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Candidate Number: 23802

MSc in Development Management 2023

Dissertation submitted in partial fulfilment of the requirements of the degree.

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Word Count: 3886

Abstract

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Contents

Abbreviations

AI	Artificial Intelligence
API	Application Programming Interface
CPU	Central Processing Unit
GPU	Graphics Processing Unit
IoT	Internet of Things
ML	Machine Learning
NLP	Natural Language Processing
RAM	Random Access Memory
UI	User Interface
UX	User Experience

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1 Introduction

This is the introduction

Stylised facts

Ideas:

Total number of SS, NS and NN PTAs

Share of SS, NS and NN PTAs

Total exports by S and N countries

Share of total exports by S and N countries

Total exports of manufactured by S and N countries

Share of total exports of manufactured by S and N countries

Number of products exported by S and N countries

The organization of this article is as follows: Section II provides a brief literature review of the PTAs, South–South trade and the importance of the structure of trade. Section III introduces the methodology and data. Section IV presents the empirical results fol- lowed by a discussion of the robustness tests. Section V concludes. This is the introduction section. Here is a citation: [1]

2 Literature Review

This section reviews the literature on the theoretical and empirical potential effects of PTAs on exports and welfare and situates the analysis in the relevant field of research.

Theoretical Framework

Stumbling block vs building block dichotomy

Comparative advantage and trade creation and diversion

Traditional trade theory emphasizes trade creation (allowing cheaper products from PTA members to substitute for more expensive domestic products) and trade diversion (substituting products from non-PTA members that were cheaper before the PTA with products from PTA members that are cheaper now due to the PTA reducing tariffs) (Schiff, Winters and Schiff, 2003) and argues that the impact of PTAs depends on the comparative advantage

of member countries. In particular, it argues that PTAs magnify the impacts of a country's comparative advantage, relative to the world and to other member countries signatories of a common PTA. If member countries of a PTA have a comparative advantage on a factor endowment relative to the world, but one country also has a comparative advantage on the same factor endowment relative to the other member countries, the country with the "extreme" advantage will be more vulnerable to trade diversion effects, while countries with "intermediate" advantages will gain from trade creation effects, predicting divergence of trade outcomes, and winners and losers among member countries. (Venables, 2003). This emphasis on the trade creation and trade diversion effects among member countries with significant differences in the comparative advantage of their factor endowments relative to the world and to each other, suggests that, when the country with the "extreme" comparative advantage is a high-income country, relative to a lower-income country with an "intermediate" comparative advantage, the lower-income country should seek a PTA with the other high-income country as it will gain more. On the contrary, if both members are lower-income countries, the country with the "extreme" comparative advantage, should not seek a PTA with the other low-income member country as it will be vulnerable. (Sanguinetti, Siedschlag and Martincus, 2010). This logic can be easily extended to the North-South and South-South types of PTAs, as "North" countries will reasonably have an "extreme" comparative advantage in skill-intensive goods relative to "South" countries, while "South" countries will reasonably have an "extreme" comparative advantage in labour-intensive goods relative to "North" countries. Furthermore, it is also argued in the literature that benefiting from economies of scale through South-South economic integration is more difficult because member countries do not have complementary production and trade structures, nor high interpenetration of each other's markets on intra-industry trade. (Schiff, Winters and Schiff, 2003). Also, South countries can benefit from greater technological diffusion from North-South PTAs as the "North" countries have higher industrial development as well as investment in research (Schiff and Wang, 2008). Finally, as the trend in manufacturing has been in favour of vertical specialization or value chain fragmentation (Krugman, 1995), North-South PTAs are preferable as developing countries strive to capture a greater portion of the value added. Based on these arguments, developing countries should therefore be better off entering into

North-South rather than South-South agreements.

Economies of Scale, Input-Output linkages and Products Exported

In contrast, classical development theory and new trade literature go beyond the static welfare gains from trade creation and diversion effects when analysing the effect of PTAs. Developing countries can use PTAs to overcome limitations of their domestic market size in the industrialization process (Dahi and Demir, 2013). Such potential increases in the effective market size could help industries in developing countries achieve economies of scale and increase the skill content of production and exports, which in turn could improve the market penetration of exports of developing countries in developed markets in industrial products (Fugazza and Robert-Nicoud, 2006). Also, due to similarities in production patterns and resource base among developing countries, incentivising trade by lowering barriers could facilitate appropriate technology transfer, according to the needs of developing countries (UNIDO, 2006). Of particular relevance for developing countries, it is argued that the products that countries export matter for long-term economic performance. If a country exports products from industries that are more technology-intensive, these are likely to create input-output linkages and spillover effects in human and physical capital accumulation and innovation (Hausmann, Hwang and Rodrik, 2007). Furthermore, by allowing for factor accumulation, PTAs can reduce intra-block trade barriers and increase competition and access to cheaper intermediate goods, triggering changes in industrial production in member countries. As such, PTAs among "South" countries can reduce intra-South barriers and lead to industrialization of the region (Puga and Venables, 1998). In this context, what matters are not static gains from PTAs, but dynamic gains in industrial development. If South-South PTAs truly promote industrial development of member countries, they might be desirable even if there are short-term losses due to trade diversion (Dahi and Demir, 2013). Other arguments in the development literature emphasize the asymmetries in bargaining power between "North" and "South" countries, which could lead to worse outcomes for developing countries if their policy space gets restricted (Thrasher and Gallagher, 2008). To the extent that these arguments hold true, developing countries could be better off entering into South-South rather than North-South agreements, or at least should pursue both kinds of agreements.

Empirical Evidence

The preference of a type of partner in a PTAs then becomes an empirical question. Do South-South PTAs promote trade and industrial development among their members? The empirical literature overall reports positive effects of PTAs on the trade of member countries, but with considerable heterogeneity on the estimation coefficients. For example, a meta-analysis of research papers on the effects of PTAs on member trade, encompassing 85 papers and 1827 estimates, finds an average of 0.59 (an 80% increase in trade), with a median of 0.38 (a 46% increase in trade), a wide range of coefficient estimates (-9.01 to 15.41), and only 312 out of 1827 estimates reported as negative (Cipollina and Salvatici, 2010). Furthermore, a survey of the empirical research on the effect of economic integration agreements on international trade flows, as well as using the most modern econometric techniques to address biases, found an increase of 50% on international trade, but with significant variation in the effects of specific agreements (Kohl, 2014). However, much of the empirical research is focused on the effects of PTAs on or including the most advanced economies. Empirical research focused exclusively on the effects of South-South PTAs or comparing them to the effects of North-North or North-South PTAs, is much less prevalent in the literature. However, several research papers do control for the type of agreement (North-South or South-South) and have found positive and significant effects of South-South PTAs (Medvedev, 2006; Mayda and Steinberg, 2007; Dahi and Demir, 2013; Deme and Ndrianasy, 2017), but these articles tend to be limited in their scope, sample size or only focus on trade volumes.

Significance of Exports

3 Methodology

The Gravity Model of Trade

Often referred as the "workhorse" of international trade, the gravity model is prominent in the empirical literature of applied international trade analysis. Among the arguments that could explain/support the use of the gravity model, there are four that are particularly relevant for our purposes. First, the gravity model of trade is intuitive to understand. Fol-

lowing the metaphor of Newton's Law of Universal Gravitation, it predicts that international trade between two countries is directly proportional to the product of their economic size, and inversely proportional to trade frictions between them. In simpler words, the bigger (smaller) the economies of two countries, and the easier (harder) it is for them to trade with each other, the more (less) we expect them to trade. Second, it is referred to as a structural model with solid theoretical foundations, which makes it appropriate for counterfactual analysis, such as measuring the effects of trade policies as we aim to do with the effects of South-North versus South-South agreements. Third, model has a flexible structure, which will allow us to construct a specification tailored to our research. Finally, fourth, it holds consistent and remarkable predictive power, both with aggregate and sectoral data (Yotov et al. 2016).

Through the decades, the gravity equation has been regularly upgraded in the theoretical and empirical literature. Of relevance, the simple intuition of the gravity model was theoretically extended by Anderson to note that, after controlling for size, the increase or decrease is *relative* to the average barriers of the two countries with all their partners, which are referred as "multilateral resistance" (Anderson 1979). The more trade barriers or resistance to trade exists with other countries relative to a given partner, the more a country is pushed to trade with said partner. Anderson also introduced the assumptions of product differentiation by place of origin, and Constant Elasticity of Substitution (CES) expenditures ,or the Armington-CES assumption (Yotov et al. 2016; Chatzilazarou and Dadakas 2023), which led us to today's generalized form of the gravity equation, as developed and popularised by Anderson and van Wincoop (Anderson and van Wincoop 2003).

Equally important, several empirical developments have strengthened the gravity model and inform our choice of methodology: Exporter-time and importer-time fixed effects are used to account for the multilateral resistance terms in a gravity estimation with panel data (Olivero and Yotov 2012); As the gravity model is often estimated with an OSL estimator, zero-trade flows were dropped from the sample when trade was transformed into a logarithmic form. Also, trade data is recognized to suffer from heteroscedasticity (Yotov et al. 2016). To solve for zero-trade flows and heteroscedasticity, the Poisson Pseudo Maximum Likelihood (PPML) estimator has been proposed to estimate the gravity model, avoiding potential

biases (Silva and Tenreyro 2006; Santos Silva and Tenreyro 2011); Country-pair fixed effects has been proposed to account for the unobserved endogeneity of trade policy (Baier and Bergstrand 2007). It is worth nothing that the inclusion of exporter-time and importer-time fixed effects will absorb all observable and unobservable time-varying country-specific characteristics that could affect the dependent variable, while the country-pair fixed effects will absorb observable and unobservable bilateral time-invariant characteristics that could affect trade costs; The inclusion of intra-trade flows as well as international trade flows is proposed to correctly estimate the effects of non-discriminatory trade policy, allowing for consumers to choose products from both international and domestic sources (Dai, Yotov, and Zylkin 2014; Heid, Larch, and Yotov 2017); Year-intervals instead of data pooled over consecutive years should be used to allow for adjustment of trade flows to policies that might not have immediate effects (Baier and Bergstrand 2007; Anderson and Yotov 2016); And finally, to account for the effects of globalization forces that may biased the estimates of trade policies, a set of globalization dummies are recommended to control for the effects of globalization in the gravity model (Yotov 2012; Bergstrand, Larch, and Yotov 2015). Based on the theoretical and empirical best-practices found in the relevant literature, we employ the following gravity equation using a PPML estimator and a balanced panel data approach with multiple exporters, multiple importers and time as our benchmark model:

$$X_{ij,t} = \exp\left(\eta_{i,t} + \psi_{j,t} + \gamma_{\binom{-}{ij}} + \beta_1 PTA_{ij,t} + \beta_2 PTA_{ij,t-5} + \sum_t b_t\right) + \epsilon_{ij,t} \quad (1)$$

Where $X_{ij,t}$ denotes the value of exports from an origin country i to a destination country j; $\eta_{i,t}$ and $\psi_{j,t}$ are, respectively, exporter-time and importer-time fixed-effects; $\gamma_{\binom{-}{ij}}$ is a country-pair fixed-effect; $PTA_{ij,t}$ and $PTA_{ij,t-5}$ are our main variables of interest, which, respectively indicate if i and j are members of a PTA at time t and, to account for potential "phase-in" effects over time of the PTA, at time $t-5$; $\sum_t b_t$ is a set of dummies that equal 1 for international trade and 0 for domestic trade observations at each time t; and $\epsilon_{ij,t}$ is an error term.

In contrast with our main interest of research, which are the potential heterogenous effects

of PTAs on different members for different types of agreements, this benchmark model, specifically $\beta = \beta_1 + \beta_2$, would provide the average "total" partial effect of PTAs on trade after accounting for lagged effects, but it cannot provide the effects for a given agreement, country-pairs o specific country members to a specific agreement. As such, three successive expansions can be implemented to capture heterogeneity in PTA effects as proposed by Baier *et al.* (Baier, Yotov, and Zylkin 2019):

$$X_{ij,t} = \exp\left(\eta_{i,t} + \psi_{j,t} + \gamma_{\binom{-}{ij}} + \sum_A \beta_{1,A}\, PTA_{ij,t} + \sum_A \beta_{2,A}\, PTA_{ij,t-5} + \sum_t b_t\right) + \epsilon_{ij,t} \quad (2)$$

Equation (2) can be implemented to account for heterogeneous effects of PTAs at the level of the specific agreement, by allowing for distinct average partial effects for each individual agreement, using superscript A to index by agreement and also allowing for agreement-specific lags: $\beta_A = \beta_{1,A} + \beta_{2,A}$.

In order to analyse the differentiated effects of North-North, North-South and South-South PTAs, we extend both models to get estimates for each type of PTA. Our benchmark model is extended as follows:

$$\begin{aligned} X_{ij,t} = \exp\Big(&\eta_{i,t} + \psi_{j,t} + \gamma_{\binom{-}{ij}} + \beta_{1NN}\, PTA\_NN_{ij,t} + \beta_{2NN}\, PTA\_NN_{ij,t-5} \\ &+ \beta_{1NS}\, PTA\_NS_{ij,t} + \beta_{2NS}\, PTA\_NS_{ij,t-5} + \beta_{1SS}\, PTA\_SS_{ij,t} + \beta_{2SS}\, PTA\_SS_{ij,t-5} \\ &+ \sum_t b_t\Big) + \epsilon_{ij,t} \end{aligned} \quad (3)$$

Where $X_{ij,t}$ denotes the value of exports from country i to country j at time t; $\eta_{i,t}$ and $\psi_{j,t}$ are exporter-time and importer-time fixed effects, respectively; $\gamma_{\binom{-}{ij}}$ is a country-pair fixed effect; β_{1NN} and β_{2NN} are the coefficients for the immediate and lagged effects of a North-North PTA (PTA_NN); β_{1NS} and β_{2NS} are the coefficients for the immediate and lagged effects of a North-South PTA (PTA_SN); β_{1SS} and β_{2SS} are the coefficients for the immediate and lagged effects of a South-South PTA (PTA_SS); $\sum_t b_t$ is a set of time dummies accounting for international trade-specific effects at each time t; and $\epsilon_{ij,t}$ is the

error term.

Equation (2) also gets extended to capture the heterogeneous effects of the different types of PTAs as follows:

$$X_{ij,t} = \exp\Bigg(\eta_{i,t} + \psi_{j,t} + \gamma_{\binom{-}{ij}} + \sum_{A}\left(\beta_{1,A,NN}\, PTA\_NN_{ij,t} + \beta_{2,A,NN}\, PTA\_NN_{ij,t-5}\right) + \sum_{A}\left(\beta_{1,A,NS}\, PTA\_NS_{ij,t} + \beta_{2,A,NS}\, PTA\_NS_{ij,t-5}\right) + \sum_{A}\left(\beta_{1,A,SS}\, PTA\_SS_{ij,t} + \beta_{2,A,SS}\, PTA\_SS_{ij,t-5}\right) + \sum_{t} b_t\Bigg) + \epsilon_{ij,t} \quad (4)$$

Where $X_{ij,t}$ denotes the value of exports from country i to country j at time t; $\eta_{i,t}$ and $\psi_{j,t}$ are exporter-time and importer-time fixed effects, respectively; $\gamma_{\binom{-}{ij}}$ is a country-pair fixed effect; The summations $\sum A$ denote the sum over different agreements A for: $\beta_{1,A,NN}$ and $\beta_{2,A,NN}$: Coefficients for the immediate and lagged effects of North-North PTAs (PTA_NN); $\beta_{1,A,NS}$ and $\beta_{2,A,NS}$: Coefficients for the immediate and lagged effects of North-South PTAs (PTA_SN); $\beta_{1,A,SS}$ and $\beta_{2,A,SS}$: Coefficients for the immediate and lagged effects of South-South PTAs (PTA_SS); $\sum_t b_t$ is a set of time dummies accounting for trade-specific effects at each time t; and $\epsilon_{ij,t}$ is the error term.

For both extended models we use the following variables: $PTA\_NN_{ij,t}$ is a dummy variable that takes the value of 1 if the trade pair (i, j) is part of a North-North PTA at time t, and 0 otherwise; $PTA\_NN_{ij,t-5}$ is a dummy variable that takes the value of 1 if the trade pair (i, j) was part of a North-North PTA at time *t-5*, and 0 otherwise; $PTA\_NS_{ij,t}$ is a dummy variable that takes the value of 1 if the trade pair (i, j) is part of a North-South PTA at time t, and 0 otherwise; $PTA\_NS_{ij,t-5}$ is a dummy variable that takes the value of 1 if the trade pair (i, j) was part of a North-South PTA at time *t-5*, and 0 otherwise; $PTA\_SS_{ij,t}$ is a dummy variable that takes the value of 1 if the trade pair (i, j) is part of a South-South PTA at time t, and 0 otherwise; $PTA\_SS_{ij,t-5}$ is a dummy variable that takes the value of 1 if the trade pair (i, j) was part of a South-South PTA at time *t-5*, and 0 otherwise;

The extended models allow us to capture the differentiated effects of PTAs on bilateral

exports depending on whether they are between two "North" countries (NN), between a "North" and a "South" country (NS), or between two "South" countries (SS).

Defining South and North

Data

4 Findings

These are the findings

4.1 Benchmark Estimation Results by Region

4.1.1 Benchmark Model Results by Region

Table 1: Benchmark Model Regional Results

	(1)	(2)	(3)	(4)	(5)
Variables					
	PPML	PPML	PPML	PPML	PPML
	Africa	Americas	Asia	Europe	Intercontinental
PTA	0.578***	0.287***	0.064	0.237***	0.015
	(0.154)	(0.071)	(0.083)	(0.019)	(0.093)
PTA Lag	-0.278	0.146	-0.167***	0.238***	0.188***
	(0.300)	(0.149)	(0.056)	(0.022)	(0.043)
PTA + PTA Lag	0.301	0.433***	-0.103	0.475***	0.203*
	(0.295)	(0.140)	(0.094)	(0.025)	(0.106)
Exporter-Year FE	Yes	Yes	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes	Yes	Yes
Country-Pair FE	Yes	Yes	Yes	Yes	Yes
R-Squared	0.997	0.999	0.999	0.997	0.998
Observations	5838	10997	25308	28168	73930

Notes: Robust standard errors clustered at the country-pair in parentheses. Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

4.2 PTA Estimation Results by Region

4.2.1 PTA Model Results by Region

Table 2: PTA + PTA Lag Coefficients for Africa Region

Statistically Insignificant		
PTA ID	Estimate	SE
670	0.326	(0.410)
787	0.304	(0.233)
Exporter-Year FE	Yes	
Importer-Year FE	Yes	
Country-Pair FE	Yes	
R-Squared	0.997	
Observations	5838	

Notes: Robust standard errors clustered at the country-pair level in parentheses. Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 3: PTA + PTA Lag Coefficients for Americas Region

Positive and Statistically Significant		
PTA ID	Estimate	SE
213	1.342***	(0.434)
218	0.879***	(0.173)
239	0.571***	(0.173)
616	0.488***	(0.044)
168	0.410***	(0.113)
163	0.342***	(0.096)
141	0.265***	(0.024)
716	0.732**	(0.358)
201	0.545**	(0.265)
612	0.515**	(0.251)
Statistically Insignificant		
PTA ID	Estimate	SE
185	0.291	(0.376)
645	0.117	(0.141)
Negative and Statistically Significant		
PTA ID	Estimate	SE
188	-0.774***	(0.144)
Exporter-Year FE	Yes	
Importer-Year FE	Yes	
Country-Pair FE	Yes	
R-Squared	0.999	
Observations	10997	

Notes: Robust standard errors clustered at the country-pair level in parentheses. Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 4: PTA + PTA Lag Coefficients for Asia Region

Positive and Statistically Significant		
PTA ID	Estimate	SE
683	1.080***	(0.237)
70	0.472***	(0.150)
100	0.376***	(0.105)
67	0.342***	(0.125)
675	1.360**	(0.655)
475	0.636**	(0.298)
598	0.166**	(0.083)
474	0.419*	(0.243)
Statistically Insignificant		
PTA ID	Estimate	SE
72	0.254	(0.178)
116	0.256	(0.703)
492	0.041	(0.180)
640	0.183	(0.217)
223	-0.014	(0.203)
71	-0.138	(0.091)
456	-0.209	(0.165)
534	-0.165	(0.370)
667	-0.049	(0.241)
Negative and Statistically Significant		
PTA ID	Estimate	SE
221	-2.955***	(0.727)
220	-1.215***	(0.093)
599	-0.967***	(0.191)
1	-0.732**	(0.359)
Exporter-Year FE	Yes	
Importer-Year FE	Yes	
Country-Pair FE	Yes	
R-Squared	0.999	
Observations	25308	

Notes: Robust standard errors clustered at the country-pair level in parentheses. Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 5: PTA + PTA Lag Coefficients for Europe Region

Positive and Statistically Significant		
PTA ID	Estimate	SE
5	3.812***	(0.278)
128	2.712***	(0.211)
13	2.256***	(0.262)
132	2.241***	(0.252)
192	1.107***	(0.163)
7	1.153***	(0.272)
328	0.671***	(0.175)
8	0.667***	(0.161)
621	0.618***	(0.186)
135	0.615***	(0.217)
254	0.565***	(0.084)
394	0.745***	(0.202)
335	0.472***	(0.025)
129	0.553***	(0.206)
9	0.580**	(0.285)
11	0.656**	(0.307)
131	0.615**	(0.281)
594	0.474*	(0.251)
Statistically Insignificant		
PTA ID	Estimate	SE
6	0.355	(0.358)
150	0.247	(0.687)
153	0.614	(0.633)
154	0.592	(0.409)
255	0.167	(0.237)
389	0.412	(0.323)
331	0.142	(0.201)
12	-0.246	(1.208)
156	-0.441	(0.445)
Negative and Statistically Significant		
PTA ID	Estimate	SE
133	-0.772***	(0.248)
Exporter-Year FE	Yes	
Importer-Year FE	Yes	
Country-Pair FE	Yes	
R-Squared	0.997	
Observations	28168	

Notes: Robust standard errors clustered at the country-pair level in parentheses. Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 6: PTA+PTALag Coefficients for Intercontinental

Positive and Statistically Significant		
PTA ID	Estimate	SE
627	2.372***	(0.345)
415	1.853***	(0.201)
206	1.539***	(0.180)
75	1.366***	(0.493)
263	1.426***	(0.115)
4	1.254***	(0.268)
626	1.099***	(0.121)
657	0.705***	(0.082)
637	0.667***	(0.102)
202	0.658***	(0.123)
208	0.763***	(0.129)
136	0.744***	(0.185)
490	0.843***	(0.181)
17	0.811***	(0.242)
466	0.710***	(0.147)
304	0.770***	(0.120)
628	0.484***	(0.142)
207	0.516***	(0.114)
518	0.627***	(0.135)
330	0.314***	(0.086)
164	0.288***	(0.073)
96	0.271***	(0.055)
181	0.392**	(0.178)
624	0.388**	(0.163)
521	0.101**	(0.045)

Continued on next page

Table 6 – continued from previous page

PTA ID	Estimate	SE
384	0.645*	(0.355)
15	0.313*	(0.179)
227	0.348*	(0.186)
Statistically Insignificant		
PTA ID	Estimate	SE
641	2.028	(1.255)
543	1.090	(0.707)
509	0.210	(0.216)
252	0.192	(0.357)
508	0.140	(0.122)
376	0.172	(0.228)
416	0.424	(0.295)
401	0.407	(0.288)
152	0.110	(0.266)
242	0.050	(0.294)
390	0.0471	(0.181)
396	0.019	(0.379)
205	0.0012	(0.178)
602	-0.076	(0.918)
383	-0.202	(0.152)
386	-0.092	(0.168)
84	-0.059	(0.120)
979	-0.126	(0.294)
644	-0.189	(0.122)
658	-0.303	(0.349)
Negative and Statistically Significant		

Continued on next page

Table 6 – continued from previous page

PTA ID	Estimate	SE
PTA ID	Estimate	SE
399	-0.473***	(0.127)
104	-0.338***	(0.112)
677	-1.366***	(0.385)
679	-1.429***	(0.430)
323	-0.338**	(0.138)
512	-0.458*	(0.266)
Exporter-Year FE	Yes	
Importer-Year FE	Yes	
Country-Pair FE	Yes	
R-Squared	0.998	
Observations	73930	

Notes: Robust standard errors clustered at the country-pair level in parentheses.

Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

4.3 NS Estimation Results by Region

4.3.1 NS Model Results by Region

4.4 NS PTA Estimation Results by Region

4.4.1 NS PTA Model Results by Region

Table 11: Europe PTA + PTA Lag Coefficients by Type

Agreements with NS			
PTA ID	**NS PTA+Lag**	**SS PTA+Lag**	**NN PTA+Lag**
8	0.663***	0.783***	

Continued on next page

Table 11 – continued from previous page

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
	(0.165)	(0.248)	
254	0.568***	0.323	
	(0.086)	(0.430)	
328	0.738***	0.354	
	(0.179)	(0.291)	
331	0.241	-0.032	
	(0.216)	(0.338)	
394	0.747***		
	(0.200)		
9	0.581**		
	(0.285)		
255	0.171		
	(0.235)		
389	0.411		
	(0.333)		
Agreements with only SS			
PTA ID	**NS PTA+Lag**	**SS PTA+Lag**	**NN PTA+Lag**
5		3.811***	
		(0.278)	
132		2.241***	
		(0.252)	
7		1.153***	
		(0.271)	
13		2.303***	
		(0.246)	
128		2.773***	
		(0.213)	

Continued on next page

Table 11 – continued from previous page

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
129		0.556***	
		(0.208)	
135		0.696***	
		(0.206)	
192		1.199***	
		(0.152)	
621		0.614***	
		(0.186)	
133		-0.707***	
		(0.225)	
11		0.663**	
		(0.298)	
131		0.599**	
		(0.276)	
154		0.773**	
		(0.354)	
594		0.455*	
		(0.249)	
150		0.444	
		(0.679)	
153		0.817	
		(0.596)	
6		0.411	
		(0.352)	
156		-0.372	
		(0.428)	
12		-0.250	

Continued on next page

Table 11 – continued from previous page

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
		(1.207)	
Agreements with NN			
PTA ID	**NS PTA+Lag**	**SS PTA+Lag**	**NN PTA+Lag**
335	0.727***	1.099***	0.399***
	(0.047)	(0.098)	(0.025)
Exporter-Year FE	Yes		
Importer-Year FE	Yes		
Country-Pair FE	Yes		
R-Squared	0.997		
Observations	28168		

Notes: Robust standard errors clustered at the country-pair level in parentheses.

Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 12: Intercont PTA+Lag Coefficients by Type

Agreements with NS			
PTA ID	**NS PTA+Lag**	**SS PTA+Lag**	**NN PTA+Lag**
17	0.800***	1.055***	
	(0.249)	(0.244)	
330	0.286***	0.662***	
	(0.088)	(0.188)	
304	0.787***	0.591**	
	(0.123)	(0.245)	
202	0.660***	0.612**	
	(0.124)	(0.241)	
679	0.546*	-1.636***	
	(0.310)	(0.400)	

Continued on next page

Table 12 – continued from previous page

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
323	-0.335**	-0.360	
	(0.146)	(0.247)	
181	0.242	1.288***	
	(0.179)	(0.309)	
252	0.165	0.580	
	(0.363)	(0.387)	
979	-0.130	0.061	
	(0.298)	(0.855)	
75	1.366***		
	(0.492)		
96	0.271***		
	(0.055)		
207	0.516***		
	(0.113)		
518	0.627***		
	(0.135)		
628	0.484***		
	(0.142)		
637	0.667***		
	(0.102)		
399	-0.473***		
	(0.127)		
384	0.645*		
	(0.355)		
512	-0.458*		
	(0.266)		
543	1.090		

Continued on next page

Table 12 – continued from previous page

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
	(0.707)		
376	0.171		
	(0.228)		
152	0.110		
	(0.266)		
205	0.002		
	(0.178)		
390	0.047		
	(0.181)		
396	0.018		
	(0.379)		
401	0.407		
	(0.288)		
508	0.140		
	(0.122)		
509	0.210		
	(0.216)		
658	-0.303		
	(0.349)		
383	-0.202		
	(0.152)		
386	-0.092		
	(0.168)		
Agreements with only SS			
PTA ID	**NS PTA+Lag**	**SS PTA+Lag**	**NN PTA+Lag**
627		2.372***	
		(0.345)	

Continued on next page

Table 12 – continued from previous page

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
415		1.854***	
		(0.201)	
4		1.255***	
		(0.268)	
626		1.099***	
		(0.121)	
104		-0.338***	
		(0.112)	
136		0.744***	
		(0.185)	
208		0.763***	
		(0.129)	
657		0.705***	
		(0.082)	
206		1.540***	
		(0.180)	
263		1.426***	
		(0.115)	
466		0.710***	
		(0.147)	
490		0.843***	
		(0.181)	
677		-1.366***	
		(0.385)	
624		0.384**	
		(0.163)	
15		0.313*	

Continued on next page

Table 12 – continued from previous page

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
		(0.179)	
227		0.348*	
		(0.186)	
242		0.050	
		(0.294)	
416		0.424	
		(0.295)	
641		2.027	
		(1.255)	
644		-0.190	
		(0.122)	
602		-0.076	
		(0.918)	
Agreements with NN			
PTA ID	**NS PTA+Lag**	**SS PTA+Lag**	**NN PTA+Lag**
164			0.288***
			(0.073)
521			0.102**
			(0.045)
84			-0.059
			(0.120)
Exporter-Year FE	Yes		
Importer-Year FE	Yes		
Country-Pair FE	Yes		
R-Squared	0.998		
Observations	73930		

Notes: Robust standard errors clustered at the country-pair level in parentheses.

Continued on next page

Table 12 – continued from previous page

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag

Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 7: Regional Results by PTA Type

	Africa	Americas	Asia	Europe	Intercontinental
Variables					
NN PTA				0.207***	0.013
				(0.021)	(0.072)
NN PTA Lag				0.192***	0.016
				(0.023)	(0.073)
NN PTA + NN PTA Lag				0.399***	0.029
				(0.026)	(0.102)
NS PTA		0.199***	-0.089	0.374***	0.013
		(0.069)	(0.089)	(0.041)	(0.144)
NS PTA Lag		0.234	-0.067	0.349***	0.231***
		(0.190)	(0.060)	(0.041)	(0.061)
NS PTA + NS PTA Lag		0.434**	-0.156*	0.723***	0.244
		(0.200)	(0.090)	(0.046)	(0.156)
SS PTA	0.578***	0.476***	0.153	0.530***	0.004
	(0.154)	(0.139)	(0.117)	(0.107)	(0.121)
SS PTA Lag	-0.278	-0.023	-0.208***	0.575***	0.204***
	(0.300)	(0.133)	(0.063)	(0.119)	(0.073)
SS PTA + SS PTA Lag	0.301	0.453***	-0.055	1.105***	0.208
	(0.295)	(0.112)	(0.130)	(0.092)	(0.128)
Exporter-Year FE	Yes	Yes	Yes	Yes	Yes
Importer-Year FE	Yes	Yes	Yes	Yes	Yes
Country-Pair FE	Yes	Yes	Yes	Yes	Yes
R-Squared	0.997	0.999	0.999	0.997	0.998
Observations	5838	10997	25308	28168	73930

Notes: Robust standard errors clustered at the country-pair level in parentheses.
Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 8: Africa PTA + PTA Lag Coefficients by Type

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
NS and SS (or only NS)			
No agreements in this category			
Only SS			
670		0.326	
		(0.410)	
787		0.304	
		(0.233)	
Agreements with NN and NS			
No agreements in this category			
Exporter-Year FE	Yes		
Importer-Year FE	Yes		
Country-Pair FE	Yes		
R-Squared	0.997		
Observations	5838		

Notes: Robust standard errors clustered at the country-pair level in parentheses.
Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

4.4.2 Additional Findings

Here you can include additional findings and discussions.

5 Analysis and Discussion

This is the analysis and discussion

"Several themes emerge from this newly bourgeoning literature. First, South–South trade and finance is now a significant economic and political force for South countries as well as for the global economy. There is a near consensus therefore that South–South economic relations do matter and that they have the potential to have a significant developmental impact. Moreover, this impact may be positive or negative, that is, that it may help or hinder the long-term developmental goals of exchanging parties. Second, much of South–South manufactures trade is concentrated in high-technology-and-skill content, opening the door for potential long-run dynamic gains from trade. However, these gains are being increasingly concentrated within a small number of South countries. The global South is, in fact, splitting into two groups, which we refer to as the Emerging South and the Rest of South with very

Table 9: Americas PTA + PTA Lag Coefficients by Type

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
Agreements with NS and SS (or only NS)			
188	-0.811***	0.685**	
	(0.140)	(0.317)	
163	0.346***		
	(0.098)		
168	0.410***		
	(0.113)		
218	0.879***		
	(0.172)		
645	0.117		
	(0.141)		
Agreements with only SS			
141		0.265***	
		(0.024)	
213		1.342***	
		(0.435)	
239		0.572***	
		(0.173)	
616		0.488***	
		(0.044)	
201		0.545**	
		(0.265)	
716		0.732**	
		(0.358)	
612		0.517**	
		(0.251)	
185		0.295	
		(0.375)	
Agreements with NN and NS			
No agreements in this category			
Exporter-Year FE	Yes		
Importer-Year FE	Yes		
Country-Pair FE	Yes		
R-Squared	0.999		
Observations	10997		

Notes: Robust standard errors clustered at the country-pair level in parentheses.
Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

Table 10: Asia PTA + PTA Lag Coefficients by Type

PTA ID	NS PTA+Lag	SS PTA+Lag	NN PTA+Lag
Agreements with NS and SS (or only NS)			
598	0.166**		
	(0.083)		
71	-0.138		
	(0.091)		
Agreements with only SS			
70		0.472***	
		(0.150)	
100		0.376***	
		(0.105)	
67		0.342***	
		(0.125)	
683		1.080***	
		(0.237)	
599		-0.967***	
		(0.191)	
220		-1.215***	
		(0.093)	
221		-2.955***	
		(0.0.727)	
675		1.360**	
		(0.655)	
475		0.636**	
		(0.298)	
1		-0.732**	
		(0.359)	
474		0.419*	
		(0.243)	
116		0.256	
		(0.703)	
72		0.254	
		(0.178)	
492		0.041	
		(0.180)	
640		0.183	
		(0.217)	
667		-0.049	
		(0.241)	
534		-0.165	
		(0.370)	
223		-0.014	
		(0.203)	
456		-0.209	
		(0.165)	
Agreements with NN and NS			
No agreements in this category			
Exporter-Year FE	Yes		
Importer-Year FE	Yes		
Country-Pair FE	Yes		
R-Squared	0.999		
Observations	25308		

Notes: Robust standard errors clustered at the country-pair level in parentheses.
Significance levels are indicated as follows: *p<0.1; **p<0.05; ***p<0.01.

different outcomes. While there is evidence for gains through South–South trade, there is also evidence that the Emerging South is rising at the expense of the Rest of South. Finally, the South–South exchanges have expanded significantly to cover issues including financial flows and technology transfer, among other topics. The overall conclusion of this diverse literature is that while it does matter who is exchanging what and with whom, South–South trade is not a panacea for the development challenges in Southern countries. On the contrary, South–South exchange themselves may become a potential threat for development for some of the Southern countries." (Dahi & Demir, 2017)

References

Dahi, O. S., & Demir, F. (2017). South-South and North-South Economic Exchanges: Does It Matter Who Is Exchanging What and with Whom? *Journal of Economic Surveys*, *31*(5), 1449–1486. https://doi.org/10.1111/joes.12225

6 Conclusion

This is the conclusion

7 References

References

[1] Omar S. Dahi and Firat Demir. "Preferential trade agreements and manufactured goods exports: does it matter whom you PTA with?" In: *Applied Economics* 45.34 (Dec. 2013). Publisher: Routledge, pp. 4754–4772. ISSN: 00036846. DOI: 10.1080/00036846.2013.804169. URL: https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=89600898&site=ehost-live (visited on 06/01/2024).

8 Appendix

8.1 Subsection in Appendix

Content in the appendix should not be counted in the word count.