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Analyzing the Impact of Mercosur on the International Trade Flows of its Member Countries

Created in 1991 and currently comprising every country inside South America except French Guiana and the suspended Venezuela, Mercosur is a relevant trading bloc on the world stage. Bolstered by the fact that combining these countries would lead to the fifth largest economy in the world (MERCOSUR, 2019), the impacts of Mercosur on international trade flows are not only relevant but directly intertwined. However, Mercosur has been through a myriad of issues with some even questioning the functionality of the organization (The Economist, 2016), as over the years there has been political infighting between the bloc's two largest members, Brazil and Argentina, and a failure to sign collective agreements with other trading blocs, most notably the European Union (EU) (The Economist, 2016). Although Mercosur has reached a landmark trade deal with the EU this year, it has yet to be ratified by countries from both blocs and its status is still much in the air (Amaro, 2019). Inspired by this tumultuous relationship, in this paper I analyze three distinct effects in regards to international trade flows within and outside of countries in the bloc: the impact of belonging to Mercosur, the impact of having full member status (state party) in Mercosur, and the impact of having a semi-member status (associated party). My analysis concludes that the creation of Mercosur did not have a statistically significant effect on trade with countries outside the bloc, or within the bloc, as endogenous development of trade cohesion took place in the signatory countries before the agreement took place. Furthermore, this effect is repeated for both full and partial members of Mercosur as there exists heavy endogeneity in the trading blocs formation. My analysis concludes that the formation of Mercosur in fact had little impact on international trade flows, and that its basic functionality should be revised by its member countries.

Introduction

With the explicit goal of creating a trading bloc that would dismantle trade barriers and encourage cross-border investment, in 1991 Brazil, Uruguay, Argentina and Paraguay signed the treaty of Asunción (Felter, 2019), creating Mercosur. In 1994 they continued this track as they signed the

Protocol of Ouro Preto, formalizing their status as a customs union, and in 1995 this integration moved even further as a four-year phaseout of tariffs was concluded (Felter, 2019). Additionally, Mercosur set up decision-making bodies which handle everything from coordinating foreign and economic policy to regional infrastructure projects (Felter, 2019). Although Mercosur originally had grandiose plans of creating a common market and of even introducing a common currency, both of these faltered in the late 1990's and early 2000's as Brazil's currency devaluation as well as Argentina's financial crisis put a strain on the bloc (Felter, 2019). This, combined with political infighting and the fact that Mercosur countries have failed to align their trade policies towards third countries, a prime example being Brazil's one hundred separate tariff code exceptions (Felter, 2019), raises large questions about the overall effectiveness of the trading bloc.

The makeup of Mercosur, in which there are two distinct classes, raises further concerns surrounding the effectiveness of the trading bloc, as it is quite peculiar that thirty years after its creation, 60 percent of countries in the bloc are still not full-fledged members. Although Mercosur comprises almost all of South America, the exceptions being French Guinea and the suspended Venezuela, there are two distinct classes of members, state parties and associated states. While state parties enjoy the full benefits of being in Mercosur, associated parties receive tariff reductions but do not enjoy full voting rights or free access to markets of full members (Felter, 2019). Currently, the state parties are only the original signatories—Uruguay, Paraguay, Brazil and Argentina. On the other hand Chile, Colombia, Ecuador, Bolivia, Peru, Guyana, Suriname are all associated states. With such a clear dichotomy in the organization, it raises the question of whether there is an intrinsic benefit to being a state party and if so what that entails.

Research Design

Hypotheses

In this paper I aim to analyze the relationship of joining Mercosur from both a state party and an associated state perspective, and to do so I present the following hypotheses:

1) Joining Mercosur resulted in a positive change in trade flows, both regionally and internationally, as countries could use the power of collective bargaining to strike favorable

trade deals, in addition to benefitting from the positive spillover effects of joining a customs union.

2) There is not a significant benefit to being a state party compared to an associated state within Mercosur, as states would be incentivized to try to achieve full member status if there were added benefits.

While my first hypothesis covers the basic question of this paper, whether being in Mercosur had an effect on international trade flows --- relevant in terms of promotion for the trade bloc---, the second hypothesis carries the highest policy relevance, as if validated, could lead to further questions about why these countries have not pushed more strongly to be full members of the bloc.

Data and Modifications

As I will be investigating the effects of Mercosur on its trade partners within the block as well as its effects with outside trade partners, I will be using a 51 year panel dataset from 1964 to 2014, with data on 9506 unique country pairs based on the gravity model of trade. The gravity model of trade, defined by the formula Figure 1 overstates the effect of both distance and relative size of GDP of a specific country in relation to trade (Head, 2003).

Figure 1 : Gravity Model of Trade

$$F_{ij} = G \frac{M_i M_j}{D_{ij}^2},$$

This specific focus on the effects of distance and relative size of GDP, allows for the confident analyzation of the effect of Mercosur on international trade flows, as these factors have been properly accounted for.

In addition to using the gravity model dataset, I also created dummy variables which aided in my analysis. The most notable dummies included specifications regarding the country-pair distinction of having an origin, destination or both belonging to Mercosur or belonging to a state or associated party. These dummies, constructed taking into account the year in which the country

joined Mercosur, and in the particular case of Venezuela when the country ascended from associated party status to state party status, were instrumental in running my analysis. In addition to these specific dummies, I also constructed time, country-pair, importer, exporter, time trends, quadratic time trends and lead and lag dummies.

Regression Formulas

Using the gravity model dataset and my uniquely crafted dummies, the following are the regression formulas that I will be using to analyze the impact of being in Mercosur and additionally, that of being a state party or an associated party. It is important to note however, that the variables representing country pair fixed effects, linear and quadratic time trends, and 3 year and 6 year leads are not included in the following regression formulas.

1) Analyzing the Effect of Being in Mercosur:

$\ln(\text{Trade})_{*+,} = B_{/} + B_1 \ln(GDP\ of\quad Origin and\quad Destination\quad Country) + B_D(\ln(distance))$

$+ B_F(Contiguous) + B_G(Colony) + B_I(Common\quad Language) + B_L(Mercosur) + B_N(Time)$

$\quad + B_P(Importer\quad Time\quad Trend)$

$\quad + B_S(Exporter\quad Time\quad Trend) + B_{1/}(Mercosur\quad Origin)$

$\quad + B_{11}(Mercosur\ Destination) + B_{1D}(Regional\quad Trade\ Agreement) + \varepsilon_{*+,}$

2) Analyzing the Effect of Being a State or Associated Party:

$\ln(\text{Trade})_{*+,} = B_{/} + B_1 \ln(GDP\ of\quad Origin and\quad Destination\quad Country) + B_D(\ln(distance))$

$+ B_F(Contiguous) + B_G(Colony) + B_I(Common\quad Language) + B_L(Both\quad Associated\ Party)$

$\quad + B_N(Time) + B_P(Importer\quad Time\quad Trend)$

$\quad + B_S(Exporter\quad Time\quad Trend) + B_{1/}(Associated\quad Party\ Origin)$

$\quad + B_{11}(Associated\quad Party\ Origin)$

$\quad + B_{1D}(Regional\ Trade\ Agreement) + B_{1/}(Both\quad State\quad Party\ )$

$\quad + B_{11}(State\quad Party\ Destination) + B_{1/}(State\quad Party\ Origin) + \varepsilon_{*+,}$

In both regressions I will use fixed effects for contiguity, GDP, distance, colonial past, common language, time, free trade agreements and belonging to the WTO. Regression 1 deals with the effects of joining Mercosur, while regression 2 deals the effects of being a state or associated party, demarcated by their respective dummies. Additionally, Y is meant to signify GDP and the subscripts o and d mean origin country and destination country respectively. Analyzing the regressions themselves, it is important to note that while regression 2 does not include the effect of being in Mercosur, this will be inevitably built into both the state party or associated state dummies as the only way to be either of those categories is to first pertain to Mercosur. Additionally, I will employ the use of importer time trends, exporter time trends, and country pair dummies, in order to compare the impact of Mercosur on trade solely between bloc members and the impact of Mercosur on trade between bloc members and the outside world.

Econometric Challenges

In my analysis, the most notable econometric challenges include the endogenous formation of Mercosur before the implementation of Mercosur itself, the failure of the dataset to include all countries in trading bloc, and the limitations of dataset as it ends in 2014. If there did exist a trend of Mercosur countries liberalizing prior to joining the bloc, this occurrence would cause the beta value of the Mercosur coefficient to be overinflated. Furthermore this would undermine the actual effect of Mercosur, as countries would display the effects before a formal treaty was ever put into place. In regards to the econometric challenges faced by the exclusion of countries, the current dataset does not include data on Suriname or Guyana, resulting in a critical limitation of this analysis. While the results can still demonstrate trends within the majority of countries in Mercosur, to make completely confident specific claims based off of data, the entire sum of countries in the trading bloc must be analyzed. Similarly, the lack of data past the year 2014 severely impacts the scope of this analysis, as just in 2017, Venezuela was suspended from the trading bloc (MERCOSUR, 2019). Additionally, Mercosur could have displayed significant impacts on international trade in more recent years both in terms of trade within the bloc, and with countries outside the bloc, causing the estimates of my coefficients to be either over or undervalued. Lastly, because of countries joined Mercosur at different time periods, most recently in 2004 and 2006, the dataset might also not reflect the proper magnitude of the effects caused by the trading bloc.

Results

After running my regression models, my analysis concludes that the creation of Mercosur did not have a statistically significant effect on trade with countries outside the bloc, or within the bloc, as endogenous development of trade cohesion took place in the signatory countries before the agreement took place. Furthermore, this effect is repeated for both full and partial members of Mercosur as there exists heavy endogeneity in the trading blocs formation. As presented in model 2 of Table 1 (*Appendix*) , there appears to be an indication that the creation of Mercosur increased trade with non-Mercosur countries in the import sector (Destination Mercosur) by 0.113 percentage points, but decreased trade in the export sector (Origin Mercosur) by 0.355 percentage points. However, these results are negligent, as in model 3, the magnitude of the coefficient on the 3 year lead, a dummy testing for endogenous behaviors, is larger than both of the previously aforementioned dummies and statistically significant. This result is only further supported by the indication that the 6 year lead in model 4 is also large in magnitude and statistically significant. Model 5 in Table 1(*Appendix*) indicates that there is no statistically significant impact on trade within Mercosur countries after they joined the trading bloc. Even more interesting, however, is both the 3 year and the 6 year leads appeared to be statistically significant in models 6 and 7, demonstrating possible sources of endogeneity in trade flows between countries of the bloc.

My regression results also concluded that there were no significantly statistical effects of belonging to an associated party or a state party, as there was observed endogenous cohesion prior to a countries joining Mercosur. Seen in model 2 of Table 2(*Appendix*), although the effects of having a destination or origin in a state party are statistically significant, these results are overshadowed by a 3 year lead dummy coefficient which is statistically significant. Although the lead coefficient, with a magnitude of -0.331 percentage points, is smaller than both the effects of the Mercosur destination or origin dummies, this is negligent, as once summing up the effects of destination and origin overall, the increase in trade is only by 0.023 percentage points. This in turn is not a significant magnitude to dissuade the effect of the 3 year lead, rendering these effects as non-significant. In regards to the impact of being an associated party on trade flows, in models 1-3 these effects are seen simply as not statistically significant.

Trade within both associated parties and state parties was also seen as being statistically nonsignificant. Observed in Table 2 (*Appendix*) model 4, while initially there appears to be a 0.421 percentage point increase in trade between associated parties, and a 0.364 percentage point decrease in trade within state parties, these effects are void as once accounting for 3 and 6 year leads, these coefficients can be viewed as statistically insignificant. This is primarily because these leads are statistically significant pointing to a large presence of endogeneity.

Although the results of my regressions picked up statistically significant coefficients, pointing to overall decreases in trade after joining Mercosur, an increase in trade within associated parties , and a decrease with state parties, these results are highlight questionable given the significance of both the 3 and 6 year lead in every model in which it is present. As a result, this points to high levels of endogeneity in the buildup of the formation of Mercosur, backing up claims that the trading bloc is highly dysfunctional and resembles more of a political club than a world trading bloc (Economist, 2016).

Extended Analysis

To fully grasp the analysis, it is critical to understand the different effects of including importer and exporter time trends to country-pair dummies, as they were readily used throughout my regression models. Importer and exporter time trends account for variation over time, allowing for a comparison between our control group, countries within Mercosur, to both Mercosur countries pre-Mercosur, and trade between Mercosur countries and countries outside of the bloc. This allows for the analysis of the impact of Mercosur on trade with countries outside of the bloc. In contrast, the use of country-pair dummies demonstrates the difference between our control group, countries within Mercosur, and these same countries before they joined Mercosur. This in turn, allows for the analysis of the explicit impact on trade of joining Mercosur.

Understanding the differences of employing importer and exporter fixed effects to country pair fixed effects in crucial in being able to understand the coefficients on the outputs of different regression models. As the dummy variable Mercosur Both was created in which the country of origin and destination both have to be a Mercosur country, it is inaccurate to conclude that a coefficient value,

running a regression model using importer and exporter time trends, is significant. This is because, fundamentally this is a comparison between two groups that are not the same. As a result, the statistically significant coefficient of 0.977 expressed in Table 1 model 2 (*Appendix*) cannot be concluded as significant because it is comparing two distinct groups. In fact, to analyze the impact of trade with countries outside the bloc, I had to take the difference between the percentage of the Mercosur origin and destination dummies. For example, in model 2 after converting from percentage points to percentages using the formula $e^{\backslash *]]^\backslash -\dot{}} - 1$, the Mercosur destination had a 11.9 percent increase in trade while the Mercosur origin experienced a 29.9 percent, leading to an overall decrease of 18% in trade with countries outside the bloc, although for reasons mentioned before this was later seen as statistically insignificant. Using country pair fixed effects however, produces the opposite effect, as it only allows the Mercosur Both dummy to be properly analyzed, as the fundamental problem of comparing two distinct groups is now demonstrated in both the Mercosur origin and destination dummies. This relationship between whether a regression model employs importer and exporter time trends, or country pair fixed effects is crucial in being able to decipher what values are relevant in the regression table.

With my results initially picking up statistically significant impacts of Mercosur on both trade with members outside the bloc, as well as an influence on trade within associated parties and state parties, the following robustness checks chipped away at these conclusions, ultimately resulting in the non-significant outcomes described in the results section. To start out with, I ran all my regression models with robust standard errors, as although it expands standard errors, it accounts for potential heteroskedastic error. Additionally, as I wanted to ensure that my model was the most comprehensive it could be to analyze the effects of joining Mercosur, I added significant variables which I thought could have a had an influence on trade within the region. Of these variables, the Regional Trade Agreement (RTA Dummy) variable proved to be the most important as it was statistically significant in every single regression model. As this dummy represents other regional agreements countries within the bloc are engaged with, this continued significance suggests that other agreements such as the Alliance of the Pacific (involving Chile and Peru) could be undermining the effects of Mercosur.

My employment of 3 and 6 year leads also had significant effects on the analysis, rendering the findings of my regression model largely insignificant as described in the results section. These leads, constructed in a way that analyzes what the effect of the treatment would be if it would have happened 3 and 6 years before it actually happened, demonstrated that there was endogenous cohesion of trade policies before the formation of the bloc. As seen in Figure 2, **Figure 2**
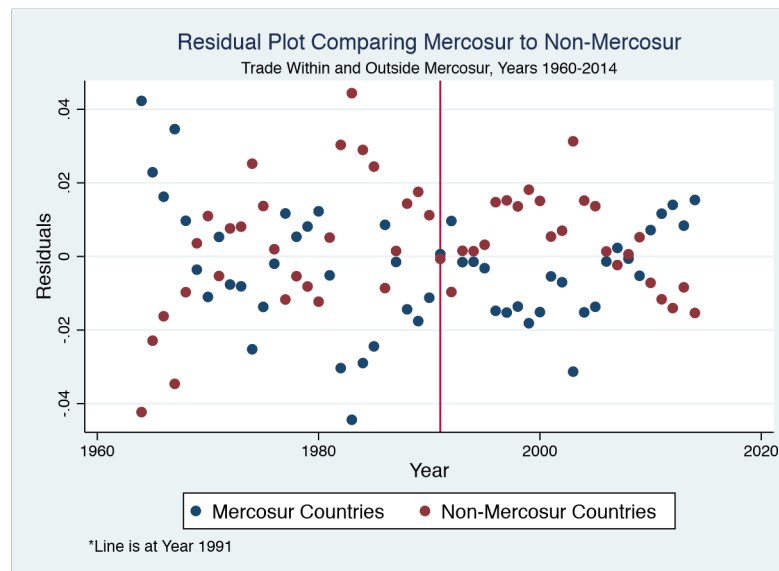
there appears to be a pattern of decrease before subsequent increase right before the implementation of the agreement. This decrease, observed in the coefficients of our leads in Table 1 models 3 & 4, demonstrates significant concerns with my models as there is a presence of endogeneity before the treatment occurs. This endogeneity is also seen in Figure 3, as right before Mercosur was implemented there is a notable trend of increasing values of trade. This conclusion, backed by the positive coefficients seen in these leads in Table 1 models 7 & 8, once again raises significant questions regarding the certainty of my results.

Figure 3

Residual Plot Comparing Mercosur to Non-Mercosur
Trade Within Mercosur, Years 1960-2014

*Line is at Year 1991
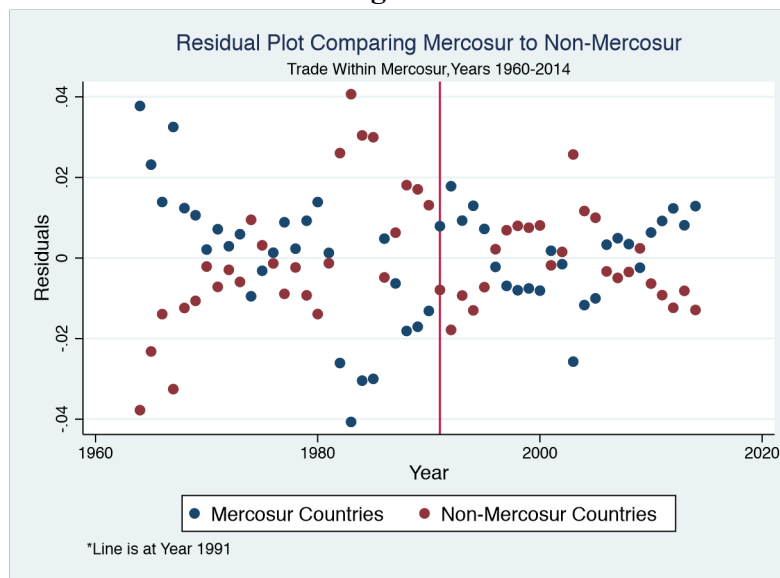
Wanting to ensure that I had exhausted the limitations of my regression model, I also employed the use of lags, analyzing whether there was an notable impact on trade in the years after the implementation of Mercosur. Demonstrated in Table 3, these lags were largely statistically insignificant, leading to the conclusion that the effects of joining Mercosur were already in place before these countries ratified the agreement. Consequently, the only statistically significant lags, observed in models 6 & 7 of Table 3, are both of smaller magnitude than the coefficients of interest that they are associated with, pointing to this relationship.

Policy Outcomes and Recommendations

Mercosur finds itself in a precarious position. With continued questions about its relevance as a trading bloc on the world stage (Silvia, 2019), increasing bilateral trade negotiations, and trade agreements such as the Alliance of the Pacific or the failed Trans-Pacific Partnership --- both which include its own members ---, there is a need for significant institutional change. Buoyed by my findings, in which the impacts of Mercosur when significant, can be attributed to endogenous trade formation, I have significant reasons to believe that the organization does resemble more of a political club than a world trading bloc. This conclusion is further supported by the failure to detect significant effects in regards to the status of associated versus state parties. With no explicit incentives to become a state party, associated party countries have no intrinsic motivation to become full-fledged members. As a result of my findings and the current

institutional setup of Mercosur, I propose two policy recommendations to combat the most prevalent issues facing the trading bloc, the failure to incentivize countries to become full members, and the failure to align trade policies both within the trading bloc and with third party countries who trade with the bloc.

If Mercosur is to become a relevant trading bloc on the international stage, they must first become so regionally. Although almost every country in the South American continent is a member of the organization, there needs to exist concrete incentives to eliminate the dichotomy seen in the organization in terms of two separate groups of associated versus state parties. While it might be politically complicated to simply require every country to become a full member, it is critical that for the legitimacy of the trading bloc members begin to become treated equally. This in turn will allow them to more coherently lobby for preferential trading agreements with third countries outside of the trading block. Although the bloc currently engages in this practice, it has very questionable results, evidenced by the 20 years of negotiation with the EU (Silvia, 2019), a trade deal that is very much still up in the air. A more representative trading bloc would not only increase bargaining power but would grant previous associated parties more incentives to participate in the bloc, as they would gain full voting rights and access to fully free markets.

My second policy recommendation surrounds the critical need to align trade policies for both countries within the bloc and for third countries trading with the bloc. With a history of political infighting between its two biggest members, Brazil and Argentina, Mercosur has long suffered from trade disputes, something critical to address. If trade policies between countries in the bloc are itself troubled, this leads to a severe question of the functionality of the organization. If Mercosur is to carry out its stated goals of regional integration, it needs to have the ability to exist without trading obstacles within the bloc. More importantly, countries within Mercosur must have aligned trade policies when negotiating deals with third parties. As countries in the bloc currently have their own trade policies with respective third countries (Felter, 2019), this creates a detriment to the potential collective bargaining powers of the trading bloc. If the bloc were to negotiate deals with third countries jointly, this would largely increase their trading benefits, allowing for substantial impacts in trade.

Conclusion

In this paper I analyzed the potential impact of joining Mercosur on the international trade flows of its member countries, and the subsequent difference between associated and state parties, the two classifications found within the trading bloc. Through running my regression models I was unable to conclude that Mercosur had a statistically significant effect on trade with countries outside the bloc, or within the bloc, as endogenous development of trade cohesion took place in the signatory countries before the agreement took place. Furthermore, this effect is repeated for both full and partial members of Mercosur as there exists heavy endogeneity in the trading blocs formation. These conclusions support critical literature on the bloc, in which both the functionality of the organization (Economist, 2016), as well as the political motivations (Felter, 2019) have been questioned. To potentially solve these issues I have proposed two policy recommendations, improving incentives of member states to become full-fledged members, and aligning trade policies both within the bloc and with third countries. At a time when EU countries are debating adopting a landmark 20 year trade deal with Mercosur, it is critical that the trading bloc improves its own organizational setup, to not only become more competitive regionally, but also internationally, making it a force to be reckoned with.

Appendix

Table 1: Analyzing the Effects of Being in Mercosur

Variables	Origin and Destination (1)	3 and 6 (2)	Outside Mercosur Quadratic 3 Year Year (3)	Outside Within Country Time Lead Lead (4)	Within With Mercosur Pair FE Lead (5)	Country With Mercosur Year Lead Trends (6)	Mercosur Pair FE 3 Year (7)	Pair FE Base 3 and 6 (8)
Distance	0.519***	0.525***	0.494***	0.473***	0.542***	0.405***	0.767***	0.744***
	(0.009)	(0.009)	(0.010)	(0.011)	(0.014)	(0.014)	(0.015)	(0.015)
Both Mercosur	1.196***	0.977***	1.012***	0.930***	0.0711	-0.00630	0.114	0.0592
	(0.042)	(0.058)	(0.063)	(0.070)	(0.107)	(0.110)	(0.081)	(0.082)
RTA Dummy	0.353***	0.366***	0.333***	0.297***	0.279***	0.282***	0.289***	0.320***
	(0.013)	(0.013)	(0.014)	(0.016)	(0.029)	(0.029)	(0.029)	(0.030)
Destination Mercosur		0.113**	0.134***	0.155***	0.199***	0.192***	0.121*	0.109
		(0.036)	(0.038)	(0.040)	(0.052)	(0.054)	(0.056)	(0.058)
Origin Mercosur		-0.355***	-0.198***	-0.250***	-0.300***	-0.339***	0.105	0.102
		(0.035)	(0.045)	(0.039)	(0.054)	(0.051)	(0.055)	(0.055)
Outside Mercosur 3 Year Lead				-0.246***				
				(0.044)				

Outside Mercosur 6 Year Lead			-0.333***				
			(0.037)				
Within Mercosur 3 Year Lead						0.356***	-0.0693
						(0.096)	(0.072)
Within Mercosur 6 Year lead							0.472***
							(0.099)

N 340344 340344 314877 288798 340344 340344 314877 288798 adj. R^2 0.747 0.747 0.746 0.743 0.860 0.864 0.846 0.848

Standard errors in parentheses. Importer and exporter time trends were run with models 1-4. All models employ dummies regarding years, contiguity, GDP, colonial past, common language, time, free trade agreements and belonging to the WTO.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Analyzing the Effects of Being a State or Associated Party in Mercosur

Variables	Base	Outside Mercosur 3 Year Lead	Outside Mercosur 6 Year Lead	Country Pair FE	Country Pair FE Quadratic Time Trends	Within 3 Year Lead	Within 6 Year Lead
	(1)	(2)	(3)	(4)	(5)	(6)	(7)

Distance	0.523***	0.493***	0.471***	0.542***	0.405***	0.766***	0.743***
	(0.009)	(0.010)	(0.011)	(0.014)	(0.014)	(0.015)	(0.015)
Destination State Party	0.411***	0.573***	0.642***	0.432***	0.476***	0.263**	0.251**
	(0.060)	(0.066)	(0.068)	(0.081)	(0.082)	(0.089)	(0.087)
Origin State Party	-0.706***	-0.553***	-0.666***	-0.738***	-0.675***	0.127	0.0773
	(0.056)	(0.064)	(0.054)	(0.075)	(0.072)	(0.079)	(0.078)
Destination Associated Party	-0.0163	-0.0533	-0.0870	0.0745	-0.0434	0.0158	-0.0242
	(0.044)	(0.045)	(0.050)	(0.060)	(0.058)	(0.065)	(0.066)
Origin Associated Party	-0.115*	0.0199	0.0189	-0.0360	-0.0285	0.108	0.158*
	(0.047)	(0.058)	(0.053)	(0.066)	(0.062)	(0.071)	(0.070)
State Party Both	0.580***	0.667***	0.783***	-0.364**	-0.217	-0.227	-0.157
	(0.096)	(0.102)	(0.112)	(0.138)	(0.137)	(0.288)	(0.195)
Associated Party Both	1.817***	1.859***	1.852***	0.421**	0.293	0.213	0.275*
	(0.076)	(0.083)	(0.093)	(0.161)	(0.165)	(0.185)	(0.112)
RTA Dummy	0.362***	0.344***	0.308***	0.283***	0.285***	0.296***	0.324***
	(0.013)	(0.014)	(0.016)	(0.029)	(0.029)	(0.029)	(0.030)
Outside Associated Party 3 Year Lead		-0.181**					
		(0.059)					

	(1)	(2)	(3)
Outside State Party 3 Year Lead	-0.331***		
	(0.066)		
Outside Associated Party 6 Year Lead		-0.270***	
		(0.052)	
Outside State Party 6 Year Lead		-0.337***	
		(0.056)	
Within Associated Party 3 Year Lead			0.472***
			(0.111)
Within State Party 3 Year Lead			0.525
			(0.309)
Within Associated Party 6 Year Lead			0.560***
			(0.115)
Within State Party 6 Year Lead			0.483*
			(0.236)

Standard errors in parentheses. Importer and exporter time trends were run with models 1-3. All models employ dummies regarding years, contiguity, GDP, colonial past, common language, time, free trade agreements and belonging to the WTO.

$^* p < 0.05, ^{**} p < 0.01, ^{***} p < 0.001$

Table 3: Analyzing the Implications of Lags on Both the Effect for Mercosur and the Effect of Associated and State Parties

Variables	Outside Mercosur 3 Year Lag	Outside Mercosur 6 Year Lag	Within Mercosur 3 Year Lag	Within Mercosur 3 and 6 Year Lag	Within 3 Year Lag	Within 6 Year Lag	Outside 3 Year Lag	Outside 6 Year Lag
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Distance	0.521***	0.507***	0.775***	0.764***	0.775***	0.764***	0.520***	0.506***
	(0.010)	(0.010)	(0.015)	(0.015)	(0.015)	(0.015)	(0.010)	(0.010)
Both Mercosur	0.933***	0.927***	0.347**	0.292**				
	(0.059)	(0.061)	(0.106)	(0.102)				
Destination Mercosur	0.103**	0.0960*	0.183**	0.200***				
	(0.037)	(0.038)	(0.056)	(0.057)				
Origin Mercosur	-0.303***	-0.358***	0.0798	0.0497				
	(0.045)	(0.038)	(0.055)	(0.055)				
RTA Dummy	0.327***	0.250***	0.261***	0.231***	0.266***	0.234***	0.337***	0.259***
	(0.013)	(0.013)	(0.029)	(0.029)	(0.029)	(0.029)	(0.013)	(0.014)
Outside								

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mercosur 3 Year Lag	-0.104*							
	(0.043)							
Outside Mercosur 6 Year Lag		-0.0300						
		(0.036)						
Within Mercosur 3 Year Lag			0.0587	0.0219				
			(0.085)	(0.066)				
Within Mercosur 6 Year Lag				0.0568				
				(0.095)				
Destination State Party					0.277**	0.293***	0.381***	0.347***
					(0.088)	(0.089)	(0.061)	(0.062)
Origin State Party					0.0443	-0.0121	-0.625***	-0.705***
					(0.076)	(0.075)	(0.068)	(0.058)
Destination Associated Party					0.119	0.136*	-0.0212	-0.0193
					(0.064)	(0.064)	(0.045)	(0.046)
Origin Associated Party					0.130	0.118	-0.0984	-0.123*
					(0.071)	(0.071)	(0.061)	(0.052)

	(1)	(2)	(3)	(4)
State Party Both	0.0969	-0.0518	0.436***	0.496***
	(0.190)	(0.151)	(0.098)	(0.103)
Associated Party Both	0.670***	0.551***	1.779***	1.764***
	(0.102)	(0.128)	(0.078)	(0.080)
Within Associated Party 3 Year Lag	-0.213			
	(0.139)			
Within State Party 3 Year Lag	0.0861			
	(0.165)			
Within Associated Party 6 Year Lag		-0.252**		
		(0.087)		
Within State Party 6 Year Lag		0.241		
		(0.139)		
Outside Associated Party 3 Year Lag			-0.0289	
			(0.059)	

Outside State Party 3 Year -0.208***

Lag

    (0.063)

Outside
Associated

    -0.0171

Party 6 Year
Lag

    (0.051)

Outside State
Party 6 Year

    -0.0155

Lag

    (0.051)

N	324858	307166	324858	307166	324858	307166	324858	307166
adj. R^2	0.751	0.756	0.849	0.854	0.849	0.854	0.751	0.756

Standard errors in parentheses. Models 1,2,7 & 8 are run using importer and exporter time trends, Models 3-6 are run using country pair fixed effects. All models employ dummies regarding contiguity, years, GDP, colonial past, common language, time, free trade agreements and belonging to the WTO.

$^{*} p < 0.05,$ $^{**} p < 0.01,$ $^{***} p < 0.001$

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