Labor Clauses in Trade Agreements: worker protection or protectionism?[†]

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Abstract

We explore the impact on bilateral trade flows of the inclusion of a labor clause (LC) in Trade Agreements (TAs). Using a gravity type framework, we find that the introduction of LCs has on average no impact on bilateral trade flows. However, there is some interesting heterogeneity. Exports of low-income countries benefit from the introduction of LCs in North-South trade agreements. Interestingly, the impact is stronger when accompanied by deep cooperation. On the other hand, stronger enforcement mechanisms, at best, marginally reinforce the impact of LCs. The results are clearly inconsistent with the idea that LC are set for protectionist reasons, casting doubt on the reluctance by low-income countries to include labor clauses in their trade agreements.

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INTRODUCTION

This paper examines the impact that the inclusion of Labor Clauses (LCs) in Free Trade Agreements (TAs) has on bilateral trade flows. The objective of labor clauses is to make preferential market access to a TA partner's market conditional on the respect of workers' rights in the exporting country.

To measure the impact that LC in TAs have on bilateral trade flows we use a new dataset that provides information on the inclusion of LCs in TAs since the early 1990s. A LC refers to any reference in the treaty text to a labor provision meant to protect and/or promote workers' rights and conditions of work. Labor-related commitments and obligations in TAs vary considerably. At the one end, we find very shallow commitments, such as those TAs that mention "improve working conditions" in the preamble of the agreement (e.g. Chile-Ecuador TA of 2008). At the other end of the spectrum, we find comprehensive commitments over labor issues, such as those TAs that include legally binding commitments or deep cooperation provisions (e.g. EC-Korea TA of 2010). The database also allows us to distinguish agreements by the degree of enforcement of LC commitments. For instance, with the exceptions of the Canada-Israel TA of 1996 and the Canada-EFTA TA of 2008, all TAs signed by Canada are strongly enforceable relative to labor commitments. Then using a gravity model, which is the workhorse model in the empirical trade literature, we estimate the impact on bilateral trade flows of the inclusion of LCs in TAs. Results suggest that the inclusion of LCs does not have a statistically significant impact on bilateral trade flows on average. However, exports of low-income countries benefit from the inclusion of LCs in North-South trade agreements. Moreover, TAs with deep cooperation mechanisms over LCs have a stronger impact on imports. On the other hand, enforcement mechanisms only marginally reinforce the impact of LC at best.

These results are important for at least four reasons. First, the number of labor clauses in trade agreements has expanded rapidly since the inclusion of the labor clause in NAFTA: 34 percent of TAs signed in 1995 included LCs, 42 percent in 2000, 50 percent in 2005, 70 percent in 2010 and 84 percent in 2014. Thus,

understanding the consequences of this evolution in the design of TA seems important.

Second, it is not a priori clear whether the inclusion of LCs in TAs will tend to increase or reduce trade. Low-income countries which tend to have weaker worker protection have argued that the inclusion of labor clauses in TAs leads to hidden protectionism as they can be used to withdraw preferential market access. This line of reasoning has been argued by Bhagwati (1995, 2001), and has led to the refusal by developing countries to engage in a labor agreement in the World Trade Organization. The argument is that LCs would lead to the deterioration of market access for low-income countries for two reasons: a) more advanced economies could use LCs to withdraw trade concessions; and b) stronger worker protection in low-income countries would lead to a deterioration of their comparative advantage.

On the other hand, some have argued that the external enforcement of minimum labor standard through LCs in trade agreements can help increase the demand for products by concerned consumers in the North, leading to more, not less trade (Brown, Deheija and Robertson, 2013; ILO, 2016). Indeed, LCs can signal to consumers and firms in the North that there is adequate worker protection in the low-income partner. Also, when accompanied by strong enforcement mechanisms it can be in the interest of low-income countries which lack the capacity to enforce their own labor protection laws. The LC can help enforce existing laws and reduce the uncertainty associated with their enforcement. Polaski (2003) offers an interesting discussion of how the LC in the US-Cambodia trade agreement help the Cambodia government implement worker protection policies, which the government considered socially desirable, but would have been impossible to implement without the US-Cambodia TA given the political economy in Cambodia. More generally, understanding whether the inclusion of LCs in TAs increases or reduces trade from low-income countries is an open question, which can help disentangle which of these two mechanisms is stronger: is the reduction in the comparative advantage of low-income countries associated with stronger worker protection (and the possibility of protectionism in the North) larger than the increase in demand in the North for goods produced with higher labor standards?

Third, a better understanding of the effects of LCs in TAs can inform the desirability regarding its inclusion in multilateral negotiations in the WTO. Note that the unsuccessful International Trade Organization that resulted in the GATT in 1948 was expected to include labor rights commitments. This was excluded from the GATT a part from article XX(e) which allows to withdraw market access concessions if the goods were produced using forced or prison labor. At the creation of the World Trade Organization in 1994 developing countries opposed the introduction of a labor agreement. The issue appeared again among the four so-called Singapore issues that were put forward in the Singapore Ministerial Conference of 1996, and then later buried in the Cancun Ministerial of the Doha Round. Now with the Doha Round out of the way, the WTO is looking for new avenues for countries to engage at the multilateral level. A labor agreement can be feasible and desirable if it leads to more, not less, trade.

Finally, to design better and more efficient bilateral and multilateral trade agreements containing LC, we need to understand how different provisions contained in LCs, such as cooperation and enforcement, affect trade flows. While stronger enforcement or cooperation clauses may lead to more stringent labor laws, they may also lead to an increase or fall in trade flows among trading partners.

We face several challenges when trying to estimate the impact of LCs on bilateral trade. First, we need information regarding the existence and design of LCs. Until recently there was no available dataset on the existence of LCs. Dür, Baccini and Elsig's (2014) DESTA dataset did not include labor clauses as part of the TA features they analyzed. Fortunately, as part of a collaborative effort, Raess recently addressed this gap (Raess and Sari (2017) LABPTA dataset).

Second, there are some clear endogeneity concerns that need to be addressed. A positive or negative correlation between LCs in TA and bilateral trade flows could be explained by reverse causality or omitted variable bias. The identification of a causal link is important if we want to provide policy recommendations. If the correlation is positive because countries that trade a lot with each other tend to sign

deeper agreements, or simply tend to sign agreements with LDC, then there is no reason to recommend including LCs in trade agreements. On the other hand, if the inclusion of a LC increases trade, then TA should probably include LCs. In order to address this issue, we will use a set of fixed effects and bilateral variables that capture any time-variant importer, and time variant exporter fixed effect such as the business cycle, or the overall level of protectionism, or the functioning of labor institutions. This is important because by using this strategy we are abstracting from any labor reform that may have happened simultaneously to the signing of TA. We also control for the traditional bilateral gravity variables as well as a measure of the depth of TAs based on Dür, Baccini and Elsig (2014) and provided by Andreas Dür. This is crucial because we do not want the LC variable to capture the presence of a deeper agreement and more cooperation in general. Also note that because Dür, Baccini and Elsig's (2014) measure of TAs depth does not consider labor clauses, it does not already capture the impact of LCs. It captures however six other features of the depth of trade agreements, i.e., whether it includes services, investments, standards, public procurement, competition and intellectual property rights. We also take a step beyond control variables by limiting our sample to countries with bilateral trade agreements. So when measuring the impact of LCs on bilateral trade, the control group is countries that also have a TA, but not a LCs. This limits the potential for endogeneity, if we were to include in the control group countries that do not have a TA. There is also an additional technical advantage to this strategy. Recently the gravity equation literature has been concerned with the large presence of zero trade flows in the estimation of gravity equations that may biased results (Santos Silva and Tenreyro, 2006). This could potentially be a problem here. However, given that our sample contains only country pairs that have TA in place, there are only a few zeros in our sample (around 6 percent while in more general setups, samples usually include around 43 percent of zeroes). Finally, we use a two-stage least square estimator where trade union density, left-leaning orientation of governments, and a measure of potential labor power by Rudra (2002) are used as instruments for the inclusion of a LC.

The remainder of the paper is organized as follows. Section 2 situates the trade-labor linkage historically and theoretically. In section 3 we provide some descriptive

statistics regarding the LCs in TA. In section 4 we present the empirical methodology. Section 5 presents the results and section 6 concludes.

2 HISTORICAL AND THEORETICAL CONTEXT

The linkage between trade and workers' right is not new. We can at least go back to the North American Free Trade Agreement signed in 1992 between Canada, Mexico and the US, a TA famously depicted by President Clinton in 1993 as the first agreement that ever really got "any teeth in what another country had to do with its own workers and its own labor standards" ("Broken Promises", p. 1). Such a characterization at the time was exact. NAFTA's side agreement on labor, the North American Agreement on Labor Cooperation (NAALC), includes legally binding commitments regarding the fundamental workers' rights and conditions of work as pertains to health, safety and wages. It is enforceable through binding state-to-state dispute settlement mechanism (DSM) with respect to commitments to effectively enforce domestic labor laws (with possible retaliation measures including trade sanctions, monetary compensation, and other measures deemed appropriate). It also has an extensive list of issues and means for cooperation and capacity building activities, and it is the first TA to set up a separate body with regular meetings in charge of implementing the labor-related provisions. The only other comprehensive LC in TAs during this period is the Canada-Chile TA of 1996, an agreement that was moulded on the NAALC and is virtually identical to it (Sari, Raess and Kucera, 2017).

During the early 1990s, the EU spearheaded a series of TAs with LCs with a narrow scope mainly with the Central and Eastern European countries. The design of those LCs typically includes a substantive commitment relative to conditions of work, the enforcement of this provision through quasi-judicial DSM with the possibility to retaliate (though coming short of monetary and trade sanctions), and cooperation over workplace health and safety. With the failed attempt to introduce a LC at the multilateral level at the Singapore Conference of the WTO in 1996, due to the opposition of developing countries including developing country trade unions (van

Roozendaal 2002), the US and the EU (and to some extent Canada) started pushing the social agenda in trade agreements through the bilateral channel.

Between 2000 and 2007 the US signed 13 TAs with 18 countries.[1] With the exception of the US-Vietnam TA of 2000 that lacks any labor provision, all US TAs contain comprehensive and highly enforceable labor standards. The first EU agreements with concrete references to the ILO four fundamental workers' rights[2] were the TAs signed with South Africa in 1999 and with the members of the African, Caribbean and Pacific Group of States in 2000 (i.e. the Cotonou Agreement). While relatively broad in terms of substantive commitments and labor-related cooperation provisions, none entails strongly enforceable labor standards. While it is common sense to characterize US TAs as enforceable with respect to labor standards and EU TAs as not enforceable (e.g. Postnikov and Bastiaens, 2014), such a depiction does not do justice to the evolution of the design of LCs in EU TAs. The CARIFORUM-EC Economic Partnership Agreement of 2008 represents a milestone in this respect. This is the first EU agreement where substantive commitments over the fundamental worker's rights as well as commitments not to derogate from existing domestic labor laws to increase trade are strongly legally enforceable through binding state-to-state DSM. Article 213 para. 2 of the CARIFORUM-EC treaty stipulates the following: "If no agreement on compensation is reached within 30 days of the end of the reasonable period of time or of the arbitration panel's ruling under Article 212 that a measure taken to comply is not compatible with the provisions of this Agreement, the complaining Party shall be entitled, upon notification to the other Party, to *adopt appropriate measures*" (emphasis added). While the same Article explicitly excludes trade sanctions (in contrast to standard US TAs), other retaliation measures may be taken. With a few exceptions (e.g. TAs with Serbia in 2008, Korea in 2010 and Ukraine in 2014), the most recent EU TAs are similarly enforceable.

[1] As of 2016, the US has concluded 15 TAs with 32 countries ("Broken Promises, pp. 1-2).
[2] These are the freedom of association and the right to collective bargaining; the elimination of forced and compulsory labor; the abolition of child labor; and the elimination of discrimination in the workplace.

Due to the relative novelty of the growth of LCs in TAs and the lack of available data, this area of research has until recently been characterized by a dearth of quantitative studies on the impact of LCs in TAs. Building on the seminal study by Hafner-Burton (2005) on human rights in TAs, some scholars have investigated how the inclusion of labor provisions in preferential trade agreements influences worker protections, particularly compliance with collective labor rights. Echoing Hafner-Burton's main finding that only trade agreements with enforcement mechanisms are effective in reducing repressive behavior, Kim (2012) shows that TAs with enforceable labor standards are associated with ex-ante improvement of labor rights in partner countries (i.e. countries improve their labor standards before signing a TA). This study only considers 12 US TA signed between 1985 and 2006. Focusing on EU TAs which tend not to have enforceable labor provisions but instead far-reaching cooperation provisions and employ soft mechanism such as dialogue and capacity building, Postnikov and Bastiaens (2014) find increased compliance with labor rights that is exhibited ex post (i.e. the positive effect is observed in the implementation phase of the agreement). Both studies are relatively narrow in their scope as they focus on only one major player (the US or the EU).

Kamata (2015) defines agreements with LCs according to two criteria: (i) the agreement urges or expects the signatory countries to harmonize their domestic labor standards with internationally recognized standards, and (ii) the agreement stipulates the procedures for consultations and/or dispute settlement on labor-condition issues between the signatory countries. He finds that RTAs with labor clauses do not differ from RTAs without labor clauses in their impacts (improving or worsening) on actual working conditions (average earnings, average work hours, fatal occupational injury rate, and the number of ILO Core Conventions ratified) even within RTAs with large trade intensity. He does not address the impact of these LC on trade flows. Moreover, Kamata (2015) only analyzes 223 TAs where our dataset contains 487 agreements. The definition of what represents a trade agreement with a LC is also different.

Economic studies have focused on the impact of differing domestic labor standards on international trade flows (e.g. Aggarwal, 1995; Rodrik, 1996; Brown, 2000), with

non-conclusive results, mostly insignificant. More recent studies have looked at the trade effect of different kinds of RTAs in terms of depth of agreements. They generally find that the deeper is the trade agreement, the stronger is the impact on trade among members (e.g. Baier and Bergstrand, 2007; Cipollina and Salvatici, 2010; Vicard, 2009). But to our knowledge there is no study examining the impact of LCs on trade flows until ILO (2016).

ILO (2016) addresses the same question as in this paper. Like us they find that on average LCs do not have an impact on bilateral trade flows. However, unlike us they do not seem to find a positive impact on exports from low-income countries in North-South trade agreements. Also, they did not explore the importance of enforcement or deep cooperation mechanisms, and therefore could not provide results for agreements with strong LC enforcement or deep cooperation. Other differences with our work have to do with data and methodology. First, they only consider 260 trade agreements, whereas our TA sample contains 437 providing more heterogeneity, which may explain the difference in results for their sample of exports from low to high-income countries. Also, they do not control for year-specific importer and exporter fixed effects, and therefore part of other general labor market reforms, or the impact of multilateral resistance terms as in Anderson and van Wincoop (2003) may be attributed to the LC variable in their study. Finally, the use of an instrumental variable estimator in our paper provides a methodologically more convincing approach to determining the direction of causality.

There are valid theoretical arguments on both sides of the debate as to whether LCs in TAs result in more or less trade, therefore we are agnostic and treat it as an empirical question. On the one hand, a significant body of literature bemoans the imposition of developed country labor standards on developing country exporters by way of trade agreements. The rallying cry for both orthodox economists and developing countries has been that LCs lead to a deterioration of market access for low-income countries. One argument prominently hammered by Bhagwati (1995, 2001) is that LCs in TAs amount to "hidden protectionism" as developed countries will use them to curtail preferential market access to exporting countries in breach of their obligations in relation to labor rights and conditions. A second argument is

that stronger worker protection in developing countries results in a deterioration of their comparative advantage (Golub 1997, Panagariya 2006). Improved wages and working conditions increase labor costs that in turn price developing country labor – and thus their goods and services – out of world markets.

On the other hand, some have argued that strong worker protections are not necessarily inimical to firms' international competitiveness and can actually lead to more trade. Treating workers well by offering them generous compensation, decent working conditions or training may increase labor productivity that in turn may improve firm performance. In a case study of the Dominican Republic (DR) under the DR-Central America-US trade agreement of 2004, Schrank (2013) found that trade-backed labor standards conditionality helped tackle labor law violations (via stronger labor inspection system) and fostered skill-building -- which he interprets as evidence that social protection/investment can be reconciled with strong firm performance. Using data from Better Factories Cambodia,[3] Brown, Deheija and Robertson (2013) find that compliance with internationally recognized labor standards is positively associated with firm survival. Specifically, they claim that compliance linked to conditionality induced firms to experiment with more humane labor-management practices that are more efficient than harsh conditions.

There is also a labor demand side explanation underpinning the logic of more trade, arguably more important than the labor supply channel when focusing on bilateral trade flows. LCs can signal to consumers and firms in developed countries that there is adequate worker protection in the low-income partner, thereby increasing the demand for goods produced under socially acceptable conditions. This is an argument about the role of the socially conscious consumers and firms engaged in global supply chains in the North. This is a similar mechanism than the one underpinning the "California effect" regarding the trade-based diffusion of labor rights (Greenhill, Mosley and Prakash, 2009), which argues that labor rights in

[3] The 1999 U.S.-Cambodia Bilateral Textile Trade Agreement linked preferential market access to labour standards compliance. The ILO's Better Factories Cambodia program monitors working conditions in Cambodian garment factories and assesses conditions relative to ILO Core Labour Standards and Cambodian labour law. See http://betterfactories.org/.

exporting (low-income) countries are influenced by the labor rights of its trading partners (high-income countries). When blatant labor rights violations in the global factories of major brands such as Nike made the headlines in the 1990s, activist groups such as the anti-sweatshop movement formed and over time they gained traction by thematising poor working conditions in global production networks. Under increased media scrutiny and concerned about their reputation, multinational companies headquartered in the North began to set up voluntary codes of conducts or other similar private initiatives (such as multi-stakeholder initiatives) destined to their suppliers in order to address poor labor standards in their global supply chains (Locke, 2013). The response of firms was accompanied, perhaps propelled, by increased consumer awareness of sweatshops and consumer demand for goods produced under decent conditions of work. There is evidence, including from experimental data, of consumer demand for products made under fair conditions in the developed world (Elliott and Freeman, 2003; Heinmueller and Hiscox, 2012).[4]

Regardless of whether the inclusion of a LC leads to more or less trade, both type of arguments focus on the impact of exports from low-income countries with weaker labor standards to high-income countries with stronger standards and more concerned consumers and firms. Thus, the direction of trade matters for both types of arguments.

In order to capture this, we will run our benchmark equation on a reduced sample in which the exporter is a low or middle-income country and the importer is a high-income country. We expect the coefficient on LC to be stronger for this type of flows. This would indicate that the (positive or negative) impact of LCs on bilateral trade flows is observed where we are expecting it, i.e., in exports of low or middle-income countries towards high-income countries.

We also expect the degree of enforceability of LCs to reinforce the (positive or negative) impact of the LC on bilateral trade flows. On the one hand, enforceable

[4] The rise of shareholder activism or ethically focused investment funds are also evidence of increased demand for labor standards.

LCs may send a strong signal to concerned Northern consumers and firms of more credible labor-related commitments and therefore of better labor standards. As such, enforceable LCs should lead to a reinforcement of the positive impact of LCs. On the other hand, enforceable labor standards entails greater incentives to comply with substantive labor commitments as failure to do so could jeopardize market access. Enforceable LCs might thus be associated not only with stronger ratcheting up of labor standards in developing countries, but also with stronger increases in labor costs. Also, enforceability is a necessary condition for high-income countries to use LCs to withdraw preferential market access. In this scenario enforceability would result in a reinforcement of the negative impact of LCs.

The mechanism about the enforceability of LCs hinges partly on the existence of consumer demand for goods produced under acceptable working conditions and, importantly, an awareness of concerned Northern consumers of which PTAs includes enforceable LCs and which not. There are reasons to doubt this second proposition as literature on voting behavior and preference formation has shown that voters and individuals often have great difficulty in understanding their own egocentric policy preferences or are simply ignorant (e.g., Rho and Tomz, 2017). Accordingly, we are inclined to think that concerned firms in the North play a more important role than consumers, and that cooperation presents the advantage of permitting the tracking and boosting of incremental change and of providing an institutional channel for access to information. Consequently, it may well be the case that the deep cooperation mechanism yields stronger results than the enforceability mechanism.

Deep cooperation in LCs might also reinforce the (positive or negative) impact of the LC dummy on trade flows. Arguably, external enforcement of labor standards through strong cooperation mechanisms signals to firms in the North both willingness and capacity to address poor labor standards in developing countries. Deep cooperation usually entails external assistance such as technical assistance and capacity building, and, most importantly, the establishment of a specialized committee in charge of the monitoring and the implementation of the labor-related commitments together with the involvement/consultation of third parties such as,

typically, the social partners. Developing countries that sign into LCs with deep cooperation provisions display a willingness to tackle poor labor standards in their home factories. Cooperation mechanisms in North-South TAs provide the much needed financial and institutional resources as well as expert knowledge and involvement often lacking in developing countries to help enforce their own domestic labor laws. Specifically, when social partners are involved in the implementation phase of the agreement, concerned firms in the North can through their employer association indirectly steer labor reform in the South to ensure compliance with labor commitments by exerting pressure, sharing good practice, setting the incentives right, and help socialize developing country leaders into the idea that fundamental labor rights are inalienable human rights. And, vice versa, employer associations involved in the monitoring are likely to pass on information about performance improvement on the ground, such that deep cooperation "in action" also constitutes a channel through which leading firms learn about which countries are serious about making progress in addressing poor working conditions. Note that like enforceable LCs, deep cooperation LCs might raise labor costs in developing countries and curtail their comparative advantage, resulting in quantitative/econometric terms in a reinforcement of the negative impact of the LC dummy. In short, deep cooperation LCs might well reinforce the positive or negative impact of the LC dummy.

3 LABOR CLAUSES IN TAS: DESCRIPTIVE STATISTICS

As mentioned earlier, one important challenge was to collect information on the presence and the design of LCs for a large sample of TAs with a global scope. As part of a larger research project on LCs in TAs,[5] Raess has been involved in a collaborative effort to build a new dataset which systematically documents labor provisions in preferential trade agreements (LABPTA dataset; Raess and Sari, 2017). The database contains 487 trade agreements which come from the DESTA dataset,

[5] See http://www.snis.ch/project_social-clause-through-back-door-labor-provisions-preferential-trade-agreements

the most comprehensive in terms of the number of agreements covered (see Dür, Baccini and Elsig 2014).[6] The coding template consists of overall 140 items organized within six overarching categories, namely Preamble (P), Substance (S), Obligations (O), Enforceability (E), Cooperation (C), and Institutions (I). Preamble refers to aspirational statements relating to labor provisions in preamble and objectives parts of the agreement. Substance refers to substantive commitments in relation to labor provisions; Obligations to the bindingness of the substantive commitments; Enforceability to whether or not the substantive labor commitments are enforceable; Cooperation refers to both the means for cooperation (e.g. exchange of information, exchange of people/joint studies, technical assistance/capacity building) and the issues over which cooperation activities are agreed; and Institutions captures the design, including the degree of inclusiveness (with respect to social partners, NGOs, etc.), of the institutional make up responsible for the effective implementation of the labor-related commitments. 20 distinct labor issues feature under Substance, which are repeated under Obligations, Enforcement (3 times, see below), and Cooperation (with a few additional items).

As far as Enforcement is concerned, following a WTO mapping by Chase, Yanovich, Crawford and Ugaz (2013), we distinguish between three types of dispute settlement mechanisms (Political, Quasi-Judicial and Judicial DSM) and also code the retaliation measures (or remedies) foreseen in case of non-compliance with enforceable labor standards. Political DSM refers to a) negotiated settlement among disputing TA members; b) referral to a political body for resolution; or c) referral to third-party adjudication but TA members have the right to veto such referral. Quasi-Judicial DSM refers to an "automatic" right of access to third-party adjudication (i.e. TA members have no right to veto a referral to third-party adjudication). Judicial DSM refers to "automatic" right of access to standing judicial courts (i.e. independent and permanent institution with trained legal experts). For remedies, we adopt a fourfold distinction, as follows: a) consensual (settlement); b) "other appropriate measures"; c) monetary compensation; and d) trade sanctions.

[6] See http://www.designoftradeagreements.org

Over the 487 coded TAs, 437 can be used to study the impact of LC on bilateral trade flows.[7] Among these 437, 413 are "new" ones, signed between 1990 and 2014, 26 corresponds to amendment or revision of existing agreements (with a potential evolution in their LC).

Figure 1 reports the cumulated number of the signed TA included in the sample over 1990-2014, decomposing between TAs with and without LC. We call TAs with LC all TAs that contain at least one labor provision.[8] Potential changes in LC content of a given agreement over the period are taken into account in the Figure. In 2014, 41 percent of TAs included LC (180 out of 439).

The share of LC in total TAs signed each year (instead of the cumulated number as reported in Figure 1), clearly suggests that this is a growing phenomenon. Figure 2 shows that more than half of new TAs (or revised TAs) signed after 2008 include LCs and mostly with enforcement mechanisms designed in the agreement (defined as quasi-judicial *or* judicial dispute settlement mechanisms *with* sanction measures in the form of *either* monetary compensation, trade sanctions, or "other appropriate measures"). Since 2012, around 50% of these new agreements included enforcement mechanisms. Figure 2 also highlights an increase in TAs with LCs including some elements of "deep cooperation", defined as those agreements including any cooperation-related labor provisions with a comprehensive institutional framework characterized by a separate committee for the implementation of the labor-related

[7] A total of 29 agreements are not taken into account as one of the partners does not report its trade flows such as Palestinian authorities, Kosovo, Bosnia and Herzegovina, Serbia, Montenegro, Faroe Islands or Taiwan; 14 agreements as not taken into account as they focus on services (e.g. EFTA services) or specific products (e.g. Andean sugar protocol); 6 has been signed in 2015 so out of sample, and 1 (SACU) does not have disaggregated trade data.

[8] We count as agreements having a LC, agreements such as Chile-Ecuador (2008) in which only the preamble contains a reference to "improve working conditions" (coded under S), agreements such as Eurasian Economic Community (1999) that only contains labor-related cooperation provisions (e.g. presence of commitments to cooperate over freedom of association and collective bargaining, conditions of work, workplace health and safety, and labor laws, all coded under C), agreements that include legally binding commitments and/or deep cooperation provisions (e.g. EC-Korea TA of 2010), as well as enforceable TAs (e.g. US agreements).

commitments and inclusiveness with respect to third parties (more than 60% of new agreements since 2012).[9]

Finally, we decompose TAs according to the level of development of its members. We distinguish between three different types of TAs: North-North, South-South and North-South agreements.[10] Figure 3a shows that the highest share of LCs is found in North-North agreements (around 68 percent of total TAs). In 85 percent of South-South agreements, worker rights are not taken into account. Figure 3b confirms these stylized facts. In the subsample of agreements in which LC is specified with some enforcement (37 TAs), 57 percent implies North-South partners, 41 percent North-North and only 3 percent South-South. . In the subsample of agreements in which LC is specified with some deep cooperation (44 TAs), 61 percent implies North-South partners, 30 percent North-North and 9 percent South-South. Note that we do not have any South-South TAs with LC including both enforcement and deep cooperation in our sample.

4 EMPIRICAL METHODOLOGY

We follow a standard gravity equation approach to assess the extent to which the inclusion of LCs in TAs leads to more or less trade (see Head and Mayer, 2014). The early gravity equation approach explain bilateral trade flows with economic size (GDP) of the importer and the exporter as well as bilateral trade costs that were captured by geographic distance (which explains the name of the approach) and other geography determined variables such as contiguity, common language, common colonizer, colonial link, as well as trade policy variables such as MFN tariffs and bilateral trade agreements.

[9] In only one case (Bosnia and Herzegovina EFTA TA of 2013) do we not observe the presence of cooperation-related labor provisions (only substance-related labor provisions); when this agreement is adjusted to 0 in the analysis below, the results remain unchanged.
[10] We define "Northern" countries as "High-income countries" (OECD and non OECD) in the July 2017 World Bank classification, "Southern" countries as the "Middle and Low-income countries".

In this paper, we follow a fixed effect approach that allows us to control for all the classic determinants of bilateral trade flows in the gravity equation, as well as some unobserved heterogeneity that may be correlated with both the likelihood of introducing LCs in an agreement as well as bilateral trade flows. Our gravity specification is then given by:

$$\ln m_{ijt} = \alpha_{it} + \alpha_{jt} + X_{ij}\gamma + \beta LC_{ijt} + \varepsilon_{ijt} \quad (1)$$

where $\ln m_{ijt}$ is the log of imports of manufacture of country i from country j at time t; X_{ij} is a vector of usual gravity time invariant determinants of bilateral trade flows that we detailed below. α_{it} and α_{jt} are importing country i times year fixed effects and exporting country j times year fixed effects. They control for the economic size of the importer, but also the multilateral resistance terms, which capture the trade frictions between the importer and the rest of the world and the exporter and the rest of the world (see Anderson and van Wincoop, 2003). LC_{ijt} is a dummy variable that indicates whether the trade agreement between countries i and j in year t contains a labor clause; ϵ_{ijt} is an independent and identically distributed error term.

The parameter β is our parameter of interest and the percentage change in imports of country i from country j associated with the LC is given by: $e^{\beta} - 1$. Thus, if $\beta > 0$, the LC increases trade, whereas when $\beta < 0$, the LC reduces trade flows (using agreements without LC as the reference group).

In an additional specification, we also distinguish between agreements that only mention worker rights and agreements that in addition define strong enforcement or deep cooperation measures by estimating the following equation, which uses agreements with LC as the control group:

$$\ln m_{ijt} = \alpha_{it} + \alpha_{jt} + X_{ij}\gamma + \beta LC_{ijt} + \beta^{enf} LC_{ijt}^{enf} + \beta^{coop} LC_{ijt}^{coop} + \varepsilon_{ijt} \quad (2)$$

where LC_{ijt}, and LC_{ijt}^{coop}, LC_{ijt}^{enf} indicate respectively whether worker rights are only mentioned in the trade agreement, or whether there is also cooperation and

enforcement provisions (through quasi-judicial or judicial Deviation Settlement Mechanism with sanctions); β^{coop} captures the marginal impact of having cooperation provisions in the LC, and β^{enf} the marginal impact of enforcement rules.

It is important to note that the identification of the β coefficients in equations (1) and (2) would ideally be done using bilateral fixed effects instead of our set of bilateral controls X_{ij}. Actually, this would allow us to identify our effect exclusively within TA that move from not having a LC towards having a LC or vice-versa. This is a demanding and convincing identification strategy, but the coefficients will only be identified using the very few agreements where there was a change in LC (only 9, see annex 2), which is too small to put any statistical confidence on the results.[11] Hence, we use the less demanding identification strategy that replaces the bilateral fixed effects by the more traditional bilateral trade friction controls, such as distance, contiguity, common colonizer or colonial links, as well as a measure of the depth of the agreement.[12] Actually, deeper trade agreements tend to create more trade, and they are also probably correlated with the presence of LCs.[13] We measure the depth of trade agreements using a dummy variable wherethe cutoff is the median of an updated index (from 0 to 7) of Baccini, Dur and Elsig (2014). See appendix 1 for details on variables definitions. It turns out that the median of $Depth_{ij}$ indicates whether the agreement has provisions that go beyond market access.

Classic gravity variables generally included in the X_{ij} matrix are:[14] Dis_{ij} ,the bilateral distance between the importer i and the exporter j; CB_{ij} a dummy variable that indicates whether the two trading partner share a common border; CL_{ij} a dummy variable that indicates whether the two countries share a common language; Col_{ij} a dummy variable that indicates whether they share a colonial link; $CCol_{ij}$ indicating whether they had a common colonizer.

[11] Table A2 in annex 2 shows the results for this specification.
[12] All these data are from BACI database provided by the CEPII, except the measure of depth that is based on Baccini, Dür and Elsig, 2014. See annex 1 for details on variable definitions.
[13] As reported in the table of annex 1, agreements with LC have a significantly higher depth index.
[14] See annex 1 for variable construction.

Note that our sample only contains countries that have signed TAs, which implies that the measure of "depth" is strictly positive. The reason for that is that we do not want to contaminate the results with the fact that some agreements are initially signed including LCs and therefore it is impossible to distinguish between the impact on trade of signing an TA, and of signing an TA that contains a LC. This explains why there is no control for the presence of a TA in equation (1) contrary to most specification that attempt to estimate the impact of TA on trade flows, which compare countries with and without TAs. In our sample, we only include bilateral pairs that signed an TA and compare those with LC to those without LCs. This should address concerns regarding reverse causality going from higher trade towards the signing of trade agreements. Another interesting aspect is that by focusing only in countries that have TAs in place, we circumvent the problem of many zero trade flows that may have led to biased results.[15]

Finally, to address any other endogeneity concerns we use an instrumental variable estimator to explain the inclusion of a labor clause in trade agreements. The instruments we used are borrowed from Raess, Dür and Sari (2017) and include trade union density among members of the trade agreements, whether members have a left-leaning government as measured by Keefer (2012), and the potential labor power as measured by Rudra (2002). After predicting the probability that a trade agreement includes a LC using these instruments we then estimate the gravity equation and estimate bootstrap standard errors to correct for this two-step procedure.

5 EMPIRICAL RESULTS

Table 1 reports the results of the estimation of equation (1) in a sample of bilateral trade relationships among countries that have a TA in place. The estimates reported in column (1) suggest that on average the introduction of LCs does not have a statistically significant impact on bilateral trade among partners belonging to a TA.

[15] We have less than 6% of zeros in our sample.

All other variables are statistically significant and have the expected sign. In particular, the depth of the TA has a statistically significant and positive impact on trade flows. As TA move beyond market access to include other areas, trade increases quite significantly. But when it comes to LC, there is little support for either the protectionist or the trade-enhancing view.

However, the average effect across all types of TA may hide some important heterogeneity. In columns (2) to (4) of Table 1 we divide the sample into three types of bilateral relationships. Column (2) explores the impact of LCs on trade flows among low-income countries (South), column (3) among high-income countries (North) and column (4) on trade flows from low-income to high-income countries (South to North). In principle we should observe the strongest impact of LCs in the latter type of flows, which is where LCs are more likely to have an impact, as it is in these types of flows that the strongest concerns for fair trade are likely to be present. Results suggests that this is indeed the case. While the impact among low-income countries or among high-income countries is not statistically significant, it is statistically significant and positive for export from low-income countries to high-income countries. According to the estimates in column (4), the inclusion of LC in a TA that includes low and high-income countries is correlated with 36 percent ($0.36 = e^{0.308} - 1$) larger bilateral exports from low-income countries to high-income countries, all other things equal.

Thus LCs seem to have a strong and positive impact when the exporting country is a low-income country with relatively weaker worker protection, and the importing country is a high-income country with relatively stronger worker protection and more concerned consumers.

In order to address endogeneity concerns Table 2 reports the results of the second-stage of a two-stage least square estimator, where in the first stage measures of trade union density, left-leaning governments, and potential labor power (PLP) are used as instruments to explain the inclusion of a LC in a trade agreement (logit regression

at the FTA level). The results in Table 2 confirm the findings of Table 1 where the LC has a significant and positive impact in North-South trade agreements.[16]

A further source of heterogeneity is likely to be related to differences in LCs themselves, as well as their enforcement and/or cooperation mechanisms. In the results reported in Table 1 we consider that the impact on trade flows of simply mentioning worker protection as an objective in the preamble is equivalent to a LC with fines for violating worker protection. This is a strong assumption that we relax in Table 3 where we introduce two additional dummy variables that takes the value 1 only when the LC is accompanied by either strong enforcement or deep cooperation.

As described in figures 3, most of the variation in TA with enforcement and/or deep cooperation mechanisms for LCs occurs in the sample of agreements between low and high-income countries, which is where we expect the impact of LCs to be the strongest regardless of the direction of the impact. Thus we only focus on this sub-sample in Table 3.

The estimates reported in Table 3 suggest that the positive impact of LCs on South-North trade flows is mainly explained by the introduction of cooperation provisions in the LC. Enforcement mechanism on the other hand do not seem to have much of an impact. Indeed, when both LCs with enforcement and LCs with cooperation are introduced simultaneously in the fourth column of Table 3, only the coefficient on LC with deep cooperation remains statistically significant and positive. The coefficient on LCs with enforcement becomes statistically insignificant, suggesting that the impact of adding enforcement to LC is not statistically different from the impact of simply having LCs without enforcement or cooperation. Note also that after controlling for deep cooperation and enforcement the size of the coefficient on LCs (i.e., without cooperation or enforcement) is reduced by half and is only statistically significant at the 10 percent level. Again, this suggests that most of the

[16] The results of the first-stage estimation are provided in Table A3. There are totally in line with the results by Raess, Dür and Sari (2017).

impact measured in the first column is due to the impact of LCs with deep cooperation mechanisms.

6 CONCLUDING REMARKS

Some argue that LCs in TA are hidden protectionist tools that will hurt exports of low-income countries due to either an increase in conditional protectionism in the high-income countries or cost increases in low-income countries that need to satisfy these LCs to benefit from improved market access. Others have argued that the inclusion of LC can instead help low-income countries firms become more productive or signal worker protection to concerned consumers in high-income countries, and this will increase demand from final consumers, but also firms involved in global supply chains.

To assess which of these views predominates, we use the gravity model of international trade to assess the impact of the introduction of LCs in trade agreements on bilateral trade flows. We found that on average across all types of TAs there is no statistically significant impact of LCs on trade flows, and therefore no support to either view. The introduction of LCs has on average no impact on trade flows.

However, these average results hide some interesting heterogeneity. The impact of LC is statistically significant, large and positive on exports of low-income countries towards high-income countries. Moreover, their impact is also larger when LCs are accompanied by strong cooperation. Enforcement mechanisms, on the other hand, do not seem to lead to a stronger impact on trade flows.

To sum up, the impact of LCs is strong where they are expected to have an impact. Contrary to what is sometimes suggested low-income countries should not fear the introduction of LC as a protectionist tool in trade agreements, as they help rather than hinder their market access to high-income countries. And high-income countries should embrace LCs with deep cooperation mechanisms since the greater

trade they engender is likely to be associated with "fairer trade", thereby helping to level the playing field for workers and businesses at home. In short, in order to promote trade and reduce the risk of a protectionist backlash cooperation rather than enforcement provisions should be pursued in LCs between developing and developed countries.

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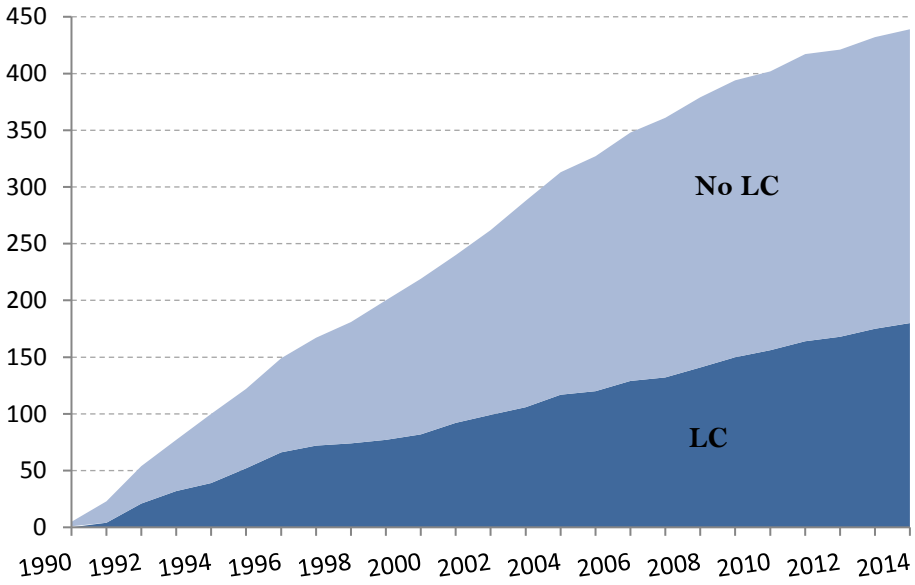
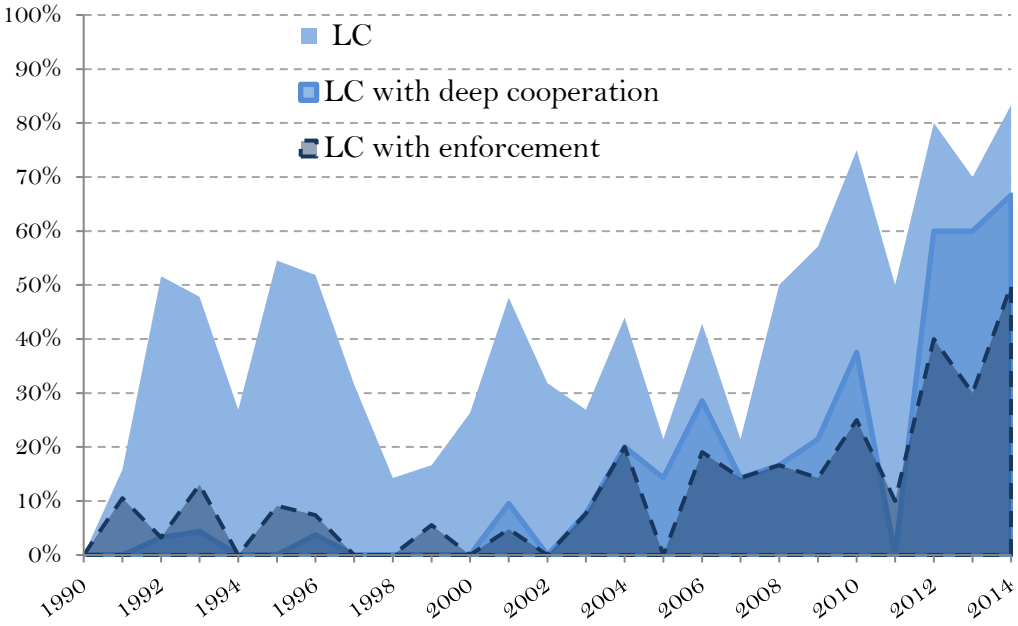
Figure 1. Cumulated number of TAs with and without LC, 1990-2014



Note: "LC" includes all agreements with at least one labor provision.
Source: LABPTA dataset.

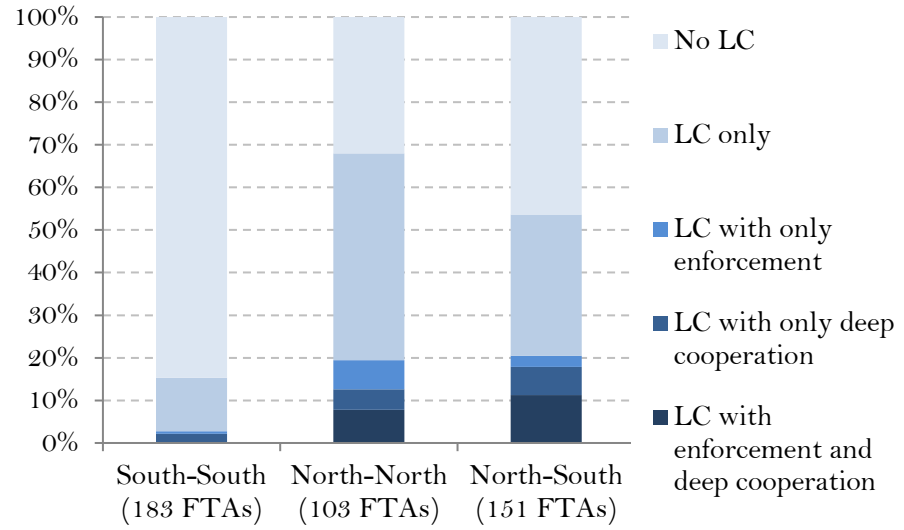
Figure 2. Share of LC in total TAs per year, 1990-2014



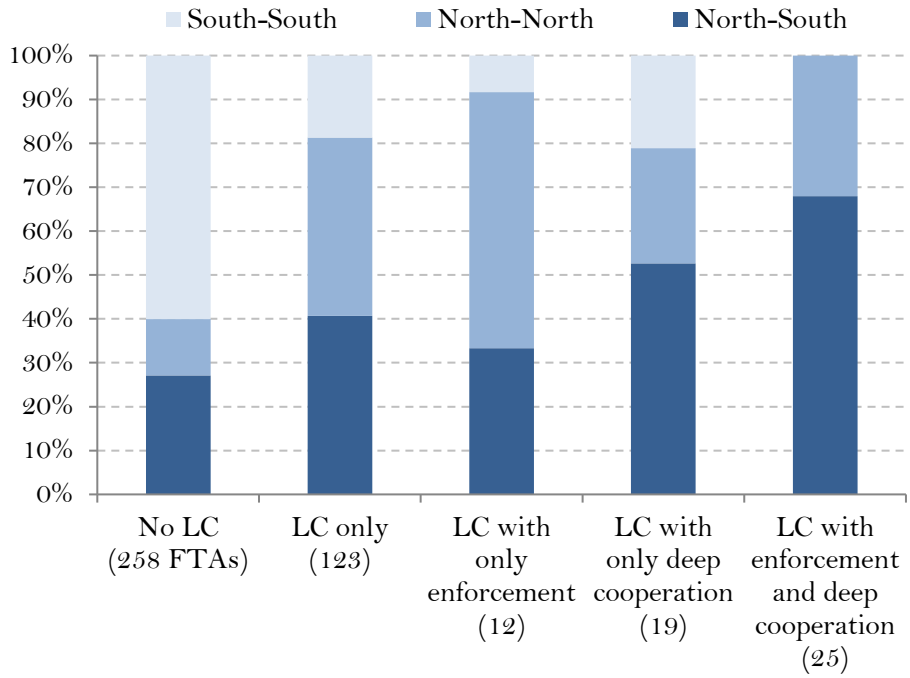
Note: "LC" includes all agreements with at least one labor provision. "LC with enforcement" refers to TAs with LC including both (i) Judicial or quasi-judicial dispute settlement mechanisms and (ii) sanction measures ("monetary compensation" or "trade sanctions" or "other appropriate measures"). "LC with deep cooperation" refers to TAs with LC including cooperation-related labor provisions and a comprehensive institutional framework establishing a separate committee for the implementation of the labor-related commitments and allowing the involvement of third parties.
Source: authors' computation based on LABPTA dataset.

Figure 3. Distribution of TAs by level of development of its members and LC type (cumulated over 1990-2014)

a. by types of level of development



b. by type of LC



Note: "LC" includes all agreements with at least one labor provision. "LC with enforcement" refers to TAs with LC including both (i) Judicial or quasi-judicial dispute settlement mechanisms and (ii) sanction measures ("monetary compensation" or "trade sanctions" or "other appropriate measures"). "LC with deep cooperation" refers to TAs with LC including cooperation-related labor provisions and a comprehensive institutional framework establishing a separate committee for the implementation of the labor-related commitments and allowing the involvement of third parties.
Source: authors' computation based on LABPTA dataset.

Table 1. Estimation of the LC impact on bilateral manufacture trade flows by subsample, 1995-2014

VARIABLES	(1) ln m_{ijt}	(2) ln m_{ijt}	(3) ln m_{ijt}	(4) ln m_{ijt}
LC	**-0.0616**	**-0.324**	**-0.0533**	**0.308****
	(0.0565)	*(0.214)*	*(0.0815)*	*(0.146)*
ln (Distance)$_{ij}$	-1.348***	-1.047***	-1.170***	-1.340***
	(0.0291)	*(0.0733)*	*(0.0542)*	*(0.0795)*
Contiguity$_{ij}$	0.160*	0.811***	-0.0796	0.686*
	(0.0939)	*(0.152)*	*(0.120)*	*(0.356)*
Common Language$_{ij}$	0.734***	0.560***	0.433***	0.690***
	(0.0691)	*(0.147)*	*(0.125)*	*(0.111)*
Past Colonial$_{ij}$	0.880***	0.407	0.863***	1.130***
	(0.113)	*(0.433)*	*(0.157)*	*(0.178)*
Common Colonial$_{ij}$	0.964***	0.813***	1.365***	0.553***
	(0.0985)	*(0.178)*	*(0.229)*	*(0.180)*
Depth of TA$_{ijt}$	0.491***	0.428***	0.364**	1.199***
	(0.0862)	*(0.163)*	*(0.185)*	*(0.201)*
Sample	**All**	**South to South**	**North to North**	**South to North**
Observations	64,590	12,610	18,125	24,128
R-squared	0.880	0.864	0.921	0.863
importer - year Fixed Effects (it)	*Yes*	*yes*	*yes*	*yes*
exporter - year Fixed Effects (jt)	*Yes*	*yes*	*yes*	*yes*

*Note: Standard errors in parentheses are clustered at the dyad level; *** stands for statistical significance at the 1 percent level; ** for statistical significance at the 5 percent level and * for statistical significance at the 10 percent level.*
Source: authors' computation.

Table 2. IV Estimation of the LC impact on bilateral manufacture trade flows by subsample, 1995-2014

VARIABLES	(1) ln m_{ijt}	(2) ln m_{ijt}	(3) ln m_{ijt}	(4) ln m_{ijt}
LC	0.0117	0.411	0.598	0.557**
	(0.396)	*(0.852)*	*(1.447)*	*(0.263)*
ln (Distance)$_{ij}$	-1.524***	-1.115***	-1.009***	-1.418***
	(0.0568)	*(0.0939)*	*(0.0734)*	*(0.114)*
Contiguity$_{ij}$	0.135	0.973***	0.0860	0.939**
	(0.160)	*(0.196)*	*(0.148)*	*(0.419)*
Common Language$_{ij}$	0.897***	0.363*	0.190	0.698***
	(0.0941)	*(0.197)*	*(0.178)*	*(0.123)*
Past Colonial$_{ij}$	0.780***	0.600	1.007***	1.105***
	(0.139)	*(0.591)*	*(0.221)*	*(0.182)*
Common Colonial$_{ij}$	0.835***	1.064***	1.832***	0.582***
	(0.134)	*(0.301)*	*(0.262)*	*(0.191)*
Depth of TA$_{ijt}$	0.570***	0.0665	-0.341	1.061***
	(0.119)	*(0.219)*	*(0.566)*	*(0.250)*
Sample	**All**	**South to South**	**North to North**	**South to North**
Observations	44,731	7,435	14,818	22,561
R-squared	0.862	0.838	0.923	0.860
importer - year Fixed Effects (it)	*Yes*	*yes*	*yes*	*yes*
exporter - year Fixed Effects (jt)	*Yes*	*yes*	*yes*	*yes*

*Note: Standard errors in parentheses are bootstrapped; *** stands for statistical significance at the 1 percent level; ** for statistical significance at the 5 percent level and * for statistical significance at the 10 percent level. First-stage estimations are reported in table A3.*
Source: authors' computation.

Table 3. Estimation of the impact of North-South LC with enforcement and cooperation on South-North manufacture trade flows, 1995-2014

VARIABLES	(1) ln m_{ijt}	(2) ln m_{ijt}	(3) ln m_{ijt}	(4) ln m_{ijt}
LC	**0.308****	**0.333***	**0.211***	**0.160***
	(0.146)	*(0.172)*	*(0.124)*	*(0.093)*
LC with enforcement	**-**	**0.068***	**-**	**-0.357**
		(0.039)		*(0.255)*
LC with deep cooperation	**-**	**-**	**0.829*****	**0.887*****
			(0.280)	*(0.285)*
ln (Distance)$_{ij}$	-1.340***	-1.348***	-1.444***	-1.444***
	(0.0795)	*(0.0810)*	*(0.0806)*	*(0.0800)*
Contiguity$_{ij}$	0.686*	0.710**	0.500	0.513
	(0.356)	*(0.356)*	*(0.399)*	*(0.402)*
Common Language$_{ij}$	0.690***	0.685***	0.697***	0.696***
	(0.111)	*(0.111)*	*(0.112)*	*(0.112)*
Past Colonial$_{ij}$	1.130***	1.131***	1.100***	1.099***
	(0.178)	*(0.178)*	*(0.175)*	*(0.176)*
Common Colonial$_{ij}$	0.553***	0.582***	0.504***	0.494***
	(0.180)	*(0.180)*	*(0.181)*	*(0.181)*
Depth of TA$_{ijt}$	1.199***	1.183***	0.866***	0.896***
	(0.201)	*(0.206)*	*(0.265)*	*(0.263)*
Sample	**South to North**	**South to North**	**South to North**	**South to North**
Observations	24,128	24,128	24,128	24,128
R-squared	0.863	0.863	0.864	0.864
importer - year Fixed Effects (it)	*yes*	*yes*	*yes*	*yes*
exporter - year Fixed Effects (jt)	*yes*	*yes*	*yes*	*yes*

*Note: Standard errors in parentheses are clustered at the dyad level; *** stands for statistical significance at the 1 percent level; ** for statistical significance at the 5 percent level and * for statistical significance at the 10 percent level.*
Source: authors' computation.

Annex 1. Control Variables

Original trade data are provided by the United Nations Statistical Division (COMTRADE database). BACI is constructed by the CEPII reconciling the declarations of the exporter and the importer. This harmonization procedure enables to extend considerably the number of countries for which trade data are available, as compared to the original dataset. m_{ijt} is the value of imports of country i from country j in year t (in thousands of US dollars).

The geodesic distance is calculated following the great circle formula, which uses latitudes and longitudes of the most important cities/agglomerations (in terms of population), see Mayer and Zignago (2011) for more details. Other Gravity variables include dummy variables indicating whether the two countries are contiguous, share a common language, have had a common colonizer after 1945 or have ever had a colonial link. The common language dummy is set to one if a language is spoken by at least 9 percent of the population in both countries. Trying to give a precise definition of a colonial relationship is obviously a difficult task. Colonization is here a fairly general term that we use to describe a relationship between two countries, independently of their level of development, in which one has governed the other over a long period of time and contributed to the current state of its institutions.

The measure of depth is a dummy variable based on an additive index that combines seven key provisions that can be included in PTAs (see Baccini, Dur and Elsig, 2014). The first provision captures whether the agreement foresees that all tariffs (with limited exceptions) should be reduced to zero (that is, whether the aim is to create a full free trade area). The other six provisions capture cooperation that goes beyond tariff reductions, in areas such as services trade, investments, standards, public procurement, competition and intellectual property rights. For each of these areas, Baccini, Dur and Elsig (2014) code whether the agreement contains any substantive provisions. We use and updated variable of their measure that was gently provided to us by Andreas Dür. The dummy we use equals unity if the depth index is larger or equal to its median, namely 3. As shown in table below, TAs with LC are significantly "deeper" than TA wo LC. "depth_index" refers to the index of Baccini et al. (in the range of 0-7) and "depth_dummy" refers to our dummy.

Table A1. Some descriptive statistics

	Variable	Obs	Mean	Std. Dev.	Min	Max
LC=0	depth_index	259	**2.24**	1.80	0	7
LC=1	depth_index	178	**3.95**	1.965	1	7
Test			Contrast	Std. Err.	[95% Conf.	Interval]
	LC 1 vs 0		1.71	.18	1.35	2.07

	Variable	Obs	Mean	Std. Dev.	Min	Max
LC=0	depth_dummy	259	**.27**	.44	0	1
LC=1	depth_dummy	178	**.63**	.48	0	1
Test			Contrast	Std. Err.	[95% Conf.	Interval]
	LC 1 vs 0		.36	.045	.27	.45

Source: authors' computation.

Annex 2. Some assumptions to compute LC

First, we only have the date of signature, we then consider all agreements are implemented since then until 2014 (latest year of the sample).

Second, if an agreement is amended without any changes in its LC, this is not taken into account (only the first date is used to define the dummy); if an agreement is amended with a change in its LCs, this is taken into account. For instance, if a subset of countries signs a first agreement with no LC and, several years after, the same subset of countries sign a new agreement with LC, we consider that the first agreement is amended, the LC dummy is set to unity for all country pairs within this TA.

Evolution in LCs over 1995-2014 within a subset of countries is important in our study as this is the way the LCs impact is identified in the gravity equation with dyad fixed effects. Over the 439 TAs considered in this study, only 9 reports action in their LCs, and only 6 over 1995-2014.

TA	no LC	LC	Enforc.	Deep coop.
Chile Mexico	1991	1998	No	No
Chile Colombia	1993	2006	No	Yes
EC Slovenia Europe Agreement	1993	1996	Yes	No
Colombia Panama	1993	2013	No	Yes
Chile Ecuador	1994	2008	No	No
Chile Peru	1998	2006	No	Yes
EC Estonia Europe Agreement	*1994*	*1995*	*Yes*	*No*
EC Latvia Europe Agreement	*1994*	*1995*	*Yes*	*No*
EC Lithuania Europe Agreement	*1994*	*1995*	*Yes*	*No*

Table A2. Estimation of the impact of LC with enforcement and cooperation on bilateral manufacture trade flows, 1995-2014

VARIABLES	(1) ln m_{ijt}	(2) ln m_{ijt}	(2) ln m_{ijt}	(2) ln m_{ijt}
LC	**-0.0107**	**-0.0216**	**-0.0414**	**-0.0409**
	(0.0906)	*(0.0958)*	*(0.104)*	*(0.103)*
LC with enforcement		**0.0274**		**0.00854**
		(0.0950)		*(0.109)*
LC with deep cooperation			**0.0440**	**0.0385**
			(0.103)	*(0.117)*
Observations	64,590	64,590	64,590	64,590
R-squared	0.942	0.942	0.942	0.942
importer - exporter Fixed Effects (ij)	*Yes*	*yes*	*yes*	*yes*
importer - year Fixed Effects (it)	*Yes*	*yes*	*yes*	*yes*
exporter - year Fixed Effects (jt)	*Yes*	*yes*	*yes*	*yes*

Note: Standard errors in parentheses are clustered at the dyad level; *** stands for statistical significance at the 1 percent level; ** for statistical significance at the 5 percent level and * for statistical significance at the 10 percent level.
Source: authors' computation.

Table A3. First-stage Logit estimation, at the FTA level

VARIABLES	(1) LC	(2) LC	(3) LC	(4) LC
PLP	-0.170**	-0.513***	-0.125	-0.291**
	(0.0775)	*(0.192)*	*(0.327)*	*(0.117)*
Left governement	0.300	-0.643	0.617	0.339
	(0.261)	*(0.536)*	*(0.568)*	*(0.444)*
Union density	0.0297***	0.0243*	0.0324**	0.0186
	(0.00690)	*(0.0147)*	*(0.0147)*	*(0.0122)*
Constant	-3.183***	0.673	-1.875**	-2.563***
	(0.483)	*(1.154)*	*(0.778)*	*(0.919)*
Sample	**All**	**South to South**	**North to North**	**South to North**
Observations	346	91	113	143

Note: results from logistic regression models. Robust standard errors in parentheses; *** stands for statistical significance at the 1 percent level; ** for statistical significance at the 5 percent level and * for statistical significance at the 10 percent level.
Source: authors' computation.