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Abstract

The EU's common commercial policy is used as an instrument to realize its values in EU trading partners, reflected in the inclusion of sustainable trade and development chapters in EU preferential trade agreements (PTAs). In this paper we ask if including non-trade provisions (NTPs) in EU PTAs has a systematic positive effect on non-trade outcomes in partner countries. We analyze the relationship between bilateral trade flows, the coverage of NTPs in EU PTAs and the performance of EU partner countries on several non-trade outcome variables using synthetic control methods. We find no robust evidence of a causal effect of including NTPs in EU PTAs on indicators of non-trade outcomes.

1 Introduction[1]

Article 2 of the Treaty on European Union (TEU) states that the EU is founded on a set of fundamental values, including rule of law and respect for human rights. Article 21 (TEU) calls on the Union to work for a higher degree of cooperation in all fields of international relations to consolidate and support democracy, rule of law, human rights and foster the sustainable, economic, social and environmental development of developing countries. These principles apply to the EU's common commercial policy. Article 207 of the treaty on the functioning of the EU states that EU trade policy must be consistent with the principles laid out in Article 21 TEU. Thus, the EU's common commercial policy is one instrument to attain these objectives. A reflection this role is the inclusion of trade and development chapters in EU preferential trade agreements (PTAs). These chapters complement general provisions on human rights and rule of law in EU trade agreements by defining specific commitments that partner countries make with respect to labour and environmental standards. The inclusion of such chapters reflects both a desire to use trade to protect and to project EU values, as well as ensure that partner countries do not lower social and environmental norms in an effort to attract investment into tradable industries that can benefit from the preferential access to the EU market.

Research on the effects (effectiveness) of including non-trade provisions (NTPs) in PTAs is largely inconclusive. The EU has not undertaken a comprehensive assessment of the strategy of linking (conditioning) access to the EU market on the pursuit of non-trade policy objectives (NTPOs). Does the inclusion of NTPs in EU PTAs have a systematic positive effect on non-trade outcomes in partner countries? This is the question that motivates the discussion that follows. Using a simple conceptual framework that distinguishes between a direct channel linking trade policy to non-trade outcomes and an indirect one that operates through trade flows, we combine information on sustainable development indicators (non-trade outcomes), the content of EU PTAs, and bilateral trade flows between the EU and partner countries to analyze the relationship between bilateral trade flows, the coverage of NTPs in EU PTAs and the performance of EU partner countries on several non-trade outcome variables.

We contribute to the literature on the effects of NTPs in PTAs by using synthetic control methods (SCM) to study the causal effect of NTPs in EU PTAs on the realization of non-trade outcomes in partner countries. Studies of trade liberalization and trade policy have made limited use of SCM.[2] This chapter is to the best of our knowledge the first application of SCM to study the impact of NTPs in PTAs on non-trade outcomes.

The descriptive analysis reveals statistically significant correlations between NTPs and different non-trade outcomes (both negative and positive). While this suggests that PTAs with NTPs may have discernable effects, and that such effects are not necessarily positive (consistent with the often-expressed concern that partner countries may lower standards to bolster trade), the SCM application fails to find any robust evidence of a causal effect of including NTPs in EU PTAs on indicators of non-trade outcomes.

The chapter is organized as follows. Section 2 introduces a simple conceptual framework and summarizes findings from the existing literature on the relationships between trade policy, trade performance and non-trade outcomes. Section 3 provides an initial empirical assessment of the potential

[2]Billmeier and Nannicini (2013) use SCM to assess the effect of trade liberalization on growth, proxied by per capita GDP; Hannan (2017) estimates the effect of trade agreements on trade among Latin American countries; Adarov (2018) analyzes the effect of the Eurasian Custom Union on trade, comparing SCM results with gravity predictions; Olper et al. (2018) study the causal effect of trade liberalization on child mortality; Aytug et al. (2017) estimates the impact of the Turkey-EU custom union on Turkey's export to the EU; and Hosny (2012) investigate the causal effect of participation in the Pan-Arab FTA on Algeria's trade performance. Many of these studies find substantial heterogeneity in the impact of trade agreements/policy on the outcome of interest. Such heterogeneity is often impossible to detect using standard econometric techniques.

linkages between EU trade policy and three non-trade outcomes in EU partner countries: civil rights protection, environmental protection, and protection of labor rights. In Section 4 we report the results of the SCM exercise to estimate the causal effect of inclusion of NTPs in EU trade agreements on non-trade outcomes in EU parter countries. Section 5 concludes.

2 Conceptual framework and existing literature

What is the effect of NTPs in EU trade agreements on non-trade outcomes in partner countries? Take for instance environmental protection as an example of a non-trade issue. What happens to environmental protection in countries that sign a trade agreement with the EU that includes a provision on that specific non-trade issue? Before answering these questions empirically with an SCM exercise it is useful to identify the main theoretical channels that can make NTPs in trade agreements effective in having an impact on the related non-trade outcomes. First, an NTP can affect the related non-trade outcomes simply because it includes prescriptions (with a certain degree of conditionality and/or enforcement) on those outcomes or on domestic policies targeting them. Secondly, in so far as the relevant non-trade outcomes can be affected by the trade performance of signatory parties, the NTP in the trade agreement can have an effect on non-trade outcomes through its impact on trade flows. Figure 1 offers a graphical representation of the direct and indirect channels captured by the solid and dashed lines respectively.

Figure 1: Impact channels of trade policy on non-trade outcomes
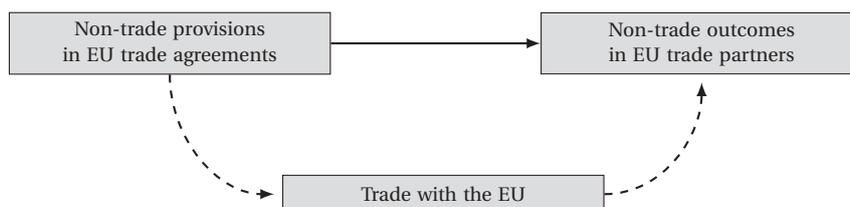
The literature on these relationships is growing across disciplines, including political science, law and economics. Overall, research results are very heterogeneous as regards empirical evidence for each of the relationships displayed in Figure 1: the role of NTPs in trade agreements in affecting non-trade outcomes (the solid line); the effects of NTPs on bilateral trade effects (the dashed line on the left hand side of the figure); and the impact of trade on non-trade outcomes in EU partner countries (the dashed line on the right hand side of the figure). Assessing the causal nature of these relationships confronts serious difficulties, including both weaknesses in available data and endogeneity issues.

Some studies focus on whether and how inclusion of non-trade issues in trade policy affects the performance of partner countries with respect to relevant non-trade policy outcomes (the solid line in Figure 1). Overall, trade agreements cover many different non-trade dimensions which have traditionally been aggregated in three sets of issue areas: civil and political rights, economic and social rights, and environmental protection.[3] Scholars have tended to examine these three issue areas, and the rights that fall under these headings, on a stand-alone, issue-specific basis as opposed to cross- or multi-issue analysis (see for instance Hafner-Burton, 2009; Kim, 2012; Spilker and Böhmelt, 2013; Postnikov, 2014). Among this body of research McLaughlin Mitchell and Hensel (2007) find that en-

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[3]Civil and political rights cover many areas and vary across studies. They may include human dignity, the right to political participation, the right to free movement, women's and children's rights, protection of minorities, and rule of law. Economic and social rights encompass the right to work, rights at work, right to education, the right to development, and the right to health. Rights at work span the right to collective bargaining, the elimination of all forms of forced and compulsory labour, the effective abolition of child labour, the elimination of discrimination in respect of employment and occupation, minimum wages, and the right to leisure. Environmental protection encompasses care for natural resources (water, soil, forests), reducing waste and air pollution, and protection of wildlife and game.

vironmental standards are more effective if they are binding in their nature. Hafner-Burton (2009) shows that hard human rights clauses in trade agreements lead to compliance. This has been revisited by Spilker and Böhmelt (2013), who show that the positive effect decreases if one accounts for the selection process of human rights clauses in PTAs. To the best of our knowledge a direct comparison of all three issues areas in the context of trade agreements has not been undertaken.

Turning to the two dimensions of the indirect channel (the two dashed lines in Figure 1), there is a large literature on the effects of PTAs, their depth and other features of their design on trade performance (see Rose, 2004; Baier and Bergstrand, 2007; Büthe and Milner, 2008; Mansfield and Reinhardt, 2008; Antràs and Staiger, 2012; Orefice and Rocha, 2014; Baier et al., 2014; Büthe and Milner, 2014; Dür et al., 2014; Osnago et al., 2017; Miroudot and Rigo, 2019; Laget et al., 2020). These studies usually focus more on trade related issues, including investment, services, intellectual property rights and trade facilitation provisions rather than human rights, labour rights and environmental protection provisions which are the focus of this chapter. The relationship between non-trade issues and trade is the object of interest in Limão (2007). That paper develops a theoretical framework where PTAs with NTPs act as a stumbling block to global free trade. Brandi et al. (2020) instead find that environment-related provisions help to reduce dirty-exports from trade partners, although this depends on the initial level of environmental protection there. Other studies analyzing this relationship include Kohl et al. (2016) and Brown et al. (2011). [4]

Existing evidence on the effect of trade on non-trade outcomes Hafner-Burton (2005, 2011) suggest that trade may play an important role in shaping domestic policy towards human and civil rights protection in trading partners. Chyzh (2016) note that the effect of trade on human and civil rights depends on the distance from high standard countries in the trade network: the larger the distance, the greater the trade pressures on human and civil right protection. This pressure decreases the more trade with high standard countries is intermediated by third parties. Kis-Katos and Sparrow (2011, 2015) look at how child labor and poverty are affected by the additional trade generated by tariff reduction in Indonesia. In both cases, sectors that are most impacted by tariff cuts experience the largest improvements in the relevant non-trade outcome indicator, partly mediated by improvements in labor standards. Other studies include Greenhill et al. (2009) on trade and labour rights; Juhn et al. (2013); Sauré and Zoabi (2014) on trade and gender; Halicioglu and Ketenci (2016); Copeland (2013); McAusland and Millimet (2013) on trade and environment.

3   Non-trade outcomes, EU trade policy and trade

In this section we provide descriptive evidence on selected non-trade outcomes in EU partner countries, trade with the EU and EU trade policy as well as on the key relationships between these variables. Throughout the analysis we focus on three non-trade outcomes; civil rights, environmental protection, and labor rights. These issues figure prominently in EU trade agreements: provisions on each are included in more than 50% of EU trade agreements (Lechner, 2018).

3.1   Data

We combine information from three sources: datasets on non-trade outcomes, the coverage of non-trade issues in trade agreements, and bilateral trade flows. The dataset on non-trade outcomes (NT-POID_v2 dataset) contains data along economic, political, environmental, and social dimensions, with a large number of variables. The dataset was constructed by merging and consolidating several

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[4]Two recent papers focus on the effects of NTPs in PTAs on FDI also have differing findings. Kox and Rojas-Romagosa (2020) investigate the effect of provisions targeting civil, political, economic, and social rights as well as environmental protection on inward FDI. None of these NTPs prove to be detrimental for bilateral investment, though only civil and political rights provisions positively and significantly affect investment. Ubaldo and Gasiorek (2020) obtain opposite results using greenfield FDI data.

sources.[5] The timespan of the resulting dataset is from 1946 to 2018, with country coverage ranging between 195 and 247 jurisdictions. For most variables the panel structure is fairly unbalanced, resulting in a heterogeneous coverage across non-trade outcomes. From this dataset, we construct aggregate indexes built using principal component analysis.[6]

The second dataset contains information on the inclusion of non-trade issues in trade agreements. This covers all non-trade issues which are included in 665 preferential trade agreements (PTAs) signed between 1945 and 2018 (Lechner, 2018). They include provisions on civil and political rights, economic and social rights, environmental protection, and security matters. The EU is a signatory to 90 of these 665 PTAs. Finally, bilateral trade data are sourced from the UN COMTRADE database.

3.2 Descriptives

We start by looking at the distribution (across EU partner countries and/or over time) of our key variables of interest: performance in non-trade outcomes, trade with the EU, and non-trade issues in trade agreements with the EU. Figure 2 depicts changes in non-trade outcomes over time in partner countries. More specifically, the maps show changes between the first year in our sample (1995) and the last year in which data are available.[7] The maps reveal that for several developing countries in Africa, Asia and South-America, there was significant improvement in environmental protection, while the trend appears to be less positive in terms of labor rights and civil rights protection. These trends are consistent with the literature (Flanigan, 2006; Mosley and Uno, 2007; Donnelly, 2013; Li and Jennings, 2017). All in all, EU trade partners do not register unidirectional improvement in non-trade outcomes. Reversals and deterioration in non-trade indicator performance is frequently observed across countries and issue areas.

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[5]In particular, the database of Political Institutions 2017 Codebook (DPI), 2018 Environmental Performance Index Report (EPI), International Political Economy Data Resource Version 3.0 (IPE), Structural policy indicators database for economic research (SPIDER), 2018 Quality of Government dataset (QoG)) and the World Banks' WDI

[6]See further details on the construction of these summary indexes in Manchin (2021).

[7]The sample period is constrained by data availability. To provide a consistent overview of the data used in the synthetic control exercise presented in Section 4, we limit our sample to the period between 1995 and the last year in which the information for each non-trade outcome is available (2012, 2011 and 2015 for Civil Rights, Environmental, and Labor Rights Protection respectively).

Figure 2: Change in nontrade outcome indicators since 1995
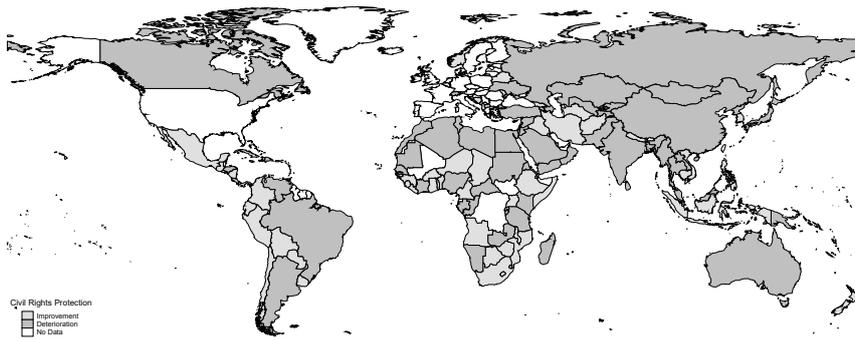
Panel A: Civil Rights Protection
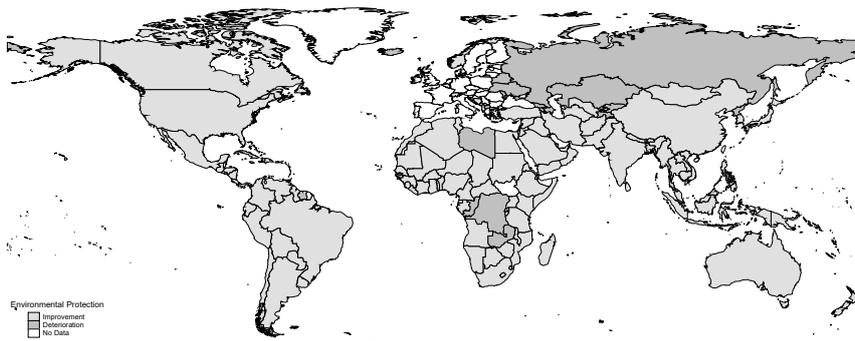
Panel B: Environmental Protection
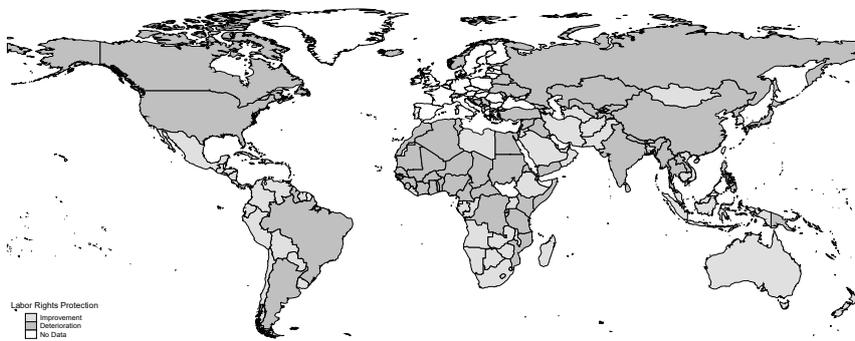
Panel C: Labor Rights Protection

Notes: Percentage variation in Civil Rights, Environmental, and Labor Rights Protection occurred between 1995 and the last year available.

Figure 3 looks at the evolution of trade flows between the EU and the rest of the world. More specifi-cally, it plots the average share of trade flows (total trade, exports and imports) across non-EU coun-tries accounted for by EU Member States. It reveals a clear decreasing trend in the average share of imports from EU countries. A similar, although much less pronounced negative trend characterizes the evolution of share of exports to the EU. On average, across all potential partner countries, the EU has become a relatively less important trade partner over time.

Strong positive trends instead characterize the evolution of non-trade provisions in EU trade agree-ments with covering increasingly a broad range of issue areas. Figure 4 reports the evolution of the

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Figure 3: EU share of partners' trade
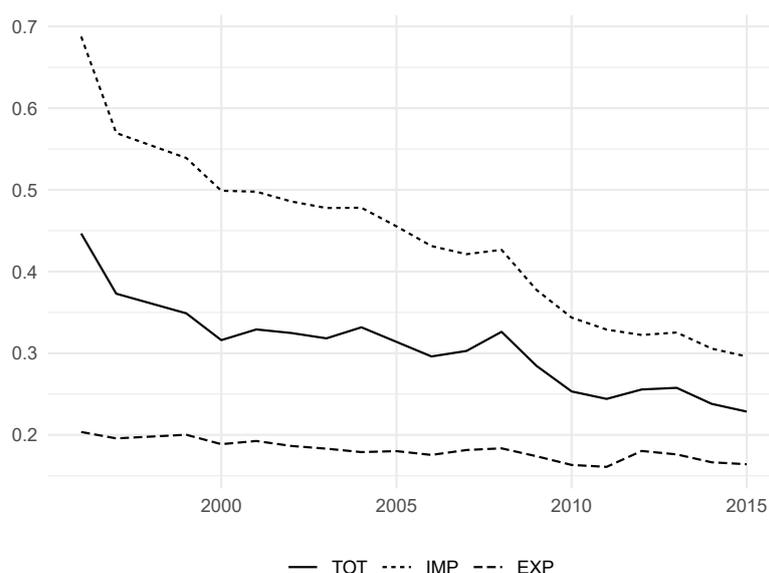
inclusion of civil rights, environmental protection, and labor rights issues in EU PTAs over time.[8] There is a clear trend in gradual expansion of the coverage of these three non trade issue areas in EU PTAs, with the average level of commitments on civil and political rights plateauing after 2000.

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[8]Using latent trait analysis (Rasch, 1980), we aggregate the data-points per per issue area to one index on civil and political rights, one index on economic and social rights, and one index on environmental protection. We standardize the measures to range from 0 to 1. Also note that all EU PTAs are included in this descriptive analysis, irrespectively of their inclusion in the SCM exercise.

Figure 4: Nontrade issue coverage in EU PTAs (average, 1995-2015)
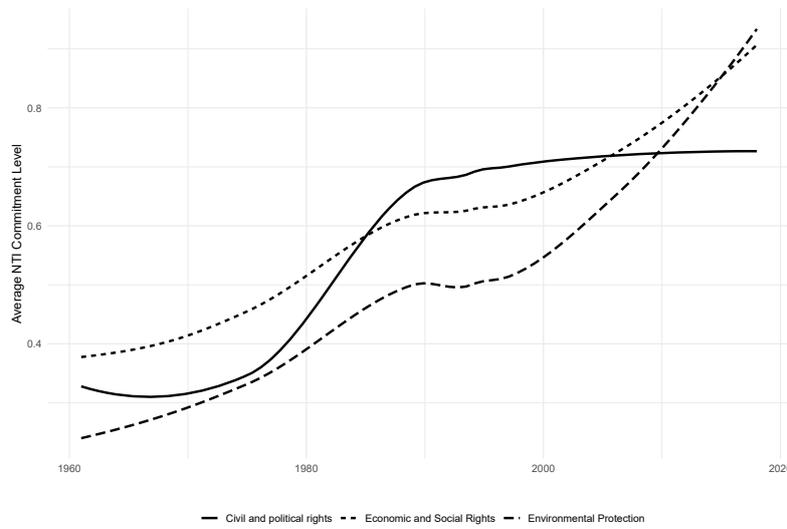
Notes: Average commitment across EU partner countries on non trade-related issues in EU trade agreements, 1995-2015. Source: Lechner (2018).

This simple descriptive assessment reveals that non-trade outcome indicators are not systematically improving in EU trade partners. On the contrary, aggregate indicators of civil rights and labour rights protection suggest a deterioration in nontrade policy areas (Figure 2). Over the time period considered trade with the EU becomes relatively less important on average for many of the EU's trade agreement partner countries, reflecting more rapid growth in trade with the rest of the world (Figure 3), while the content of EU trade policy is increasingly focused on non-trade issues (Figure 4). To assess the potential relationships between these trends and determine whether non-trade outcome performance co-moves with trade and with the content of EU trade policy we start with standard regression analysis. Focusing on our three nontrade outcome variables of interest (i.e. civil right protection, environmental protection, labor rights protection), we estimate the empirical relationship between between bilateral trade intensity, EU PTAs including relevant NTPs and non-trade outcomes. We present results in Table 1 for regressions where the three non-trade outcomes of interest are the dependent variables. For each outcome of interest we fit a simple fixed effect regression taking the form

$$\text{NTO}_{it} = \beta \text{Provision}_{it} + \gamma \text{Openness}_{it} + \eta_i + \tau_t + \epsilon_{it} \tag{1}$$

The dummy Provision$_{it}$ takes value one for all years following the signature of the first agreement signed by country i with the EU that includes relevant NTPs;[9] Openness$_{it}$ captures the ratio of total trade (Import + Export) as a share of a country's GDP measures the trade openness of the country; specifications include time and country fixed effects (η_i and ϕ_t respectively).

Given our focus on NTPs in EU trade agreements, we also control for trade with the EU, to see if, given openness, more intensive trade with the EU is associated with non-trade outcomes. Hence we control for trade intensity with the EU, using respectively a measure of the share of trade with the EU in total trade (denoted as 'Intensity: EU trade'), the share of imports from EU on total imports (Intensity: IMP from EU), and the share of exports toward the EU on total exports (Intensity: EXP to EU). One might expect that a country for which access to EU markets is more important (i.e. with a higher share of EU exports in total exports) would respect and fulfil the provisions included in EU

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[9]Due to the time coverage of our sample we only consider agreements signed after 1995.

trade agreement more, and hence would have better non-trade outcome performance related to the provisions. To investigate this, we present interaction effects for the share of exports to the EU and the relevant NTPs in a final specification. Estimation results are reported in Table 1.

Table 1: EU PTAs and nontrade outcomes

Panel A	Civil Rights Protection			
Provision	0.262**	0.262**	0.267**	0.00988
	(0.0865)	(0.0863)	(0.0863)	(0.111)
Openness	-0.0465**	-0.0461**	-0.0437**	-0.0431**
	(0.0143)	(0.0142)	(0.0155)	(0.0155)
Intensity: EU trade	-0.0295			
	(0.179)			
Intensity: IMP from EU		-0.0237		
		(0.175)		
Intensity: EXP to EU			-0.149	-0.387
			(0.251)	(0.262)
Provision× Intensity: EXP to EU				1.423***
				(0.426)
Obs.	2992	2992	2992	2992
Adj. R^2	0.772	0.772	0.772	0.772
Panel B	Environmental Protection			
Provision	-0.0913**	-0.0900**	-0.0848**	-0.0824*
	(0.0282)	(0.0285)	(0.0287)	(0.0340)
Openness	-0.00575	-0.00502	-0.00188	-0.00188
	(0.00390)	(0.00377)	(0.00386)	(0.00386)
Intensity: EU trade	-0.0344			
	(0.0517)			
Intensity: IMP from EU		-0.0654		
		(0.0518)		
Intensity: EXP to EU			-0.212**	-0.210**
			(0.0704)	(0.0717)
Provision× Intensity: EXP to EU				-0.0139
				(0.0746)
Obs.	3591	3591	3591	3591
Adj. R^2	0.962	0.962	0.962	0.962
Panel C	Labor Rights Protection			
Provision	-0.0559*	-0.0557*	-0.0492+	0.0896**
	(0.0274)	(0.0274)	(0.0274)	(0.0342)
Openness	-0.0102**	-0.00951**	-0.00512	-0.00453
	(0.00345)	(0.00337)	(0.00328)	(0.00325)
Intensity: EU trade	-0.0473			
	(0.0435)			
Intensity: IMP from EU		-0.0398		
		(0.0425)		
Intensity: EXP to EU			-0.302***	-0.0967
			(0.0638)	(0.0665)
Provision× Intensity: EXP to EU				-1.043***
				(0.155)
Obs.	4288	4288	4288	4288
Adj. R^2	0.951	0.951	0.951	0.951

Notes: $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses. All regressions include country and time fixed effects. Openness to trade refers to the country's trade over GDP. The dummy Provision takes value 0 until the first agreement containing the provision of interest is signed. It takes value 1 ever since.

Results suggest that improvements in civil rights protection are associated with inclusion of NTPs in a country's PTA with the EU, while the opposite is found for environmental and labor rights protection. Furthermore, the results indicate that more open countries tend to have worse non-trade outcomes.

The share of exports is negative for all three nontrade issue areas, and statistically significant for labour and environmental protection. Thus, the more important the EU is as an export destination for countries in our sample, the worse these countries perform in terms of civil rights, environmental and labor rights protection. Total trade and EU import shares are never statistically significant. Moreover, results based on the specification presented in the fourth column indicate that the interaction effects are sometimes significant, although with differing signs. In the case of civil rights we find that higher reliance on EU market access together with provisions in trade agreements is associated with improved civil right protection. The opposite is found for labor rights.

These results suggest that potentially there is a negative relationship between openness / more exports to the EU and non trade outcomes. More generally, the results suggest that the relationship between NTPs in EU PTAs and non trade outcomes is heterogeneous. While the findings are consistent with the descriptive trends observed in the nontrade indicators of interest, we cannot interpret them in terms of the causal effects of nontrade provisions on nontrade outcomes. In fact, a relatively good or bad performance on a specific nontrade outcome might determine the incentives of a partner country, and ultimately its negotiating position, with respect to the relevant nontrade provision. This and similar selection issues motivate serious endogeneity concerns in the context of panel regression models as the one estimated above.

In conjunction with the diverging results emerging from existing studies, our regression results reinforce the importance of determining the causal linkages between the different variables. In the rest of the chapter we focus on the effect of NTPs on non-trade outcomes using a synthetic control methodology to establish causality.

4 The causal effect of non-trade provisions in EU PTAs

Synthetic control methods offer a means of assessing the causal effect of NTPs in EU PTAs on the realization of non-trade outcomes in partner countries. SCM (Abadie and Gardeazabal, 2003; Abadie et al., 2010; Athey and Imbens, 2017) addresses the problem confronting non-experimental quantitative analyses that lack a truly comparable control group and thus undermine robust inference (establishment of causal effects). As is well known, when the selection of control units is subject to some degree of arbitrariness, the identification of any effect may reflect the characteristics of the control sample and bias the counterfactual estimates (Cunningham, 2020). The SCM overcomes such limitation by pooling all potential control units to create a synthetic counterfactual. Control units are aggregated using an optimization process that minimizes the pre-treatment deviation from the treated unit. In this way, the synthetic counterfactual is able to give a reliable picture of the outcome's trend that would be experienced by the treated unit in the absence of the external shock that is the object of the analysis (conditional on the matching being modelled correctly).

Applied to the problem of interest in this chapter, the SCM enables evaluation of the effectiveness of EU trade strategy by comparing the performance of each country signing a PTA with the EU that includes a relevant NTP (the treated unit) with an alternative synthetic scenario where no such agreement has been ratified. Thus, we apply the SCM by taking as outcome variable the country-level performance on a specific non-trade outcome, defining the treatment as the event of signing a PTA with the EU that includes a relevant NTP. A country that signs such a PTA is identified as a treated unit and the year of signature flags the treatment. For each treated unit, we define the set of control units (the "Donor Pool") as the set of countries that signed (at least) one trade agreement as close in time as possible to the treatment period and that did not sign any PTA including the relevant NTP, nor any PTA with the EU in a sufficiently long time span around the treatment period. All the suitable control

units are pooled to build the synthetic counterfactual.[10]

With respect to the descriptive analysis presented in Section 3, the requirements of SCM forces us to limit the coverage of our empirical sample in two respects. First, we need to identify those countries who signed an agreement with the EU and with the provision of interest and for whom the commitment to such provision could actually trigger a policy change. For this reason, we look for treated units among the set of low and middle income non-EU countries. We exclude all countries whose socio-economic conditions are similar to the EU, under the simplifying assumption that they could enforce similar standards with respect to the non-trade outcomes of interest.[11] Secondly, SCM requires that both the treated country and all the countries included into the donor pool are observed for a sufficiently long period before and after the treatment (i.e. we need to have data for a pre-treatment matching period and for a post-treatment follow up period). For this reason, we only consider EU agreements signed over the period 1999-2008, with the matching and follow-up periods exceeding these limits by up to 5 and 4 years respectively, depending on the treatment year.[12]

Once the donor pool is defined, the Synthetic Counterfactual is the result of a convex combination of a set selected control units. The weights attached to each control unit are defined according to a set of "matching variables", which are considered to be predictors of the post-treatment outcome, and are defined to minimize the distance between the treated and the synthetic counterfactual. Formally speaking, taking X as a matrix of pre-treatment matching variables, the weighting scheme has to minimize $\sum_{m=1}^{k} v_m \left(X_{tr,m} - \sum_{dp=1}^{n} \omega_{dp}^* X_{dp,m} \right)^2$, where n indexes the control units in the donor pool, v is a non-negative weight reflecting the importance of a matching variable when measuring the total distance between the synthetic and the treated unit, and ω_{dp}^* is the non-negative weight assigned to each country in the donor pool. The weights v_k can therefore be seen as a rough measure of the predictive power of a matching variable with respect to the post-treatment outcome level. The fact that ω_{dp}^* can be null implies that not all the suitable countries in the donor pool will necessarily be considered by the SCM algorithm.[13] For the purpose of our analysis, we consider real GDP, per capita GDP and population (expressed both in levels and growth rates) as matching variables. Following Athey and Imbens (2017) and Kaul et al. (2015), we additionally include 3 out of the 5 possible lags of the outcome variable of interest as additional predictors.

We use the results of the SCM exercise in a difference-in-difference (DID) analysis in which, for each outcome of interest, we pool all treated units and the related synthetic counterfactuals. In practical terms, a DID can be seen as a generalization of the SCM to the case of multiple treated and multiple control units, where the size of the two sub-samples allows to infer the average effect of a treatment/event on a given outcome of interest (see Angrist and Pischke, 2008).

Starting from the individual outcomes collected via SCM, we fit a "standard" econometric regression of the form

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[10]Since the EU tends to sign similar trade agreements in very short spells of time with multiple countries, we relax the temporal matching between a treated unit and its donor pool, to reduce the number of instances of ending up with an empty donor pool.

[11]We follow the World Bank Income classification to define and exclude High Income Countries. As a results, partners such as Canada, the USA, New Zealand and Australia are excluded from the analysis.

[12]More precisely, given a treatment to occur in year t, control units are defined as the countries that signed a trade agreement without the provision of interest and not with the EU in any year $t_0 \subset [1999 - 2008]$, and that did not sign any trade agreement in the time span $[t_0 - 5, t_0 + 4]$. We impose two additional limitations: first, we require that control units did not sign agreements with the US, Canada, Australia and New Zealand for the period $[t_0 - 5, t_0 + 4]$. And second, for each non-trade outcome of interest, we exclude all potential control units that signed an agreement with any trading partner in the previous 10 years containing the related provision.

[13]Cunningham (2020) provides a brief and intuitive description of the methodology, the relationship between matching and post-treatment outcome, and the relationship between the covariates' matching weighting scheme and the donor pool one.

$$Y_{it} = \alpha + \gamma \text{Treated}_i + \lambda \text{Treatment Period}_t + \delta \text{Treated}_i \times \text{Treatment Period}_t + \epsilon_{it}$$

Treated_i is a dummy taking value 1 for all treated units and 0 for all synthetic counterfactuals; the binary variable $\text{Treatment Period}_t$ takes value 1 in the post-treatment period, and the interaction $\text{Treated}_i \times \text{Treatment Period}_t$ captures the effect of the treatment on the treated countries. If the control and the treatment group are indeed comparable, then the coefficient δ identifies the effect of having signed an agreement, controlling for the potential initial differences among treated units and their counterfactuals.[14]

The results reported in Table 2 reveal no evidence of a causal effect of NTPs on non-trade related outcomes on average.[15] The inclusion of NTPs in EU trade agreements does not appear (on average) to be an effective tool for promoting EU values among trading partners.

Table 2: Aggregate Results - Difference in Difference Estimator

	Civil Rights Protection	*Environmental Protection*	*Labor Rights Protection*
Treated	0.0827	0.00133	-0.00645
	(0.0690)	(0.00197)	(0.00695)
Treatment period	0.0627	0.00619	0.00860
	(0.333)	(0.00474)	(0.0583)
Treated×Treatment period	-0.120	0.00677	-0.0437
	(0.249)	(0.00800)	(0.0547)
Constant	-0.655	-0.171	-1.208*
	(0.523)	(0.226)	(0.421)
Obs.	120	200	200
Mean	.0524491	.1088617	.0050542
Standard deviation	2.156357	2.579003	1.389452

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors in parentheses. The variable Treated×Treatment Period identifies the effect of EU's NTP policy on the selected aggregate policy outcome.

The absence of a positive average effect of inclusion of NTPs in EU PTAs may conceal heterogeneous responses across EU trade partners that prevent the identification of any average effect of a given NTP on the associated non-trade outcome indicator(s). Figure 5 illustrates this possibility. It reports results for three nontrade issues for three EU trade partners. The cases were selected to be representative of each possible treatment outcome: worsening non-trade outcome performance, lack of any effect, and improvement in the respective nontrade outcome.[16]

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[14]Similarly to SCM, which represent a recent application of DID to cases where the number of treated units is too low to permit inference, DID relies on the assumption that the control units are representative of the trend that treated units would have experienced in the absence of any treatment. The fact that our control units are the synthetic counterfactuals identified via SCM gives us some confidence that this parallel trend assumption holds.

[15]Some caution has to be exercised when interpreting the results on civil rights protection. The dependent variable in this case was constructed from ordinal index variables. Although the constructed index is continuous, some information is lost due to the cardinal nature of the underlying variables potentially leading to somewhat less precise matching process in the synthetic control approach.

[16]We only report results for three countries that meet these conditions. Results for all countries for which a pool of control units has been identified are available upon request.

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Figure 5: Heterogeneous effects of NTPs across EU partner countries

Panel A: Civil Rights Protection

| Egypt | Mexico | South Africa |

Panel B: Environmental Protection

| Jordan | Algeria | Egypt |

Panel C: Labor Rights Protection

| Mexico | Albania | Chile |

Notes: We report two distinct robustness tests for the results shown in Figure 5 in the Appendix (Figures B-1 and B-2)

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The absence of a systematic visual pattern in Figure 5 suggests at least two considerations. First, consistent with the aggregate results from Table 2, the evidence compiled from the SCM analysis for selected countries points to extensive heterogeneity in the observed relationships between NTPs and nontrade outcomes. The existence of both negative and positive responses suggest that the effectiveness of the EU strategy of linking trade agreements to NTPOs should be evaluated case by case, as it is likely to depend on partner-specific characteristics and not simply on whether a given type of NTP is included in a PTA. The case of Chile is illustrative: Labor rights seem to improve after signature of the PTA, which was one of the first EU agreements to include substantive clauses on labor rights. Second, the broad scope of the NTPs included in EU agreements appear to be associated with partner countries concentrating effort in some policy domains and not (or less) in others. This is illustrated in the plots for Egypt and Mexico, for which performance on nontrade outcome indicators following the signature of a PTA with the EU that includes the same NTP diverges substantially. This is observed for Civil Rights and Environmental Protection in the case of Egypt, and Civil and Labor Rights Protection in the case of Mexico.

5 Conclusion

A central feature of EU external policy is a strategy that uses trade as an instrument to pursue nontrade objectives, specifically a range of European values pertaining to human rights, rule of law, democracy, other civil and social rights and protection of the environment. Whether this strategy is effective in improving the targeted nontrade outcomes is a central feature of the RESPECT research project. There are many potential channels through which NTPOs can be realized. Trade (and associated FDI flows) may indirectly impact on nontrade outcomes, either positively or negatively, depending on the actions of both the firms involved and the policies of EU partner countries. The probability and magnitude of potential positive effects may be enhanced by inclusion of NTPs in EU PTAs committing EU partner countries to pursue actions in relevant areas of domestic policy. PTAs may further enhance the prospects of improving nontrade outcome indicators if they are complemented by flanking measures such as technical and financial assistance. However, the inclusion of NTPs in EU PTAs may also have detrimental effects insofar as it induces potential partner countries to refrain from participating in PTAs, reducing their ability to expand exports to the EU, and thus limiting the potential positive effects of trade on nontrade outcomes.

The analysis in this paper focuses on the role of NTPs in EU PTAs and looks at a subset of the possible linkages between trade, PTAs and nontrade outcome variables associated with the European values that are central to the European treaties. Specifically, the focus is on the potential impact of NTPs on the associated nontrade outcomes in EU partner countries and on the indirect relationship between NTPs, trade and nontrade outcomes. Standard regression analysis of these two potential channels between NTPs and nontrade outcomes results in statistically significant coefficient estimates that suggest some NTPs are positively correlated and others are negatively correlated with the respective nontrade outcome indicators. These findings appear to lend some support to both "march to the top" and "race to the bottom" hypotheses that feature prominently in the literature on trade and nontrade issues. However, the application of synthetic control methods indicates that the regression results are not robust. The SCM-based analysis does not support the conclusion that inclusion of NTPs in EU trade agreements has caused either a positive or negative effect on nontrade outcomes in EU trading partners. NTPs have no discernible effect. The absence of a positive (or negative) average effect of inclusion of NTPs in EU PTAs might conceal heterogeneous responses across EU trade partners to NTPs. Country-specific SCM analysis provides some evidence of such heterogeneity, suggesting that analysis of the potential effects of NTPs in PTAs should focus on the country level as opposed to cross-country analysis of panel data.

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Appendices

A   EU partners and NTI included in trade agreements

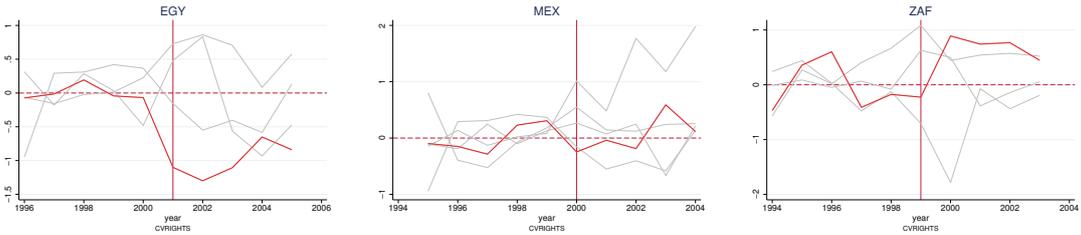Table A-1: List of EU partners that signed at least one PTA with the EU

Country	Environmental Protection	Labor Protection	Civil Rights	Country	Environmental Protection	Labor Protection	Civil Rights
ABW	1970	1970	1970	LIE	1972	1972	1972
AIA	1970	1970	1970	LSO	2016	2016	2016
ALB	2006	2006	2006	MAR	1969	1976	1969
AND	1989		1989	MDA	2014	2014	2014
ARM	2013	2013	2013	MEX	2000	2000	2000
ATF	1970	1970	1970	MKD	2001	2001	2001
ATG	2008	2008	2008	MNE	2007	2007	2007
BDI	2016	2016	2016	MOZ	2016	2016	2016
BHS	2008	2008	2008	MSR	1970	1970	1970
BIH	2008	2008	2008	MYT	1970	1970	1970
BLZ	2008	2008	2008	NAM	2016	2016	2016
BRB	2008	2008	2008	NCL	1970	1970	1970
BWA	2016	2016	2016	NIC	2012	2012	2012
CAN	2016	2016	2016	NOR	1973	1973	1973
CHE	1972	1972	1972	PAN	2012	2012	2012
CHL	2002	2002	2002	PCN	1970	1970	1970
CIV	2008	2008	2008	PER	2012	2012	2012
COL	2012	2012	2012	PNG	2009	2009	2009
CRI	2012	2012	2012	PYF	1970	1970	1970
CYM	1970	1970	1970	RWA	2016	2016	2016
DMA	2008	2008	2008	SGP	2016	2016	2016
DOM	2008	2008	2008	SGS	1970	1970	1970
DZA	1976	1976	1976	SHN	1970	1970	1970
EGY	1972	2001	1972	SLV	2012	2012	2012
FJI	2009	2009	2009	SMR	1991	1991	
FLK	1970	1970	1970	SPM	1970	1970	1970
FRO	1991		1991	SRB	1980	1980	1980
GEO	2014	2014	2014	SUR	2008	2008	2008
GRD	2008	2008	2008	SWZ	2016	2016	2016
GRL	1970	1970	1970	SYR	1977		1977
GTM	2012	2012	2012	TCA	1970	1970	1970
GUY	2008	2008	2008	TTO	2008	2008	2008
HND	2012	2012	2012	TUN	1969	1995	1969
IOT	1970	1970	1970	TUR	1995	1995	1995
ISR	1975	1975	1975	TZA	2016	2016	2016
JAM	2008	2008	2008	UGA	2016	2016	2016
JOR	1977	1997	1977	UKR	2014	2014	2014
JPN	2018	2018	2018	VCT	2008	2008	2008
KEN	2016	2016	2016	VGB	1970	1970	1970
KNA	2008	2008	2008	VNM	2016	2016	2016
KOR	2010	2010	2010	WLF	1970	1970	1970
LBN	1972	2002	1972	ZAF	1999	1999	1999
LCA	2008	2008	2008				

B   Main Robustness checks to the main results of the Sythetic Control

When it comes to claiming a causal relationship within a synthetic control approach, displaying a nice pre-treatment match and a clearly divergent post-treatment follow-up is not sufficient. In the past 15 years, the literature suggested that results should be supported by sound robustness test. Below, we report the graphical representation of two of them. The first test reported consists of a simplified version of the visual representation of the RMSPE test proposed by Abadie and Gardeazabal (2003). Practically speaking, the RMSPE test it consists of iteratively replacing the treated unit with each and every comparable unit in the donor pool, compute the root mean squared error (RMSPE) ratio between the pre- and post-treatment period of each unit and then compute a sort of p-value of the distribution of such ratio. The rationale of this RMSPE test can be summarized as follows: assuming the treatment of interest to be the only determinant of a significant change in the outcome of interest between a given treated unit and its synthetic counterfactual, then the treated unit should be the one displaying the most extreme value of the computed RMSPE ratio. In the same spirit, we perform a simple *in-space* placebo, which similarly captures the "extremeness" of the treated unit by simply plotting the result of the iterative SCM Figure B-1: if signing a given agreement including a certain provision has a causal impact on the related outcome of interest, then the line associated to the actually treated unit should stand out from the bulk placebo units. The second and final test ensures the robustness of the synthetic counterfactual to the inclusion of particularly relevant control units. Similarly to the in-space placebo, the *leave-one-out* test reconstruct many synthetic counterfactuals as the number of units in the donor pool, removing iteratively one of those units from it at any round. If the entire synthetic counterfacutal is driven by the characteristics of a specific individual control, its omission should result in a drastically different trend. The results from this test are shown in Figure B-2.

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Figure B-1: In-Space Placebo for selected countries and NTPs

Panel A: Civil Rights Protection

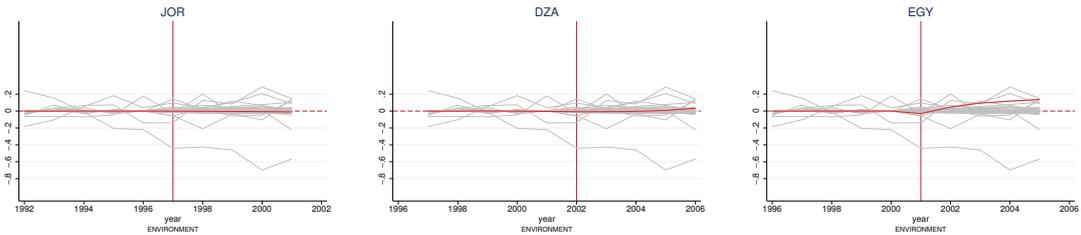Egypt   Mexico   South Africa
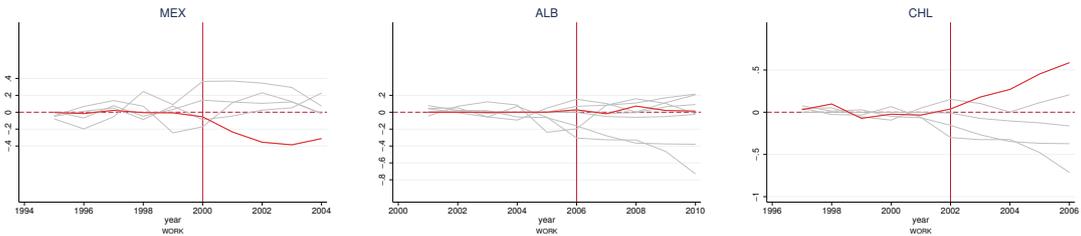
Panel B: Environmental Protection

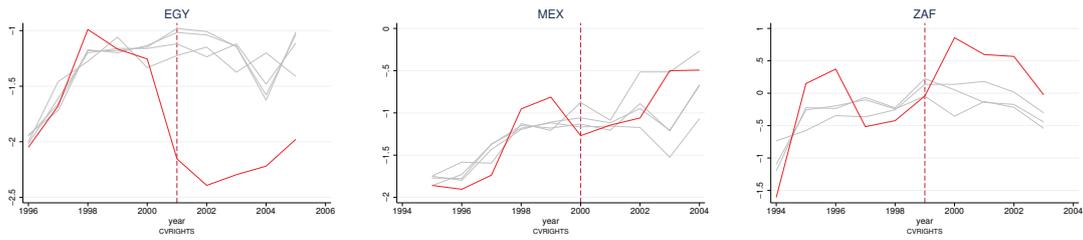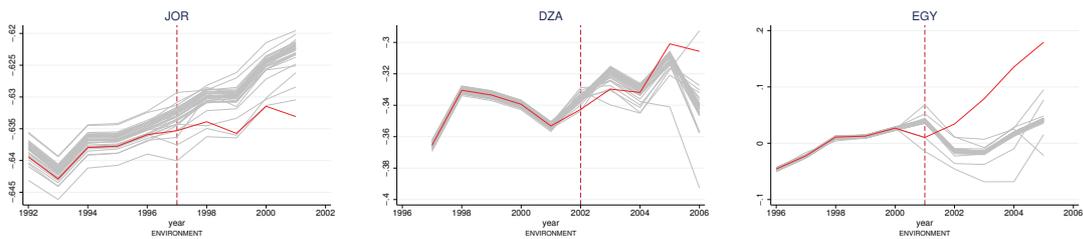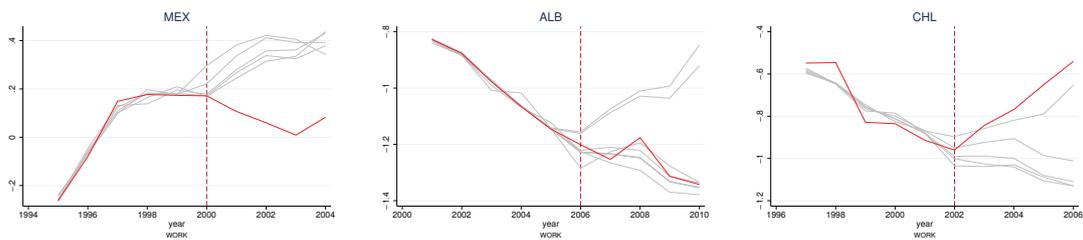Jordan   Algeria   Egypt

Panel C: Labor Rights Protection

Mexico   Albania   Chile

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Figure B-2: Leave One Out test for selected countries and NTPs

Panel A: Civil Rights Protection

| Egypt | Mexico | South Africa |

Panel B: Environmental Protection

| Jordan | Algeria | Egypt |

Panel C: Labor Rights Protection

| Mexico | Albania | Chile |

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