

Trade, trade agreements and non-trade policy outcomes

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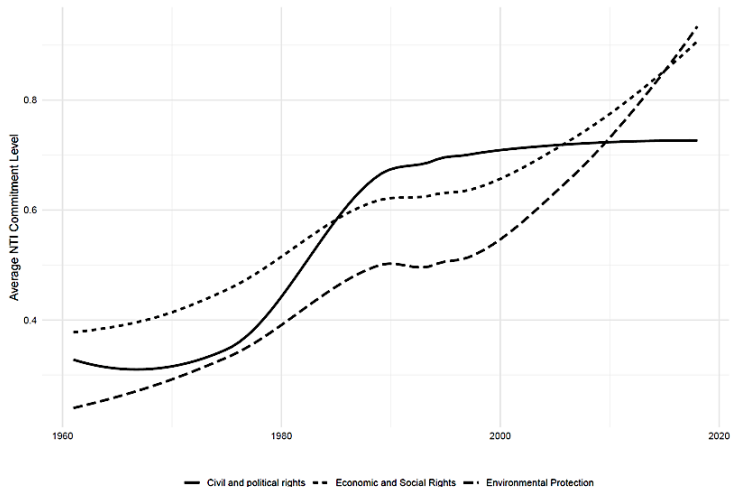


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Non trade issues in trade agreements

Extensive and growing inclusion of NTPs over time



EU (not only) commercial policy

Cooperation and Promotion of EU's social, civil, environmental and juridical values constitute one of the pillars of the Treaty on the European Union (TEU, Article 21)

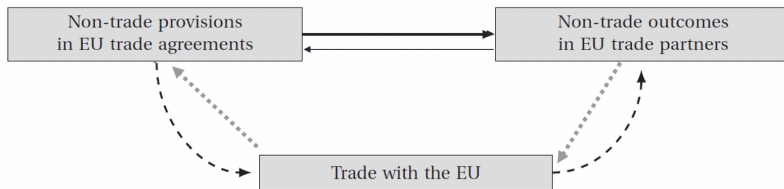
- According to the Treaty on the Functioning of the EU: EU trade policy must be consistent with the principles enumerated in the Article 21 of the TEU
- The inclusion of such chapters in PTAs reflects both:
 - a desire to use trade to protect and to project EU values,
 - ensure that partner countries do not lower social and environmental norms in an effort to attract investment into tradeable industries that can benefit from the preferential access to the EU market.

What we have been doing

- PAPER 1: EU Trade agreements and Non-Trade Policy Objectives
 - Does the inclusion of NTPs in EU PTAs have a systematic positive effect on non-trade outcomes in partner countries?
 - Focus on 3 issues (provisions on each are included in more than 50% of EU trade agreements (Lechner, 2018)):
 - Protection/Promotion of Civil Rights;
 - Protection/Promotion of Labor rights (assembly, working hours, etc);
 - Environmental Protection (pollution, biodiversity, etc)
 - Synthetic Control Method (Abadie and Gardeazabal 2003, Billmeier e Nannicini 2013, Abadie et al.2015)
- PAPER 2 (ongoing) Diff in Diff and basic regression analysis without SCM (SCM candidates are unacceptably rare)
 - EU and non-EU Agreements
 - Trade in addition to trade agreements
 - Alternative methodologies
- Basic result: controlling for issues in the literature, all methodologies lead to the same result. There is no unambiguous impact. Borchert et al (2021) "positive conditionality is very limited once an agreement is in place."

Conceptual Framework

Both direct and indirect Effect:



Related Literature

Multi-disciplinary interest (Political Science, Law and Economics above all) but scant empirical literature

- Inconclusive and/or weak evidence
- No causality
- Environmental Protection:
 - McLaughlin et al (2007) - provisions are more effective if their design is binding
 - Brandi et al (2020) - Green PTA counter pollution haven
- Human Rights:
 - Hafner-Burton (2009) - provision lead to compliance
 - Spilker and Boehmelt (2013) - Self Selection in HR clause

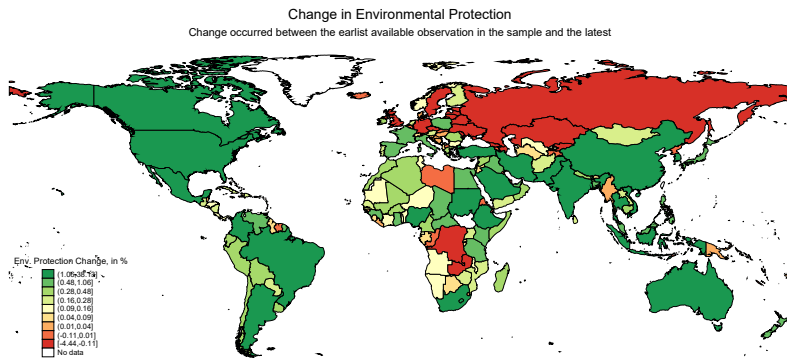
Dataset on Non trade issues in trade agreements

- Includes occurrence of specific issues in 676 PTAs signed between 1945-2018
- Four main issue areas covered are :
 - Civil and political rights
 - Economic and social rights
 - Environmental protection issues
 - Security issues
- Source: DESTA Dataset (www.designoftradeagreements.com)

Dataset on Non trade outcomes

- The dataset contains data along economic, political, environmental, and social dimensions.
- The dataset was constructed from combining the following datasets:
 - Database of Political Institutions 2017 Codebook (DPI)
 - 2018 Environmental Performance Index Report (EPI)
 - International Political Economy Data Resource Version 3.0 – June 2018 (IPE)
 - Structural policy indicators database for economic research (SPIDER)
 - 2018 Quality of Government dataset (QoG)
 - WDI, World Bank

Non trade outcomes over time, environment



Correlations

As a first step, we test correlation between trade and environmental outcomes (basic regression analysis). We look at other NPTOs as well, but focus on environmental outcomes here:

$$E_{c,t} = \beta_0 + \beta_1 XEU_{c,t} + \beta_2 XUS_{c,t} + \beta_3 O_{c,t} + \beta_4 PEU_{c,t} + \beta_5 PUS_{c,t} + Z_{c,t} + \mu_c + \gamma_t + e_{c,t} \quad (1)$$

- $E_{c,t}$ is the environmental outcome in country c and time t .
- $XEU_{c,t}$ and $XUS_{c,t}$ measures export intensity with EU and US (share EU and US exports in total exports respectively),
- $O_{c,t}$ is residual openness (residual after regressing value of exports+imports/GDP on GDP per capita, GDP per capita sq, and GDP)
- $PEU_{c,t}$ and $PUS_{c,t}$: EU and US environmental provisions
- Z : other controls include GDP per capita, GDP per capita sq., GDP

Correlation results I.

	CO2 emissions	SO2 emissions	Share of Forests	Greenhouse gas emissions
Export share of EU	0.144 (0.117)	0.214 (0.167)	0.084 (0.037)**	-0.020 (0.168)
Export share of US	0.390 (0.202)*	0.356 (0.412)	-0.049 (0.062)	0.605 (0.280)**
Openness	6.956 (2.802)**	6.269 (8.900)	-0.023 (0.514)	6.298 (4.802)
Ln GDP per cap	0.835 (0.219)***	-0.940 (0.509)*	-0.103 (0.136)	-0.364 (0.174)**
Ln GDP per cap sq.	-0.042 (0.009)***	-0.048 (0.015)***	0.015 (0.005)***	-0.027 (0.008)***
Ln GDP	0.172 (0.163)	1.716 (0.348)***	-0.077 (0.083)	0.921 (0.132)***
Constant	-7.414 (2.805)***	-26.074 (5.060)***	4.479 (1.184)***	-6.682 (2.235)***
R^2	0.98	0.98	1.00	0.99
N	4,911	4,635	4,821	4,654
country FE	Yes	Yes	Yes	Yes
time FE	Yes	Yes	Yes	Yes

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Correlation results II.

	CO2 emissions	SO2 emissions	Share of Forests	Greenhouse gas emissions
Export share of EU	0.186 (0.149)	0.139 (0.247)	0.027 (0.034)	-0.079 (0.171)
EU provisions	-0.055 (0.060)	-0.165 (0.109)	-0.033 (0.026)	-0.035 (0.082)
EU provisions# ExportShares	-0.108 (0.147)	0.055 (0.247)	0.104 (0.046)**	0.088 (0.197)
Export share of US	0.392 (0.205)*	0.393 (0.397)	-0.058 (0.059)	0.610 (0.285)**
US provisions	0.121 (0.119)	0.070 (0.168)	0.074 (0.067)	0.183 (0.060)***
US provisions# ExportShares	-0.194 (0.539)	0.791 (0.679)	-0.519 (0.406)	-0.802 (0.266)***
Openness	7.559 (2.770)***	5.799 (8.733)	-0.064 (0.653)	5.668 (4.898)
Ln GDP per cap	0.890 (0.210)***	-0.869 (0.510)*	-0.096 (0.132)	-0.337 (0.177)*
Ln GDP per cap sq.	-0.043 (0.009)***	-0.049 (0.015)***	0.014 (0.005)***	-0.029 (0.008)***
Ln GDP	0.131 (0.162)	1.658 (0.349)***	-0.077 (0.080)	0.909 (0.135)***
Constant	-6.803 (2.814)**	-25.126 (5.073)***	4.480 (1.127)***	-6.518 (2.286)***
R^2	0.98	0.98	1.00	0.99
N	4,911	4,635	4,821	4,654
country FE	Yes	Yes	Yes	Yes
time FE	Yes	Yes	Yes	Yes

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Difference in difference -specification

To see the indirect impact of trade, we run split sample

$$E_{c,t} = \beta_0 + \beta_1 Prov_{c,t} + Covariates_{c,t} + \mu_c + \gamma_t + \sigma_{c,t} + e_{c,t} \quad (2)$$

- $E_{c,t}$ is the environmental outcome in country c time t .
- $P_{c,t}$ is the relevant environmental provision dummy
- $Covariates_{c,t}$ is a set of observable country characteristics including as *openness* (residual after regressing value of exports+imports/GDP on GDP per capita, and GDP); *GDP* ; and (*Per-Capita*) *GDP in log*.
- $\mu_c, \gamma_t, \sigma_{c,t}$ are country and time fixed effects and time-trend controls respectively

Difference in difference -results (I)

Table: Environment: DID Estimates (AIR)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	CO2	CO2	CO2(Cap)	CO2(Cap)	SO2	SO2	GG	GG
GDP	-0.526 (0.712)	-0.692* (0.319)	0.477 (0.639)	-0.288 (0.366)	0.165 (0.897)	0.0834 (1.297)	-0.714 (1.000)	-0.0164 (0.312)
GDP cap	0.721 (0.715)	0.959** (0.333)	-0.456 (0.641)	0.136 (0.377)	0.0207 (0.853)	0.0378 (1.367)	0.820 (0.957)	0.109 (0.340)
Openness	-3.996 (5.840)	-5.757 (18.27)	-9.129 (10.69)	-32.01 (29.16)	27.11 (28.42)	58.48 (49.48)	-7.276 (9.909)	-15.42 (19.92)
DD- Provision	-0.119 (0.107)	0.0885** (0.0301)	-0.105 (0.0986)	-0.00551 (0.0282)	-0.103 (0.0876)	0.0173 (0.110)	-0.0934 (0.0950)	0.0509 (0.0334)
Obs.	2670	2191	2622	2010	2481	2104	2509	2083
Adj. R2	0.850	0.700	0.950	0.970	0.840	0.910	0.760	0.700
X level	Below Med.	Above Med.	Below	Above	Below	Above	Below	Above
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region YearFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses. GG is total greenhouse gas emission

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

Difference in difference -results (II.)

Table: Environment: DID estimates (EP)

	(1)	(2)	(3)	(4)	(5)	(6)
	Forest share	Forest share	Forest total	Forest total	PCA	PCA
GDP	0.0102 (0.0520)	-0.274** (0.0894)	-1.845 (1.885)	-2.269 (1.145)	-3.396 (6.237)	-3.935 (2.472)
GDP per cap	-0.00822 (0.0508)	0.293** (0.0911)	2.139 (1.846)	2.754* (1.171)	3.508 (6.230)	3.602 (2.349)
Openness	-0.257 (0.643)	1.481 (2.026)	-4.593 (45.90)	35.47 (146.8)	-99.58 (277.2)	-1393.8 (1612.1)
DD -Provision	0.00334 (0.00388)	-0.00408 (0.00260)	-0.0450 (0.0285)	0.153 (0.0924)	0.0306 (0.0594)	0.0710 (0.102)
Obs.	2614	2168	1789	1566	548	365
Adj. R2	0.960	0.960	0.820	0.450	0.630	0.570
X Level	Below Median	Above Median	Below Median	Above Median	Below Median	Above Median
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Region Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses

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

Conclusions

- Some positive correlation between trade intensity and outcome
- Mixed correlation results with provisions
- DID results are still preliminary but suggest that neither provision nor trade consistently support NTPO.
- The results are consistent with our earlier paper
- We are considering merging the paper(s) into a comprehensive diagnostic paper on alternative approaches, also given what we have in the literature.
- Other EU policies (the Energy Directive) also have not worked (Fernandez-Amador et al 2021)
- trade policy and environment are moving targets (CBAM might work)