0.019)
Colony		0.053**		0.053**
		(0.017)		(0.018)
Language		0.048**		0.034*
		(0.014)		(0.015)
Observations	12,997	12,435	15,892	10,918
Pseudo-R²	0.21	0.24	0.23	0.23
AIC	11,945	11,162	14,841	9,931

Note: Logit regressions with average marginal effects reported. Standard errors in parentheses are heteroskedastically robust and clustered on the dyad. *$p < 0.05$, **$p < 0.01$, *** $p < 0.001$.

6. Conclusion

There is an extensive literature on the determinants of international economic cooperation. However, the existing research has largely ignored the influence of bilateral diplomatic ties. We argue that diplomats have professional incentives to form PTAs; these motivations are augmented by high-level missions. Our results show that ambassadorial ties can have a significant influence on the likelihood of a country pair forging a trade agreement.

In this study, we argue that high-level diplomatic ties increase the probability of PTA formation between pairs of countries and provide the first analysis that this is the case. We study two levels of diplomatic representation with a battery of economic and political controls and find evidence to support our argument. In our panel analyses, we find an increase of approximately 5% in the probability of PTA formation between dyad members when mutual ambassadors are present. Single ambassadors increase the probability of a PTA by roughly 3%, while dyads with chargés d'affaires display no significant relationship with PTA formation. In our cross-section tests, we find a consistent positive significant relationship between ambassadorial ties with lags of up to 25

years and PTAs. Finally, our two-stage models incorporating predicted diplomatic ties exhibit a strong relationship between these predicted links and PTAs.

This paper illustrates one of the effects of economic diplomacy, providing a first examination of the relationship between bilateral diplomatic ties and PTAs. It is perhaps unsurprising that similarity in foreign policy makes country more likely to form trade agreements, but this highlights potential for further research on diplomacy and its effects on foreign economic policy.

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[1] PTA data come from the Global Preferential Trade Agreement Database (GPTAD), which can be accessed through the World Integrated Trade Solution (WITS).

[2] For example, for both 2014 and 2015, the United States spent roughly $8 million on diplomatic and consular progrmmes, and $2.5 million on embassy security, construction, and maintenance. Department of State, 'Congressional Budget Justification: Fiscal Year 2016', available at http://www.state.gov/documents/organization/236395.pdf.

[3] A particularly vivid case of this is the example of relations between Saudi Arabia and Thailand, which have been downgraded from the ambassadorial level for over two decades as a consequence of the Blue Diamond Affair. See: http://www.nationmultimedia.com/home/2010/09/19/national/Embassy-issues-another-angry-statement-30138286.html

The US-Venezualan relationship is a more recent example of downgraded ties: http://www.state.gov/r/pa/ei/bgn/35766.htm

[4] A recent and vivid example of this was the appointment of Nathalie Cely as Ecuador's ambassador to the United States in 2011: she immediately promised to promote investment and 'long-term trade agreements'. Source: https://wikileaks.org/gifiles/docs/73/735396_us-ecuador-colombia-ecuador-s-new-envoy-to-us-seeking.html

[5] American foreign mission staffs range from a 'handful to several hundred US personnel' (Simmons 1994:127-128). In addition to these numbers, there may be a large contingent of nationals employed by the mission. Vogeler (1995) similarly describes significant variations in mission size.

[6] The US approach to managing diplomatic missions since the latter half of the 20th century emphasizes this as an organizational strategy with the 'country team' (Simmons 1994).

[7] For example, Harry Barnes, while US Ambassador to Romania, successfully negotiated a bilateral trade agreement, then returned to the US to serve as Director General of the Foreign Service for the State Department. He later served as ambassador to India and Chile, two states more central to US strategic interests. Sources for US-Romania FTA: https://wikileaks.org/plusd/cables/1975STATE003943_b.html and https://wikileaks.org/plusd/cables/1975BUCHAR01424_b.html. Sources for Harry Barnes' positions: https://history.state.gov/departmenthistory/people/barnes-harry-george-jr and http://www.nytimes.com/2012/08/17/world/americas/harry-g-barnes-jr-envoy-to-chile-and-india-dies-at-86.html?_r=0.

[8] A 2004 call between the Kuwaiti Prime Minister and US Ambassador illustrates this with a conversation on furthering discussions on a trade and investment framework as well as a discussion of security and counterterrorism issues specific to Kuwait. Source: https://wikileaks.org/plusd/cables/04KUWAIT3657_a.html.

[9] This gives us a maximum of ten observational periods. In each, dyad combinations appear once, as PTA_{ij} is equivalent to PTA_{ji}.

[10] Diplomatic ties at the equivalent of the ministerial/legation level account for less than 1% of all observations. Since 1975 (inclusive) there are ten instances of ministerial-level ties; seven of these occurred only in 1975, and the remaining three are not persistent (see Table A5 in the appendix).

[11] Tables A2-A4 in the appendix demonstrate the changes over time among these forms of representation.

[12] Results are robust to five-year and fifteen-year lags as well, and are presented in the appendix. In similar practice, Baier et al. (2014) employ a five-year lag on third-party free trade agreements to avoid endogeneity when capturing the contagion effect.

[13] The correlation coefficient between *s_unv* and *affinity* is 0.1868, which is similar to that between *s_unv* and *alliance*, at 0.1865.

[14] Table A1 presents correlation coefficients for all of the control variables; the bottom row in Table A2 presents correlations between *trade* and *Mutual AMB*.

[15] The addition of *s_unv* and a binary dyadic conflict indicator (*war*) do not substantively impact results from these models, presented in Table A7. Rather, *war* has no effect, and as *s_unv* ends in 1992, the sample size is limited to a less interesting period in terms of PTA formation.

[16] See Rose (2007) for economic diplomacy and Baier and Bergstrand (2004, 2007, 2009) and Baier et al. (2014) for PTAs.

[17] As in the panel models, this is due to the correlation between *trade* and *All AMB*/*Mutual AMB*. Omitting *trade* from the specification does not substantively impact results.

[18] We have considered an instrumental variables approach as well, following the example of Rose (2007) and Yakop and van Bergeijk (2011), but the binary and undirected nature of our measure of diplomatic representation means that the instruments they use do not correlate with our measures.

[19] Table A9 presents correlation coefficients between predicted and observed diplomatic ties.